GL Hearn

Review of Objectively Assessed Housing Need in light of 2012-based Subnational Population Projections

Derby Housing Market Area (Amber Valley Borough Council, Derby City Council, South Derbyshire District Council)

Final Report
November 2014

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Contents

Section		Page
1	**SUMMARY**	**8**
2	**INTRODUCTION**	**9**
3	**POPULATION GROWTH**	**12**
4	**CHANGES TO THE POPULATION OF WORKING AGE & IN EMPLOYMENT**	**19**
5	**HOUSEHOLD AND DWELLING PROJECTIONS**	**22**
6	**INTEGRATING WITH SHMA EVIDENCE**	**29**
7	**IMPLICATIONS**	**32**

List of Figures

List of Tables

Appendices

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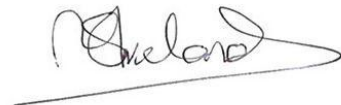
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Limitations

This document has been prepared for the stated objective and should not be used for any other purpose without the prior written authority of GL Hearn; we accept no responsibility or liability for the consequences of this document being used for a purpose other than for which it was commissioned.

1   SUMMARY

1.1   This report has been prepared to review the findings of past research into housing need in the Derby HMA (including the 2012 Housing Requirements Study, the 2013 Strategic Housing Market Assessment Update and the February 2014 Sensitivity Testing Analysis) taking account of the release of new 2012-based Sub-National Population Projections (SNPP) by the Office for National Statistics (ONS) in May 2014. It sets out revised findings regarding the Objectively Assessed Need (OAN) for housing in the Derby HMA (Amber Valley, Derby and South Derbyshire) to 2028.

1.2   This report models the level of housing need expected to arise in the Derby HMA. The 2012 SNPP are the first population projections to have been released by ONS which fully take account of the results of the 2011 Census and what this tells us about population trends. The analysis uses changes in the age/sex breakdown over time from the 2012 SNPP and applies household formation (headship) rates to estimate the likely level of housing need (including an allowance for empty and second homes).

1.3   Between 2013 and 2028 the population of the Derby HMA is expected to increase by around 10%. This is slightly higher than is expected across the East Midlands region (9%) and in-line with what is expected nationally (10%). In total, the population of the Derby HMA is projected to increase by about 49,200 people over the 15-year period. Population growth in the HMA is driven by both net in-migration and natural change (more births than deaths). There is expected to be a significant ageing of the population; although this is consistent with national and regional trends.

1.4   Despite the ageing of the population there is expected to be an increase in the number of people of working-age – increasing by 27,400 people once account is taken of changes to pensionable age (over the 2013-28 period).

1.5   The number of homes necessary to support the growing population will depend on household formation rates in different age groups. Two initial projections have been run, based on the 2008- and 2011-based CLG household projections. A midpoint between these is shown.

1.6   The scenarios modelled suggested housing need of between 1,759 and 2,022 per annum in the 2011-28 period. The midpoint scenario, which we consider the most robust projection for household growth, suggests an increase of 1,891 dwellings per annum. Taking account of completions in the 2008-11 period, the analysis shows a need for some 35,600 over the full (2008-28) plan period – about 1,780 per annum. Given the level of housing delivery in the 2008-14 period the analysis suggests a need for around 29,300 additional homes from 2014-28 – around 2,100 per annum.

2 INTRODUCTION

2.1 The latest set of Sub-National Population Projections (SNPP) were published by ONS on the 29th May 2014. They replace the 2010- and 2011-based projections. Sub-National Population Projections provide estimates of the future population of local authorities, assuming a continuation of recent local trends in fertility, mortality and migration which are constrained to the assumptions made for the 2012-based national population projections. The new SNPP are largely based on trends in the 2007-12 period (2006-12 for international migration trends). The SNPP are only population projections and do not contain headship rates (which are needed to project household growth). In this report headship rates from earlier (2008- and 2011-based) CLG household projections have therefore been utilised.

2.2 The SNPP are not forecasts and do not attempt to predict the impact that future government or local policies, changing economic circumstances or other factors might have on demographic behaviour. The primary purpose of the subnational projections is to provide an estimate of the future size and age structure of the population of local authorities in England. These are used as a common framework for informing local-level policy and planning in a number of different fields as they are produced in a consistent way.

2.3 This document seeks to take forward the 2012-based SNPP to study the likely implications for household growth and housing needs in the Derby Housing Market Area (HMA). Government Planning Practice Guidance on Housing and Economic Development Needs Assessment (NPPG) is clear that latest projections should be the start point for assessing overall housing need.

