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Examining Alternative Demographic and Labour Market Projections

A report to Bridgend County Borough Council

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1 Introduction

Bridgend County Borough Council (BCBC) commissioned Cambridge Econometrics (CE) to support it to further strengthen and develop the evidence base underpinning the Council's Local Development Plan (LDP). The particular focus of the study has been to reassess the link between planned dwellings provision, population and employment targets.

Consultation on the LDP Pre-Deposit Proposals (December 2008) raised this matter. In addition, since the consultation the Welsh Assembly Government (WAG) has released its own UA-level population and household projections, which show stronger population and household growth than was proposed in the draft LDP, and the general economic environment has worsened since the employment projections used in the LDP Pre-Deposit Proposals were prepared. The link between housing provision, population and employment needs to be considered in the light of these more recent data.

This report initially reviews the alternative demographic projections for Bridgend County Borough and the assumptions underpinning them. It then considers the implications of the housing numbers proposed in the LDP Pre-Deposit Proposals for population in Bridgend given the latest demographic trends and reviews them alongside current projections for employment in the Borough. It also considers the population and employment trends in neighbouring local authorities and the possible impact upon Bridgend of these. Finally, it draws together the implications of these analyses for housing and employment related policy in Bridgend.

2 Analysis of Alternative Demographic Projections for Bridgend

2.1 Key projections

A primary objective set for the study is to understand the reasons for differences between the demographic projections for Bridgend County Borough (BCB) within the 2006-based Welsh Assembly Government (WAG) projections and other existing projections. This chapter analyses the various population and household projections available for Bridgend. The projections that are examined are:

- BCBC Chelmer-based projections used in the LDP Pre-Deposit Proposals
- Welsh Assembly Government (WAG) 2006-based population/household projections
- WAG 2003-based population/household projections
- CE population projections for Bridgend and for Wales (prepared in July 2009)
- Latest Chelmer Model standard short-term migration projection for Bridgend

They represent the range of projections that were available both around the time that the analysis included in the LDP's Pre-Deposit Proposal was undertaken, and now. The comparison undertaken here is intended to identify the extent to which variations in the projections are due to differences in key assumptions, and how views on these assumptions have changed over time and have in turn affected the projections. The WAG projections are the official, publicly available projections for small areas (sub-regions prior to 2006) in Wales. The projections used in BCBC's LDP Pre-Deposit Proposals were produced using the then current version of the Chelmer Model, before WAG produced projections for unitary authority areas. It is useful, therefore, to compare these against the most recent version of the Chelmer Model to understand the extent to which more recent assumptions result in changed projections on the same (Chelmer) methodoloy. CE's population projections are selected as a further comparator as these are projected forward from the very latest mid-year population estimates and use a different methodology to the Chelmer model or that used to produce the WAG projections.

Further details on each of the projections are provided in Appendix A.

2.2 The issue: should Bridgend's house-building target be substantially higher than the historical experience?

The annual house-building target for Bridgend implied by the most recent WAG population and household projections is much higher than the historical trend of actual house-building which has occurred in the past 15 years (1991-2006). The Bridgend Local Development Plan (2006-2021) Pre-Deposit Proposals contained a 'Growth Option' which is based on this historical trend and it implies that the annual house-building target for Bridgend should be 540. The WAG projections imply an annual target of 786, or some 240 more houses per year.

In order to pinpoint the reason for this significantly larger target, and therefore comment on its implications, it is necessary to compare the different demographic projections listed above. However, this comparison is hampered by three factors:

- The projections were produced at different times (and therefore employ different versions of assumptions, eg birth rates)
- The projections employ differing logic (eg trend-based versus dwellings-led)
- Scaling and geographical differences (the WAG local area trend projections are not constrained to an 'independent' Wales total, CE's projections are)

2.3 Comparison of projections

BCBC Chelmer-based projections used in the LDP Pre-Deposit Proposals

These projections were produced using a version of the Chelmer Model which employs 2003-based trends in fertility and mortality rates; the net effect of births/deaths is a natural population increase of around ¾% pa on average; natural change therefore contributes marginally to population growth. The 'default' assumptions assume net in-migration of about 618 persons pa or 3090 over each 5-year period (eg 2006-11, 2011-16, etc) based on the evidence of the recent past. Together with the growth coming from natural increase, the result is population growth of approximately ½% pa to 2021.

WAG 2006-based population/ household projections

Under these projections natural change provides a positive influence on population growth through to 2031 for Wales as a whole, though the scale of the impact falls over time, so that over 2026-31 the number of births matches the number of deaths. In each local area, including Bridgend, the method takes account of the recent local experience relative to Wales as a whole, and applies that differential through the projection period. For Bridgend the result is a natural population increase averaging around 0.1% pa.

For Wales as whole net in-migration (both domestic and international) averages around 5,000 per 5-year period. The level is greater in the short term (53,000 over 2006-11) and then remains at 48,000 per period. For Bridgend specifically there is assumed to be a net contribution of 700 people pa from internal migration and international migration.

WAG 2003-based population/ household projections

These projections were for the Welsh sub-regions only; projections were therefore not produced for the local authority of Bridgend but for the South East Wales sub-region. The population in the sub-region is projected to rise by 0.4% pa over 2003-2026. This rate of growth is marginally faster than is forecast for Wales as a whole.

CE population projections for Bridgend and for Wales

CE's district-level population projections are produced to accompany district-level employment projections in a way that ensures consistency with CE's own forecast for population in Wales (forecasts which are influenced by the economic performance of the Wales economy relative to other parts of the UK). CE's district level population projections are constructed by applying the growth rates from the ONS sub-regional population projections by district to the ONS's current mid-year population estimates by district, for seven summary age groups; 0-15, 16-24, 25-34, 35-44, 45-59, 60-64; 65+[1], and then scaling to CE's population forecast for Wales as a whole. CE's population forecasts for Wales use the ONS projections for birth and death rates, but use CE's own estimates of migration (internal and international, in and out) based on the relative economic prospects of Wales and the English regions.

This approach therefore seeks to take the strengths of the detailed methods used to produce the official projections, such as the detailed analysis of underlying trends in

[1] This full age breakdown of the CE population projections for Bridgend are presented in Chapter 5 together with the equivalent projections for neighbouring districts,.

mortality and birth rates (and the relative attraction of areas to immigration) and to augment them with a view of overall migration into Wales that is informed by the prospects for the relative performance of the Welsh economy. We believe this makes them more 'robust' than purely trend-based projections. Compared with the ONS migration assumptions for Wales, CE's view on migration is for net inmigration of 6,000-7,000 pa. In addition, CE's district-level projections are revised more frequently that other projections, as CE publishes an economic forecast for Wales twice a year and the district-level population projections are updated alongside this.

Under these projections the population of Bridgend rises from 132,600 in 2006 to 151,100 in 2031, an increase of 0.5% pa over the whole period. The rate of increase is initially higher than this at 0.7% pa over 2006-2011. Over the remainder of the period to 2031 it fluctuates between 0.4% pa and 0.6% pa.

CE's underlying forecast for Wales has the population increasing from just under 3m in 2006 to almost 3.2m in 2020, an increase of around ½% pa.

Latest Chelmer Model standard short-term migration projection for Bridgend

In this projection the number of births remains little-changed over the whole projection period at between approximately 7,900 and 8,100 over each 5-year period. The number of deaths initially remains stable, at around 6,700 over each 5-year period to 2021, before increasing to around 7,200 over 2021-26 and then to about 7,700 in the five years to 2031. Incorporating 2006-based trends in fertility and mortality rates, the net effect of births/deaths is a natural population increase of about 1,400 over the whole five-year period 2006-2011. The size of the increase then slows over time to 3,587 over the whole fifteen-year period 2016-31. This represents a natural rate of increase of 0.15% pa over the whole period 2006-2031.

The standard short-term migration scenario assumes net migration into Bridgend of 3,697 over each 5-year period (ie 740 pa) based on recent trends (and higher than the trend that was used for BCBC Chelmer projections). Under these projections the population of Bridgend rises from 132,600 in 2006 to around 156,100 in 2031, an increase of 0.7% pa over the whole period. There is some variation in the rate of growth over the period however. Between 2006 and 2016 the pa rate of growth is somewhat higher than this at about 0.75% pa whereas between 2021 and 2031 it is less than 0.6% pa.

Comparison

Chart 2.1 and Table 2.1 compare the different population projections for the unitary authority of Bridgend. This comparison shows that the Chelmer population projection used to generate BCBC's trend-based growth option for house-building starts from a lower base and increases less sharply than projections produced more recently. The lower level in 2006 reflects the difference between the model's estimate for population in 2006 and the mid-year estimate subsequently published by ONS and used in the more recent projections shown. BCBC's trend-based growth option implies a population in 2021 of 141,378. By comparison, projections for Bridgend produced by the most recent version of the Chelmer Model, running a short-term migration scenario, result in a population in 2021 of 147,544; CE's 2009 UA projections suggest a population in 2021 of 144,640; and the 2006-based WAG projections show a population of 146,000 in 2021.

