

'Trend'¹ employment prospects for Cambridgeshire 2007 to 2031

An analysis of Cambridge Econometrics' employment projections by industry and district

February 2009

Introduction

This paper provides an overview of employment projections for each of the five Cambridgeshire districts for the period 2007 to 2031. It provides a breakdown by main industry sector. The projections have been produced by Cambridge Econometrics and are based on their Regional Economic Prospects economic outlook, published in November 2008. They take account of the 2006-based population projections produced by the Office for National Statistics (ONS), which envisage relatively high rates of growth in the region. The employment projections take some account of the current recession but were produced at a time when most pundits were anticipating a more shallow decline in the economy and a return to positive growth by the end of 2010. In the intervening two months the economic downturn has become more severe and a resumption of growth further delayed. Consequently it is reasonable to consider the employment projections somewhat optimistic at a national and regional level.

It is important to note that the projections reflect historic shares of growth by district and industry sector. They are not in any way 'policy-led' and consequently do not take account of the adopted East of England Plan and its housing targets. The Plan envisages a 'step change' in the pattern of development in the county, with greater emphasis on Cambridge City and South Cambridgeshire and lower shares and rates of growth in East Cambridgeshire, Fenland and Huntingdonshire

The first section provides a broad overview and the second looks at specific industry sectors. An annex summarises the population growth assumed by the trend projection and also explains a number of issues relating to 'data cleansing'.

Broad overview

Table 1 indicates an increase of 47,000 jobs in the county of Cambridgeshire between 2007 and 2031. In the period up to 2021 this is equivalent to an average annual growth rate of 0.5%, rising slightly to 0.7% annual growth between 2021 and 2031.

Table 1: Employment projections, Cambridgeshire districts 2007 to 2031, '000

District/area	2007	2021	2031	2007/21 (% p.a.)	2021/31 (% p.a.)
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¹ It is important to be clear exactly what is meant by 'Trend' in this context. 'Trend' projections are informed by an analysis of past relative performance at a local level, but they are driven by the forecasts from Cambridge Econometrics' Regional Economic Prospects model. Hence even under the 'trend' projection, there should be no assumption that in absolute terms future performance will be a straight line extrapolation of past growth

