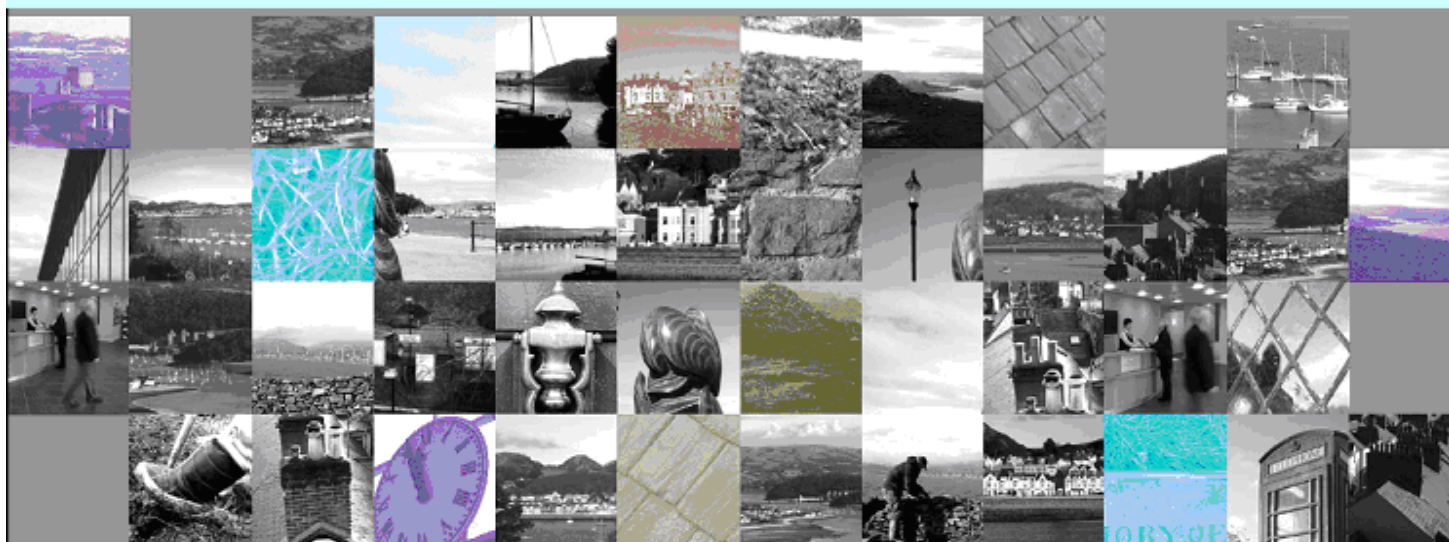


Conwy Deposit Local Development Plan 2007 – 2022 (Revised edition 2011)



REVISED BACKGROUND PAPER 2 – SUBMISSION

Population and Household Projections

August 2012

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2009-based population and household projections, with dwelling and labour-force impacts

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May 2012

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2009-based population and household projections, with dwelling and labour-force impacts

Contents

| | |
|---|-----------|
| Headlines | 3 |
| 1. Background | 4 |
| 2. Introduction | 6 |
| Problems and limitations with using official projections | 6 |
| Justification for producing new growth options | 7 |
| 3. Impacts of migration trends on population projections | 10 |
| Components of change – overview | 10 |
| Using migration trends in projections | 11 |
| 4. 2009-based projections | 13 |
| Projection scenarios | 13 |
| Population | 13 |
| Households | 14 |
| Dwellings | 16 |
| Housing mix | 18 |
| Labour-force | 19 |
| Appendices | 21 |
| A1 Wider implications of population and household growth | 21 |

Headlines

- This paper revises the information presented in background paper 2 'Population and Household Projections' which was part of the consultation on Conwy County Borough Council's revised deposit Local Development Plan (LDP) in March 2011. It uses more recent data to prepare a more up-to-date set of population and household projections, and provides data on the assumed dwelling impacts of these projections.
- The new projections were produced following representations received during the March 2011 consultation, which raised concerns about predicted growth levels.
- As well as updating the data assumptions used in the 2008-based projections the new projections provide a more robust migration trend to predict future growth.
- The Local Development Plan uses the 6,450 15 year figure as the principal indicator of new dwelling requirement for the whole of the County Borough for the 2007-2022 period. This figure is reduced to 6,350 for the 15 year period when development within the part of the Snowdonia National Park Authority which falls within the Conwy County Borough boundary is taken into account.
- Revised labour force projections have also been produced. The potential labour supply is predicted to grow by about 2,350 (4.9%) between 2007 and 2022.

1. Background

- 1.1 The projections in this paper have been produced to update the 2008-based projections which were published by the Welsh Assembly Government (now known as Welsh Government) in 2010. The updated projections were produced in October 2011 by Conwy County Borough Council's Corporate Research and Information Unit.
- 1.2 This paper revises the information presented in background paper 2 'Population and Household Projections' and background paper 6 'Housing Mix' which were part of the evidence presented with the consultation on Conwy County Borough Council's revised deposit Local Development Plan (LDP) in March 2011. It uses more recent data to prepare a more up-to-date set of population and household projections, and provides data on the assumed dwelling impacts of these projections, including potential future housing mix requirement.
- 1.3 It also looks at the migration trend assumptions used in the preparation of Welsh Assembly Government's (WAG) 2008-based projections and discusses why Conwy County Borough Council have opted to use different assumptions to predict future growth. WAG produced only one migration scenario (5-year trend based), which had limited usefulness, especially as migration is the most volatile component of change.
- 1.4 In addition, the paper updates the labour force elements of background paper 13 'Employment Land Study', bringing the labour force projections and employment land requirements in line with the population and household projections to form a co-ordinated approach to growth in the LDP.
- 1.5 Where new data was not available the 2009-based projections use the same data as used in the official projections (for example in providing household formation rates, which rely on 2001 Census data and are not updated annually).
- 1.6 The 2009-based projections were produced using the same methodology and the same software model as were used to produce the official WAG projections¹.
- 1.7 The projections were produced by the Senior Researcher from the Corporate Research and Information Unit at Conwy County Borough Council. She is a founder member of Welsh Government's Sub-national Projections Working Group². She was involved in devising the projections methodology used by Welsh Government and is an experienced demographer.
- 1.8 The new projections are 2009-based projections. That means they use 2009 as the start year for projecting forward trends in population and household change. Because of this, the projections presented in this report – which covers the Conwy County Borough Council LDP period 2007 to 2022 – contain some data from officially produced population and household