In particular then, by 2021 there is a difference of some 4,500 (around 3%) between the population projection used to generate BCBC's trend-based growth option of 540 new houses annually and the 2006-based WAG projections which imply an annual

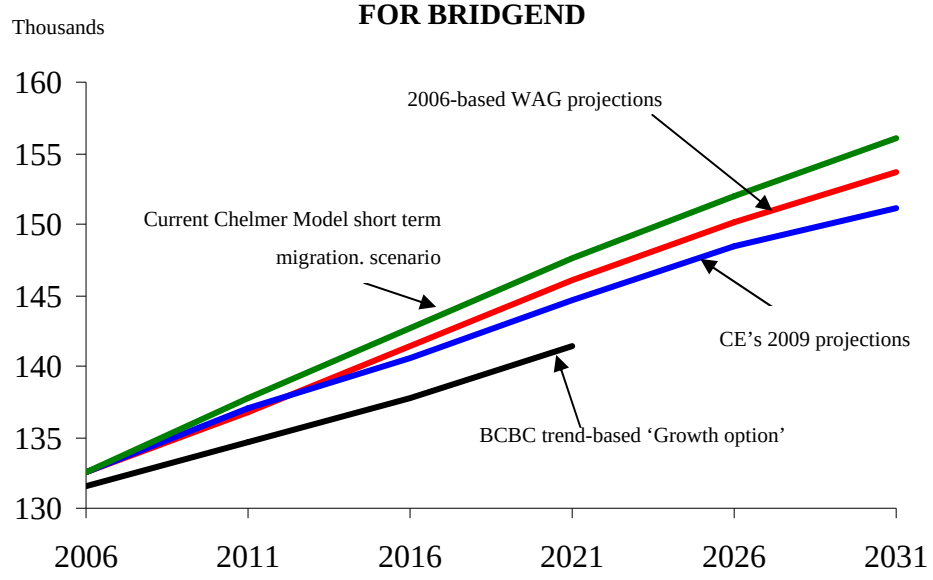
TABLE 2.1: COMPARISON OF ALTERNATIVE POPULATION PROJECTIONS FOR BRIDGEND

Thousands

	2006	2011	2016	2021	2026
BCBC 'trend-based' projections	131.6	134.6	137.7	141.4	
WAG 2006-based projections	132.6	136.8	141.4	146.0	150.1
Chelmer (current short-term migration)	132.6	137.7	142.7	147.5	152.0
CE (July 2009)	132.6	137.0	140.6	144.6	148.4

target of some 780. Of this difference, 1,000 is due to a higher estimate of the population in 2006.

CHART 2.1: COMPARISON OF POPULATION PROJECTIONS FOR BRIDGEND



2.4 Analysis of key assumptions

This section highlights the key differences in assumptions between the various projections in order to inform understanding of the reasons why the projections differ, and to inform judgement as to which projections should be used for planning purposes.

Migration

The version of the Chelmer Model used to produce BCBC's trend-based growth option employs the 2003-based International Migration Profile from GAD whereas the most recent version of the Chelmer Model for Bridgend employs the 2006-based International Migration Profile. The standard, short-term migration scenario output from the most recent Chelmer Model for Bridgend assumes constant international migration of 57 annually. The version used for BCBC's trend-based growth option assumes that international migration is zero over the whole period.

The net internal migration assumed in the version of the Chelmer Model which produced the trend-based growth option is an average of approximately 618 annually over the period 2006-2021. Over the same period the most recent Chelmer output indicates annual net migration to be more than 100 more at 739.

However, the scenario developed in Chelmer by BCBC and presented in the LDP Pre-Deposit Proposals was a dwellings-led scenario based on assumptions (reflecting the build rate of the recent past) of 540 dwellings built annually. The principal driver of population growth is therefore the level of new housing provision, and trends in average household size rather than demographic change and a particular migration assumption.

The internal migration assumptions employed in the WAG 2006-based population projections maintain recent experience estimated from the NHS' Patient Register Data System (PRDS). The 2006-based WAG population projections assume annual net migration for Bridgend of 700. This is approximately 80 more per year than results from constraining population to the limits imposed by the dwellings assumptions in the BCBC in Chelmer. The WAG projections assume zero annual international net migration.

The 2006-based WAG migration assumptions for local areas are held constant over time. They imply annual net migration into Wales of 12,000 pa. In contrast, 2006-based ONS projections for Wales assume net migration of around 9,500-10,000 pa (with higher levels over 2006-11). CE's own projections for Wales[2] forecast net inmigration (of working age) to Wales reducing from 10,000 in 2007 to 6,000 in 2011 during the economic downturn, rising slightly in the longer term

In summary,

- Levels of trend-based net migration into Bridgend are higher in the more recent WAG and Chelmer projections than implied in the BCBC LDP scenario. The latter were constrained to satisfy limits imposed by assumptions for dwellings provision. The associated level of migration into Wales as a whole in the more recent WAG projections is stronger than in the most recent ONS projections.
- The WAG assumptions make no allowance for the effects of the economic downturn and subsequent recovery on migration.

[2] *Economic Prospects for the Nations and Regions of the UK, July 2009*. Cambridge Econometrics.

Mid-year population estimates

The size of the Bridgend population in 2006 assumed in the LDP Pre-Deposit Proposals projection (131,604) is lower than that reported in the 2006 mid-year population estimates (which were released after the LDP Pre-Deposit Proposals projections were made). Each of the other projections being compared here use the 2006 mid-year population estimate of 132,600. The 2007 mid-year population estimates for Bridgend gives the population as 133,900. This increases to 134,800 in the 2008 mid-year estimates. By mid 2008, then, the population of Bridgend according to the ONS' mid-year estimates is, at 134,800, already greater than the figure 134,624 implied for 2011 by the BCBC's trend-based growth option.

In summary,

- The current population of Bridgend is already higher than draft LDP projections for 2011.

Fertility and mortality assumptions

The version of the Chelmer Model used by BCBC to produce the projections reported in the LDP Pre-Deposit Proposals incorporates 2003-based fertility and mortality assumptions from GAD. The current version of the model incorporates 2006-based versions of these same assumptions. For the period 2006-2021 the most recent Chelmer Model output assumes both a higher number of births and a lower number of deaths. For the five-year period ending 2011 the standard short-term migration scenario indicates births of 8,149 and deaths of 6,749 whereas the BCBC scenario has births of 7,519 and deaths of 7,174 over the same period. For the other five-year periods to 2021 the differences between the two versions of the Chelmer Model for fertility and mortality are of a similar magnitude.

The figure of approximately 8,100 births over the initial five-year period (to 2011) matches that in the 2008 mid-year population estimates for Bridgend published by ONS. These estimates suggest births over 2007-2008 to have been 1,600. If this figure is representative of the annual number of births over the whole five-year period this will result in the number of births for that period being 8000, somewhat higher than in the version of the Chelmer Model used to produce BCBC's trend-based growth option. The number of deaths over the 1-year period of 2007 to 2008 shown in the mid-year population estimates for 2008 implies a five-year total, on average, of 7000, which is slightly higher than that in the most recent version of the Chelmer Model for Bridgend and more in line with that assumed in BCBC's trend-based growth option.

The WAG projections for Bridgend project natural population change of around 200 people pa to 2020/21, with the number then falling back towards the number of births equalling the number of deaths by 2030/31.

In summary,

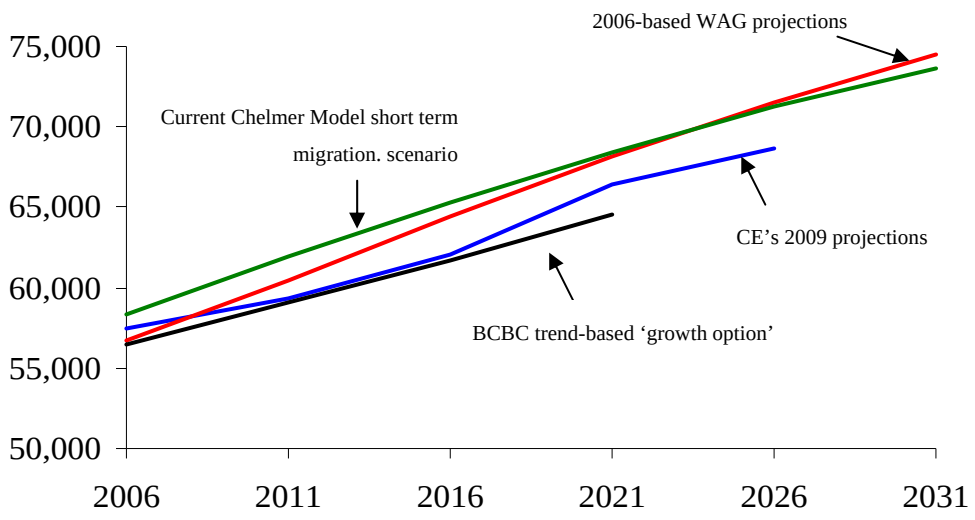
- The model used to produce the LDP Pre-Deposit Proposals Trend-Based projection has weaker trends for natural population change than are present in the latest projections

Dwellings

Chart 2.2 and Table 2.2 show the number of dwellings implied by the population projections previously examined[3]. BCBC's trend-based growth option starts from a lower base and continues to have the lowest number of dwellings over the whole period. The number of dwellings implied by a short-term migration scenario run using

[3] The number of households from BCBC's trend-based growth option and the 2006-based WAG projections is calculated by dividing the population by the assumed average household size (see below).

CHART 2.2: COMPARISON OF DWELLINGS FOR BRIDGEND



the most recent version of the Chelmer Model is the highest over most of the period examined but between 2021 and 2026 it converges with the dwellings implied by the 2006-based WAG projections. The CE projections do not include projections of dwellings directly. These have been implied from projected change in the number of households.

In summary,

- the dwellings implied by BCBC's trend-based growth option begin from a lower base and continue on this lower trajectory.

TABLE 2.2: COMPARISON OF ALTERNATIVE HOUSEHOLD AND DWELLINGS PROJECTIONS FOR BRIDGEND

	2006	2011	2016	2021	2026
Households					
WAG 2006-based projections	56,759	60,468	64,418	68,143	71,578
BCBC 'trend-based' projections	-	-	-	-	-
Chelmer (current short-term migration)	56,359	59,746	63,087	66,093	68,816
CE (July 2009)	57,403	59,342	62,023	66,402	68,668

	2006-2011	2011-2016	2016-2021	2021-2026
Additional dwellings requirement				
WAG 2006-based projections	3,709	3,950	3,725	3,435
BCBC 'trend-based' projections	2,700	2,700	2,700	2,700
Chelmer (current short-term migration)	3,387	3,341	3,006	2,723
CE (July 2009)	1,939	2,681	4,379	2,266

Household size

Chart 2.3 shows the average household size assumptions employed in the version of the Chelmer Model used to produce the BCBC's trend-based growth option, the most recent version of the Chelmer Model and the 2006-based WAG projections. In all three instances average household size is initially very similar at around 2.33. Over the period it is assumed to fall in all three instances too. However, the 2006-based WAG projections have a sharper fall in average household size than do the two vintages of Chelmer model projections. By 2021 the average household size is assumed to have fallen to about 2.14 by the WAG projections but remains around 2.20 in the other two projections shown.

