

Final Report

September 2018

The Cambridgeshire and Peterborough Independent Economic Review (CPIER)

The Economic Review is the product of the Cambridgeshire and Peterborough Independent Economic Commission. This Commission was established by the Cambridgeshire and Peterborough Combined Authority (CPCA) in June 2017. It is chaired by Dame Kate Barker, and its other members are: Dr David Cleevely CBE, Sir David Arculus, Dame Carol Black, Matthew Bullock, Professor Diane Coyle CBE, Mark Dorsett, Warren East, Professor Alan Hughes, Professor Andy Neely, John Shropshire OBE and Lord David Willetts¹.

Its terms of reference were agreed at a Board Meeting of the CPCA, and are as follows:

The Cambridgeshire and Peterborough Independent Economic Commission (IEC) will:

- *Develop an authoritative evidence base on the economic performance and potential of Cambridgeshire and Peterborough and its component parts that commands attention at the highest levels of government;*
- *Reframe thinking about devolution within the UK policy debate – exploring the potential for devolution to unlock growth and improve social outcomes in multi-centred economies as well as in England's core and key cities;*
- *Provide impartial advice and guidance, on an ongoing basis, on the performance and growth of the Cambridgeshire and Peterborough economy;*
- *Inform choices on policy priorities and strategic investment that are made locally, at the Cambridgeshire and Peterborough level, at national level and at European level; and*
- *Foster a common understanding of the future development of Cambridgeshire and Peterborough's economy and the long term drivers for change across local partners, Whitehall, and Ministers.*

The IEC will provide a robust and independent assessment of the Cambridgeshire and Peterborough economy and its potential for growth. This will provide the evidence base on which Cambridgeshire and Peterborough partners, and partners at national level, can continue to build a collaborative approach to growth and devolution. As part of its early work, the panel will carry out and publish a detailed review that will include:

A full economic baseline study;

- *Economic forecasting to determine the potential impact of various scenarios over the next ten years and how the Cambridgeshire and Peterborough economy could respond to these;*
- *An assessment of whether the Cambridgeshire and Peterborough economy is fit for purpose and its future economic potential;*

¹More information available at www.cpier.org.uk/about-us/Commissioners/

- *Analysis of how partners' investment in key drivers of growth (e.g. key towns, key sectors, key infrastructure) across Cambridgeshire and Peterborough could maximise long-term returns for all areas; and*
- *An analysis of the impact that the devolution of key economic powers and levers could have on economic output and productivity.*

This is that review. An interim report was published in early May 2018, and this final report builds upon that work. In producing this review, the Commission set itself the following nine questions to answer:

1. How important is Cambridgeshire and Peterborough for the regional and national economy?
2. What are Cambridgeshire and Peterborough's regional, national and international links?
3. How far can economic activity that occurs in Cambridgeshire and Peterborough be shown to be net additional to the UK economy, rather than just displacement?
4. Do other growing cities like Cambridge and Peterborough share common characteristics, problems and infrastructure requirements and what can we learn from them?
5. How does Cambridgeshire and Peterborough achieve continued prosperity and high growth rates?
6. How equitable is growth across the whole of Cambridgeshire and Peterborough and what strategies should be adopted in future to address this issue?
7. What types of infrastructure and other investment would best enable Cambridgeshire and Peterborough to achieve its full growth potential and contribute to regional and national economic growth?
8. How should Cambridgeshire and Peterborough describe its uniqueness or brand to attract further investment from government and the private sector?
9. Are there any policy and planning recommendations which arise from the answers to these questions?

These questions have guided our work, and shaped this, the final report.

Preface

It is my pleasure to introduce the final report of the Cambridgeshire and Peterborough Independent Economic Review (CPIER). This has been jointly funded by the Cambridgeshire and Peterborough Combined Authority (CPCA) and Cambridge Ahead. The views in the report are those of the Commission.

This Review is very timely. It comes at a critical time not just for this area, but for the UK as a whole. At a national level, the outcome of the Brexit negotiations remains uncertain; but this outcome will be a key factor shaping the economic and business environment. In the Combined Authority area, the southern part is feeling the adverse effects of past rapid growth in terms of congestion and high housing costs, alongside the benefits of a high employment rate. At the same time the more northern and eastern parts have been growing steadily, but issues remain with lower incomes, poorer educational achievement and weak transport links.

The creation of the Combined Authority offers the opportunity to support the local economy through this period of adjustment and to set out an ambitious vision for the future focused on improving incomes and well-being across the whole area. It is vital that the steps proposed and actions taken are based on sound evidence and command widespread support. This report aims to provide the former. Not all of the recommendations in it are addressed to the Combined Authority – some are for national government, others for local authorities and importantly we look to business to play its part not only by raising its game on productivity, but also improving the picture with regard to the health and well-being of the workforce.

Over the past year the Commission has sought to get under the skin of this area – gathering evidence and meeting people, businesses, local councils and of course the Mayor. Alongside this we have conducted new research into past employment growth across the area, produced a qualitative survey of business opinion and carried out innovative modelling to set the scene for debate on future plans. In our interim report (www.cpier.org.uk/interim-report) we set out our understanding of the area's economy. We have not attempted to give definitive answers on future growth rates or on infrastructure priorities -these are for further debate.

However, we have reached the clear conclusion that recent employment growth rates have been rather stronger than indicated by official figures, and we believe that the area can continue to deliver rapid growth with the right support. The Combined Authority area sits at the confluence of two important growth corridors – the East-West arc presently planned from Oxford (Cambridge-Milton Keynes-Oxford Arc), and The UK Innovation Corridor / London-Stansted-Cambridge-Consortium.

The Combined Authority area today accounts for only 1.28% of UK population and 1.37% of UK Gross Value Added (GVA), but that understates its importance. We consider that the aim of doubling GVA in this area by 2040 is realistic, and will be achieved in part by attracting knowledge-intensive businesses which would not locate elsewhere in the UK. Success here is of national significance. But it will only be attained if there is more ambition with regard to

the development of new housing, and a careful prioritisation of infrastructure projects. In addition, such a stretching target will depend on improved collaboration between all local partners, public and private.

In this high growth phase it will be vital that new development is done not just well, but in an exemplary fashion. The attraction of the Cambridge area comes in part from the pleasant environment. We cite examples of good placemaking from elsewhere which demonstrate that if transport and new housing are well-planned, then economic, social and environmental benefits can all be achieved. However, a particular challenge here is to ensure that these new places also foster the personal networking that has been so important in Cambridge's growth, and needs to be more prevalent throughout the area.

The national importance does not mean it should be directed from the national level. Rather, we strongly believe that the local knowledge base and innovation of the Combined Authority mean that more powers need to be devolved to the local level in order to monitor and support the economy in a way which will improve the quality of life right across the area. We set out our thoughts on this, and on the importance of the decision-making at the appropriate level within the Combined Authority area.

Fiscal devolution also means greater financial responsibility. There are considerable financial resources available to the Combined Authority, and with the right investment and delivery bodies in place, private finance could be attracted to develop the substantial pipeline of projects set out in the Mayor's vision.

I am very grateful to all of the Commissioners for their time, their input and their guidance. Work at the Centre for Business Research and at the Department of Architecture at the University of Cambridge has brought novel approaches which we hope could also be of value elsewhere. The Management Board, Technical Board, and Secretariat have provided invaluable support throughout. In addition, the work of Metro Dynamics in pulling together the review has been tireless and brought a vital outsider perspective. The whole team would like to thank the many people who have met us, who have made submissions and helped create the final document.

This review stage is now concluded, but the Commission itself hopes to continue to serve Cambridgeshire and Peterborough.

Dame Kate Barker

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Executive Summary

The success of Cambridgeshire and Peterborough is a project of national importance.

This statement, about an area with a little over 1% of the UK's land mass and population, will strike many as bold, perhaps even arrogant. However, after spending the larger part of a year examining its economy, meeting its people, and considering its role in the future of the UK, it is a conclusion we are readily able to substantiate.

The area contains some of the most important companies and institutions in the country, much of its very highest quality agricultural land, and the cities and towns that continue to support both. Properly stewarded in the years ahead, Cambridgeshire and Peterborough can sustain its own economy, and support the UK economy, while providing a better and more fulfilling way of life for the people who live and work in this area. Our report sets out how we think this should be done, with fourteen key recommendations, and another thirteen subsidiary recommendations. Some of the actions we suggest will be difficult to implement – close collaboration between leading institutions in the area will be needed to deliver them effectively.

Section 1 gives an overview of the Cambridgeshire and Peterborough Combined Authority (CPCA) area. Cambridgeshire and Peterborough is already richly endowed with assets. Its people are innovative and entrepreneurial. Its landscape is unique and harbours a rich diversity of species. Its businesses are at the forefront of the new industrial revolution, and its academic offer is world-beating. Realising the true potential of these, which is being held back presently by a combination of factors, can offer huge rewards to the UK as a whole. As the government seeks to transform UK business through the Industrial Strategy², and drive up sluggish productivity growth, this area will have to be a central part of the story – indeed, the potential to boost productivity and the benefits of doing so are the main messages of this report. But this area's success cannot, and must not, be taken for granted. It faces multiple threats, which, if not tackled, could lead to stagnation.

One of the most regular and striking comments we have heard during this project is that Cambridgeshire and Peterborough is a "microcosm" of the UK as whole. The parallel is apt, as alongside success there is significant spatial inequality. It is not one unified economy but three quite different ones. The south of the area, the "Greater Cambridge" area (which takes in Cambridge, South Cambridgeshire, and parts of Huntingdonshire and East Cambridgeshire), while not without deprivation, is prosperous and attracts many international businesses to come to the area and grow. Skills levels and wages are high. Secondly, to the north around Peterborough, there is much industry and potential; however deprivation levels are higher, and many residents feel untouched by the economic success of the Greater Cambridge area. This is also true in the agricultural areas and market towns that make up the third area, broadly defined as the fens.

We believe the complementary strengths of these three areas need to be harnessed for the benefit of the whole, and that over time, we should seek to strengthen linkages between them. However, we must be realistic about the significant differences that exist, and ensure that each gets an approach tailored to its own needs.

²https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

In the Greater Cambridge economy businesses have brought about revolutionary advances in a wide array of fields, transforming lives around the world. The impacts of business growth have not been entirely positive, however. Growth in employment has not been matched by corresponding house-building, or developments in infrastructure. Consequently, house prices have soared and journey times have increased as congestion has intensified. This has meant that many have been forced to endure unpleasant commutes, or been priced away from the city altogether due to the unaffordability of rents. This is bad for both people and businesses, and we believe is an unsustainable approach to growth. We are rapidly approaching the point where even high-value businesses may decide that being based in Cambridge is no longer attractive. If nothing is done, the damage to society from the continuing drift away of less well-paid workers may become irreparable, the ageing of the city (whose housing ladder's bottom rung is out of reach of the vast majority of the young) will threaten its dynamism, and the cost to people's mental health of commuting-induced stress and housing insecurity will soar. Cambridge is at a decisive moment in its history where it must choose whether it wants to once again reshape itself for growth, or let itself stagnate and potentially wither. We believe the latter would be disastrous for its people and the UK economy. Therefore, we conclude that improvements in infrastructure, and further development, must start in and around Cambridge.

In Peterborough, one of the UK's more successful New Towns, we see a very different picture. Peterborough's origins as a town of industry, first in brickmaking, and then manufacturing, have laid the foundations for a dynamic business environment. It continues to be a magnet for engineering talent, and trades well upon its connection to strategic infrastructure (which caused the city to boom in the first place). Its position on the A1 and East Coast Mainline make it an attractive place for businesses valuing ease of transportation, and for aspirational workers who want easy access to London, the Midlands, and the North, coupled with affordable housing. Its population is young and multiculturally diverse, and growing at a fast rate. It is also an exemplar to other UK cities in its adoption of environmentally friendly and 'smart city' approaches. Nonetheless, Peterborough has challenges of its own. It has a lower proportion of higher-level skills than elsewhere in the area, and educational and health outcomes in Peterborough are relatively poor. We believe a strong focus is needed on these issues to improve productivity and well-being, which should include new higher education provision.

The history of the fens is a story of dramatic transformation. As they were drained from the 17th century onwards, land became available for agriculture, and close links to the sea enabled commerce. This brought great wealth to the region as landowners prospered and led to the formation of market towns, which across the whole region account for almost 25% of the population. It is impossible to make blanket statements about these towns – some are thriving (particularly those with easier connection to Cambridge), while others are struggling. The fens must also be considered as one of the UK's greatest natural assets with a rich wetland ecosystem which affords great leisure opportunities. We argue that the value of this natural capital must not be overlooked.

The fens are, however, in some ways the most challenged economically of the three. Many market towns have lost their former glory and struggle to attract or retain young people. The development of the knowledge economy, with its high premium on proximity and agglomeration, has left rural communities struggling to maintain distinctive high-value industries. Steep reductions in the price of agricultural output have led to consolidation among farming businesses. Much of the need for low cost labour has been met by migrants, leaving business with a challenge as Brexit looms. We urge businesses in the fens to tackle low labour productivity by investing in the skills of their workers. There is immense potential for the fens to be renowned as the apex of British agricultural production and for an attractive way of life in thriving market towns.

Section 2 of the report sets out our findings on the future of Cambridgeshire and Peterborough. It shows how beneficial growth in the area has been. Jobs have been created and the quality of many lives have improved. The Combined Authority has a growth target as set out in its Devolution Deal of doubling GVA over 25 years. We believe this is particularly ambitious, and can only be achieved if much more is done to improve productivity.

» KEY RECOMMENDATION #1

The GVA target should be tracked and measured (in the manner described by the report). Check-ups on progress and feasibility should build in a degree of flexibility depending on economic outturn. The Mayor should also instigate the development of a well-being and inclusive growth dimension to his GVA target.

We also unpack the findings of a newly commissioned piece of research for the CPIER, Cambridgeshire and Peterborough Futures (Futures). This uses advanced land use and transport modelling to understand what impact different approaches to spatial development would have. We conclude that a dispersal strategy, which seeks to relocate homes and businesses away from city centres is unlikely to be successful, as it is 'agglomeration' – the desire to be near other companies – that attracts companies to the area. Other options, such as densification, fringe growth, and transport corridors all have potential benefits, and should be pursued to an extent, though none should be taken to its extreme. The conversation on these options needs to be held with residents, businesses and others involved. We hope that this report can initiate this discussion by offering sound analysis.

» KEY RECOMMENDATION #2:

The Combined Authority should adopt a blended spatial strategy, with the Futures work being actively used to discuss trade-offs in an informed manner.

In section 3 of our report, we consider the evidence on business in the region and conclude that the local business environment is unique in the UK, with particular sectoral strengths, and a business growth which is self-perpetuating and strongly supported by local characteristics. High rates of business start-ups and foreign acquisitions further compound the arguments about this area's uniqueness. We argue that many innovation-rich firms, if pushed to move, would relocate abroad. This highlights the importance of this area to the national economy. In the context of the Industrial Strategy, we consider the business strengths of the region, and how they will contribute nationally, noting that research and innovation in the area already has very positive effects UK-wide.

The report sets out an analysis of business performance, using a database of local companies and a qualitative survey. We call upon the ONS to keep engaging with this data to get to the bottom of differences in employment growth rates:

➤ **Subsidiary Recommendation i):** *It is important to establish a sound employment database to inform key decisions. The Office of National Statistics (ONS) should continue to work with the Centre for Business Research to clarify why differences exist between the two sources of employment growth rates.*

Our findings show that the area continues to grow strongly, in all likelihood significantly more so than the government's figures suggest across the area. The findings are that the knowledge-intensive sectors in and around Cambridge and the southern part of the area are strongly clustered, densifying and highly dependent on their location. For this vital section of the local and indeed the national economy, it is 'Cambridge or overseas'. This should not be overlooked.

➤ KEY RECOMMENDATION #3

The UK Government should adopt a 'Cambridge or overseas' mentality towards knowledge-intensive (KI) business in this area, recognising that in an era of international connectivity and footloose labour, many high-value companies will need to relocate abroad if this area no longer meets their needs. Ensuring that Cambridge continues to deliver for KI businesses should be considered a nationally strategic priority.

We are conscious, though, that the benefits of the KI sectors of the economy could have greater spin-off benefits to the rest of the economy than is currently the case. Changing this would require more non-KI companies to become part of the supply chain of these businesses.

➤ **Subsidiary Recommendation ii):** *In developing a Local Industrial Strategy, the Combined Authority should hold technical-level interviews with representative companies from KI sectors, to ascertain what the specific goods and services they require are.*

While we are not persuaded that there is a widespread shortage of business premises in general, we are concerned that even as pressure has grown for residential land, and as high street retail continues to falter in some places, there is potential for greater commercial office development, particularly in Peterborough.

➤ **Subsidiary Recommendation iii):** *The Ministry of Housing, Communities and Local Government (MHCLG) should give central Peterborough an exemption from the residential change of use permitted development right 2013 in order to safeguard office space, and some public sector investment should be put towards creating high-grade office space in the city centre.*

One feature of the Cambridge economy is the density of networks between entrepreneurs across sectors, educational establishments, and the groups which have developed and play a key role on the life of the city and its environs. We think there is scope for the development of parallel approaches elsewhere in the Combined Authority area and for key Cambridge people to help develop and encourage this approach around the Combined Authority area. This is one way the three economies can become more complementary.

➤ **Subsidiary Recommendation iv):** A Regional Fellows network should be established by the Combined Authority to strengthen networks across the area. This can promote greater awareness of potential supply chains and scope for collaboration within the region.

As we write, the outcome of the Brexit negotiations is anything but certain. In an area of the country where many people from the EU fill important skills gaps, and businesses are more internationally flexible about where they are based, it is vital that Brexit doesn't cause undue damage.

➤ **KEY RECOMMENDATION #4:**

Any Brexit deal and accompanying policies should ensure the greatest possible ease for workers, EU and non-EU alike, which are needed in our businesses, and facilitate ease of trade as a high priority.

Section 4 of the report looks at housing, an issue that is inextricably linked with the business and economic issues considered above and the social issues below. No economy can achieve its potential without an adequate supply of housing, which must offer a range of types and price points for all society. We are concerned that Cambridgeshire and Peterborough is already running a very significant risk in this regard. There has been insufficient housing development to meet demand. Average prices and commuting have risen, choking labour supply while reducing the well-being of those forced to commute longer and longer distances. Not every local authority has missed its targets, but some have. In any case, we argue based on the economic evidence considered above that the levels of planned housing are insufficiently high to accommodate the existing, let alone anticipated growth in the economy.

We give pointers towards how housing delivery can be expedited, many of which could be sharpened by convening local developers and property agents to focus on key bottlenecks. In addition, we believe the accumulated housing deficit in Cambridge and Peterborough is so acute that the local authorities should re-examine their assessments of housing need, setting higher numbers, which at the least reflect previous under-delivery.

➤ **KEY RECOMMENDATION #5:**

There should be a review of housing requirements based on the potential for higher growth in employment than currently forecast by the EEFM. This review should take into account the continuing dialogue between ONS and the Centre for Business Research on employment numbers as well as the impact of the Cambridge–Milton Keynes–Oxford Arc. This should be used to set new targets which are likely to be higher than those already set – at the very least adding on accumulated backlog.

We also want to stress the importance of development quality. This is part of ensuring high quality of life in the area, something which attracts highly skilled individuals.

» KEY RECOMMENDATION #6:

The Combined Authority should embed placemaking in their forward planning, by i) revisiting the Quality Charter to audit how well developments and regeneration projects since its publication have met the criteria, ii) renewing and updating the Quality Charter, and iii) demonstrating how other plans (particularly the Non-Statutory Spatial Plan) can serve to create better places. This should include a concern for the quality of place in existing communities, and an area-wide environmental strategy.

Section 5 of the report considers the issues of infrastructure and investment. The level of investment in the infrastructure of Cambridgeshire and Peterborough has been inadequate for too long. We commend the Combined Authority for the ambition of its programme to rectify this. Early momentum is needed as well as longer term plans to ensure that each part of the area has the infrastructure it needs. It is clear that the most acute constraints lie in the southern part of the Combined Authority area. We believe other projects, particularly improvements to the A47, A10, and existing rail could be economically beneficial, but we have not carried out detailed transport modelling on each project.

» KEY RECOMMENDATION #7:

A package of transport and other infrastructure projects to alleviate the growing pains of Greater Cambridge should be considered the single most important infrastructure priority facing the Combined Authority in the short to medium term. These should include the use of better digital technology to enable more efficient use of current transport resources.

The Commission recognises that the Combined Authority is young and developing its capacity quickly. It is vital that the right steps are taken early but also with a focus on delivering projects which will maximise the effectiveness of all available resources.

» KEY RECOMMENDATION #8:

A process for scheme prioritisation and development should be implemented in full to ensure that the overall approach reflects the goal of doubling the size of the Combined Authority economy, and over time better connecting the three economies of the area.

Thanks to the efforts of the Mayor, Cambridgeshire and Peterborough is advanced in its thinking on how to fund infrastructure. It is vital that this continues as part of a broadly-based investment and finance strategy.

> Subsidiary Recommendation v): There should also be further investigation of how business rates and other taxes can be retained and used to fund infrastructure, undertaken as a matter of priority. This should enable a strong case to be made to central government. The Combined Authority should continue its work to bring forward fully developed proposals for Land Value Capture at the right time. Funds already available to the Combined Authority should be brought together in an investment fund along with new potential sources of investment.

Utilities underpin all economic activity, and there are areas of concern here, particularly regarding electricity capacity. We also believe that digital connectivity has the power to be transformative, and due to the representative nature of this area, it provides an excellent opportunity to test the benefits such connectivity can have. We also recognise the importance that flood defence infrastructure has here, and the equally clear stresses upon water in one of the UK's driest counties.

➤ **Subsidiary Recommendation vi):** *Ofgem should produce a road map for how to get from the current centralised energy distribution system to a more decentralised one, noting in particular the high costs of establishing new grids, possible disincentives for Distribution Network Operators to facilitate this, and the levels of expertise required.*

➤ **Subsidiary Recommendation vii):** *The government should make Cambridgeshire and Peterborough a vanguard authority for new 5G infrastructure.*

➤ **Subsidiary Recommendation viii):** *Wisbech should be seen as a UK testbed for new flood-resistant approaches to development, and levels of investment in flood defence infrastructure should be substantially increased.*

Section 6 of the report considers health and well-being. This section, and the section on education and skills, are as important as any others in the report. Insufficient attention given to these factors has caused much of the economic weakness across the UK we see today.

On the issue of health, we conclude there is clear evidence of links between poor health and lower productivity, damaging workers' lives and reducing output. Employee health is an area which has been neglected by businesses, and we make some suggestions as to how they can begin to improve these outcomes.

» KEY RECOMMENDATION #9:

An Opportunity Area for Health, including mental health, should be created in the north of the area, recognising it as being just as serious an issue for social mobility as education. This pilot should be championed by the Mayor, the local health system and Public Health England, and linked to the proposals for the devolution of health and social care.

The Commission noted that the Cambridgeshire and Peterborough devolution deal anticipated meaningful dialogue with the government of the devolution of health and social care funding. It seems unlikely that the health issues considered by the Commission can be tackled effectively within the existing institutional framework of health and social care.

➤ **Subsidiary Recommendation ix):** *Work should be taken forward at the earliest opportunity to develop an approach to local health and social care devolution that best meets the needs of Cambridgeshire and Peterborough.*

We also urge the Combined Authority to support initiatives looking at workplace health and follow examples of other councils (such as Cornwall) which have made great strides in this area. Finally, we discuss the impact that different approaches to development can have upon people's health, and the need to tackle heavy commuting to improve this.

➤ **Subsidiary Recommendation x):** *The Combined Authority should support and expand existing initiatives to work with employers and stakeholders of all sizes to gather more intelligence on the issue of workplace health and to frame recommendations for action. These are likely to include the nature of workplaces, monitoring of health, and work flexibility.*

Section 7 of the report looks at Early Years, Education and Skills. The Commission believes that in the long run, these issues are perhaps the most important determinants of the productivity and thereby the wealth of the Combined Authority area. Education is fundamental, and we make a number of recommendations. We also examine the evidence of employer needs for skills, showing how employers in the area are more dependent on recruitment to meet skills gaps than elsewhere in the country. This assumption of limitless labour on command is no longer tenable, as the labour market across the UK and Europe tightens. More than ever, there is a need for companies to invest in their employees. We also look at the education system which generates the skills people have, concluding that, while fairly average for the UK, nevertheless more needs to happen to develop the skills of local people if the challenges of growth and productivity are to be met. We consider the role which a University in Peterborough could play in this regard, pointing towards some options for an academic offer which is compelling and unique.

The view of the Commission is that the earliest years in the lives of children are pivotal in determining later life chances and that public spending in this area is a particularly high priority.

» **KEY RECOMMENDATION #10:**

Further research should be undertaken on the potential impact that increased Surestart-style provision could have, particularly in more deprived communities and with hard-to-reach groups. Similarly, further research on the nature and availability of preschool education is important and we would recommend that a further Commission be undertaken in this area. This Commission should be given a wide brief, and work with Higher Education Institutions (HEIs) in the region to look at:

- the steps needed from early years through school to close, and eventually to eliminate educational disadvantage
- not just at individual and school performance but at the wider set of conditions and institutions serving the more deprived parts of Cambridgeshire and Peterborough.

The Commission has found significant evidence pointing to the lack of skills training available to support business in the Combined Authority area. Particularly in the light of a probable fall in migration, investment in skills by both employers and the public sector is a high priority.

» KEY RECOMMENDATION #11:

The government should enter into meaningful conversations with the Mayor and the Combined Authority early in this parliament and that devolution of all skills funding be agreed as part of a second stage devolution deal.

» **Subsidiary Recommendation xi):** *The Mayor and the Combined Authority should jointly support pilot initiatives with one or more key sectors of the economy to encourage employers to bring forward new and innovative proposals for increasing the skills supply with public funding used to pump prime new employer-led provision.*

» **Subsidiary Recommendation xii):** *High levels of investment are needed to ensure Peterborough University is a success, alongside a clearly defined offer centred around subjects which both integrate with the local economy and embrace new technologies.*

One of the defining characteristics of Cambridgeshire and Peterborough is its rich mix of cities, market towns and rural areas. Section 8 focuses on market towns in particular as they represent almost 25% of the population. At their best, market towns can provide a high quality of life with strong levels of amenity. However, in Cambridgeshire and Peterborough, as elsewhere, the fortunes of different market towns have varied dramatically and too many of them are not as prosperous as they can and should be. At the heart of the issue is the economic rationale for each market town and how this fits with its physical, transport and social infrastructure. The Combined Authority has made a start on approaching this strategically through Market Town Masterplans.

» KEY RECOMMENDATION #12:

Regular meetings should be set up between those developing the Local Industrial Strategy, and those developing Market Town Masterplans, to ensure consistency. This should include proposals coming forward as part of the Cambridge-Milton Keynes-Oxford Arc.

Connectivity is a key issue for market towns, the majority of which are served only by buses by way of public transport. It is vital that steps are taken to improve their connectivity.

» **Subsidiary Recommendation xiii):** *The Mayor should use his bus franchising powers under the Devolution Deal to improve the regularity of bus services to and between market towns.*

Section 9 of the Report finishes by considering the future of governance in the region. We argue that local collaboration needs to be strengthened, with the Combined Authority and other organisations working together towards a common purpose. We also note that, on the basis of the area's contribution to the economy, there is a clear case for further devolution of powers. Local government in Cambridgeshire and Peterborough has demonstrated itself capable of handling new powers and has a wealth of data available to inform decision making. In order for those who are most committed to the region to lead the way in its future, powers need to be brought closer to local people. We argue for greater fiscal devolution to enable this.

» **KEY RECOMMENDATION #13:**

New collaborative ways of working need to be developed, which provide for tailored solutions to the needs of each of the three distinct economies. Whilst overall strategic direction for the area rests with the elected Mayor, there needs to be effective representation for each economy – though the needs of each vary. The Greater Cambridge Partnership (GCP) provides a ready-made solution for the Greater Cambridge area, Opportunity Peterborough fulfils a key economic function for Greater Peterborough, and we would recommend creating a new body to represent the economy of the fens. To develop ways of working and align strategic visions, there should be a Mayoral Conference later in 2018 preceded by a programme of intensive preparation with the aim of securing buy-in.

» **KEY RECOMMENDATION #14:**

The government should recognise the benefits further devolution to Cambridgeshire and Peterborough would bring, and commit itself to negotiating with Cambridgeshire and Peterborough to bring the area firstly into line with other Combined Authorities, and secondly to breaking new ground in the ‘devolution revolution’.

We conclude by returning to the centrality of this area to our nation’s future. It is our hope that this report’s recommendations can form the basis of a successful, flourishing, and vibrant Cambridgeshire and Peterborough, at the heart of a successful, flourishing, and vibrant United Kingdom.



Cathedral Square, Peterborough

TECHNICAL NOTE: INTRODUCTION TO THE FUTURES WORK

At the heart of the Commission is a desire to help Cambridgeshire and Peterborough prepare well for the future. This cannot be predicted with certainty, but we can examine possible development, policy responses, and likely effects – all the while acknowledging that any approach should be flexible for changing circumstances.

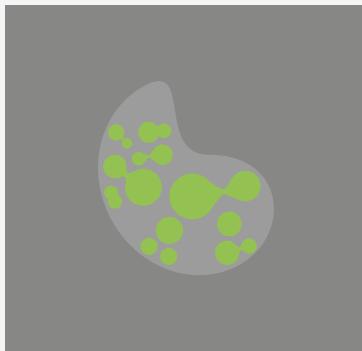
So we have taken an approach of modelling scenarios, or ways that things might turn out. The different results from these scenarios tell us what we might need to be prepared for, and where we may be able to take steps now to increase the chances of more desirable outcomes.

The Futures work, for the purposes of this report, refers to a body of work produced by Dr Ying Jin and his Cities and Transport team of the University of Cambridge. It builds upon two previous reports, "Cambridge Futures", and "Cambridge Futures 2" which were both published around the turn of the millennium. These had a powerful effect in shaping the debate around the future of Cambridge. This newly commissioned work has been updated, uses improved methodology, and has been expanded to the entire region. We hope it will have a similar effect.

The model works by looking at the interaction between land use and transportation. For example, if we suppose a lot of people live in area A, and work in area B, then there will be increased use of transportation links (road, rail, cycling, walking, etc.) between A and B. Depending on the distance and availability of public transport, different modes of transport will be chosen. The model allows for various factors, such as where businesses locate, what kind of areas people want to live in, and so on, to interact according to preferences in the model. Its outputs include business costs, commuting levels, and rents.

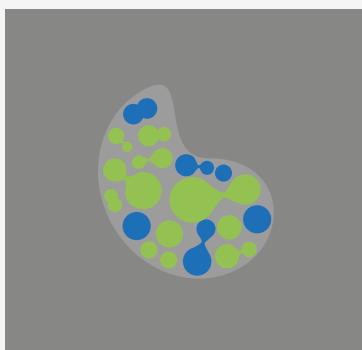
To get meaningful results, some factors are kept fixed for different 'runs' of the model, to enable comparison between them. The first is location of housing. We compare different 'patterns' of development to show what happens. (The important thing is not exactly where particular houses are built, but roughly what sort of spatial pattern is being adopted). This could also be done for location of jobs.

We have included illustrative images for each scenario – these are only intended to explain concepts and do not represent Cambridge, Peterborough, or any other actual city. Green 'blobs' represent existing development, while blue 'blobs' represent new development.



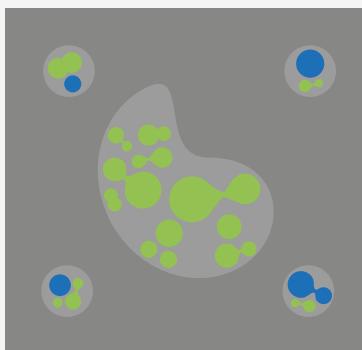
THE BASE CASE

This is a 'business as usual' approach. We expect houses to be built in the areas set aside in local plans. Transport links are upgraded in a way that seems reasonable based on current trends and timelines.



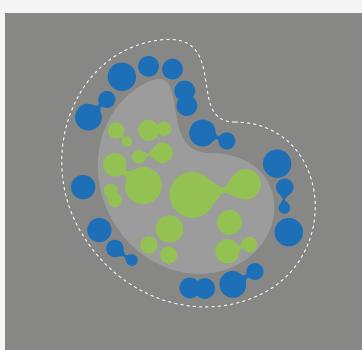
DENSIFICATION

This assumes that more houses get built, and jobs get created, in the urban areas of Cambridge and Peterborough, without significantly expanding boundaries. This would mean using remaining brownfield space on the edges to create high-density accommodation. It requires taller buildings in these areas to increase the number of people who can live and work within an area of land.



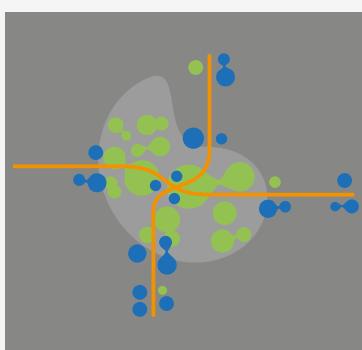
DISPERSAL

A dispersal strategy is where new houses and jobs are created outside of the primary urban areas of Cambridge and Peterborough, mainly in the market towns. It could also involve the creation of new towns and villages where previously there was only farmland/countryside.



FRINGE GROWTH

In the fringe growth scenario, large expansions happen on the outside of Cambridge and Peterborough, while the level of housing density within cities is left unchanged. A fringe growth approach significantly expands the urban footprint of the cities.



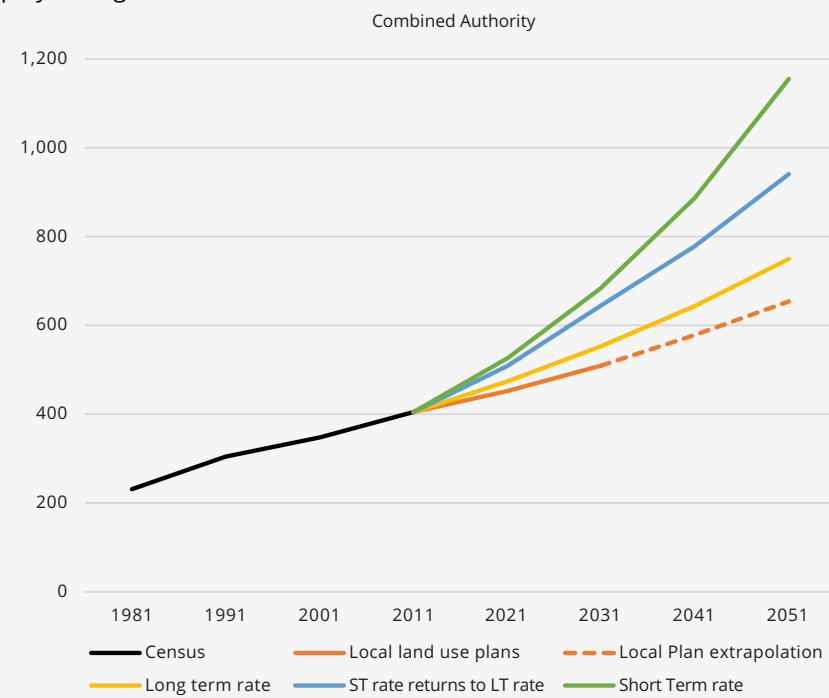
TRANSPORT CORRIDORS

A transport corridors approach focuses on developing jobs and housing along transport corridors which radiate out of the main cities. Transport corridors can include fast bus, tram, or train links, providing rapid transit into cities.

The other variable we allow to change is the expected employment growth within the area. Employment growth has been the shaping factor in how Cambridgeshire and Peterborough has changed over the last couple of decades – and we have noticed particularly high employment growth recently. We have different model runs for different levels of employment growth:

1. *Local land use plans* – to create land use plans, councils make forecasts as to how employment will grow, derived from the East of England Forecasting Model (EEFM). This scenario captures these forecasts, with an extrapolation to 2051. This is the lowest employment growth forecast
2. *Employment Growth – longer term rate*. This projection is a continuation of the 1981-2016 trend of employment growth
3. *Employment Growth – shorter term rate*. This projection is a continuation of the 2010-2015 employment growth trends based upon recent CPIER data, which suggest much higher rates of growth have been occurring recently
4. *Employment Growth – shorter term (ST) rate returning to longer term (LT) rate*. This projection is our central projection of the four. It assumes first a continuation of growth rates closer to higher recent Office of National Statistics (ONS) employment growth rates, before gradually returning to longer term ONS growth rates.

Figure 1 – Employment growth rates in different scenarios



Source: Dr Ying Jin, University of Cambridge

It is very important to stress again that none of these are ‘forecasts’ in the formal economic sense of the word. We are not saying what we expect to happen in the future for Cambridgeshire and Peterborough. But we are looking at ‘caricatures’ of different employment growth and development approaches, and their impacts, enabling a thoughtful debate on where between them we both expect to, and wish to, end up. Throughout the report, we use ‘Insights from the Futures work’ boxes to show the research’s findings.

1. Overview of the Area

The Cambridgeshire and Peterborough area is home to over 800,000 people³, and covers an area of 3,400 sq. km. It consists of six local authority districts – the cities of Cambridge and Peterborough, and the rural districts of East Cambridgeshire, Fenland, Huntingdonshire, and South Cambridgeshire. Its largest settlements include Cambridge in the south, Peterborough in the north-west, Wisbech to the north-east, Huntingdon to the west and Ely to the east.



3.3%

Average annual employment growth within the Combined Authority area 2010-16



194,000

The population of Peterborough, the 4th fastest growing city in the UK



13

The ratio of house prices to earnings in Cambridge



1.28%

The percentage of UK population living in Cambridgeshire and Peterborough



1.37%

Percentage of UK Gross Value Added stemming from Cambridgeshire and Peterborough



341

Number of patents per 100,000 people in Cambridge, the highest in the UK



50%

The percentage of UK Grade 1 agricultural land which is found in the fens



£200

The gap between mean weekly pay in Fenland and South Cambridgeshire

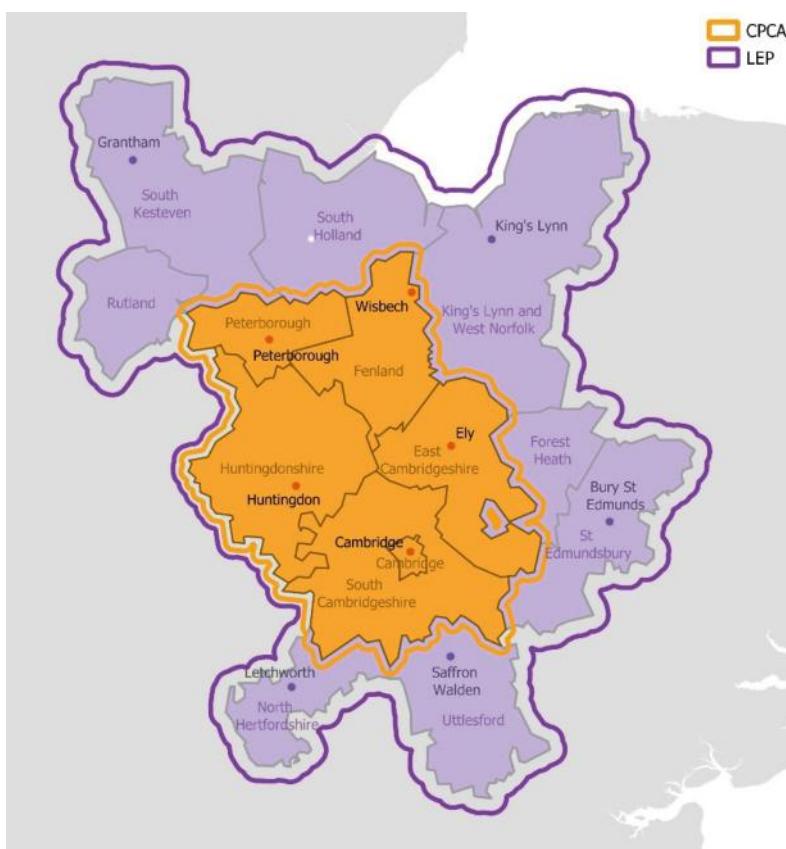
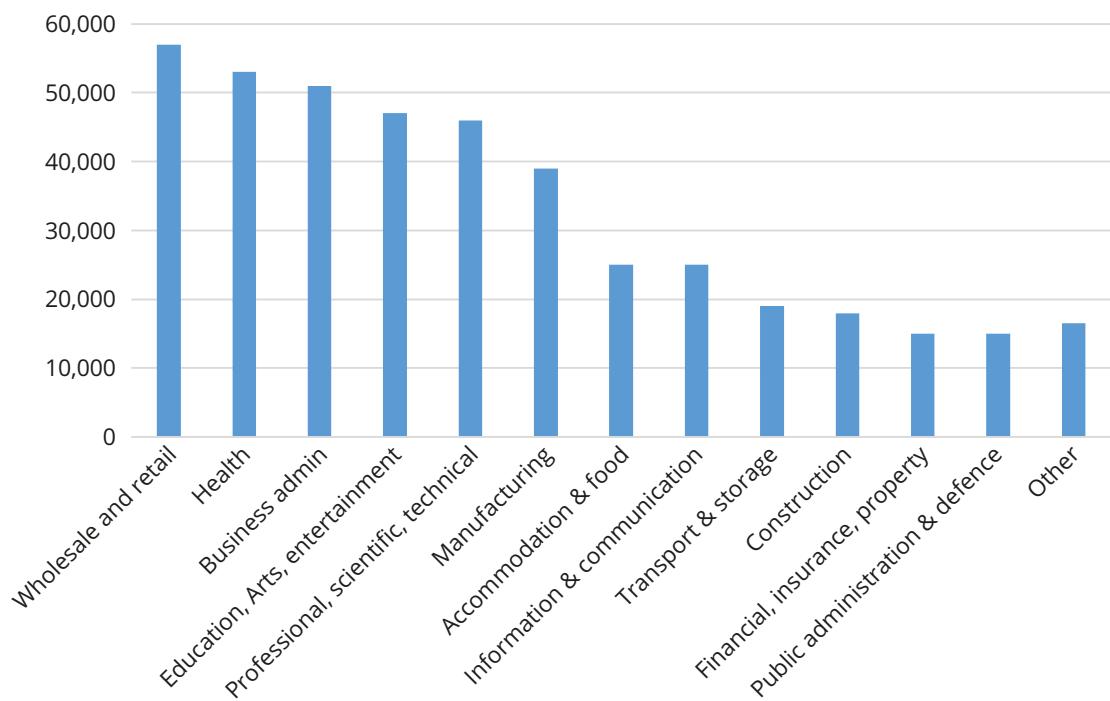


Figure 2 – Percentage of employment in different industries in the Combined Authority

Source: ONS Business Register and Employment Survey (BRES) 2016

1.1 HISTORICAL CONTEXT

Cambridgeshire and Peterborough are steeped in history. Major historic buildings include the two ancient cathedrals in Ely and Peterborough, where significant religious sites have existed since the 7th century. The University of Cambridge was founded in 1209, being granted a royal charter by King Henry III in 1231, making it the UK's second-oldest university. The fens begun to be dredged in earnest in the 17th century, led in part by the Dutchman, Sir Cornelius Vermuyden. The Bedford Level Corporation was later founded to oversee the pumping and drainage of the area. Land use in this area is now largely given over to agriculture, thanks to its high-quality, peat-rich soil.