¹ 2008-based Local Authority Population Projections: Technical Report, Welsh Assembly Government, July 2010

² <http://wales.gov.uk/topics/statistics/theme/population/pop-project/popprojla/waspp/?lang=en>

estimates³ (for the years 2007/8 and 2008/09) as well as from newly produced forecasts for the future (from 2009/10 onward).

- 1.9 As numbers are only a projection of future requirements and are not an exact count, the results are rounded to the nearest 50, except for projected annual dwelling requirements, which are rounded to the nearest 10.
- 1.10 Unless otherwise stated, data in this report are for the County Borough as a whole. They include that part of the Snowdonia National Park local planning authority which falls within the boundary of Conwy County Borough.

³ Mid-year population estimates, Office for National Statistics; Mid-year household estimates, Welsh Government

2. Introduction

2.1 Planning Policy Wales recommends that:

(t)he latest Assembly Government local authority level Household Projections for Wales should form the starting point for assessing housing requirements⁴

2.2 The Statistical Directorate of Welsh Assembly Government released a new set of population projections on 27th May 2010 and a new set of household projections on 29th September 2010, using 2008 as the base year. These projections formed the basis of background paper 2 'Population and Household Projections' which was part of the consultation on the revised deposit LDP in March 2011. These projections were also considered in background paper 3 'Growth Level Options Report' which was produced by Baker' Associates and also formed part of the March 2011 consultation.

2.3 However, though these officially produced projections are widely used and have been accepted as statistically sound by the Office for National Statistics they have limitations, especially when looking to produce reliable predictions of what is likely to be happening in 2022.

Problems and limitations with using official projections

2.4 Projections are only one possible future

- They are based on past trends – projections only take what has happened in the past and see what would happen if those trends continue. And if the period from which the trend is measured is anomalous, it may not give the full picture.
- No policy elements are included in the projections, even if these are already known about.
- Projections are not an ultimate truth – many factors we can't control or don't know about will affect population dynamics: the recent global recession and the migration of Eastern European workers following EU accession could not have been predicted, for example, yet both have had an impact on population flows. We can even influence the future by our own decisions. Approval for the development of employment land could attract workers and their families to the area, for example.
- It's very hard to verify the accuracy of projections – no data is available for the future.

2.5 Projections are used as targets

- Projections are not performance indicators – they simply give an idea of what might happen in the future, given a specific set of circumstances. However, projections are often used – or at least viewed – as targets, particularly by policy makers. This perception has

⁴ Planning Policy Wales Edition 4 - February 2011 - Chapter 9 Housing

not been helped by policy departments at Welsh Government appearing to present them as such.

2.6 No variant projections – no ‘wobble room’

- A set of projections based on only one migration-trend period, as the official 2008-based projections were does not give a full picture. The production and promotion of only one ‘official’ projection gives the impression that one figure = one truth.
- And when that one figure doesn’t match people’s expectations or requirements for the future they become suspicious of it, and hostile to the ‘evidence’.
- A range of officially produced variant projections would give a more robust evidence base, and help convince policy makers that there are definite trends in population dynamics and household formation rates, the consequences of which need to be addressed.

2.7 Figures are updated more regularly than policy

- Official population and household projections are likely to be produced about every two years. The next set of projections produced by Welsh Government will be 2011-based projections and are scheduled for release in the autumn of 2013. They are likely to be significantly different to those produced in 2010 (2008-based), which in turn were significantly different from those produced in 2008 (2006-based).
- The differences between the 2006-based and 2008-based projections for Conwy County Borough were considerable. This apparent discontinuity in the data disrupted the policy formation process, particularly in relation to the Local Development Plan.
- This is a newly emerging problem, as Wales didn’t have officially published sub-national projections until the 2006-based projections were released. Now, projections will be updated every two years. Policy cycles are usually longer than that. This causes some agitation that plans will be out of date before they are finalised. It may be just a settling in problem whilst we get used to a relatively new data set/evidence base – but it may be that we need to rethink the way we use this sort of statistical evidence in our policy making processes, or change the process to better fit the speed at which evidence becomes available.

Justification for producing new growth options

2.8 Because of these limitations, and because Planning Policy Wales also recommends that:

Local planning authorities should consider the appropriateness of the projections for their area, based upon all sources of local evidence⁴

This paper looks at the fitness of the 2008-based projections and their application to Conwy County Borough Council’s Local Development Plan

(2007-2022), and produces an alternative projection scenario for consideration.