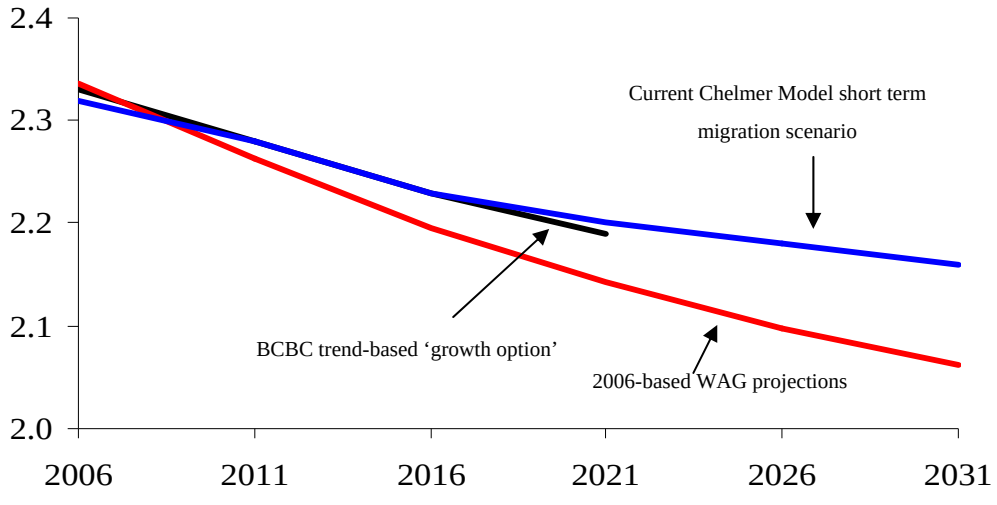
Therefore, even if the population projections were identical under the three scenarios, the 2006-based WAG projections would project a higher number of households (and so dwellings requirement). This is an important effect, since an assumed reduction in household size generates a demand for additional dwellings from the whole population, not just the projected increment to population. For example, if the 2006-based WAG population projections are used, but the average household size is assumed to remain at 2.2 from 2011-31 instead of falling to 2.0, the annual dwellings requirement falls from the published of 700 pa to around 400 pa.

The CE projections of future households in Bridgend apply the trend in overall average household size from the ONS projections[4].

In summary,

- The BCBC projections used in the LDP Pre-Deposit Proposals are based on a higher level of average household size than results from the WAG 2006-based projections.

CHART 2.3: COMPARISON OF AVERAGE. HOUSEHOLD SIZE ASSUMPTIONS FOR BRIDGEND



[4] The unconstrained results of this calculation for all districts in Wales are then scaled to CE's forecasts for total households in Wales.

2.5 Conclusion

Comparison of existing BCBC population projections and WAG projections

We see from the previous analysis that by 2021 there is a difference of some 4,500 and more between the population projected for Bridgend according to the 2006-based WAG projections (146,000) and that implied by the BCBC's preferred trend-based growth option published in the LDP Pre-Deposit Proposals (141,378) produced using a version of the Chelmer Model delivered in 2007.

The BCBC projections were founded on its allocation of the housing requirement implied by the 2003-based WAG projections for South East Wales (agreed to by the local authorities in the region). The 2006-based WAG projections project stronger growth in population and households for South East Wales, from a higher base in 2006 than did the previous 2003-based projections.

An initial assessment of the 2006-based WAG population projections indicates it would imply an annual house-building target for Bridgend of 786 between 2006 and 2021. This is somewhat higher than the trend for actual house-building which occurred in Bridgend over 1991–2006. The BCBC's growth option that is based on this trend in housebuilding implies an annual target of 540. For SE Wales, the WAG projections imply a housing requirement of approximately 700,400 properties by 2021 compared to 692,600 from the 2003-based projections.

The uplift to the projections comes from:

- Higher population in 2006 than previously forecast
- Higher assumed levels of net immigration
- Revised fertility/mortality trends resulting in higher natural population change
- Sharper projected falls in average household size

Understanding the causes of the variation in the BCBC projections and the latest WAG projections for Bridgend is not straightforward, as the former are essentially dwellings-led projections. If the same process by which the BCBC preferred dwelling requirement was followed, but with the higher household estimates for SE Wales from the 2006-based projections, it is possible that the housing allocation for Bridgend would be higher (so raising the associated population projections).

What can be more readily assessed are the differences in the purely trend-based projections from the Chelmer models used by BCBC when preparing the LDP scenarios with those from the current version.

The difference in population of some 4,500 in 2021 can be attributed to different fertility/mortality assumptions combined with higher assumed migration. This is demonstrated in Table 2.3 below.

The BCBC projections include lower rates of natural population change…

The version of the Chelmer Model used to generate the BCBC's trend-based growth option employs 2003-based mortality/fertility rates from ONS/GAD, whereas the most recent version of the Chelmer Model incorporates the 2006-based mortality/fertility rates from ONS/GAD. Table 2.3 shows that the more recent mortality/fertility rates imply much greater net population gain from natural change over the period to 2021. The new rates suggest net gain of some 3300 more than the older rates.

TABLE 2.3: IMPACT OF ALTERNATIVE MORTALITY AND FERTILITY RATES OF POPULATION PROJECTIONS FOR BRIDGEND

	2006- 11	2011- 16	2016- 21	Total net gain
2003 mortality and fertility rates				
Births	7,169	7,139	7,412	
Deaths	6,980	7,006	7,229	
Net gain	189	133	183	505
2006 mortality./fertility rates				
Births	8,149	7,981	7,923	
Deaths	6,749	6,657	6,794	
Net gain	1,400	1,324	1,129	3,853
Difference				3,348

… and inmigration

The WAG projections for Bridgend project natural population change of around 200 people pa to 2020/21, with the number then falling back towards the number of births equalling the number of deaths by 2030/31.

The remainder of the difference in population by 2021 can be accounted for by a higher level of assumed net migration in the 2006-based WAG government projections. These projections assume net migration of 700 annually through to 2021. Whereas the BCBC's trend-based growth option resulted in annual net migration of approximately 620 over the same period. The equivalent assumptions (short-term migration trends) in the current Chelmer model are for net in-migration of 740 annually.

Therefore, the majority of the differences that would arise from pure demographic trend-based projections from the 2006-based WAG projections would be attributable to revised trends in natural population change.

Different trends in average household size (higher levels in BCBC projections than WAG projection) would further accentuate the differences in projected number of households and hence housing need.

Comparison of latest trend-based population projections

The three latest trend-based projections (WAG, Chelmer and CE) reviewed here, which represent the impact of underlying trends, unconstrained by potential supply-side constraints, such as land availability, provide a range for the population in 2021 of between 144,600 and 147,500, a range of 2%. The Chelmer model and that used to produce the WAG projections are broadly similar in approach though, but vary in their precise assumptions they use. A key assumption is of future levels of net migration into Bridgend. The WAG model assumes migration remains at levels seen in the recent past. The short term Chelmer scenario takes a similar approach, but separates international migration from migration internal to the UK, and links future levels of international migration from Bridgend to UK-level assumptions. For the UK as a whole, the assumed levels of net international migration are lower than experienced over the last 5 years**.**

The CE projections use a different methodology, effectively taking independently-produced trend-based projections and calibrating the results back to a population forecast for Wales that is shaped in part by economic factors (the better the Wales economy performs relative to the UK in, say, creating jobs, the stronger the expected levels of net inward migration). Such a link to economic prospects (albeit for Wales rather than each local area) is not present in the other models. In the current context of the sharp recession during the last year and the prospect of a slow, extended recovery, economic factors could lead to migration trends in the short term that differ markedly from recent experience. We believe the link to wider economic factors is improves the robustness of the projections.

The difference in approaches reflects the different purposes for the models. Chelmer and the WAG models are designed to provide considerable detail on the demographic dynamics of a local area under alternative assumptions for that area (the models can be applied to a number of areas to construct outcomes for aggregate areas, but there is no interconnection between areas). They can be run under any variant assumption for net migration no matter how these were developed. In contrast, the CE approach is designed specifically to produce results at just a broad level of detail but where the outcomes for local areas are constrained to an 'given' outcome for a higher spatial area, in this case Wales.

3 Prospects for Employment in Bridgend

3.1 Introduction

The Bridgend Local Development Plan[5] includes projections of employment produced by Cambridge Econometrics (CE). These economic projections were produced as an input to the work undertaken by SQW Consulting for BCBC on a regeneration strategy for the borough. The projections were prepared in the first half of 2007 although the study reported in June 2008.

The projections were therefore prepared at around what has turned out to be the peak in the economy, before the onset of the credit crisis and ensuing global recession. The economic landscape has clearly altered since these earlier projections were formed, both in terms of the recession and recovery, rather than general upward trend in economic output that was forecast, and also in the economic environment that will prevail in the medium term. There is now political consensus in the need for public spending to be cut back, and there is also the prospect that taxes will also need to rise, to control the public finances.

Below we present revised projections for the Bridgend economy, consistent with the economic context for Wales and the UK set out in *Economic Prospects for the Nations and Regions of the UK, July 2009*. They are the economic projections consistent with the CE population projections for Bridgend presented in Chapter 2.

3.2 Current economic projections for Bridgend

The underlying prospects for growth are similar to those for Wales

Table 3.1 summarises the current economic projections for Bridgend alongside those for Wales and the UK as a whole. The projections indicate that although the Bridgend economy performed slightly better than the Wales economy since the 1990s[6], the prospects looking forward are for GVA growth in the long term to be in line with that

TABLE 3.1: SUMMARY OF BASELINE PROJECTIONS FOR BRIDGEND

	1990-2000	2000-06	2008-12	2012-15	% pa 2015-21
GVA					
Bridgend	2.1	2.7	-0.9	2.2	2.2
Wales	1.9	2.1	-0.6	2.2	2.2
UK	2.5	2.6	-0.1	2.6	2.6
Employment					
Bridgend	0.6	2.3	-1.7	0.6	0.4
Wales	-0.1	1.6	-1.4	0.8	0.5
UK	0.1	1.0	-1.1	0.5	0.5

[5] References to the Plan relate to the Pre-Deposit Proposals, December 2008.

for Wales, at 2¼% pa, but for employment growth to be weaker. In the short term, the prospects are for Bridgend to experience a relatively sharper recession and weaker recovery than the Wales economy as a whole.