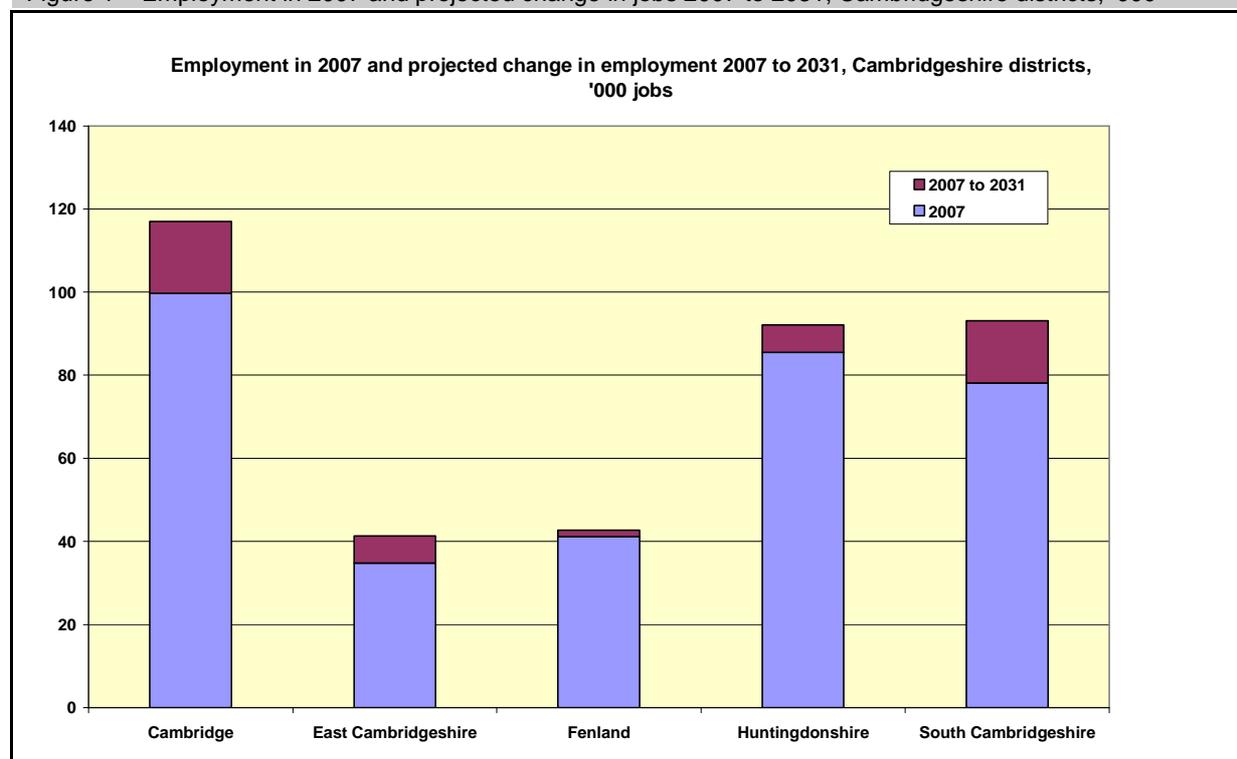
District/area	2007	2021	2031	2007/21 (% p.a.)	2021/31 (% p.a.)
Cambridge City	99.7	108.9	117.1	9.2 (0.7%)	8.2 (0.7%)
East Cambridgeshire	34.8	38.0	41.4	3.2 (0.6%)	3.4 (0.9%)
Fenland	41.2	41.8	42.7	0.6 (0.1%)	0.9 (0.2%)
Huntingdonshire	85.5	88.8	92.2	3.3 (0.3%)	3.4 (0.4%)
South Cambridgeshire	78.1	84.1	93.3	6.0 (0.6%)	9.2 (1.1%)
Cambridgeshire	339.4	361.5	386.7	22.1 (0.5%)	25.2 (0.7%)
East of England	2,830.6	3,000.3	3,197.6	169.7 (0.4%)	197.3 (0.7%)
Cambs as % region	12%	12%	12.1%	13%	13%

Source: Cambridge Econometrics; SQW Consulting Note: All figures rounded independently

The Table shows that in the period 2007 to 2021 Cambridge City is projected to have the fastest annual rate of growth, 0.7%, with Fenland projected to experience only very modest growth of 0.1% per annum. In the period 2021 to 2031 South Cambridgeshire is projected to grow at 1.1% per annum. East Cambridgeshire has a projected growth rate of 0.9% per annum and Cambridge City an annual rate of 0.7%. Fenland has a projected annual growth of 0.2% , below the county and regional average.

Figure 1 shows the distribution of jobs by districts within Cambridgeshire in 2007 and as projected in 2031.

Figure 1 – Employment in 2007 and projected change in jobs 2007 to 2031, Cambridgeshire districts, '000



Source: Cambridge Econometrics

It is important to note that this change masks some significant variations both over time and at an industry sector level. For example, employment levels are generally expected to decline in absolute terms in the early years up to 2010. And whereas growth is anticipated longer-term in most service

sectors, manufacturing and agriculture are both expected to lose jobs through the outlook period. Hence new job creation must address both of these losses as well as provide for a growing labour force.

Cambridge City and South Cambridgeshire together account for 32,300 of the county's projected 47,000 additional jobs – 69% of the total. Huntingdonshire and East Cambridgeshire each account for a 14% share of the increase, (6,600 and 6,500 respectively) with Fenland contributing a lower 3% of the total, (1,500 jobs). As following sections show, these projections reflect the current industry mix and historical shares and rates of growth.