Many market towns grew up across the area and remain important centres of trade and society. Peterborough was one of these, until its course changed drastically, due to its newfound place on the Great Northern railway line. This development allowed Peterborough's brick industry to grow rapidly (combined with more efficient production methods) and turned it into a large local centre. Engineering became an increasingly significant part of Peterborough's economy, which continues to this day.

The University of Cambridge established itself as one of the very best academic institutions in the world⁴, and boasts innumerable notable alumni and breakthrough discoveries. Despite this, the city remains relatively small (though population has grown rapidly, from 108,000 to 125,000 between 1997 and 2016), and is contained within a large green belt.

⁴See for instance the Times Higher Education World University Rankings, where Cambridge is ranked second-best in the world for 2018: <https://www.timeshighereducation.com/news/world-university-rankings-2018-results-announced>

1.2 POLITICAL CONTEXT

Governance in this region has been evolving for over the past century. The 'Soke of Peterborough' was declared an administrative county in its own right under the local government act of 1888, separating it from Northamptonshire. It then later became part of the county of Huntingdonshire and Peterborough in 1965, which was shortly abolished in 1972 to become part of Cambridgeshire. Peterborough district council achieved unitary status in 1998, becoming separate from Cambridgeshire for administrative purposes, although some functions are still shared (such as fire and policing).

The area under review is defined by the administrative boundary of the Cambridgeshire and Peterborough Combined Authority (CPCA), formed in 2017, which is constituted of six district councils – Cambridge, East Cambridgeshire, Fenland, Huntingdonshire, Peterborough (a unitary council) and South Cambridgeshire – and one county council – Cambridgeshire. This is a Mayoral Combined Authority (MCA), with its first Mayor, James Palmer, elected in 2017 (elections are set to take place every four years). This model of local government is relatively unusual in the UK, and the area is unique for an MCA, in having two-tier government within a Combined Authority. Like some Combined Authorities (e.g. Manchester, Sheffield) the Local Enterprise Partnership is fully integrated into the Combined Authority, although another unusual aspect is that the boundaries of the LEP extend beyond those of the Combined Authority.

The different powers possessed by local actors is set out in Annex 1. The area is home to seven parliamentary constituencies, which are: Cambridge, Huntingdon, North East Cambridgeshire, North West Cambridgeshire, Peterborough, South Cambridgeshire, and South East Cambridgeshire⁵.



Bridge over the Great Ouse River in St Ives

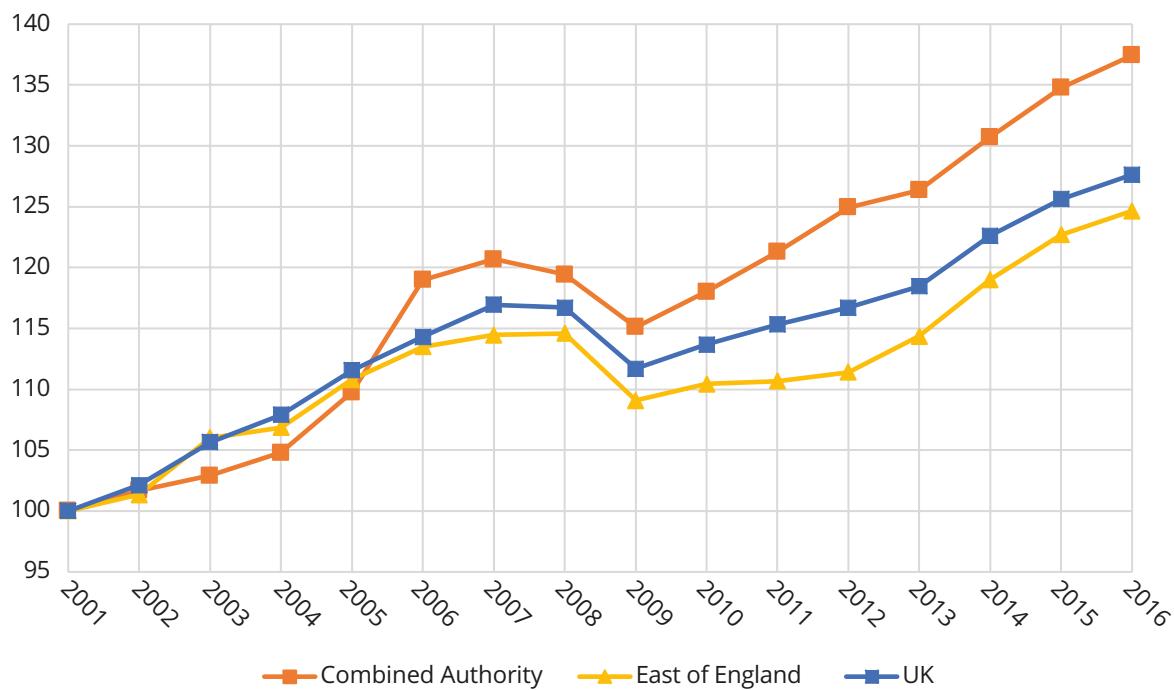
⁵This report's data, however, is given at the local authority level, as this tends to be how it is produced. This is also more relevant for the Combined Authority.

1.3 ECONOMIC CONTEXT I - GROWTH

A distinguishing feature of the area is how strongly it has grown recently. Economic growth has outpaced both the East of England and UK over the last decade. (See Figure 3 showing Gross Value Added (GVA)). This has been driven primarily, but not entirely, by rapid business creation and growth in the south – Cambridge and South Cambridgeshire. This business is innovation rich – in fact Cambridge had the highest number of patent applications per 100,000 people for any city in the UK (341, more than twice the closest competitor, Coventry, with 118). It has been supported by waves of finance, with early acquisitions of companies (often by US firms) providing additional finance which could be invested in other new business. Beginning with computers and software, entrepreneurs began to branch out into other sectors with different business models, such as telecommunications, and (more recently) life sciences.

Peterborough is also relatively innovative, as the 13th UK city for patents per 100,000. Peterborough's population growth is a factor in driving economic growth – it is the fourth fastest growing city (for population) in the UK⁶. It also has a young population, meaning a higher proportion of the population are working age, bringing added economic dynamism.

Figure 3 – Real Gross Value Added (GVA) – index 2001=100



Source: ONS Regional GVA figures

Growth has also been supported by changes in the approach taken to planning, particularly in Cambridge. At one time, the planning approach taken was purposely limiting on growth⁷, but following the Mott Report of 1969, recommending an expansion of 'science-based industry' in the area, this began to change. The release of green belt land by Cambridge City Council and

⁶<http://www.centreforcities.org/reader/cities-outlook-2018/city-monitor/1-population-growth/>

⁷Most notably the Holford Report (1950) into land use in Cambridge, which suggested that the city's population should not be allowed to increase above 100,000. Holford stated: "That there should be a resolute effort to slow down migration into the Cambridge district, and to reduce the high rate of growth so that future population should not greatly exceed present figures, is our first and main proposal."

South Cambridgeshire District Council, implementing this strategy, provided for additional homes and employment opportunities, including at the Cambridge Science Park. This has supported the continuing growth of the world-leading life sciences cluster in Greater Cambridge, and encouraged research institutes and laboratories to move to the area. As the area established itself as a scientific centre of global importance, a wave of large multinational companies started to move in. One of the most significant is AstraZeneca (AZ), which moved its global headquarters to the city in May 2016. AZ initially bought Cambridge Antibody Technology in 2006, proceeding to merge it into MedImmune (a later acquisition). Multinationals have continued to develop a presence, both outside the city, but also within it – one example being Microsoft's research lab sited by Cambridge central train station, with Apple and Amazon also establishing bases in the CB1 development area.

We have also found evidence from our review of business that employment and turnover growth have been picking up right across the area. According to our figures, employment growth has been highest in East Cambridgeshire, but with strong growth numbers in all districts (see the Business section for more on this).

Growth has not however been even across the whole area. And even in areas of higher growth, there are also real problems of deprivation and inequality.

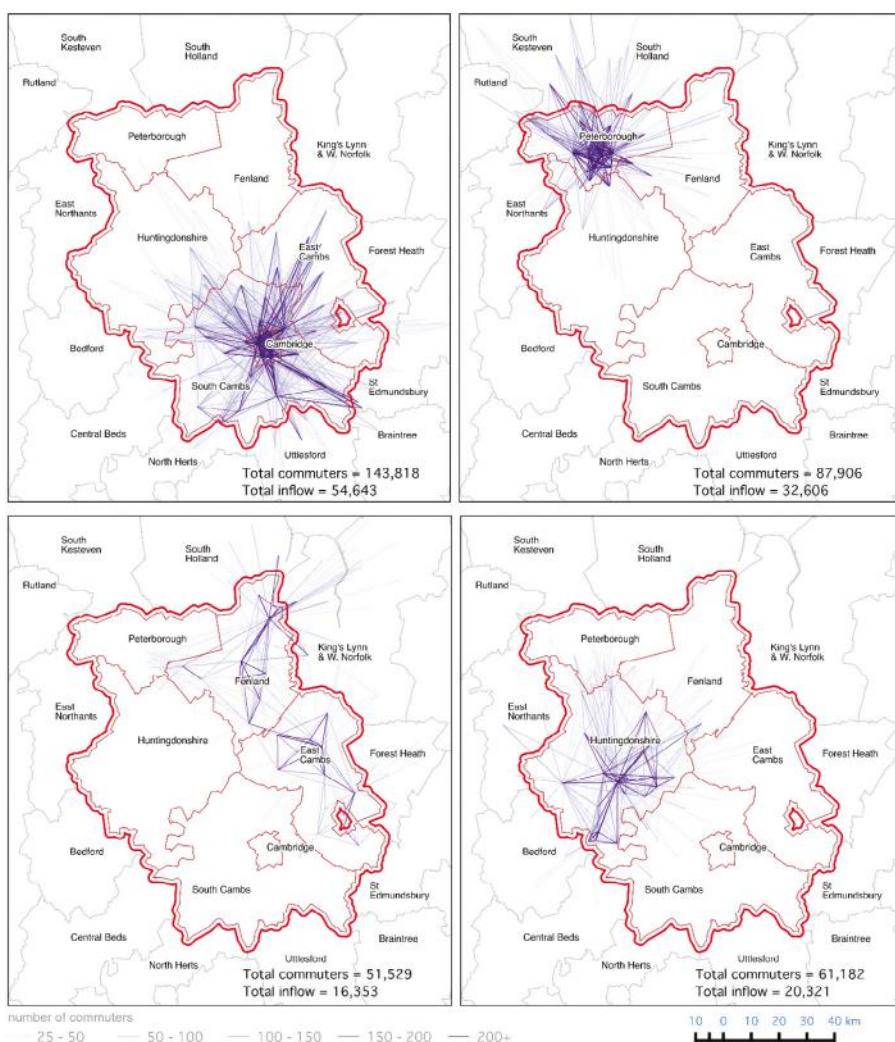


The Biomedical Campus, Cambridge

1.4 ECONOMIC CONTEXT II - ECONOMIC GEOGRAPHY

In the interim report, the Commission reached the conclusion that the Cambridgeshire and Peterborough area is not one, but three economies – the Greater Cambridge area, the Greater Peterborough area, and the fens. Boundaries are fuzzy, and don't align clearly with local authority districts (the district of Huntingdonshire is to some extent split between all three, and East Cambridgeshire is split between the fens and the Greater Cambridge area) but this approach seems to best capture what the data are saying. For example, when you look at commuting patterns for the different districts within the Combined Authority, it becomes clear that both Peterborough and Cambridge/South Cambridgeshire act as 'magnets' pulling people in from a surrounding area, while commuting is more diffuse across the fen areas:

Figure 4 – Commuting patterns for (clockwise from top left) Cambridge and South Cambridgeshire, Peterborough, Huntingdonshire, Fenland and East Cambridgeshire. Total inflow shows the number of people commuting into the districts from outside those districts



Source: 2011 Census Origin Destination Table WU03EW

This 'three economies' model has also been widely endorsed as we have consulted following the publication of the interim report. Fenland District Council commented that "the three-area characterisation summarises the area well", and the Wellcome Genome Campus agrees that "[t]he three-economy approach is a useful starting-point to establish an economic understanding of the area."

As we consider later in relation to housing, it is vital that each of the three areas (as well as each council within them) considers the implications of this economic geography for their development plans.

We also believe these economies stretch beyond the boundaries of the Combined Authority, and that there are strong links to outside the area. Consider where people are moving from into both South Cambridgeshire and Peterborough (another indication of economic linkages).

Figure 5 – Number of people moving into South Cambridgeshire, June 2015 - July 2016 (note these are based upon estimates)

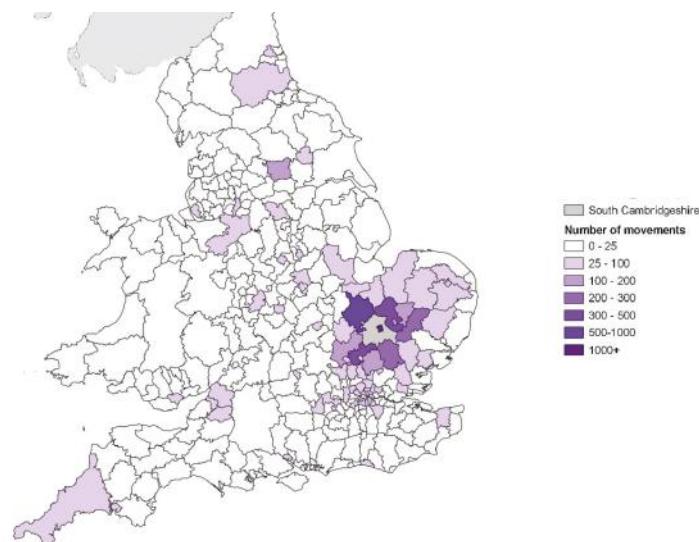
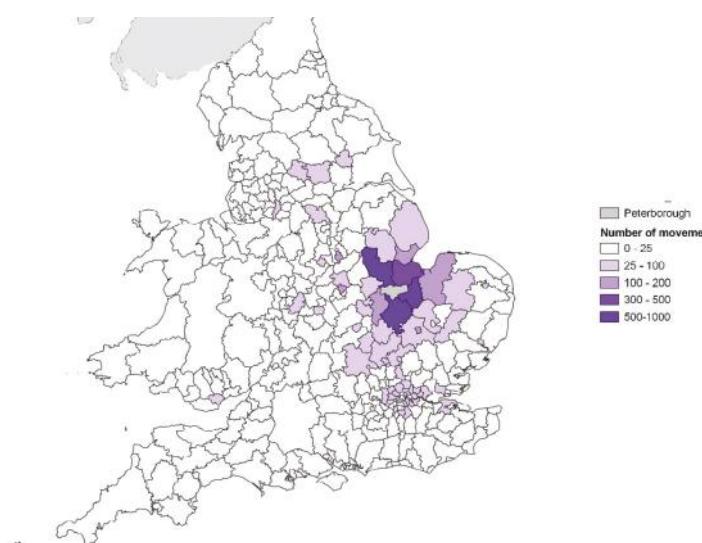


Figure 6 – Number of people moving into Peterborough, June 2015 - July 2016 (note these are based upon estimates)

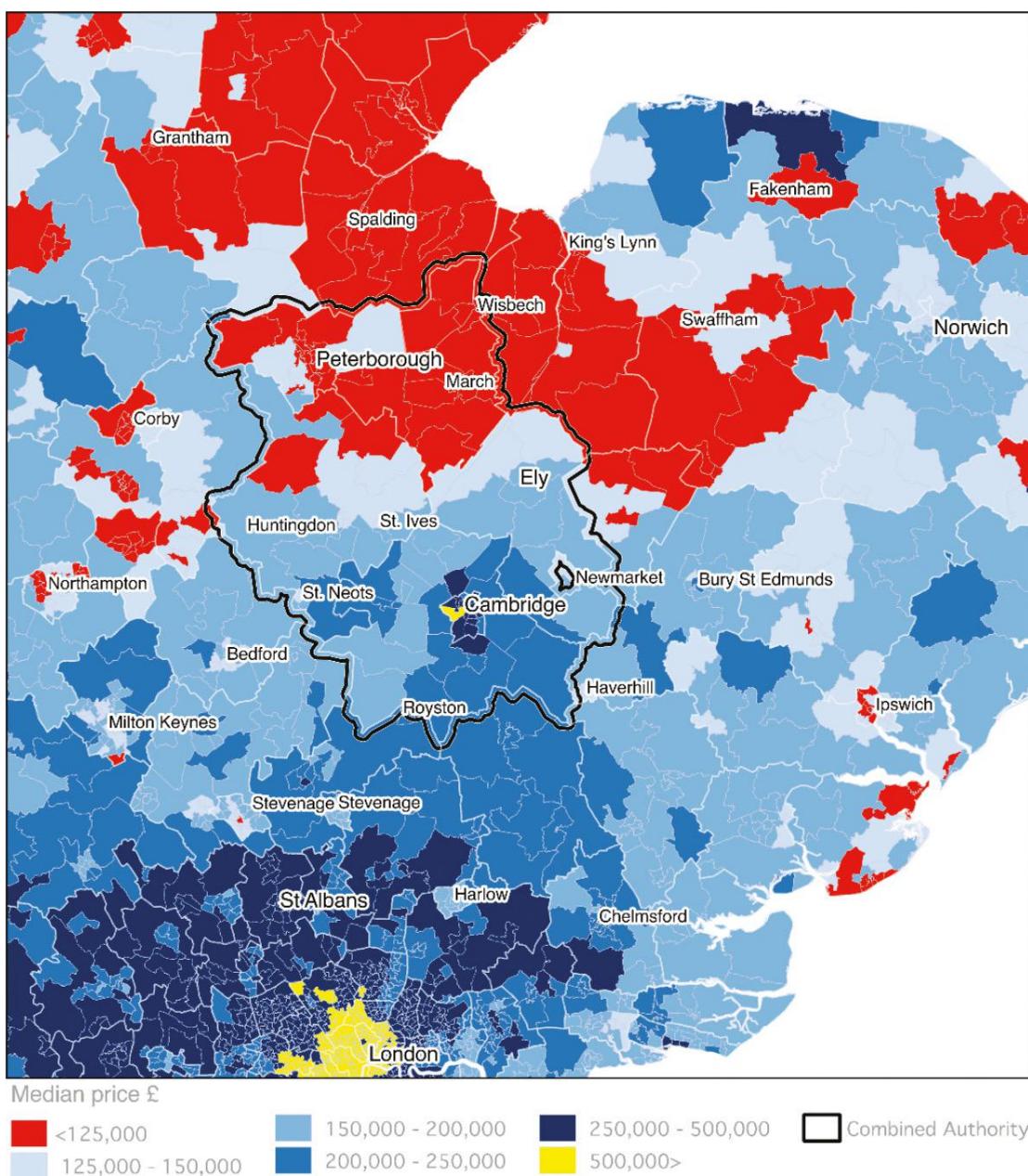


Source: Metro Dynamics analysis of ONS Dataset: Internal migration: detailed estimates by origin and destination local authorities, age and sex. Note that data for Scotland and Northern Ireland not available at a local authority level

These data are helpful as in many cases where people move house they will be keeping the same job. Therefore, they are staying within the same economic system but basing themselves elsewhere, giving clues (if not definitive answers) to the reach of different economies. This shows that the South Cambridgeshire area also has links into west Suffolk, north-west Essex and north-east Hertfordshire. Peterborough is clearly linked to Fenland and Huntingdonshire, nonetheless it has similarly high movements of people into the city coming from South Lincolnshire (South Kesteven and South Holland).

We can also look at the economic geography through the lens of the housing market (on which there is a more detailed discussion below). There are wide discrepancies in the prices of houses, with some houses in Cambridge selling at prices similar to London levels (see Figure 7).

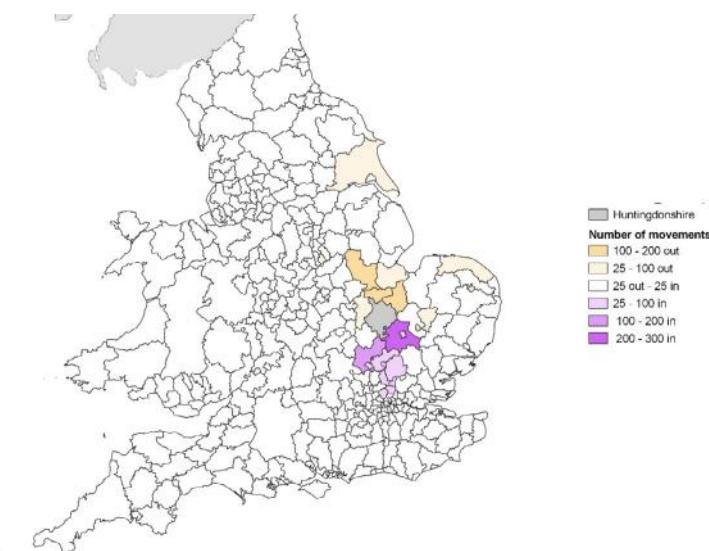
Figure 7 – Median price paid for terraced properties: 2010-2015



Source: Land registry: Price paid data. Contains Ordnance Survey data. Crown Copyright and database right 2015

This is having an effect on the movement of people, as those who are being priced out of areas are moving northwards. We can see this by looking at net migration patterns for an authority in the middle of the area, Huntingdonshire.

Figure 8 – Net migration in/out of Huntingdonshire, June 2015 – July 2016 (note these are based upon estimates)



Source: Metro Dynamics analysis of ONS Dataset: Internal migration: detailed estimates by origin and destination local authorities, age and sex. Note that data for Scotland and Northern Ireland not available at a local authority level

As this reveals, Huntingdonshire is a net recipient of people moving from places such as South Cambridgeshire and Hertfordshire. But as prices in Huntingdonshire increase, it also has a net loss of people moving northwards to Peterborough, Fenland and South Kesteven. This is indicative of a general northwards movement of people, and also that as places 'gentrify' the existing population can only too readily be pushed out and do not benefit from any improved facilities.

Finally, there are corridors which stretch from the area elsewhere – the two most significant being the Cambridge-Milton Keynes-Oxford Arc, and The UK Innovation Corridor/London-Stansted- Cambridge-Consortium. These corridors reflect a mixture of reality (existing economic connections) and potential (that which could be realised through closer economic connections).

1.5 MARKET TOWNS

An important feature of the economic geography is the prominence of market towns. These have long served as economic centres for local populations, providing hubs for commerce. While the relative importance of market towns has, to some extent, declined as transport has enabled larger centres to become more dominant, they continue to play a key role. Even though many are in the grip of change, for people in rural communities, such as the fens, they remain central destinations for work, retail and leisure. They are of varying sizes, from the large (such as Wisbech – population 32,489), to the medium-sized (such as Yaxley – population 9,174), and down to much smaller towns (such as Sutton – population 3,816)⁸. We estimate that around a quarter of the population of Cambridgeshire and Peterborough live in these towns, meaning a strategy for market towns will be very important. We return to this in the section on market towns.



Riverside Park, St Neots

⁸Figures taken from 2011 census for Built-Up Areas

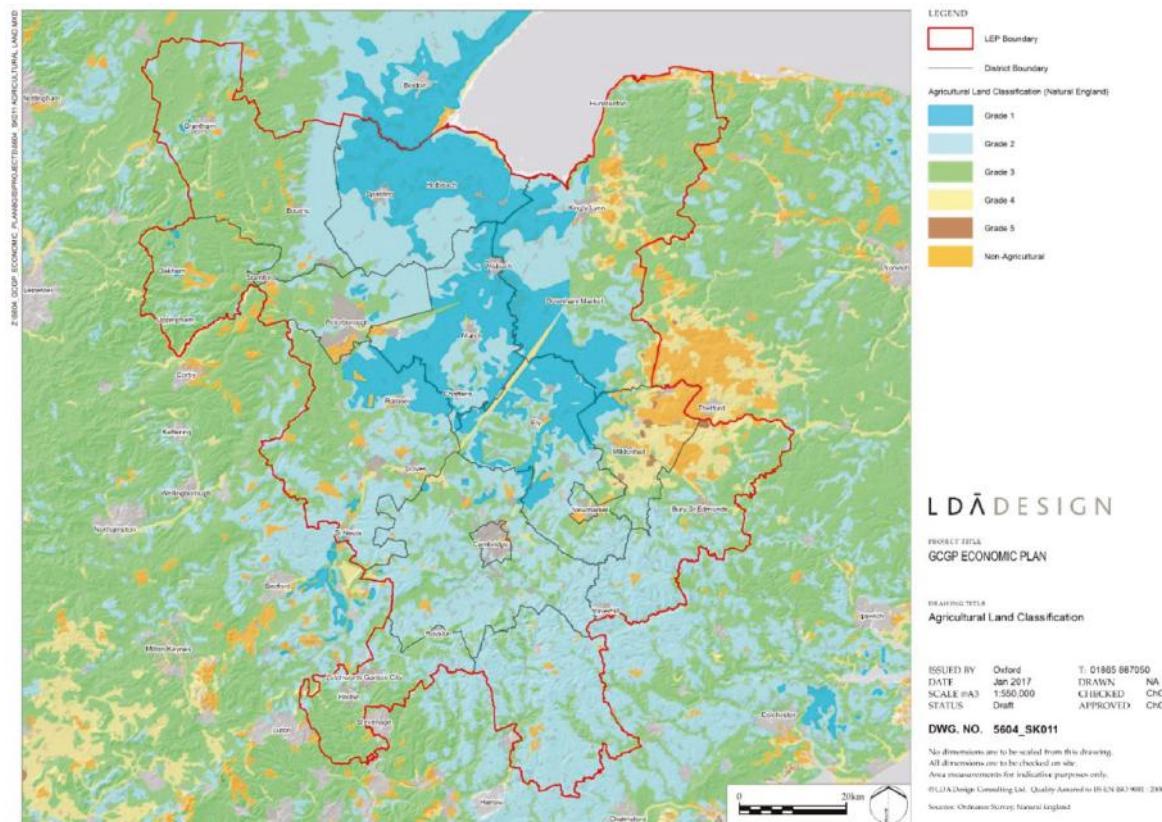
1.6 NATURAL ASSETS

The area is also home to key natural assets, including wetlands, woodlands (broadleaf and conifer), semi-natural grassland, freshwater sources (such as the River Great Ouse, River Nene, and River Cam), and areas of high biodiversity. These natural assets generate a wide range of services, including:

- Provisioning services (crops, livestock feed, timber, water)
- Regulating services (water quality, flood defence, carbon sequestration), and
- Cultural services (recreational benefits, health benefits)

Finally, the value of the land can also be seen in its agricultural quality. Over 50% of the UK's grade 1 agricultural land is found in the fens, along with significant quantities of grade 2 land in the south of the county.

Figure 9 – Agricultural land classification



Source: GCGP Strategic Economic Plan

In the fens, water has an especially significant effect on the local economy. Much of the area is classified by the Environment Agency as being in flood zone 3, which is defined as being land having a 1 in 100 or greater annual probability of river flooding, or a 1 in 200 or greater annual probability of sea flooding. This presents challenges to local economic development.

At the same time, there is risk of drought in Cambridgeshire and Peterborough – it receives some of the lowest levels of rainfall in the UK, while a growing population is increasing the demand for water.

CLIMATE CHANGE: THE RISKS FACING ECONOMY AND SOCIETY

The topic of climate change does not sit easily in any one section of this report – it is a threat which cuts across all areas. The low-lying nature of the area makes it especially vulnerable to rising sea levels, and increasingly unpredictable weather patterns may in time damage the local economy. Climate change is already having a damaging effect on biodiversity and could put strain on the water supply. The severity of these issues means they must not be ignored. Cambridgeshire and Peterborough must play its part in meeting the stipulations of the Climate Change Act, and reducing greenhouse gases by at least 80% of 1990 levels by 2050.

There are some proactive local actions which can be taken. One area which should be explored is the potential for planting more trees in the area. The Environment Agency, in their submission to the review, noted that: "As Britain's least wooded county, there is scope to create more woodlands in Cambridgeshire. The key drivers for creation are biodiversity, carbon, improved water quality through interception of diffuse pollution, and flood mitigation." Trees are also noted for their beneficial effects on quality of life, and air quality.

In addition, there is a small but growing Cleantech sector in Cambridge, where firms are looking to develop sustainable technology which can meet our needs without damaging the environment. There is every reason for this area to be at the forefront of the global endeavour to find technological solutions in areas such as transport and housing.

However, in addition the area will need to be fully engaged in the national response to climate change – including ensuring new developments are planned to be resilient to extreme weather events, and able to support other initiatives such as electric charging for vehicles.

2. The Future of Cambridgeshire and Peterborough

The overview drew out some central themes about the kind of area Cambridgeshire and Peterborough is. Where next, then, for Cambridgeshire and Peterborough?

The local population will have strong views on what they want for their area. We believe that we also have a significant contribution to make to the discussion. The three priorities we suggest for the future of the area are: **continued high economic growth, a more inclusive economy, and a blended spatial strategy.**

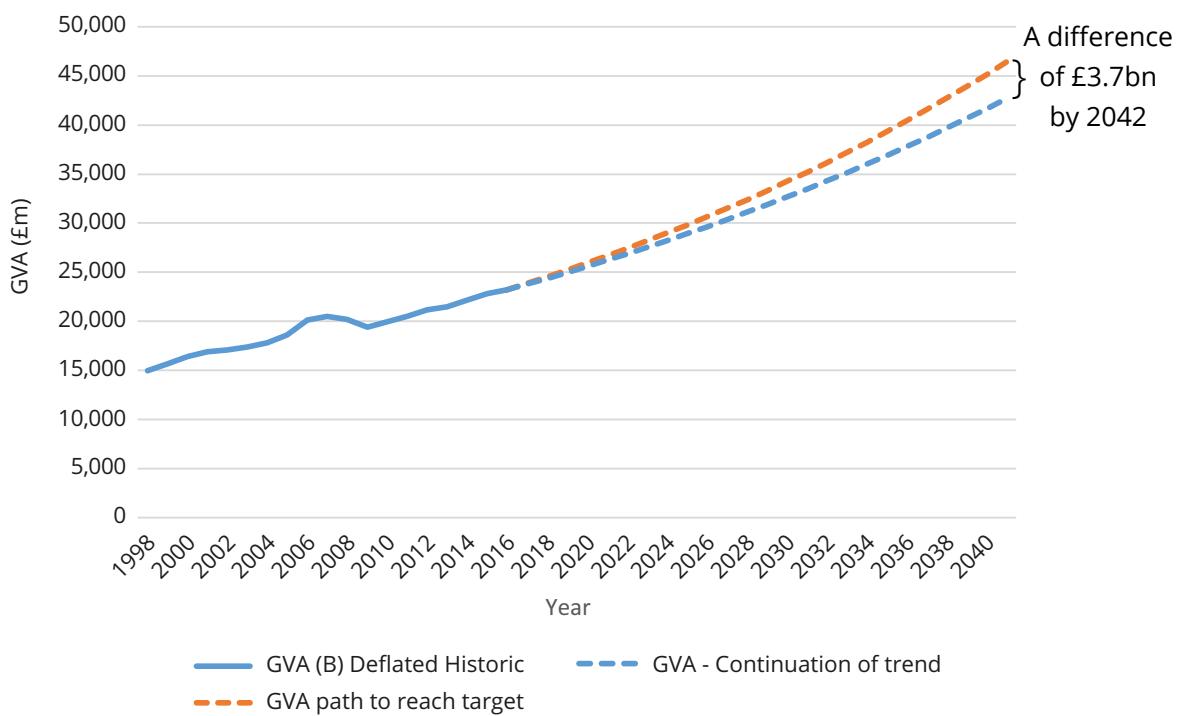
2.1 CONTINUED HIGH ECONOMIC GROWTH

Economic growth, driven by high value industries and rising employment, has brought many benefits to Cambridgeshire and Peterborough. The creation of jobs has given people income – Gross Disposable Income per head has grown by 11% between 2011 and 2016 in real terms, which has in turn benefitted small businesses. The contribution the area makes to the UK economy has been significant.

Economic growth is also the basis for the devolution contract between central government and the area. As part of the settlement for extra powers received by Cambridgeshire and Peterborough, the area committed to doubling its economic output (as measured by Gross Value Added (GVA)) over the following 25 years. The Mayor has asked the Commission to look at this target, to assess how it should be measured, and how it can be delivered.

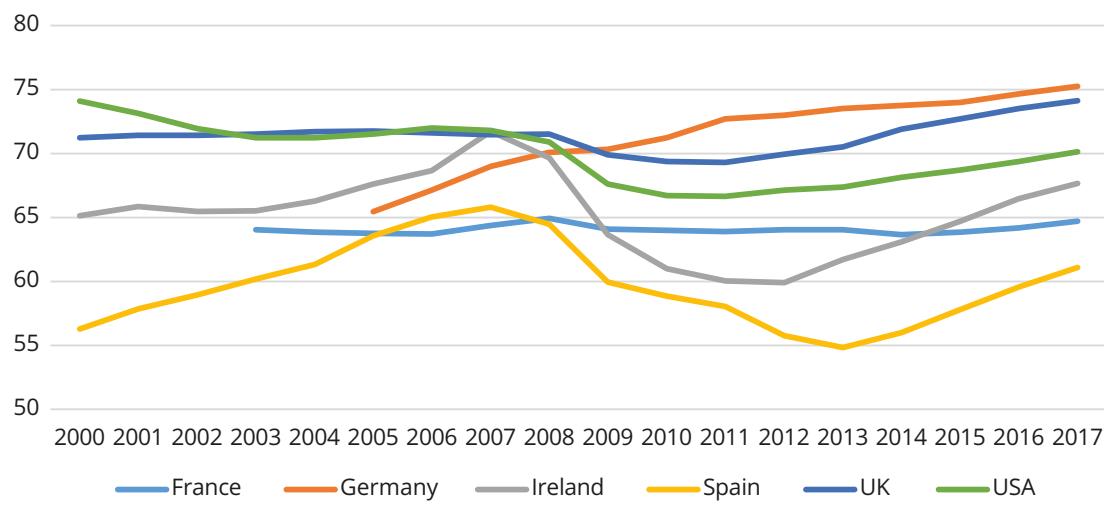
Is this growth target feasible? To double an economy over twenty-five years requires an average annual growth rate of 2.81%. Historically, since 1998, the local economy has grown at around 2.5%. Viewed in this light, it is a “stretch target” – it requires the area going beyond what it has before.



Figure 10 – GVA in the past, continued trend, and to reach target

Source: Analysis based upon <https://www.ons.gov.uk/releases/regionalgrossvalueaddedbalanceduk1998to2016>

It is not unreasonable to expect that, particularly with further devolution of powers, the area could improve its economic performance still further. But the wider context will make such an ambition challenging. UK growth over the longer term has slowed, and it is not yet clear whether it will return to pre-financial crisis levels. Historically, growth in this area has been largely led by employment. But this is likely to be an unsustainable model for continued growth for two reasons. Firstly, rates of participation in the labour market are already at historically high levels, outstripping Ireland, France and the United States (see Figure 11). Secondly, Brexit is likely to reduce ease of access to European labour (though the extent to which this "bites" depends upon the final settlement).

Figure 11 – Employment rates %, UK and comparator countries (2000-17)

Source: OECD – NB this database does not have data going back to 2000 for all countries

These challenges do not mean the target is unattainable. As can be seen in Figure 10, the effect of the financial crisis in 2007 was clearly felt, but the economy bounced back strongly – the 2.5% historic GVA growth rate includes the period of the financial crisis. But the growth model will need to change. Future growth will have to involve elements of both employment growth and productivity growth, with the dial pushed firmly in the direction of productivity improvement. Much of this report takes up themes relating to productivity, such as those on health, skills, and business culture. The recommendations of the Commission must be responded to in these areas if there is to be a chance of reaching the GVA target.

INSIGHT FROM THE FUTURES WORK

The higher the growth of employment, the lower the corresponding growth in productivity will need to be to meet the target, and vice versa. For each of the growth scenarios, the required productivity figures to double are:

Employment Growth Scenario	Implied average productivity growth
Local land use plans	1.6%
Employment Growth – longer term rate	1.2%
Employment Growth – shorter term rate	0.2%
Employment Growth – shorter term rate returning to longer term rate	0.8%

On our central projection of longer term growth returning to shorter term, productivity growth of 0.8% is required. This is challenging (given current stagnant productivity growth), though not impossible.

Therefore, while we cannot say with complete confidence that the target will be met, we think having this target is helpful for two main reasons:

i) It keeps a focus on productivity, and

ii) It forms the basis for further devolution of powers. The Commission is convinced of the benefits of empowered local government, which is able to tailor solutions to meet the needs of its own area. However, in order to make the case for further powers, the area must 'keep faith' with its commitments in the 2017 devolution deal. If it fails to do so, government may take a dim view of the prospect of further devolution.

However, measuring GVA is not straightforward. It is important to stress that the assessment of GVA must be real and not nominal. That is, inflation will tend to increase the 'face value' of the economic output of the area regardless of whether real economic output has increased or not. The preferred ONS method of measuring GVA – the 'balanced' measure, which takes into account both 'income' and 'production' factors – is a nominal measure, i.e. with values being given in that year's prices. This creates a problem – it's important to use the ONS' official figures (to give credibility), but we also need to capture the real value of the economy. However, the ONS does provide 'deflators' for the production approach to GVA measurement. While not perfect, we believe that the GVA target should be measured using the ONS (Balanced) GVA measure, deflated by the ONS GVA (Production) GVA deflators⁹.

⁹Figures for combined authorities and production deflators can be found here: <https://www.ons.gov.uk/releases/regionalgrossvalueaddedbalanceduk1998to2016>

We also call for thoughtfulness in assessing how this challenge should be met by the different economies which constitute Cambridgeshire and Peterborough. It simply cannot be achieved unless all three economies are thriving and continue to grow. The aspiration should be for similar growth rates across the Cambridgeshire and Peterborough area. This does mean, though, that those areas with a larger output already will inevitably produce more of the absolute increase in GVA required to meet the target particularly in the near term.

Consequently, to avoid this target being missed, it will be in those areas that hindrances to growth (such as inadequate transport) will most urgently need to be addressed. The Commission hopes that schemes which are needed (some of which are already underway) in every part of the area will progress in time. But it suggests this GVA target be borne in mind as prioritisation decisions are made. The broader spatial strategy (discussed below) will also impact GVA – a dispersal strategy in particular will make achieving the target harder, due to location of jobs away from productivity hotspots.