- 2.9 The decision to re-visit the projections used to predict future growth in the County Borough was also influenced by the representations received during the consultation on the revised deposit LDP. Feedback from the public and other stakeholders about the projected growth levels in background paper 2 was mixed. Some considered the 2008-based projections to be too high, others thought the growth rate too low.
- 2.10 A number of representations also questioned the 2008-based projections' use of a five year migration trend which projected forward a period of short-term migration boom which was unlikely to be sustained, following the on-set of the economic downturn in recent years.
- 2.11 Additionally during the consultation, there were concerns expressed that actual build rates for new housing were falling well below those predicted by WAG's 2008-based projections. The 2008-based projections gave a new dwelling requirement of around 460 per year. Between 2007/8 to 2010/11 the average figure for dwelling completions was actually only 307 per year.
- 2.12 Following the receipt of these representations, the Planning Policy team at Conwy County Borough Council commissioned a set of new projections from the Council's Corporate Research and Information Unit.
- 2.13 As well as addressing the issues raised during the consultation, the production of a new set of projections gave the opportunity to update some of the data inputs:
 - The Government Actuaries Department has produced 2008-based data, showing how fertility and mortality patterns are expected to change in the future. This is the data which is used to produce life expectancy charts and birth rate predictions. The WAG projections used older data.
 - The WAG 2008-based projections show the way population and household numbers would change if the migration trends of 2003/4 to 2007/8 were to continue into the future. More up-to-date migration trend information is available from the components of population change data which is produced by the Office for National Statistics.
 - Mid-year population estimates for 2009 have been produced, and they are at variance from the population levels predicted by the 2008-based population projections. The mid-year population estimates produced by the Office for National Statistics give Conwy County Borough a population of 111,350 in 2009 whereas the 2008-based projections predicted that population would be over 350 higher at 111,700. Household estimates for 2009 are around 200 lower than predicted by the WAG projections.
 - Though mid-year population estimates for 2010 are also available, it was decided not to use these as the base year for projecting forward population and household figures. This was due to concerns about the international migration element of population change used in the estimations model between mid-2009 and mid-2010. The figures for international migration were modelled from a very small sample (only 60 respondents for the whole of Wales) and gave hugely distorted

figures for international migration within Conwy County Borough, when compared with previous years. International migration in the year up to mid-2010 was modelled as a net out-flow of -450, compared to annual net international migration which fluctuated between about +50 and -50 in 10 of the preceding 15 years and has never been greater than +/-160. As well as producing an unrealistic and unsustainable level of international migration trend for use in a 2010-based projection, using the 2010 mid-year population estimates as the base year would also skew the population structure and impact on, amongst other things, fertility levels, household membership rates and the size and structure of the predicted labour force throughout the projections period.

- 2.14 The production of a new set of projections also gave the opportunity to address some of the methodological issues with using the WAG 2008-based projections as outlined in points 2.4-2.5 above.
- 2.15 In particular it was possible to use a longer migration trend period to give a more robust projection of future populations.
- All projections are only a best guess at what might happen in the future. The shorter the trend-period which is being projected, the less likely it is that the projection presents a 'true' picture of the future. The general statistical rule is that five years of data can be used to give a reasonable picture of patterns five years into the future, 10 years of data can be used to predict 10 years and so on. The WAG 2008-based projections used only a five year trend, do not capture longer term trends, and are highly unlikely to make a good guess at future patterns of population growth or the need for housing which comes as a result of that growth.
 - Five years is an especially short period to use to project forward migration patterns. The number of migrants fluctuates a lot from year to year, and a short-term trend is very likely to be influenced by one-off events which cause peaks and troughs in numbers (such as the economic down-turn). A longer trend-period would smooth out the peaks and troughs.
- 2.16 There is further discussion about the impacts of the choice of migration trend for use in projections in section 3 below.
- 2.17 Additionally, in revising the projections upon which growth levels are based, we have taken the opportunity to produce a more statistically robust methodology for projecting the future size of the labour force within Conwy County Borough. There were concerns that the work undertaken by Baker Associates⁵ didn't accurately project labour force growth.

⁵ Background paper 3 – growth level option report, Conwy Deposit Local Development Plan 2007 – 2022 (Revised edition 2011)

3. Impacts of migration trends on population projections

3.1 It is important to understand just how vital it is to select the right migration data when creating population and household projections. It is the most dynamic of the components of change which drive population growth, and is also the least predictable.

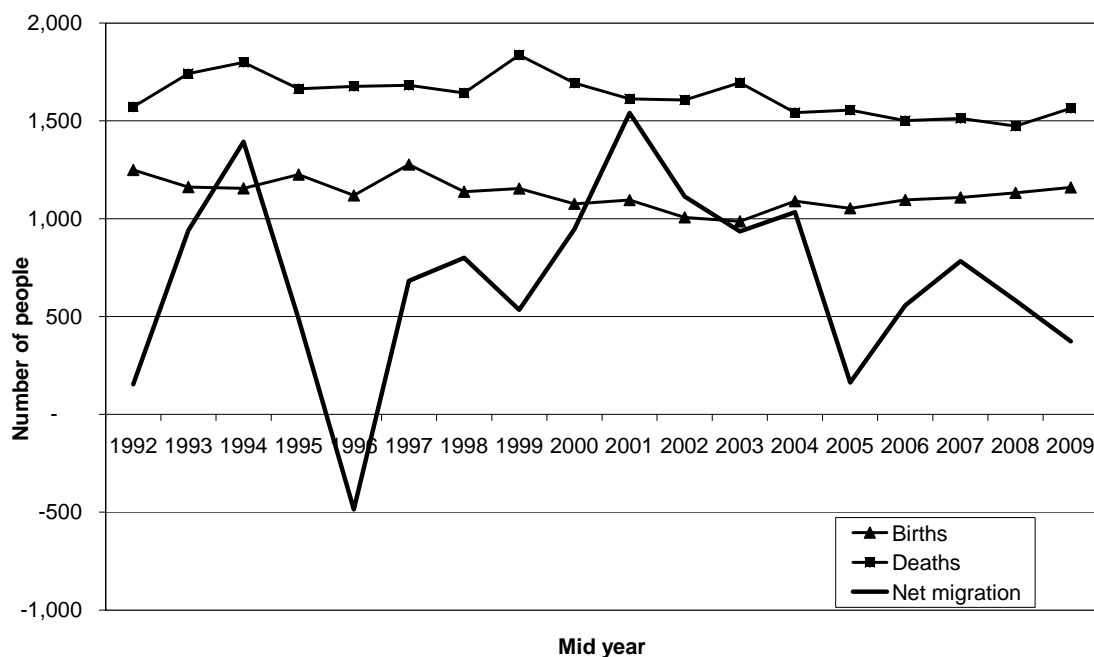
Components of change – overview

3.2 Components of change are the factors which affect the rate of growth in the projections. Births increase the population, deaths reduce the population. Natural change is the population growth (or decline) which comes from births and deaths only. The total population for an area in any period is calculated by adding net migration (total in-migration less total out-migration) to natural change.

