

Cambridge: Closing the Gap

An independent report prepared by Centre for Cities on Cambridge's economy presented to Cambridge City Council, Cambridgeshire County Council, Cambridgeshire Horizons, the Greater Cambridge Partnership and the East of England Development Agency

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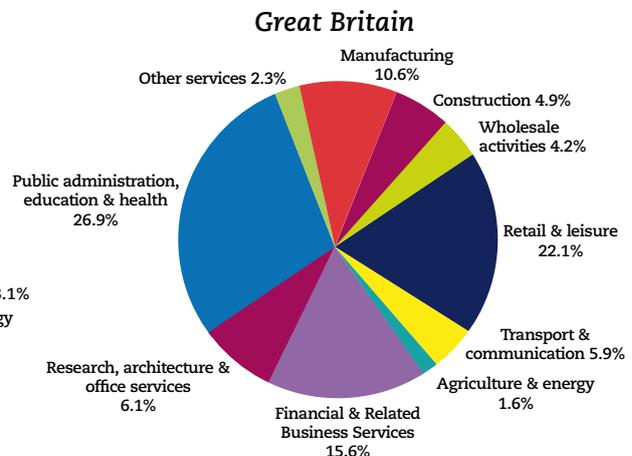
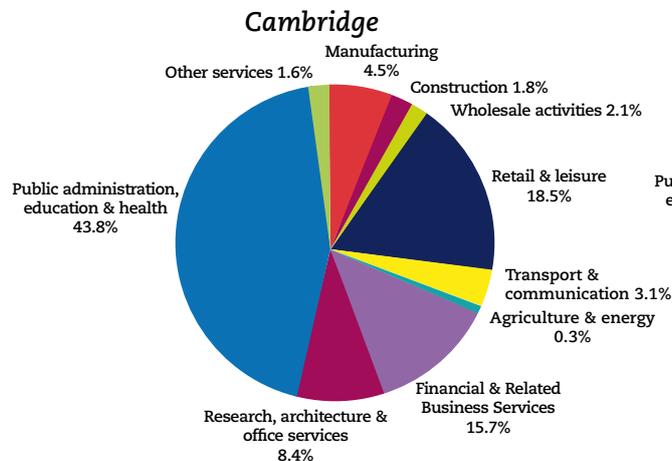
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Introduction

Cambridge is a Partner City in the Centre for Cities research programme '*Unlocking City Potential and Sustaining City Growth*'. The programme works closely with a small group of cities to inform economic development strategies and improve economic performance. This report looks at how housing, transport and the economy interact and sets out policy analysis and recommendations in response to three principal questions:

- What is the impact of Cambridge's growth on the wider economy?
- How can transport be used to support sustainable economic growth in Cambridge?
- How can housing policy in Cambridge help to overcome affordability challenges and support sustainable economic growth?

Cambridge's Sectoral profile (2007)



Source: Nomis, Annual Business Inquiry (2009) for 2007 data

Key recommendations

Cambridge is a key economic driver for the wider region and an asset for the UK as a whole, attracting investment in knowledge intensive industries that otherwise might not have come to the UK at all. But success is creating emerging transport and housing bottlenecks which need to be addressed to ensure future sustainable growth and maintain quality of life. This report sets out how Cambridge's Local Authorities need to respond:

- **Investing in Cambridge as a regional economic driver**
The Local Authorities that make up Cambridge's core functional labour market operate within a shared economy and have a common purpose. They must collaborate more closely with each other to tackle emerging bottlenecks, particularly around transport and housing.

They must also strengthen collaboration with the East of England Development Agency (EEDA), the Homes and Communities Agency (HCA), the Greater Cambridge Partnership and Cambridgeshire Horizons. Our analysis shows that the six Local Authorities making up Cambridge's core functional labour market are: Cambridge City Council, South Cambridgeshire District Council, East Cambridgeshire District Council, Forest Heath District Council, Huntingdonshire District Council and St. Edmundsbury District Council.

- **Supporting sustainable growth through transport**

Cambridgeshire County Council should investigate ways to bring together transport and planning powers to support sustainable economic growth across the wider Cambridge region, take action to reduce congestion and increase the use of sustainable transport. In particular, the Council needs to act quickly on the Congestion Transport Innovation Fund (C-TIF) and pursue its bid in the next six months – otherwise the money for transport funding is unlikely to be there.

- **Supporting sustainable growth through housing**

Increasing the supply of affordable housing in the Cambridge travel to work area (TTWA) should continue to be the number one housing policy priority of the City Council and surrounding District Councils. Measures to achieve this should include purchasing lower value land and housing stock during the recession and, over the medium term, working with institutional investors to grow a larger, more flexible intermediate and private rented sector.

Definitions of Geographical Areas

Cambridge refers to the area of Cambridge City Council.

Cambridgeshire refers to the area of Cambridgeshire County Council.

Cambridge TTWA is the area officially defined as Cambridge's travel to work area and includes Cambridge City Council, South Cambridgeshire District Council and East Cambridgeshire District Council.

Wider Cambridge region is the area resembling Cambridge's functional economic area, defined in this report as the aggregate area of at least South Cambridgeshire, Cambridge, East Cambridgeshire, Forest Heath and Huntingdonshire.

The Cambridge growth story

Over recent years Cambridge has been an economic success story. Following moves to grow and develop the city as a centre of high technology activity and employment, Cambridge is now renowned as a world-class knowledge-based economy. And this has brought real benefits beyond the city borders to the wider sub-region.

But continued success cannot be assured. As well as surviving the current recession, Cambridge needs to deal with the consequences of growth – particularly bottlenecks around housing and transport infrastructure – that are threatening to jeopardise future progress. This report looks at the importance of growth in Cambridge for the wider region, and how the city needs to tackle emerging constraints to success.

Cambridge and the recession

The credit crisis in the financial markets has now become a crisis in the broader UK and global economy. The UK is now officially in a recession, and the fall in Gross Domestic Product (GDP) in the last two quarters (2.2 percent decline) was nearly as deep as the whole of the 1990s recession (2.5 percent).¹ The problems within the financial system, which have constrained the supply of available credit, are far from solved and the latest business surveys suggest that output has continued to deteriorate during the first quarter of 2009.

Given the momentum of the decline and the global nature of this downturn, cities should now expect GDP during 2009 to contract by more than three percent. In the 1980s recession, the unemployment rate rose from four percent to 10.6 percent.² This recession starts from a lower level (2.5 percent claimant count)³ but a rise of more than one million over the next two years can be expected.



Compared to other cities, Cambridge City is predicted to be relatively resilient in the current downturn. Forecasts produced in November 2008 by Oxford Economics before the full extent of the collapse in output became clear indicated that the number of jobs that could be lost in 2008-09 represented 1.3 percent of total 2008 employment with an estimated 1,230 jobs lost during 2008-09, a percentage much smaller than in many other cities.⁴ Cambridge City's predicted growth in Gross Value Added in 2009 is -0.3 percent. These estimates mirror Cambridge's large share of public sector employment, mainly at the university and in the health sector, two areas where public sector cuts are less likely overall. They are also reflected in current claimant count data. Between February 2008 and February 2009 the claimant count in Cambridge rose from 1.4 percent to 2.0 percent, but this was the lowest increase in Jobseeker's Allowance (JSA) claimants of all English cities.⁵

What is the impact of Cambridge's growth on the wider economy?

Cambridge's economic success has impacts beyond the city borders. City economies are interlinked, their labour and housing markets tend to overlap, and growth in one area can create economic benefits beyond that area's immediate boundaries. Understanding how Cambridge interacts with surrounding Local Authorities and how the city impacts on growth in the wider region is therefore key in devising policy to support further sustainable growth and investment in Cambridge.

City links and why they matter

The impact of economic linkages depends on the kind of relationship prevailing between two cities or a city and its neighbouring towns.

- **Complementary cities/towns** have similar sectoral specialisations and derive above average benefits from close links.
- **Non-complementary cities/towns** specialise in different kinds of sectors and do not derive extra benefits from physical proximity.⁶

1. ONS, GDP data

2. ONS, Claimant Count data from March 1980 and December 1985

3. ONS, Claimant Count data from April 2008

4. Oxford Economics (2008) City Forecasts

5. Centre for Cities (2009) Cities Outlook 2009. London: Centre for Cities

6. Overman HG, Rice P & Venables AJ (2008) Economic Linkages Across Space. London: Centre for Economic Performance, and Hildreth P & Lucci P (2008) City Links: Integration and Isolation. London: Centre for Cities

Cambridge has, on balance, mutually supportive relationships with its neighbouring Local Authorities and several other cities in the wider East and South East of England. Relationships between cities are not stable over time. Sectoral specialisations can change and improvements in infrastructure can decrease travel times and thereby increase the geographical draw of a city, changing commuting patterns and intensities.

Changing business conditions in one city – such as an increase in the supply of land for development or an increase in overall productivity – can affect real wages in the other city.

- **Complementary cities:** When business conditions in one of the two cities improve, real wages in both cities will tend to rise. If bottlenecks lead to a worsening of business conditions, real wages in both cities will be negatively affected. Examples of complementary cities are London and Reading or London and Cambridge.
- **Non-complementary cities:** An improvement in business conditions in one city will tend to increase real wages in that city, but decrease them in the other city.⁷ An example of non-complementary cities is Manchester-Burnley.

Cambridge's links

Using this theory, this report assesses Cambridge's impact beyond the city boundaries. This builds on analysis already undertaken in the Strategic Housing Market Assessment (2008), by also looking at commuter linkages,⁸ potential accessibility and patterns of sectoral specialisation.

Commuting linkages give an indication of the reach of Cambridge's economy and show that Cambridge's economy is much wider than its official travel to work area (TTWA), spanning Cambridge, East Cambridgeshire and South Cambridgeshire. For example, over 5,000 residents of St. Edmundsbury earn their living inside the Cambridge TTWA (see Table 1).

Figure 1 below shows where commuters travelling into the Cambridge TTWA (the unshaded area in Figure 1) came from in 2004. This highlights that the real labour market area of Cambridge is much larger than the area officially defined as the Cambridge's TTWA, although commuter flows are strongest within the official TTWA. This report therefore uses Cambridge's real labour market area to inform its analysis, but targets most policy recommendations at the three Local Authorities within Cambridge's official TTWA.