Industry sector analysis – overview for Cambridgeshire

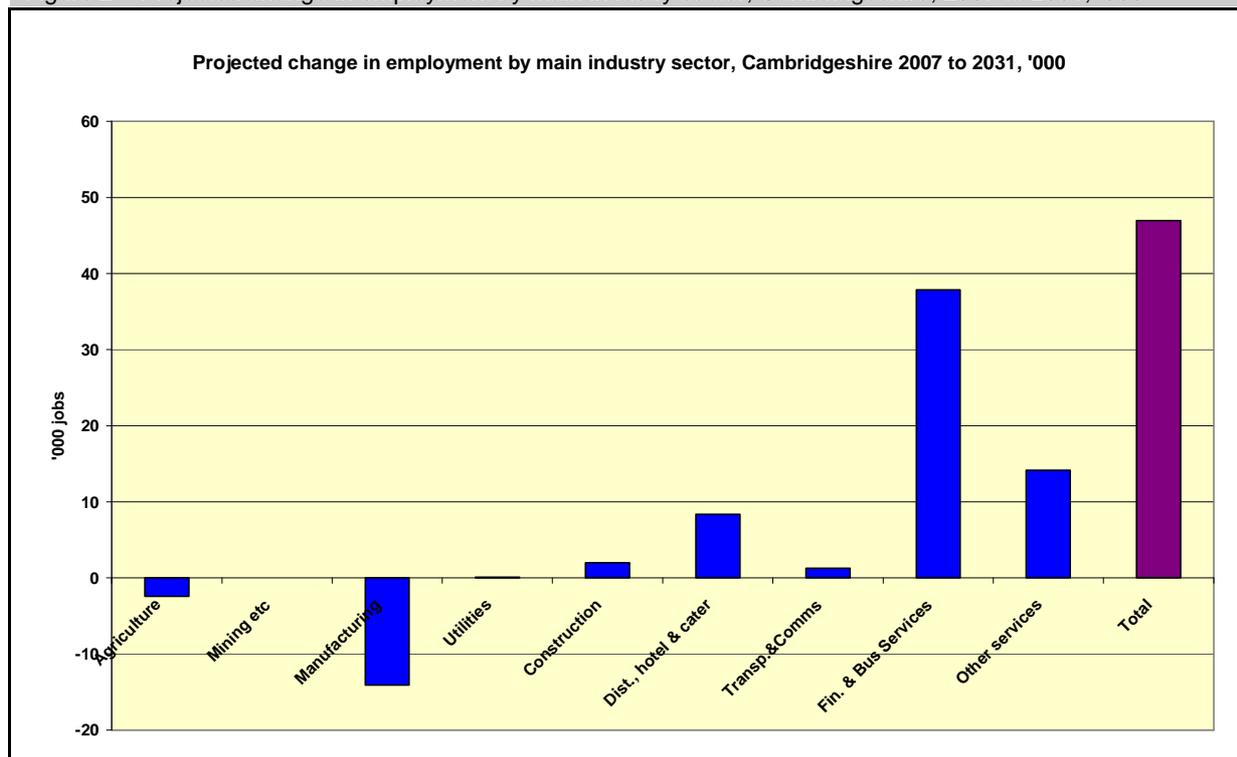
Table 2 provides an overview of projected employment change 2007 to 2021 and from 2021 to 2031 by main industry sector in Cambridgeshire as a whole. Figure 2 provides a breakdown of change over the whole period 2007 to 2031.