2.4 The analysis in this report uses the 2012-based projections to consider housing need, modelling a number of scenarios regarding household formation rates to provide a range of outputs for consideration. These scenarios are necessary to consider the implications of the 2012-based SNPP on housing need in the HMA.

2.5 The analysis uses a start date of 2013 which fits in with the latest data for which good baseline data exists (from ONS 2013 Mid-Year Population Estimates) whilst the end date (2028) has been designed to fit in with the Councils' emerging Local Plans which cover a period from 2008 to 2028). Because data for 2013 has been input into a demographic model the population figures moving forward do not exactly match those in the 2012-based SNPP (for example ONS data suggests a population of 471,996 in mid-2013 whereas the 2012-based SNPP projected this to be 472,562). Household and housing projections use a 2011 base date. This reflects the date at which a good baseline estimate of the number of households in the HMA is available (from 2011-based CLG household projections).

Report Purpose

2.6   The purpose of this report is to review the implications of the release of the 2012-based Population Projections on provision for housing within the Derby HMA. It is not necessarily intended to result in a need to comprehensively recalibrate the planned levels of housing provision across the Derby HMA authorities, unless the projections indicate that it would be necessary to do so.

2.7   In updating the findings, we have had regard to the Planning Practice Guidance on *Housing and Economic Development Needs Assessments* published by Government in March 2014. This outlines a process whereby demographic projections are the 'starting point' with consideration given to whether adjustments are appropriate taking account of evidence from market signals, consideration of affordable housing needs or economic growth. Our approach to addressing these issues is summarised in Figure 1 below.

Figure 1:   Overview of PPG Process
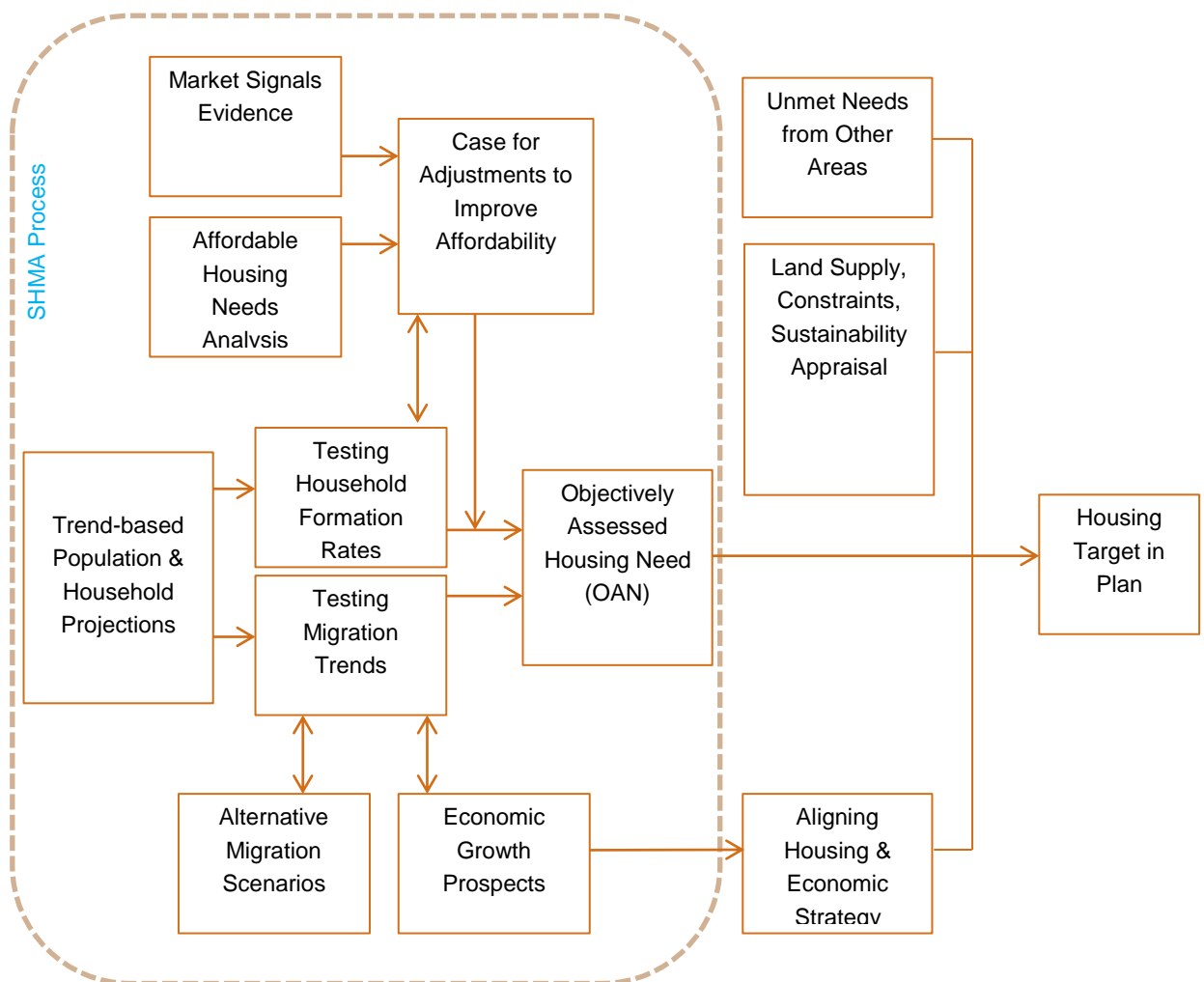
Report Structure