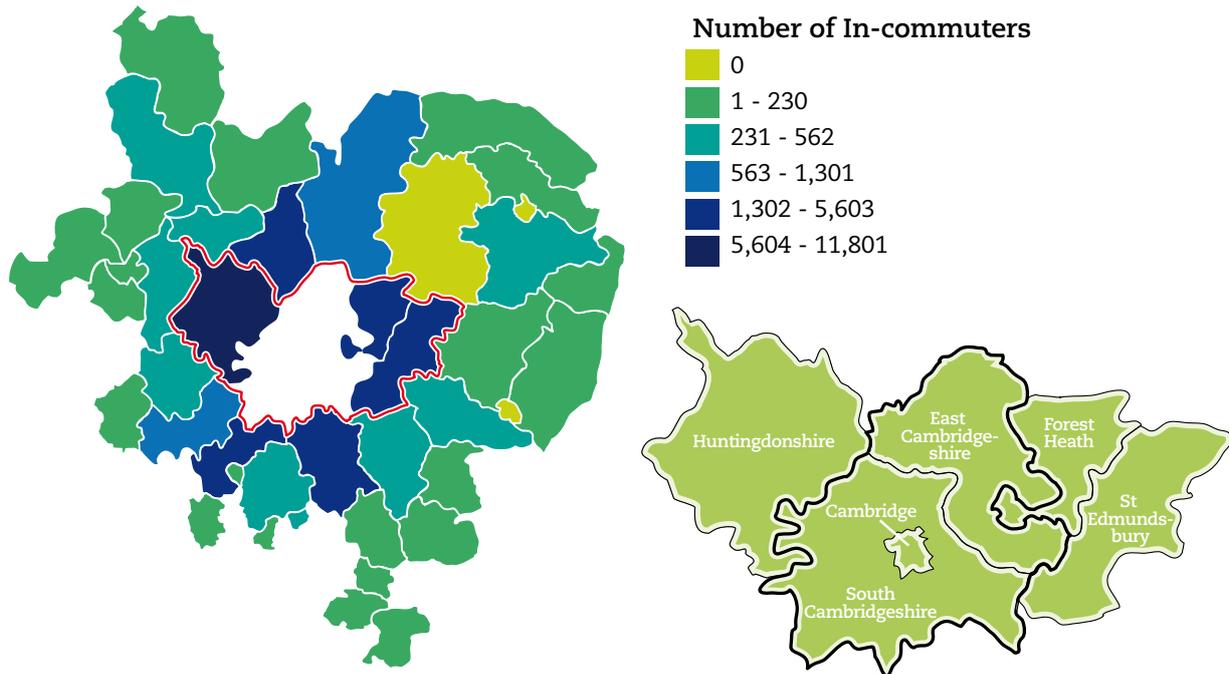
Based on two-way commuter flows in 2004, Cambridge's core functional economy extends over five to six Local Authorities: South Cambridgeshire, Cambridge, East Cambridgeshire, Forest Heath and Huntingdonshire. St Edmundsbury belongs to this core functional economy in terms of in-commuting, but the relationship is weaker in the other direction.⁹ Cambridge drives the wider sub-regional economy, providing around 90,000 jobs to residents across the six Local Authorities. This makes up just over half of the 161,000 jobs spread across the official TTWA, spanning Cambridge, East Cambridgeshire and South Cambridgeshire.

7. Overman HG, Rice P & Venables AJ (2008) *Economic Linkages Across Space*. London: Centre for Economic Performance

8. The analysis uses data commissioned from the 2004 Annual Population Survey

9. This analysis is based on commuting linkages for Cambridge's official TTWA. The results change slightly if commuting linkages for Cambridge City are analysed, and other Local Authorities may be included.

Figure 1: In-commuting into Cambridge TTWA in 2004



Source: Own representation with data from the Annual Population Survey (2004 data)
 Note: The data shows no in-commuting from Breckland into Cambridge TTWA, which is likely to be a data anomaly.

While these five to six Local Authorities represent the core of Cambridge’s functional economy, its economic footprint is wider still and its economy is becoming more closely integrated with other areas over time. The wider Cambridge region’s labour market overlaps to an extent with that of London and Peterborough, and there are strong wider economic links with these two cities.

For example, data for 2007 indicates that out-commuting into East Hertfordshire has more than doubled since 2004, and the Cambridge TTWA now attracts more than double the number of in-commuters from Croydon, Peterborough and East Northamptonshire. This strengthening of linkages suggests that what happens in the Cambridge TTWA is becoming progressively more important for the wider region over time.

Table 1: In-commuting into Cambridge TTWA (>1,000) in 2004

Place of Residence	Works in	Works in East	Works in South	Works in
	Cambridge	Cambridgeshire	Cambridgeshire	Cambridge
	CC	DC	DC	TTWA
South Cambridgeshire	24,603	803	32,858	58,264
Cambridge	46,195	706	4,743	51,644
East Cambridgeshire	7,501	19,793	2,772	30,066
Huntingdonshire	7,103	448	4,250	11,801
St. Edmundsbury	3,091	352	2,160	5,603
Forest Heath	1,660	1,227	828	3,715
Uttlesford	1,712	153	1,275	3,140
North Hertfordshire	1,234	-	1,825	3,059
Fenland	1,762	695	477	2,934
Kings Lynn & West Norfolk	417	915	136	1,468
Mid Bedfordshire	619	-	682	1,301

Source: Annual Population Survey 2009 for 2004 data

Table 2: Out-commuting from Cambridge TTWA (>1,000) in 2004

TTWA	Place of Work	Lives in Cambridge CC	Lives in East Cambridgeshire DC	Lives in South Cambridgeshire DC	Lives in Cambridge TTWA	Functional economic area
	Cambridge	46,195	7,501	24,603	78,299	
	South Cambridgeshire	4,743	2,772	32,858	40,373	
	East Cambridgeshire	706	19,793	803	21,302	
	Forest Heath	-	4,639	887	5,526	
	Huntingdonshire	983	1,075	1,906	3,964	
	North Hertfordshire	243	217	2,494	2,954	
	Uttlesford	423	287	1,397	2,107	
	City of London	591	367	859	1,817	
	St. Edmundsbury	490	488	527	1,505	
	Peterborough	123	781	178	1,082	
	Westminster	573	172	304	1,049	

Source: Annual Population Survey 2009 for 2004 data

An analysis of business links underlines the importance of Cambridge to the surrounding area and other city economies such as Peterborough. Industrial specialisation analysis indicates that the Local Authorities surrounding Cambridge's official TTWA, in particular Forest Heath, Huntingdonshire and St. Edmundsbury, currently benefit from the Cambridge TTWA and that they will therefore benefit substantially from investment in the Cambridge TTWA and from its expansion.

Analysis of potential accessibility¹⁰ and industrial specialisation indicates that Cambridge has complementary business relationships with London, Reading, Peterborough, Crawley and Oxford. These sectoral relationships are strongest with London and Peterborough, the cities with the shortest travel time by car from Cambridge (92 and 55 minutes respectively).¹¹

Policy implications

- Investment in the Cambridge TTWA benefits the wider region**
 The Cambridge TTWA provides over 160,000 jobs for residents from the wider Cambridge region, and its wide network of linkages makes it a key economic driver for the region and an asset for the UK. Investing in transport and housing in the Cambridge TTWA to alleviate future constraints will therefore deliver economic benefits not just to the TTWA, but also to the wider region. This significant return on investment needs to be better communicated and factored into decision making, for example, by the East of England Development Agency (EEDA) and the Government Office for the East of England.
- Business conditions in the Cambridge TTWA need to be improved**
 The Local Authorities within Cambridge's core functional economic area should work with EEDA, Cambridgeshire Horizons and the Greater Cambridge Partnership to promote investment to support growth and improve business conditions in the Cambridge TTWA, and particularly for investment in housing and transport, which seem to present the main constraints.

10. Potential accessibility analysis assumes that Cambridge TTWA's economic potential depends on the economic size of places elsewhere, measured by GVA, accounting for the travel time it takes to get from them to Cambridge (travel times, AA Route Planner).

11. This paragraph refers to TTWAs.

Growth & change

The wider Cambridge region's economic success depends on its competitiveness as a business location, the number and quality of job opportunities available to residents and workers and its attractiveness as a place to live and bring up children.¹² Policy makers need to create the right conditions for economic growth, so that businesses, residents and workers can prosper. However, they face major challenges in doing so, including the recession, lower public spending and increasing infrastructure bottlenecks, such as congestion and high house prices and rents.

Cambridge has grown to be one of the UK's most successful cities and an important asset for the UK economy. But the city's transport system is now struggling to accommodate the region's growth, and this, combined with a lack of affordable housing within the city, will affect the labour market, and impact on the environment through rising congestion. These pressures not only threaten the future competitiveness of existing businesses, but if not resolved, they also risk discouraging businesses and workers from outside the area from locating and investing in the wider Cambridge region.

Cambridge's success story...

- With an annual growth rate of 1.0 percent Cambridge had the third fastest growing population in the UK between 1997 and 2007¹³
- At £533.4, Cambridge had the fourth highest average weekly earnings in the UK in 2008¹⁴

... emerging pressures

- Between 2006 and 2008 Cambridge's average weekly earnings have declined by 0.6 percent¹⁵
- Between 2006 and 2007 employment in Cambridge decreased by 3.7 percent¹⁶

Addressing these emerging constraints to growth is increasingly important. This is particularly critical as Cambridge operates within an international context. Cambridge's firms now compete globally with places such as Boston and the Silicon Valley for new business and investment. Importantly, they also compete for talented workers that drive business success with these places. Cambridge will have to intensify efforts to stay competitive, attract dynamic firms and workers and grow more high-value jobs. Cambridge must compete with industrialised and emerging economies in a "race to the top" rather than a "race to the bottom".¹⁷

Housing and population growth is critical to sustaining the wider Cambridge region's economic success and quality of life. But fears that growth has negative social or environmental impacts - damaging the quality of life that is a key part of Cambridge's strength - need to be countered. Growth and sustainability do not have to be competing policy objectives. In fact, growth can benefit the wider Cambridge region in a variety of ways, if it is well planned physical growth rather than urban sprawl. The current Regional Spatial Strategy (RSS) sets out the framework for such well planned growth in the wider Cambridge region up to 2021 and the Cambridgeshire Quality Charter for Growth sets out ambitious goals for the quality of new developments in the area.¹⁸

12. See www.cambridgeshirehorizons.co.uk/about_horizons/vision.aspx

13. NOMIS 2008, *Mid Year Population Estimates*

14. NOMIS 2009, ASHE

15. NOMIS 2009, ASHE

16. NOMIS 2008, APS

17. Lord Sainsbury of Turville (2007) *The Race to the Top: A Review of Government's Science and Innovation Policies*. London: HMSO; Brown H (2008) *UK cities in the global economy*. London: Centre for Cities

18. *Cambridgeshire Horizons (2008) Quality Charter for Growth in Cambridgeshire*. Cambridge: Cambridgeshire Horizons

Economic benefits of growth

- Physical and economic growth strengthens economic benefits for the Cambridge TTWA and its wider region, for example, through increasing the pool of potential employers for residents of the wider Cambridge region or the potential for knowledge spillovers.
- Growth constraints drive up the cost of living (housing costs and congestion) and constrain economic performance. Growing the Cambridge TTWA in the right way – providing the right type of housing and supporting infrastructure – can alleviate these constraints and create economic benefits by helping Cambridge grow to reach its full potential.¹⁹

Inclusiveness benefits

- If greater incentives to support local economic development and housing growth were put in place, this would make housing more affordable for local people. It could also unlock new investment in amenities for local citizens and comprehensive public transport systems linking people at all ends of the labour market to jobs.

Sustainability benefits

Growth by densification can improve environmental sustainability.

- Research shows that denser cities tend to have lower overall CO₂ emissions per head.²⁰
- Density reduces overall demand for travel and encourages more environmentally friendly transport: travel demand falls sharply as densities exceed 50 people per hectare and rises sharply when densities fall below 15 people per hectare.²¹

The relationship between density and sustainability



All cities are different. However, denser cities can be more efficient and more sustainable. Research has shown that denser cities around the world have a lower private transport energy use per capita. Private transport energy use in Boston, for example, which has an average urban density of 12.5 persons per hectare, was 50,000 per capita in 1990; while in Hamburg it was 20,000 per capita (37.5 persons per hectare) and around 3,000 per capita in Hong Kong (300 persons per hectare).²²

Growing through densification rather than urban sprawl therefore has the potential to make transport in Cambridge more sustainable, as more residents are able to walk or cycle to work.