Methodology for developing the projections

The underlying data on which the projections are based is the employment data (number of jobs) from the Annual Business Inquiry (ABI) although several adjustments are made to the data to produce data consistent with the latest employment estimates for Wales provided to CE by ONS.

- ABI data on employees jobs for all districts in Wales are scaled to the latest June-based estimates
  - This scaling is undertaken separately for each sector and status by sector and is necessary because the ABI data are not revised as frequently as the quarterly estimates of employment in Wales published by ONS.
- Estimates of self employment by sector in the district are made by applying Welsh rates to local estimates of employees in employment in the sector.

The projections for Bridgend have been produced using a version of CE's Local Economy Forecasting Model (LEFM) calibrated to the locality. These baseline projections employ the same methodology as was used for the previous 2007-based projections, namely the rationale that the past performance of a sector locally relative to the performance of the sector in Wales as a whole indicates its future relative performance. Note that this method does not mean that the future growth in employment in an industry in Bridgend will be at the same rate as seen in the past. This will depend whether the underlying prospect for growth in the industry in Wales is in line with past trends. For those services that mainly serve the local population, the baseline projection is developed by relating per capita employment growth in the local area to its counterpart in the UK as a whole.

Employment in 2021 could remain below that before the start of the recession

Table 3.2 shows the sectoral prospects for growth in more detail.

In line with the prospects for Wales, and indeed the UK, employment in Bridgend is thought to have recorded a year-on-year fall in 2008, with further falls expected to 2011. Although the economy is expected to return to a long-term trend of rising employment, by 2021 the number of jobs in Bridgend is projected to be some 2½% (1,700) below the level in 2008, and perhaps 5% below the peak in employment in 2007. Employment in Wales as a whole is also projected to remain below its 2007/8 peak by 2021.

Considering the period 2006-21 as a whole, there is projected to be a net fall in employment, with an overall fall in employment in manufacturing and construction in particular, outweighing an increase in jobs in financial & business services[7]. Given the pressures to reduce public spending over the coming years, the number of jobs in government and other services is also expected to be lower in 2021 than in 2006. Considering the projected employment trends for the two periods 2006-12 (period of strong growth, recession and then projected recovery), and 2012-21 (return to long-term trends), the decline projected in manufacturing employment is not restricted to the period of recession and recovery; employment is expected to continue to fall in the

[6] The strength of growth over 2000-06 is influenced by exceptionally strong growth in employment in supporting business services reported in the ABI in 2005 and 2007.

[7] The growth in financial & business services shown in the table is accentuated by the increases reported in the ABI between 2006 and 2007.

long-term. In contrast, the losses projected in retailing and hotels & catering could be made up again, and construction employment should rise in the future but may not reach the levels seen before the collapse in activity. The strongest growth prospects in the long term are for employment in financial & business services, while public-sector employment may begin to rise later next decade when the public finances have been put on a more stable footing, but it is not thought likely that by 2021 that the jobs that had been lost from the sector will have been fully replaced.

Risks When the projections described above were prepared, in mid 2009, it was recognised that the scale of public sector job losses was a downside risk on the forecast. Since this time the prospects for the public finances have deteriorated further and as a result the cuts in public spending are likely to be deeper (no matter which administration is in power) than previously thought. Were this to be the case then the outcome for public-sector employment will be lower than shown.

3.3 Comparison with the earlier projections

The impact of the recession means the number of jobs in 2021 is some way below that projected in 2007, although the long-term growth prospects are little-changed.

The current projections project an overall fall of 600 jobs over 2006-21 compared to an increase of 3,850 additional jobs indicated in the 2007-based projections. The principle reason for the lower net additional jobs is the impact of the recent recession and the weak recovery that is now projected. Employment in Bridgend is now projected to have fallen in 2008 and further year-on-year falls are expected to 2011. However, in the (eg 2015-21), the underlying rate of employment growth projected now is not very much different from that in the 2007-based projections (0.3% pa compared to 0.4% pa now).

The pattern of employment change over 2006-21 as a whole differs from that of the earlier projections, though again it is informative to consider the period 2006-12 separately from 2012 onwards, when the economy is likely to have adjusted towards

TABLE 3.2: EMPLOYMENT PROJECTIONS FOR BRIDGEND

	Thousands				Growth, 2006-21	
	2000	2006	2012	2021	(Thousands)	(% pa)
Agriculture etc	0.3	0.4	0.3	0.3	-0.1	-1.9
Mining & quarrying	0.1	0.2	0.1	0.1	-0.1	-4.5
Manufacturing	12.4	10.1	9.3	8.5	-1.6	-1.2
Electricity, gas & water	0.0	0.1	0.0	0.0	-0.1	-100.0
Construction	2.7	5.7	3.6	3.9	-1.8	-2.4
Distrib, hotels & catering	12.5	13.6	12.5	13.6	0.0	0.0
Transport & comms	1.8	1.8	2.0	2.1	0.3	1.0
Financial & bus. services	5.4	7.9	9.6	11.1	3.2	2.3
Government & other services	19.8	23.3	22.4	22.9	-0.4	-0.1
Total	55.1	63.0	60.0	62.4	-0.6	-0.1

its long term prospects. The pattern of growth in the long term is similar to that projected in the 2007-based projections, with strong growth in financial & business services and distribution, hotels & catering, and further falls in manufacturing employment. The main difference between the two sets of long-term projections is that the underlying growth in employment in government & other services has been greatly revised downwards, from 1-1¼% pa to just ½% pa.

TABLE 3.3: ALERNATIVE EMPLOYMENT PROJECTIONS FOR BRIDGEND

	Current projections				2007-based projections			
	2006-12		2012-21		2006-12		2012-21	
	000s	% pa	000s	% pa	000s	% pa	000s	% pa
Agriculture etc	-0.1	-4.7	0.0	0.0	-0.1	-2.8	0.0	-1.3
Mining & quarrying	-0.1	-10.9	0.0	0.0	0.0	0.0	0.0	-3.5
Manufacturing	-0.8	-1.4	-0.8	-1.0	-0.5	-0.8	-0.9	-1.0
Electricity, gas & water	-0.1	-100.0	0.0	-100.0	0.0	0.0	0.0	-2.2
Construction	-2.1	-7.4	0.3	1.0	0.4	1.3	0.1	0.2
Distrib, hotels & catering	-1.1	-1.4	1.1	0.9	0.4	0.4	0.7	0.6
Transport & comms	0.2	1.8	0.1	0.5	0.0	0.4	0.1	0.4
Financial & bus. services	1.7	3.3	1.5	1.6	0.5	1.1	0.9	1.1
Government & other services	-0.9	-0.7	0.5	0.2	1.2	0.8	1.2	0.5
Total	-3.0	-0.8	2.4	0.4	1.8	0.5	2.0	0.3

4 Updated Dwellings-led Population Projections for Bridgend

4.1 Introduction

The Bridgend Local Development Plan includes BCBC's 'preferred growth option' for house-building. This implies a house-building target for Bridgend of 540 net additional properties per year. The associated population projections presented in the Plan (as discussed in Chapter 2) were prepared using a version of the Chelmer Model which incorporated 2003-based mortality/fertility rates from the ONS. However, the WAG population projections, which imply a higher build rate, employed more recent mortality/fertility assumptions. These more recent assumptions imply greater natural change in the Bridgend population. The more recent projections also assume a higher rate of net migration into Bridgend.

In this chapter we consider the population projections arising from the housebuilding assumptions from the LDP's preferred growth option under the latest demographic trends. This dwellings-led scenario takes BCBC's preferred growth option of 540 new houses per year as its input. Firstly, it shows the prospects for population in Bridgend assuming that this target is met and that the Chelmer Model average household size assumptions are correct. Secondly it shows the prospects for population in Bridgend if the projections are recalculated to incorporate the average household size assumptions employed by WAG. The alternative projections of average household size have been developed using different methodologies. Those in Chelmer are derived from projections of headship rates while the WAG projections are constructed from estimates for the number of households of each size (eg one person, two person, three person etc.).

4.2 Population

Table 4.1 shows the population implied by the dwellings-led Chelmer Model scenario which takes BCBC's preferred growth option of 540 builds per year as its input. The total private household population increases at a rate of ½% pa to approximately 140,449 in 2021 and 144,400 in 2026, representing an increase of about 7% over the period 2006–2021 and 10% over the period 2006-2026. The total population, which includes the institutional population, also increases at a rate of about ½% pa to approximately 142,400 by 2021, representing growth of about 11% over the whole period.

Table 4.2, below, shows what the population would approximately be if the WAG average household size assumptions are employed instead[8]. Chart 4.1 compares the dwellings-constrained projections under the alternative assumptions for future average household size, while Chart 4.2 shows this population compared to the population projections discussed in Chapter 2.

[8] The difference in estimate of population in 2006 from that shown in Table 4.1 results from maintaining the same household numbers as projected in Chelmer but applying a different estimate of average household size.