Table 2: Main industry sectors 2007 to 2031, projected employment Cambridgeshire, '000, (%)

Industry sector	2007	2021	2031	2007/21 (% p.a.)	2021/31 (% p.a.)
Agriculture	8.9	7.8	6.5	-1.1 (-0.9%)	-1.3 (-1.7%)
Mining, quarrying etc	0.1	0.1	0.1	0 (0%)	0 (0%)
Manufacturing	39.8	31.5	25.8	-8.2 (-1.5%)	-5.7 (-1.8%)
Utilities	0.5	0.6	0.6	0.1 (1.6%)	0 (-.20%)
Construction	22.7	23.6	24.6	0.9 (0.3%)	1.0 (0.4%)
Distribution, hotels & catering	63.7	67.8	71.9	4.1 (0.5%)	4.1 (0.6%)
Transport & communications	14	14.7	15.2	0.7 (0.3%)	0.6 (0.4%)
Financial & business services	74.6	92.5	112.7	17.9 (1.7%)	20.2 (2.2%)
Other services (education, health leisure etc)	115	122.9	129.1	7.8 (0.5%)	6.2 (0.5%)
Total	339.4	361.5	386.7	22.1 (0.5%)	25.2 (0.7%)

Source: Cambridge Econometrics Note: All figures rounded independently

Figure 2 – Projected change in employment by main industry sector, Cambridgeshire, 2007 to 2031, '000



Source: Cambridge Econometrics

The projections indicate that two sectors will experience a loss of employment over the period to 2031: agriculture, (2,400 jobs) and manufacturing, (over 14,000 jobs). In both cases it is important to note a significant caveat, relating to the organisation and employment of labour. There is evidence to indicate that both agricultural and manufacturing employers have increased their use of agency staff, especially for seasonal and short-term production. However, employment agency and 'gangmaster' labour is classified as 'other business services' employment irrespective of the actual work carried out. Product packing is also classified as a business service regardless of what is being packed.

The broad sectors expected to expand in employment terms include financial & business services, 'other' services and distribution, hotels & catering. Table 3 provides a more selective breakdown of these sectors to help pinpoint the main engines of job growth.

Table 3: Selected industries – projected employment 2007 to 2031, Cambridgeshire, '000 (%)

	2007	2021	2031	2007/21 (% p.a.)	2021/31 (% p.a.)
Distribution (wholesale & motor vehicles)	18.3	17.8	17.9	-0.5 (-0.2%)	0.2 (0.1%)
Retailing	28.2	30.0	32.3	1.9 (0.5%)	2.3 (0.8%)
Hotels & catering	17.2	20.0	21.7	2.8 (1.1%)	1.7 (0.8%)
Land transport	9.7	10.5	11.2	0.9 (0.6%)	0.7 (0.6%)
Communications	4.4	4.2	4.1	-0.2 (-0.3%)	-0.1 (-0.2%)
Banking & finance	3.9	3.9	3.9	0 (0%)	0 (0.1%)
Computing services	10.7	15.9	22.0	5.2 (3.4%)	6.1 (3.8%)

	2007	2021	2031	2007/21 (% p.a.)	2021/31 (% p.a.)
Professional services	37.6	47.1	57.8	9.5 (1.8%)	10.8 (2.3%)
Other business services	22.2	25.5	28.9	3.3 (1.1%)	3.4 (1.3%)
Public administration & defence	18.6	17.6	16.9	-1.0 (-0.4%)	-0.6 (-0.4%)
Education	41.5	43.3	44.8	1.8 (0.3%)	1.5 (0.3%)
Health & social work	36.7	42.9	47.3	6.1 (1.2%)	4.4 (1.0%)
Miscellaneous services	18.3	19.1	20.1	0.8 (0.3%)	1.0 (0.5%)

Source: Cambridge Econometrics Note: All figures rounded independently

Table 3 shows that the following sectors are each projected to grow by more than 2,000 jobs between 2007 and 2031:

- Professional services: 20,200
- Computing services: 11,200
- Health & social work: 10,500
- Other business services: 6,700
- Hotels & catering: 4,400
- Retailing: 4,200
- Education: 3,400

Table 4 shows where this growth is expected to occur within Cambridgeshire, based on past trends. It concentrates on main industries and the selected growth sectors.