How should the wider Cambridge region grow?

Cities can grow in different ways and need to avoid urban sprawl. Urban infill, new settlements (such as Northstowe) and especially peripheral urban extensions perform best overall on a variety of economic, social and environmental criteria.²³

19. Recent research by Overman HG & Rice P (2008) *Resurgent Cities and Regional Economic Performance*. SERC Policy Paper 01, indicates that Cambridge city is smaller than its optimum size.

20. Adams D & Watkins C (2002) *Greenfields, Brownfields & Housing Development*. Oxford: Blackwell Science.

21. ECOTEC (1993) *Alternative Development Patterns: New Settlements*. London: HMSO

22. Newman P & Kenworthy J (1999) *Sustainability and Cities: Overcoming Automobile Dependence*, Washington DC: Island Press.

23. Breheny M & Rockwood R (1993) *Planning the sustainable city region*, in: Blowers A (Ed.) *Planning for a Sustainable Environment, a report for the Town and Country Planning Association*. London: Earthscan. pp. 150-89

In the wider Cambridge region, following the step-change decision taken in the 2003 RSS to release substantial amounts of Green Belt land for development, major urban extensions are already being taken forward on Green Belt on Cambridge's Northern, Eastern and Southern fringes. Such developments are sensitive and in the wider Cambridge region have required a lot of courage and significant political commitment from all the Local Authorities.

What about future developments beyond the significant expansion already planned in the spatial strategy to 2021? The wider Cambridge region's urban shape – a city surrounded by satellite and market towns separated by a Green Belt – means that if further growth of Cambridge is to be planned, then consideration should be given as to whether it is feasible to develop further into low monetary and amenity value Green Belt land, as well as looking at options to increase density further within Cambridge itself. The Accordia development in Cambridge, which was shortlisted for the 2008 Stirling Prize, is an excellent example of how to expand by densifying whilst maintaining quality. This would continue the existing 2003 RSS strategy, and would be appropriate given that the potential for further new regional-scale settlements in the wider Cambridge region is relatively limited.²⁴

Major urban extensions: the example of Swindon

Swindon benefited from the creation of a major urban extension in the 1960s/70s, with the creation of a 'new urban neighbourhood', which struck a balance between population and employment, high standards of development and high-quality, publicly-provided facilities.

This example highlights the importance of local leadership in communicating the benefits of a planned urban expansion, such as a wider range of jobs, housing and civic amenities such as new schools and a new hospital. The city was able to provide these without raising council tax, due to the increase in its rateable base.²⁵ Major urban expansions along the lines of the growth already planned could lead to balanced development in the Cambridge TTWA and more amenities, but their success depends on continued commitment by local leadership.

Policy implications

The wider Cambridge region has established a strong consensus for sustainable growth across Local Authorities, and through the establishment of Cambridgeshire Horizons has committed to delivering against the agreed spatial strategy. But the urban shape of the wider Cambridge region can make such growth tricky. Major urban extensions on green belt land such as those already being taken forward by the Authorities are sometimes controversial, but can help the city grow sustainably.

Major urban extensions of Cambridge would allow the city to gravitate towards a scale that could help decrease commuting and congestion in the wider region, as more people would be able to walk or cycle to work or use the bus. In addition, fewer people would be pushed out into the wider region by a shortage of more affordable housing in the city, needing to commute into Cambridge by car. The overall effect of this would be a decrease in congestion within Cambridge. Major urban extensions would also increase the opportunities for public transport, in particular for more and better supported bus services which could form the backbones of a more comprehensive public transport system. However, planning for these kinds of development would need to consider the physical environment of Cambridge's narrow historic streets and bridges.

24. Arup (2009) *Regional Scale Settlement Study*. See also Knight Frank (2009) *The future of residential development. Unlocking the housing market*.
25. Adams D & Watkins C (2002) *Greenfield, Brownfields & Housing Development*. Oxford: Blackwell Science.

- **Implication: Communicating the importance of density can strengthen support**
Taking into account the wider Cambridge region's expected growth there is a need for policy makers to better communicate the economic, inclusiveness and environmental benefits of bigger, denser cities more clearly to their residents. This would build a local consensus for growth that would go beyond the sub-regional decision makers. Cambridgeshire Horizons should support the Local Authorities in this endeavour.
- **Implication: Further green belt development could alleviate growth pressures**
To ensure the future competitiveness of the Cambridge cluster when considering further growth of Cambridge beyond 2021, Cambridge City Council, South Cambridgeshire District Council and the County Council should jointly examine the potential for developing further into the green belt around Cambridge City, as a more attractive option than dispersed growth. Future developments should build on low value Green Belt land and further increase density within the existing urban area. The framework for this is already laid out in the Regional Spatial Strategy (in particular policy P1/1)²⁶ and the recommendations of the Barker Review.

How can transport and housing support sustainable economic growth in Cambridge?

As previously discussed, growth and success can create infrastructure and housing bottlenecks. Transport and housing are identified as the two principal emerging constraints on future economic growth in the wider Cambridge region. To analyse the impact of this on growth and prosperity in the Cambridge TTWA, it is crucial to first understand the linkages between the workplace, housing and skills in the labour market.

Housing, workplaces and skills are interlinked

People with different levels of skills tend to commute by different modes of transport. A lack of adequate public transport provision disproportionately affects those at the lower levels of the labour market. Transport linkages also feed through into house prices, and those at the lower levels of the labour market tend to live in areas that are less accessible.

To sustain economic success, the Cambridge TTWA needs to be able to attract highly skilled, specialised labour essential to the technology and bio-tech clusters and the University of Cambridge. But it also needs to offer affordable housing for those at the lower end of the labour market and meet the range of skills needs in the economy (e.g. plumbers or telecom engineers).²⁷ High house prices in Cambridge price out those on lower and middle incomes. In fact, house prices are so high, that even Cambridge University is starting to find it difficult to attract world class professors. This leads to a 'sorting' of different skills levels across the functional economic area, with a greater proportion of people with lower skills levels living in the Fens and more of those with higher skills levels living in the city of Cambridge.

Misalignments between housing availability and place of work in Cambridge have led to increased levels of car-based commuting to the variety of business parks around Cambridge, congestion and pollution.

26. Cambridge & Peterborough Structure Plan (2003) *Planning for Success*. Cambridge: Cambridgeshire County Council & Peterborough City Council
27. Gibb K, O'Sullivan T & Glossop C (2008) *Home Economics: How Housing Shapes City Economies*. London: Centre for Cities, and Barker K (2004) *Delivering Stability: Securing our Future Housing Needs*. London: HMSO.

Transport and economic growth in Cambridge

Transport is of key importance to city economies²⁸ – linking people to jobs, companies to markets and the regional to the national and international economy. It is also a key factor in the location decisions of companies and highly skilled workers. And it is increasingly the most difficult area to address in terms of reducing carbon emissions.²⁹

Since the deregulation of public transport services, Local Authorities have often found it challenging to tailor public transport to their economies' needs. The Local Transport Act changes this - facilitating the establishment of Integrated Transport Authorities, and the introduction of Quality Contracts³⁰ and Quality Partnerships.³¹ The Act also makes the introduction of congestion charging schemes easier for those cities wishing to do so. All cities, including Cambridge, need to make the most of these new options where they can support their economies.

New governance tools for local authorities

Integrated Transport Authorities (ITA)

- replace the former Passenger Transport Authorities (PTA)
- are responsible for public transport in the area they cover
- have the power to introduce congestion charging schemes, bus quality partnerships or bus quality contracts and raise funds for public transport investment
- can be extended beyond the former PTA area to cover functional economic areas and can be introduced in areas that were not previously covered by PTAs

Economic Prosperity Boards (EPB)

- enable groups of Local Authorities to act collectively to promote economic development
- can bring planning across a functional economic area together
- do not have fundraising levers

Combined Authorities (CA)

- merge ITAs and EPBs and are therefore similar to the creation of a Unitary Authority
- bring planning and transport powers together across a functional geographical area
- only have fundraising levers for public transport investment

Transport pressures on growth

Cambridge's success has led to growth over the past decade, and the wider Cambridge region is now identified as one of the prime locations to deliver the Government's three million homes target. Population increased by an average of one percent each year between 1997 and 2007,³² and 3,910 new dwellings were started and 4,140 completed in Cambridgeshire in 2007-08, with very similar numbers throughout the preceding decade.³³ The three Local Authorities with the highest projected increases in the number of dwellings between April 2006 and March 2021 are: South Cambridgeshire (19,980), Cambridge (16,700) and Huntingdonshire (8,310). This growth is a sign of success, and should help to alleviate pressure on the housing market, but it creates more pressures on the transport system.

28. Sir Rod Eddington (2006) *The Eddington Transport Study: Transport's Role in Sustaining the UK's Productivity and Competitiveness*. London: HMSO.

29. Sir Nicholas Stern (2006) *The Stern Review: The Economics of Climate Change*. London: HMSO.

30. An example of an existing Bus Quality Contract is London. Quality Contracts are in effect the franchising of a network of services. (See *pteg Local Transport Bill update and briefing*)

31. Quality Bus Partnerships represent an agreement between the local transport authority and bus service operators: the authority commits to improving the quality of infrastructure (e.g. bus priority lanes), the operators commit to providing an agreed quality of service.

32. Centre for Cities (2009) *Cities Outlook 2009*. London: Centre for Cities

33. CLG: *Housing Starts and Housing Completions*

Transport and congestion

Currently most of the strategic road network around Cambridge is described as heavily or at least moderately congested.³⁴ And although the Local Authorities have succeeded in keeping traffic volumes crossing Cambridge's radial cordon (bounded by the A14, the M11 and the built-up area to the south and east) broadly stable since 1997, peak and off-peak periods are still pronounced. Meanwhile, the average number of people in cars and taxis crossing the River Cam in March 2007 was only 1.3 per vehicle, and the average number of persons in buses and coaches was 14, which is below capacity.³⁵

Congestion can be a major barrier to economic growth – it constrains the functioning of labour markets, wastes time and resources of businesses and reduces accessibility and attractiveness of place. These problems can be hugely costly for an economy. For example, the 2003 cost of congestion across the six counties of the East of England was estimated at £1 billion, with total welfare costs in the Cambridge TTWA around £70 million, increasing to over £170 million by 2021.³⁶

Existing transport policy

Cambridge City Council and Cambridgeshire County Council have already taken steps to alleviate growing transport pressures, such as:

- The City Council raised car park prices within the city centre to deal with increasing congestion and encourage behavioural change. The County Council has restricted private car access to central parts of the city, and built park and ride facilities at the city's outskirts linked with public transport, and these have proved very popular.
- The County Council is working in an informal partnership with Stagecoach, the major bus service provider, to align bus services to Cambridge's economic needs.
- The Cambridgeshire Guided Busway – a major addition to public transport infrastructure – will open in late summer 2009, initially linking St. Ives to Cambridge.



These steps have had success in promoting public transport usage. For example, Cambridgeshire increased its bus trips per head by 36 percent between 2001-02 and 2007-08, an impressive increase reflecting the success of Park and Ride and other factors. But in spite of this the data also shows that Cambridgeshire (36 trips per head in 2007-08) still lags behind Oxfordshire (55 trips per head in 2007-08) and Peterborough (76 trips per head in 2007-08).³⁷ While differences between the areas can explain some of the disparity, this indicates that there may be further potential to increase bus usage – through facilitating modal shift away from the car.