3.3 Migration is the key component of population growth in Conwy County Borough. There are more deaths than births every year in the County Borough (average about 450 per year over the past five years). Population totals would decline year-on-year if the area didn't experience more in-migration than out-migration. It is therefore important to produce a robust prediction of future migration trends when looking to provide for future growth.

Chart 3.1: components of population change in Conwy County Borough, mid-year to mid-year

Source: ONS components of population change for mid-year population estimates



- 3.4 Chart 3.1 (above) looks at the components of population change within Conwy County Borough in more detail. Whilst trends in births and deaths are relatively stable and easy to predict, migration is clearly a volatile component of population change.

Using migration trends in projections

- 3.5 The table below shows how the annual average net migration for selected five year periods can fluctuate. There is a significant difference (about 200 migrants a year) between the annual average net migration figure used to provide the trend figures in the 2008-based projections and the trend figure for just two years later, even though they share three of the same years within their trend periods. Data from an earlier 5 year period is also included in the table to show how great the variance can be.

Table 3.1: annual average net migration for Conwy County Borough over selected five year periods

Source: ONS components of population change for mid-year population estimates

| | Annual average net migration |
|--|------------------------------|
| Mid 2005-mid 2010 | 400 |
| Mid 2003-mid 2008 – used in 2008-based projections | 600 |
| Mid 1999-mid 2004 | 1,100 |

- 3.6 Migration is affected by many factors over which we have no control at a local level, such as national economic policy or social trends towards overseas retirement. Unforeseen or one-off events can also have a significant impact on migration, such as the influx of economic migrants from Eastern Europe which was seen after EU accession in 2004.
- 3.7 Migration figures used in the 2008-based projections are affected by both the impacts of international economic migration from Eastern Europe and by relatively high levels of migration within the UK which were fuelled by the seemingly buoyant economy and attractive house prices in North Wales in the mid-noughties. These high levels of migration have not been sustained.
- 3.8 The lower migration figures for the most recent period have been affected by the economic slow-down – internal migration has slowed considerably, and the past two years have seen the level of international in-migration fall.
- 3.9 Basing projections on either of these short-term migration trend periods gives a distorted sense of what is likely to happen to population and associated household growth in the years up to 2022. Because they pick up either the impacts of the start of the economic slow-down which occurred in the late 2000s or the migration spike of the mid-2000s, they inherently contain assumptions that these anomalous population/migration effects will continue.

- 3.10 The choice of migration period to trend forward doesn't just impact on total population numbers. Data used in the projections model is age and gender sensitive, and using a short term trend for a period which saw different patterns in the age/gender structure of migrants can have long term impacts on the predicted population structure for an area in the future. For example – a short term inflow of economic migrants in the early/mid-20s age group could be aged on through the population throughout the life of the projections and could skew the population aged 40-50 in 20 or 30 years time, even though in reality the migrants did not settle long-term within the area. Fertility rates would also be impacted by any inflow of young women, and there could be a danger that the number of children in the population in future years could be wrongly predicted.
- 3.11 The volatility of the migration element of population change highlights the limitations of using trend based projections in isolation of other data, and especially of using migration trends for only one short, fixed period. Migration data is a key component of the projections process, but the resultant outputs from a projections model can vary widely, depending on the trend period which is selected.
- 3.12 In reality, it is almost impossible to predict future migration trends. However, the peaks and troughs of this volatile component of change can be smoothed out by using an average of the migration data as observed over a longer than the five years of data used in WAG's 2008-based projections. To predict growth levels over a 15 year period it is considered statistically sound to use 15 years of observed data to provide trend data. The 2009-based projections which have been produced by Conwy County Borough Council and which are presented in this report do just that.

4. 2009-based projections

Projection scenarios

- 4.1 A new 2009-based projections scenario have been produced for Conwy County Borough, to update the 2008-based projections and to overcome some of the volatility problems associated with the short-term migration trend used in the WAG projections, and to provide updated figures.
- 4.2 This scenario shows the way population and household numbers would change if the average migration trends from 1994/5 to 2008/9 were to continue into the future.
- 4.3 Household membership rates continue to change at the same rate as they did between 1991 and 2001. (Household membership rates show the likelihood of people of different ages and genders to form households of different types, such as one person households or two adult + two children households). Average household size decreases at the same annual rate as it has since 1971.
- 4.4 This scenario uses 15 years of data to form the assumptions about migration that will be projected into the future. This longer period smoothes out the highs and lows of migration patterns which can have a distorting effect on shorter term migration trends.
- 4.5 The new projections are 2009-based projections. That means they use 2009 as the start year for projecting forward trends in population and household change. Because of this, the projections presented in this report – which covers the Conwy County Borough Council Local Development Plan period 2007 to 2022 – contain some data from officially produced population and household estimates (for the years 2007/8 and 2008/09) as well as from newly produced forecasts for the future (from 2009/10 onward).
- 4.6 The tables and charts below show the results of these projections. The 2008-based WAG projections are included in the tables to allow comparisons. The charts include data from the Office for National Statistics' mid-year population estimates for Conwy County Borough from 2001 to 2009 to give some context to the predicted growth for the County Borough.