2.8   The report is split into a number of sections considering a range of different outputs related to the new projections. The majority of data in the main report is for the whole HMA with information for individual local authorities being found in the appendices. These are summarised below:

- Section 3: Population Growth;
- Section 4: Changes to Population of Working Age and in Employment;
- Section 5: Household and Dwelling Projections;
- Section 6: Integrating with SHMA Evidence;
- Section 7: Implications

3   POPULATION GROWTH

Overall Population Growth

3.1   Table 1 shows projected population growth from 2013 to 2028 in each of the Derby HMA (and individual local authorities), the East Midlands in the SNPP. The data shows that the population of the HMA is expected to grow by around 49,200 people. This is a 10.4% increase – slightly above the expected increase in the region and in line with that for England.

Table 1:   **Projected Population Growth (2013-2028)**

	Population 2013	Population 2028	Change in population	% change
Amber Valley	123,498	133,002	9,504	7.7%
Derby	251,423	276,302	24,879	9.9%
South Derbyshire	97,075	111,933	14,858	15.3%
Derby HMA	471,996	521,237	49,241	10.4%
East Midlands	4,593,900	5,025,000	431,100	9.4%
England	53,843,600	59,459,300	5,615,700	10.4%

Source: ONS

3.2   The figure below shows past and projected population growth in the period 1981 to 2028. Figures have been indexed to 100 for 2013. The data shows over the period from 1981 to 2005 that population growth in Derby HMA was relatively strong in comparison with the national position but in-line with regional trends. Since 2005, the data shows growth broadly in line with national and regional comparisons. This is reflected in the similarities between levels of population growth shown in Derby HMA, the South East and England in the SNPP Projections (as shown in Figure 1 below).

Figure 2:   Indexed Population Growth (1981-2028)
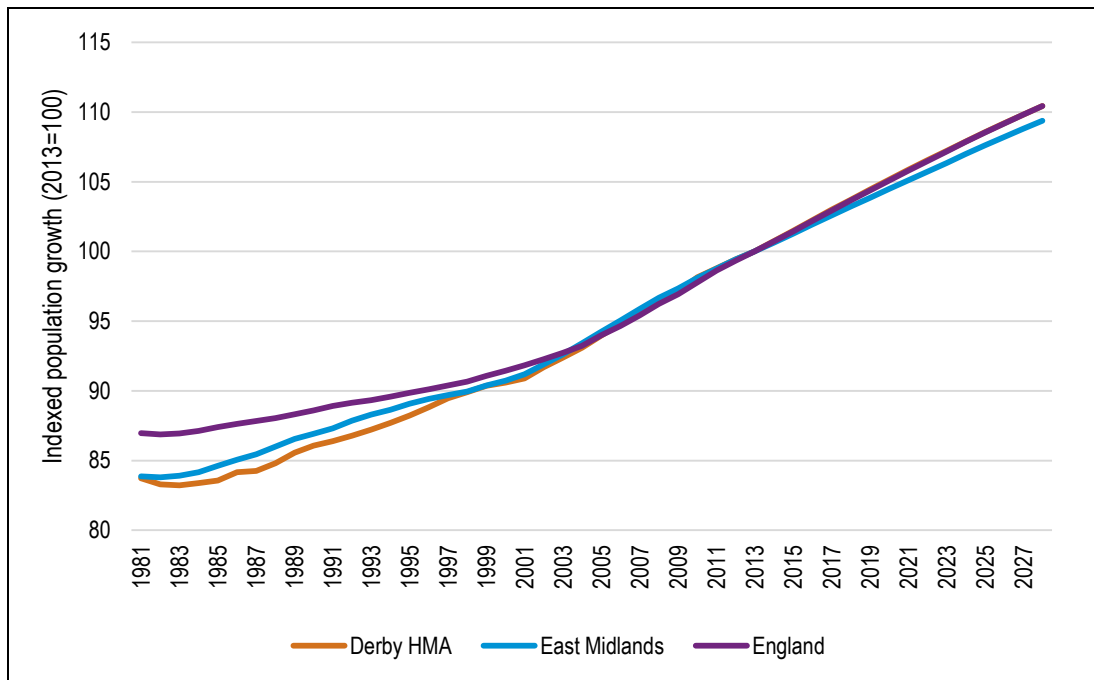
Source: ONS