But despite their success, these measures will not be enough to tackle planned levels of future growth. Unless addressed, congestion will impact in the future on the wider Cambridge region's already congested roads and trains (see Figure 1 in the Annex), which will in turn impact on economic competitiveness.

34. Department for Transport: *Congestion on the Strategic Road Network* (retrieved May 15th 2008)

35. Cambridgeshire County Council (2008) *The 2007 Traffic Monitoring Report*. Cambridge: Cambridgeshire County Council.

36. EEDA (2008) *Transport Economic Evidence Study*. London: Steer Davies Gleave.

37. Cambridgeshire County Council (2008) *Data on best value performance indicators*. This data on was used to supplement the more inclusive Census 2001 data.

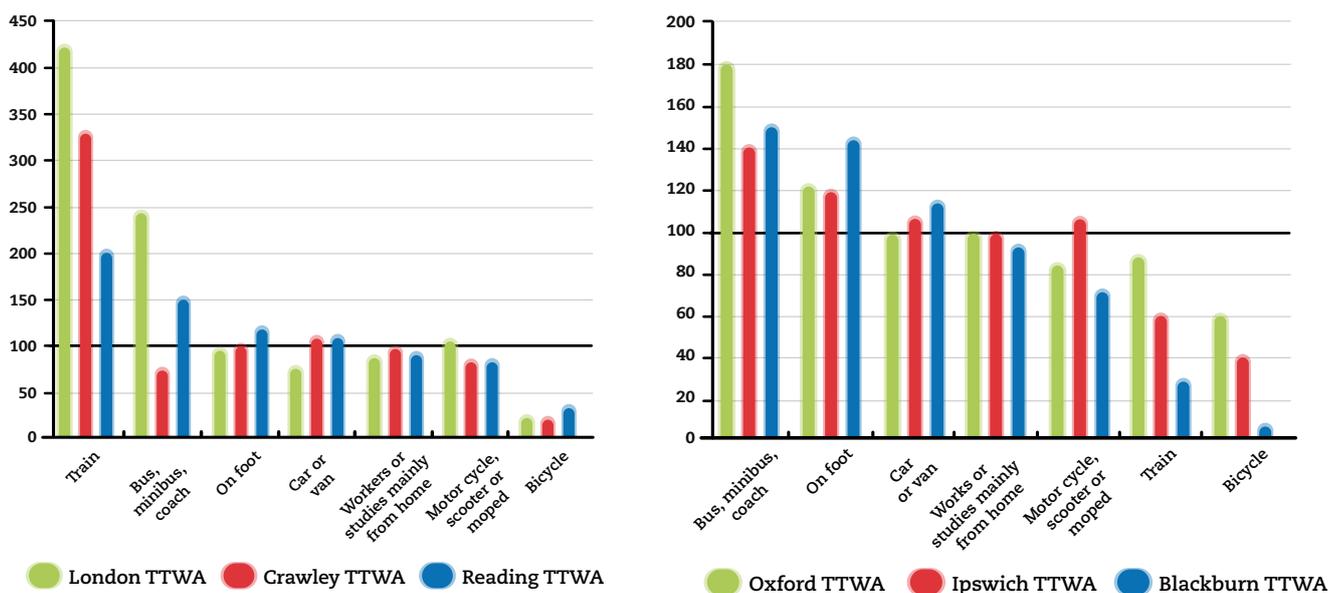
Congestion and transport use

The modal share of travel to work indicates where transport pressures come from which could potentially harm its economy. The Cambridge TTWA should have a similar travel to work modal share as other top economic performers or cities of a similar size.³⁸

The charts below show, that in 2001:

- The Cambridge TTWA was characterised by a much higher percentage of people travelling to work by bicycle than any of the other comparator cities.
- The Cambridge TTWA's commuters used the bus much less than commuters in similarly performing cities, but also less than in similarly sized cities which might be more comparable. This may be partly due to higher cycle usage, but there is an opportunity to increase bus usage in the Cambridge TTWA building on the successful hub-and-spoke network linking people to the city centre.
- The train was used more in other similarly well performing cities than in the Cambridge TTWA, where the use of rail for commuting purposes is constrained, as the sub-region's few stations provide services that are not focused on local commuting.
- The Cambridge TTWA had a similar percentage of people using the car or van to drive to work to cities that perform similarly well economically and cities that are of a similar size.

Figure 2: Travel to work – modal share 2001 (Cambridge=100)



Source: Own calculations with data from the Census 2001

How will congestion pressures increase?

The report sets out three scenarios looking at the impact of housing growth on commuter flows in the wider Cambridge region's Local Authorities. The analysis is based on projected housing growth to 2021 and a similar pattern of commuter flows as in 2004.

- Scenario 1: One working age person lives in each new dwelling.
- Scenario 2: An average of 1.5 working age persons in each new dwelling.
- Scenario 3: Two working age persons in each new dwelling.

38. The data used is the most reliable, but it is slightly out of date and does not yet cover the impact of Park and Ride.

Table 3 below shows the three Local Authorities that will experience the highest increase in housing, South Cambridgeshire, Cambridge and Huntingdonshire,³⁹ and the Local Authorities where these new residents are most likely to work. The results depicted are for the mid range scenario (scenario 2).

Table 3: Top likely workplaces of future residents (2021) – mid range scenario

Place of Work	New South Cambridgeshire Residents	New Cambridge Residents	New Huntingdonshire Residents
South Cambridgeshire	11,836	1,588	522
Cambridge	8,862	15,470	873
North Hertfordshire	898	81	109
Huntingdonshire	687	329	6,617
Uttlesford	503	142	-
City of London	309	198	71
Peterborough	64	41	819
Bedford	187	-	237
East Cambridgeshire	289	236	55

Source: Own calculations with data from APS, Census 2001 and East of England Plan

Note: For informative purposes only these numbers have not been rounded.

This gives a useful indication of the pressures that will grow on transport corridors increasing in importance over the coming years and which should be the priority corridors for investment. These include:

- Pressures within Local Authorities, especially in South Cambridgeshire and Cambridge
- South Cambridgeshire into Cambridge
- Huntingdonshire into Peterborough and Cambridge
- South Cambridgeshire into North Hertfordshire and Huntingdonshire

Pressures on the links to London, especially into the City, will also grow, but at a much slower rate.



Many of these linkages cross administrative boundaries (i.e. county/county or county/unitary) and will increase the need for joint working by Authorities across the region, which currently already takes place primarily through the Regional Assembly. The Assembly's expected closure in 2010 stresses the need for increased partnership working between the wider Cambridge region and the surrounding Local Authorities such as North Hertfordshire or Peterborough on planning and transport issues. This could be facilitated through Cambridgeshire Horizons.

Assuming a similar pattern of commuting modal shares as in 2001 makes it possible to predict which modes of transport the new commuters are likely to use. This is of course a simplifying assumption that does not capture the effect of the introduction of Park and Ride or the Cambridgeshire Guided Busway.

³⁹. A corresponding table for East Cambridgeshire and Fenland, the other two local authorities with planned increases in housing in Cambridgeshire, can be found in the Annex.

Even accounting for these past and future improvements, the predictions strongly suggest that, without major interventions, Cambridgeshire's planned growth will increase congestion. In the mid-range scenario:⁴⁰

- 6,190 out of 11,840 new South Cambridgeshire residents working in South Cambridgeshire will drive to work, 1,230 will walk and 860 will cycle.
- 6,060 out of 8,860 new South Cambridgeshire residents working in Cambridge will drive to work, 930 will use the bus and 850 will cycle.
- 4,270 out of 15,470 new Cambridge residents working in Cambridge will drive to work, 4,900 will cycle and only 820 will take the bus.

All of this demonstrates that tackling this congestion through effective demand management and a major increase in investment in public transport should be a top priority for Cambridgeshire County Council. This conclusion aligns with the findings of EEDA's recent Transport Economic Evidence Study.

Decreasing congestion in Cambridge

Congestion poses a serious economic cost and the consultation around Cambridge's Congestion Transport Innovation Fund (C-TIF) bid indicates that many businesses are considering leaving Cambridge if congestion is not dealt with. In fact, in the County Council's own 2008 survey, 59 percent of people in Cambridge say they would support a congestion charging scheme if attractive public transport alternatives were available.

To tackle congestion, Cambridgeshire County Council is examining proposals to bid for around £500m worth of investment from the C-TIF, but the decision has effectively been put off until Autumn 2009. The County Council must not delay making a decision any further - it needs to act as soon as possible after the results of the Transport Commission are reported in the summer, as the fund will not be available indefinitely.

In the wake of the Manchester 'no' vote, and given future fiscal pressures on expenditure, it is unlikely that C-TIF will continue in its present form for much longer. The next few months therefore represent the last possible opportunity for the County Council to unlock such a significant amount of up-front investment – and guarantee an estimated £30 million per annum in future revenue for further investment in public transport improvements.⁴¹ None of the currently identified alternatives to C-TIF would have a similar economic dividend or unlock a similar chunk of funding for investment in public transport. The Centre for Cities and other organisations are now looking at how the C-TIF money could be used to support urban transport infrastructure in other ways.

How might a congestion charge affect the wider Cambridge region?

A congestion charging scheme would have two principal impacts on the labour market in the wider Cambridge region:

- A decrease in travel times within Cambridge's existing functional labour market area which would increase labour market flexibility.
- A decrease in travel times which would widen the reach of Cambridge's functional labour market, giving companies access to a bigger and more varied pool of labour.

40. The tables from which this information stems can be found in the Annex.

41. EEDA (2008) *Transport Economic Evidence Study*. London: Steer Davies Gleave.

However, a charging scheme can have potential negative effects on people living in areas that are less accessible and those working in certain kinds of professions, such as key or shift workers.⁴² The City Council has concerns about the fairness of a charging scheme for city residents.

The impact of a charging scheme on the housing market in the wider Cambridge region is less clear cut:

- House prices inside the areas that are now within Cambridge's functional labour market (e.g. St. Edmundsbury or North Hertfordshire) are likely to experience a marginal positive impact, as the impact of better linkages feeds through into house prices.
- The net effect inside the charging zone is unclear as the charge itself can create downward pressure on house prices, while the scheme's benefits can create upward pressures. The evidence from London suggests that the net effect on house prices might be negative, but this could vary from city to city.⁴³

How else can congestion be tackled?

- **Active business policy:** The Netherlands pursue a policy of 'The right business in the right place', where firms are classified according to their mobility profile. Firms with many employees and visitors, for example, are located near a major public transport node, while transport companies are located near a motorway.⁴⁴
- **Increasing public transport usage:** The introduction of integrated ticketing in Paris led to average annual increases in demand for public transport of 1.7 percent between 1975 and 1993.⁴⁵
- **Integrating transport and urban planning:** Portland Oregon is another example of transport integration. For more than 40 years city planners have integrated transport policy with the urban growth agenda – making Portland one of the US's most liveable cities and the US city with the second lowest per capita transportation spending.⁴⁶

These examples highlight the importance of bringing together planning policy and transport integration for reducing congestion in the Cambridge TTWA.

Transport and sustainability

Sustainability lies at the heart of Cambridge's growth vision and is of central importance to its success. Sustainability, green space and a good quality of life are all considered important factors in the location decision of companies and highly skilled people – so sustainability matters for the economy as well as for the environment.