In *Cambridge City* the main growth sectors are projected to be professional services, (4,700 jobs), computing services, (4,600) and health & social work, (4,400 jobs). In the case of health the projections incorporate the relocation of Papworth Hospital from South Cambridgeshire to the Addenbrookes complex in Cambridge City. Other sectors expecting a net increase of more than 1,000 jobs include retailing, hotels & catering, other business services and education. Manufacturing is expected to lose around 1,700 jobs.

Table 4: Change in projected employment 2007 to 2031, selected industry sectors, by district, '000 & % p.a.

Selected industry sectors	Cambridge City	East Cambs	Fenland	Hunts	South Cambs	Cambs
Agriculture	-0.1 (-2.8%)	-0.5 (0.9%)	-0.7 (-0.9%)	-0.3 (-0.9%)	-0.8 (-1.6%)	-2.4 (-1.1%)
Manufacturing	-1.7 (-1.9%)	-1.3 (-1.5%)	-2.5 (-1.5%)	-4.1 (-1.4%)	-4.4 (-1.4%)	-14.0 (-1.5%)
Construction	0.5 (0.7%)	0.5 (0.6%)	0.2 (0.3%)	0.5 (0.3%)	0.2 (0.1%)	1.9 (0.3%)
Distribution	-0.1 (-0.2%)	0 (0%)	0 (0%)	-0.1 (-0.1%)	-0.2 (-0.1%)	-0.4 (-0.1%)
Retailing	1.0 (0.4%)	0.5 (0.9%)	0.5 (0.5%)	1.2 (0.7%)	0.8 (0.8%)	4.2 (0.6%)
Hotels & catering	1.5 (1.1%)	0.3 (1.1%)	0.4 (1.1%)	1.3 (1.1%)	0.9 (1.1%)	4.4 (1.1%)

Selected industry sectors	Cambridge City	East Cambs	Fenland	Hunts	South Cambs	Cambs
Computing services	4.6 (4.4%)	0.7 (5.9%)	0.3 (5.9%)	1.6 (3.5%)	4.0 (4.5%)	11.2 (4.4%)
Professional services	4.7 (1.7%)	2.3 (3.4%)	0.4 (1.0%)	1.8 (1.0%)	10.9 (3.4%)	20.2 (2.2%)
Other business services	1.4 (0.8%)	1.5 (1.6%)	1.1 (1.6%)	1.2 (1.0%)	1.5 (1.6%)	6.7 (1.2%)
Education	1.2 (0.2%)	0.5 (0.7%)	0.2 (0.3%)	0.4 (0.3%)	1.0 (0.6%)	3.4 (0.3%)
Health & social work	4.4 (1.5%)	1.5 (1.6%)	1.4 (1.4%)	2.4 (1.1%)	0.9 (0.5%)	10.5 (1.2%)
Miscellaneous services	0.5 (0.4%)	0.2 (0.4%)	0.1 (0.2%)	0.6 (0.5%)	0.5 (0.5%)	1.8 (0.4%)
Total	17.4 (0.7%)	6.5 (0.8%)	1.5 (0.2%)	6.7 (0.3%)	15.2 (0.8%)	47.3 (0.6%)

Source: Cambridge Econometrics Note: All figures rounded independently

In the case of East Cambridgeshire there are three main growth sectors: professional services, (2,300 jobs), other business services, (1,500 jobs) and health & social work, (also 1,500 jobs). More modest growth is projected in computer services with an additional 700 jobs. However, this represents a very high annual growth rate of 5.9%. Job losses are projected in manufacturing, (down 1,300 jobs) and in agriculture, (with a loss of 500 workers.)

In Fenland two sectors are projected to experience growth in excess of 1,000 jobs, health & social work, (1,400) and other business services, with 1,100. Only one other sector is projected to increase by more than 500 jobs between 2007 and 2031, (retailing). Significant job losses are projected in manufacturing of around 2,500 jobs, with a further 700 jobs lost in agriculture.