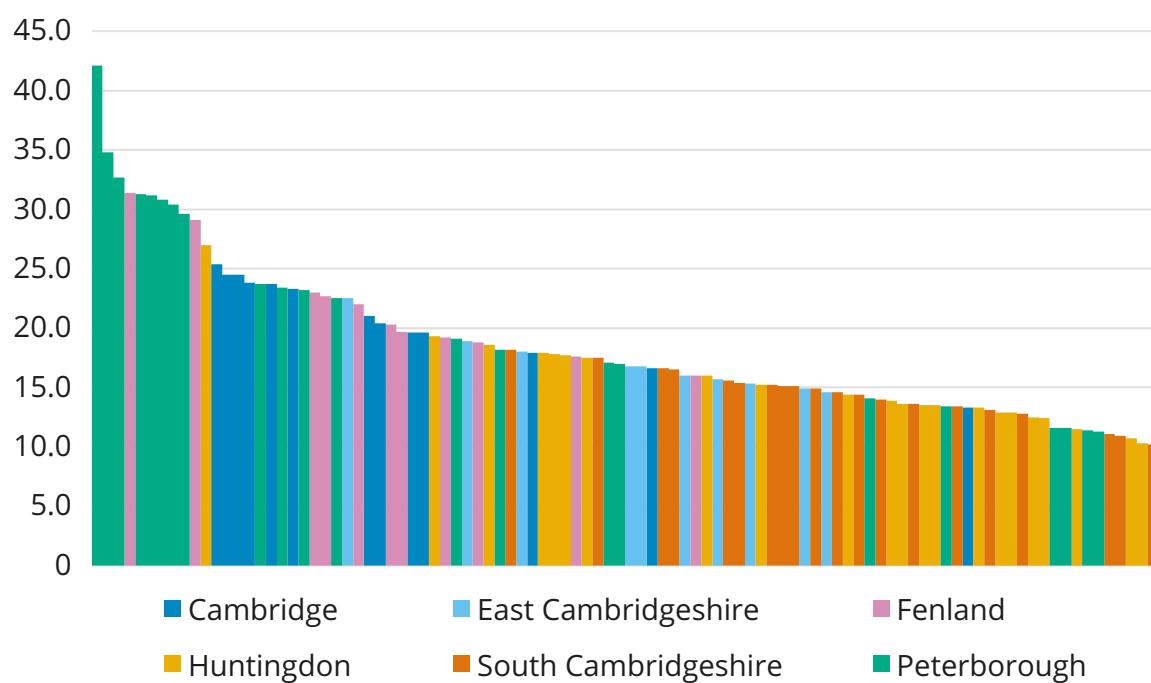
2.2 AN INCLUSIVE ECONOMIC FUTURE

Just as important as the quantum of growth is its quality and inclusiveness. Is the rising tide lifting all boats? We have heard concerns that the high growth of greater Cambridge's industry is not beneficial for everyone. One interviewee asked: "Why should residents of South Cambridgeshire be delighted that AstraZeneca has moved in, if it means their children can no longer afford to live in the area?" The question is a good one, and chimes with one of the defining questions of the review: "How equitable is growth across the whole of Cambridgeshire and Peterborough and what strategies should be adopted in future to address this issue?"

Inclusive growth is a particularly acute challenge for this area, in which Cambridge has been identified as the most unequal city in the UK¹⁰, and which also experiences high levels of spatial inequality. High levels of inequality cause serious problems. For example, the Police and Crime Commissioner, in his submission to this review, commented: "Increasing inequalities worsen crime and disorder, increasing economic burden and potentially impacting growth". There is a large body of evidence to suggest that inequality leads to worse outcomes for many, a lack of opportunities as division becomes entrenched, and a negative impact on overall economic output.

Inequality is also reflected in deprivation. The extent of deprivation can be seen by looking at the percentage of households in poverty in different medium-sized output areas (MSOAs) – each containing around 6,000 people.

Figure 12 - MSOAs ranked by the percentage of households in poverty



Source: ONS 2014

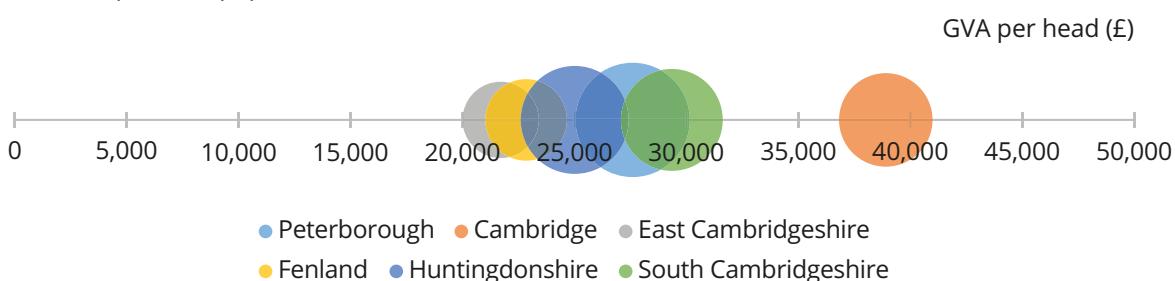
¹⁰<http://www.centreforcities.org/blog/focusing-inequality-best-way-tackle-poverty-uk-cities/>

Peterborough and Cambridge, the two most urban districts, as well as Fenland, have some areas where over 25% of households are in poverty, although the numbers and proportions are rather more acute in Peterborough.

The inclusiveness of growth question does not just cut across social and demographic categories, it also has a vital spatial element. One organisation, Cambridge Past, Present & Future (CPPF), responded to the interim report by saying: "It is, however, not only the inequality within the city of Cambridge which needs addressing but also that between geographic areas. Whilst we support the idea of harnessing the strong track-record of economic performance around Cambridge, it is with the strong proviso that steps are taken to avoid this creating an even greater social gulf between the successful and less successful parts of the county." The Commission is in complete agreement with this sentiment. How can we ensure success isn't concentrated within a small area, showing little observable benefit to those outside of it? We are encouraged to note that this question is being taken seriously by some of the organisations so pivotal to success in the Greater Cambridge area. Sir Leszek Borysiewicz, previous Vice Chancellor at the University of Cambridge, reflected on the importance of the university serving the wider region in his farewell speech: "Universities like ours are given license to operate, and the space to educate and generate knowledge, because what we do is for the benefit of society... the biggest challenge may be how to ensure that [the University of] Cambridge is more widely acknowledged as an institution firmly rooted in our region, and actively seeking to benefit communities beyond its very own."¹¹

It is simply not acceptable for the inclusiveness of growth to be overlooked as a strategy is developed for Cambridgeshire and Peterborough. This question, like the question of how to double GVA, coalesces around the central element of 'productivity'. As can be seen, productivity (as approximated by GVA divided by the resident population) is variable across the area.

Figure 13 – GVA per head in each local authority of Cambridgeshire and Peterborough (size of the bubble represents population size)



Source: ONS Regional Gross Value Added (Balanced) by Local Authority

For the whole of the area to succeed, the top priority is improving productivity in areas doing less well. Other solutions, including better transport links or one-off projects, may go some way towards spreading growth, but without tackling the root causes, will bring little lasting benefit. If workers can be more productive, they can bring home more take home pay, which will flow into the local economy. And they will be able to enjoy a higher standard of life. It is this, before anything else, which needs to be looked at to create an inclusive economic future. Bringing these first two points together, we make the following recommendation.

¹¹<https://www.v-c.admin.cam.ac.uk/professor-sir-leszek-borysiewicz/speeches/putting-new-wine-old-bottles-vice-chancellors-farewell>

» KEY RECOMMENDATION #1

The GVA target should be tracked and measured (in the manner described by the report). Check-ups on progress and feasibility should build in a degree of flexibility depending on economic outturn. The Mayor should also instigate the development of a well-being and inclusive growth dimension to his GVA target.

It would make sense for these reviews to coincide with the five-yearly gateway reviews in the Devolution Deal, set up to review whether devolved funds were delivering national growth.¹²

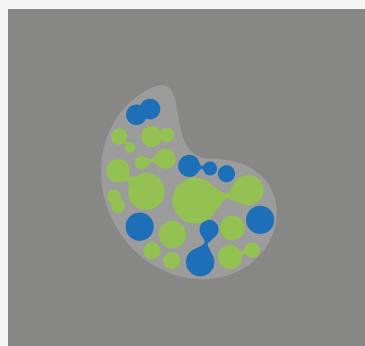
Productivity is not just a question for government to puzzle over. Business needs to understand it has a responsibility to play. In the East of England, productivity growth has slowed, to the point of dipping slightly of late. Companies need to think hard about how productive they are and where they can make progress. This is returned to in the business section.

To get to work on this productivity problem will involve increasing the output of businesses, improving skills (both in terms of levels, but also their relevance to local growth industries), and boosting health outcomes. This is why we have chosen to take a broad definition of our brief that covers these issues, rather than looking only at narrow growth questions. We will not cover in detail our recommendations in each of these areas here, as they are the subject of further sections. All of these other recommendations should be seen in the context of improving productivity right across Cambridgeshire and Peterborough to ameliorate economic outcomes.

2.3 A BLENDED SPATIAL STRATEGY

The Commission considers that each of the four possible scenarios for development have their advantages and disadvantages. This perspective is informed by the findings arising from the Futures work.

INSIGHT FROM THE FUTURES WORK



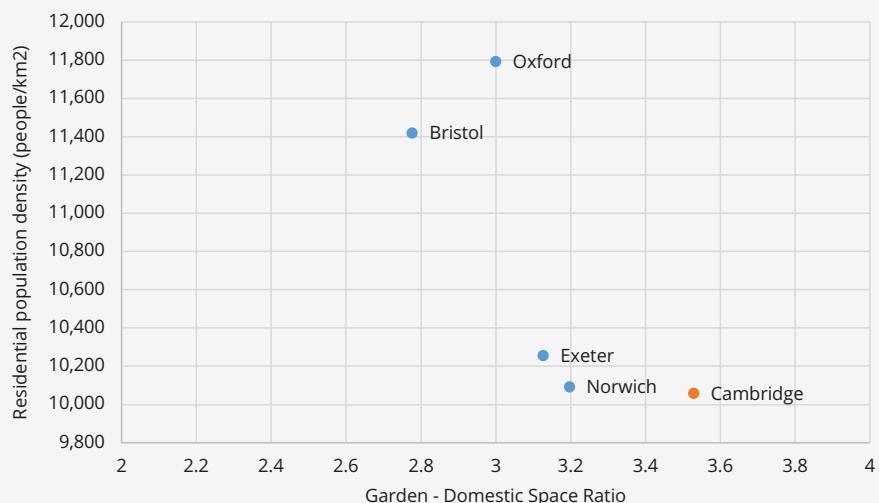
DENSIFICATION

Densification has many noted benefits, including shorter commute times for those who can live and work in the city, environmental benefits accruing from reduced long-distance travelling and less use of greenfield land, and social benefits as people live and work together in close proximity. Densified accommodation is popular with young people, who often prefer to live close to city amenities, and are prepared to live in

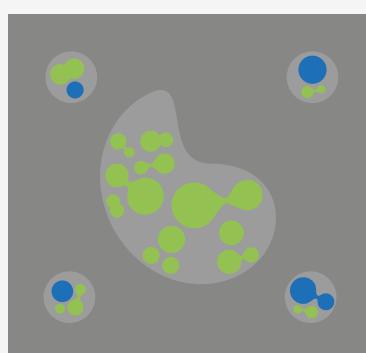
¹²See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600239/Cambridgeshire_and_Peterborough_Devolution_Deal.pdf paragraph 11

smaller accommodation to be able to afford to do so. Cambridge in particular is a low density city, when set against national and international comparators (see Figure 14 below, which shows Cambridge has both a lower population density, and higher garden - domestic space ratio than comparators). Densification also seems a 'natural fit' with a networks-based approach to developing the economy – close proximity allows for ease of collaboration and dialogue. However, a few words of caution on densification. The first is feasibility. Building upwards can be unpopular, and is limited by 'protected sightlines'. While building on gardens has been done before in other places (such as in Silicon Valley), and some residents may be glad to sell their land for this purpose, it is unlikely much land will be released in this manner (and there is likely to be opposition to these planning applications). It is only really likely to be feasible in new development sites towards the edge of cities. Finally, local commuting will increase – while much of this will be on foot or by bike, on bad weather days car traffic congestion is likely to be worse unless offsetting action is taken.

Figure 14 – Density and land use comparators between Cambridge and comparable local authority districts



Source: <http://webarchive.nationalarchives.gov.uk/20060308015828/http://www.odpm.gov.uk/staging/index.asp?id=1146084> – Data from 2005 – more up-to-date data not available

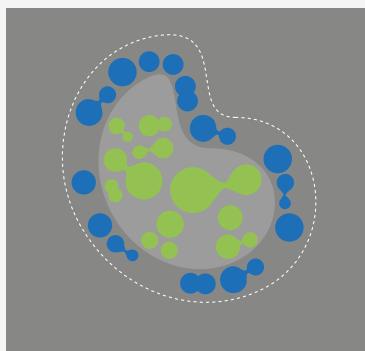


DISPERSAL

A dispersal approach also has advantages. Bringing new homes and jobs to towns and villages where populations are ageing could bring new life into them. If market towns can develop their own unique selling points (as some in the area have successfully done) then they may attract small business 'clusters'. Market towns have some quality of life advantages and may enjoy close communities. Nonetheless, we must consider the likelihood of sufficient jobs moving into the

market towns to make dispersal work on a large scale. In some cases it may, but it would be high risk to attempt to build many houses in the hope that jobs would follow. Should they fail to do so, commuting problems into cities will intensify, and a growing sense that the towns

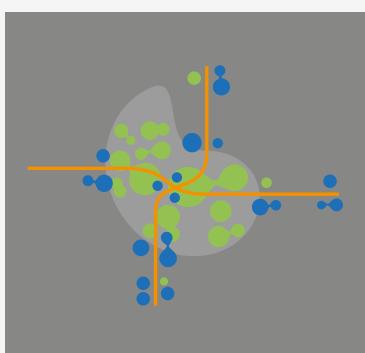
are merely 'dormitories' will develop. A 'jobs-first' approach to market towns, which focuses first on bringing employment, and then second on housing, is preferable.



FRINGE GROWTH

A fringe growth strategy could have some benefits in creating new communities which 'feed' off the economic strength of a city and could enable denser than what is the current norm in suburban developments. This method would allow large numbers of those who work in the cities to be housed not too far from their place of work, which could have positive well-being effects. In the case of Cambridge, some extension of development around the city boundary is almost certainly

necessary given the intense pressures it is in under. However, growth in all directions would consume large amounts of green belt land (a legally complex and potentially unpopular move) and could cause significant environmental damage if the ecosystem services provided by green spaces are not maintained (this also true in a dispersal scenario). Fringe growth is likely to work better by moving outwards through a significant well-planned urban extension, and integrating the new fringe into city transport systems, rather than growing in all directions at the same time.



TRANSPORT CORRIDORS

The final approach is transport corridors. This term needs careful definition, to avoid being misunderstood. It does not describe an approach where a connection is simply made from point A to point B, with houses and jobs spread along it evenly – this is unrealistic, undermining the universal principle that people and businesses naturally gravitate towards centres. Rather, it should be seen primarily as a way of expanding the economic benefits of the urban area. Like

densification, it maintains the strength of the city core by not attempting to remove jobs and disperse them. It also has a similar focus on accessibility of goods and services, as all new dwellings are designed to be within easy reach of employment sites. By ensuring good quality public transport is in place before development, the number of those new residents who will use the transport is maximised. This is also likely to be the best way to stretch some of the high-value businesses based within and around Cambridge out into wider Cambridgeshire and Peterborough. These companies will not want to be distant from the city, but these clusters could 'grow' out along the transportation links, providing connection to other market towns. Finally, a transport corridors approach, by its very design, leaves large 'green wedges' in between the transport links. This means that those who live and work in these areas can enjoy the countryside, and the quality of life which attracts so many to the area can be maintained. However, the strength of this approach through strong coordination could also spell its main weakness as well, because it would require sophisticated skills and resources to deliver complex infrastructure and development projects.

Looking at this in the round, some densification, particularly in Cambridge, is needed, though this should happen away from the historic centre, and more on the edges, as and where new development sites comes forward. There should be some scope for expanding development around the city boundary, but intelligently planned transport links will be needed to avoid a worsening of congestion. In Cambridge specifically, though there are limitations to the growth of the city in other directions, the east side of the city offers significant scope for housing and commercial development. Such development would have the advantage of being close to the principal centres of employment and the existing rail infrastructure whilst also opening up opportunities for new transport links to connect the main centres of employment more effectively. Most significantly, it includes land which has previously been safeguarded for development, and is within the boundaries of the existing urban area so would provide opportunities in line with the existing spatial strategy.

It is very important to support the growth of market towns, but we believe the evidence suggests dispersal should not be the main paradigm for development. What is clear is that none of these approaches on their own are likely to work – there is a need for balance and flexibility to ensure the urban form best meets the many needs of residents, businesses, and the environment.

We also urge clear thinking about location of business and sector clusters within a spatial strategy. To foster flourishing business clusters many interrelated elements need to be in place, including the right mix of key actors (private sector firms, public sector organisations, consumers) with the right technologies and capabilities, institutional systems and norms, and networks of relationships. This doesn't mean intervention can't work, but it does mean that a whole systems approach needs to be taken, accompanied by deep engagement with local networks to inform bespoke solutions. A simplistic approach of picking business up and moving it around will founder without a solid understanding of supply chain links. This is discussed further in the business section.

► KEY RECOMMENDATION #2:

The Combined Authority should adopt a blended spatial strategy, with the Futures work being actively used to discuss trade-offs in an informed manner.

Finally, a word on the impacts of technology. Clearly, technological developments are disrupting, and will further disrupt, the patterns of our lives. Some have concluded that, through digital connectivity, place no longer matters, and therefore it doesn't really matter what spatial strategy we opt for. We disagree. Whatever we conclude about the effect digital transformations will have, a view that they are likely to mellow the preference for city centre living would fly in the face of recent experience. The Cambridge-based business and academic group Cambridge Ahead recently conducted a workshop with young people to discover their living preferences, and found that they had little interest in suburban living, but instead were very willing to trade living space for proximity to the city centre. Property business, Grosvenor, commented on these findings: "We believe the way millennials view the housing market reflects their modern lifestyles... Living in central, well-connected and vibrant areas is important for many young professionals and as such, sacrificing lifestyle in order to save for a home, or commuting longer distances to access more affordable locations, are not likely to be

high on their agenda.”¹³ We need to tap into this in such a way as to encourage the construction of sought-after forms of living but without casting aside future chances for millennial home-ownership.

This all chimes with urbanist Sir Peter Hall’s finding in *The End of the City*: “[T]elecommunications of all kinds do not finally replace the need for face-to-face contact... [I]t appears clear that though falling costs permit dispersal, the principle of agglomeration still holds.”¹⁴ Given the importance of networks to the area (discussed in the next Business section), maintaining physical proximity and the buzz of business districts is in fact more important than ever.



¹³In a response to Cambridge Ahead

¹⁴Peter Hall: *The End of the City*. City, Vol. 7, No. 2

3. Business

The successes of Cambridgeshire and Peterborough to date have been largely driven by its businesses. As we look towards the future we desire for Cambridgeshire and Peterborough, we must ensure that all businesses, from individual entrepreneurs to large employers, can perform at their best. And now is an especially important time for UK business, following the publication of the government's Industrial Strategy, with preparations underway for corresponding local strategies. In this section we look at the health of local business, give some pointers towards an industrial strategy for the area, and finish by looking at how the UK Government should approach Brexit to best help business in Cambridgeshire and Peterborough.

3.1 BUSINESS PERFORMANCE IN CAMBRIDGESHIRE AND PETERBOROUGH

Business Growth

The Commission is very well placed to assess the health of local business. To generate this report a comprehensive database of companies operating in the area has been drawn up. This captures both companies who are based in the area and those who are active, that is, have an operating base in the area. We then look at company accounts to gauge how they are performing. This gives us a rich source of data on local industry, informed by local knowledge, which as far as we are aware is unique in the UK.

The general picture is one of thriving industry. Looking at growth rates in the global turnover of companies based in the area over the last six years (2010/11-2016/17) we see that all six districts have seen turnover growth of over 2% per annum (note this is a nominal figure). In South Cambridgeshire, this rises to over 10% per annum, which shows impressive company growth.

Even more important for local residents, though, is *employment* growth. This is what drives increased demand for housing, and higher levels of commuting. The official Office of National Statistics (ONS) figures on employment growth across the area are already very high. While employment growth across Great Britain has been increasing, at an average rate of 1.5% per annum between 2010 and 2016, in Cambridgeshire and Peterborough, according to ONS figures, this has been almost 1% higher year on year, at 2.4%.

The East of England, by comparison has seen growth rates of 2.0% per annum.¹⁵ However, by studying the global employment of all companies based in our area, we come to the conclusion that this is higher still. By creating a 'blended rate' of employment growth, which combines

¹⁵ONS Business Register and Employment Survey (BRES)

employment growth rate data for the corporate sectors where we have the most knowledge, and the ONS growth rates where we are less confident (for instance, in relation to retailing and the public sector employment) we see an employment growth rate of 3.3% per annum.¹⁶

Table 1 - Average employment growth rates per annum in Cambridgeshire and Peterborough – a comparison between ONS and CPIER figures¹⁷

Comparison with BRES		6yrs 2010-2016
District	ONS (BRES) Data	CPIER/BRES Blended Data
Cambridge	2.4%	2.4%
South Cambridgeshire	2.3%	4.2%
East Cambridgeshire	3.9%	4.4%
Huntingdonshire	1.5%	2.1%
Peterborough	2.5%	3.5%
Fenland	2.3%	3.1%
Cambridgeshire & Peterborough	2.4%	3.3%

We are very grateful to the ONS for engaging with us in discussion around these employment growth rates – a conversation which continues. Therefore, we must caveat these figures by stressing that we are continuing to work through the detail. It is also impossible to exactly state employment growth, and any method will have its downsides. One area where we think we do better than ONS is in capturing smaller companies, which don't get picked up on the IDBR (Inter-Departmental Business Register – the sampling frame for the ONS data) due to not being registered for VAT purposes.¹⁸ In an area with a lot of small start-up companies, this is likely to be a significant cause of discrepancies.

On the other hand, we must acknowledge that our method has certain weaknesses. In particular, it measures the *global* employment of firms based in the area. Therefore, if a firm with bases both inside and outside the area is growing its employment base outside the area more quickly than it is within it, that would result in a positive skew of the results. However, we have extensively surveyed businesses to gauge whether this is the case, and findings suggest there aren't wide discrepancies.

This discussion about employment growth is so important that more needs to be done to get as close to the truth as possible.

➤ Subsidiary Recommendation i) *It is important to establish a sound employment database to inform key decisions. The Office for National Statistics (ONS) should continue to work with the Centre for Business Research to clarify why differences exist between the two sources of employment growth rates.*

It is notable that past projections of employment growth by the East of England Forecasting Model (EEFM) have been considerably lower than either the BRES or the CPIER blended estimate. This model generates forecasts for the whole of the East of England, and is at

¹⁶This comes with the proviso that our database considers the global rather than local employment of companies based in the Cambridgeshire and Peterborough area

¹⁷Note these figures have been revised slightly following the interim report, thanks to methodological input from ONS

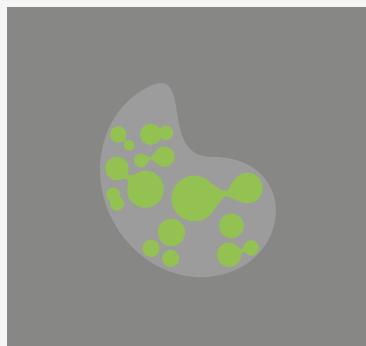
¹⁸Though this has to some extent been improved from January 2016 by the inclusion of businesses with employees through PAYE registration data

present used as one input by local authorities in their planning decisions. The 2010 EEFM model forecast employment in Cambridgeshire and Peterborough to grow at 0.8% per annum until 2031, which widens to quite a gap over a few years (to give an example, if an employment population of 400,000 (roughly correct for Cambridgeshire and Peterborough) grew by 3.3% for six years, at the end it would have over 65,000 more workers than if it grew at 0.8%.) This issue will be returned to in the section on housing, where we discuss how this has contributed to a housing 'deficit'.

A key finding is that, in most areas, indigenous companies (those started in the area, or who have been in the area over fifty years) are growing faster than the average for companies. Employment growth has been higher for these in a number of areas – especially so in Huntingdonshire (4.0% higher). In terms of turnover growth, the majority has been driven by homegrown firms, with growth rates almost 3% higher in Peterborough.

Such high business growth is a blessing, which can quickly become a curse if it is not managed well. A strategy for Cambridgeshire and Peterborough needs to think about what will provide the best environment for business to grow and benefit society.

INSIGHT FROM THE FUTURES WORK

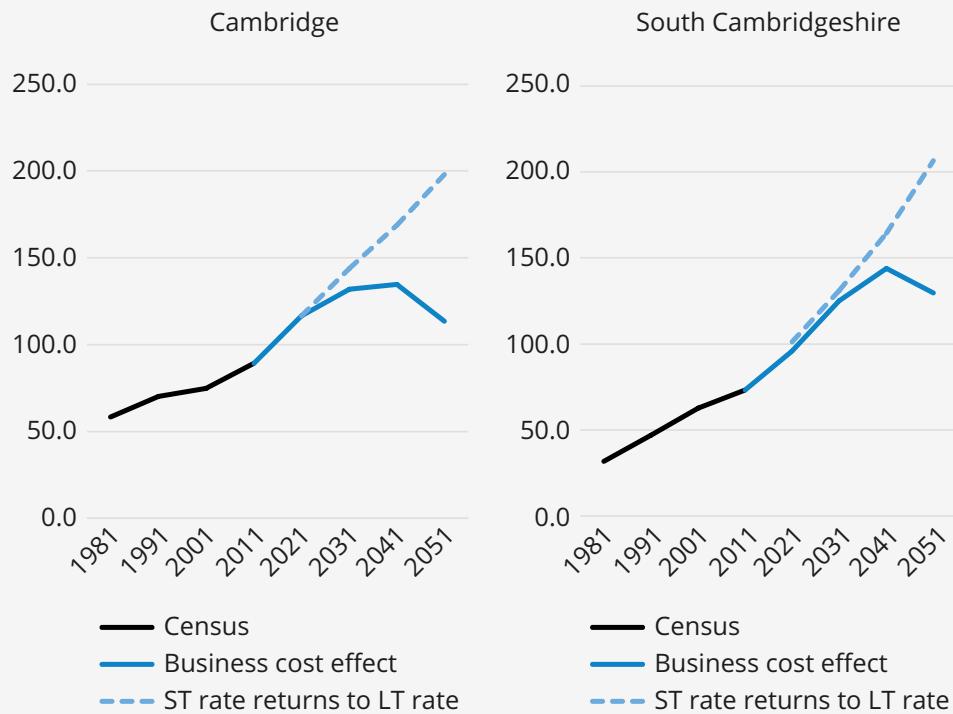


THE BASE CASE

In the first scenario, the base case, we look at Cambridgeshire and Peterborough as if it just develops along the lines of what is currently planned. This means houses being built in areas where they are expected to be built in local plans, and infrastructure being upgraded in a way that seem reasonable based on current trends. We then model different possible rates of employment growth to understand the impacts.

On the level of employment growth which we judge to be most reasonable, the 'central projection' (where recent high ONS employment growth rates, which have come in the context of nationally high employment growth, gradually return to longer-term levels) we can study the impact upon local businesses. We capture the extra costs to businesses which arise from some of the negative side effects of high employment growth, such as needing to pay employees more (in order for them to afford the rent) and lengthy commutes.

We find an inconsistency between the plans for infrastructure and housing development and this hypothetical rate of employment growth. In fact, the costs in this scenario soar – particularly in areas where there is already a backlog, such as Cambridge and South Cambridgeshire. When these costs are fed back into the model, employment growth begins to slow by 2021, and actually goes into reverse beyond 2031. That is, businesses start shrinking and moving away from the area, as the Cambridge area overheats so much that it burns out. We can see this in the solid blue line, which shows the impacts of costs on employment growth.

Figure 15 – Rising business costs damage employment growth

This will cut across different types of companies. Lower value companies may leave, leading to supply chains being hollowed out. And as high-value companies are likely to move abroad if they cannot be in Cambridge (see “The Unique Nature of the Local Business Environment”, below), this will constitute a net loss for the UK, and irreversible damage to one of our foremost business clusters. Investment above what is planned into infrastructure and housing is vital to prevent this eventuality.

The Unique Nature of the Local Business Environment

To understand why business is growing so strongly in Cambridgeshire and Peterborough we need to look at the business environment. What factors make it so successful?

The high start-up rate of local business is one factor. Across the Combined Authority, 15,646 new companies were born between 2010 and 2016, compared with deaths of 9,245. This is a high rate of business churn suggestive of a dynamic business environment. The figures suggest births add about 10% per year to the company stock and deaths remove about 6% per year.

The quality of local labour is also central. In a piece of qualitative research commissioned specially for this report, PwC and Cambridge Ahead surveyed businesses to get their views on what was important to them in the area. 44.6% of the business surveyed stated that the quality and availability of the local labour force was either very important or critically important.

Another feature of the area which is unique is the interest foreign firms have in acquiring business in Cambridge and Peterborough, particularly Cambridge. For example, Geneva Technology was founded in 1989 and sold for \$700m to Convergys in 2001; Cambridge

Antibody Technologies was founded in 1989, floated in 1997 and then sold to AstraZeneca (AZ) for £0.7bn in 2006 (AZ subsequently bought Medimmune and merged it with CAT retaining the Medimmune name); and Arm was founded in 1990, floated in 1998 and sold to Softbank Group for \$31bn in 2016. The region continues to grow large business - Hilton Food Group in Peterborough was founded in 1994 to provide meat packaging for Tesco and now has a market value of £740m.

The strength of business and innovation in Cambridgeshire and Peterborough has a net positive effect on the rest of the UK as well. One example is the company Metalysis, a company which has developed a new, lower cost and more environmentally friendly mechanism for the production of metals and alloys. This process was developed at Cambridge University and the company was originally based in Cambridge. It has now moved to South Yorkshire, a national centre for metal production, where the company employs 65 people. Another is Pragmatic Printing, a Cambridge company which produces low-cost integrated circuits for mass applications, now manufactured in the North East.

3.2 TOWARDS AN INDUSTRIAL STRATEGY FOR CAMBRIDGESHIRE AND PETERBOROUGH

The UK Government's Industrial Strategy¹⁹ represents a shift in government thinking on the question of business. Government is opting to take a more active role in stimulating innovation and productivity growth. The document identifies the four 'Grand Challenges' for UK industry as: Artificial Intelligence (AI) and Data, Clean Growth, the Future of Mobility, and an Ageing Society.

For the Industrial Strategy to be successful, it must be delivered locally, on the ground – as noted by the inclusion of 'Place' as one of the five factors of productivity. The government is now asking places (as represented by their Local Enterprise Partnerships) to produce their own Local Industrial Strategies (LIS). While this economic review is not intended to take the place of a LIS, we believe it can inform one.

Recognising the Existing Contribution to the UK Industrial Strategy

It is good to start by taking stock of how the area is already rising to the Grand Challenges:

AI AND DATA

A good example here is **Unikernel Systems**²⁰, formed by staff and postdoctoral researchers at the University of Cambridge Department of Computer Science and Technology and provides a new approach to building, deploying and managing cloud services. The technology improves the security, speed and scale of data processing in age of the Internet of Things.

¹⁹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

²⁰<http://www.cl.cam.ac.uk/news/2016/01/computer-lab-start-up-unikernel-systems-acquired-by-docker-inc/>

"This brings together one of the most significant developments in operating systems technology of recent years, with one of the most dynamic startups that has already revolutionised the way we use cloud computing." said Balraj Singh, co-founder and CEO of Unikernel Systems.

The strengths of AI in the area are evidenced by Samsung's decision to open a new AI research centre in Cambridge. The Samsung website notes that: "The Cambridge area is a global epicentre of machine learning and one of the world's foremost hubs for AI research and development, home not only to world-class talent but also some of the most well-renowned AI scholars with whom we will co-operate closely."²¹

CLEAN GROWTH

Peterborough is world-leading in how it recognises the importance of the 'Circular Economy' and efforts to tackle waste. This was recognised when it claimed the World Smart City Award at the Smart City Expo World Congress in 2015 (this award was won by New York the following year). Peterborough uses the online platform "Share Peterborough" to encourage businesses to reduce waste by sharing information on resources they no longer need on an online platform.

FUTURE OF MOBILITY

University of Cambridge spin-out **Echion Technologies** has developed new technology to improve the battery capacity and charging speed of electric vehicles. The technology is based on innovation around the fundamental chemistry and nanostructure of a lithium ion battery's active anode material. The company's aim is to commercialize an improvement to lithium-ion batteries allowing them to hold more electricity and charge more quickly. The company is primarily targeting electric buses and light duty fleet vehicles as customers.

AGEING SOCIETY

There are several centres whose research is directly linked with the ageing society grand challenge. For example, **Cambridge Centre for Ageing and Neuroscience** is using epidemiological, behavioural, and neuroimaging data to understand how individuals can best retain cognitive abilities into old age. The research of academics at the **Public Health of Ageing Research Unit** has provided descriptions to help clinicians and service providers understand prevalence, incidence and expected length of life lived with dementia, including at particular ages and in different settings. And **Cambridge Dementia Research Institute** has a mission to create a collaborative, inter-disciplinary Centre, combining world-leading expertise from chemistry, biophysics and structural biology with internationally leading research in the cell biology of neurodegeneration.

Next Steps – a 21st Century Systems Approach

For the Combined Authority's Industrial Strategy to be successful, it needs to recognise the role it plays within the system. The Combined Authority is an influential organisation which can do a great deal to inform the prevailing environment in which business operates and grows. But it is only one contributor to the wider system. By looking at business through a 'whole system' perspective to understand the scope for action, we can have most impact in generating strong business clusters.

²¹<https://news.samsung.com/uk/samsung-to-open-new-ai-lab-in-the-uk>

The three main components of successful business and innovation systems are:

- Key actors (which includes the Combined Authority and businesses, as well as technology and capabilities)
- Institutional practices (which include both formal rules and business norms)
- Market and non-market relationships (which include the markets for labour, capital, and property, as well as informal networks and relationships)

Failures affecting any of these three components will mean new systems may fail to develop, or existing ones may fail to achieve potential. For instance:

- **Key actors** - A place may lack a large anchoring private sector organisation capable of supporting a strong local value chain or lack a major hospital or university with strong research-based links with innovative firms large and small, or there may be problems specific to a certain sector or technology
- **Institutional practices** - Particular problems may arise relating to norms limiting willingness to cooperate for mutual benefit with other firms in a particular place; or a lack of interest by university academics to engage with industry or start new businesses; or norms and laws governing planning permission may impede business growth
- **Market and non-market relationships** - There may be problems of access to certain kinds of capital and labour or space which inhibit growth or the formation of new firms. Or the lack of effective networking may inhibit the flow of information about new or emerging opportunities and technologies and business models. This may also prevent the development of mutual support systems which encourage new business formation and the development of existing firms.²²

AN IDEA TO EXPLORE: INNOVATION DISTRICTS

The Combined Authority should consider mechanisms for encouraging the growth of specific place-based innovation districts. Successful examples of innovation districts already exist in the region, including the Cambridge Biomedical Campus and the CB1 area around the Cambridge train station. These innovation districts – which are often focused on specific technologies or industries - bring together large and established firms with start-ups and spinouts. Support is provided by the local community and the firms that are located in the innovation district are able to draw on the local labour market as well as the underlying research and science bases. Innovation districts can take a long time to grow and develop and active support is needed at different phases of their development to create the underlying infrastructure that allows them to be successful. Interventions might include the development of financing systems (venture capital, angel investors), physical space (incubators, and scaleup facilities, as well as science parks for larger firms), skills and capability development programmes and crucially networks and intermediaries who provide the glue that binds the community together. Clearly the needs of different places vary and a bottom-up approach to developing innovation districts with target intervention and support is an appropriate route for local economic development. As well as supporting

²²For more, see: Crafts, N. and Hughes, a. (2013) 'Industrial Policy for the medium to long-term', Foresight Future of Manufacturing Project, Evidence Paper 37, London: BIS, October; Spring, M., Hughes, A., Mason, K., and McCaffrey, P. (2017) "Creating the Competitive Edge: A New Relationship between Operations Management and Industrial Policy" Journal of Operations Management 49-51:6-19; and Hughes, A. and Spring, M. (2017) Creating the Competitive Edge: value chains, institutional architecture and the appropriation of value in UK manufacturing. Centre for Productivity and Efficiency, Lancaster University Management School, Lancaster, June

the development of specific innovation districts across the region, the Combined Authority can play a particularly important role in helping different innovation districts learn from one another, ensuring that the emerging districts learn from the experience of the more mature innovation districts.

An industrial strategy will need to get into the nuts and bolts of these issues, allowing fully informed recommendations. We make a start by looking at some of the specifics we see in the Cambridgeshire and Peterborough business environment, giving pointers for action.

Sectors

A helpful breakdown between different types of business is knowledge-intensive (KI) versus non-knowledge-intensive (non-KI). While all businesses use ‘knowledge’ to some extent, KI businesses are those where which have a focus on the creation of new knowledge (research) and the commercialisation of it at their centre. For these companies, it is the *intelligence* and *advanced knowledge* of labour which is the most important characteristic, and a premium is placed on fast access to the latest insights. If businesses in these sectors cease to hold ‘knowledge leadership’ in their area of expertise, they will very quickly become extinct, in a way in which non-knowledge-intensive business (whose survival is primarily dependent on day-to-day management of costs, good contractual relationships, etc.) does not.