Cambridge City performs well on CO₂ emissions, but the TTWA performs poorly

In 2006 Cambridge had the third lowest CO₂ emissions per capita from road transport of all English Primary Urban Areas with 0.75 tonnes. This represents a very good performance, but it is not surprising considering that a) urban areas are more carbon efficient and b) Cambridge's boundaries do not capture Cambridge's functional economic area.

42. For more information see Tochtermann L (2008) *Congestion charging: A tool to tackle congestion in UK cities?* London: Centre for Cities

43. Zhang Y & Shing H-F (2006) *The London Congestion Charge and Property Prices: An evaluation of the impact on property prices inside and outside the zone.* MPRA Paper No. 4050.

44. Gossop & Webb (1993), in Blowers A (Ed.) *Planning for a Sustainable Environment, a report for the Town and Country Planning Association.* London: Eartscan.

45. Preston J, Marshall A & Tochtermann L (2008) *On the Move: delivering integrated transport in Britain's cities.* London: Centre for Cities.

46. See www.pbs.org

However, repeating this ranking using officially defined TTWAs as the geographical level of analysis, Cambridge drops from third to 55th – the real economy performs much worse. Table 4 highlights TTWAs of similar size in blue and TTWAs that are performing similarly well economically to Cambridge⁴⁷ in red, areas that fit both criteria are highlighted in green. With the exception of Northampton and Daventry all of these areas have lower CO₂ emissions per capita from road transport than the Cambridge TTWA, in particular those of similar economic performance. However, these cities all have a similar share of people commuting to work by car as Cambridge, indicating that the high figure in Cambridge might be due to the Cambridge TTWA's particular urban shape, with much commuting from satellite towns, and due to congestion driving up CO₂ emissions.

Table 4: CO₂ emissions per capita from road transport (t) in 2006 by TTWA

Rank	TTWA	Road Transport Emissions (t)	Population Road in 000s	Transport Per Capita Emissions (t)
1	Gloucester	104	113.2	0.92
2	Portsmouth & Fareham	477	499.8	0.95
3	Worthing	98	98.7	1.00
4	Bristol	668	664.9	1.00
5	Rochdale	211	206.5	1.02
6	Burnley & Nelson & Colne	185	178.1	1.04
7	Swindon	219	186.6	1.17
8	Blackpool	399	328.8	1.21
9	Milton Keynes	278	224.8	1.24
10	Sheffield & Rotherham	975	779.1	1.25
29	London	14,413	9,401.4	1.53
34	Reading	900	547.6	1.64
35	Blackburn	576	347.9	1.66
47	Mansfield & Alfreton	659	289.5	2.28
48	Leicester	1,397	609.6	2.29
49	Telford & Bridgenorth	495	213.7	2.32
50	Guildford & Aldershot	1,456	619.9	2.35
51	Crawley	1,424	568.4	2.50
52	Coventry & Hinckley	1,492	593.4	2.51
53	Ipswich	869	334.6	2.60
54	Oxford	1,322	494.5	2.67
55	Cambridge	1,089	332.9	3.27
56	Northampton & Daventry	1,594	367.1	4.34

Similar size to Cambridge / Similar economic performance to Cambridge /
 Similar size and economic performance to Cambridge

Source: Own calculations with data from DEFRA

47. These were chosen in line with the City Outlook 2009 City Performance Index.

Cambridge TTWA's emissions performance will deteriorate in the future

Assuming modal split in the new growth areas will be broadly the same as in the corresponding Local Authorities, it is possible to estimate how CO₂ emissions within Cambridge are likely to evolve over time.⁴⁸ This analysis (see Table 5 below) indicates that by 2021 CO₂ emissions from road transport will increase at the very least by 5.6 percent to 1,150, unless major interventions in terms of investment in lower carbon alternatives and demand management are made.

Table 5: Expected increase in CO₂ emissions (kt) by 2021

Cambridge TTWA	Scenario 1	Scenario 2	Scenario 3
Baseline: 2006 road transport CO ₂ emissions (kt)	1,089	1,089	1,089
Increase in commuting working age population travelling to work by car	18,674	28,012	37,350
Expected increase in CO ₂ emissions (kt)	61	92	122
Expected increase in CO ₂ emissions as percentage of total road transport emissions	5.6%	8.4%	11.2%

Source: Own calculations with data from DEFRA, APS and 2001 Census

Among comparators, the Cambridge TTWA is one of the least sustainable in terms of CO₂ emissions from road transport and CO₂ emissions are likely to increase even further in future. This has an economic cost for the wider Cambridge region and will lead to further deteriorations in sustainability, if it is not dealt with now.

How have other cities promoted more sustainable transport usage?

- Brighton established a one-stop shop providing advice and information on available public transport services.
- Bristol introduced innovative pedestrian signing – ‘wayfaring’ pedestrians with interactive maps that indicate how long it would take to walk to certain destinations. Evidence suggests uptake has been high. A similar scheme might help decrease the relatively high number of Cambridge residents who drive to work in Cambridge.

Together, the above examples highlight the importance of smart choices in promoting sustainable modes of transport in the Cambridge TTWA.

48. The estimate shows the increase in CO₂ emissions by 2021 caused by those of the new residents in Cambridge City, East Cambridgeshire and South Cambridgeshire commuting to work by car for the three scenarios discussed above. This is a careful estimate excluding, for example trips, by other household members.

Transport policy recommendations

To support sustainable economic growth in the Cambridge TTWA, reduce CO₂ emissions from transport, and facilitate traffic flow there are a variety of actions local stakeholders can take over the short, medium and longer term.

Short-term recommendations (next 12 months)

- **Make a final decision on congestion charging**

Congestion comes at an economic cost to Cambridge and the wider region and it increases emissions from road transport. The County Council has effectively delayed making a decision on its bid for investment from the Congestion Transport Innovation Fund (C-TIF) until autumn 2009. Any longer than this will be too late, as it is unlikely that the C-TIF programme will continue in its present form for much longer after Manchester's 'no' vote.



Cambridgeshire County Council therefore needs to make a choice now. The Council should make a final decision on its C-TIF bid within the next six months – or make alternative plans to tackle congestion that do not count on a significant injection of Government funding. None of these plans, such as optimising traffic flow below, would have a similar economic dividend or unlock a similar chunk of funding for investment in public transport. This report therefore strongly recommends that the County Council pursue its C-TIF bid – as Ministers will not wait much longer to reprioritise the C-TIF fund. The Centre for Cities and other organisations are already looking at alternative uses for the C-TIF money – so a fast decision is essential.

- **Optimise traffic flow**

Although not as effective as congestion charging in decreasing road transport emissions, optimising car traffic flow, for example through re-phasing traffic lights, can provide a quick fix in the short term. The County Council could therefore further optimise car traffic flow across Cambridgeshire, if it wanted to decrease road transport emissions.

- **Design an integrated network map**

To increase the use of more sustainable modes of transport in the short term, Cambridgeshire County Council should take the lead in designing a London underground style map of the wider Cambridge region's public transport network. This should be done in cooperation with Stagecoach and the other bus and train operating companies, ideally building on Stagecoach's existing map of its bus services across Cambridgeshire.

Medium-term recommendations (next 1-3 years)

- **Improve transport governance to align with the functional economic area**

Cambridge's functional economic area crosses several administrative boundaries and is closely interlinked with the wider region. While the County Council holds transport powers over most of this area, planning powers lie with the relevant City and District Councils. This has led to misalignments between the provision of transport, housing and jobs in the past. To ensure transport bottlenecks are tackled effectively across the wider Cambridge region in the future, planning and transport powers need to be better aligned across the six Local Authorities in Cambridge's core functional area.

There are a range of governance options available, which vary in the degree to which they align transport and planning policy and delivery. For instance:

- **Cross-boundary working group.** This could be achieved by widening the membership of the Joint Transport Forum within the County Council to include planners from East Cambridgeshire District Council, Forest Heath District Council, Huntingdonshire District Council and St. Edmundsbury Borough Council and transport planners from Suffolk County Council. Another possibility would be greater cross-County Council cooperation on future Local Transport Plans. Both of these would focus on aligning transport and planning policy.
- **Combined Authority.** This would have responsibility for economic development and transport, for example through the creation of a joint Economic Prosperity Board/ Integrated Transport Authority, across the core functional economic area, as set out in the recent CLG policy document on options for sub-regional cooperation.⁴⁹ This model would help align policy as well as delivery.
- **Unitary Authority.** This would cover the County Council area, cooperating with neighbouring districts over the long term. A unitary would lead to joint transport and planning policy and delivery across Cambridgeshire.

None of these available options exactly match the needs of the wider Cambridge region's local governance structure, but transport and planning stakeholders across Cambridge's core functional economic area should take a decision by 2010 on the most appropriate form of governance to progress towards better joint policy and delivery around these main levers for securing sustainable economic growth.

- **Promote car sharing**
Car sharing is sustainable, but car occupation levels in Cambridge remain low. The City Council should take the lead in promoting car sharing, for example, by giving parking discounts for cars with more passengers within the city centre, or by further strengthening the use of car clubs. In other European countries every car club car tends to remove up to ten private cars from the roads, in the UK this figure is currently slightly lower.⁵⁰
- **Establish orbital bus services**
To increase the use of sustainable modes of transport and better utilise existing bus, guided bus and train services in the wider Cambridge region, the County Council should consider establishing orbital bus services, where the demand for these can be proven, linking dense residential areas with employment centres. This is likely to become viable as planned growth is delivered in the wider Cambridge region.
- **Introduce integrated tickets**
While the creation of a user-friendly network map is a useful tool to increase the use of more sustainable modes of transport in the short term, the introduction of integrated tickets could boost public transport patronage even further over the medium to longer term.⁵¹ The County Council should take the lead in working with Stagecoach, the other bus and the train operating companies to introduce integrated tickets covering both buses and trains across the wider Cambridge region.

49. CLG (2009) *Policy document on options for Sub-Regional Cooperation in the Local Democracy, Economic Development and Construction Bill*

50. See: www.whatgreencar.com/carclubs.php

51. Preston J, Marshall A & Tochtermann L (2008) *On the Move: delivering integrated transport in Britain's cities*. London: Centre for Cities

Longer-term recommendations (3+ years)

- **Identify commuter rail services for enhancement**

The use of rail for commuting in the wider Cambridge region is constrained. At the beginning of this year the Department for Transport announced a new approach to funding local and regional train services. The County Council should take advantage of this new approach and take the lead in working with Network Rail to fund enhanced commuter rail services into Cambridge from around the wider Cambridge region, starting in 2011 with a view to securing funding from the Department for Transport from 2014.

Housing and economic growth in Cambridge

Housing is of key importance to cities' economies. Cities need the right supply of housing in the right location to support their labour markets. Otherwise there is a risk of dis-incentivising the highly skilled from locating in an area or pricing those on lower incomes out,⁵² increasing commuting and congestion. The analysis in this section shows that there is a lack of affordable housing in Cambridge, and in addition there are signs of a misalignment of housing supply and demand in the wider Cambridge region. This is an emerging constraint on Cambridge's future economic success.

Aligning housing with employment opportunities at all levels of the labour market and ensuring the Cambridge TTWA has the right quantity and type of housing is therefore critical, particularly in light of Cambridge's planned growth and its links to the wider economy. Mutually supportive relationships between cities will only work if labour is mobile. For example, high house prices induced by restrictions in the supply of housing limit the flexibility of labour, while a high proportion of dwellings within the private rented sector facilitates labour mobility.