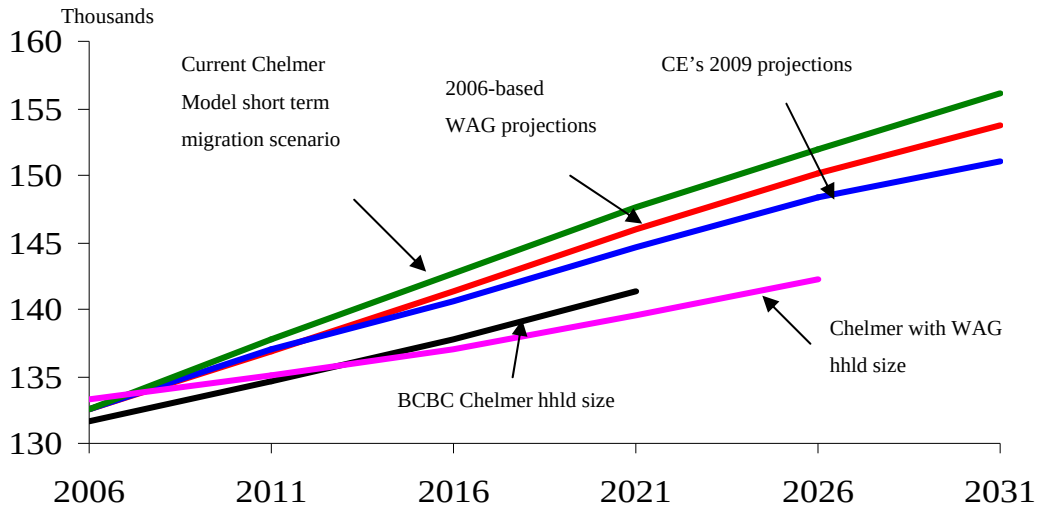
TABLE 4.1: POPULATION PROJECTIONS FOR BRIDGEND USING CHELMER PROJECTIONS FOR AVERAGE HOUSEHOLD SIZE

	2006	2011	2016	2021	2026
Ave. hhld size	2.32	2.27	2.22	2.19	2.16
Total private. hhlds.	56,361	58,968	61,573	64,179	66,785
Tot. private. hhld. pop.	130,995	133,827	136,826	140,449	144,403
Institutional pop.	1,605	1,689	1,804	1,992	2,264
Total pop.	132,600	135,516	138,630	142,441	146,667

TABLE 4.2: POPULATION PROJECTIONS FOR BRIDGEND USING WAG PROJECTIONS FOR AVERAGE HOUSEHOLD SIZE

	2006	2011	2016	2021	2026
Ave. hhld size	2.34	2.26	2.20	2.14	2.10
Total private. hhlds.	56,361	58,967	61,574	64,180	66,785
Tot. private. hhld. pop.	131,670	133,405	135,156	137,509	140,049
Institutional pop.	1,605	1,689	1,804	1,992	2,264
Total pop.	133,275	135,094	136,960	139,501	142,313

CHART 4.2: CHELMER POPULATION PROJECTION USING WAG PROJECTIONS FOR AVERAGE HOUSEHOLD SIZE



The projections using the WAG trends in average household size shown in Table 4.2 and Charts 4.1 and 4.2 assume that the institutional population to be added to total household population is exactly as in the Chelmer Model output shown in Table 4.1. The total private household population increases at a rate of just over ¼% pa to 140,049 in 2021, representing growth of just over 4% over the whole period 2006-2021. The total population also increases at a rate of just over ¼% pa, to a total of about 139,500 representing growth of close to 5% over the whole period to 2021. From Chart 4.2 it is clear that the sharper fall projected in average household size in the WAG projections implies a slower rate of population growth between for Bridgend for a given number of dwellings.

Chart 4.3 shows the implications for working-age population from this scenario. The profile of working-age population reflects an ageing workforce. The number of people of age 45-retired increases relatively sharply over much of the period. Conversely, the number of people of age 30-44 declines sharply. The 15-29 age-group remains relatively stable.

Both projections result in a lower level of population than result from the CE, the WAG or latest Chelmer projections discussed earlier in Chapter 2. While the interpretation of the dwellings-led projections described above differs from the three trend-based projections, comparison does illustrate the degree to which underlying trends may be in tension with particular housebuilding targets.

4.3 Labour Force

Bridgend has a similar overall rate of labour market participation than Wales as a whole, at just under 60% of the 16+ population. The rate among those of working age is slightly higher than the average for Wales, at almost 77%. However, the relatively high rates of participation are restricted to the younger age groups. Rates of participation among those aged over 35 are higher in Wales as a whole than in Bridgend.

Chart 4.3 shows the trend for total labour-market participants resulting from the dwellings-led scenario based on BCBC's 'preferred growth option' using Chelmer assumptions for average household size. The projection shows the local labour force to be broadly stable in the long term, with a small decline over 2011-26 (less than 1%) followed by a slight recovery in the longer term.

CHART 4.2: WORKING-AGE POPULATION

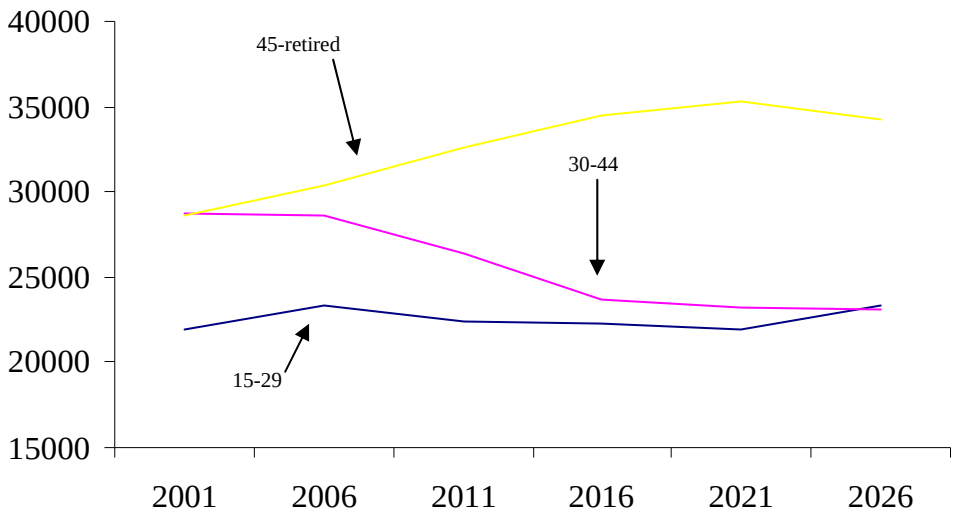


CHART 4.3: PROJECTIONS OF THE ECONOMICALLY ACTIVE POPULATION IN BRIDGEND

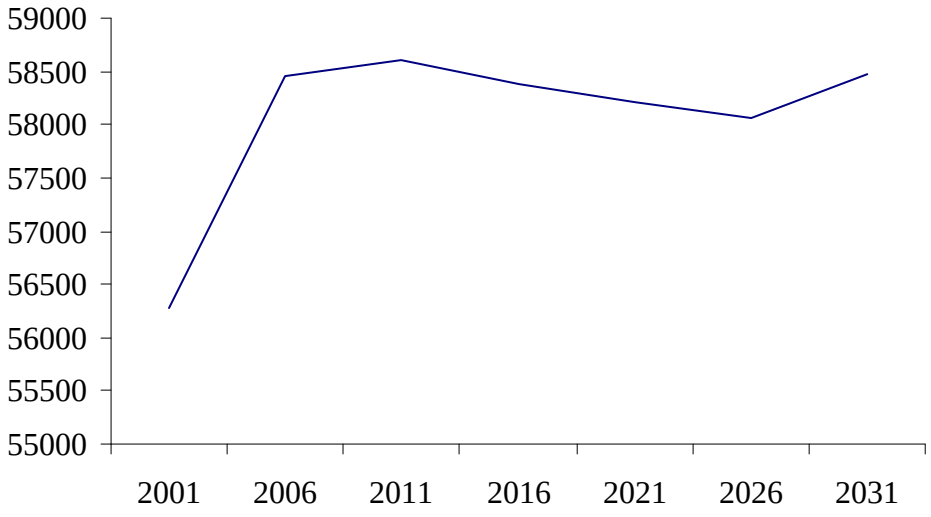


Chart 4.4 shows the projected age composition of the labour force. It clearly shows the aging profile, with the increase in those aged 45 to retirement age[9] over the period to 2021 and the fall in those aged 15-29 and 30-44.

Chart 4.5 shows the proportion of the working-age population in each age-band that is accounted for by labour-market participants, over time. The 30-44 age-band is relatively stable with just under 80% of the working-age population being labour-market participants. However, the proportion of the population aged 15-29 who are participants in the labour market falls over time. The proportion of the 45-retirement age age-band that participates increases.

CHART 4.4: AGE BREAKDOWN OF PARTICIPATION

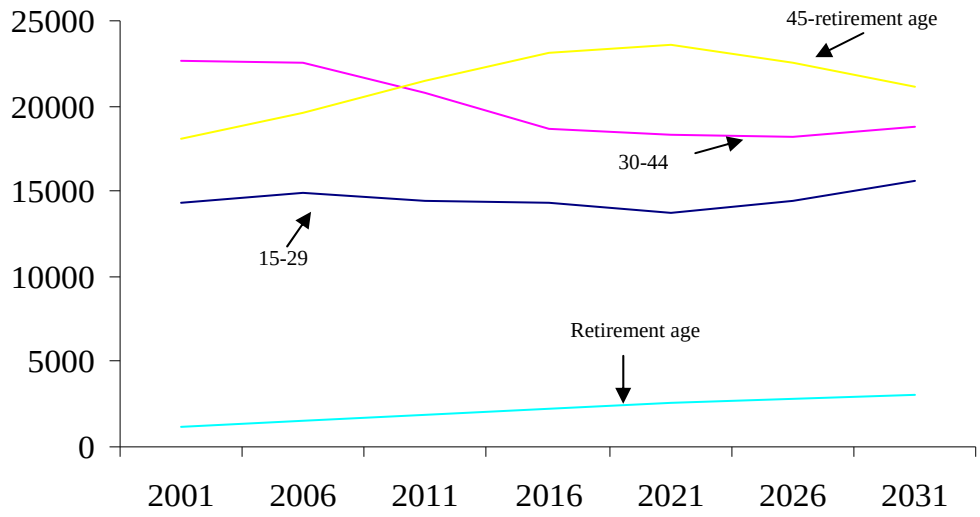
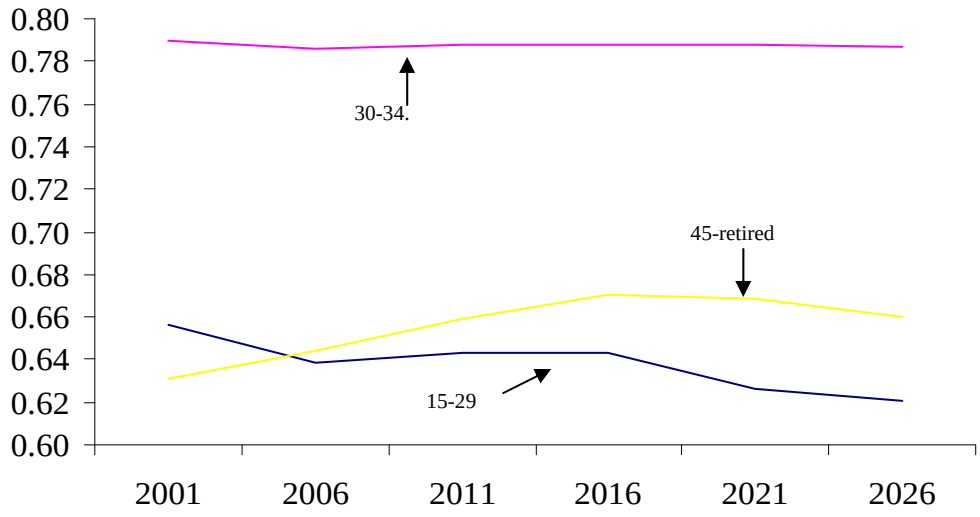


CHART 4.5: PARTICIPATION RATES BY AGE GROUP



[9] Based on a constant retirement age group of 59/64 plus.