These KI businesses have been witnessed to ‘cluster’ together, in a process known as *agglomeration*. Spillover benefits from business activity benefits other businesses, such that the whole is greater than the sum of the parts. Some have used the idea of agglomeration to argue for spatial concentration with a degree of scepticism that any policy can change this in a value-maximising way. A good summary of this argument can be found in the papers of the Manchester Independent Economic Review.²³ However, there is a debate as to whether there is evidence that agglomeration leads to growth.²⁴

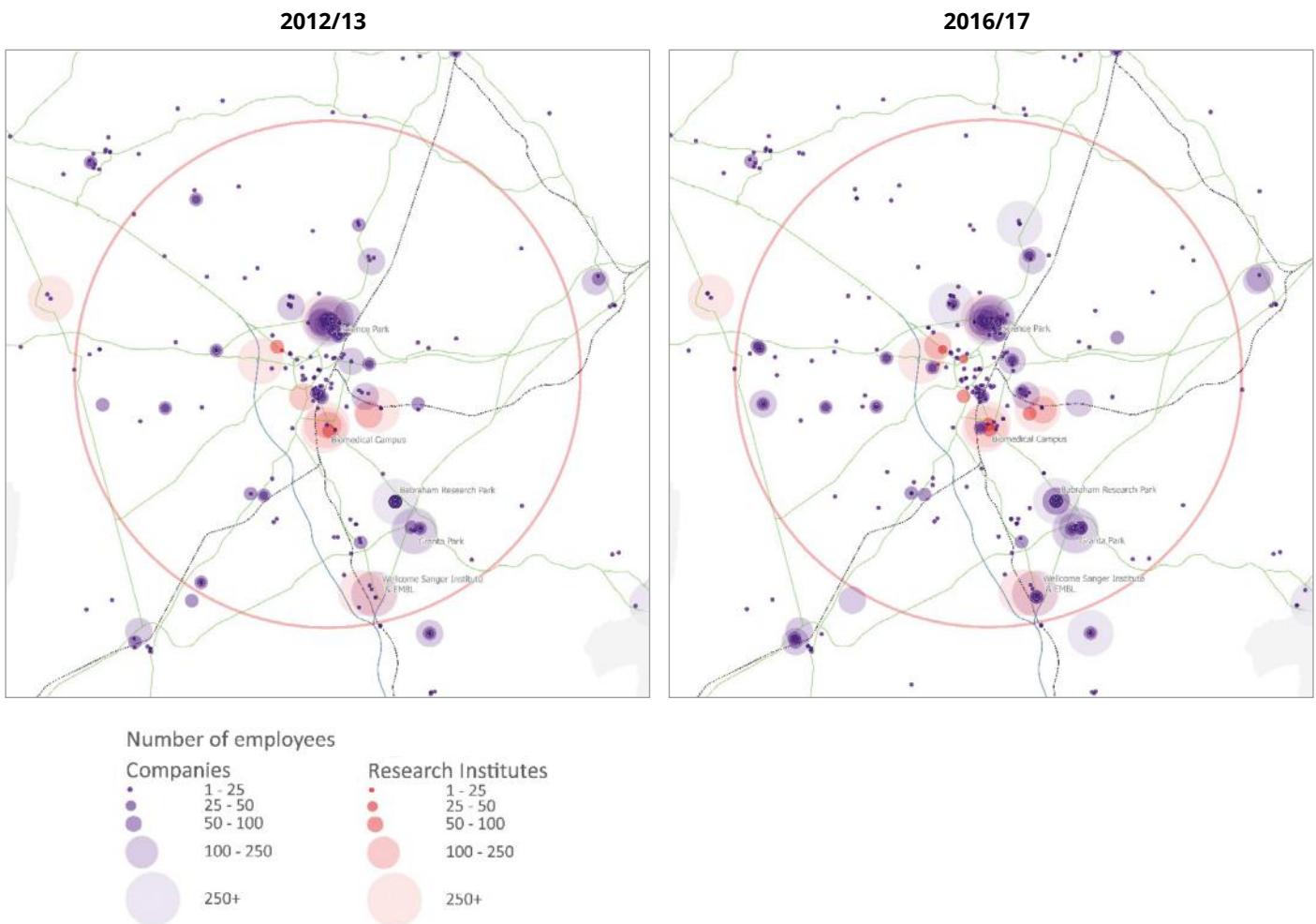


²³http://manchester-review.co.uk/?page_id=162

²⁴<https://www.landecon.cam.ac.uk/pdf-files/cv/pete-tyler/Agglomeration.pdf>

That all being said, it is certainly a behaviour we have witnessed. In Cambridge, over the last few years we have seen exactly this kind of clustering going on in the life sciences sector. The maps below show these companies, and related research institutes, by employment size in 2012/13 and 2016/17:

Figure 16 – Maps showing life sciences companies and research institutes within 10 miles of Cambridge



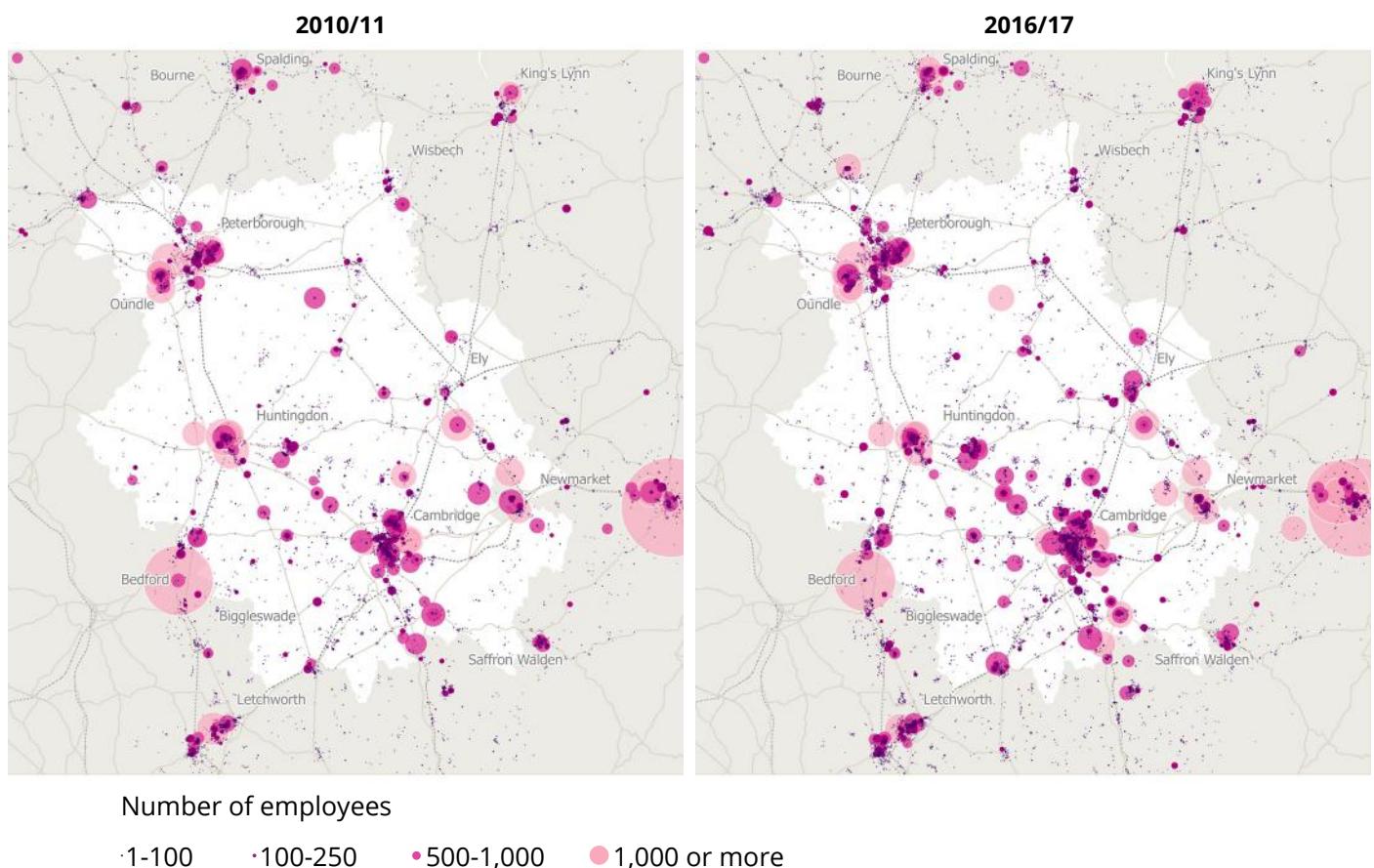
Source: Dr Andy Cosh, University of Cambridge

Why do we witness this type of behaviour, precisely at a time when costs of being in Cambridge are rising? Because other companies in the same sector are already in this area, there is a large concentration of knowledge there, held by researchers. Cambridge University continues to produce highly-skilled graduates. This process then becomes self-perpetuating as, by virtue of the concentration of KI companies already in the area, more KI companies want to be there. One respondent to the qualitative survey explained their reasons for being in the area as: *"Lots of diverse and interesting companies. Plenty of growth and opportunities. A number of strong clusters for people to build careers. A pleasant local environment with good facilities."* Prestige may play a small part in this as well – for some industries, being in a particular city adds credibility. The qualitative survey of business found that the image or sense of having the 'right address' in Cambridgeshire and Peterborough was very or critically important to 21.1% of businesses surveyed.

This pattern is not observable in the non-KI sphere to anything like the same extent. For many goods and services, where the end product is sold to a local market, it is actually better to be away from potential competitors. And as concentrations of similar business intensifies, the cost of premises and labour will incentivise moving away.

This is exactly the pattern we see in Cambridgeshire and Peterborough. If we compare non-KI business locations in 2010/11 and 2016/17 we see some evidence of increased density in Cambridge, but more so in the wider area around the city, as these companies move. We also note strong growth in Peterborough.

Figure 17 – Locations of non-KI business within Combined Authority area by number of employees 2010/11 and 2016/17



Notes: Location of businesses based on 2015/16 (where available) or 2015/16 address

Source: Dr Andy Cosh, University of Cambridge, 2018. Contains Ordnance Survey data Crown copyright and database right 2018

What does all this mean for industrial strategy? Two principles can be drawn out.

The Difficulty of Successfully Dispersing Agglomerative Business

In the case of knowledge-intensive business where agglomeration effects are important, the spatial area in which they are happy to be located is tightly bounded. Therefore, while it is tempting to imagine the benefits which could occur if clusters were dispersed and high value companies relocated, realism is needed about the ability to do this. If a KI company is forced to move away from the sphere of clustering activity, it is likely to relocate to another cluster, rather than stay in the local area. For some of these knowledge-intensive sectors, Cambridge is the only viable cluster in the UK. In such a scenario they would be likely to move abroad. 35.4% of respondents to the qualitative survey said it was possible, likely, or certain that they would move activity abroad to elsewhere in Europe, and of those respondents who said they would likely or certainly move activity outside of the area, significantly more indicated that they would move abroad (44.2%) than elsewhere in the UK (25.0%). One commented: *"Our reliance on a highly skilled work force, which could not easily be found elsewhere, would make relocation from the C&P area very difficult."* This point serves to highlight the net additionality of the area to economic output in the UK, and once again shows that the success of Cambridgeshire and Peterborough is a project of *national importance*. Therefore, we make the following recommendation:

» KEY RECOMMENDATION #3:

The UK Government should adopt a 'Cambridge or overseas' mentality towards knowledge-intensive (KI) business in this area, recognising that in an era of international connectivity and footloose labour, many high-value companies will need to relocate abroad if this area no longer meets their needs. Ensuring that Cambridge continues to deliver for KI businesses should be considered a nationally strategic priority.

These remarks do not apply only to Cambridge, as there are smaller KI clusters elsewhere, with green shoots in Peterborough and some of the market towns, which can be nurtured. As discussed below, deeper networks across the area could start to spread this 'Cambridge effect'.

The Possibility of a Complementary Relationship between KI and Non-KI Sectors

As noted in the previous section, we want to find a way that high-value clusters can benefit the rest of Cambridgeshire and Peterborough. The answer to this (and here industrial strategy is vital) is to think seriously about *complementarity*. That is, what goods and services does KI industry need, and how can local business find a high-value role in the supply chain?

Technical skills will be needed to maintain advanced machinery. Specialist scientific goods will be needed for research. These companies spend large sums on inputs to their processes, and by pitching themselves at these niches, companies in the rest of Cambridgeshire and Peterborough can reap rewards. Among the respondents to the qualitative survey, only 10.8% of the value of supplies came from their local area (defined as being within thirty miles), whereas 27.8% came from overseas. This represents a missed opportunity.

➤ **Subsidiary Recommendation ii):** *In developing a Local Industrial Strategy, the Combined Authority should hold technical-level interviews with representative companies from KI sectors, to ascertain what the specific goods and services they require are.*

This needs to be conducted fairly quickly given the tight government timeframe on the development of Local Industrial Strategies by spring 2019. This information can then be disseminated in the local business community through the Local Industrial Strategy, Business Networks, and the Business Board of the Combined Authority.

We now consider some more sectors in detail:

Manufacturing, Advanced Manufacturing, and Materials

The region has a very strong high-tech manufacturing base. Peterborough has a strong manufacturing history, and large firms such as Caterpillar have engineering bases there. According to CBR figures, 20% of Peterborough's turnover comes from high-tech manufacturing (with a further 6% stemming from other manufacturing). Prototype fabrications for the first MRI machines were built at Chatteris, and Stainless Metalcraft continues to produce high-end scientific products, such as cryostats – chambers that can maintain very low temperatures. One of Cambridge's most successful science areas, Granta Park, was conceived of by then Chief Executive of The Welding Institute (TWI Ltd) Bevan Braithwaite – TWI's headquarters is now based there. Composites are a particular strength in the west of the area, with Forward Composites, Paxford Composites and Codem Composites based in and around Huntingdon, producing alternatives to steel and aluminium for aerospace, motorsport and other industries.

Life Sciences

In recent decades, life sciences has become one of the UK's greatest business strengths, and the reach of the biomedical industry in Cambridge and South Cambridgeshire is international. In South Cambridgeshire, the sector accounts for 16% of turnover and 18% of employment. The sector covers a variety of interrelated fields, including pharmaceuticals, genomics, and biodata. This industry generates numerous spin-outs with innovative products, including Abcam (which offers research tools into proteins and other chemicals), Crescendo Biologics (therapeutics in oncology) and Kymab (developing antibody technologies).

Large international businesses have based themselves (or established a presence) in the region, including Astra Zeneca, Eisai (a Japanese pharmaceutical company) and Glaxo Smith Kline (GSK). Many of these businesses report that their alternatives to being based around Cambridge are outside of the UK, in similar clusters in Europe, America or South-East Asia. Therefore, there is clearly a high *national* significance to these industries in this area: they bring in business that would otherwise look abroad.

IT and Digital

IT and digital technologies comprise another very significant business cluster, which is dynamic and evolving. In the City of Cambridge, this is very concentrated – 23% of employment and 32% of its turnover come from Information Technology and Telecoms. Arm, a software design and semiconductor company was started in Cambridge with less than twenty employees, but grew to be a company that was bought for £24bn in 2016. Many companies

have been spun out of the Cambridge Computer Laboratory, whose staff and graduates have founded 256 companies.²⁵

Cambridge's prestige in IT industries means it can also attract large multinationals, seeking staff with the expertise they require. A few years ago, Microsoft moved their Cambridge staff from a site in West Cambridge to a new research lab close to the station. The proximity this affords the company to the university, as well as quick connection to other cities via the railway station, makes it an attractive base.

Logistics and Distribution

'Wholesale and Retail Distribution' make up 33% of Fenland's turnover, and 28% of South Cambridgeshire's according to CBR figures. The connectedness of parts of the region to the UK transport network means it plays a significant part in the UK logistics sector. In particular, Peterborough has a base on the A1, which has attracted many firms to establish distribution centres there, including Amazon. Due to the UK's strong preference for online shopping, this industry is likely to both grow and change in future as new methods of transport and distribution become available.

Education

While education is often discussed solely in terms of its benefit to the domestic population and economy, it is also a key UK export – recent Department for Education statistics found the value of UK education-related exports (including transnational education (TNE)) to be £18.76bn in 2014. This figure had grown by 18% since 2010²⁶. Cambridge University's strong reputation attracts many students from abroad – when these spend money in the UK, it registers as an export contribution to the national economy. Due to the prestige of Cambridge, there are also numerous language schools, and colleges offering preparatory courses, which attract students from around the world.

Furthermore, many of the university's products are exported, such as Cambridge Assessment's examinations and curriculum resources – there are 10,000 schools in over 160 countries whose use these products²⁷. In addition, Cambridge University Press facilitates the commercialisation of much of the University's expertise in publications and books.

Professional Services

Professional services is a growing sector. There are many legal and financial services firms based in Cambridge which support the science cluster. It is also a large and fast-growing sector in Peterborough, where Addison Lee recently decided to locate their back-office function. The easy access of Peterborough from London means it is an attractive location, with office rents being more affordable than those within the M25.

²⁵East of England Science and Innovation Audit, Appendix 1

²⁶Department for Education: UK revenue from education related exports and transnational education activity 2010-2014 (released July 2017)

²⁷<http://www.cambridgeassessment.org.uk/about-us/our-exam-boards/cambridge-international/>

SECTOR IN FOCUS: AGRITECH

The high-grade soil available in the fens means that agricultural production is sizeable. Land is very flat, which is ideal for the construction of greenhouses. This has brought with it a sizeable food processing and packaging industry. Many very large firms, such as McCain and Del Monte, have plants in the north-east of the County and export from here around the world. Figures from the Centre for Business Research show that primary sectors constitute 24% of East Cambridgeshire's turnover, and 17% of Fenland's.

These industries are growing in importance as the prominence of food security on the international agenda increases. To match rising international demand, more innovative means of food production are being called for, which are less space intensive and carry lower risk. This is where AgriTech – a sector based around research, development and innovation to improve agricultural methods – comes in. AgriTech tackles global challenges including hunger, resource sustainability, disease resistance, adapting to and mitigating climate change, and delivery of healthy food. It is also one of the four pillars for East of England knowledge-led growth identified in the 2017 Science and Innovation Audit (SIA). The area is home to AgriTech companies such as Dogtooth Robotics, which builds robots to pick soft fruit, using artificial intelligence to recognise ripe fruit, pick it, and place into punnets. NIAB – the National Institute of Agricultural Botany, which researches plant genetics and disease, and Agri-Tech East are located in Cambridge.

AgriTech exemplifies the two principles detailed above perfectly. Firstly, it is a Cambridge-based cluster which cannot be picked up and placed elsewhere. As Collison and Associates, a leading AgriTech company, commented to the Commission: “[T]he importance of clusters is very significant to AgriTech. The most successful cluster in this sector globally, in the Netherlands, is based around the world-leading Wageningen University... In Cambridge we need to spearhead the growth of the technology cluster needed by agriculture globally by drawing on the breadth of enabling technology expertise and the technology-led growth support (legal, finance etc.) available in the city.” The second principle, of the possibility of knowledge-intensive industry benefitting non-knowledge-intensive industry elsewhere is just as apparent in the response: “To compliment an AgriTech cluster in Cambridge we need to support new production clusters close to concentrations of agricultural production... we should focus on building on the competitive advantage in food production by developing some of the best supply chains in the World, and by providing a real testbed for the technologies developed in Cambridge.” That is, a symbiotic relationship can be enjoyed where agricultural production (non-KI) companies in the wider area benefit from the expertise of KI companies.

There is a real opportunity for the area to become an international leader in this sphere, both in innovation and application. The global market for agriculture is estimated to be a hundred times that of the UK's – it is a strong export proposition, where this area can and should be leading. This will require moving away from some of the low-value crops and methods that currently dominate agricultural production. The Netherlands, cited above, and which has similar prevailing conditions to the fens, produces much higher-value agricultural goods, and should be seen as an exemplar.

The Interrelation and Future of Sectors

While sectoral analyses like these are helpful, there is also a meta-trend towards the blurring of sectors at the level of research and development. There are digital applications to every area of business, and this is increasingly true for other sectors. Breakthroughs in genomics have the potential to transform agricultural methods. Furthermore, the greatest opportunities for business to develop and productivity to increase may be generated by the innovative combination of disciplines. It is also impossible to predict the future of different sectors – whole new sectors may arise. Rather than attempting to, there must be a focus on ensuring the area has the skills, entrepreneurialism, and capacity for innovation, to allow it to be flexible and resilient.

Increasing Productivity

Like the rest of the UK, Cambridgeshire and Peterborough's productivity growth has been stagnant in recent years. Much national discussion has occurred on this topic, which we will not reproduce. However, we wish to highlight briefly three productivity 'blockers' which we believe don't receive enough attention. The first is *translation mechanisms*. This phrase describes the means by which innovations can be embedded into companies to boost their output. Cambridge does have some positive examples of top companies using their innovations to greatly increase output – such as Solexa's gene sequencing which provided a more than thousand-fold improvement in speed – and intensive use of automated back-office and processing systems (Abcam is a good example). But, particularly where networks are more patchy, new technology is slow to catch on, meaning the area's innovation ecosystem is doesn't serve the wider economy as well as it could.

The second is *poor health*. As highlighted by a recent briefing from the Centre for Cities²⁸, in some industries which make up the 'long tail' of unproductive firms (e.g. cafés) it is not realistic to expect productivity to increase drastically through either technology or skills improvement. But the authors incorrectly conclude that these firms should not be a target for increasing productivity. If, due to better health outcomes, people attend work on a more regular basis, and do so in healthier condition, we can experience dramatic productivity improvements. This theme is returned to further in the section on health.

Thirdly, a *lack of productivity self-awareness* among business is a problem. Many companies, particularly those facing less competition, have little awareness of productivity levels, and do not track indicators such as individual-level output and sickness absence. Be the Business is an initiative to help businesses benchmark their productivity against other companies in their sector. It also provides guidance on tailoring employee perks to maximise performance, and helping employees to engage with key business metrics to help them understand how their performance contributes towards them²⁹. Another instructive example is the "Company Health Check" produced by Enterprise Ireland³⁰. Local businesses should make use of these tools.

Business Space

While business space is not a *critical* issue in the Cambridgeshire and Peterborough area, there are certainly some areas which would benefit from more. In Peterborough, which is looking to grow its professional and financial services sector, the anticipated rental income

²⁸<http://www.centreforcities.org/publication/the-wrong-tail/>

²⁹For more, see www.bethebusiness.com

³⁰<https://www.enterprise-ireland.com/en/Productivity/Company-Competitiveness-Health-Check/>

falls short of that which an office developer would expect to make construction viable. Some public sector investment, able to accept a 'break even' return, to stimulate office space construction would be beneficial. It could also be part of developing more of a feeling of business activity in the city, and bring medium to high-paid workers into the city centre. A Centre for Cities report highlights that "In struggling city centres – defined as those with small shares of highly productive firms and jobs – retail accounts for twice as much space as offices... In contrast, successful city centres have more than three times as much office space than retail, and the average quality of this office space is better than in other cities."³¹ Regulatory change to allow conversion of office space into residential units has also had the effect of reducing this space in Peterborough. Now, 53% of the city's commercial property space is given over to retail, compared to only 27% given over to offices³² (though there are many business parks around the city). As the city looks to expand its professional services offering, this must be tackled.

► Subsidiary Recommendation iii): *The Ministry of Housing, Communities and Local Government (MHCLG) should give central Peterborough an exemption from the residential change of use permitted development right 2013 in order to safeguard office space, and some public sector investment should be put towards creating high-grade office space in the city centre.*

In the fens, a report into the Wisbech Travel to Work Area (which extends beyond Wisbech itself) noted that: "There is a need for a greater variety of employment space to accommodate a range of new businesses as a way to diversify the local economy"³³. And the needs of some businesses for the type of space is changing, with 'co-working' spaces, where start-ups can use a small rented space, increasingly popular. A new and significant addition to this type of business space is the Incubator at the new Enterprise Campus at Alconbury Weald, which is connected to other developments on the site such as the iMET technical training centre. Similarly, The Bradfield Centre recently opened in Cambridge – the take-up rates here will be a good indication of how much untapped demand exists for this type of space. The Commission has also seen evidence relating to 'wet' lab space, needed for scientific businesses. That specific report comments: "Insufficient supply of space for new start-ups and early stage firms - demand has outstripped supply - [has led] to both start-ups and expansions being delayed." The much more technically exacting requirements for labs make construction expensive and time-consuming, and start-up capital does not tend to last for the five years which a lease would have to be for viability. The authors comment that: "the key issue from a property point of view is that incubator space and space for companies with highly variable growth patterns (e.g. new and young companies) is not economic or well suited to conventional commercial funding"³⁴. A lack of this space could be a real hindrance to the continued growth of biomedical businesses in future – particularly as the Cambridge Biomedical Campus is reaching capacity. We suggest that discussions should take place between the Combined Authority, BEIS, and others about providing some subsidy for wet lab space for start-ups around Cambridge.

Business Finance

Our qualitative survey of companies doesn't highlight finance for business as a major issue. But this topic is a complex one. Some Cambridge-based tech firms sell out quickly, often to foreign investors. The impact of such buy-outs can be positive (recycling expertise and

³¹<http://www.centreforcities.org/publication/building-blocks/>

³²<http://www.centreforcities.org/multimedia/building-blocks-data-by-city/>

³³<https://cambridgeshireinsight.org.uk/wp-content/uploads/2017/08/Main-Report-Wisbech-TTWA-Economic-Analysis.pdf>

³⁴Review of Wet Lab Space and Incubator Space for the Life Sciences in the Cambridge Area, University of Cambridge

providing money for investment in new ventures) and negative (if the competition is simply neutralised and shipped abroad, preventing the company from growing). The concern is that, in some cases, promising but under-funded start-ups will feel they have to sell in order to get finance, at which point they cede control of the business. While we cannot be overly prescriptive, we do think there is scope for encouraging lead customer R&D contracts, where one core customer pays for the R&D, and helps finance the firm, without diluting ownership. As argued by David Cornell in his review of this topic, the government (and, we might add, the Combined Authority) could in some instances take on this "lead customer" role.³⁵

Business Culture

Above all, the Cambridge sub-region is distinguished by a culture of networking. A recent count concluded that there are more than 60 networks in Cambridge. Cambridge Network and One Nucleus were the first major initiatives in 1997 with over 2,000 members between them including companies from all over the world. The networks are also served by a strong investment community. Cambridge Angels and Cambridge Capital Group are particularly important in their roles as helping early stage companies. Cambridge Angels currently invest over £25m a year and participate in investments of over £80m. The local media has also played an important role. The Cambridge News has had a strong business section and in 1990 Business Weekly was founded to cover business-to-business matters. Both run annual awards dinners attended by hundreds of participants. In 2016 these were joined by the Cambridge Independent who have started their own Science and Technology awards.

This report, however, addresses the whole of Cambridgeshire and Peterborough, and there are a number of suggestions for industrial policy for the whole area which can be made based on the developments in Cambridge and its sub-region. There are some steps which we recommend be taken to develop better networks across the region (though these suggestions are made recognising that the unique combination of networks, capital, talent, know-how and a sense of community in Cambridge and the sub-region have taken decades to develop).

Cambridge has a global brand thanks to the success of the University of Cambridge and more recently the growth of the cluster. Branding is important because it enables people to identify with a vision, to commit resources to a common cause and to create a narrative about the opportunities in the region. We think it could be helpful to have a brand strategy for the Cambridgeshire and Peterborough area that plays to the strengths within the region and which can support diversity – one that can be owned, co-opted, and adapted locally by Peterborough, Cambridge, and the market towns; that empowers, and that does not exclude.

Another idea which has succeeded in Cambridge is the successful Policy Fellowship programme developed by the Centre for Science and Policy at the University of Cambridge. Selected local government officers and business people ("Regional Fellows") would spend 5 days over a period of a few months or less meeting up to 30 researchers and other business people and local officers from Cambridge and around the region. Preparation for each meeting would be a short list of questions which each Regional Fellow would have created in advance and would have been used as the basis for selecting the people they would meet. The aim would be to build a network of people who think of the area as a whole and who can make connections for others. This scheme could be extended to partnering with other areas

³⁵For more, see chapter 5 of: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/669605/Leveraging_Public_Procurement_David_Connell_report.pdf

(particularly the Mayoral Authorities) by bringing in Regional Fellows from other areas and by sending Regional Fellows to learn from other Combined Authorities.

Finally, we note that, with the production of the business database for the CPIER, local authorities now have a valuable resource at their fingertips for knowing *who* the big players in their area are. This gives deeper insight into local business dynamics, and helps them engage with the larger employers.

➤ Subsidiary Recommendation iv: *A Regional Fellows network should be established by the Combined Authority to strengthen networks across the area. This can promote greater awareness of potential supply chains and scope for collaboration within the region.*

3.3 BREXIT – GETTING THE BEST DEAL FOR CAMBRIDGESHIRE AND PETERBOROUGH

Despite all that has been said about the strength of business in the Cambridgeshire and Peterborough area, we have heard one concern voiced repeatedly by some business leaders: Brexit. Our ability to make definite statements about Brexit outcomes is limited by the ongoing uncertainty about the outcome. But it is clear that *if* Brexit leads to a much more constricted labour market, reduced access to product markets, and a steep reduction in University research funding, this will be bad news.

We have already heard evidence of companies choosing to avoid Cambridge and set up outside of the UK for Brexit-related reasons. Many companies in locally specialised industries have foreign owners, whose motivations to be based here are purely based upon the business conditions prevailing – should these deteriorate there will be a drift away from the area. Access to labour is another pressing issue, at all skill levels, and across multiple industries. One local industry leader from the construction sector told us that: “20-30% of all operatives working on construction sites in South East England (including skilled, semi-skilled and unskilled tradespeople) are Eastern European. We are already noticing a slow-down in the availability of this group. If a hard Brexit accelerates the return of these workers to their own countries, the construction industry will face a crisis.” This encapsulates a concern that at *all* skill levels, from highly skilled workers to unskilled workers, businesses rely on foreign labour. Peterborough City Council noted the same issue, telling us: “A particularly high proportion of foreign nationals work in skilled trade, plant and process, and elementary occupations, indicating that sectors that rely on these occupations may be particularly exposed to risk should Brexit see large proportions of the EU workforce leaving the country.” Similarly, Cambridge Innovation Capital, in their comments to the Commission, noted that: “Access to talent for the wider Cambridge area will be improved if, post-Brexit, there is a benevolent and certain immigration policy at national level for highly skilled individuals from outside the UK.”

We view a bad settlement of the Brexit process as one of the two major risks (along with inadequate infrastructure) to the Cambridge Phenomenon, and wider economy of Cambridgeshire and Peterborough. The risk is especially high in an area where businesses rely on highly skilled labour, export heavily to the European Union and many are internationally owned.

» **KEY RECOMMENDATION #4:**

Any Brexit deal and accompanying policies should ensure the greatest possible ease for workers, EU and non-EU alike, which are needed in our businesses, and facilitate ease of trade as a high priority.

Conclusion

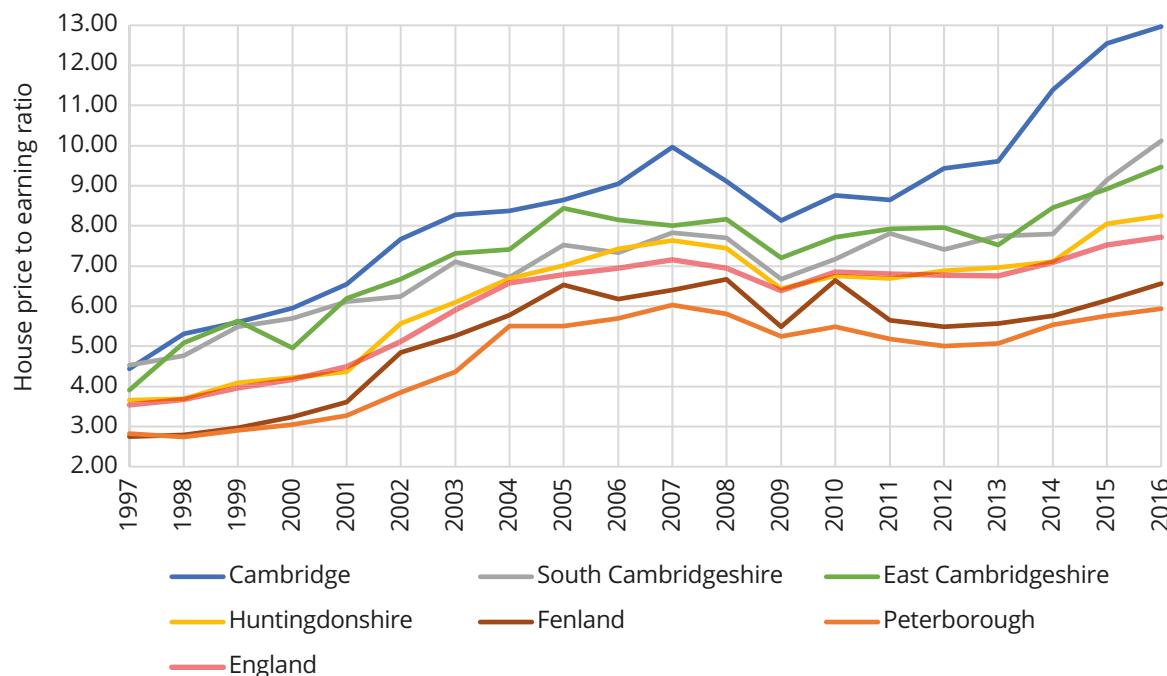
Our overview of business has shown that business performance has been strong, and that employment may be growing even more quickly than suggested by national statistics, and more quickly than has been expected. There is clear evidence that local factors play a large part in making business successful here, and in some cases, if companies couldn't be here they would move abroad. We have looked at how an industrial strategy should be developed, stressing the importance of agglomeration, and considering how places which currently don't benefit from high growth (particularly around Cambridge) can do so, by targeting their offer towards this economy. Finally, we have looked at the Brexit deal that Cambridgeshire and Peterborough needs, which must be friendly to business.

4. Housing

Given the strength of business growth, how should housing respond to this increase of workers, many of whom are moving in to the area? In this section, we look at the need to build more houses, how this should be done, and where they should be built.

Housing is a topic never far from the national conversation. The gap between demand and supply for accommodation has serious consequences for people. Within the area of Cambridgeshire and Peterborough, housing affordability has worsened sharply relative to other areas of England, especially in Cambridge, South Cambridgeshire, and East Cambridgeshire.

Figure 18 – Housing affordability, as measured by the average house prices to average earnings ratio

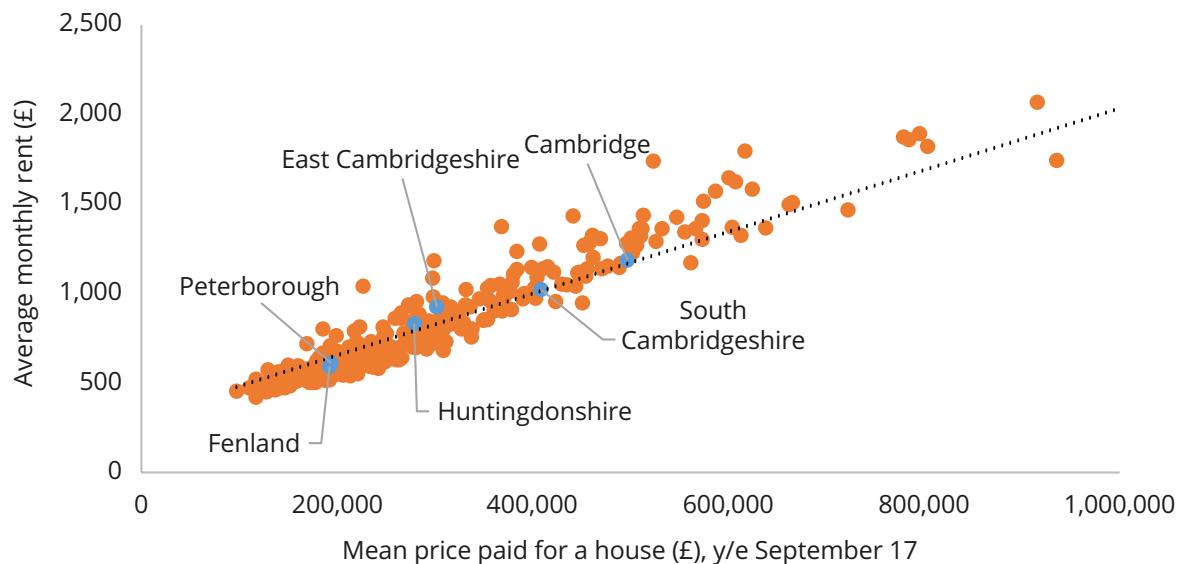


Source: ONS - Housing affordability in England and Wales: 2016

We can also consider data on rents. The rental market is related to, but distinct from the market for housing for sale. Supply-side pressures on housing will have similar effects on rents as they do house prices, though the latter are more impacted by financing costs. But the factors which influence the decision about whether to rent or buy are not entirely price-related – whether a person expects to stay in an area for a long time, whether they can get together a deposit (which could be related to, for instance, whether they have a durable relationship with another individual who could help with this), lifestyle preferences, and so on, all matter.

The correlation between the two markets can be seen by looking at the data below, for every local authority in England. The local authorities within the Combined Authority area are highlighted separately. As can be seen, most of the local authorities are on or around the trendline, suggesting the relationship between rents and house prices is not unusual in this area.

Figure 19 – The relationship between mean house prices and rent in local authority districts



Source: VOA table 2.7 and HPSSA Dataset 14. Mean price paid for administrative geographies (existing dwellings)

To provide time-series data on rents is fraught with difficulty, due to the samples being taken not being comparable over time. But we can capture the impacts of rental costs on people's lives by looking at the proportion of their income taken up by them.

Table 2 – Private median rents as a proportion of median income (%), 2016

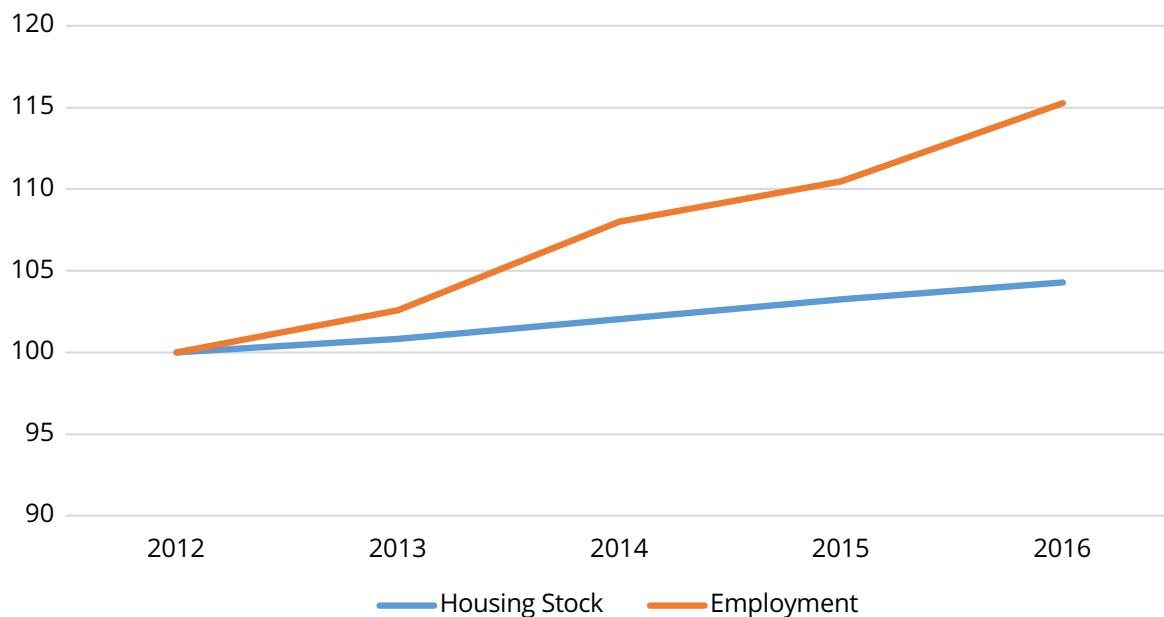
District	Percentage (%)
Peterborough	25.56
Cambridge	41.36
East Cambridgeshire	34.16
Fenland	27.27
Huntingdonshire	30.48
South Cambridgeshire	32.43
East of England	31.19
England	27.37

Source: ONS Housing Summary Measures: 2016

The proportion of income which is spent on rent varies widely across the area from a quarter in Peterborough to over forty percent in Cambridge. In the majority of the area, the average renter pays a higher proportion of their income in rent than the average renter in England.

These housing affordability pressures are one of the main threats to growth in Cambridgeshire and Peterborough, and one of the main burdens on people's lives. Demand for housing has risen strongly, while supply, though increasing, has not been able to keep pace.

Figure 20 – Employment growth is outpacing the growth of housing stock across the Combined Authority 2012=100



Source: Analysis of MHCLG table 125 and BRES

Note that the figure above uses BRES employment data, which, as discussed, may to some extent understate the strength of employment growth in the area.

This is not intended as a criticism of housing levels delivered over the last five years. It is not that supply has been unusually low, indeed the housing stock has increased by over 4% in this time. But demand has been exceptionally high, causing the extreme affordability pressures in some parts of the area which we see today.

There is evidence that in some areas, the delivery of housing has been slowing down rather than speeding up. Table 3 shows average housing completions for three five-year periods (looking at five-year averages helps remove the effects of annual fluctuations). Housing completions have fallen in four of the six districts – those which are largely more rural – while they have increased within the two cities of Peterborough and Cambridge. Taking the area as a whole, fewer completions have occurred between 2012/13-2016/17 than did ten years prior (this is probably down to the slow recovery of the housing market since the financial crisis). Challenges in increasing housebuilding are not unique to this area – across the UK there are frustrations at the inability to build more houses. There are also knock-on impacts from other areas – recent research revealing that a lack of housing supply in London is increasing demand in the “wider South East”.³⁶

³⁶Which used here includes Cambridgeshire and Peterborough. See <http://londonhousing.org/2018/02/migration-out-of-london-mainly-impacts-around-the-edge-of-the-south-east/>

Table 3 – Average net additional dwellings for five-yearly periods.

District	2002/03-2006/07	2007/08-2011/12	2012/13-2016/17
Peterborough	719	895	1,020
Cambridge	550	437	912
East Cambridgeshire	553	392	211
Fenland	691	393	389
Huntingdonshire	609	780	566
South Cambridgeshire	809	814	662
Cambridgeshire & Peterborough	3,931	3,711	3,759

Source: Analysis of MHCLG Table 122

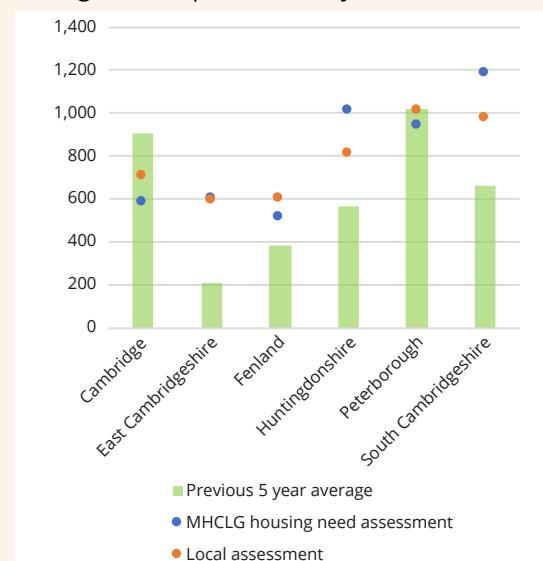
In all of our conversations with councillors and council officers we have received a clear impression of a desire to provide more homes for people, and in districts where housing levels have been falling, higher levels are being set (see box).

HOUSING TARGETS IN CAMBRIDGESHIRE AND PETERBOROUGH

Setting housing targets in local plans is potentially complex. Councils need to consider expected population growth, together with demographic and lifestyle changes, as well as the economic outlook for their area. In the past there have often been detailed wrangles about precise numbers which have held up the production of local plans. In order to overcome this, the Ministry of Housing, Communities and Local Government (MHCLG) has recently introduced a standard method for assessing local annual housing need. MHCLG are clear that the targets calculated in this way are the minimum which should be adopted.