Housing supply

Since the Holford Plan in 1950, Cambridge has, until recently, pursued a policy aimed at restraining development to control urban expansion and protect the character of the city. These restrictions on major developments have led to developments, such as Cambourne (1998), being taken forward beyond the green belt, leading to high levels of commuting, congestion and pollution, at the same time as pursuing a policy of densification and brownfield development within the urban core (1995 Structure Plan).



Since the work of Cambridge Futures (1996 – 2002) this has changed, with the 2003 Structure Plan taking the bold step of releasing a substantial amount of green belt land for development on Cambridge's Northern, Eastern and Southern fringes, and the creation of a new settlement at Northstowe. The Structure Plan also led to the creation of Cambridgeshire Horizons and the establishment of joint planning arrangements between the City Council, South Cambridgeshire District Council and the County Council with regard to urban extensions.

Despite these developments, growth potential still remains constrained by a lack of infrastructure provision, environmental constraints and land shortages, especially as much brownfield land within the city has been redeveloped over the past decade.

52. One example of the former is Sunderland's absence of middle-class housing in the city, an example of the latter is Cambridge.

Undersupply of housing drives up house prices

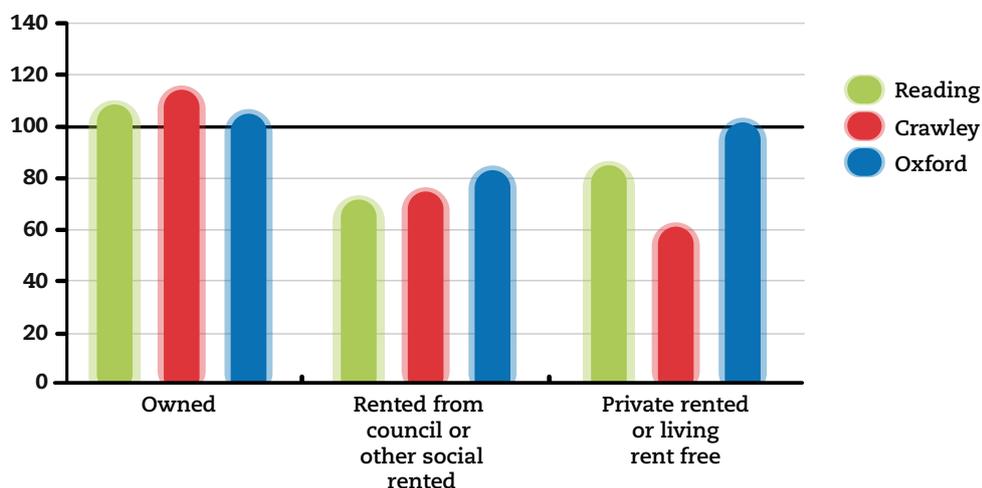
This history of managed development has led to the unusual urban shape of the wider Cambridge region – a city surrounded by market and satellite towns separated by a green belt – and to a general undersupply of housing in Cambridge, which drives up house prices. If unaddressed, this could threaten the long-term attractiveness of the city to highly skilled workers and businesses, and also to the lower skilled and key workers the city needs. It will also prevent Cambridge growing to its full potential. Initiatives such as the provision of housing for key workers on Cambridge’s North-Western fringe will help ameliorate affordability, but it is likely to remain a key long-term challenge.

And just as important as the overall supply of housing, are the different kinds of housing on offer, in particular tenure and size.

- Cities with a higher proportion of housing in the private rented sector have more flexible labour markets.
- Cities with an oversupply of one-bed flats can be very good at attracting young professionals, but may find it more difficult to attract experienced individuals with families.

Figure 3 benchmarks the Cambridge TTWA’s housing offer with that of other top economic performers. Compared to tenure in Reading and Crawley, Cambridge stands out. Both of these cities have a higher percentage of households living in dwellings they own and a much smaller percentage of households living in private rented accommodation. Oxford, on the other hand, seems to be more comparable to Cambridge. Similarly, a look at the different types of dwelling,⁵³ shows a much higher percentage of people in the Cambridge TTWA living in shared dwellings and a much smaller percentage in unshared dwellings that were flats, apartments or terraced houses than in the Oxford, Crawley and Reading TTWAs.

Figure 3: Household Tenure in % in 2001 in TTWAs (Cambridge=100)



Source: Own calculations with data from the Census 2001

The high proportion of renting seen in Figure 3 above suggests that the Cambridge TTWA’s housing market promotes labour mobility. But Cambridge’s large student population skews these figures – up to 9,000 students do not live in dedicated student accommodation.⁵⁴ Table 6 below depicts the variations within the Cambridge TTWA highlighting this: outside the City the percentage of households living in dwellings they own is much higher, but the percentage of households living in private rented is much lower.

53. Own calculations with Census data.

54. Cambridgeshire Horizons et al. (2008) *Strategic Housing Market Assessment*. Cambridge: Cambridgeshire Horizons.

Table 6: Household tenure in % in 2001 – LAs within Cambridge TTWA

Local Authority	Owned	Rented from council or other social rented	Private rented or living rent free
Cambridge	53.5 %	23.6 %	22.9 %
East Cambridgeshire	72.9 %	14.3 %	12.8 %
South Cambridgeshire	75.2 %	14.5 %	10.3 %

Source: Census 2001

The fact that the percentage of people renting in Cambridge City is around 10 percent higher than in East or South Cambridgeshire gives an indication of the likely impact of the large student population on the housing market. The example from Bristol in the box below shows how other cities have tried to relieve this impact.

Releasing family housing by providing student accommodation: Bristol

Providing dedicated student accommodation can free up family housing in the private rented sector and increase labour market flexibility. In Bristol, Unite, the UK’s largest provider of student housing, built student accommodation at three strategic sites: Phoenix Court at Old Market, Blenheim Court opposite the new magistrates court on Marlborough Street and Cherry Court at Barton Hill. These developments have an occupancy rate of over 99 percent and have released approximately 671 units back into the private rental market.⁵⁵

Providing dedicated student accommodation for Cambridge’s 9,000 students living in private rented accommodation might therefore be able to free up over 5,500 units.

Does the Cambridge TTWA have the right quality of housing?

Cambridge needs the right quality of housing to attract the labour it needs. There is a perception that much of the housing stock is of less good quality than would be desirable. Data on the percentage of private dwellings in different council tax bands in 2006 (Neighbourhood Statistics) tends to confirm this: the Cambridge TTWA has a much lower percentage of dwellings in the middle and higher council tax bands and a much higher percentage in the lower council tax bands than the Reading, Oxford and Crawley TTWAs. The Strategic Housing Market Assessment comes to similar conclusions for Cambridge, which has relatively more terraced homes and far fewer detached properties. In addition, Cambridge’s housing stock is comparatively old, with over 30 percent of properties built before 1919.

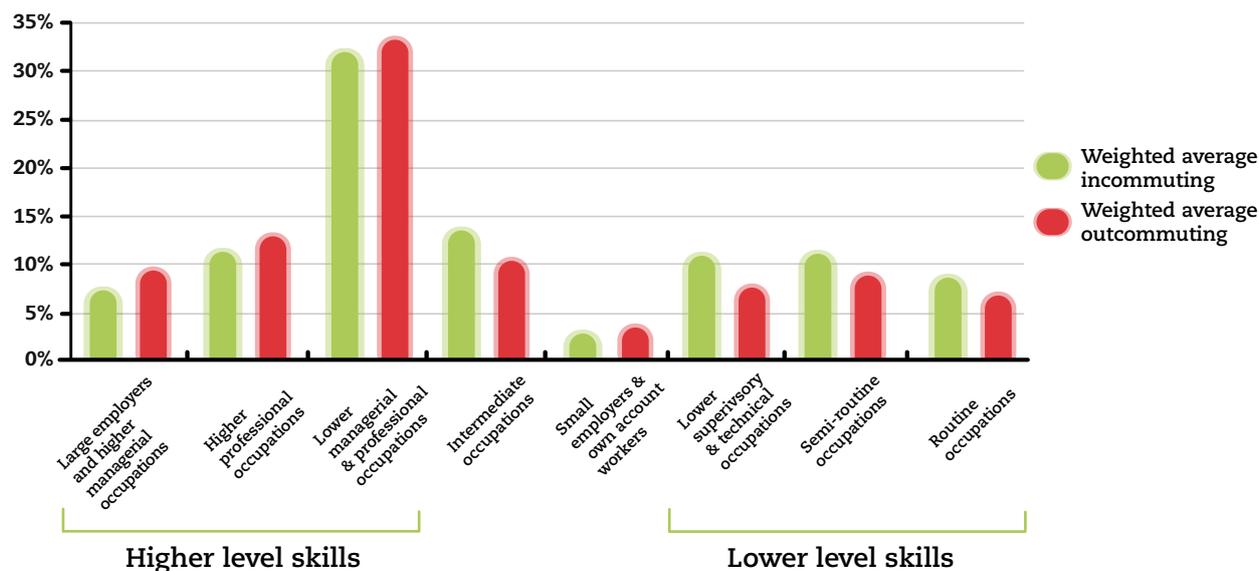
Aligning housing demand and supply

Aligning housing supply with housing demand across the economy is crucial, if Cambridge wants to grow in a sustainable way. There is a perception in Cambridgeshire that, by and large, higher-skilled people tend to live inside the city and commute out, while lower-skilled people tend to live outside the city and commute in. This suggests a misalignment between housing supply and demand, but there has been a lack of evidence to prove this to date. Figure 4 below shows a weighted average of the occupational pattern of the major out-commuter flows from the Cambridge TTWA and compares these with a weighted average of major in-commuter flows into the Cambridge TTWA.⁵⁶

55. See www.thisisbristol.co.uk

56. The weighted average included commuting flows >1,000 in 2004 only. Major sources of in-commuting in order of importance were: Huntingdonshire, St. Edmundsbury, Forest Heath, Uttlesford, North Hertfordshire, Fenland, Kings Lynn and West Norfolk and Mid Bedfordshire. Major out-commuting destinations in order of importance were: Forest Heath, Huntingdonshire, North Hertfordshire, Uttlesford, the City of London, St. Edmundsbury, Peterborough and Westminster.

Figure 4: Occupational structure of 2004 commuters (%)



Source: Own calculations with data from APS and 2001 Census

This confirms that outflows of labour tend to work in occupations requiring higher levels of skills, and those commuting into the Cambridge TTWA tend to work in lower skilled occupations such as lower supervisory or routine occupations. A look at the levels of national vocational qualifications within the Local Authorities that make up the weighted averages tends to confirm this pattern.

However, contrary to common thinking, the majority of the Cambridge TTWA's skilled workers that commute, go to the Cambridge TTWA's neighbouring Local Authorities such as Forest Heath, Huntingdonshire and North Hertfordshire, rather than into London.

House prices help to explain these patterns. In 2007 the average weighted house price in the Local Authorities that make up the Cambridge TTWA was £256,976, the average weighted house price in those Local Authorities into which the Cambridge TTWA residents commute was £313,728 and the average weighted house price in those Local Authorities that have major commuter inflows into the Cambridge TTWA was £218,627. This implies that affordability and housing supply are having an impact on the labour market in the wider Cambridge region.