The sector projected to experience the highest job growth in Huntingdonshire is health & social work, with an additional 2,400 jobs. Professional services are projected to expand by 1,800 staff and computing services by 1,600 jobs. Other sectors with an anticipated increase of 1,000 or more jobs include hotels & catering, (1,300), retailing, (1,200) and other business services, also growing by 1,200 jobs. Manufacturing is expected to lose over 4,000 jobs and further job losses are projected in agriculture, (300) and in distribution, by 100.

In South Cambridgeshire very high job growth is projected for the professional services sector, which amounts to 10,900 in total. This reflects the important Research & Development sector. Computing services are expected to grow by 4,000 jobs. Other business services are projected to grow by 1,500 jobs. However, no other sector is projected to grow by more than 1,000 jobs. As discussed in relation to Cambridge City, the re-location of Papworth Hospital to Cambridge depresses the overall growth of jobs in health & social work in the district. As in all other districts, the projections indicate a significant job loss in manufacturing jobs, with a loss of 4,400. Around 800 fewer jobs are expected in agriculture in 2031 as compared with 2007.

Sectors projected to lose jobs - manufacturing

It is important to be aware of the sectors where job losses are projected. Within manufacturing, where overall job losses of around 14,000 are projected, the following industry sectors are expected to lose at least 1,000 jobs in the county as a whole between 2007 and 2031:

- Wood & paper: 2,400
- Electrical engineering & instrument engineering: 1,900

- Mechanical engineering: 1,500
- Rubber & plastics: 1,300
- Printing & publishing: 1,200
- Food & drink: 1,100
- Textiles, clothing & leather; 1,100
- Non-metal mineral products: 1,100

No manufacturing sector in the county is expected to experience net job growth over the period to 2031 and all districts are affected.

Summary – main issues arising

The 'trend' projections of employment for Cambridgeshire present a number of key issues and can be summarised as follows:

- The overall rate of increase in employment is likely to be very much slower than has occurred in the recent past (although data on employees from the Annual Business Inquiry is unreliable statistically and is contradicted by evidence from the Annual Population Survey of households); in any event an overall reduction in employment is now expected in the period 2008 to 2010 before any growth resumes.
- Cambridge Econometrics expect job growth in Cambridgeshire to increase at a very similar rate to the region as a whole. Whereas in the past the county has accounted for an increasing share of the region's total employment the projection shows a constant share (12% of all).
- Cambridge City and South Cambridgeshire appear likely to be the main beneficiaries of future employment growth, accounting for almost 70% of the county total 2007 to 2031. It should be borne in mind that this concentration of employment is projected alongside relatively widespread housing development across Cambridgeshire, following past patterns rather than the East of England Plan H1 policies. Relatively modest job growth is projected for both East Cambridgeshire and Huntingdonshire with very little growth in Fenland.
- Four main industry sectors are projected to account for the bulk of new job growth: professional services (including R&D), computing services, health & social work and 'other business services', (including employment agencies, packaging, security and cleaning). Each sector is expected to support at least 6,000 additional jobs between 2007 and 2031
- Three sectors with more modest projected growth of between 2,000 and 6,000 jobs include hotels & catering, retailing and education. Construction is expected to increase by 2,000 jobs.
- Manufacturing jobs are projected to decline by over 14,000 between 2007 and 2031. Agriculture is expected to decline by 2,400 jobs. However, changes in the organisation of labour means that some jobs in these sectors may be carried out by people working for employers classified as 'other business services', such as employment agencies.

Annex – population growth and data cleaning

This first section summarises the underlying assumptions on population growth incorporated in the district employment projections. Table 5 and Figure 3 provide an overview.