The new method has been subject to a number of criticisms, and the chart suggests that for a city where past population growth may not have been fully picked up, such as Cambridge, plans should give weight to other, local, indicators. It is in any case clearly more appropriate, given the geography of the local district boundaries, to consider Cambridge and South Cambs together, as the Greater Cambridge Partnership (GCP) does.

In our preliminary assessment of future housing demand we have started from the ambition for continued strong growth across the Combined Authority area, rather than from indicators based on past trends. We also indicate a range, rather than a precise figure, recognising the inherent uncertainties in any such exercise.

Figure 21 – Housing numbers – targets, and average for the previous five years

Source: Cambridgeshire Insight SHMA data

4.1 UNRAVELLING THE HOUSING DILEMMA

The local authorities we have met are all aware of the need to build more houses. Many residents see the need for more houses, to rejuvenate areas, and provide dwellings for their children and grandchildren. And we are certain that, without current sites being delivered, and new ones coming on stream, the target of doubling GVA will not be achieved. Why, then, are not enough houses being built, exacerbating this unaffordability trend? The picture is complex, and multiple factors are at play. We note some issues and possible responses.

Land Values and Land Assembly

For developers to bring forward new developments land values and house prices have to fall into a range which can deliver sufficient uplift through development to be profitable. In some areas, particularly in the north of Cambridgeshire, house prices are too low to make sufficient profit from development, rendering them unviable. And land assembly can be challenging where land is fragmented between multiple owners.

Response: Little can be done about this issue in the short term, but investments in improving the desirability of certain areas through e.g. improvements to schools, better transport links etc. will tackle this in the longer term.

Market Incentives for Low Build-out Rates by Developers

Where a developer has entire control of a large development, there is an incentive to release houses slowly, in order to preserve the value of properties and achieve expected returns. By doing this across their portfolio they can ensure prices are not pushed down by oversupply on any one site. Sir Oliver Letwin's reviewing of slow build-out rates to date suggests that the 'absorption rate' – the rate at which houses can be absorbed by the market without disturbing the price – is the primary inhibitor for houses coming forward on existing sites.³⁷ His analysis suggests that this absorption rate could be increased if the variety of properties on offer at a particular site is increased. Oscillations in the housing market over recent decades, and the apparent preference of planning authorities to concentrate developments on large sites, may have exacerbated this trend by leading to increased market concentration with a large fall in the number of SME homebuilders.

Response: In granting planning permissions or selling sites to developers, an approach based upon splitting sites between developers (as has been done at Waterbeach) may be more effective by increasing choice on the site. This will reduce disincentives to build.

Local Resistance

Another possibility to consider is that local opposition to higher volumes of new housing, or to specific schemes, has resulted in local authorities' reluctance to push up housing targets. In part this may be because some historic development in the UK has been unattractive, leading to a clear aesthetic sense of damage caused by development. We are encouraged to note that there are many good examples of attractive new developments in Cambridgeshire and Peterborough, and we hope this continues.

³⁷https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718878/Build_Out_Review_Draft_Analysis.pdf

Response: Engagement of local people in wider planning discussions is crucial. People need to understand what the strategy for the whole Combined Authority area is. The publication of the Futures work in this review will provide a helpful starting point here. Furthermore, by ensuring quality of development is high, new homes will be better received.

Lack of Suitable Infrastructure

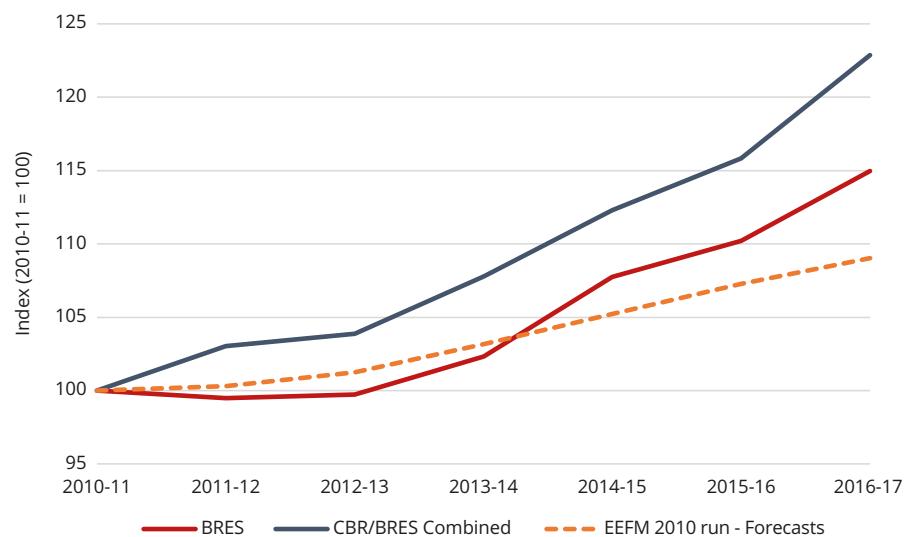
For housebuilding proposals to be acceptable, the funding also needs to be there to provide the additions to the community with the amenities they need, including schools, medical facilities, and new roads. There is a mechanism available to get some funding from developers for this – the Community Infrastructure Levy (CIL). This has been adopted by Peterborough, East Cambridgeshire and Huntingdonshire. Site-specific Section 106 agreements can also help finance infrastructure – though for large infrastructure projects such as the proposed Cambridge Autonomous Metro, these mechanisms will fall far short. It may be that for some schemes the public have been unpersuaded that this extra infrastructure will be provided, and that therefore they have opposed developments given past experience.

Response: Ensure plans for infrastructure and housing are well integrated, with a roadmap for how specific upgrades will unlock specific sites. Involving developers in these conversations will improve their confidence.

Under-Projection of Growth

High employment growth has been unanticipated and therefore not built into targets. The primary model used to inform local plans is the East of England Forecasting Model (EEFM), which provides a regional outlook for the East of England which is then boiled down to the component districts. This modelling uses state-of-the-art techniques and is well ahead of what is available in other regions. However, EEFM's projections for employment growth in recent years fell below the actual outturn by a significant margin.

Figure 22 – EEFM projections of employment growth vs actual for the Combined Authority area



Source: Dr Giorgio Caselli, University of Cambridge

The lower, BRES, employment growth figures for the Combined Authority still end up markedly above the EEFM projections, and if the higher growth rates our research has shown are occurring, the final gap is wider.

Response: From our discussions with Cambridge Econometrics (who run the EEFM model) and local councils, we believe that the two main reasons why projections have been low are i) a lack of local government resource available to discuss and refine the projections and ii) a modelling basis that works back from regional projections to district-level projections – lower general forecasts for the UK and East of England economy can overly impact upon the outlook for areas which are performing unusually strongly.³⁸ We are not critical of the model itself, but we think further ‘sense checks’ need to be made to employment projections.

We have been asked by the Combined Authority to give views on what sort of rates of housebuilding should be targeted. Targets inform attitudes towards development, and drive the allocation of sites, which over time translates into housing delivery. At the moment, the amount of objectively assessed need (OAN) across the area is 4,670 houses per year.³⁹ If we take this as a correct estimate, we still need to account for the fact that actual delivery has been less than this – over the last ten years delivery numbers have fallen short by just under 10,000 houses. At the very least we believe this deficit needs to be caught up with – by aiming to catch up over the next ten years, we would add on a further 985 houses a year, giving a target of 5,655.

There is, however, a further question as to how much higher housebuilding rates might need to be, if employment growth continues to be significantly above what is forecast by EEFM. The Futures work suggests that the rates of housebuilding required to maintain growth at our central projection without further inflationary pressure could be as high as 9,000 houses per year. We think a middle range between this and the lower figure is more likely to be feasible, and are conscious that a purely employment growth-driven housing model may overstate the case (as other factors, such as in and out migration, ageing, and changes to the composition of housing all need to be considered). Therefore, the Commission believes that it might be necessary to build in the range of 6,000 – 8,000 houses per year over the next 20 years. Clearly, the differences between the current targets and the figures considered by the Commission are sufficiently large that better understanding is required as a matter of urgency.

» KEY RECOMMENDATION #5:

There should be a review of housing requirements based on the potential for higher growth in employment than currently forecast by the EEFM. This review should take into account the continuing dialogue between ONS and the Centre for Business Research on employment numbers as well as the impact of the Cambridge-Milton Keynes-Oxford Arc. This should be used to set new targets which are likely to be higher than those already set – at the very least adding on accumulated backlog.

Having considered what might be an appropriate rate of housebuilding, there are three main questions which must be asked: why, how, and where.

³⁸In particular, the EEFM looks at the outlook for individual sectors and then works that into the forecasts for individual areas according to how prominent a particular sector is within the area, and how it is growing/declining. This means that geographically specific conditions, including ‘agglomeration effects’ which cause all sectors to be growing more quickly than is normal, are not picked up. Full methodological notes can be found at: <https://cambridgeshireinsight.org.uk/eefm/>

³⁹See: <https://cambridgeshireinsight.org.uk/housing/local-housing-knowledge/our-housing-market/shma/>

4.2 WHY SHOULD MORE HOUSES BE BUILT?

The first, and principal, reason is the affordability pressure which has been noted. Local people are displaced from the area if they cannot afford the cost of accommodation. People's quality of life deteriorates as too much of their income is swallowed up on rent or mortgage payments. (Particularly in the case of rent, there is no return on this cost, meaning some people become long-term renters. Unlike in some European countries, the balance of power in renting relationships tends to lie with the landlord, meaning these tenants are less protected from rent increases).

Secondly, companies may be deterred from setting up in the area if they do not believe the houses their workers require will be available. One respondent to the qualitative survey commented: *"It is definitely an attractive location, but access to affordable housing and extended commuting times need to be addressed or talented people will have to go elsewhere."* Another commented similarly: *"Cambridge is very attractive but very few new staff can afford to live there, which makes it potentially unsustainable in the longer term."* In total, 44.5% of respondents described 'Affordable housing for employees' as a moderately significant of very significant limitation on company growth.

Thirdly, *economic and social dynamism* is at grave risk if new houses are not built, due to a population which will inevitably age where there is a combination of high property prices and insufficient additions to the housing stock. Those who are older are less likely to move house, and in Cambridge houses are too expensive for many who are both young and middle-aged. Increased densification and edge of city development in Cambridge has to be a part of the solution here, something Cambridge City Council has been pursuing.

Finally, an ageing population will need more people to care for it. Care roles are often not highly paid, meaning there is again a need for affordable accommodation.



4.3 HOW SHOULD MORE HOUSES BE BUILT?

We are clear that more houses need to be built. But for this approach to work, and not be counterproductive, we need to think hard about how we build them, in a way which can create and strengthen communities, rather than engender social isolation and environmental damage.

The Commission believes that two fundamental principles need to be enshrined in all housebuilding, to ensure it is not damaging, and improves the areas where it takes place.

We Need to Adopt a Natural Capital Approach

In order to think rigorously about the relationship between development and the natural environment, we need to be clear about the value the nature brings. This can be done using the idea of natural capital. Natural capital (see box) is a concept which has gained wide currency in government circles – so much so that the UK Government’s 25-year environment plan mentions it ninety times.⁴⁰ It should be a central part of evaluating all decisions which will impact the landscape, none more so than housing.

UNDERSTANDING NATURAL CAPITAL

Economic approaches are incorporating the environment in a more fundamental way than previously. The environment is being recognised increasingly as underpinning all economic activity (and as having clear limitations). ‘Natural capital’ refers to the stock of living ('biodiversity') and non-living (e.g. minerals, water) resources that interact and provide a flow of services ('ecosystem services') upon which society depends. Some of these services are delivered locally, others may have national or international value. All other capitals (human, social, intellectual, manufactured, financial) are ultimately underpinned by natural capital.

This is recognised by government at the national level. From 2020 the Office of National Statistics will be reporting on the UK’s natural asset balance sheet alongside traditional measures of economic activity. In addition, the UK has the Natural Capital Committee, an independent body that advises the Treasury on incorporating natural capital into the country’s economic planning and has produced a number of publications on the subject, including a guide for planners wishing to incorporate natural capital into their processes.⁴¹

In some cases the services provided by nature can be quantified in monetary terms. The services invertebrates provide to farmers as pollinators, the services wetlands provide as flood defences or water filtration, and even the services areas of beauty provide to health are examples where a monetary value has been placed on nature. When this is possible it provides an easy mechanism for integrating the values of nature into decision-making. For example, a recent report by Vivid Economics on the Cam-Ely-Ouse catchment area estimated services worth £200-£320 million were being generated through agriculture, timber, water abstraction, carbon sequestration and recreational benefits. However, many values are too complex to calculate – for example, areas of high biodiversity are more resilient to the

⁴⁰A Green Future: Our 25 Year Plan to Improve the Environment

⁴¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/608852/ncc-natural-capital-workbook.pdf

impacts of change through climate or disease, but putting a monetary figure on this value would be almost impossible.

The importance of considering nature in the economic planning for the area is therefore about far more than simply avoiding the impacts of growth damaging areas of particular beauty or species of interest – it is about ensuring any growth achieved does not undermine its own foundations.⁴²

Natural capital is also helpful to inform debates around development, such that it is not cast in terms of the pro-environmentalists versus the pro-developers. Developments can, if done well, actually enhance the natural environment. They can build in green infrastructure to provide new homes for fauna, enhancing biodiversity. (In fact, this sometimes happens without its being intended: recent evidence shows that bumblebees thrive more in towns than in rural environments⁴³.)

A Natural Capital Assessment of the East of England has been produced by the University of East Anglia for Anglian Water⁴⁴ which sets out the degree of, and pressure upon, natural capital in different local authority districts. Within Cambridgeshire and Peterborough, most districts were put into the middle band for levels of natural capital, although Fenland (perhaps unsurprisingly) scores highly on this measure. All districts also come in the middle band for pressure on natural capital assets, with the exception of Cambridge, where pressure is high. This brings home the need to think very carefully about natural capital in Cambridge, and plan approaches which ensure it is protected. The Commission would like to encourage working with the local conservation cluster, the Cambridge Conservation Institute, to explore how natural capital approaches could be practically worked into decision-making, and possibly to carry out a natural capital audit of the region. We note that local excellence in the sphere of resource conservation (an important part of preserving natural capital) already exists in the city of Peterborough, which is one of only nine cities in the global Ellen MacArthur Circular Cities Network (alongside Copenhagen, New York, and Rio de Janeiro). Lessons can be learnt from Peterborough which can inform approaches in other parts of the area.

We Need to Adopt a Placemaking Approach

'Placemaking' describes a process of either new development, or regeneration, of an area which leads to a sense of 'place'. Areas where streets are empty, buildings are non-descript, and there is a lack of green spaces feel 'placeless' – lacking in character, and undesirable to live in.

There are numerous urban design principles, which if adhered to, can help tackle this issue, and ensure that new development creates new places, in turn fostering genuine communities. We point readers towards the Freiburg Charter for Sustainable Urbanism⁴⁵ as a good statement of approaches. These includes prioritising diversity, integrating public transport with urban design, and safeguarding habitats.

⁴²With gratitude to Flora and Fauna International for basis of this input

⁴³<https://www.theguardian.com/environment/2018/jun/27/bumblebees-thrive-in-towns-more-thancountryside>

⁴⁴https://www.anglianwater.co.uk/_assets/media/Natural_Capital_Asset_Check_Report.pdf

⁴⁵<https://www.academyofurbanism.org.uk/freiburg-charter/>

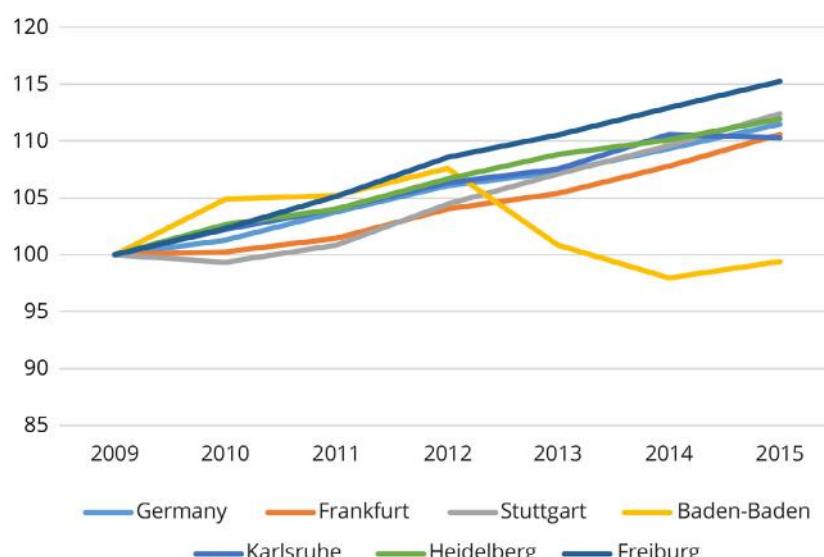


CASE STUDY: FREIBURG

Freiburg is a medieval cathedral city in the South West of Germany, nestled among the hills of the Black Forest, with a population of 228,000 at the end of 2016⁴⁶. It is known for its temperate climate, strong local science industry, and high quality urban design. In fact, Freiburg is so renowned in this last aspect, that the Academy of Urbanism has published a "Freiburg Charter for Sustainable Urbanism", in recognition of the city's impressive credentials, and it was described as "the city that did it all" by leading urbanist Sir Peter Hall.

Freiburg is also a city which has a rapidly growing population, led by strong growth in employment. The graph below shows how employment growth in Freiburg has outpaced that of similar sized cities in its vicinity (Baden-Baden, Karlsruhe, Heidelberg) and larger ones as well (Frankfurt, Stuttgart), with employment growing at just under 2.5% per annum. Its population growth has been strong throughout the latter half of the 20th century and into the 21st. Like Cambridge, Freiburg has a successful and popular university, is surrounded by Green Belt land, and faces pressures of strong housing demand.

Figure 23 – Employment in cities in Germany, 2009=100



Source: Employment statistics of the German Federal Employment Agency

⁴⁶ https://wwwgenetics.destatis.de/genesis/online/data;jsessionid=1DEBBA5E5120CB8A6688EEDDB6B46A1A.tomcat_GO_2_3?operation=abruftabelleAbrufen&selectionname=12411-0014&levelindex=1&levelid=1531921394528&index=14

Freiburg as a city has a great deal to suggest to the Cambridgeshire and Peterborough area about how high levels of employment (and thereby population) growth can be integrated into a city with positive social and environmental effects. Many of its suburbs are noted for their commitment to good design, such as Rieselfeld, to the west of the city. It was constructed on a former sewage works around a new tramline, to ensure efficient transport into the city for residents. Environmental approaches such as open rainwater ditches are built into the design, and “green wedges” and nature reserves ensure the protection of wildlife and the enjoyment of it by people. It is built around several courtyards with play areas for children, and places housing on top of shops in mixed-use developments to encourage sociability, strengthening community spirit and reducing the need for travel. The development is high density (around 50 dwellings per hectare).

Another example is the suburb of Vauban. Vauban’s design minimises energy usage by using ‘passive housing’ approaches to maximise the benefits of the sun and wind. In one housing development (Schlierberg) the houses consistently produce more solar energy than they consume (the city as a whole has reduced its CO₂ emissions from energy by 16% from 1993 to 2007, at a time when population was growing). Vauban is most famed for its approach to cars – speed limits are capped at 30km/h and cars have to be parked at a car park on the edge of the suburb. This means that walking is encouraged, and the opportunity for social interaction maximised.

The example of Freiburg shows that with care, it is possible to have high levels of growth, accommodated in new development, while actually improving the quality of the city.⁴⁷

The look and feel of houses in particular can have a significant impact on their desirability, and how welcome they may be among the communities in which they are built, as noted by the recent report from the Policy Exchange, “Building More, Building Beautiful: How design and style can unlock the housing crisis”⁴⁸. Good design is not incidental to solving the housing dilemma.

While building the right kinds of houses is very important to placemaking, it is only part of what is needed to make good places. Providing green spaces, leisure, and shopping options will bring people onto the streets and foster community spirit. Attractive spaces in which to exercise will help improve the public health of any development. Many have highlighted to the Commission that, for many of the highly-skilled workers based in the area who could live and work in numerous prestigious places across the globe, the high quality of life here is a deciding factor. Sacrificing this in the pursuit of development at all costs could be extremely damaging in the long term. And of course, these placemaking approaches must all go together with a consideration of broader social factors, linking into health and education, which are discussed in other sections of this review.

By prioritising good quality development, residents will find it easier to accept, and even welcome, new developments. We are encouraged to note that Cambridgeshire has a ‘Quality Charter for Growth’ based upon these themes.

⁴⁷With gratitude to Dr Nicholas Falk for the material used in this case study

⁴⁸<https://policyexchange.org.uk/wp-content/uploads/2018/06/Building-More-Building-Beautiful-for-print.pdf>

» KEY RECOMMENDATION #6:

The Combined Authority should embed placemaking in their forward planning, by i) revisiting the Quality Charter to audit how well developments and regeneration projects since its publication have met the criteria, ii) renewing and updating the Quality Charter, and iii) demonstrating how other plans (particularly the Non-Statutory Spatial Plan) can serve to create better places. This should include a concern for the quality of place in existing communities, and an area-wide environmental strategy.

CAMBRIDGESHIRE AND PETERBOROUGH: LEARNING LESSONS IN DEVELOPMENT

How well are quality considerations reflected in developments in Cambridgeshire and Peterborough? The story is one of improvement. Whilst some earlier developments have been criticised for not adequately creating a sense of place, more recent projects are encouraging. In the case of the Love's Farm development on the edge of St Neots, Huntingdonshire, which continues to develop and has exceeded the initial plan for 1,250 dwellings (now having 1,435 dwellings, 34.8% of which qualify as affordable), feedback is positive. 57% say that their quality of life has improved since moving to Love's Farm (compared to 4% saying it has worsened) and 45% have increased their physical activity since moving there (compared to 12% who have reduced it). A particularly striking finding is that almost half of respondents travel to work by a method other than the private car, much higher than the national figure of 32%⁴⁹. There is also evidence that new developments generally are well received by their residents, with an area-wide review of new development noting that: "In nearly every area, terms such as 'friendly' and 'good community spirit' were mentioned more than the negative terms such as 'unfriendly' and 'no community spirit'."⁵⁰

We also find positive evidence that ecological considerations are being taken seriously in new developments, with the new Eddington District in Cambridge a notable example. Eddington reuses surface level water, reducing wastage and minimising flood risk. This means the development has a water efficiency standard of 80l per person per day, compared with the 110l which is standard. It also has its own central heating and power (CHP) system which will reduce energy usage (although grid constraints mean this is unable to switch on at present – see the infrastructure section for more on this).

We Need to Build Truly Affordable Housing

There is a need for a significant increase in affordable housing across a range of sizes, types and tenures. Social housing is a key part of this, but there is strong evidence that the needs of many who would not qualify for social housing are not being met by open market housing, either for sale or rent. Intermediate tenures are therefore an important element of the overall mix, requiring the development of new housing approaches. These are likely to include seeking investment partners and using local authority-owned land creatively.

⁴⁹Statistics sourced from <https://cambridgeshireinsight.org.uk/wp-content/uploads/2018/03/Loves-Farmpresentation-LFCA.pdf> and https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/489894/tsgb-2015.pdf

⁵⁰<https://cambridgeshireinsight.org.uk/wp-content/uploads/2018/02/NDS-summary.pdf>

4.4 WHERE SHOULD MORE HOUSES BE BUILT?

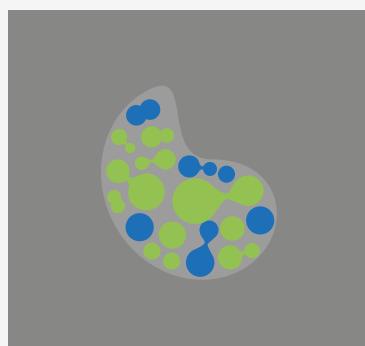
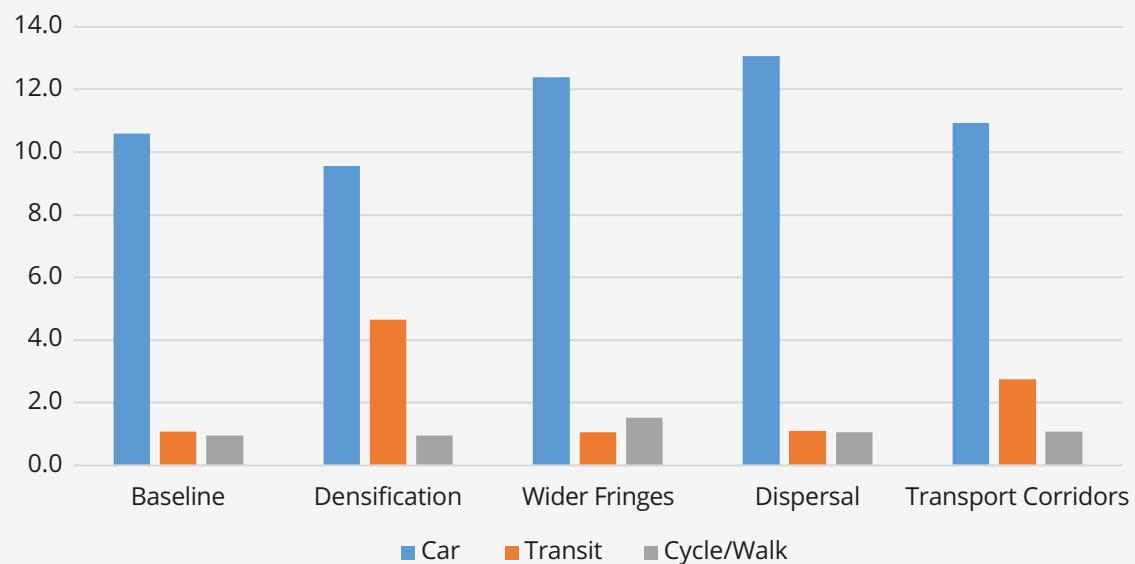
Rather than discussing individual sites (beyond the scope of this review) this question is meant to get at the general approach to *urban form*. That is, what sort of shape should development take? This question has already been taken up in an earlier section, but here we look at environmental factors through the lens of modes of transport.

INSIGHT FROM THE FUTURES WORK

ENVIRONMENTAL IMPACTS – MODES OF TRANSPORT

Our analysis looks at how people are likely to travel under different spatial structures, both in terms of distance and mode of travel.

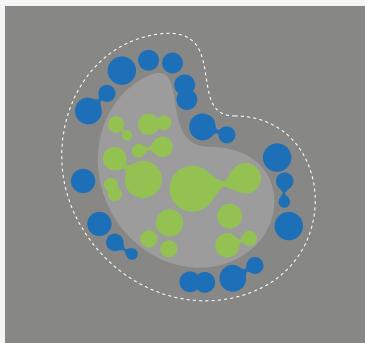
Figure 24 – Journeys to work in 2051 with destinations inside CPCA – millions of journey kms by means of transport⁵¹



DENSIFICATION

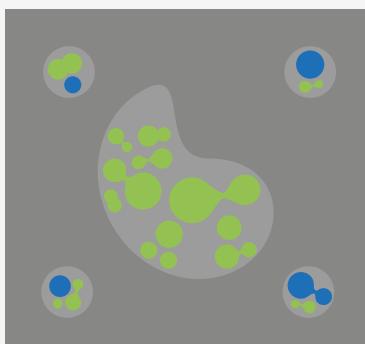
Densification is the only option where the total number of car miles is less than would be anticipated under the baseline scenario. While total cycling and walking journeys are likely to be similar, a much higher use of transit systems is anticipated as jobs develop around city centre train stations.

⁵¹Note, this uses the Census definition, which multiplies numbers of commuters by distance to work. The actual numbers will be slightly lower due to people working at home some days



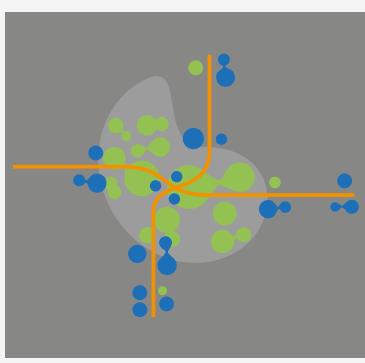
WIDER FRINGES

This option is likely to produce the highest levels of walking/cycling miles, as people in the new fringe are likely to commute into the city in this manner. Numbers of car miles would be especially likely to increase in Peterborough as current congestion is lower there.



DISPERSAL

The most car heavy option of the four, due to a higher number of commutes which are not served by public transport options.



TRANSPORT CORRIDORS

The effects on the modal volumes and shares are more modest with few striking changes because of the spread of more modest transit interventions. For the Combined Authority area as a whole, car shares are down and transit and cycle/walk shares are up.

The effect that these transport modes have on the environment (both climate change and air quality) is to some extent dependent on technological transformation over the next few decades.

The government has committed to banning new diesel and petrol vehicles from 2040, but if it is envisioned that these will be replaced by electric vehicles, substantial levels of investment into upgrading the grid will be needed. In the medium-term at least, higher levels of car use should be seen as environmentally damaging.

4.5 RISING TO THE HOUSING CHALLENGE

The Commission believes it is indisputable that high rates of employment growth have put great strain on the housing market in Cambridgeshire and Peterborough, particularly around Cambridge. The result is exceedingly high living costs, longer commutes, social stratification, and extra cost for business. Ambitions for house building should be increased to deal with a housing deficit that has grown up following under-projections of growth. This ambition should be underpinned by a clear focus on quality, planning for new communities rather than new estates, and being prepared to invest heavily in infrastructure to deliver housing at scale where needed.

5. Infrastructure

As we saw in the business section, the infrastructure deficit which has built up in Cambridgeshire and Peterborough is causing real problems of rising business costs. If this is not dealt with soon, the costs of operating in the area will likely become too high, and business will choose to leave the area and potentially the UK. We also saw in the housing section that lack of infrastructure is one factor impinging upon housing section, which is sorely needed. We look now at what approach should be taken to this critical question of infrastructure – how, in an environment with numerous worthy projects, a sensible approach to prioritisation can be taken.

5.1 INFRASTRUCTURE INVESTMENT

The Mayor has set out proposals for the development of the infrastructure in the Cambridgeshire and Peterborough Combined Authority area in the 2030 Ambition document⁵².

The Cambridgeshire and Peterborough Combined Authority has one of the most ambitious programmes of development ever seen in the UK. The ambition is that by 2030 Cambridgeshire and Peterborough should be the leading place in the world to live, learn and work. This is based on delivering five core ambitions, on the way to delivering the Mayor's ambition of doubling the size of the local economy:

- Access to a good job within easy reach of home
- A workforce for the modern world founded on investment in skills and education
- The UK's capital for innovation and productivity
- Healthy, thriving and prosperous communities
- High-quality, sustainable environment.

This is a welcome approach – it is vital that a long-term view is taken on these issues and 2030 is the point at which it should be possible to see the plans taking shape. Relatively few of the major projects will have been completed by then: developing major transport and infrastructure schemes rightly takes time and expectations need to be managed. The Mayor's plan also emphasises that teamwork needs to be a part of the approach, highlighting the involvement of residents, businesses and communities and other public sector partners across the area.

We set out how we believe the Combined Authority should approach the process of prioritising investments as part of a well-governed and value-for-money driven process for

⁵²<http://cambridgeshirepeterborough-ca.gov.uk/assets/Uploads/OS-Agenda-250618.pdf>

individual schemes. However it is vital that such a process of prioritisation takes place against a broad strategic understanding of the major challenges facing Cambridgeshire and Peterborough.

Based on all the evidence we have seen whilst undertaking this review, we have formed a view on the broad assessment of priorities. Its starting point is that Cambridgeshire and Peterborough is not one unified labour market but three distinct sub regional economies, a point we made and was broadly accepted in our interim report. In our view, it is likely that, to fulfil its potential, over time, Cambridgeshire and Peterborough should function significantly more as a single area than it does at present. This ought to be feasible whilst being compatible with each part of the Combined Authority area retaining its distinctive sense of place.

However, this is unlikely to be feasible in the short to medium term, and is better viewed as a long-term goal. Moreover, it is likely to emerge more from the successful application of smaller projects in the nature of stepping stones towards this goal than as a grand vision largely driven by one or two major projects. These smaller projects might actually be quite significant in their own right: work with schools and on public health as discussed later or in relation to digital communications.

In relation to the major transport infrastructure programmes, our view is as follows.

The growth seen in Cambridge and South Cambridgeshire seems very unlikely to be sustained in the future without further and significant investment in infrastructure. Businesses are already noting this as a major concern. A failure to invest in the development of infrastructure in and around Cambridge is the single biggest endogenous risk to growth facing the area. In our view, this is because the growth witnessed to date has not been matched by basic infrastructure, particularly transport. The end goal of growing Cambridge was and is the right one. But if growth is to continue, deterioration to the quality of life across Cambridge and South Cambridgeshire will result unless this is matched by the means of achieving it in sustainable way through better infrastructure.

Road schemes will have a role to play and an upgrade to the A10 bringing Ely and its environs into the Cambridge travel to work area seems to us the kind of strategically desirable scheme likely to score well on appraisal. But we don't believe that road schemes alone or indeed those that also include walking and cycling can be sufficient. More effective buses, including through the use of the Mayor's powers for introducing bus franchising are vital for the less well-off in areas where other forms of public transport would fail any cost-benefit calculation. They can connect students to education and widen employment opportunities, as well as work to alleviate loneliness and isolation among the elderly⁵³.

Digital technology can enable the integration of different forms of transport and the scope for use of this (for example the app 'City Mapper' and hybrid forms of public transport 'on demand') should be explored.

In areas of more dense population, ambitious new projects such as the introduction of a form of rapid transit through the Cambridge Autonomous Metro (CAM) could transform the economy and many people's day-to-day lives. These can provide for continued sustainable growth in Cambridge.

⁵³The DfT notes that: "The high costs of motoring are well documented... and the risk of increased social exclusion as a consequence of people choosing not to travel by car is significant. High quality bus services therefore have a significant role to play." See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/226802/final-report.pdf p15

» KEY RECOMMENDATION #7:

A package of transport and other infrastructure projects to alleviate the growing pains of Greater Cambridge should be considered the single most important infrastructure priority facing the Combined Authority in the short to medium term. These should include the use of better digital technology to enable more efficient use of current transport resources.

We also believe that this is a case where the best may be the enemy of the good, with longer-term ambitions having the potential to obstruct the delivery of immediately needed short-term interventions. There should be a focus on providing the fastest transit possible to those who need to work in the Greater Cambridge area using currently available, low-cost technology, which can prepare the ground for better long-term solutions. The risks to business are too great to delay in this regard. Nevertheless, transport is likely to undergo some significant changes in the next 30 years and there should be a clear road-map for the evolution of transport systems so that they are 'forward compatible' and do not end up as obsolescent solutions.

The attraction of the CAM, and indeed of potential heavy East-West rail links to Norfolk and Suffolk as well as to Milton Keynes and Oxford, is that they open the way for a stronger emphasis on the role of transport corridors with associated housing and business development to enable them to form a planned form of expansion for Cambridge and South Cambridgeshire's economy without risking too rapid growth or overdevelopment. Indeed, these East-West linkages look set to become more and more important as the Cambridge–Milton Keynes–Oxford Arc is developed. However, we strongly believe that improving the "last mile" – the ability to move around within the city of Cambridge – is of a higher immediate priority than these inter-city links, as their effectiveness will be severely blunted without this. If a researcher from Oxford finds she still has to wait in extensive traffic to get from the train station to a science park, the gain from the quicker link is watered down.

We noted in our interim report that the whole of the Combined Authority area is now growing. There are and will be consequences for infrastructure of all types in every area as a result. The long run goal of joining up the different parts of the Combined Authority economy would suggest that even to the boldest of possible projects, the extension of the M11 to the north, should be on the horizon for consideration. In the shorter term, projects that seem likely to further this aim are:

- i) The full dualling of the A47 (better connecting the Peterborough economy to the Fenland economy)
- ii) The dualling of the A10 (better connecting the Cambridge economy to the Fenland economy), and:
- iii) Improvements to rail between Peterborough and Cambridge – looking especially at Ely North junction (this will better connect all three economies – we note that with the improvements to the A14 the Cambridge to Peterborough link will be well served by road connections).

» KEY RECOMMENDATION #8:

A process for scheme prioritisation and development should be implemented in full to ensure that the overall approach reflects the goal of doubling the size of the Combined Authority economy, and over time better connecting the three economies of the area.

We unpack how such a system of prioritisation could work below.

5.2 PRIORITISATION OF INFRASTRUCTURE

It is vital in our view that the Combined Authority develop an approach to infrastructure in which its ambitious goals are matched by a strategic approach and principles as well as a prioritisation programme and a funding package which will best enable those goals to be achieved. Our views on these issues are set out below.

Strategic Approach

The overarching goal of investment is the delivery of the Mayor's agenda for 2030 which would put the area on track to double the size of the economy of Cambridgeshire and Peterborough. **How the target of doubling the size of the economy is achieved should be set out in a strategy which we recommend be developed and agreed as soon as possible, setting out clearly the approach to realise this.** This strategy should build upon the work so far, but show more exactly which are the 'priority projects' and how items will be phased. It should have four fundamental building blocks:

- **People** – ensuring people are equipped with the right skills and access to opportunities
- **Quality of Life** – enhancing the area as an enjoyable place to live and to visit
- **Place** – making the most of Cambridgeshire and Peterborough's physical, environmental and cultural assets and infrastructure
- **Business** – focusing on businesses where the opportunity for growth is greatest.

The Strategy should include, or be written in cognisance of, the Local Industrial Strategy due to be completed in 2018/19. In addition, specific elements relating to key sectors and sites should set out how infrastructure, transport and housing will support the development of each as part of an approach which balances economic growth and the well-being of the people of the Combined Authority area.

Principles and Prioritisation

The strategy should be accompanied by a set of principles developed and agreed jointly between the Mayor and Combined Authority, following widespread discussion and consultation. Our suggestion is that the principles applying to the decision as to whether to award project funding from the Combined Authority should include the following:

- Projects must meet at least one of the strategic objectives the Combined Authority as defined in the strategy
- Address a demonstrated **market failure** that means that the investment cannot be provided on reasonable terms and timescale by the private sector, or

- Represent an **investment opportunity** for a direct financial return to the Combined Authority on any investment
- Projects which aim to boost the 'supply-side' of the City Region's economy such as provision of infrastructure, commercial premises, etc., should show suitable evidence of market demand
- Projects should aim to provide a financial return – they should therefore be seen and operate as investments rather than grant; the risk-reward profile of the project taken into consideration
- Projects should be able to demonstrate significant leverage of funding, preferably from the private sector
- Combined Authority investments should ensure a geographic and thematic spread of investment whilst prioritising the highest economic, social and environmental impact and most commercially sound projects. This doesn't mean an equal share across themes or geographies. Places will benefit in different ways and at different times
- Investment should be based on decision making tools which assess the potential impact of an intervention or investment in supporting inclusive growth and embed inclusive growth in decision making
- The approach to decision-making should be as clear and straightforward as possible in order to be effective. It should not impose an undue burden on applicants whilst still providing for robust decision-making
- Early identification of projects will require all parties to agree a sensible set of deliverables and financial structures, plus legal route to delivery, from the outset
- Projects should be able to evidence competent and appropriate development capacity and capability to progress, as well as strategic fit.

Financing Infrastructure

The Commission has had the benefit of a paper prepared by the Combined Authority on its approach to funding infrastructure, following discussions between the Mayor and the Combined Authority team.

On the basis of our analysis of the information we have received, we believe that Cambridgeshire and Peterborough can have confidence that the broad vision set out in Ambition 2030 is as deliverable as it is necessary. Not every project may command the support of investors or will be financially viable. But the scale and ambition is right and can be broadly delivered if the strategy and prioritisation process set out above is fully developed and implemented and if the approach to financing infrastructure is robust.

We believe that several elements need to underpin the approach to finance:

- An Investment Fund should be created to execute priorities which leverages third party resources, meaning a sustainable momentum can be achieved by the prudent use of public resources (from both local and central government)

- An Investment Pipeline should be established showing what is feasible to be delivered over a three, five, and ten-year period
- A Mayoral Development Platform (such as a development corporation) is needed to facilitate and support development in collaboration with the private sector (investors and developers) and wherever practicable the community in which development takes place.

The Commission is aware that there has been intense debate on the subject of land value capture within Cambridge and Peterborough. Uniquely among the newly elected Mayoralties, Cambridgeshire and Peterborough seeks to include a proposal for land value capture at its heart. This is designed to 'cap' the maximum value agricultural land could sell for (at ten times agricultural value), giving significant returns to the original landowner, but also allowing for the increase in value from infrastructure and housing development to be captured by the Combined Authority. It will be important to be clear that this approach will lead to new developments in the right places, in a way not simply based upon landowner willingness. At a national level there are also a number of discussions about how to ensure land value makes the appropriate contribution to infrastructure requirements.