Population

Table 4.1: population projections for Conwy County Borough

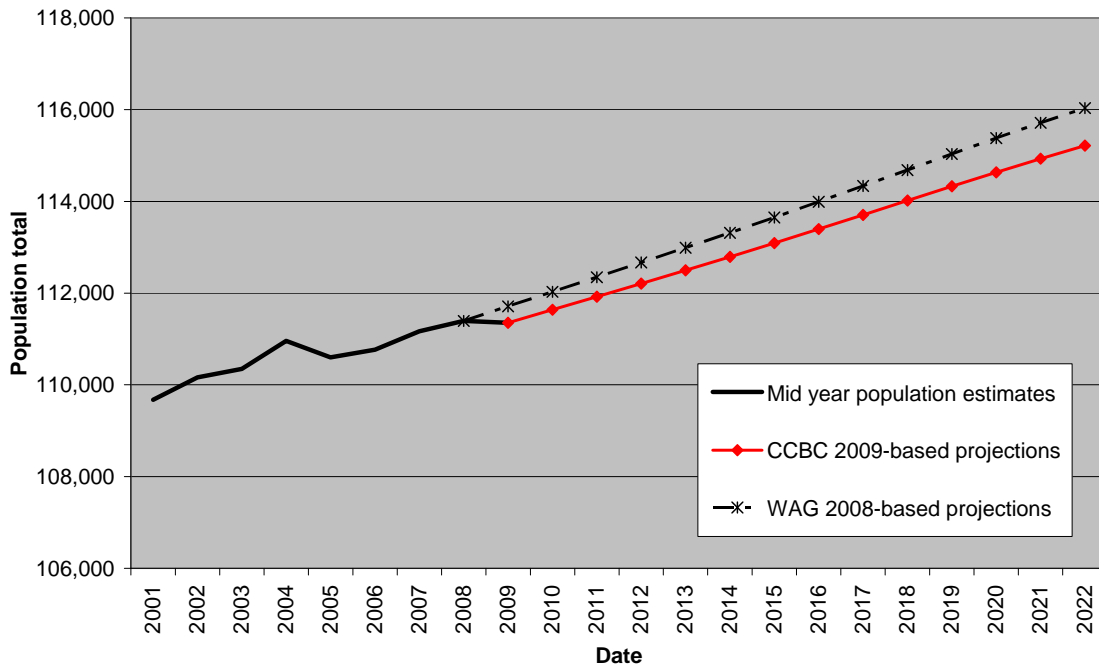
Sources: 2008-based population projections, WAG; 2009-based population projections, Corporate Research and Information Unit Conwy CBC

| | 2007 | 2022 | Change 2007-2022 | |
|----------------------------------|---------|---------|------------------|------|
| | | | No. | % |
| 2009-based 15 yr migration trend | 111,150 | 115,200 | 4,050 | 3.6% |
| WAG 2008-based | 111,150 | 116,050 | 4,850 | 4.4% |

- 4.7 The 2009-based projections predict that the total resident population of Conwy County Borough will increase by 4,050 (3.6%) between mid-2007 and mid-2022. 2008-based projections give a higher level of growth.

Chart 4.1: population projections for Conwy County Borough

Sources: Mid-year population estimates; ONS; 2008-based population projections, WAG; 2009-based population projections, Corporate Research and Information Unit Conwy CBC



- 4.8 The chart shows that the 2009 mid-year population estimates put population totals for Conwy County Borough below levels predicted in the 2008-based projections (over 350 below, in fact).

Households

- 4.9 Household projections are obtained by removing institutional populations from the population projections and then sharing the remaining population between household types, based on age/gender specific likelihoods of them being members of different types of household.
- 4.10 For both scenarios household membership rates continue to change at the same rate as they did between 1991 and 2001. (Household membership rates show the likelihood of people of different ages and genders to form households of different types, such as one person households or two adult + two children households).

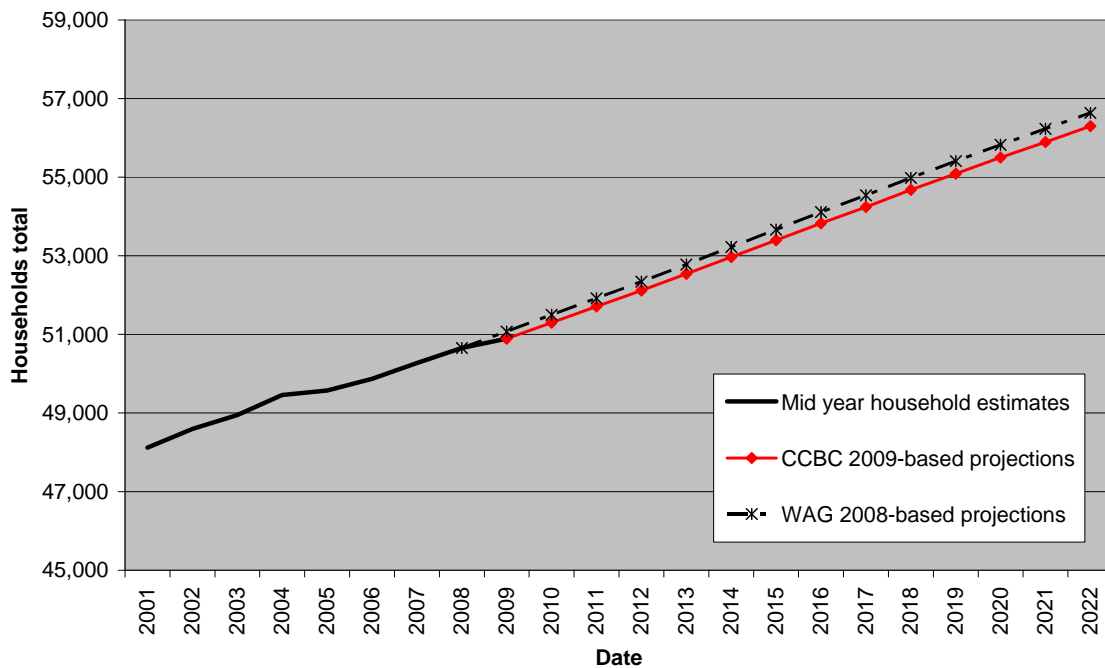
Table 4.2: household projections for Conwy County Borough