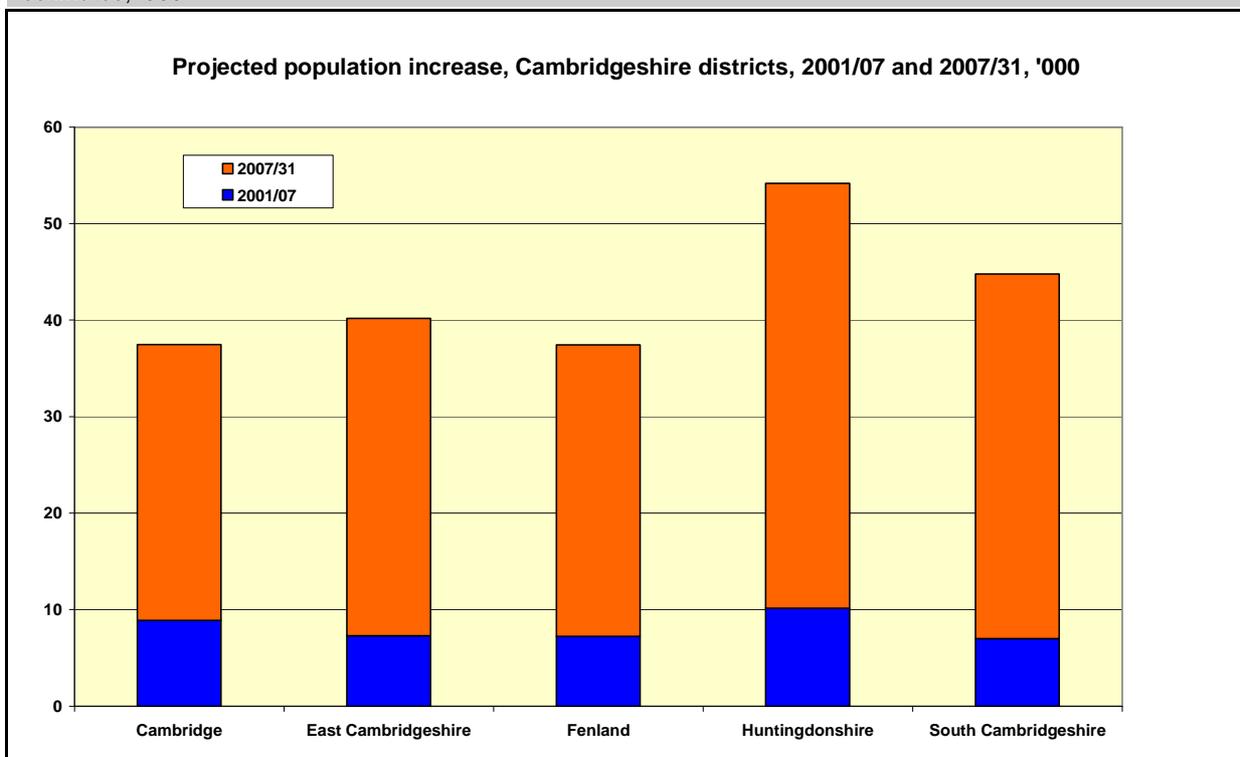
Table 5: Projected population increase in Cambridgeshire districts, 2007 to 2031 compared with 2001 to 2007 estimates, '000

Distict/area	2001	2007	2031	2001/2007 (% p.a.)	2007/2031 (% p.a.)
Cambridge City	111.2	120.1	148.7	8.9 (1.3%)	28.6 (1%)
East Cambridgeshire	73.8	81.1	113.9	7.3 (1.7%)	32.8 (1.7%)
Fenland	84.4	91.6	121.8	7.2 (1.4%)	30.2 (1.4%)
Huntingdonshire	158.6	168.7	212.7	10.1 (1.1%)	44.0 (1.1%)
South Cambridgeshire	129.9	136.9	174.7	7.0 (0.9%)	37.8 (1.1%)
Cambridgeshire	557.8	598.3	771.8	40.5 (1.2%)	173.5 (1.2%)
East of England	5,412.6	5,660.9	6,843.9	248.3 (0.8%)	1,183 (0.9%)
Cambs. share of region	10.3%	10.6%	11.3%	16.3%	14.7%