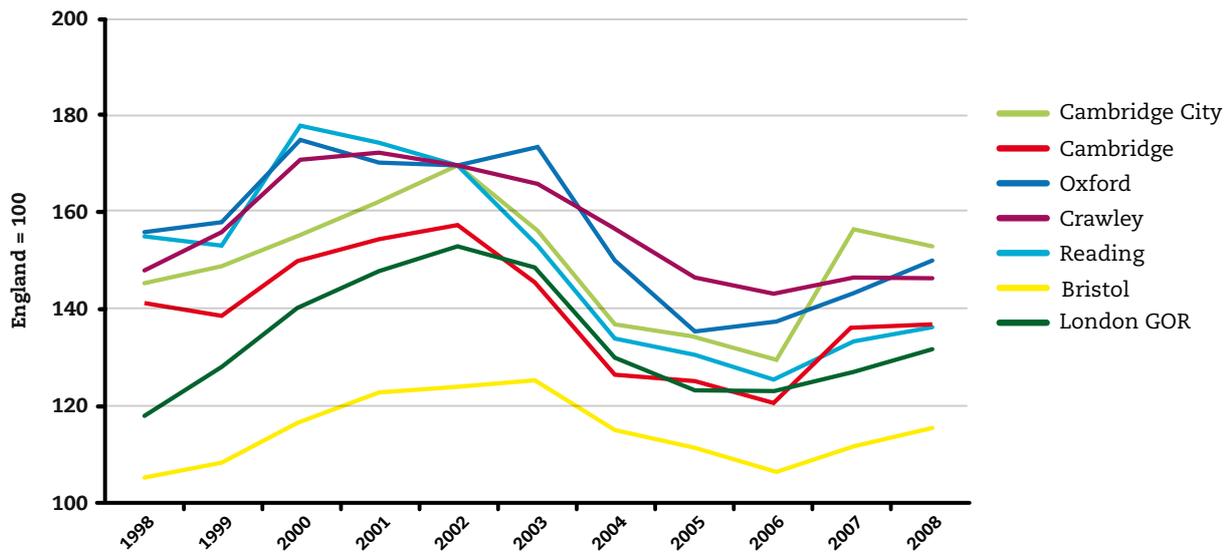
Affordability pressures

Housing affordability is an issue in many urban areas in the UK, but particularly in the South East and in Cambridge. Over the last ten years lower quartile house price to income ratios have risen in the Cambridge TTWA. Housing affordability at the lower end of the labour market is now worse than in London and on a par with Reading. The figure for the city of Cambridge looks even worse (see Figure 5).

While the current problems in the mortgage and housing markets have led house prices in the region to fall significantly – in Cambridge house prices fell by 14.3 percent in the last quarter⁵⁷ – house prices will still need to fall substantially to really increase affordability, particularly for the lower income groups. Given Cambridge's limited availability of land, long term supply constraints will remain. There is also a risk of losing capacity in the construction industry during the recession with a slow down in growth reducing rates of house building.

57. See www.bbc.co.uk

Figure 5: Housing affordability in TTWAs 1998-2008



Source: Own calculations with data from DCLG (2009)

Tackling affordability – the private rented sector and shared equity

Affordability is likely to remain a key long term issue. This report has already discussed the role for further development and densification, which could alleviate some housing supply constraints. Using shared equity and encouraging a stronger private rented sector are two other considerations in improving affordability, and supporting labour market flexibility.

Local partners are already working with the Homes and Communities Agency to tackle housing supply constraints: The ‘Cambridge Challenge’ is one example of an innovative approach with longer-term funding commitments to deliver affordable housing in three strategic sites – Northstowe, the Southern Fringe, and North West Cambridge; and the City Council as well as South Cambridgeshire District Council already pursue a 40 percent affordability target for new developments.

Using shared equity to increase affordability: London

In Shoreditch, London, First Base led the development of Adelaide Wharf in 2007. The development is part of a broader London-wide initiative that aims to provide new shared equity homes for key workers in 15 sites across London. Adelaide Wharf is a high quality, mixed use development providing 147 homes, of which more than half will be affordable, including a significant proportion of key worker housing. 30 percent of the housing will be three and four bedroom family homes split across all tenures and the development also includes 700 sq m of affordable workspace.

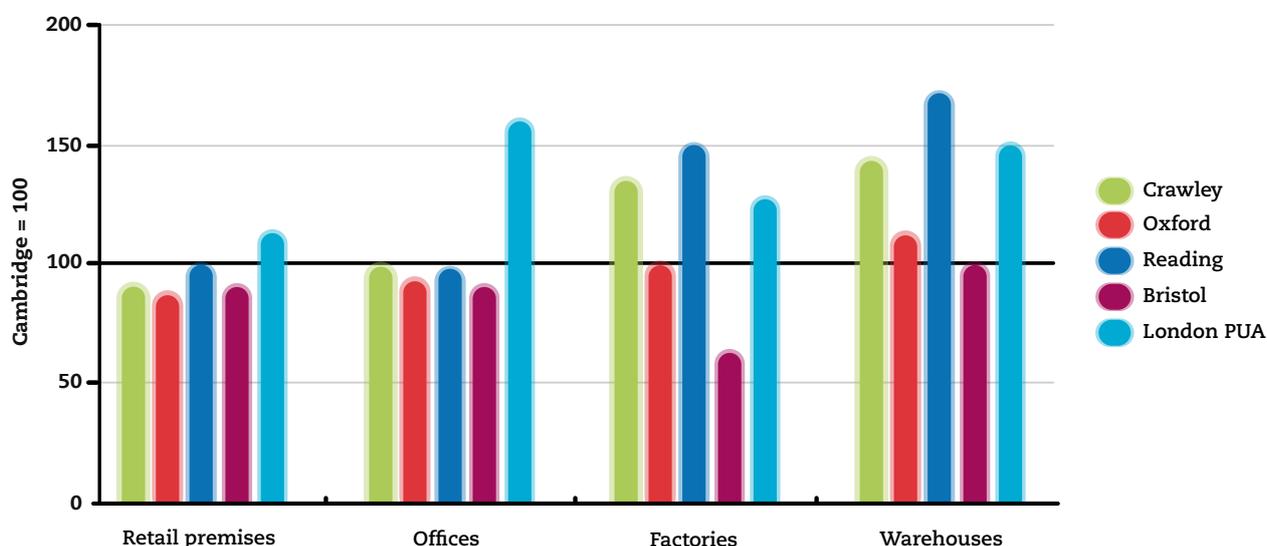
The development highlights the need to provide a balance between the provision of housing and jobs and presents a good example of how Cambridge could use the planning system to provide high quality family housing.

A stronger private rented sector can also support labour market flexibility, by improving the quality and attractiveness of the rented offer. While the percentage share of the private rented sector is above average in some wards (up to 35 percent),⁵⁸ rents in Cambridge suggest that there is still room for the rental sector to further mitigate affordability issues. Local reference rents in Cambridge City have increased by 56 percent between 2001 and 2006 and can be expected to increase further. Rents represented on average 41 percent of income in 2006 and are increasingly unaffordable for those receiving local housing market allowances.

Affordability and land use

Housing and business premises compete for land. In any city facing growth constraints there is a trade-off between providing land for employment or land for housing. Despite its strong economy, employment in Cambridge City decreased by 3.7 percent between 2006 and 2008, by 3.2 percent in East Cambridgeshire and by 2.4 percent in South Cambridgeshire.

Figure 6: Affordability of business premises 2007



Source: Own calculations with data from Neighbourhood Statistics

The above figure indicates that business premises in the Cambridge TTWA in 2007 seem to have been performing better in terms of affordability than residential premises. The Cambridge TTWA had rateable values below most of the other cities with regards to factories and warehouses, only retail premises and office space were slightly more expensive than in the other areas. Amongst the comparator cities Oxford is the city most similar to that of Cambridge. However, given that rateable values in the Cambridge TTWA are relatively comparable, if not less, than in other areas of high economic performance, the Local Authorities within the Cambridge TTWA might want to investigate whether they could aim for a better balance between land provision for housing and land provision for employment. Pressures on housing appear to be stronger than pressures on business. Cambridge City has already taken this forward together with South Cambridgeshire District Council in their recent joint Employment Land Review in July 2008.

58. Cambridgeshire Horizons et al. (2008) Strategic Housing Market Assessment. Cambridge: Cambridgeshire Horizons.

Housing Policy Implications

The pattern of commuting linkages, skills patterns and house prices suggests that there is a lack of affordable housing for those working on lower incomes in the Cambridge TTWA, and that there is a lack of attractive higher end housing in the other Local Authorities within Cambridge's core functional area (such as Huntingdonshire, Forest Heath, North Hertfordshire or Uttlesford). It could also imply that the Cambridge TTWA does not offer enough employment land for jobs in the higher end skills range. Commuters into London take up housing in the Cambridge TTWA, but the actual size of out-commuting into London is minor compared to the commuting linkages within the region. It would therefore be an overstatement to say London workers drove up house prices in Cambridge.

These misalignments lead to affordability pressures, increased levels of commuting and therefore congestion, and have potential negative effects on the economy of the wider Cambridge region.

Recommendations

Housing in the Cambridge TTWA is expensive and misalignments between housing supply and demand currently hamper sustainable economic growth. To ensure housing supports the wider Cambridge region's economy as well as it can, there are a variety of actions local stakeholders can take in the short, medium and longer term.

Short-term recommendations (next 12 months)

- **Maintain short and long term focus on affordability**

The Cambridge TTWA is characterized by a shortage of housing in general, an oversupply of shared accommodation and an undersupply of family housing in particular. Given the affordability pressures local residents are facing, continuing to prioritise increasing housing supply should remain a priority as seen in current planning policy.

- **Increase social housing stock**

As well as increasing housing affordability over the medium to longer term, the County, City and District Councils should work with Cambridgeshire Horizons and with the Homes and Communities Agency now, during the recession, to identify potential land and vacant stock purchases that could be used to increase the Cambridge TTWA's social housing stock. During the recession, these properties could provide a mix of social rent, intermediate rent and private rent.⁵⁹

- **Progress planning applications for dedicated student accommodation**

Housing affordability represents a long term challenge for the wider Cambridge region. The City and District councils should therefore speed up proposals, in line with the City Council's 2006 Local Plan, to provide dedicated student housing, such as the proposals by Unite for the Brunswick site. This will help free up potential family housing in the private rented sector over the long term.

59. NB: These recommendations differ slightly from the Highbury Housing Groups recommendations to the HCA.

Medium-term recommendations (next 1-3 years)

- **Grow and increase the attractiveness of the private rented sector**

The private rented sector has the potential to reduce affordability pressures and enhance labour market flexibility in the Cambridge TTWA. The Local Authorities within Cambridge's core functional area should, with Cambridgeshire Horizons in the lead, work with institutional investors to grow the private rented sector, including identifying land for development such as already done at Cambridge Airport or at Addenbrookes.



But increasing the role of the private rented sector in the Cambridge TTWA is not only about increasing its quantity; it is also about increasing its quality and attractiveness to local residents. The partners should therefore also work with the private rented sector to increase the overall quality of rented accommodation, offer unfurnished apartments, and promote longer tenancies.

- **Count new housing provision appropriately**

At the moment, a development providing 50 new housing units for students who share one front door would be counted towards the RSS targets as one dwelling. This dis-incentivises the provision of dedicated student accommodation. Cambridgeshire Horizons, as the local delivery vehicle, should, together with EEDA, make the case to Government for an amendment to this anomaly, to make sure that the real contribution of these developments to the RSS targets is counted.