Sources: 2008-based household projections, WAG; 2009-based household projections, Corporate Research and Information Unit Conwy CBC

| | 2007 | 2022 | Change 2007-2022 | | Increase caused by | |
|----------------------------------|--------|--------|------------------|-------|--------------------|-----------------------------|
| | | | No. | % | Population growth | Change in average hhld size |
| 2009-based 15 yr migration trend | 50,250 | 56,300 | 6,050 | 12.0% | 3,750 | 2,300 |
| WAG 2008-based | 50,250 | 56,650 | 6,350 | 12.7% | 4,000 | 2,350 |

Chart 4.2: household projections for Conwy County Borough

Sources: Household estimates, Welsh Government; 2008-based household projections, WAG; 2009-based household projections, Corporate Research and Information Unit Conwy CBC



- 4.11 Household numbers increase by 6,050 (12.0%) between mid-2007 and mid-2022.
- 4.12 Average household size is expected to fall from 2.16 in 2007 to 2.00 in 2022. The annual rate of change in average household size is the same as it has been since 1971.
- 4.13 Household growth rates are higher than population growth rates. This is because, as well as increasing due to growth in the population, the number of households within the population is also affected by the long-term trend towards smaller household size. The last two columns in the table above show the relative impact of both types of change.

- 4.14 By far the biggest factor affecting the number of households and average household size in 2022 is the expected growth in the number of one person households. This is not a trend which is unique to Conwy County Borough, but its effect is more pronounced here because of the relatively high number of older people in the population of the area.
- 4.15 Most one person households are pensioners living alone. In 2009 there were an estimated 9,150 lone pensioner households⁶ in Conwy County Borough— this was 18% of all households, and 51% of all one person households⁷. As life expectancy increases we can expect to see the number of lone pensioner households increase.
- 4.16 Other factors which have led to smaller average household sizes over past decades have been the trends towards smaller family size and the increase in the number of family break-downs. These trends are expected to continue.

Dwellings

- 4.17 When converting household projections to dwelling requirements, an allowance for vacant dwellings and second/holiday homes of about 6% is made. This is because there is a need to provide more dwellings than there are households to allow for churn within the housing market. This 6% is in line with past trends⁸ and is applied to the whole of the dwelling stock. Part of this 6% is an allowance for holiday/second homes within the dwelling stock. A continued supply of this kind of accommodation is an important contributor to the local economy, which is heavily reliant on the tourism industry.

Table 4.3: dwelling impacts of 2009-based household projections for Conwy County Borough

Source: Corporate Research and Information Unit, Conwy CBC

| | Change 2007-2022 | | Annual ave. over total plan period | Less actual comp. 2007/8 to 2010/11* | Annual ave. for remaining plan period (11 yrs) |
|----------------------------------|------------------|-------|------------------------------------|--------------------------------------|--|
| | No. | % | | | |
| 2009-based 15 yr migration trend | 6,450 | 12.0% | 430 | 5,250 | 480 |
| WAG 2008-based | 6,800 | 12.7% | 460 | 5,600 | 510 |

* Actual completions 2007/8 to 2010/11 = 1,228

Data includes that part of the Snowdonia National Park Authority which falls within the Conwy County Borough boundary

- 4.18 The table above shows the average annual dwelling requirements resulting from the different projection scenarios. The last two columns of the table show the potential annual dwelling requirement which would result from each projection scenario if actual completion rates from 2007/8 to 2010/11 are taken into

⁶ People aged 65 and over living alone

⁷ 2009 household estimates, Statistical Division, Welsh Government

⁸ 1991 and 2001 Censuses of Population

- account⁹. That is – what annual build rate would be needed to meet the predicted 15 year requirement in the remaining 11 years of the Conwy County Borough Council Local Development Plan period up to 2022.
- 4.19 The rate of growth in the predicted dwelling requirement mirrors the rate of growth in households. The dwelling impact of the 2009-based projections for the whole of Conwy County Borough is 6,450 over the 15 year period (430 per year); minus what has already been built (2007/8-2010/11) leaves 5,250 for the remaining 11 year period (480 per year).
- 4.20 The actual build rate over the first four years of the Local Development Plan period has been very low – on average there was a gain of only 307 new dwellings per year. If this rate was projected forward a total of only around 4,600 dwellings would be provided during the plan period. There is some concern that if the economy remains sluggish and construction activity continues to be subdued, as is likely in the next few years, it may be difficult for the construction industry to make up the momentum before the end of the plan period in order to provide the 6,450 dwellings required to meet projected growth by 2022. To investigate this further, background paper 31 'Capacity of the House Building Industry' has been produced after consultation with the house building industry. It provides evidence to support the deliverability of the annual new-build requirement.
- 4.21 This is well below the dwelling requirement predicted by the 2008-based projections (6,800 for the plan period or 460 per year), and the lower 2009-based projection (6,450 in total or 430 dwellings per year).
- 4.22 The Local Development Plan uses the 6,450 15 year figure as the principal indicator of new dwelling requirement for the whole of the County Borough for the 2007-2022 period. **This figure is reduced to 6,350 for the 15 year period when development within the part of the Snowdonia National Park Authority which falls within the Conwy County Borough boundary is taken into account.** Past build rates in that part of the SNPA have been between 6 and 7 per year¹⁰, giving an estimate of around 100 new houses in the 2007-2022 plan period.
- 4.23 The LDP also provides a high contingency of +15% for housing and employment, which would give a requirement of 7,300 new dwellings for the period.
- 4.24 Figures produced by the Corporate Research and Information Unit¹¹ suggest that, even if there were no migration in or out of the area, the expected growth in one person households would mean that the existing population would require over 100 additional dwellings to be provided each year.
- 4.25 Further work on identifying the amount of land needed to meet the 6,350 dwelling requirement is presented in background papers 4 'Housing Land Supply' and background paper 6 'Joint Housing Land Availability Study'. These papers present evidence about existing supply from housing completions and commitments and the potential supply from windfall sites.