But land is only one sources of value which the Commission believes could be available to the Mayor to fund the investment programme. Cambridgeshire and Peterborough is a net contributor to the UK fiscal system. One of the reasons the Mayor has sought to prioritise the Land Value Cap is because of the absence of other available financial levers with which to capture the proceeds of growth and to reinvest them in the future, but there are other avenues, such as business rates, tax increment financing, and bids for Housing Infrastructure Fund financing which should be explored.

➤ *Subsidiary Recommendation v): There should also be further investigation of how business rates and other taxes can be retained and used to fund infrastructure, undertaken as a matter of priority. This should enable a strong case to be made to central government. The Combined Authority should continue its work to bring forward fully developed proposals for Land Value Capture at the right time. Funds already available to the Combined Authority should be brought together in an investment fund along with new potential sources of investment.*

All of these mechanisms take time to bring forward. We believe that the Mayor has other options which can be used now to start to make progress while the longer-term agenda is being developed. Both the Combined Authority and the Greater Cambridge Partnership have resources available to them to prime the pump of the infrastructure fund now whilst making preparations for the development of the Land Value Cap as well as other funding mechanisms which we believe could make a meaningful contribution to the development of the Combined Authority area. The Combined Authority should also be looking to deepen relationships with Network Rail and Highways England, keeping them in the loop of strategic conversations and thereby smoothing the path for delivery later.

CASE STUDY: THE NORTH WEST EVERGREEN FUND

The Northwest Evergreen Fund enabled debt funding for commercial property and regeneration projects in the North West of England at highly competitive commercial rates. Evergreen was initially capitalised with £30m from the European Regional Development Fund (ERDF) and other capital, and has achieved private sector leverage. For the initial investment period, every loan was required to be matched at least pound-for-pound with other money although this was improved through a number of mechanisms:

- **Funding of early infrastructure costs on large strategic sites.** By providing development-ready platforms, the low-cost of the infrastructure debt leveraged very significant future expenditure on these sites.
- **Meeting gaps in market provision.** During the first few years of Evergreen, there was a clear shortage of mezzanine debt for high quality part-let offices. By providing the mezzanine debt, which typically would be no more than 20% of a debt structure, significant leverage can be achieved assuming the senior debt is available.
- **De-risking and exiting loans early.** Evergreen sold a number of its development loans (to the regional Local Government Pension Scheme - with the consent of the borrowers) once the schemes were de-risked through a level of occupier interest and construction being completed. This way capital was available to reuse more quickly.
- **Efficient usage of capital in the bank account.** Development loans are drawn as the scheme progresses, thus the peak funding requirement of a portfolio of loans is less than the capital legally committed.

We understand that as much as £1.6 billion may be available over the next 30 years to the Combined Authority area, from existing sources. This could be leveraged both for private sector investment and to support additional debt funding giving the Combined Authority investment potential of several billion pounds. The Combined Authority is only just beginning to develop the kind of approach needed to steward a capital programme of this scale.

The Commission believes that if the Mayor and Combined Authority adopts the approach advocated here, in a collaborative and transparent manner, Cambridgeshire and Peterborough would be able, over the next period, to assemble a very strong case for further devolution. This would include financial proposals to enable the area to capture and reuse the proceeds. To achieve this, rigorous prioritisation is as important as the development of strategy as described above. However, the governance of funding and the creation of investor certainty is equally important and dealt with in the section on governance.

KEY INFRASTRUCTURE - THE IMPORTANCE OF INTERNATIONAL CONNECTION: STANSTED AIRPORT

Since its incorporation into the Manchester Airports Group (MAG) five years ago, Stansted Airport has gone from strength to strength with passenger numbers increasing at such a rate that it is the fastest growing major airport in the UK. New long haul flights have been introduced, with routes opening up to a number of cities in North America, and Emirates have recently begun flying to Dubai from Stansted, enabling connections to the Asia Pacific region. This growth has been caused by a number of factors including investment by MAG in improved facilities, spare runway capacity (in contrast to other London airports), and the economic strength of the East of England region, not least Cambridgeshire and Peterborough.

Local businesses in turn note the importance of an international connection close to hand, and there has been collaboration between these businesses and the airport to make the case to airlines for more long haul flights, in particular to China. As noted in a report by PwC, "Airports provide the connectivity and access required for a modern economy, enabling businesses to capture overseas opportunities and facilitating the coming and going of tourists – all of which fuel economic growth."⁵⁴ By continuing to support the growth of Stansted, including improving the connectivity to the airport to expand its catchment, the Cambridgeshire and Peterborough economy can deepen its integration into the global economy, accessing new markets, and creating new business opportunities.

5.3 UTILITIES

As discussed in the housing chapter, we believe the area needs to target higher rates of housebuilding. Provision of utilities will need to respond to higher demand in a way which is sustainable.

Power - Electricity

Electricity is provided to domestic and commercial properties through the distribution network. This is managed by the Distribution Network Operator (DNO), UK Power Networks (UKPN). The distribution network takes power from the transmission network (consisting of a few power cables transferring large amounts of power) and steps down the voltage, before distributing it to homes, factories, and offices.

Electricity is another area where high employment growth is causing capacity issues. The Fulbourn grid, which

16%

Proportion of electricity bill money which goes towards the physical infrastructure of the electricity network

⁵⁴<https://www.pwc.com/gx/en/capital-projects-infrastructure/pdf/pwc-air-connectivity.pdf>

supplies energy to the 'Southern Cluster' of commercial development is almost at capacity, with only a further 2MVA of spare capacity (to put this in context, that is roughly the capacity required for 1,000 homes). If this limit is surpassed (and we understand that bids have already been put in for the remaining capacity), it will cause a level of heat generation that breaches safety standards and damages equipment. Often to increase the amount of capacity, one could reinforce a smaller local substation, however, the distribution network around Cambridge is running at close to fault levels – the levels at which short circuiting and power blackouts occur. In this situation, a major upstream reinforcement of the grid is required, which is both costly and time-consuming (though is now planned for the large substation at Burwell). This is needed before local substations and cable upgrades connecting new projects or developments can be delivered.

While the grid in this area remains this constrained, it causes a raft of other problems. Localised generation of energy is limited due to the grid's inability to receive it, with the Combined Heat and Power (CHP) plant at Eddington (North West Cambridge) unable to switch on due to lack of capacity. In a similar vein we have heard of primary schools unable to install solar panels without paying seven-figure sums to have the local network upgraded. Other environmentally friendly developments, such as the installation of electric vehicle charging points and plans for solar farms are also being put on hold. And development becomes hindered – a local businessman from Morgan Sindall, a large property and construction firm, informed us that "two to three clients I have spoken with in the last 12 months have been quoted astronomical sums of money to install a new electricity supply to potential new developments south of Cambridge."

In some ways this local experience is only unusual in that it has come so early – other areas are likely to face similar problems in the years ahead (indeed London is already experiencing these difficulties). What are the root causes, and some of the solutions?

"DEVELOPER PAYS" REGULATIONS

The current regulatory framework for electricity (set by Ofgem) is unlike other utilities, in that it pushes the cost of upgrades to the network onto the developer for a particular new site. Let us suppose a developer wishes to build a new business park in East Cambridgeshire. In order to get the power installed the developer must foot the bill, though there is provision for them being repaid by other tenants who join the site within ten years. Nonetheless, there is most likely an element of 'game-playing' where developers wait for others to make the first move. Also, in a very constrained area like that around Cambridge, these reinforcement costs soar, making them prohibitive for all but the biggest of developers. Whilst these regulations are designed to incentivise more creative means of decentralised energy generation (which is to be encouraged), at a point at which capacity is at the limit this becomes counterproductive – as noted above, renewable generation schemes are being delayed because the grid does not have the capacity to receive energy.

REGULATORY REQUIREMENTS

Regulations also prevent the DNO from putting electricity capacity into a site until outline planning permission has been granted. The understandable concern behind this is to limit the risk of 'stranded assets', where cables are laid but then never used due to a project falling

through. However, in high-growth areas, the amount of time taken to go through the formal planning process, then wait for the installation of the power capacity, and then develop, can act as a brake.

DEALIGNMENT OF PLANNING CYCLES AND A NEED FOR GREATER COMMUNICATION

UKPN's programme of works to upgrade the network is not in sync with the local authorities' planning cycles. This means they are often not working towards the same plan. In addition, there are cases where projects which are viewed as particularly high priority by local authorities are not in UKPN's plans for upgrades, possibly stemming from a breakdown in communication. The DNO needs clarity about what the real 'nailed-on' projects are, to ensure they are provided for and growth is not hindered.

Drawing these threads together, we believe the government should recognise that energy infrastructure in high-growth regions qualifies as "strategic", and that key upgrades required to allow growth to continue should not be viewed as "speculative", even if the particular development they are tied to may be. Given the strategic nature of this infrastructure, there is a case for direct use of public funds in its improvement. The conversation about the new regulatory regime (which will commence in 2021) is just beginning, we hope this recommendation can feed into the conversation.

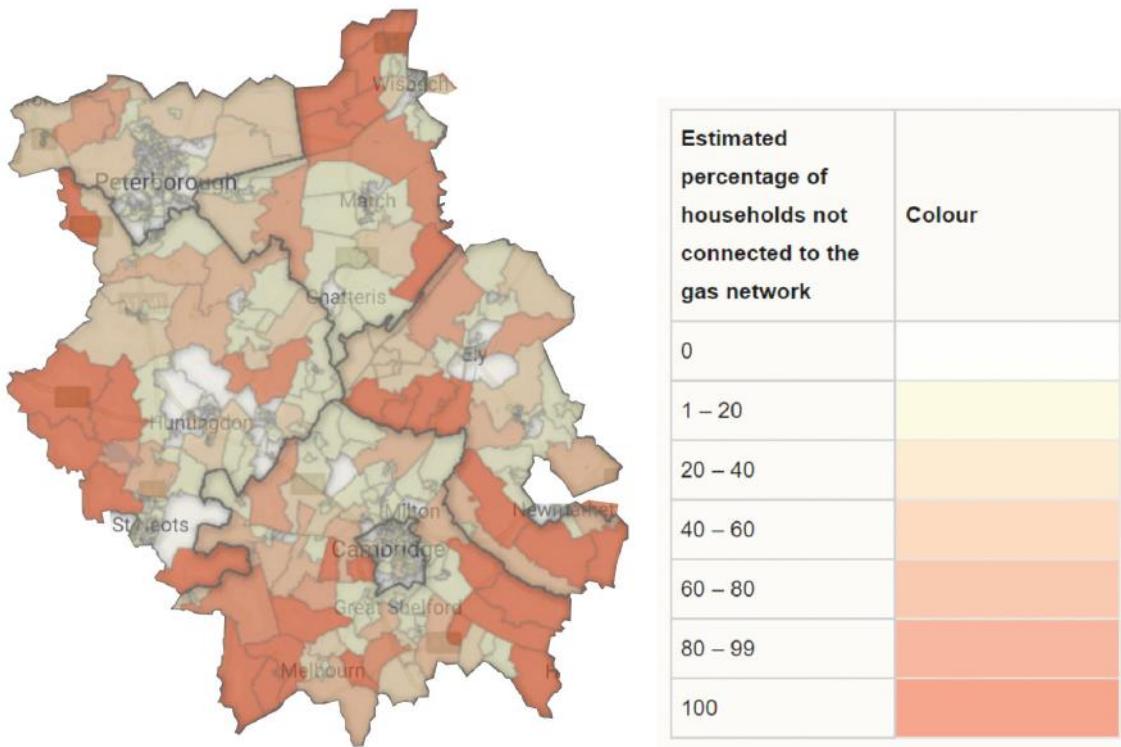
Secondly, we urge local government, Ofgem, and UKPN to start seriously planning for the new energy future, where individuals will buy and sell energy from one another in local grid systems independent of the main grid. While these 'smart grids' have been tested at various remote locations (such as the Scilly Isles) with success, more thought is needed as to how the transition from the traditional grid to smart grids which actually take place, as some degree of co-ordination will be required. While finance allocated for LEPs to produce their own energy strategies is welcome, the practicalities of moving from one grid to many grids needs organisation at the national level.

➤ Subsidiary Recommendation vi): *Ofgem should produce a road map for how to get from the current centralised energy distribution system to a more decentralised one, noting in particular the high costs of establishing new grids, possible disincentives for Distribution Network Operators to facilitate this, and the levels of expertise required.*

Power - Gas

The gas distribution network for the area is run by Cadent. A couple of gas transmission pipelines run through the south of the area, transporting gas from the East of England coast. Gas distribution is very patchy in some of the more rural areas (see map). A lack of access to gas is related to fuel poverty, as gas is a cheaper heat source than oil or electricity.⁵⁵

Figure 25 – Access to gas across the Cambridgeshire and Peterborough Combined Authority



Source: Local Energy East

Digital

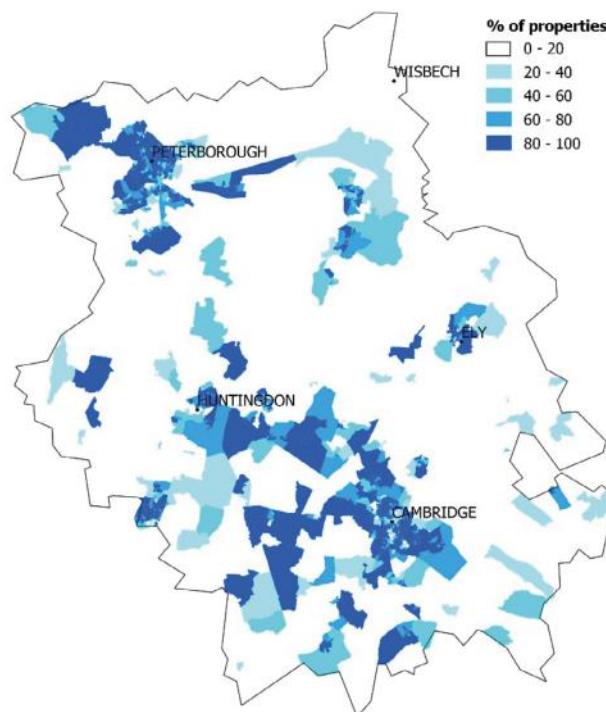
Digital infrastructure covers both broadband and mobile reception.

In broadband, the Commission notes with approval the ongoing initiatives to increase the spread of good quality broadband to premises. Peterborough have partnered with CityFibre to deliver “Full-Fat Fibre” to offices and houses. The Connecting Cambridgeshire project has already brought superfast internet connection to 95% of properties in Cambridgeshire. Nonetheless, the evidence suggests that more work needs to be done, particularly for businesses – a recent survey of businesses had more than double the respondents answering the question: “Is the speed of your broadband connection sufficient for your needs?” with a no than a yes.⁵⁶

⁵⁵A person is said to be in fuel poverty if, were they to spend the median amount of their income on fuel, they would be in poverty (regardless of whether they spend this or not)

⁵⁶Connecting Cambridgeshire - Business Broadband Connectivity Survey

Figure 26 – Spread of ultrafast broadband (>300 Mbit/s) (includes full fibre)⁵⁷



Source: Metro Dynamics analysis of Ofcom data

As the map shows, ultrafast broadband is concentrated in Peterborough, Cambridge, and some of the areas in between Cambridge and Huntingdon. At the same time, large swathes of the Combined Authority area are without ultrafast connection. This is not atypical in a country whose penetration of full fibre (where the fibre network is connected directly into households, with no copper connection at any stage) is so low that it does not even qualify for the European rankings⁵⁸, falling well behind much poorer countries such as Belarus, Romania, and Bulgaria. In fact, some regulation in the UK is geared to disincentivise full fibre, with the regulator, Ofcom, requiring Openreach to maintain the copper network, such that everyone will always have a choice whether or not they wish to upgrade to full fibre. We believe this requirement to maintain the copper network option should be dropped, so that Openreach are incentivised to develop full fibre networks. We are encouraged to note Ofcom's recently published draft regulation to stimulate competition in the market for provision of fibre networks, by forcing Openreach to open its telegraph poles and underground tunnels for use by competitors, and preventing it from offering cheaper deals on copper services in areas where competitors are opening full fibre networks. The Commission strongly believe that full fibre should be the norm across the UK, and that in a high growth area like Cambridgeshire and Peterborough, it is essential to remain competitive. We are pleased to note that the National Infrastructure Commission has endorsed this in its recent National Infrastructure Assessment⁵⁹. Finally, any construction of new transport infrastructure should seek to embed digital connectivity infrastructure, such as ducting, along which fibre-optic cables can be threaded. The Commission is pleased to note this is already happening on many projects.

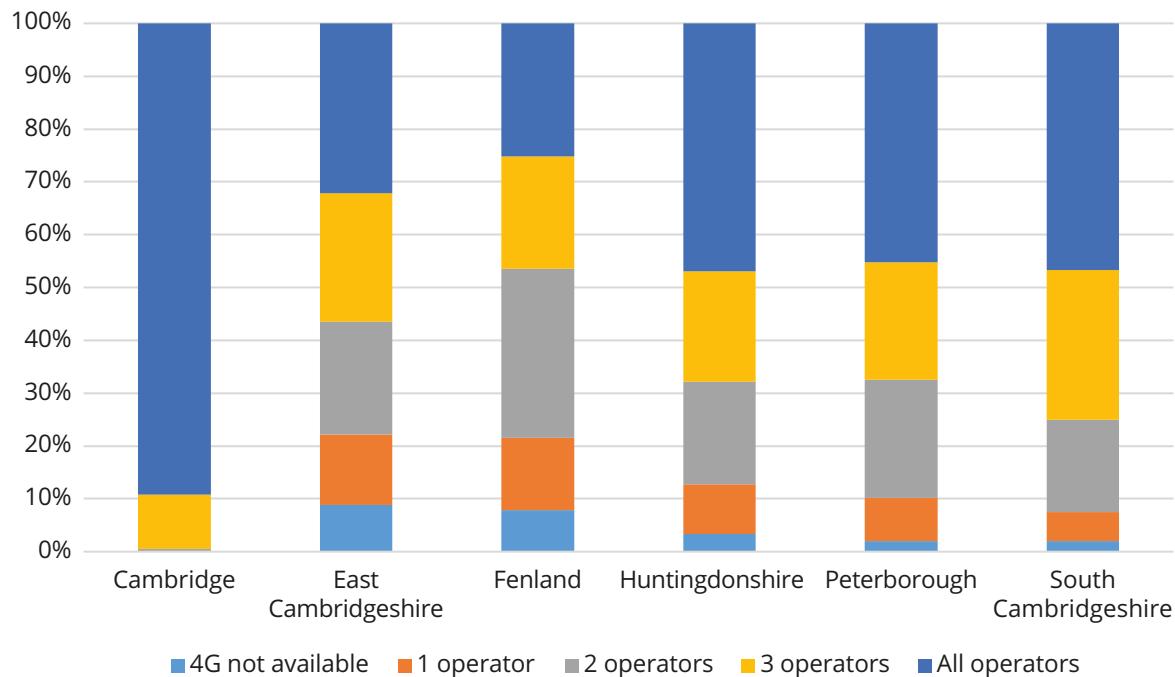
⁵⁷Source: Ofgem Connected Nations report Spring 18 – the definition of ultrafast as being over 300Mbit/s (some define as over 100 Mbit/s) is Ofcom's.

⁵⁸http://www.ftthcouncil.eu/documents/Reports/2017/IDATE_European_FTTH_B_panorama_at_Sept2017.pdf, p16

⁵⁹<https://www.nic.org.uk/publications/national-infrastructure-assessment-2018/>

Mobile reception is an issue that we have heard more about during the consultation, particularly among those living in rural areas. It is also one where it is very difficult to influence coverage, as it is provided by a competitive market mechanism, with low population density reducing the incentive to invest in better infrastructure.

Figure 27 – Indoor premises by number of operators providing 4G signal coverage



Source: Ofgem Connected Nations Spring Update 2018

As the figure shows, virtually all premises in the Cambridge local authority district have 4G signal offered by three or more operators. In Fenland, fewer than half the premises have this. East Cambridgeshire has the highest proportion of premises which cannot receive 4G from any provider, at 8.9%. Many of the businesses in high-tech sectors that the local economy wishes to attract have particularly high preference for fast data access and good coverage (e.g. when travelling between meetings). And to refer again to the analogy between Cambridgeshire and Peterborough and the UK as a whole, there is nowhere better to test the benefits of 5G connectivity for different groups than within Cambridgeshire and Peterborough.

► **Subsidiary Recommendation vii:** *The government should make Cambridgeshire and Peterborough a vanguard authority for new 5G infrastructure.*

Water

The two main areas relating to water that we consider here are flooding and the potable water network.

FLOODING

The area has not been subject to dramatic flooding events in recent years, which can mean the issue is paid little attention. However, it should be remembered that it was flooding infrastructure which brought much of the landscape above water in the 1600s, and it is the continued work of flood risk infrastructure which ensures it remains so. In this sense, flood risk infrastructure should be considered *enabling* infrastructure, in that it allows a great deal of economic activity to happen in the first place (land being the most fundamental of all the economic factors of production).



Ouse Washes

Flood risks for the area have to be both managed upstream and downstream, due to the tidal nature of some of the rivers, including the River Nene and the River Great Ouse. There are numerous flood risk management assets including sluices, drainage systems, and the famous Ouse Washes. The risks of flood risk assets being neglected is severe – in one modelling scenario for the Great Ouse fens area, where maintenance of equipment ceased, and pumps were switched off leading to a breach in an embankment, the estimated damage ranged between £7.3bn and £10.4bn, depending on water levels. The costs of flood damage are felt across society with one report looking at the impact of previous flooding events nationwide estimating that 30% of the damage is borne by householders, 30% is damage to infrastructure, and 27% is borne by businesses.

At the same time, interventions can have positive GVA benefits. One report into the impact of flood defences constructed to protect Godmanchester, in Huntingdonshire found the GVA benefit to be £5.3m⁶⁰ from 'first-round' impacts (from the protection of houses, infrastructure, etc.) and a further £3.2m – £9.3m of 'dynamic' impacts due to avoidance of business disruption.

Any plans for growth in Cambridgeshire and Peterborough need to integrate plans for flood risk infrastructure. More communication is needed, both between local authorities and the Environment Agency's flood risk team, and between different flood risk catchment areas, due

⁶⁰Present value over 10 years. Source:<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=18690>

to the interlinked nature of the risk. There may be a case for a tidal barrier in the Nene, Great Ouse, or even in the Wash to cover both of these. Our aim is not to make final pronouncements – it is beyond our expertise – but to urge a joined-up approach here. We note that some of the costs associated with this type of infrastructure are small in comparison with those of larger road and rail schemes under consideration, and that better flood infrastructure could give high returns on investment. The recent National Infrastructure Assessment⁶¹ found that the cost to the UK of a resilience-based approach to flood management was just over half that of an emergency response-based one.

We also note that development is hindered in some areas due to flood risk restrictions, particularly those not allowing development in flood zone 3. In Wisbech this is a particular problem. The Commission was impressed by the innovative approach to flood modelling being taken in Wisbech, where Dutch methods of modelling overspills capture the possible damage. We also note that the testing regime for development, which requires assessment of the impact of flooding in the *absence of flood defences*, runs counter to strategies to develop integrated flood risk defence infrastructure into development.

Finally, flood risk across the UK looks set only to increase. Finding solutions to development in this area is likely to have to happen little by little, with the finer points of detail being worked through with the Environment Agency, Anglian Water, and others. As tricky questions on development in flood areas are worked through at a national level, Wisbech, a town that is taking the lead in developing new approaches, seems an ideal place to start, having a clear desire to build houses and a substantial resident population.

► Subsidiary Recommendation viii): *Wisbech should be seen as a UK testbed for new flood-resistant approaches to development, and levels of investment in flood defence infrastructure should be substantially increased.*

THE POTABLE WATER NETWORK

The East of England is classed as a water-stressed region, receiving only two thirds of the average rainfall in England. Cambridgeshire and Peterborough has only one reservoir at Grafham Water; all other water supplied is from groundwater sources. This can cause real problems in delivering an economic vision for the area, as Anglian Water comment in their submission: “Without a resilient water supply, we cannot build the homes or infrastructure we need, our industries and communities will not flourish, and our agriculture sector will suffer. In fact, in a serious drought scenario, England could face £1.3billion of lost economic activity every day.”

For growth to be sustained in the long-term, it must happen in a way which maximises the efficiency of water consumption. Actions to manage demand, by the enforcement of stricter water efficiency regulations, and improved services to manage leaks are needed. The Water Resource Management Plan for the area recommends an efficiency standard of 80l of water per person per day is enforced, but at the moment, the planning authority is only capable of implementing a requirement of 110l per person per day. The Commission suggests that, as a start, a requirement of 110l per person per day be enforced in water stressed areas, and that in future councils should have the power to enforce 80l per person per day requirements for new developments where appropriate.

⁶¹<https://www.nic.org.uk/publications/national-infrastructure-assessment-2018/>

6. Health and Well-being

The terms of reference for this review do not make explicit reference to health and well-being. Nonetheless, we covered this issue in our interim report and said we would come back to it in this report. We did so because of the views expressed by Commissioners that the health and well-being of individuals, along with their education and skills, are central to a flourishing economy. There is good empirical backing for this view, and the interim report made references to the many studies which link poor health outcomes and poor performance at work. Similarly, the uneven health outcomes across the Combined Authority area seemed to us to be a factor exacerbating productivity divides. A great many respondents also referred to the need for inclusive growth, and the costs to people and families as well as to the public sector and to the wider economy of ill-health and poor well-being.

In our interim report we asked for views on this issue. In particular, we were concerned with practical steps that could be taken locally to address questions of ill-health, well-being and how these might affect the performance of the economy. We received relatively few responses, but these contained a range of practical suggestions we return to the end of this section. This in itself seems to us to be important. The devolution deal which created the mayoral Combined Authority contained a specific commitment to transforming public service delivery and making the best use of the working arrangements that are being established between councils, businesses and public services. It also committed the parties to working locally with the government, NHS England and other national partners to support the Sustainability and Transformation Partnership's moves towards greater integration of health and social care. Despite this, there seems to be a degree of passivity in how this issue is approached among people and organisations with the power to make a difference. We believe this needs to change.

6.1 HEALTH AND WELL-BEING AND THE ECONOMY

Health and well-being are economic as well as a social issues. The impact of health inequalities is estimated to account for national productivity losses of between £31-£33 billion per year, lost taxes and higher welfare payments in the range of £20-£32 billion per year as well as additional NHS health care costs in excess of £5.5 billion per year.⁶²

The additional health care costs do not manifest themselves in one simple way but through higher spending on issues related to obesity and sedentary lifestyles, drugs and alcohol harm, mental health and cardiovascular disease. The problem is systemic, and the solution needs to reflect this.

⁶²A submission to the Marmot Review 2010, Health and Wealth: The Inclusive Growth Opportunity for Mayoral Combined Authorities, Metro Dynamics.

The Picture in Cambridgeshire and Peterborough

Cambridgeshire and Peterborough might be thought of as an area where health inequalities are less of a problem than obviously poorer areas in some of the major conurbations and in the north of England. Whilst there is some truth in this, in that much of Cambridgeshire enjoys better than average health, there is strong evidence of clearly identifiable concentrations of poor health and well-being in nearly every part of the Combined Authority area and a more systemically weak pattern in some parts of it. In fact, health is another regard in which apt parallels can be drawn with the United Kingdom as whole, with pockets where outcomes are significantly worse than the average for the area.

Perhaps the most insightful way of looking at the life-cycle of poor health and well-being is to examine the wider determinants of health and well-being, as shown by this table from the most recent Joint Strategic Needs Assessment.

Table 4 - Wider determinants of health and wellbeing: summary of key indicators from Public Health England's Wider Determinants Atlas

Category	Indicator	Period	England value	C&P value	C&P trend	Cambs value	Pboro value	Cambs	East Cambs	Fenland	Hunts	South Cambs
Natural & built environment	Density of fast food outlets - per 10,000 popn	2014	88.2	64.7	-	59.4	82.4	93.4	40.4	56.4	56.4	24.1
	Air pollution: fine particulate matter concentration	2015	8.3	-	-	8.8	8.5	8.3	8.7	9.1	9.1	8.5
	Overcrowded households (%)	2011	4.8	3.6	-	3.1	5.3	5.8	2.3	2.4	2.4	2.2
Work & labour market	Employment rate ages 16-64 (%)	2016/17	74.4	78.1	↑5	78.7	75.9	72.5	82.5	78.2	79.2	82.6
	Economic inactivity rate ages 16-64 (%)	2015/16	22.0	18.4	↓5	17.6	20.9	19.0	15.4	19.2	17.6	16.5
	Sickness absence (%)	2014-16	2.1	1.7	-	1.6	2.2	1.3	1.9	2.6	0.4	2.5
Vulnerability	Unpaid carers (%)	2011	2.4	2.0	-	1.9	2.4	1.3	2.0	3.1	2.0	1.6
Income	Dependent children aged <20 in low income families (%)	2014	19.9	15.6	↓5	12.6	23.1	15.7	10.0	20.7	11.7	8.3
	Dependent children aged <16 in low income families (%)	2014	20.1	15.9	↓5	12.9	23.1	15.9	10.1	21.3	11.9	8.5
	Income deprived older people 60+ (IDAOP1) (%)	2015	16.2	-	-	11.3	18.5	12.7	11.7	16.4	9.6	8.4
Crime	Violent crime: emergency hospital admissions per 100,000	2013/14 -15/16	44.8	-	-	24.8	70.3	33.3	22.4	37.6	18.6	22.9
Education	GCSE achieved 5A*-C including English & Maths (%)	2015/16	57.8	57.5	-	61.2	47.8	63.3	58.7	52.2	59.2	70.2
	Pupil absence (%)	2015/16	4.4	4.5	↓5	4.4	4.6	5.0	4.1	4.7	4.4	4.0

Source: Joint Strategic Needs Assessment: Summary of Themed JSNA Reports 2018. Green cells represent results that are significantly better than the English average, and red cells those significantly worse. Amber cells are not significantly different to the UK average

As we saw earlier in relation to the economy, South Cambridgeshire, in addition to being the most affluent part of the Combined Authority area, also has the best profile in relation to wider determinants of health and well-being. Huntingdonshire and East Cambridgeshire also score fairly well, but in Cambridge the picture is mixed. Peterborough and Fenland are both significantly worse than the English average on several indicators – these two districts have the worst determinants of health and well-being.

Other key facts about health across the Combined Authority Area include⁶³:

- Almost two-thirds of Cambridgeshire and Peterborough adults carry excess weight, with higher levels than found nationally in East Cambridgeshire and Fenland Districts
- Levels of GP-recorded prevalence of obesity are generally lower in Cambridgeshire and Peterborough than in England, but Peterborough and Fenland have significantly higher levels of obesity in those aged 18 and over than found nationally
- Adult physical activity levels across Cambridgeshire and Peterborough are similar when compared to England. However, levels of activity in Peterborough are significantly worse

⁶³These data are extracted from the paper: Relation between Health, Health Inequalities and Economic Growth: issues for consideration by the Cambridgeshire and Peterborough Independent Economic Review, by Stuart Keeble, Michael Soper and Isaac Nunn.

than the national rate. Cambridgeshire and Peterborough combined has a significantly lower rate of physical inactivity than England, with Cambridgeshire's rate significantly lower and Peterborough's rate around the national level

- Adult smoking is statistically similar to the national average in Cambridgeshire and Peterborough collectively. 16% (105,000) of all Cambridgeshire and Peterborough adults are smokers, but both Cambridgeshire and Peterborough smoking cessation services have higher rates of validated smoking quitters compared with England, although the difference is not statistically tested. Fenland has a significantly high level of smokers.

Consequently:

- Levels of disability and general ill-health are generally low in Cambridgeshire, but are higher in Peterborough and also the Cambridgeshire district of Fenland.
- Life expectancy in Cambridgeshire in men and women is above national average and premature death rates are low. However, life expectancy for Peterborough is below the rate for England, and death rates are higher. There are also important gaps in life expectancy and mortality in deprived areas of Cambridgeshire compared with more affluent ones. This pattern is generally maintained for the principal causes of death.

These are not just tragically depressing statistics describing the wasted lives of people and families, they are also the source of extremely expensive public services. Data research undertaken by Cambridgeshire County Council gives us some indication of how expensive: improving outcomes among people in these areas (to the England level) could potentially generate a per year fiscal value (potential savings to the public sector) of £8.5 million, economic value (increased growth and earnings) of £18 million and social value (wider gains to society) of £12.4 million.

Although these figures are a simplification they do present the potential 'opportunity' from intervention, particularly in the less healthy districts of Peterborough and Fenland. For example, if the rate of Employment Support Allowance (ESA - the benefit claimed by those unable to work through ill-health or disability) claimants in Fenland and Peterborough (6.9%) were similar to England average (5.7%) there would be 2208 fewer people on ESA and in work. The economic value of a resident moving from ESA to employment is estimated to be £13,000 per year (New Economy Cost Benefit database⁶⁴) and this would therefore provide an economic boost to the Cambridgeshire and Peterborough economy of £29 million per year. This figure alone is some 50% greater each year than the investment fund secured by the Combined Authority as part of its devolution deal.

Another particularly relevant consideration is the damage to health and well-being that lengthy commuting can cause. We have heard of many people commuting over 60, or even 90 minutes (one-way) on a daily basis to get to work in Cambridgeshire and Peterborough – indeed, Cambridge has the fastest growing Travel to Work Area in the UK⁶⁵. One of the most damaging effects of long commutes is the way that they impinge upon sleep. This causes a raft of related health problems, including stress, anxiety, and musculoskeletal issues. It also has substantial economic impacts – one report⁶⁶ quantifies the economic cost of insufficient sleep as around £38bn a year to the UK. Around 16% of the UK population get less than six

⁶⁴ <http://www.neweconomymanchester.com/our-work/research-evaluation-cost-benefit-analysis/costbenefit-analysis/unit-cost-database>

⁶⁵ <https://www.cchpr.landecon.cam.ac.uk/Downloads/Cambridge-TTWA-Final>

⁶⁶ https://www.rand.org/pubs/research_reports/RR1791.html - figure given in US dollars, converted at current rates

hours sleep, relative to 9% in Germany. Long commutes can cause other problems – a report by the ONS stated that: “The worst effects of commuting on personal well-being were associated with journey times lasting between 61 and 90 minutes. On average, all four aspects of personal well-being were negatively affected by commutes of this duration when compared to those travelling only 15 minutes or less to work.”⁶⁷ This means that the costs to the economy from high levels of commuting should not just be seen in terms of delays and fuel costs, but also damage to the potential of workers.

We have not had the opportunity to do our own extensive primary research in this area of health and well-being, however, the marked differences between different parts of the Combined Authority clearly suggest that intervention by public authorities, business and civil society organisations is a vital part of the process of transforming the Combined Authority economy. We would highlight the following series of policy challenges and opportunities in particular.

6.2 POLICY CHALLENGES, CONCLUSIONS AND RECOMMENDATIONS

Addressing the Public Health Crisis

The national statistics suggest that the whole of the UK is in the grip of a public health crisis. Our spending as a nation on health and social care is concentrated in a health system which, as important as it is, is responsible for a relatively small proportion of health outcomes. Wider societal factors including poor diet and obesity, sedentary lifestyles, drug and alcohol abuse including smoking are all far more pervasive with their negative impacts on the lives of individuals and communities being felt long before people engage with health services. The question for us as a Commission is whether these factors are particularly important to the economy of Cambridgeshire and Peterborough.

Cambridgeshire performs better than national statistics, Peterborough less so. Within Cambridgeshire, Fenland district performs particularly badly. We believe that there is a strong case for a policy for public health being adopted similar to that of education (where East Cambridgeshire and Fenland are treated as an ‘opportunity area’ and the subject of specific policy interventions).

» KEY RECOMMENDATION #9:

An Opportunity Area for Health, including mental health, should be created in the north of the area, recognising it as being just as serious an issue for social mobility as education. This pilot should be championed by the Mayor, the local health system and Public Health England, and linked to the proposals for the devolution of health and social care.

⁶⁷<http://webarchive.nationalarchives.gov.uk/20160105231823/http://www.ons.gov.uk/ons/rel/wellbeing/measuring-national-wellbeing/commuting-and-personal-wellbeing--2014/art-commuting-and-personalwellbeing.html#tab-2--Key-Points>

Public health budgets, relative to those for primary and secondary care are low. Moreover, it is difficult to argue for the redeployment of extremely stretched resources from within hospital sector to spend on the essentially preventative work needed to improve public health. Cambridge University Healthcare Partners explained to us in their response to the consultation that they are in discussions with Public Health England for the creation of a joint initiative around the Cambridge Biomedical Campus for the development of a partnership to be a regional testbed for a range of Public Health England's prevention and population health programmes. We believe that this is an important priority and one which we wish to see the Mayor and Combined Authority prioritise with the development of partnership with Public Health England turned into a major plank of local policy.

Health and Social Care

The job of tackling the health and social care issues identified above falls to three sets of organisations: local authorities are responsible for adult and children's social care as well as public-health, the NHS Family of organisations responsible for primary and secondary healthcare with Public Health England alongside other national bodies playing an oversight as well as a partnership role. The integration of the myriad organisations involved in health and social care, not least in relation to dealing with challenges such as delayed hospital discharges, has been a source of enormous political focus in recent years, which is why the original Devolution Deal with government concluded as follows:

65. There is appetite to build on these foundations and make further progress on health and social care integration in order to deliver the Spending Review commitment to integrate health and social care by 2020, and to make the most efficient and effective use of public resources to meet the demographic challenges that lie ahead. Integrating such complex services will require re-shaping the whole system, which can only be achieved through careful planning, a shared vision and strong co-operation between local partners. This Devolution Deal signals a commitment to take forward the goal of improving local services and building resilience for future generations.

66. To deliver this shared vision, partnerships between local authorities, the CCG, service providers and other local partners will need to be strengthened significantly. Therefore, these parties will work together, with support from Government, NHS England and other national partners as appropriate, to support local authorities through their Sustainability and Transformation Planning process to set out plans for moving progressively towards integration of health and social care, bringing together local health and social care resources to improve outcomes for residents and reduce pressure on Accident and Emergency and avoidable hospital admissions.⁶⁸

We recommend that there should be a rapid acceleration in the process of taking forward the health and social care integration recommendation contained in the original devolution deal. Cambridgeshire is uniquely well-placed as a location for integrated local health and social care. The presence of a Mayoral Combined Authority, with strong globally successful yet local private health companies alongside a world-class medical university with an Academic Health Network as part of a highly developed health system, combine to give the area the ingredients for a radical approach in this area.

⁶⁸https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600239/Cambridgeshire_and_Peterborough_Devolution_Deal.pdf

➤ **Subsidiary Recommendation ix):** *Work should be taken forward at the earliest opportunity to develop an approach to local health and social care devolution that best meets the needs of Cambridgeshire and Peterborough.*

Good Quality Work

Workplaces are key settings for improving people's mental and physical health, as well as their well-being. By addressing issues such as leadership, board engagement, line-manager capability and training, and by providing good work (with employee autonomy, flexible working and listening employers) there will almost certainly be increased employee engagement and productivity with reduced sickness absence and presenteeism. As well as making good commercial sense, investing in the health and well-being of staff is seen by many as part of an employer's responsibilities.

The cost of sickness absence is outstripped in many organisations by the cost of presenteeism – being at work but unable to function to maximum capacity because of the work environment, poor managerial relations, or unsupported poor health. Thought to be an even greater problem than sickness absence, presenteeism affects business performance on productivity, quality and safety. It is often concealed and unrecognised, mostly revealed through workforce surveys, and difficult to measure objectively.⁶⁹

A CBI report of a few years ago – Getting Better: Workplace health as a business issue⁷⁰ – outlines how businesses can improve the well-being of their staff, and provides a practical toolkit based on the experience of CBI members.

Employee morale, attitude and sense of well-being are critical determinants of organisational performance. Ensuring that employees are committed to their organisation's goals and values, and motivated to contribute to organisational success whilst enhancing their own sense of well-being, depends critically on their successful engagement. It is becoming clear that it is of great importance to staff engagement to have managers who present a clear strong strategic narrative, give their people focus and scope, treat them as individuals, coach and stretch them with an effective employee voice, and display integrity by demonstrating their avowed values in their daily behaviour.

Companies with highly-engaged staff report employees absent on average seven days per year, about half the absence reported in low-engagement companies. In the National Health Service good scores on measures of staff engagement show high correlation with a range of desirable outcomes for patients, with greater satisfaction and lower standardised mortality rates.⁷¹

Turning to mental health, the recent Stevenson/Farmer Review⁷² into mental health in the workplace found that the cost to the UK economy of poor mental health is somewhere between £74bn and £99bn a year. While more work needs to be done into the most effective interventions that employers can make to improve these, the report's authors suggest the implementation of a mental health at work plan, encouraging open conversations, and introducing enhanced standards for some employers, such as requiring provision of in-house mental health support.