4.4 Conclusion

As discussed in Chapter 2, the WAG projections and Chelmer use very different approaches to projecting trends in average household size and this will be a factor behind the different trends in each. The future average household size in Bridgend in the WAG projections falls more sharply over time than it does under the latest Chelmer assumptions. As a result the projected population level will be lower under the WAG assumptions for a given programme of housebuilding. Under the assumptions for additional housing set out in the LDP's preferred growth option, the WAG assumptions for household size imply a population level some 4,000 lower than arise from the Chelmer assumptions.

The impact of the future population on the local labour force is influenced by changes in the age profile of the population and of trends in participation among different age groups. Although the population of Bridgend rises, the effect of an aging population results is likely to lead to little change in the size of the local labour force through to 2026. However, these projections may understate the future size of the labour force. The age profile of the population is one which is moving from bands where current participation rates exceed the average for Wales as whole to those where current rates are lower than the Wales average. It may be that the cohorts currently in the younger age groups will maintain their relatively high rates of participation as they age (albeit at lower overall rates than their cohort currently exhibit).

The interpretation of dwellings-led projections, as discussed here, is entirely different from that of trend-based projections discussed earlier in this report and so it is not possible to say whether one approach is more 'robust' than another[10]. However, it is clear that the outcome of the previous proposed dwelling provision would be likely to provide a lower population than trend-based projections show.

[10] It is likely there are instances of previous plans for dwellings provisions ten or 20 years out being revised, in the same way that trend-based projections are revised over time.

5 Prospects in Neighbouring Authorities

5.1 Introduction

The Bridgend CBC economy does not operate in isolation. In understanding the possible future path of its development we have discussed how it will be influenced by factors determined at a Wales, UK or international scale. Similarly, Bridgend is part of a wider travel to work area that includes part of the Vale of Glamorgan, so there are already well-established commuting patterns to and from the borough. In considering the balance between projected employment and population growth in the borough it is informative to consider the prospects in neighbouring areas to assess whether demographic and employment trends in those areas could support or work against the projected trends for Bridgend. We present below CE's projections for the labour markets of Neath Port Talbot, Vale of Glamorgan and Rhondda Cynon Taff, the three boroughs bordering Bridgend, consistent with its July 2009 projections for Bridgend presented in Chapter 3 (employment and output) and Chapter 2 (population).

5.2 Summary of labour market projections

Table 5.1 summarises CE's projections for the labour market prospects for the three local economies neighbouring Bridgend.

The following key points arise from these projections:

- During the first half of this decade Neath Port Talbot and Rhondda saw strong growth in workplace jobs alongside rising working age population. The working age population in the Vale of Glamorgan similarly increased over this period, but the economy suffered a substantial loss of jobs.
- Each area is projected to see stronger population growth than during the first half of the decade, with the strongest growth projected in Vale of Glamorgan.
- The population in each authority is projected to age, with the growth in total population greatly exceeding that in working age population[11]. This is particularly the case in the long term when the 16-59/64 population in Rhondda might decline.
- By 2021 employment in each local economy is projected still to be lower than in 2006.
  - The largest difference is projected in Vale of Glamorgan, which is seen likely to have the more severe job losses during the short and medium-term as well as the weakest underlying employment growth in the long term.
- Over 2006-21 all districts are projected to see the increase in working age population exceed the net increase in jobs. The largest differential is in Rhondda and Vale of Glamorgan because of weak employment prospects. While it is unlikely that the increase in the working age population would be translated to an equivalent increase in the labour, equally a number of the net new jobs will be part time in nature and will not necessarily translate into equivalent increases in people

[11] The definition of working age applied through the whole of the projections is 16-59/64. We recognise that there is legislation to equalise the male and female pension age to 65 over 2010-20 and to raise the retirement age from 65 to 68 over the following 20 years. There are also proposals that a new administration would seek to bring forward the raising of the pension as one of the measures to address the public finances.

employed. Nevertheless, the comparison of population growth and employment growth provides a useful first indication of potential labour market pressures in these economies.

- There are both similarities and differences in the underlying population dynamics for each district.
  - The strongest growth in each district is among those aged 65+, and by 2021 this is projected to be the largest of the age group in each district.
  - Similarly, in the long term the number aged 16-24 is projected to decline in each district.
  - Neath Port Talbot, unlike the other districts, is projected to see strong growth in the middle age band of the workforce, those aged 35-44.

In comparison to the neighbouring economies, CE's forecasts indicate Bridgend;

- has stronger prospects for economic growth, due primarily to the prospects for a weaker decline in employment in the short term,
- has future demographic change more in line with future employment growth
  - the change in working age population over 2006-21 is similar to, but still stronger than, the projected change in employment, and as a result the ratio of jobs to resident population of working age in the borough in 2021 is little-different to that in 2006 (ratio of jobs per resident population falls more as the total population is projected to grow faster than the population of working age). In contrast, in Rhondda and Value of Glamorgan relatively weak employment growth results in growth in their working age population exceeding the growth in jobs to a much greater extent, with the result that the ratio of jobs to population in these boroughs falls faster than in Bridgend.

Wider role of Bridgend economy

Historically, the employment links between Bridgend and its neighbouring districts has been relatively weak. The 2001 Census is clearly dated, but it remains the last comprehensive picture of commuting patterns. It showed that overall around 70% of Bridgend residents in work worked in district. More people travelled to work in Cardiff than did so in any of the three neighbouring boroughs (the flows to Cardiff were primarily among the higher-order (managers, professional and associate professional) and clerical occupations. The broad pattern is the same when looking at where those working in Bridgend come from. Over 75% of those working in the district live in Bridgend, with around 15% of jobs filled by those who live in the three neighbouring districts (the most coming from Rhondda, Cynon, Taff). The largest flows (in number and as a share of Bridgend jobs) are among Process, plant and machine operatives and other elementary occupations. In the case of managers working in Bridgend, a similar number commute from Cardiff as from Vale of Glamorgan or Rhondda, Cynon, Taff (which is more than come from Neath Port Talbot).

The prospects described above indicate relatively strong prospects for employment growth in Bridgend. However, as the scale of the out performance compared to the neighbouring districts is relatively small and in line with the projected population change for the district. As such, these projections do not indicate the borough increasing its role as a regional hub and source for employment for residents in neighbouring areas, as articulated in the vision for the Local Development Plan (the vision should represent the outcome of successful intervention, so it is not surprising that this is not shown in baseline projections). However, the sectoral projections

indicate that growth in employment in financial & business services in Bridgend will be greater than in any of the neighbouring districts and so such employment within the sub-region will become increasingly concentrated in the district. An equivalent dynamic is not projected for employment in retailing distribution and hotels & catering.

The changing industrial structure of employment in Bridgend (see Chapter 3) and elsewhere will tend to result in fewer manufacturing-related jobs and more managerial, professional and associate-professional-type jobs. The general upskilling of the workforce in the neighbouring districts may well be necessary to maintain the flow of workers into Bridgend. Similarly, the likely increase in local opportunities of higher value jobs may mean Bridgend is able to retain more of those who currently commute out of the district, thereby further increasing its ability to meet its employment growth.

TABLE 5.1: SUMMARY OF LOCAL LABOUR MARKET PROSPECTS

	Thousands					Growth Thousands				% pa			
	1990	2000	2006	2012	2021	1990-2000	2000-2006	2006-2012	2012-2021	1990-2000	2000-2006	2006-2012	2012-2021
Employment (number of jobs)													
Neath Port Talbot	65.9	47	50.1	47.4	49.1	-18.9	3.1	-2.7	1.7	-3.3	1.1	-0.9	0.4
Rhondda, Cynon, Taff	85.4	81.6	89.7	81.8	85.9	-3.8	8.1	-7.9	4.1	-0.5	1.6	-1.5	0.5
Vale of Glamorgan	40.7	49.8	44.4	39.5	40.4	9.1	-5.4	-4.9	0.9	2.0	-1.9	-1.9	0.3
Bridgend	52.1	55.0	63.0	60.0	62.4	2.9	8	-3	2.4	0.5	2.3	-0.8	0.4
Total population													
Neath Port Talbot	138.9	134.8	137.1	141.5	149.1	-4.1	2.3	4.4	7.6	-0.3	0.3	0.5	0.6
Rhondda, Cynon, Taff	233.7	232.4	233.9	237.4	243.7	-1.3	1.5	3.5	6.3	-0.1	0.1	0.2	0.3
Vale of Glamorgan	117.7	119.3	123.3	128.4	136.5	1.6	4	5.1	8.1	0.1	0.6	0.7	0.7
Bridgend	129.6	128.2	132.6	137.8	144.6	-1.4	4.4	5.2	6.8	-0.1	0.6	0.6	0.5
Working age population (16-59/64)													
Neath Port Talbot	82	80.1	82.9	84.2	85.9	-1.9	2.8	1.3	1.7	-0.2	0.6	0.3	0.2
Rhondda, Cynon, Taff	141.1	140.6	143.4	143.5	140.5	-0.5	2.8	0.1	-3	0.0	0.3	0.0	-0.2
Vale of Glamorgan	70.7	70.1	73.4	74.9	75.7	-0.6	3.3	1.5	0.8	-0.1	0.8	0.3	0.1
Bridgend	78	77.5	80.8	82.4	83.3	-0.5	3.3	1.6	0.9	-0.1	0.7	0.3	0.1
Jobs per resident population													
Neath Port Talbot	0.47	0.35	0.37	0.33	0.33	-0.1	0.0	0.0	0.0	-3.0	0.8	-1.4	-0.2
Rhondda, Cynon, Taff	0.37	0.35	0.38	0.34	0.35	0.0	0.0	0.0	0.0	-0.4	1.5	-1.8	0.3
Vale of Glamorgan	0.35	0.42	0.36	0.31	0.30	0.1	-0.1	-0.1	0.0	1.9	-2.4	-2.6	-0.4
Bridgend	0.40	0.43	0.48	0.44	0.43	0.0	0.0	0.0	0.0	0.7	1.7	-1.4	-0.1