⁹ Joint Housing Land Availability Studies, Conwy County Borough Council and Snowdonia National Park Authority

¹⁰ Joint Housing Land Availability Studies 2001/3 to 2010/11, Snowdonia National Park Authority

¹¹ 2009-based population and household projections, no migration (natural change) scenario - unpublished

- 4.26 The distribution of the housing land requirement is set out in background paper 37 Growth Distribution Options Report¹². Each housing allocation in the LDP is then phased based on the phasing plan as laid out in background paper 30.

Housing mix

- 4.27 Household projections can be used to provide an indication of the potential change in future housing mix requirement. As already stated in paragraphs 4.12 and 4.13 above, average household sizes are expected to decrease in line with past trends.
- 4.28 Further analysis shows not only an increase in the number and proportion of smaller household but a significant reduction in the proportion of larger households within the housing mix – the total number of households of four or more persons is expected to decrease by about -1,100 during the plan period. The number of households containing children is expected to decrease by about -500. The number of lone pensioner households is expected to increase by 3,300.

Table 4.4: projected change in number of households in Conwy County Borough, by household type

Sources: Household estimates, Welsh Government; 2009-based household projections, Corporate Research and Information Unit, Conwy CBC

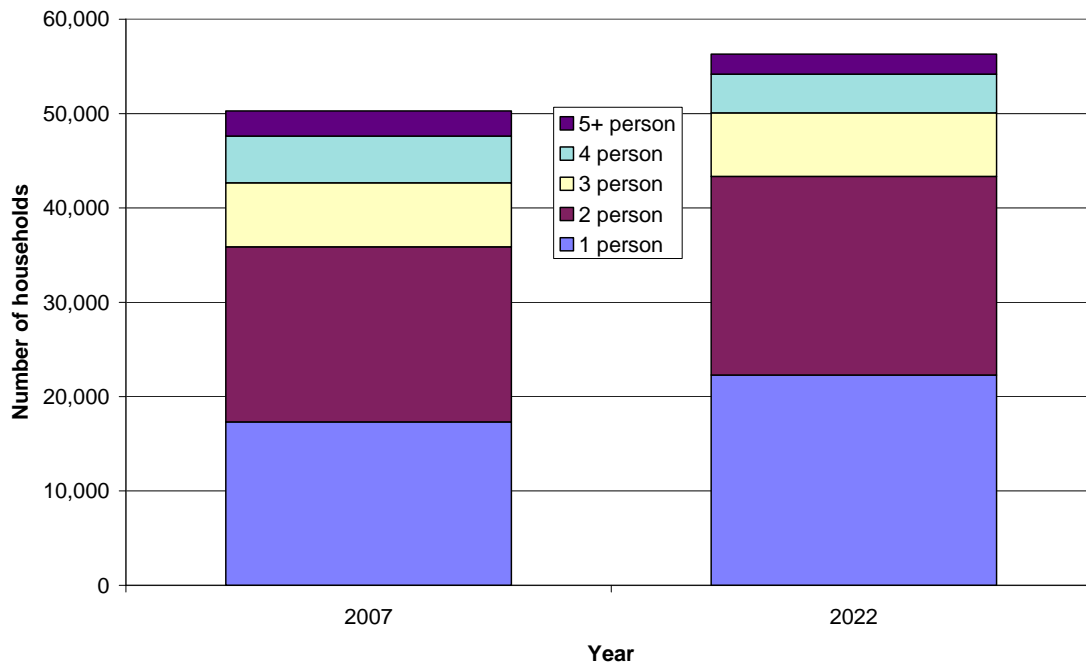
| | No. of households | | As % all households | | Change 2007-2022 | |
|------------------------------|-------------------|--------|---------------------|--------|------------------|--------|
| | 2007 | 2022 | 2007 | 2022 | No. | % |
| Total households | 50,250 | 56,300 | 100.0% | 100.0% | 6,050 | 12.0% |
| 1 person households | 17,300 | 22,300 | 34.4% | 39.6% | 4,950 | 28.7% |
| 2 person households | 18,600 | 21,050 | 37.0% | 37.4% | 2,450 | 13.3% |
| 3 person households | 6,750 | 6,750 | 13.5% | 12.0% | 0 | -0.3% |
| 4 person households | 4,950 | 4,100 | 9.9% | 7.3% | -850 | -17.2% |
| 5+ person households | 2,650 | 2,100 | 5.3% | 3.7% | -550 | -20.2% |
| All households with children | 12,600 | 12,100 | 25.0% | 21.5% | -500 | -3.9% |
| Lone pensioner households | 8,850 | 12,150 | 17.6% | 21.6% | 3,300 | 37.0% |

- 4.29 These figures suggest that new housing developments need to focus primarily on the provision of 1, 2 and 3 bed-roomed dwellings to meet projected need. Consideration also needs to be given to providing housing which is suitable to meet the needs of an ageing population, with particular emphasis on the needs of lone pensioner households.

¹² See also background papers 8 'Hierarchy of Settlements', 10 'Sustainability Appraisal and Strategic Environmental Assessment' and 21 'Site Deliverability Assessment'.