Anglian Water is one example of a local company that has put serious focus upon these issues, developing a 'Happier, Healthier, Safer' approach to worker health and well-being, that includes

⁶⁹See https://www.rnib.org.uk/sites/default/files/Working_for_a_healthier_tomorrow.pdf and https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/181060/health-at-work.pdf

⁷⁰<https://www.workandwellbeing.com/wp-content/uploads/2015/07/CBI-Workplace-Health-as-a-Business-Issue-report-2014.pdf>

⁷¹See work by Professor West, Lancaster University

⁷²https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/658145/driving-at-work-stevenson-farmer-review.pdf

but goes well beyond, traditional health and safety issues. This programme has a real focus on influencing behaviours, and shaping a positive working culture where it is safe to challenge unhealthy or unsafe behaviours, rather than simply enforcing rules. Anglian Water has also been a leader in engaging with initiatives to improve workers' mental health.

While this responsibility falls primarily on local business, we believe there are actions local government can carry out to support businesses in creating healthy workplaces. Cornwall is a good example of where this has been done well.

CASE STUDY: CORNWALL COUNTY COUNCIL

Engaging with businesses on worker health can be difficult, particularly in a largely rural area with a large number of small businesses. These companies often don't have the resource to put large amounts of money into worker health and may operate in a culture where this topic has been paid little attention.

But Cornwall, a county with similar rural characteristics to much of our study area, has shown what can be done, with creativity, effort, and dedicated resource. Ten years ago, Cornwall Council appointed a Workplace Health Co-ordinator with the sole remit of engaging businesses to bring about change. After discussions with businesses about what could help, an award scheme was launched, where businesses would be recognised as bronze, silver, or gold for their contribution to worker health and well-being. A framework and toolkit are published, which is regularly updated to reflect new public health initiatives (such as the recent National Sugar Smart Campaign). Businesses who want to participate then assess themselves against criteria relating to ten key areas, including mental well-being, back pain, smoking, alcohol and substance misuse, and healthier eating. After this, an official from the Council visits the business to verify the assessment, and spend time talking to workers, gauging how healthy the workplace is. In order to achieve recognition, companies have to show initiative in all ten of the areas, ensuring that a holistic approach to worker health is embedded.

There are many success stories from the initiative. Ginsters, the savoury pastry company based in Cornwall (and analogous to several of Cambridgeshire and Peterborough's large food companies), runs an on-site gym, has on-site health checks, and runs multiple events throughout the year to promote health awareness. A director commented: "We recognise that employees perform at their best when they are happy and healthy, and that optimal employee performance is necessary for the company to be a leader in its field." Another smaller company managed to reduce sickness rates by 10%, saving £20,000, which was put into further worker health initiatives. In one construction company, twelve members of staff managed to lose six stone between them over twelve weeks, leading to higher morale and better output. These examples demonstrate that an interest in worker health is not "nice to have", but can have transformational productivity benefits.

The best thing about the initiative is that businesses actively want to participate, with the list of companies involved having grown to over 300. The annual award event is always oversubscribed, and several spin-off events, including those where businesses themselves present on the benefits they have felt from improving worker health, have been launched. Actively participating in this scheme is of clear benefit to these businesses as not only do they experience the productivity returns of having healthier workers, but they can be recognised for good employment practise. The events are also a chance for local business networking, helping to create the healthy business culture which is sorely needed across Cambridgeshire and Peterborough.

The scheme goes from strength to strength, and the Council's team has now grown to three members. Furthermore, for businesses in the gold category a mentoring award has been set up to encourage them in helping other companies, giving further chances for productivity improvement and business to business engagement.⁷³

One of our Commissioners, Dame Carol Black, who has written independent reviews for government on this topic, has started by bringing together some local East of England stakeholders; public and private; large, medium and small. This initiative hopes to get some baseline data in order to have a platform from which to improve. The joint public health function between Cambridgeshire County Council and Peterborough City Council would be very well placed to help take this work forward.

➤ Subsidiary Recommendation x): *The Combined Authority should support and expand existing initiatives to work with employers and stakeholders of all sizes to gather more intelligence on the issue of workplace health and to frame recommendations for action. These are likely to include the nature of workplaces, monitoring of health, and work flexibility.*

⁷³For more information, please see <https://www.behealthyatwork.org/>. With gratitude to Rachel Faulkner for the material for this case study.

7. Early Years, Education, and Skills

Our interim report set out a range of findings in relation to skills and human capital. Our view, based on extensive international evidence, is that human capital is the most important factor in driving labour productivity which in turn, is the most important factor in the development and maintenance of the successful economy. We have already looked at one salient element of human capital – health. Now we turn to education and skills.

We make no apology for repeating some of the findings identified in our interim report in this, our final report. We go further here, examining new information made available to us and using all the information and analysis as we have to provide a basis for our policy recommendations.

7.1 EARLY YEARS AND PRE-SCHOOL PROVISION

In the last section we looked at the preventative indicators relating to poor health. Several of these concerned the earlier stages of development in the lives of young people. Unsurprisingly, there is an extensive literature on how important early years education is both to the success of young people in later life and to the prevention of health problems. We must not underestimate the impact that early years provision can have on economic and social well-being.⁷⁴ Indeed, just as in relation to health there is an extensive literature on how health outcomes have largely social rather than medical determinants, we believe there is a case for examining the social determinants of education service to investigate whether a more structured form of support for the early years may be justified.

The evidence we have found on the Combined Authority area whilst conducting the review is mixed and inconclusive, but we can point out some facts and make some suggestions.

Pre-school provision looks on the whole to be better in Cambridgeshire and Peterborough than the English average:

Table 5 – Proportions of pre-school establishments falling into various Ofsted categories

All forms of childcare provision			
	% Outstanding	% Good	% Good or Better
Cambridgeshire	24	71	95
Peterborough	21	76	97
England	18	76	94

Source: Ofsted

⁷⁴ See for example <https://www.britac.ac.uk/sites/default/files/Edward%20Melhuish%20-%20The%20Impact%20of%20Early%20Childhood%20Education%20and%20Care%20on%20Improved%20Wellbeing.pdf>, https://www.ifs.org.uk/docs/ee_impact.pdf

In terms of quality of childcare, Cambridgeshire and Peterborough outperform England in most categories. We have no data on the numbers of children in different types of pre-school provision. Childcare is important but so too is more supported provision. The service to assist parents outside of formal childcare developed over recent years was Surestart, which was originally intended to support at risk and disadvantaged parents and their children but became a mainstream service. The service was formally abolished under the coalition government but there remains support for the principles behind Surestart in Cambridgeshire and Peterborough. We have been told that provision remains, though we understand it is patchier than previously.

We have received comments from education professionals and others that more investment in this area could be an important factor in improving the life chances of people in deprived areas and well-being of deprived communities. We agree as the academic evidence is clear on this: investment in early years provision yields better results than interventions later in life. We were made aware during consultation that some schools feel there is a particular issue with young people arriving at secondary school without the basic numeracy and literacy skills to enable them to cope. Secondly, although the provision of preschool education is high, it may be the case that it is biased towards play rather than formal education, something which hampers the preschool to school transition for young people (a specific comment made to the Commission). This would be consistent with the findings from the Institute for Fiscal Studies cited above which found that educationally-centred preschool intervention was more effective.

In our view early years is too important to be left for debate solely among educationalists and so seemingly far away from the centre of the economic debate. It is a health issue, a societal issue and therefore it is an economic issue.

» KEY RECOMMENDATION #10:

Further research should be undertaken on the potential impact that increased Surestart-style provision could have, particularly in more deprived communities and with hard-to-reach groups. Similarly, further research on the nature and availability of preschool education is important and we would recommend that a further Commission be undertaken in this area. This Commission should be given a wide brief, and work with Higher Education Institutions (HEIs) in the region to look at:

- **the steps needed from early years through school to close, and eventually to eliminate educational disadvantage**
- **not just at individual and school performance but at the wider set of conditions and institutions serving the more deprived parts of Cambridgeshire and Peterborough.**

7.2 THE SCHOOL SYSTEM AND THE EDUCATIONAL PROFILE OF CAMBRIDGESHIRE AND PETERBOROUGH

Our interim report highlighted that educational outcomes across the area are variable. Data produced at a higher-tier authority level suggests Cambridgeshire is generally ahead of the England and East of England averages on various measures, while Peterborough is behind. Performance is highly variable within Cambridgeshire. For example, in the most recent analysis, East Cambridgeshire and Fenland ranked 241st and 308th respectively out of 324 local authorities in England. This is one principal reason why Fenland and East Cambridgeshire was designated a Social Mobility Opportunity Area.

The delivery plan for the opportunity area has four priorities, one of which is to focus on raising the aspirations of young people regarding their final careers. Lacking aspiration is something which was noted as a problem by some councillors during consultation.

Though we received relatively little feedback on this issue, our view has crystallised around a series of conclusions.

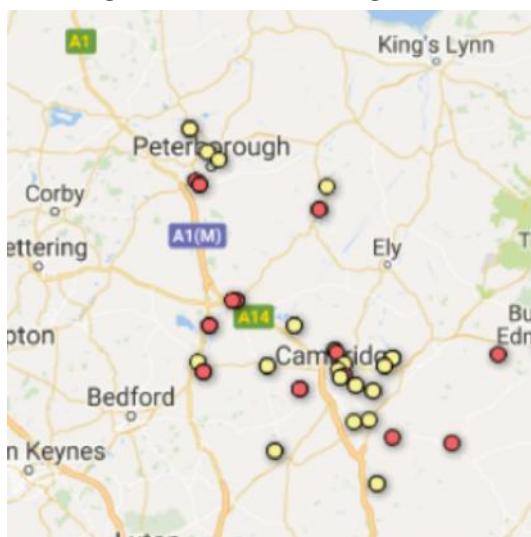
Building on the points on early years above, we conclude that the education available to the young people of Cambridgeshire and Peterborough is too unequal, with those in deprived areas much less likely to get the start in life they need to maximise their life chances and their contribution to the economy and society. Though a start has been made through the Social Mobility Opportunity Area, we are not convinced that this is yet being developed at a scale and pace needed to close the deep and long-term gaps in educational performance. Because we view this differential educational performance as being rooted significantly in wider social determinants, we recommend that the Commission described above be given a wider brief too, looking at the steps needed from early years through school to close and eventually to eliminate educational disadvantage.

We noted the progress made by Thomas Clarkson Academy in Wisbech in our interim report. We subsequently visited the Academy and were impressed by the work underway there. The leadership of the School is making great progress. GCSE results were at record levels this year, with about half of all students staying on for Sixth Form (the Sixth Form is relatively new and therefore smaller than might be expected). But like other schools, there is a pressing need to increase teacher numbers, particularly in areas with high levels of migrants with English as a second language.

The struggle to recruit and retain teachers has been recognised as an increasingly acute problem right across the area. In a report by RAND Europe⁷⁵, it was noted that "teacher shortages are a real threat for Cambridgeshire". Various causes for this were identified. One was that in general, teachers in Cambridgeshire are paid less than the national average, with a pay distribution that is more skewed towards lower values. Additionally, expensive housing in some parts of the area and a larger than average proportion of jobs being part-time may be deterring teachers from beginning their career in Cambridgeshire. At the same time, there are higher rates of retirees than the national average, diminishing the overall population of teachers.

⁷⁵<https://www.rand.org/randeurope/research/projects/attracting-and-retaining-teachers-in-cambridgeshire.html>

Figure 28 – Teaching schools (yellow dots) and National Leaders of Education (red dots) in Cambridgeshire and Peterborough



Source: Cambridgeshire County Council

During our consultation we were also alerted to the distribution of teaching schools (those which train teachers) and National Leaders of Education in the region. The map above shows the distribution and the relative absence, particularly in the centre and north of Cambridgeshire, of these beacons of good practice which are now an important part of the fabric of mature educational communities across the country. We note that here too as in a range of other education and social factors we have examined, the relative weakness of some parts of the Combined Authority area. That is why we also recommend that the Commission should look not just at individual and school performance but at the wider set of conditions and institutions serving the more deprived parts of Cambridgeshire Peterborough. Specifically, we think that the terms of reference should include:

- The scope for providing incentives both for locally educated graduates to enter and stay in teaching and for the attraction and retention of high-quality teachers from outside the area through (for example) Teach First. The incentives should extend to supported housing provision, pay supplements and golden handshakes/handcuffs
- The scope and options for improving sixth form facilities in areas that currently are underserved
- The options for improving vocational routes into work
- Other infrastructural requirements including the designation and support for Teaching Schools.

We believe that the outcome of this new Commission could well be the development of proposals for a significant reshaping of the educational system of parts or all of Cambridgeshire and Peterborough. In our view this would be likely to form the basis of a proposal from the Mayor for the devolution of education along with supporting national government funding for a London (educational) Challenge-type initiative and support.

7.3 SKILLS AND TRAINING

We highlighted in our interim report the central importance of skills to growth. In a Centre for Cities study which considered the economic progression of every UK city from 1901 until 2011, it was concluded that “skills are the most important factor determining long-run urban success”⁷⁶. Recent publicity around the slow growth of productivity in the UK has drawn attention to the extent to which a dearth of skills in a wide range of disciplines is hindering the UK’s competitiveness and growth. The government has rethought its approach to adult skills recently and plans to bring in new T-levels (technical skills qualifications) shortly. One of the four key recommendations from the recent Made Smarter Review into how the UK could seize the opportunity of the digitisation of industry is “Upskill a million industrial workers to enable digital technologies to be successfully exploited”⁷⁷. As disruptive technologies continue to transform our workplaces, sectors, and outputs, those areas which have the workforces to successfully integrate them into production will succeed.

Our earlier consultation using employer surveys and engagement revealed widespread discontent among businesses with the skills system, the lack of incentives for schools to provide accurate information that enables young people to make decisions on their vocational education and training and the need for high-quality education and training provision, particularly in relation to vocational skills. We have heard views expressed from employers that the introduction of the Apprenticeship Levy has hindered, rather than helped, in this ambition, due to the difficulty of finding providers and accredited programs to benefit employees, and the lack of flexibility in its usage for wider training needs.

We commissioned a study as part of the review to look further at the available data.⁷⁸ The study focused on Industry sectors particularly relevant for the labour market of the Combined Authority area. It focused on the life sciences, information in communications, health and social work and construction. The study sought to examine: the level of skill demand, the main causes for difficulties in meeting demand, what employers are doing to meet demand and the impact of skills gaps on employers.

The study concludes that the Combined Authority area has a similar share of vacancies and hard to fill vacancies as the rest of England but that these vacancies have a greater impact on employers in this area, particularly in the Life Sciences and Construction sectors. The study notes that one potential solution is to provide more opportunities for upskilling the local workforce, not least since the Combined Authority area is characterised by employers that ‘do not engage in the provision of training to the same extent as businesses in the rest of England’. There is a particularly acute problem as further demand is projected in professional and knowledge intensive roles in occupations that are critical for business growth. This is not to say that there is no problem at the lower end of the market – Cambridge ranks in the top 7% of all the areas reporting hard to fill vacancies for elementary staff.

⁷⁶ Centre for Cities: City Outlook 1901

⁷⁷ Made Smarter. Review 2017=

⁷⁸ Skills demand in the Cambridge area, attracting and retaining skills. RAND Europe

CASE STUDY: STAINLESS METALCRAFT LTD

Stainless Metalcraft Ltd are a high-grade manufacturing company based in Chatteris, a market town in the fens. The company was established in 1864, and started business by exporting extraction machinery to diamond mines. The company moved on to produce some of the first ever MRI machines, and continue to supply Siemens with technical parts for these machines. It is estimated around 4.5km of the CERN hadron collider was produced in Chatteris, and the company now has contracts to produce nuclear waste containers for the decommissioning of nuclear facilities at Sellafield.

The company's area of operation, however, is not recognised as an engineering and manufacturing hotspot, being more generally associated with agriculture. So how has the company found the staff it needs for its highly-technical work?

The answer lies in the strength of the company's training programmes. Just under half of the company's 150 employees have been through its apprenticeship training programme, which has been recognised as one of the top 100 apprenticeships on offer in the UK⁷⁹. The programme lasts five years, and employs mostly local people. The company report that, not only is this the most effective way to produce the staff they need, but that it breeds loyalty in the staff – over 90% stay on in the company.

In an area of the country which has been noted for its lack of in-work training, Stainless Metalcraft are an exemplar of a company bucking the trend. As well as their work in skills, we were very encouraged to see their eagerness to engage with the Commission and local government, as well as other local bodies (for example, they run engineering workshops for school children in partnership with the University of Cambridge). It is this kind of activity which fosters the business culture which needs to be reinforced across Cambridgeshire and Peterborough.

In other words, this admittedly limited insight into the employment and skills patterns found in the Cambridgeshire and Peterborough area finds a far from satisfactory picture⁸⁰.

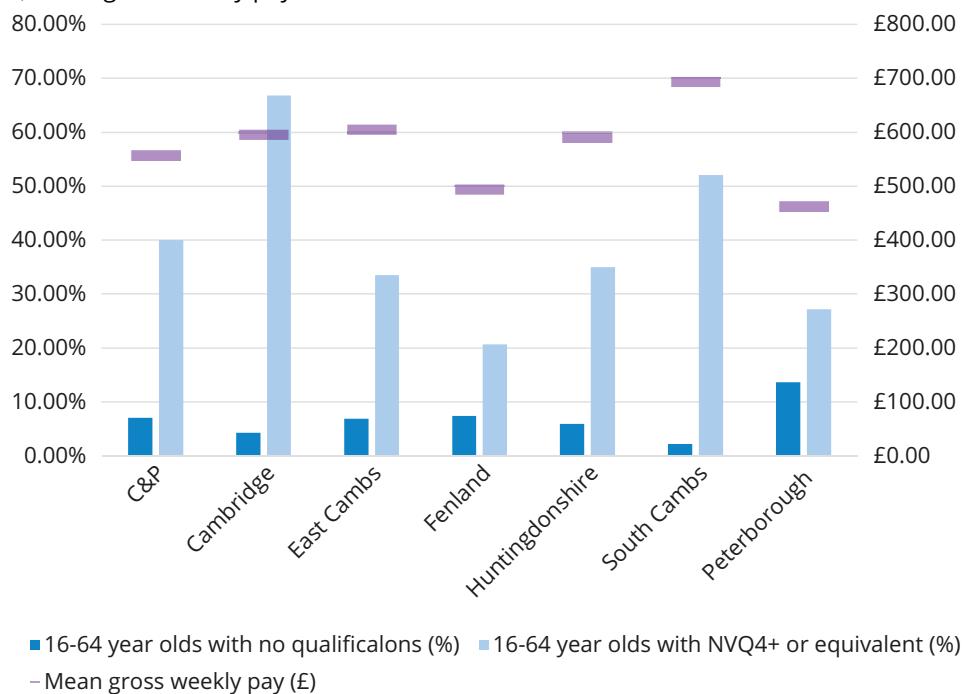
Within Cambridgeshire and Peterborough, there are large differences in qualifications held by individuals. Figure 29 shows that to the north and east of the county, there is a higher prevalence of individuals holding no qualifications – particularly in Peterborough, at 13.6%. This is as low as 2.2% in South Cambridgeshire. At the top end, there are also big differences – unsurprisingly, Cambridge has the highest proportion of individuals with NVQ4+ or equivalent qualifications, due to its large academic population, followed by South Cambridgeshire (52.1%). Fenland performs particularly poorly on this measure – only 20.7% of its population have this level of qualification.

The link to earnings for individuals can be clearly seen. Across the districts there is a strong positive correlation (0.66) between rates of NVQ4+ qualifications and earnings, and a very strong negative correlation (-0.88) between rates of individuals with no qualifications and earnings. There is therefore strong a priori reason to conclude that one of the main foci for improving economic outcomes, particularly in areas where they may be falling behind, is to improve skill levels.

⁷⁹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/674924/Top_100_Apprenticeship_Employer_List_2017.pdf

⁸⁰For more details on the skills profile, please see the Interim Report www.cpier.org.uk/interim-report

Figure 29 – Proportions of individuals aged 16-64 with no qualifications and with NVQ4+ qualification or equivalent; mean gross weekly pay



Source: Annual Population Survey; ONS Jan-Dec 2016, Annual Survey of Hours and Earnings (ASHE) ONS 2016

The priority of improving the skills of the workforce in Cambridgeshire and Peterborough is evident from these data. That said, the data earlier highlighted skills issues at the top end of the labour market, including in occupations of the sectors of the economy that highly internationally traded and where Cambridge in particular is highly competitive. These data probably do not reflect a skills problem alone. The cost of housing issue described elsewhere in this report plays a more prominent if not decisive role in limiting the availability of talent.

Annex 2 sets out the last three years data on learning enrolments in the Cambridgeshire and Peterborough Combined Authority area. The statistics show that there has been an 18% fall in the number of enrolments, or 22,800 fewer starts on courses. That reflects falling budgets from central government but nonetheless it seems inconsistent with the skill needs of the area. Our analysis of the 110,400 starts that there were in 2017 and how these have changed is also revealing.

Enrolments on courses on Information and Communication Technology have fallen by 42%, those on IT practitioners courses by 23%, while there has been a 14% fall in manufacturing and 12% in business studies. There were falls in all manufacturing and engineering areas, all ICT as well as all arts, media and publishing courses. By contrast the have increases in the number of starts in relation to health and social care and the biggest increases have been in public services with a rise of 27% and administration of 33%.

The Commission has not had the time or resources to undertake more fundamental analysis of the relationship between job and skills demands and supply but it is difficult to read these figures and conclude that the available public funding is being best used to support the existing parts of the economy for those in growing sectors.

The only reasonable conclusion that the Commission can draw from this and all the other evidence it has seen, is that Cambridgeshire and Peterborough has a long-term skills deficit arising in part from poor education and skills formation due to failures in the vocational training system, alongside incentives on employers to train and a willingness to do so which are too weak. Elsewhere in this report we discuss the vital role of housing and infrastructure in improving productivity. But without a major reinforcement of the stock of human capital these can have a limited impact if, as we suspect, this is a system rather than a local issue. Put simply, it looks very much as if a lack of adequate skills and of training is a major brake on productivity and therefore the expansion of the Cambridgeshire and Peterborough economy.

Our analysis of the skill system leads us to conclude that the Mayor and Combined Authority do not have meaningful purchase on the skill system such that they can effect material change in provision. The Mayor and Combined Authority only have responsibility for the very modest Adult Education Budget (AEB) with little or no traction on the 16 to 19 training budget or the apprenticeship system. As we understand it the request for devolution of skills funding was part of the proposition to government in the initial devolution. This was rejected. The Mayor and Combined Authority continue to believe that devolution of these powers and resources is important for the future of the Cambridgeshire and Peterborough economy.

» KEY RECOMMENDATION #11:

The government should enter into meaningful conversations with the Mayor and the Combined Authority early in this parliament and that devolution of all skills funding be agreed as part of a second stage devolution deal.

The apprenticeship system has encouraged employers to take a closer interest in training. Nonetheless, we have seen no evidence to support the argument that this and other initiatives undertaken by the government will close the skills gaps identified above. Not all the burden of responsibility for training can or should fall to the state or indeed to individual learners. We believe employers have a vital role to play. In our analysis of industrial policy elsewhere in this report, we consider how groups of employees either in industry sectors or to supply chains might be encouraged to support one another in collaborative working on issues whether spill over benefits of investment can be mutually realised. The focus there was on innovation, but the same argument applies to skills.

» Subsidiary Recommendation xi): *The Mayor and the Combined Authority should jointly support pilot initiatives with one or more key sectors of the economy to encourage employers to bring forward new and innovative proposals for increasing the skills supply with public funding used to pump prime new employer-led provision.*

7.4 EMPLOYMENT AND JOBS

The focus of the business section of our report is, rightly, on the role of the regular labour market and of private and public sector employers in generating successful businesses and services and generating jobs. However, elsewhere in this report we have considered the importance of inclusivity: of ensuring that growth does not bypass whole parts of the Combined Authority area and communities within those places.

Under the terms of the devolution deal, the Mayor now has responsibility for co-commissioning the work and health programme, an important stepping stone in securing local traction over welfare to work policy.

However, this programme is relatively small and focused on the more job-ready among the longer term unemployed. It seems likely to us that there may be scope for other interventions, particularly focused on parts of the area where deprivation is highest and labour market attachment, lowest.

In a recent research paper, the Cambridgeshire and Peterborough Combined Authority considered an approach which might focus on three different elements of inclusion:

- **Equality of opportunity within the labour market (demand)**

- Whilst influencing the *sectoral structure* of the labour market through infrastructure investment and promotion of growth sectors / clusters targeting jobs offering a *quality employment* (medium to high level of income) implementing policies on the labour supply side to help link residents with the new employment opportunities

- **Reducing exclusion from the labour market (supply)**

- Supporting specific groups to re-enter the labour market including promoting social responsibility amongst employers

- **Building connectivity**

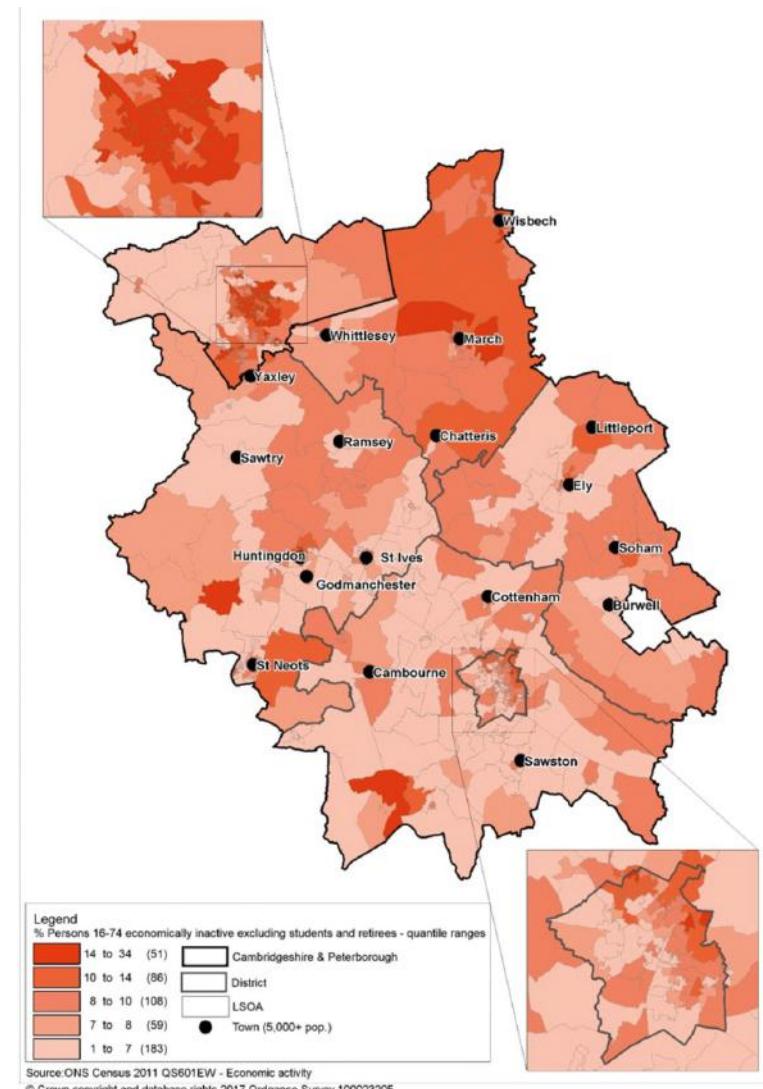
- Enabling people to access employment opportunities by providing physical connections, public transport, routing / pricing and developing neighbourhoods to ensure easy and convenient access to employment.

We believe this is an excellent framework with which to consider how traditionally hard to reach groups and indeed others might be better connected with the labour market.

We made the point that there is a large potential saving if the ESA rate in the Combined Authority area could be reduced to the UK level. That will not be easy, and in our view is unlikely to be achieved by standard welfare-to-work programmes however well designed.

Given the Mayor's objectives of ensuring every part of the Combined Authority area benefits, we think there is merit in investigating what further can be done to support communities where the market attachment is at particularly low levels.

Figure 30 – Percent of people aged 16-74 who are economically inactive, excluding students and retirees, in lower super output areas (LSOAs) in Cambridgeshire and Peterborough, Census 2011



Source: ONS Census 2011 Table QS601EW

We asked local authority analysts to examine the data on the working age population and isolate the likely cohort of people in Fenland and Peterborough who are not active. The number of economically inactive adults in excess of the Combined Authority average is around 7200. Amongst the many people in this cohort with limiting long-term disabilities are likely to be a number of the long-term discouraged workers with poor employment track records, seasonal working low skills and expectations. Whilst estimates vary on the full costs of long-term ESA recipients, they are unlikely to be below £10,000 per annum per person. Given that the cost of a full time living wage job is £14,250 there is a case for examining the creation of temporary training jobs for the very hardest to help. In our view, a message from the Combined Authority that it was doing everything in its power to get jobs for the most traditionally disenfranchised communities could be particularly important in conveying the message that Cambridgeshire and Peterborough is changing for the better, creating opportunities for people even in the most deprived situations. We therefore propose that further work is undertaken on the feasibility of new programmes of activity in this area.

7.5 HIGHER EDUCATION

We highlighted in our interim report that Cambridgeshire and Peterborough has one of the most successful universities in the world in its area. Cambridge University, in addition to its educational excellence, is a major employer with some 12,000 staff, and has secured some £1.6 billion in follow-on funding for University spin outs in the last 20 years, spawning nearly 5,000 knowledge-intensive companies in the area. It is also a major investor in the future development of the area – such as the development at Eddington.

The area also has Anglia Ruskin University, also based in Cambridge, which, in partnership with Peterborough Regional College, has created University Centre Peterborough. Anglia Ruskin is a leader in career-based courses, and has been identified by the Good Universities guide at having UK top-10 level teaching in Philosophy, Sport Science, Criminology, Sociology, Electrical and Electronic Engineering and Business Studies.

Despite this enviable level of provision in a single area, access to higher education is uneven across Cambridgeshire and Peterborough and the educational attainment figures for areas relatively close to but economically distant from the centres of education suggest that more could be done to create pathways between local communities and higher education.

We noted in our interim report and strongly agreed with the need for the development of a new University in Peterborough. The consultation we undertook on the interim report confirmed the widespread agreement there is to this important project. Both we as a Commission and the consultees who responded agreed that the purpose of the University in Peterborough ought to be strongly rooted in the local and sub regional economy. This should mean drawing on existing strengths in manufacturing and engineering – as one study⁸¹ notes, the local economic benefits of university research tend to be magnified when local firms are ‘technologically close’ to the university. As the UK moves towards the digitalisation of industry, new types of jobs are being created at the interface between manufacturing and IT. Artificial Intelligence is also likely to revolutionise manufacturing. There are niches to be found here, and we were pleased to hear in our conversations with local businesses that they would be keen to support. Water management is another area where Peterborough has specialisms, and is particularly relevant for fen areas. We warn those planning for the university to resist the temptation to try to develop an outstanding university on a shoestring – any such institution will require high-levels of investment in advanced machinery to be credible. Putting clear financial heft behind the proposal and hiring excellent people from successful universities will be needed to prevent the university from languishing in mediocrity, or failing given the present apparent increased supply of university places relative to demand.

► Subsidiary Recommendation xii: *High levels of investment are needed to ensure Peterborough University is a success, alongside a clearly defined offer centred around subjects which both integrate with the local economy and embrace new technologies.*

There is scope for a better dialogue between higher education and the political and economic leadership of the Combined Authority area. We do not believe there is an existing forum where any or all the universities can work with the Combined Authority to ensure that the full

⁸¹ See https://www.mitpressjournals.org/doi/10.1162/REST_a_00357

benefits of the higher education sector are felt and the opportunities to build on the academic strengths of the higher education sector fully grasped by the Combined Authority either. Following receipt of this report, there should be specific and dedicated time set aside for the academic and political leaders of the Combined Authority area to begin a new form of partnership aimed at identifying common interests and ensuring that they are secured for the long-term benefit of the area.

7.6 HUMAN CAPITAL AND PLACES – A SYNTHESIS OF THE COMMISSION’S VIEW

Every part of Cambridgeshire and Peterborough has its attractions, amenities, and economic and social strengths.

Our conclusion is that the health and education statistics reveal outcomes and life chances which are too different. The patterns of deprivation we find are not conducive to growth. There are such significant concentrations in some parts of the Combined Authority area that it is not unreasonable to conclude that these areas are blighted by poor educational outcomes, poor health and low incomes. We believe this is such a significant issue, and these issues are so long-standing, that it seems plausible to conclude that these factors alone mark a very significant barrier to economic progress within some parts of the area. We saw earlier how success in this area is vital to growth spreading. Tackling these difficult issues is central to it spreading where it is needed most.

Low levels of education and skills seem to skew the employment base in some of the economically weaker parts of the area, particularly in the market towns of the fens. These are long-standing patterns that arise from the traditional nature of the industries, above all agriculture, located in these areas and would require the strongest and most sustained programme of family-based education and social support. Tackling this issue alone is likely simply to lead to further out-migration. A greater mix of work opportunities is needed to make places feel more prosperous such that more of those who have the option of leaving choose, instead, to stay, and that those moving from elsewhere choose to locate in these areas.

Improving the levels of income in market town and rural economies in particular is an important priority. Concentrations of poverty reduce levels of spending in the local economy meaning that the retail, service and entertainment offer is weaker. This reduces the level of amenity to local residents and sends a signal to potential incomers as well as those who have the ability to leave that the area is less prosperous and possibly, therefore, less attractive. That is why the industrial policy and economic policy considered earlier in this report are so important for market towns and rural communities. Getting higher productivity jobs and improved services into places, making them feel stronger and more vibrant, are closely interconnected.

These are also prerequisites for the development of more vibrant housing markets in many communities. The weakness of the economy depresses house prices, skews the offer towards a lower quality housing mix and discourages the development of higher value housing as prevailing values do not support the development of more aspirational family housing.

Our view is that these factors are mutually reinforcing in market towns and rural communities. We do not believe that the integration of these towns into a wider and more prosperous Cambridgeshire and Peterborough economy will be possible without traction on these issues. Indeed, we would argue that the three distinct areas of Cambridgeshire and Peterborough which we described in interim report are in significant measure a result of the factors described here. Clearly, the existence of a variety of places is one of the great strengths of Cambridgeshire and Peterborough and one which should be developed. But spreading the wealth throughout Cambridgeshire and Peterborough will not come easily and will not be brought about in the first instance by better connectivity alone. On the contrary, a transport-only or transport-led approach could have the effect of cementing the functional roles of some places as being particularly strong and others is relatively weak. By starting with the socio-economic factors that we consider here, transport could play a role in ensuring that the people who live in every part of the area have the ability to be part of well-educated and healthy, vibrant communities.



8. Market Towns

Throughout this report, we have attempted to give a balanced picture of the whole area looking at concerns for all different parts of Cambridgeshire and Peterborough. But there is a historic tendency to focus solely on cities, due to their larger populations and higher levels of output. We think this tendency means that the market towns of Cambridgeshire and Peterborough have often been overlooked. These settlements house almost 25% of the population of Cambridgeshire and Peterborough, and for many are the primary locations for work, social interaction, retail, and leisure activity. However, this importance has not, historically, been recognised in economic strategy: whereas cities have been subject to extensive analysis, market towns have not been. Often this has rested on the false presumption either that market towns are all alike, and therefore not in need of a bespoke approach, or that little can be done to change their fortunes.

They are also an area of concern for many, and something on which we have had many submissions. There is a clear worry that many of the market towns are in danger of stagnation, as economic activity drifts towards larger centres, and populations age, not being replaced at the bottom end by younger newcomers. Undoubtedly, there are economic trends which are not kind to small towns: decline of traditional industries and the rise of 'footloose' technological industries; the rising importance of the knowledge economy, with its emphasis on proximity to, and collaboration with, other workers from a wide spectrum of disciplines; an increasing preference among the young to live in urban environments; online shopping replacing the traditional high street; and a declining importance in arable land ownership for economic power since the industrial revolution.

But we do see some market towns bucking this trend. Huntingdon, for instance, has good employment opportunity, bringing people to live there for work. It has successfully nurtured a cluster for the composites industry, and attracted other large companies to set up there, giving it high-value business. Ely is an increasingly popular destination to live in for Cambridge-based workers, which has brought economic benefits to the town. The picture is clearly not a consistent one.

To understand more about some of the challenges facing market towns, the Commission has spent time in Wisbech, March, Ely, and Huntingdon. Wisbech, one of the largest of the market towns, offers valuable lessons in the challenges market towns face, and what can be done to combat them.

CASE STUDY: WISBECH – A TOWN IN TRANSITION

Wisbech is a historic town with a proud history. Its role as a port town for the grain industry made it a national centre for the corn and grain trade in the 18th and 19th centuries. Its role in the production of flowers (most famously roses, as exemplified by the Wisbech Rose Fair) and fruit brought income to the town. The North Brink of the river was described by the architectural historian Nikolaus Pevsner as “one of the finest Georgian brick streets of England”, and it contains a remarkable 278 listed buildings. Its more famous children include Thomas Clarkson (leading light of the slavery abolition movement) and Octavia Hill (founder of the National Trust).

However, in more recent times, Wisbech has undergone a difficult period. As the value of agriculture produce has fallen, poverty rates have increased in the area. Many shops on the high street have closed, and the retail and cultural offer has deteriorated. The cutting back of the railways across the UK was particularly unkind to Wisbech – where it previously had three railway branches (which provided inspiration to Revd. Awdry, the author of the Thomas the Tank Engine series, who lived in nearby Emneth for a time) it now has none. Wisbech has also attracted high levels of migrant labour from Eastern Europe to work in the farming and food processing industries. While this has brought benefits to the town, concerns have been raised about the quality of life for many of these migrants, with police investigations uncovering exploitative gangmaster behaviour, and overcrowding in houses. The town has also been subject to unkind media coverage, which has not helped with its image. The main high school, Thomas Clarkson Academy (previously the Queen's School), is realistic about many of the challenges facing its young people – only a third of students who arrive at the school meet the national standards for Key Stage 2 English and Maths, and many have parents doing multiple jobs, reducing the opportunities for education in the home. Health outcomes are worse than average in Wisbech, with higher rates of hospital admissions in relation to coronary heart disease and lung conditions.

But there are positive signs that Wisbech is taking responsibility for its future, and change is beginning to happen. The Thomas Clarkson Academy has a smart new facility, and new management has made changes to improve the quality of the educational offer. This has included setting up a sixth form, where previously students would have to travel 45 minutes on a bus to get to King's Lynn. Consequently, studying A-levels has become a much more feasible option for students, and the school is working hard to raise aspirations by highlighting the achievements of those students who have achieved places at Russell Group universities. A previous approach of focusing mainly on year 11s to get good GCSE results has been replaced by one that focuses on attainment from the very start of Key Stage 3. The impacts this has made has been recognised by Ofsted, with improvements in six areas at the last inspection. The school now employs a full-time careers advisor to help pupils map out future careers.

The story of the school also illustrates a growing collective pride in the area. The Principal noted that there was a real collective will for the school to succeed, and increasing

support from parents. Other organisations, such as the Rosmini Centre, have helped to facilitate integration of international migrants by teaching English and running community cafés. The Commission is also encouraged to note the ambition of councillors for the town, with the Wisbech 2020 strategy setting out an ambition for many new homes, new schools, and boosting the agrifood sector. Initiatives such as the new Boathouse Business Centre have proved successful, with occupancy rates increasing to 90% within six years of opening.

Some of the challenges Wisbech faces are deep rooted, and will take time to deal with. We also believe that further action can be taken to support the transformation of Wisbech. Upgrading the A47 seems to the Commission to be the most urgently needed transport upgrade – Peterborough is the nearest large economic centre, some links already exist, and easier access to the city will provide further employment opportunity and reduce the perception of Wisbech as ‘cut-off’. The Commission also believes that, with the rich cultural heritage of Wisbech, more can be done to establish it as a tourist destination. Investing in producing materials for the marketing of Wisbech, and developing cycle routes, parks, and other tourist amenities, would be helpful steps. This could tie into a broader piece of work to ‘rebrand’ the Fenland district. Such changes can offer high cost-benefit ratios by changing perceptions, moving the town onto a different economic trajectory.

Wisbech has also been the subject of further economic review, with the Cambridge Centre for Housing & Planning Research producing an analysis of the travel to work area. This recommended a focus on developing local skills, supporting business by developing business networks, and providing the best environment for investment by implementing placemaking approaches.⁸²



North Brink, Wisbech

⁸²<https://cambridgeshireinsight.org.uk/wp-content/uploads/2017/08/Main-Report-Wisbech-TTWA-Economic-Analysis.pdf>

8.1 THE NEED FOR A STRATEGY

Market towns are in some ways in more of a need of a strategy than cities, as cities can be flexible and specialise in multiple areas, whereas market towns need a more focused approach if they are to thrive. Only having one or two major industries also increases the risks to market towns, due to changes in the economic wind; whereas cities, which tend to be more diverse, are generally better able to absorb wider changes.