- **Enrich evidence base**

Cambridgeshire Horizons and other local partners have built up a good evidence base on housing and commuting linkages in the Strategic Housing Market Assessment. This work should now be built upon to include an analysis of skills and employment issues in Cambridge's functional economy. Detailed knowledge of these issues will become increasingly important from 2010 onwards, when post 14-19 year old education will be devolved to Local Authority level. Such analysis should be part of Cambridge's Local Economic Assessment.

Longer-term recommendations (3+ years)

- **More family housing provision**

While affordability must remain the top priority, over the longer term the City and District Councils should use the planning system to deliver family housing of balanced types and tenures, which is currently undersupplied in the Cambridge TTWA.

- **Sell properties through shared-ownership schemes**

Over the next three or more years, when the housing and credit markets recover, the City and District Councils should sell a proportion of the properties they have bought during the recession through low-cost ownership schemes specifically adapted to the Cambridge TTWA's needs (e.g. through varying the level of equity).

Key Policy Imperatives

Cambridge has enjoyed phenomenal success over the past decade, but this growth has now started to slow down, as is reflected in decreasing average weekly earnings and employment in Cambridge. In order to overcome infrastructure and housing bottlenecks in the wider Cambridge region and achieve the vision of sustainable growth, progress has to be made in three main areas. This report highlights opportunities for progress in these.

- **Investing in Cambridge as a regional economic driver**

Cambridge City has a wide network of linkages to surrounding Local Authorities and a mutually supportive relationship with Peterborough and London. Cambridge's functional labour market area is much wider than the area officially defined as Cambridge's travel to work area (TTWA). The six Local Authorities that make up Cambridge's core functional labour market - Cambridge, South and East Cambridgeshire, Forest Heath, Huntingdonshire and St. Edmundsbury - operate in a shared economy and have a common purpose. The Local Authorities within Cambridge's core functional economic area must act jointly with East of England Development Agency and the Greater Cambridge Partnership to tackle emerging bottlenecks, particularly around housing and transport, to ensure continued success.

- **Supporting sustainable growth through transport**

The Cambridge TTWA is the second least sustainable TTWA in the whole of England with regards to CO₂ emissions from road transport. High emissions are caused by high levels of congestion and Cambridge's peculiar urban shape – a city surrounded by market and satellite towns separated by a Green Belt. This report predicts that CO₂ emissions from road transport will increase by at least 5.6 percent by 2021 due to the Cambridge TTWA's planned growth. To support sustainable economic growth there are essentially three things that should be done:

- In the next six months, Cambridgeshire County Council should make a decision to pursue its bid to the Congestion Transport Innovation Fund, as otherwise the funds for investment may no longer be available.
- In the next one to three years it should investigate ways to bring together transport and planning policy to support sustainable economic growth across the wider Cambridge region.
- And, looking beyond that, the County Council should identify commuter rail services for enhancement.

- **Supporting sustainable growth through housing**

Housing supply and demand are currently misaligned in Cambridge with those at the lower end of the skills ladder commuting into and those at the higher end of the skills ladder commuting out of the Cambridge TTWA. This leads to a higher overall level of commuting and pollution and is therefore the major barrier that needs to be overcome to support the wider Cambridge region's vision of sustainable growth. The following actions should be undertaken by the City and District Councils:

- To increase housing affordability they should work with the Homes and Communities Agency during the recession to purchase land and unsold or vacant housing stock at lower prices to increase the wider Cambridge region's stock of social housing.
- In the medium term they should work with institutional investors to grow a larger, more flexible intermediate and private rented sector through identifying and preparing key housing growth sites for major urban extensions.
- And over the longer term they should use the planning system to deliver family housing of balanced types and tenures.

Cambridge City Profile

	City/PUA*	TTWA
Total Population (2007)	120,000	338,300
Population growth (1997-2007)	11.0%	11.2%
Working age population (2007)	81,600	213,200
Total jobs (2007)	84,600	173,200
Jobs growth (1998-2005)	5%	10%
Economically active (July 07-June 08)	74.7%	81.4%
Inactive seeking a job (July 07-June 08)	8.9%	5.5%
Inactive not seeking a job (July 07-June 08)	16.4%	13.1%
JSA claimants (November 08)	1.7%	1.6%
Total key benefit claimants (November 08)	7.5%	7.2%
Gross average weekly wage (residence 2008)	£533	£572
Gross average weekly wage (workplace 2008)	£503	£520

Index of Multiple Deprivation Ranking (1=least deprived)

	City/PUA	TTWA
2004 Median IMD Score	13.79	8.70
2004 Ranking	10	-
2007 Median IMD Score	12.35	8.91
2007 Ranking	7	-

Skills Profile (2007) - % of Working Age Population

	City/PUA	TTWA
NVQ4 & above	43.6%	41.6%
NVQ3 & above	54.3%	55.9%
NVQ2 & above	64.4%	67.7%
NVQ1 & above	74.0%	78.2%
Other qualifications	16.8%	11.4%
No qualifications	9.2%	10.4%

Sources: NOMIS (2009): Annual Population Survey, Annual Business Inquiry, Annual Survey of Hours and Earnings, Claimant Count, DWP Benefits Claimants; DCLG (2009): Indices of Multiple Deprivation
 *Cambridge Primary Urban Area (PUA)

Acknowledgements

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Annex

Table 1: Top likely workplaces of future residents (2021) – mid range scenario

Place of Work	New Fenland Residents	New East Cambridgeshire Residents
Fenland	6,077	15
Peterborough	1,000	133
Huntingdonshire	617	184
Cambridge	407	1,280
King's Lynn and West Norfolk	235	67
East Cambridgeshire	161	3,379
Forest Heath	-	792
South Cambridgeshire	110	473

Source: Own calculations with data from APS, Census 2001 and East of England Plan.
Note: For informative purposes only these numbers have not been rounded.

Table 2a: Modes likely to be used by new South Cambridgeshire residents (2021) – mid range scenario

Working in	New South Cambridgeshire Residents	Car Driver	Car Passenger	Bus, minibus or coach	Bicycle	Train	On foot	Home Worker
South Cambridgeshire	11,836	6,188	486	137	861	57	1,225	2,664
Cambridge	8,862	6,059	592	925	852	94	109	0
North Hertfordshire	898	776	63	15	13	16	3	0
Huntingdonshire	687	631	25	6	4	4	3	0
Uttlesford	503	459	18	12	2	4	3	0

Table 2b: Modes likely to be used by new Cambridge residents (2021) – mid range scenario

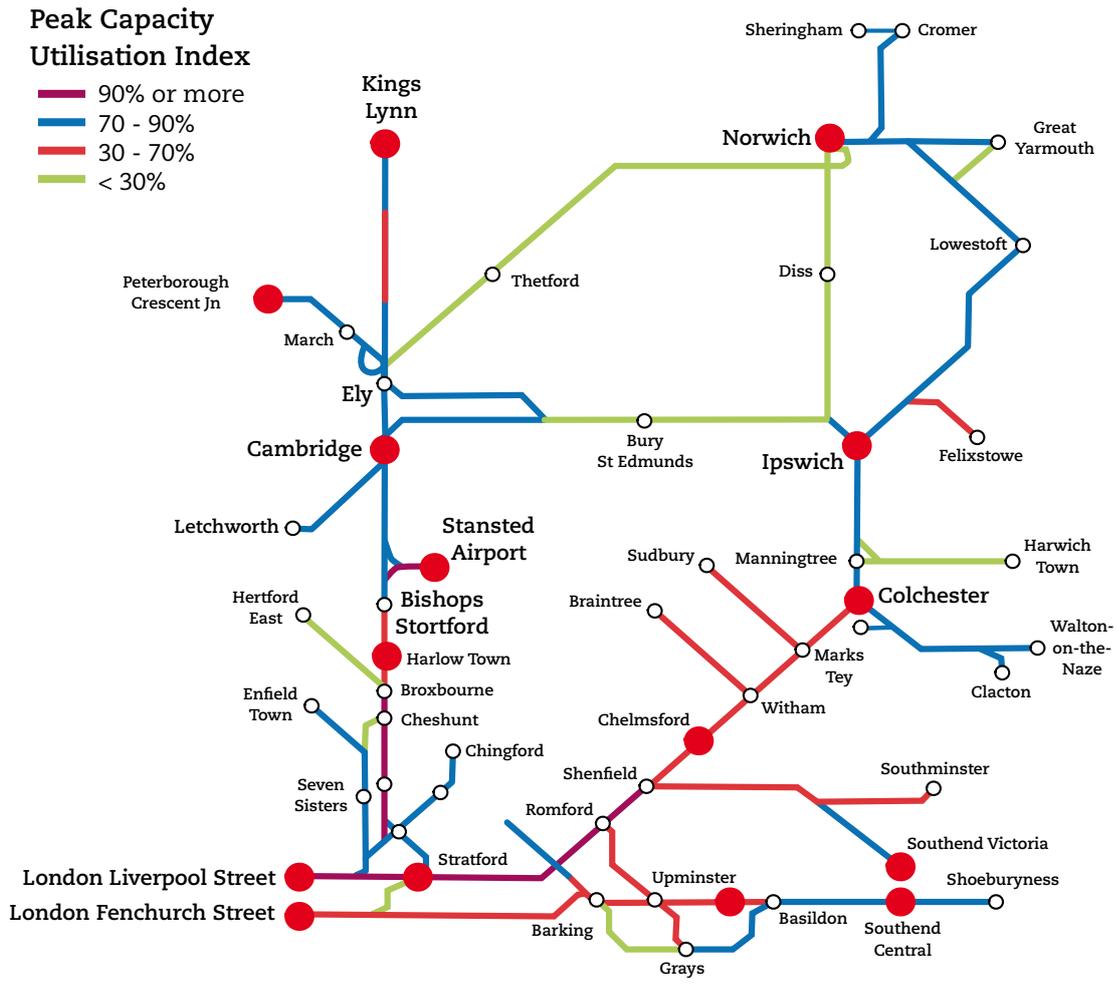
Working in	New Cambridge Residents	Car Driver	Car Passenger	Bus, minibus or coach	Bicycle	Train	On foot	Home Worker
Cambridge	15,470	4,272	514	824	4,897	72	2,756	1,845
South Cambridgeshire	1,588	1,016	78	93	272	22	68	0
Huntingdonshire	329	289	16	10	5	0	5	0
East Cambridgeshire	236	192	18	4	8	5	7	0
City of London	198	8	0	5	0	178	4	0

Table 2c: Modes likely to be used by new Huntingdonshire residents (2021) – mid range scenario

Working in	New Cambridge Residents	Car Driver	Car Passenger	Bus, minibus or coach	Bicycle	Train	On foot	Home Worker
Cambridge	15,470	4,272	514	824	4,897	72	2,756	1,845
South Cambridgeshire	1,588	1,016	78	93	272	22	68	0
Huntingdonshire	329	289	16	10	5	0	5	0
East Cambridgeshire	236	192	18	4	8	5	7	0
City of London	198	8	0	5	0	178	4	0

Source Tables 2a, b & c: Own calculations with data from APS, Census 2001 and East of England Plan
Note: For informative purposes only these numbers have not been rounded.

Figure 1: Network Rail Route Utilisation Study - East Anglia



Source: Network Rail (2008) Greater Anglia Route Utilisation Strategy



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