Source(s): Cambridge Econometrics, consistent with *Economic Prospects for the Nations and Regions of the UK, July 2009.*

TABLE 5.2: SUMMARY OF POPULATION PROJECTIONS

	Thousands					Growth, % pa			
	1990	2000	2006	2012	2021	1990-2000	2000-06	2006-12	2012-20
Neath Port Talbot									
0-15	27.9	26.6	25.5	23.1	24.1	-0.5	-0.7	-1.7	0.5
16-24	16.6	13.4	15.3	15.6	14.0	-2.1	2.2	0.4	-1.2
25-34	19.0	16.8	14.8	17.6	19.5	-1.2	-2.1	3.0	1.1
35-44	18.8	19.7	19.6	17.2	19.9	0.4	-0.1	-2.2	1.6
45-59	23.8	26.6	29.2	29.7	28.2	1.1	1.6	0.2	-0.6
60-64	7.9	7.3	8.2	8.4	9.0	-0.7	1.8	0.5	0.8
65+	24.9	24.4	24.6	30.0	34.5	-0.2	0.1	3.4	1.6
Total	138.9	134.8	137.1	141.5	149.1	-0.3	0.3	0.5	0.6
Rhondda, Cynon, Taff									
0-15	49.4	49.0	45.6	41.3	42.3	-0.1	-1.2	-1.6	0.3
16-24	30.7	26.7	28.5	28.0	25.0	-1.4	1.1	-0.3	-1.2
25-34	33.1	31.6	28.6	30.8	31.5	-0.4	-1.7	1.2	0.3
35-44	31.8	32.0	33.9	30.0	28.8	0.1	0.9	-2.0	-0.5
45-59	39.5	44.5	45.8	47.4	47.6	1.2	0.5	0.6	0.0
60-64	12.3	11.8	13.5	14.8	15.6	-0.4	2.3	1.6	0.6
65+	36.8	36.9	38.1	45.1	52.9	0.0	0.5	2.9	1.8
Total	233.7	232.4	233.9	237.4	243.7	-0.1	0.1	0.3	0.3
Vale of Glamorgan									
0-15	25.0	25.8	24.8	22.5	23.4	0.3	-0.6	-1.6	0.4
16-24	14.9	11.6	14.4	15.8	14.1	-2.5	3.7	1.6	-1.3
25-34	16.2	14.2	12.6	13.9	16.9	-1.3	-1.9	1.7	2.1
35-44	16.7	17.2	17.6	14.3	13.9	0.3	0.4	-3.4	-0.3
45-59	19.9	24.0	25.3	27.0	26.6	1.9	0.8	1.1	-0.2
60-64	6.3	6.1	7.2	7.9	8.8	-0.2	2.6	1.7	1.2
65+	18.8	20.4	21.4	26.9	32.9	0.8	0.9	3.9	2.3
Total	117.7	119.3	123.3	128.4	136.6	0.1	0.5	0.7	0.7
Bridgend									
0-15	26.6	26.3	25.5	23.8	25.2	-0.1	-0.5	-1.1	0.6
16-24	16.2	12.8	14.6	15.5	14.4	-2.4	2.3	1.0	-0.8
25-34	18.4	17.8	15.5	16.8	18.7	-0.4	-2.3	1.4	1.2
35-44	17.9	19.0	20.3	17.0	17.1	0.6	1.1	-2.9	0.1
45-59	22.3	24.7	26.6	29.0	28.5	1.0	1.3	1.4	-0.2
60-64	6.7	6.6	7.7	8.3	9.3	-0.1	2.5	1.3	1.2
65+	21.5	21.0	22.4	27.2	31.5	-0.2	1.1	3.3	1.6
Total	129.6	128.2	132.6	137.8	144.6	-0.1	0.6	0.6	0.5

Source(s): Cambridge Econometrics, consistent with *Economic Prospects for the Nations and Regions of the UK, July 2009*

6 Implications for Policy

This study was tasked with providing BCBC with a deeper understanding of the underlying trends for population and employment in the borough with which to reassess the targets for both to be included in the evidence base underpinning the Local Development Plan. This has required

- assessing the sources of variation in the various population, household and labour force projections for BCB that exist
- understanding the impact that incorporating the 2006-based projections of trends in average household size have on the dwellings-led scenarios produced by Chelmer
- re-assessing the prospects for underlying employment growth locally given current views on the nature of the recession and subsequent recovery
- examining the labour market prospects in neighbouring economies

We draw out the following key points from the analysis.

Alternative projections

The alternative demographic projections reviewed vary in vintage and in methodology, covering both trend-based projections and dwelling-led projections. It is not the case that one approach is inherently 'better' or 'worse' than the other. They are two different ways of thinking about future developments, and each assumes different responses that need to be tested locally. Dwellings-led projections assume that all housing constructed will be occupied, while trend-based projections assume that the associated housing demand will be met.

The merit of trend-based projections or dwellings-led projections for a particular location involves assessing whether there are reasons why underlying demographic trends may not materialise, perhaps because of land or income constraints on the ability to buy houses in Bridgend. Where the assumptions for a dwelling-led projection are themselves based on projecting forward past trends in housebuilding no account is taken of factors that may have driven the past demand for houses, factors that might not be present or be changed, in the future. This is what trend-based projections attempt to do.

Comparing the previous preferred dwellings allocation of 540 new dwellings pa with the implications from the WAG 2006-based projections is not a direct 'like for like' comparison,

We consider the CE projections to be the more robust trend-based projections…

The trend-based population projections are sensitive to the assumed levels of migration into an area. Demographic models typically make these assumptions based on recent trends, with little role for future economic prospects. This is the case with the WAG projections and the Chelmer trend-based projections. The approach used by CE to produce its district projections seeks to take the strengths of the pure trend-based projections developed in a detailed demographic model and to refine then through a link to economic activity; in this case through population projections for Wales that are informed by relative economic prospects. To this extent we consider the CE projections to be more robustly based than the Chelmer/WAG trend projections.

… but the differences between the trend-based projections are within acceptable'margin s of error'

The level of net migration into Bridgend assumed in the WAG projections is similar to the current short-term migration assumptions in Chelmer. CE's population projections for Bridgend are lower than those of WAG or the latest Chelmer trend based scenario due being consistent with a profile for Wales that is based on lower levels of migration into Wales as a whole than are in the WAG projections. All three trend projections (CE, WAG, Chelmer) project higher future population levels than the previously considered dwelling target, even allowing for updated trends in average household size.

However, the differences between the three trend-based projections are in our opinion within the margin of error of any method. The 2008 mid-year population estimate for Bridgend is around 600 people higher than the WAG 2006-based projection. The outcome over the two years from the base year of the projection was therefore for population growth that was almost a third as strong as was projected.

Employment growth is not expected to be as strong as projected previously

Whether a particular profile of population growth and housing provision is appropriate to support future economic growth depends on the projected scale of that growth and an assessment of whether in the past the local economy may be being held back by local labour shortages.

All projections are time specific, and need to be viewed within the context of the information available and the views of the time. The current projections for employment in Bridgend, and indeed elsewhere in Wales and the UK, are for much lower levels of overall employment than are indicated by the projections included in the Draft LDP. By 2021 it is projected that employment (the number of jobs) in the borough will be below that in 2006. The impacts of the recession and the expected path of recovery lead to structural differences in the types of future jobs in the borough. The recession has led to a much faster decline in manufacturing jobs than was previously expected, and the outlook for the first part of the recovery is that public-sector jobs will not increase, and will probably fall. Indeed, there is a significant downside risk to public-sector employment in the medium term as the next administration cuts public spending in order to improve the public finances.

The future economic context in which the LDP will be undertaken is therefore very different from that which was previously envisaged. This will impact on

- particular sector growth strategies that were being considered, for example the options for developing the retail commercial centre
- the scale, characteristics and timing of additional employment land provision.
- the types of employment opportunities being created locally and the strategies needed to support people making the transition between jobs

This has implications for previous regeneration strategies

The regeneration strategy for BCB[12] set out four strategic aims: enabling wealth and creating enterprise; driving up skills levels in an active labour force; making a great place to live, work visit & play; and strengthening and renewing infrastructure. Thirteen 'gap actions' were identified, of which the following should be reviewed in view of the updated analysis:

- Focus clusters
  - the recession will have affected the supply base of the economy, perhaps resulting in the closure of a central player in a local cluster. The future growth

[12] Fit for the Future: Bridgend County Borough's Regeneration Strategy – 2008-2021, June 2008. SQW Consulting.

prospects may also have been affected. Existing cluster analysis needs to be reviewed to take account of the changes in the industrial base brought about through the recession.