Chart 4.3: comparison of household types in Conwy County Borough, 2007 and 2022

Sources: Household estimates, Welsh Government; 2009-based household projections, Corporate Research and Information Unit, Conwy CBC



Labour-force

- 4.30 This part of the report updates the labour force elements of background paper 13 'Employment Land Study', bringing the labour force projections and employment land requirements in line with the population and household projections to form a co-ordinated approach to growth in the LDP.
- 4.31 As well as a numerical change in the figure, there has also been a methodological change between the labour force projections produced by Baker Associates for the 2011 revised deposit LDP and the 2009-based projections produced by the Corporate Research and Information Unit at Conwy County Borough. The new projections use a much more statistically robust approach to predict future labour supply.
- 4.32 Baker Associates calculated a simple household to workforce ratio for the start of the plan period and applied that to the 2022 household projection to obtain a labour force figure and thus an employment land requirement. The size of the labour force is actually determined by the population structure, not the number of households in an area, so these labour force projections were flawed.
- 4.33 The methodology used to produce labour force figures from the 2009-based projections uses the total number of residents of working age at the beginning and end of the plan period as its starting point. These population totals take account of changes in state pension age which will be in effect by 2022. An

averaged economic activity rate¹³ is then applied to this working aged population to give an estimate of the total potential labour supply that will be available. The difference between the 2007 and 2022 is taken to be the change for the period. (Note: the figures produced are for economically active residents in the County Borough, not jobs).

Table 4.5: labour force impacts of 2009-based population projections for Conwy County Borough

Source: 2009-based population projections, Corporate Research and Information Unit Conwy CBC

| | 2007 | 2022 | Change 2007-2022 | |
|------------------------|--------|--------|------------------|------|
| | | | No. | % |
| Working age population | 61,450 | 64,400 | 2,950 | 4.8% |
| Labour force | 47,850 | 50,200 | 2,350 | 4.9% |

Working age is taken to be aged 16-59 (females) / 64 (males) at the start of the plan period and aged 16-65 (all people) at the end of the plan period

- 4.34 The potential labour force is predicted to grow by about 2,350 (4.9%) between 2007 and 2022. However, this projected increase in the labour force comes solely from the changes in state pension age which will be in place by the end of the period. If state pension age remained the same as in 2007 (aged 60 for women and aged 65 for men) the labour supply in 2022 would be predicted to decrease by about -2,500.
- 4.35 Evidence about the amount and distribution of land needed to accommodate the increase in the size of the labour force is presented in background paper 41 'Employment Land Supply and Distribution'¹⁴.
- 4.36 Additional land may also be needed to meet policy objectives to reduce the amount of out commuting from Conwy County Borough. More people travel out of Conwy for work than travel in to the County Borough – a net out-flow of about 7,200 commuters¹⁵. All together, around 27% of Conwy's working population travel out of the area for employment. Most of these outward commuters travel to the neighbouring Welsh authority areas (to Denbighshire in particular), though an estimated 2,000 people travel to England for work.
- 4.37 Figures are for the County Borough as a whole and include that part of the Snowdonia National Park Authority which falls within the Conwy County Borough boundary.

¹³ Data for Conwy County Borough derived from the Annual Population Survey, Office for National Statistics (NOMIS)

¹⁴ See also background papers 13 'Employment Land Monitoring Report' and 14 'Employment Land Study'.

¹⁵ ONS annual population survey (Welsh Government Statistical Bulletin 119/2011)

Appendices

A1 Wider implications of population and household growth

Projections, whilst not being an absolute truth about future population totals and structures, do give an indication of what might happen in coming years – and not just in terms of housing requirements and changes in the labour supply. The future population structure and household numbers in the County Borough will impact on many factors which affect service delivery, such as pupil numbers, social care needs for an ageing population, the amount of refuse produced and the need for employment land.

We use projections because we need to forward plan our business and our service provision. If used alongside other knowledge, research and data sources, they give an indication of what is likely to happen in the future. We can then plan to accommodate the predicted changes, or form strategies which will minimise their impact (or even change the future).

However, projections are only a starting point when trying to understand the future, and we need to regularly review the projections process, because trends change.

The table below shows, in simplified form, some possible impacts of the 2009-based projections on service delivery for Conwy County Borough Council. It focuses on some of the uses we have made of projections over the past few years. Figures are for change between 2007 and 2022 – the current intended end date for the Local Development Plan.

Table A.1: possible impacts of projected population and household change on service delivery

Sources: 2009-based household projections, Corporate Research and Information Unit Conwy CBC

| Impact indicator | Totals at 2007 | Potential change/impact 2007-2022 |
|--|----------------|-----------------------------------|
| Projection | | |
| Population | 111,170 | +4,050 |
| Households | 50,250 | +6,050 |
| Housing | | |
| Total dwelling requirement | - | +6,450 |
| Annual dwelling requirement | - | 430 |
| Affordable housing provision potential | - | low |
| Business and employment | | |
| Working age population* | 65,150 | +3,700 |
| Labour force (working age pop. who are econ. active) | 48,350 | +2,700 |
| Income in local economy | - | Slight increase |
| Business impact | - | Positive |
| Employment land requirement (new) | - | Increase in existing |
| Transport | | |
| Traffic level increase (relative) | - | Medium |
| School bus cost per user | - | Higher |
| Bus passes | - | Much higher |
| Education | | |
| Pre school age (0-4) | 5,400 | -50 |
| Primary school age (5-10) | 7,150 | -250 |
| Secondary school / FE places (11-17) | 9,900 | -650 |
| Social services | | |
| Aged 85+ (potential increased support) | 3,750 | +1,800 |
| Aged 75-84 (potential increased support) | 9,250 | +2,800 |
| Change in "care" sector employment | - | More needed |
| Potential impact on children's services | - | Reduction |
| Refuse collection | | |
| Amount of domestic refuse | - | +4% |
| Number of domestic collection points | - | +12% |
| Council tax | | |
| Change in tax base | - | Increase |
| Number of one adult household allowances | | +5,900 |

* Working age population in 2007 was aged 16-59 for females and 16-64 for men. In 2022 the working age population will be all people aged 16 to 65