One international example of a town that has been able to adapt to change well is Rochester, New York. Rochester started out milling flour, where its position on the Erie Canal gave it an advantage. Later on a company started producing monocles, and it gradually became a centre for optics. This gave it the ability to birth large companies such as Eastman Kodak, and Xerox. But for each Rochester, there are many smaller towns which have failed to adapt, and lost their economic purpose.

The Commission is therefore very encouraged to note the proactive approach being taken by the Cambridgeshire and Peterborough Combined Authority to produce market town 'masterplans'. These are not 'masterplans' in the formal planning sense (though planning considerations are part of them) but they are to present an overall strategy for the area. The first of these, for St Neots, has been produced, and funding has been committed for a further nine masterplans. The St Neots plan is an encouraging example of co-operation between the Combined Authority, Huntingdonshire District Council, and St Neots town council, and shows the kind of joined-up thinking that is required at a town level. We now look at how we can ensure that the potential of these masterplans is realised.

Recognise the Different Economic Roles that Different Towns Play

Every market town is unique, and hence there is real benefit in an individually tailored plan. But it is helpful to 'zoom out' and recognise that there are different categories of market towns, which take on different roles in their local economies. Before the advent of transportation technology, market towns were about a day's walk apart, meaning that for all of the surrounding area, a market town would serve as a hub for all commerce and society. That has changed, meaning some have remained hubs, whereas others have become more dependent upon other market towns.

We think there would be value in bolstering the work of the masterplans by carrying out an area-wide review of the roles that market towns are playing. This would give a clearer view as to how different towns are interacting with each other, and with larger urban centres, as well as drawing upon examples of market towns outside the area as useful comparators. This could look at factors such as:

- Resident population – Age profile, employed vs. not employed and social mobility
- Education – Schooling success
- Labour market – Economic activity and employment

- Health and care – General health, causes of death and health services
- Entertainment – Leisure-related services and commuting
- Personal well-being – Happiness
- Domestic and commercial property – Availability, prices and rents
- Business property – Availability, rents and rates
- Commuting flows – Inward and outward commuting
- Living environment – Deprivation, crime and services available.

This would then allow for a classification of towns, to provide insights into the economic roles they are playing. Different typologies of market towns have been put forward, for instance in studies on market towns in Wales⁸³, or the East Midlands.⁸⁴ We suggest that a simple categorisation, could be helpful, for instance along the lines of four groups:

Local Centres (focal points)

These are larger market towns that act as employment and service centres for a wider geographical area. They tend to offer employment opportunities for the resident population and to attract work commuters from their immediate area. These centres, which might also appeal to in-commuters for shopping and other leisure-related activities, are generally well connected to nearby areas.

Cultural Centres

These are centres that have largely preserved their character as traditional, historic market towns. Among their distinguishing feature is a strong culture with a high sense of community. Compared to larger market towns, where retail outlets typically belong to national chains, these towns are likely to host a number of local and independent shops.

Residential Centres

This category comprises market towns with a relatively large population but limited employment opportunities. These towns tend to be part of a wider Travel to Work Area (TTWA) and to depend on other centres for employment, to which they are generally connected via good transport links.

Leisure Centres

These centres are viewed as ideal locations for retirement or holiday, due to their picturesque and peaceful settings. They might be smaller and more remote from larger centres compared with other market towns, while other key features include limited employment opportunities, small number of businesses and low rates of economic activity.

The exact nature of the categorisation would be developed in the course of study.

⁸³<http://www.walesruralobservatory.org.uk/sites/default/files/Market%2520Towns%2520report%2520final2.pdf>

⁸⁴<http://eprints.lincoln.ac.uk/2484/>

Ensure Alignment between Market Town Masterplans and the Local Industrial Strategy

The Local Industrial Strategy (LIS) will be a fundamental document, shaping strategy in Cambridgeshire and Peterborough for years to come. Given it will have higher priority with government than the Market Towns Masterplans, there is a risk that the work of the masterplans (particularly in the area of developing higher value business) will be left behind. In fact, these documents should be complementary, with the approaches being taken in different towns meshing into the LEP-wide approach to industry.

An important component of this strategy should be the creation of flexible workplaces. The rise in popularity of flexible work places has been a notable development in the last 10 years. Many market towns have small entrepreneurial businesses and commuters for whom such facilities could be attractive. Pilot trials – perhaps in retail spaces that are lying vacant as Barclays have done with their ‘Eagle Labs’ in several towns in the UK - could be run to establish the viability of this approach.

» KEY RECOMMENDATION #12:

Regular meetings should be set up between those developing the Local Industrial Strategy, and those developing Market Town Masterplans, to ensure consistency. This should include proposals coming forward as part of the Cambridge–Milton Keynes–Oxford Arc.

Support Regular Bus Services

The Commission believes the Combined Authority is absolutely right to be looking at ambitious, and potentially novel, transport modes in its plans for Cambridge. But for the market towns, especially those further from Cambridge, more everyday modes, particularly buses, are important. We have heard that many bus services are increasingly infrequent, and unreliable. The hours which some bus services run are also very limited – for instance, there are three buses from March to Chatteris and Huntingdon in the morning, and only one back in the evening.

We believe that in this area of bus travel, the Combined Authority is in a strong position to make a difference. The Devolution Deal agreed with government stated that “A new, directly elected Mayor of the proposed Combined Authority will... Have the ability to franchise bus services in the Combined Authority area, subject to necessary legislation and local consultation and agreement”⁸⁵. Only Mayoral Combined Authorities have this power without the need for secondary legislation (according to the Bus Services Act, 2017). London has employed this power to great effect, bringing about reduced costs for buses and allowing for full network control. In a rural area, buses are even more important – particularly for tackling isolation, as in rural areas the social cost of not being able to travel is higher.

» Subsidiary Recommendation xiii): The Mayor should use his bus franchising powers under the Devolution Deal to improve the regularity of bus services to and between market towns.

⁸⁵https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/600239/Cambridgeshire_and_Peterborough_Devolution_Deal.pdf point 28.c.

Conclusion

We have seen that market towns have a vital role to play in the local economy, but that they are also at risk of stagnating in the absence of action. The masterplans form a good basis for giving a clear direction to market towns, as resource is needed to think through the difficult questions of how to attract business and improve retail offerings. Some interventions, such as the full dualling of the A47 between Peterborough, Wisbech, and King's Lynn, and the use of bus franchising services for market towns, could make a real difference in this area. But they are just the beginning – a full-blooded strategy for each market town that is carried through to completion will give these towns the confidence they need to stand on their own.



Ely Cathedral

9. Governance

Having looked at a broad range of factors relating to the Cambridgeshire and Peterborough economy, we are left with a critical question. What form of governance can best deliver the outcomes needed for Cambridgeshire and Peterborough? To this question we now turn.

9.1 LOCAL CO-OPERATION: THE NEED TO COLLABORATE TO PROGRESS

In our interim report, we highlighted the observations from respondents to our consultation on the seeming complexity, or perhaps in our view more accurately opacity, arising from the newness of the governance arrangements in Cambridgeshire and Peterborough.

This is a concern to us. Good governance is essential to economic progress. It creates certainty, stability and therefore the confidence which can affect the decisions of individuals and companies whose cumulative impact can be very important indeed. Good governance leads to more investment, better conceived and executed housing projects, more investment in skills and a population better informed to enable them to access the support they need to maximise their contribution to the economy. Bad governance whether through duplication of effort, poor coordination or lack of concerted action, has the reverse effect. So governance matters to a report like ours.

Changes in governance, like any material changes in a place can also impact negatively if they divert attention from delivery of good public services. They are generally to be avoided unless there is a very robust case for change. We believe the advent of the Mayoralty has conferred advantages on Cambridgeshire and Peterborough it couldn't have had any other way, including funding and devolution which bring decision-making closer to the people and businesses of the area. It is now down to the Mayor and Combined Authority to make the most of that devolution, both to ensure that the benefits are really felt locally, but, as importantly, to ensure that the government continues to see Cambridgeshire and Peterborough as an area it can do business with and thereby is inclined to trust the area with more devolved powers and greater funding in the future.

It is early days for the Mayoral Combined Authority. That, in our view, explains much of the feedback we received. But it is vital that firm foundations are now laid. This is why in our recommendations on investment earlier we set great store by the need for strategy with a crystal-clear narrative, decision-making principles, strong methodologies and good governance in relation to the Combined Authority's investment pipeline. But this needs to extend beyond the Combined Authority, with all the partners in the area, including Opportunity Peterborough and the Greater Cambridge Partnership (GCP), working effectively together, aligning investment based on jointly shared objectives.

If jointly shared objectives and delivery are essential to Cambridgeshire and Peterborough's future, we need to concern ourselves with what we can do to enable the area to make progress: to help the new arrangements to bed in. To this end we would recommend that there should be a concerted effort on the part of every part of the Combined Authority area to work to a single set of objectives in which the powers and funding of all are used in a concerted effort to enable Cambridgeshire and Peterborough to achieve its goals. At the same time, we must recognise the existing three-economy nature of the area, and that within the Combined Authority there must be a degree of subsidiarity. At present the Greater Cambridge Partnership (GCP) represents the interests of the southern economy, and Opportunity Peterborough those of Peterborough. While these two organisations fulfil different functions, we believe this reflects the needs of the places they are based in. The GCP is mandated by government, so a means of bringing about co-operation between the Combined Authority and GCP needs to be found (especially given, as noted above, the importance of unified purpose in building investor confidence). There is also a need for an equivalent organisation which can represent the fens – the one economy without an organisation explicitly taking up its interests.

» KEY RECOMMENDATION #13:

New collaborative ways of working need to be developed, which provide for tailored solutions to the needs of each of the three distinct economies. Whilst overall strategic direction for the area rests with the elected Mayor, there needs to be effective representation for each economy – though the needs of each vary. The Greater Cambridge Partnership (GCP) provides a ready-made solution for the Greater Cambridge area, Opportunity Peterborough fulfils a key economic function for Greater Peterborough, and we would recommend creating a new body to represent the economy of the fens. To develop ways of working and align strategic visions, there should be a Mayoral Conference later in 2018 preceded by a programme of intensive preparation with the aim of securing buy-in.

9.2 THE ECONOMIC CASE FOR FURTHER DEVOLUTION

One of the issues facing Cambridgeshire and Peterborough is the limited level of local decision-making, even post devolution. On many of the issues considered in this report, responsibility still lies firmly in Whitehall and Westminster.

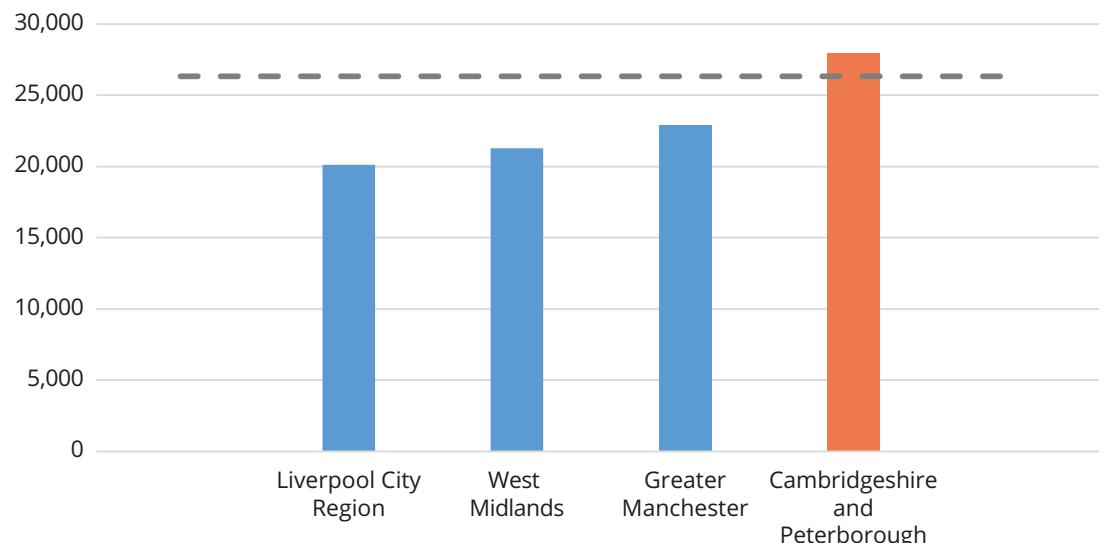
We believe, therefore, that there is compelling evidence that further powers should be devolved to the Cambridgeshire and Peterborough area. To make the argument, we draw parallels with the three Combined Authorities which enjoy greater devolved powers than Cambridgeshire and Peterborough (London excluded, as it was not part of recent devolutionary activity).

Table 6 – Power held by different Combined Authorities

	Health & Social Care Budgets	Transport budget	Housing Investment Fund	Statutory Planning Powers	Pilot 100% business rate retention	Elements of justice system
Greater Manchester	Yes	Yes	Yes	Yes	Yes	Yes
Liverpool	No	Yes	No	Yes	Yes	No
West Midlands	No	Yes	Yes	No	Yes	No
Cambridgeshire & Peterborough	No	Yes	Yes	No	No	No

Source: Analysis of devolution deal documents

However, economically the area contributes much more, relative to its size. For instance, consider productivity – the amount of GVA output produced by the average worker within Cambridgeshire and Peterborough.

Figure 31 – GVA per resident (£) in selected combined authorities

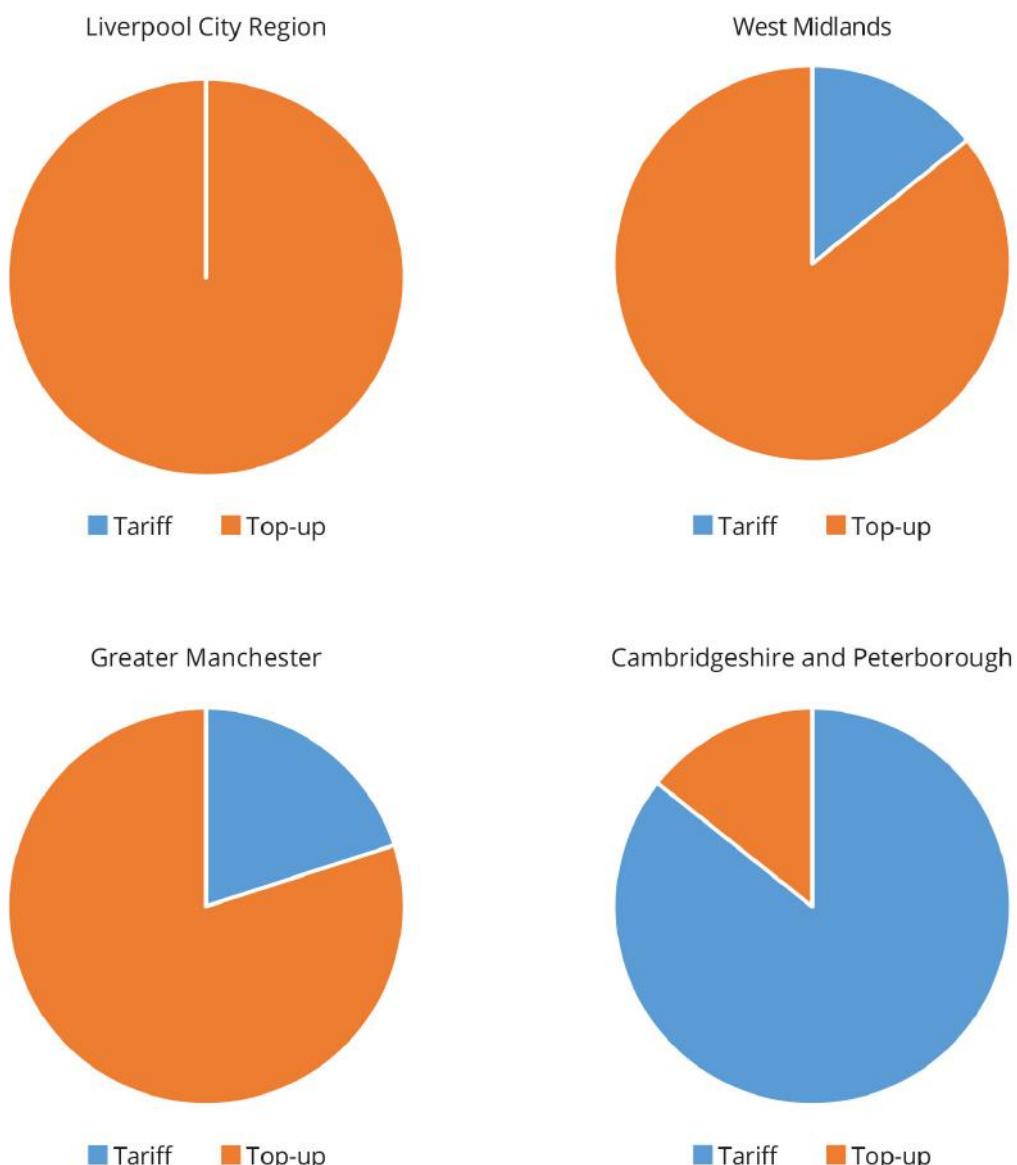
Source: <https://www.gov.uk/government/publications/key-information-for-local-authorities-provisional-local-government-finance-settlement-2018-to-2019>

It is also the only one of the Combined Authorities listed with a GVA per head that is *higher* than the national average.

Another way of looking at how much the area contributes, particularly its businesses, is to consider business rates. The government is moving towards a system of business rate retention, where local authorities are able to retain the rates generated in their areas. This mechanism is designed to incentivise local authorities to develop business friendly policies. However, in order to ensure this approach is fair, a balancing payment is made between

authorities with higher and lower levels of business rate revenue to ensure a level playing field. Those authorities which make a net contribution are designated 'tariff' authorities, whereas those which receive a net benefit are 'top-up' authorities. This information is instructive in understanding the contribution of business rates to government in different geographies. We can compare with other Combined Authorities by looking at the different local authorities which constitute them. We find that Cambridgeshire and Peterborough is the only one of the selected Combined Authorities to make a net contribution in the area of business rates. The net business rate *contribution* for Cambridgeshire and Peterborough is £58.6m, compared to a net *receipt* of £120m for Greater Manchester, £194m for the Liverpool City Region, and £247m for the West Midlands. We can see that this is true for authorities right across Cambridgeshire and Peterborough (only the county council is a 'top-up authority').⁸⁶

Figure 32 - Proportion of local authorities within selected Combined Authorities which are tariff (donor) and top-up (receiver)⁸⁷



Source: <https://www.gov.uk/government/publications/key-information-for-local-authorities-final-local-government-finance-settlement-2016-to-2017>

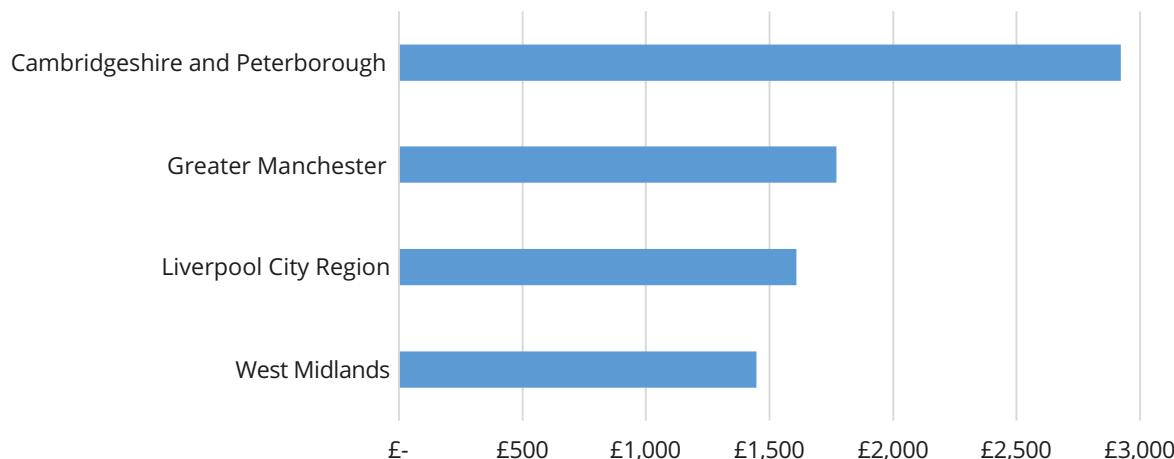
⁸⁶ <https://www.gov.uk/government/publications/key-information-for-local-authorities-provisional-local-government-finance-settlement-2018-to-2019>

⁸⁷ Fire authorities excluded. Only constituent authorities for the West Midlands Combined Authority included. The Cambridgeshire and Peterborough Combined Authority contains a County Council and six district councils- it is unique in this regard among Combined Authorities

Finally, and most relevantly, we consider the tax contribution of each of the Combined Authorities. In order to make this comparative, we show the total income tax take (for the most recent year available, 2015/16) and divide by the population of the Combined Authority. This gives us a tax-take per head figure.

We find that Cambridgeshire and Peterborough runs a long way ahead of the other four Combined Authorities, over £1,100 per head more than the next closest (Greater Manchester). In fact, the income tax contribution of Cambridgeshire and Peterborough (£2.46 billion in 2015/16) is roughly the same as the Liverpool City Region, despite having 700,000 fewer inhabitants.

Figure 33 – Income tax take per head for the year 15/16 in selected Combined Authorities



Source: Tax data from ONS table 3.14a, aggregated from the local authority level: <https://www.gov.uk/government/statistics/income-and-tax-by-borough-and-district-or-unitary-authority-confidence-intervals> Population data from Nomis for 2016

All four of the comparators are notably more urban than Cambridgeshire and Peterborough, meaning they have greater challenges of inner-city deprivation to deal with. But we wish to highlight the fact that, for the proportionate contribution to the Treasury and the rest of the country that the area makes, it merits devolved powers of the degree enjoyed by other areas. Indeed, to really make this area a leading light of the UK's Industrial Strategy, it needs them. Not only that, but the benefits to the exchequer of devolving further powers to Cambridgeshire and Peterborough could be significant. Only those in an area know what the really critical priorities are. To give one example, if health and social care spending was devolved, it would help the Combined Authority to target areas it knows to be problematic, increasing productivity in less healthy areas. If the productivity gap between Cambridge and the five other districts was halved the area would be producing an extra £4.6bn in GVA (roughly 20% of the value of current GVA).⁸⁸ Businesses will also continue to outperform expectations if they can see how the area is becoming empowered to enable further growth.

» KEY RECOMMENDATION #14:

The government should recognise the benefits further devolution to Cambridgeshire and Peterborough would bring, and commit itself to negotiating with Cambridgeshire and Peterborough to bring the area into line with other Combined Authorities.

⁸⁸ Calculations made on a district by district basis, based upon figures found at <https://www.ons.gov.uk/economy/grossvalueaddedgva/data-sets/regionalgrossvalueaddedbalancedbylocalauthorityintheuk>

10. Conclusion

As has become clear throughout this report, Cambridgeshire and Peterborough is an area which already makes a huge contribution to the UK, and which holds great promise for future. It also faces risks, which could bring that success to an end, and challenges relating to creating an inclusive society where economic growth works for everyone. We have, in this report, drawn out the actions which, if taken, can secure a prosperous future of this area. That this should happen is not just vital for those who live and work in Cambridgeshire and Peterborough. It is also vital for those who live and work in the UK.

This is the full list of Key Recommendations from the Review:

» KEY RECOMMENDATION #1:

The GVA target should be tracked and measured (in the manner described by the report). Check-ups on progress and feasibility should build in a degree of flexibility depending on economic outturn. The Mayor should also instigate the development of a well-being and inclusive growth dimension to his GVA target.

» KEY RECOMMENDATION #2:

The Combined Authority should adopt a blended spatial strategy, with the Futures work being actively used to discuss trade-offs in an informed manner.

» KEY RECOMMENDATION #3:

The UK Government should adopt a 'Cambridge or overseas' mentality towards knowledge-intensive (KI) business in this area, recognising that in an era of international connectivity and footloose labour, many high-value companies will need to relocate abroad if this area no longer meets their needs. Ensuring that Cambridge continues to deliver for KI businesses should be considered a nationally strategic priority.

» KEY RECOMMENDATION #4:

Any Brexit deal and accompanying policies should ensure the greatest possible ease for workers, EU and non-EU alike, which are needed in our businesses, and facilitate ease of trade as a high priority.

» KEY RECOMMENDATION #5:

There should be a review of housing requirements based on the potential for higher growth in employment than currently forecast by the EEFM. This review should take into account the continuing dialogue between ONS and the Centre for Business Research on employment numbers as well as the impact of the Cambridge-Milton Keynes-Oxford Arc. This should be used to set new targets which are likely to be higher than those already set - at the very least adding on accumulated backlog.

» KEY RECOMMENDATION #6:

The Combined Authority should embed placemaking in their forward planning, by i) revisiting the Quality Charter to audit how well developments and regeneration projects since its publication have met the criteria, ii) renewing and updating the Quality Charter, and iii) demonstrating how other plans (particularly the Non-Statutory Spatial Plan) can serve to create better places. This should include a concern for the quality of place in existing communities, and an area-wide environmental strategy.

» KEY RECOMMENDATION #7:

A package of transport and other infrastructure projects to alleviate the growing pains of Greater Cambridge should be considered the single most important infrastructure priority facing the Combined Authority in the short to medium term. These should include the use of better digital technology to enable more efficient use of current transport resources.

» KEY RECOMMENDATION #8:

A process for scheme prioritisation and development should be implemented in full to ensure that the overall approach reflects the goal of doubling the size of the Combined Authority economy, and over time better connecting the three economies of the area.

» KEY RECOMMENDATION #9:

An Opportunity Area for Health, including mental health, should be created in the north of the area, recognising it as being just as serious an issue for social mobility as education. This pilot should be championed by the Mayor, the local health system and Public Health England, and linked to the proposals for the devolution of health and social care.

» KEY RECOMMENDATION #10:

Further research should be undertaken on the potential impact that increased Surestart-style provision could have, particularly in more deprived communities and with hard-to-reach groups. Similarly, further research on the nature and availability of preschool education is important and we would recommend that a further Commission be undertaken in this area. This Commission should be given a wide brief, and work with Higher Education Institutions (HEIs) in the region to look at:

- the steps needed from early years through school to close, and eventually to eliminate educational disadvantage
- not just at individual and school performance but at the wider set of conditions and institutions serving the more deprived parts of Cambridgeshire and Peterborough.

» KEY RECOMMENDATION #11:

The government should enter into meaningful conversations with the Mayor and the Combined Authority early in this parliament and that devolution of all skills funding be agreed as part of a second stage devolution deal.

» KEY RECOMMENDATION #12:

Regular meetings should be set up between those developing the Local Industrial Strategy, and those developing Market Town Masterplans, to ensure consistency. This should include proposals coming forward as part of the Cambridge-Milton Keynes-Oxford Arc.

» KEY RECOMMENDATION #13:

New collaborative ways of working need to be developed, which provide for tailored solutions to the needs of each of the three distinct economies. Whilst overall strategic direction for the area rests with the elected Mayor, there needs to be effective representation for each economy – though the needs of each vary. The Greater Cambridge Partnership (GCP) provides a ready-made solution for the Greater Cambridge area, Opportunity Peterborough fulfils a key economic function for Greater Peterborough, and we would recommend creating a new body to represent the economy of the fens. To develop ways of working and align strategic visions, there should be a Mayoral Conference later in 2018 preceded by a programme of intensive preparation with the aim of securing buy-in.

» KEY RECOMMENDATION #14:

The government should recognise the benefits further devolution to Cambridgeshire and Peterborough would bring, and commit itself to negotiating with Cambridgeshire and Peterborough to bring the area firstly into line with other Combined Authorities, and secondly to breaking new ground in the ‘devolution revolution’.

Our subsidiary recommendations are:

» **Subsidiary Recommendation i):** *It is important to establish a sound employment database to inform key decisions. The Office for National Statistics (ONS) should continue to work with the Centre for Business Research to clarify why differences exist between the two sources of employment growth rates.*

» **Subsidiary Recommendation ii):** *In developing a Local Industrial Strategy, the Combined Authority should hold technical-level interviews with representative companies from KI sectors, to ascertain what the specific goods and services they require are.*

» **Subsidiary Recommendation iii):** *The Ministry of Housing, Communities and Local Government (MHCLG) should give central Peterborough an exemption from the residential change of use permitted development right 2013 in order to safeguard office space, and some public sector investment should be put towards creating high-grade office space in the city centre.*

» **Subsidiary Recommendation iv):** *A Regional Fellows network should be established by the Combined Authority to strengthen networks across the area. This can promote greater awareness of potential supply chains and scope for collaboration within the region.*

» **Subsidiary Recommendation v):** *There should also be further investigation of how business rates and other taxes can be retained and used to fund infrastructure, undertaken as a matter of priority. This should enable a strong case to be made to central government. The Combined Authority should continue its work to bring forward fully developed proposals for Land Value Capture at the right time. Funds already available to the Combined Authority should be brought together in an investment fund along with new potential sources of investment.*

➤ **Subsidiary Recommendation vi):** Ofgem should produce a road map for how to get from the current centralised energy distribution system to a more decentralised one, noting in particular the high costs of establishing new grids, possible disincentives for Distribution Network Operators to facilitate this, and the levels of expertise required.

➤ **Subsidiary Recommendation vii):** The government should make Cambridgeshire and Peterborough a vanguard authority for new 5G infrastructure.

➤ **Subsidiary Recommendation viii):** Wisbech should be seen as a UK testbed for new flood-resistant approaches to development, and levels of investment in flood defence infrastructure should be substantially increased.

➤ **Subsidiary Recommendation ix):** Work should be taken forward at the earliest opportunity to develop an approach to local health and social care devolution that best meets the needs of Cambridgeshire and Peterborough.

➤ **Subsidiary Recommendation x):** The Combined Authority should support and expand existing initiatives to work with employers and stakeholders of all sizes to gather more intelligence on the issue of workplace health and to frame recommendations for action. These are likely to include the nature of workplaces, monitoring of health, and work flexibility.

➤ **Subsidiary Recommendation xi):** The Mayor and the Combined Authority should jointly support pilot initiatives with one or more key sectors of the economy to encourage employers to bring forward new and innovative proposals for increasing the skills supply with public funding used to pump prime new employer-led provision.

➤ **Subsidiary Recommendation xii):** High levels of investment are needed to ensure Peterborough University is a success, alongside a clearly defined offer centred around subjects which both integrate with the local economy and embrace new technologies.

➤ **Subsidiary Recommendation xiii):** The Mayor should use his bus franchising powers under the Devolution Deal to improve the regularity of bus services to and between market towns.

The priority now is to ensure that these recommendations are taken forward by the institutions that will deliver them. As the area creates its Local Industrial Strategy, recommendations on how business can keep flourishing need to be incorporated, and action needs to be taken to create a dynamic business culture across the area. The Non-Statutory Spatial Plan should reflect the blended spatial strategy which has been advocated. By creating a new investment fund, and associated mayoral development platform, the urgent need to rectify the infrastructure deficit can be met, reducing the costs of operating in the Cambridgeshire and Peterborough area, and leveraging in finance to deliver a strategic infrastructure programme, rather than piecemeal projects. And the Market Town Masterplans can use the economic insights throughout this document to inform the interventions that will ensure economic vitality.

The Commission, of course, recognises that the implementation will be challenging and time-consuming. We are willing to provide any practical advice necessary to ensure that this report does not gather dust on shelves, but is long remembered as making a pivotal impact. We hope that, aided by our contribution, Cambridgeshire and Peterborough can fulfil its vision: the leading place in the world to live, learn and work.

The CPIEC would like to thank everyone who has contributed to the review. We have received representations from councils, companies and community groups including:

- Agri-Tech East
- Allia
- Anglian Water Services Ltd
- AstraZeneca
- Babraham Bioscience Technology Ltd
- BioMed Realty (Granta Park)
- Birketts
- Breckland District Council
- Cambridge City Council
- Cambridge County Council
- Cambridge Econometrics
- Cambridge Innovation Capital
- Cambridge Past, Present, Future
- Cambridge University Health Partners (CUHP)
- Cambridgeshire and Peterborough Combined Authority
- Cambridgeshire Chambers of Commerce
- Cambridgeshire County Council
- Cambridgeshire Insights
- Cambs, Beds & Herts Federation of Small Businesses
- Centre for Business Research, Judge Business School, University of Cambridge
- Cities and Transport Research Group, Cambridge University Department of Architecture
- Citizens Advice
- Code Development Planners
- Collison Associates
- Coordinating Committee of Cambridgeshire and Peterborough Liberal Democrats
- Defra
- East Cambridgeshire District Council
- Eastern Academic Health Science Network
- Environment Agency East Anglia Area – Cambridgeshire and Bedfordshire
- Fauna & Flora/ Cambridge Conservation Initiative
- FeCRA
- Fenland District Council
- Form the Future
- GCGP LEP
- Grant Thornton
- Greater Cambridgeshire Partnership
- Huntingdonshire District Council
- Local Energy East
- Morgan Sindall
- OlsenMetrix Marketing
- Peterborough City Council
- Police and Crime Commissioner for Cambridgeshire and Peterborough
- Public Health England
- PwC
- Regional Flood & Coastal Committee
- Smarter Cambridge Transport
- SmithsonHill
- South Cambridgeshire District Council
- SQW
- St Ives Town Council
- St Neots Masterplan Steering Group
- Stainless Metalcraft (Chatteris) Ltd
- The Environment Agency
- TWI
- University of Cambridge
- Wellcome Genome Campus
- West Suffolk District Council

Many private individuals have also submitted papers following the call for response and call for evidence outreach. All these contributions have shaped our understanding of the area and impacted upon the final report.

The Commission has been supported by a Management Board, Technical Board and Secretariat, to whom we are also grateful for their contribution. The full team is listed below.

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Matthew Bullock	Prof Andy Neely
Dame Carol Black	Prof Alan Hughes
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Jane Paterson-Todd	
Andrew Limb	
Phil Almendinger / Aaron Cohen-Gold	
Steve Bowyer / Tom Hennessy	

Annex 1 – Distribution of powers in Cambridgeshire and Peterborough

		Tax/ business rates	Infrastructure – funding	Transportation	Planning (inc. housing allocation & delivery)	Business	Health	Education / Skills
Combined Authority Mayor		Business Rates Levy Council Tax Precept			Non-Statutory Spatial Plan (framework to guide Local Plans) Ability to establish Mayoral Development Corporation			
Combined Authority		Single Pot Infrastructure Fund (devolution deal) Integrated Transport Block	Local Transport Authority – responsibility for: <ul style="list-style-type: none">Strategic Transport Planning and the production of the Local Transport PlanKey Route NetworkPassenger Transport					Adult Education Budget
The Business Board (previously LEP)			Steering Growth Fund allocations			Leadership of Local Industrial Strategy development & oversight		Steering Growth Fund allocations
Cambridgeshire District Councils	County Council	Council Tax (limited discretion) Business Rates (some retention)		Highways Authority: <ul style="list-style-type: none">Creation, Maintenance, improvementTraffic Regulation Orders	Minerals and Waste Plans	Trading Standards	Adult Social Care Children's Social Care Public Health	Local Education Authority
	District Councils	Council Tax (limited discretion) Business Rates (limited discretion, some retention)			Plan-making (excluding minerals and waste) and decision taking Social housing provision	Environmental Health		

Tax/ business rates		Infrastructure - funding	Transportation	Planning (inc. housing allocation & delivery)	Business	Health	Education / Skills
Peterborough	Unitary Council	Council Tax (limited discretion) Business Rates (limited discretion, some retention)		Highways Authority <ul style="list-style-type: none">• Creation, Maintenance, improvement• Traffic Regulation Orders Plan-making (excluding minerals and waste) and decision taking Social housing provision	Trading Standards Environmental Health	Adult Social Care Children's Social Care Public Health	Local Education Authority
The Greater Cambridge Partnership (GCP)		City Deal devolution fund	Delegated Cambridgeshire County Council powers covering Greater Cambridge				
Opportunity Peterborough					Business advice, inward investment and destination marketing for Peterborough		
Parish Councils		Council Tax precept		Neighbourhood Plans			
Cambridgeshire and Peterborough Clinical Commissioning Group (CPCCG)						Health strategy and spend in C&P (inc. mental health)	

Annex 2 – Number of learning aim enrolments in CPCa area by subject area by year, rounded to the nearest hundred

Sector Subject Area Tier 1	Sector Subject Area Tier 2	2014/15	2015/16	2016/17	Change 2014-16	Change 2014-16
01 - Health, Public Services and Care	01.1 - Medicine and Dentistry	0	0	0	No.	%
	01.2 - Nursing and Subjects and Vocations Allied to Medicine	100	100	100	0	0.0
	01.3 - Health and Social Care	3300	3600	3600	300	9.1
	01.4 - Public Services	1100	1200	1400	300	27.3
	01.5 - Child Development and Well Being	800	600	500	-300	37.5
02 - Science and Mathematics	02.1 - Science	3900	4000	3800	-100	-2.6
	02.2 - Mathematics and Statistics	3600	4000	4000	400	11.1
03 - Agriculture, Horticulture and Animal Care	03.1 - Agriculture	1900	1700	200	-1700	-89.5
	03.2 - Horticulture and Forestry	400	100	200	-200	-50.0
	03.3 - Animal Care and Veterinary Science	1000	1000	900	-100	-10.0
	03.4 - Environmental Conservation	100	0	0	-100	-100.0
04 - Engineering and Manufacturing Technologies	04 - Engineering and Manufacturing Technologies	0	0	0	0	0.0
	04.1 - Engineering	1200	1200	1100	-100	-8.3
	04.2 - Manufacturing Technologies	700	700	600	-100	-14.3
	04.3 - Transportation Operations and Maintenance	900	800	800	-100	-11.1
05 - Construction, Planning and the Built Environment	05.1 - Architecture	0	0	0	0	0.0
	05.2 - Building and Construction	3200	2600	4000	800	25.0
06 - Information and Communication Technology	06.1 - ICT Practitioners	1300	1100	1000	-300	-23.1
	06.2 - ICT for Users	2400	1800	1400	-1000	-41.7
07 - Retail and Commercial Enterprise	07 - Retail and Commercial Enterprise	0	0	0	0	0.0
	07.1 - Retailing and Wholesaling	300	100	200	-100	-33.3
	07.2 - Warehousing and Distribution	2400	1000	800	-1600	-66.7
	07.3 - Service Enterprises	1400	1400	1300	-100	-7.1
	07.4 - Hospitality and Catering	1800	1700	1400	-400	-22.2
08 - Leisure, Travel and Tourism	08.1 - Sport, Leisure and Recreation	5900	5700	5600	-300	-5.1
	08.2 - Travel and Tourism	500	400	600	100	20.0
09 - Arts, Media and Publishing	09.1 - Performing Arts	2000	1800	1100	-900	-45.0
	09.2 - Crafts, Creative Arts and Design	7600	8200	6800	-800	-10.5
	09.3 - Media and Communication	3200	2300	2100	-1100	-34.4
	09.4 - Publishing and Information Services	0	0	0	0	0.0

Sector Subject Area Tier 1	Sector Subject Area Tier 2	2014/15	2015/16	2016/17	Change 2014-16	Change 2014-16
10 - History, Philosophy and Theology	10 - History, Philosophy and Theology	0	0	0	0	0.0
	10.1 - History	2000	2000	1700	-300	-15.0
	10.2 - Archaeology and Archaeological Sciences	100	0	0	-100	-100.0
	10.3 - Philosophy	200	200	100	-100	-50.0
	10.4 - Theology and Religious Studies	100	100	100	0	0.0
11 - Social Sciences	11 - Social Sciences	100	100	100	0	0.0
	11.1 - Geography	600	500	500	-100	-16.7
	11.2 - Sociology and Social Policy	800	700	900	100	12.5
	11.3 - Politics	400	400	400	0	0.0
	11.4 - Economics	500	500	400	-100	-20.0
12 - Languages, Literature and Culture	12 - Languages, Literature and Culture	0	0	0	0	0.0
	12.1 - Languages, Literature and Culture of the British Isles	5100	4600	4200	-900	-17.6
	12.2 - Other Languages, Literature and Culture	4000	4400	4100	100	2.5
13 - Education and Training	13.1 - Teaching and Lecturing	600	500	500	-100	-16.7
	13.2 - Direct Learning Support	300	300	300	0	0.0
14 - Preparation for Life and Work	14 - Preparation for Life and Work	0	0	0	0	0.0
	14.1 - Foundations for Learning and Life	28400	23300	22100	-6300	-22.2
	14.2 - Preparation for Work	13400	9500	6800	-6600	-49.3
	15.1 - Accounting and Finance	800	700	600	-200	-25.0
15 - Business, Administration and Law	15.2 - Administration	600	600	800	200	33.3
	15.3 - Business Management	2500	2300	2200	-300	-12.0
	15.4 - Marketing and Sales	0	100	100	100	0.0
	15.5 - Law and Legal Services	0	0	0	0	0.0
U - Unknown	U - Unknown	1300	0	0	-1300	-100.0
X - Not Applicable	X - Not Applicable	13700	12400	14100	400	2.9
Grand Total		126400	110400	103600	-22800	-18.0

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