- Joint procurement initiative
  - there will be intense pressure on the public sector to reduce its cost base alongside the anticipated spending cuts. This initiative could be an important way to achieve savings and support local suppliers.
- Developing a skills strategy
  - this was identified as a fundamental first step to the longer term aim of raising skills levels. The strategy must be revised to reflect the local outcomes from the recession.
- 21st century employment sites
  - this was identified as a long-term action. The rationale for any strategic development projects identified previously needs to be reassessed in the light of more recent economic developments.

Role of Bridgend in a wider regional context

Historically, the employment links between Bridgend and its neighbouring districts has been relatively weak. The 2001 Census recorded that around 70% of Bridgend residents in work worked in district, and that more people travelled from Bridgend to work in Cardiff than travelled to work in any of the three neighbouring boroughs.

The underlying economic prospects for Bridgend and its neighbouring show stronger potential employment growth in Bridgend. This would not indicate a significant change in the regional role played by Bridgend, a development articulated in the vision for the Local Development Plan (although, strategic plans have the intention of moving outcomes away from underlying trends). Similarly, the number of per capita job opportunities projected in Bridgend in 2021 (on the basis of CE's population projections) is little different to the current level. On these projections Bridgend would not need to draw in a substantially higher proportion of workers from elsewhere to meet the employment opportunities. However, the sectoral projections do indicate some change for Bridgend within the sub-region; employment in financial & business services within the sub-region will become increasingly concentrated in the district. An equivalent dynamic is not projected for employment in retailing distribution and hotels & catering. This, together with the general upskilling of the workforce in the neighbouring districts could increase in local opportunities of higher value jobs, which may mean Bridgend is able to retain more of those who currently commute out of the district, thereby further increasing its ability to meet its employment growth through its own residents.

The current employment projections could be met through previously preferred housebuilding plans

Employment in Bridgend in 2021 is projected to be below that in 2006, and there is a realistic downside risk that the gap will be lower than indicated. Demographic projections using latest underlying trends and employing the assumptions for additional housing set out in the LDP's preferred growth option (net annual increase of 540 dwelling over 2006-21) indicate little change in the size of the labour force in Bridgend to 2021, and so are broadly in line with the employment prospects. Under the WAG's assumptions for average household size, the labour force falls slightly through the forecast period. However, these calculations may underestimate the future local labour force as the retirement age for females will rise from 2010 to equalise with the male retirement age by 2020. This is likely to impact on participation rates among those affected aged over 60. Also, there is the prospect that high rates of

activity seen in the younger age cohorts currently can be taken forward as they age. A possible counteracting influence could result from the fact that overall employment is projected to continue to fall in the short and medium term. During this period there is a risk that those who lose their jobs or those who are currently looking for work will be discouraged and leave the labour force, and that it will then be more difficult to engage with them when new employment opportunities arise again. This will be an important challenge for the borough's future development.

These dwellings-constrained projections result in lower levels of future population than shown in any of the trend-based projections. As already discussed, the CE population projections for Bridgend have the increase in working age population in line with the increase in employment. This population outcome is projected to result in 9,000 additional households over 2006-21. Equating increases in households to dwellings, this equates to an annual increase in dwellings of 600 pa over the period. The projections indicate the largest number of additional dwellings would be required over 2016-21 at around 880 pa, with much lower numbers required in the preceding period.

Appendix A: Alternative Demographic Projections Used

This appendix details the alternative demographic projections reviewed in Section 2.1 of Chapter 2.

BCBC Chelmer-based projections used in the draft LDP

Source The Chelmer Model provided to BCBC.

Summary of key assumptions

- **Natural population change**: Using 2003-based trends in fertility and mortality rates, the net effect of births/deaths is a natural population increase of around 34 pa on average; natural change therefore contributes marginally to population growth. Over the period to 2021 there is net natural population change of 505.
- **Migration**: 'Default' assumptions assume net in-migration of about 618 pa or 3090 over each 5-year period (eg 2006-11, 2011-16, etc) based on levels over the recent past.

Summary of projections Under these projections the population of Bridgend rises from about 131,600 in 2006 to about 141,400 by 2021, therefore increasing at a rate of about 0.5% pa over the whole period. The rate of growth remains at close to 0.5% over the whole period.

2003-based WAG projections

Source 2003-Based National and Sub-National Household Projections for Wales, Statistical Directorate, National Assembly for Wales SDR 30/2006

Summary of projections These projections were for the Welsh sub-regions only; projections were therefore not produced for the local authority of Bridgend but for the South East Wales sub-region. The population in the sub-region is projected to rise by 0.4% pa over 2003-2026, with growth in each 5-year period from 2006 averaging 0.3-0.4% pa. This rate of growth is marginally faster than is forecast for Wales as a whole.

2006-based WAG projections

Source http://wales.gov.uk/topics/statistics/theme/population/pop-project/popprojla/?lang=en

Summary of key assumptions

- **Natural population change**: natural change provides a positive influence on population growth through to 2031 for Wales as a whole, though the scale of the impact falls over time, so that over 2026-31 the number of births matches the number of deaths. With regards to Bridgend specifically, the most recent actual data shows that there have been more births than deaths in Bridgend. Under these projections this is expected to continue for the whole projection period, following the general pattern expected to be seen across all local authorities in Wales.
- **Migration**: For Wales as whole net in-migration (both domestic and international) averages around 5000 per 5-year period. The level is greater in the short term (53,000 over 2006-11) and then remains at 48,000 per period. For Bridgend specifically there is assumed to be a net contribution of 696 people pa from internal migration and a small net outflow of -29 pa from international migration.

Summary of projections Under these projections the population of Wales rises from just under 3m in 2006 to just under 3.3m in 2031, an increase of 0.4% pa over the whole period. Between 2006

and 2021 the pa rate of growth is slightly higher than this at 0.5% however. Only between 2021 and 2026 does the rate of growth weaken to 0.4% and then further to 0.3% over 2026-2031, thus resulting in the 0.4% pa average for the whole period. The total population of Bridgend is projected to increase by 21,000 from 132,600 in 2006 to 153,700 in 2031, 15.9% over the whole projection period or about 0.6% pa. Between 2006 and 2016 the pa rate of growth is initially higher than this before slowing to 0.5% pa towards the end of the projection period.

Cambridge Econometrics population projections for Bridgend and Wales

Source Cambridge Econometrics, Economic Prospects for the National and Regions of the UK, July 2009

Summary of projections Under these projections the population of Bridgend rises from 132,600 in 2006 to 151,100 in 2031, an increase of 0.5% pa over the whole period. The rate of increase is initially higher than this at 0.7% pa over 2006-2011. Over the remainder of the period to 2031 it fluctuates between 0.4% pa and 0.6% pa.

Under these projections, the population of Wales rises from just under 3m in 2006 to almost 3.2m in 2020, rising at a steady rate of about 0.5% pa over the whole period.

2008 Chelmer Model standard short-term migration projection for Bridgend

Source Chelmer Model, Cambridge Econometrics

Summary of key assumptions **Fertility rates**: Births remain steady over the whole projection period at between approximately 7,900 and 8,100 over each 5-year period.

Mortality rates: Deaths remain at around 6,700 over each 5-year period to 2021 and then begin to increase relatively sharply, first to approximately 7,200 in 2026 and then to about 7,700 in 2031.

- **Natural population change**: Incorporating 2006-based trends in fertility and mortality rates, the net effect of births/deaths is a natural population increase of about 1,400 over 2006-2011. The size of the increase then slows over time to 3,587 over 2016-31.
- **Migration**: The standard short-term migration scenario assumes net migration into Bridgend of 3,697 over each 5-year period (ie 740 pa). The assumption assumes a continuation of past recent trends.

Summary of projections Under these projections the population of Bridgend rises from 132,600 in 2006 to around 156,100 in 2031, an increase of 0.7% pa over the whole period. There is some variation in the rate of growth over the period however. Between 2006 and 2016 the pa rate of growth is somewhat higher than this at about 0.75% pa whereas between 2021 and 2031 it is less than 0.6% pa.

Appendix B: Alternative Chelmer Demographic Projections

This appendix presents the results of the two demographic projections developed in Chelmer and presented in Chapter 4: the results from the current version of the model under the assumption of annual housebuilding of 540 dwellings pa, and those from the scenario in which the WAG 2006-based assumptions for average household size are used to determine total population.

TABLE B1: DEMOGRAPHIC PROJECTIONS FROM CHELMER USING 'DEFAULT' ASSUMPTIONS FOR AVERAGE HOUSEHOLD SIZE

Thousands

	2006	2011	2016	2021	2026
Population by Age					
0-14	23.8	24.7	25.5	25.9	25.7
15-29	23.3	22.4	22.3	21.9	23.3
30-44	28.6	26.4	23.7	23.2	23.1
45-retirement	30.4	32.6	34.5	35.3	34.2
Retirement age	26.5	29.4	32.7	36.1	40.4
Total	132.6	135.5	138.6	142.4	146.7
Labour force by age					
0-14	0.0	0.0	0.0	0.0	0.0
15-29	14.9	14.5	14.5	13.9	14.6
30-44	22.5	20.8	18.7	18.4	18.4
45-retirement	19.6	21.4	23.1	23.5	22.5
Retirement age	1.5	1.9	2.2	2.5	2.8
Total	58.5	58.7	58.5	58.4	58.2

TABLE B2: DEMOGRAPHIC PROJECTIONS FROM CHELMER USING WAG ASSUMPTIONS FOR AVERAGE HOUSEHOLD SIZE

Thousands

	2006	2011	2016	2021	2026
Population by Age					
0-14	24.8	25.0	24.8	24.8	24.8
15-29	21.9	22.4	22.6	22.3	22.9
30-44	29.0	25.1	21.9	21.0	22.0
45-retirement	31.0	33.1	34.8	35.2	32.2
Retirement age	26.6	29.5	32.8	36.2	40.4
Total	133.3	135.1	136.9	139.5	142.3
Labour force by age					
0-14	0.0	0.0	0.0	0.0	0.0
15-29	13.8	14.3	14.4	14.0	14.4
30-44	22.8	19.7	17.2	16.5	17.3
45-retirement	20.0	21.8	23.3	23.5	21.0
Retirement age	1.5	1.9	2.2	2.5	2.8
Total	58.1	57.8	57.2	56.6	55.5