Source: Cambridge Econometrics

Overall population growth in Cambridgeshire is projected to continue at an average annual growth rate of 1.2% over the period 2007 to 2031, just under 7,000 a year. The highest percentage rate is projected for East Cambridgeshire at 1.7% per annum, with Fenland growing at an annual rate of 1.4%

Figure 3 : Projected population increase Cambridgeshire districts, 2007 to 2031, compared with 2001/07 estimates, '000



Source: Cambridge Econometrics

Overall Cambridgeshire is projected to grow by 173,500 people over the period 2007 to 2031. Huntingdonshire is projected to experience the highest absolute increase in population, over 44,000. South Cambridgeshire is projected to grow by almost 38,000 people in the 24 year period and East Cambridgeshire by just under 33,000. The population increase projected for Fenland is just over 30,00 and in Cambridge City amounts to 26,800.

Data cleaning

In order to 'quality assure' the trend employment projections two types of 'data cleaning' have been carried out. The first relates to checking and amending underlying industry sector estimates of employment at a district level. The second is concerned with adjusting trends to take account of local factors which are considered 'very likely' to happen.

Cleaning underlying estimates

The employment projection model incorporates district-level estimates of jobs by industry sectors. These estimates are primarily based on the Annual Business Inquiry (ABI), a sample survey of employers undertaken by the Office for National Statistics (ONS). The detailed estimates have been scrutinised by SQW Consulting to check for errors. A small number of corrections have been made to ensure that the 'forecasting base' is as accurate as possible. These include:

- Adjusting employment in the 'health & social care' sector to take account of actual employment at the main hospitals in the county. This is because the ABI records employment of some major NHS Trusts at single HQ locations. Cambridgeshire County Council provided information drawn from its 'Employers Database' to assist with the allocation exercise.
- Adjusting employment in pharmaceuticals where it has been misallocated by the ABI at a district level, (from Cambridge City to South Cambridgeshire)

Trend adjustment by industry sector

The following adjustments were made:

- Health & social care: in line with the Addenbrooke's '2020 vision' it has been assumed that Papworth Hospital will move to the Addenbrooke's site within the outlook period. It has also been assumed that future *growth* in health & social care employment will generally follow population growth in terms of its distribution.
- Agriculture: following discussions with economic development staff in the county it was considered that the initial projections of employment in this sector were unduly pessimistic; however, recent declines in employment may be explained partly by a switch from directly-employed workers to the use of agency staff. Consequently any upward adjustments to employment in agriculture should be offset by a commensurate reduction in numbers employed in 'other business services'. It was agreed to reduce the initial projected loss in agricultural employment by 50% and compensate by amending 'other business services' jobs.
- Chemicals manufacture: in the light of the significant investment in new plant at two of the major employers in South Cambridgeshire it was agreed to hold future employment in this sector at 2007 levels.

- Professional services: Past experience has shown employment in this sector increasing much faster in Cambridgeshire than in the region as a whole. The initial projections suggested that the county's rate of growth would fall to average 'regional' rates. Cambridge Econometrics has subsequently reviewed and amended their projections
- Computing services: following a major study into the future prospects of computing services it is considered that the initial rates of job growth projected for Cambridgeshire appear unrealistically high and a small reduction in the rate has been incorporated in the revised projections.

It is important to note that no assumptions have been made regarding the relocation of Marshalls Aerospace from South Cambridgeshire, nor have any assumptions been made about the future numbers and deployment of armed forces personnel. The main known move is of armed forces from RAF Brampton to RAF Wyton, both located in Huntingdonshire.

No specific assumption has been made about the expansion of Littlehey prison in Huntingdonshire.