3.3   It is also worthwhile to focus this data on the more recent period (from 2001). The figure below shows this and plots a linear trend line of changes in total population based on the 2008-13 period (the past five years). The data shows that the population is expected to increase at a rate which is very slightly below the past growth rate in total population and suggests that the ONS data is projecting forward the population at a rate which is broadly consistent with that seen in the past. The differences reflect how the age structure of the population is expected to change.

Figure 3:   Past and Projected Population Growth – Derby HMA
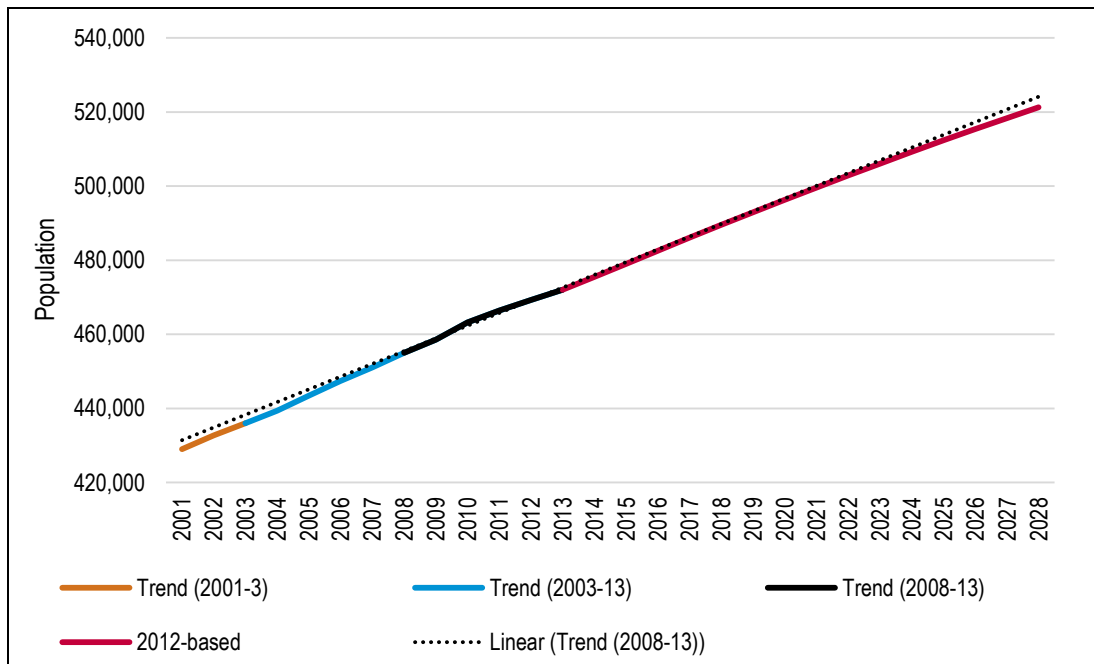
Source: ONS

Comparison with Previous Projections

3.4   Whilst the 2012-based SNPP replace past projections developed in the HMA it is of use to briefly compare this new information with past estimates. This is particularly important given that older projections have been used by the Councils in forming a view about future housing provision. The most recent projections developed for the HMA were by GL Hearn in February 2014 (as part of the evidence base for the Amber Valley Local Plan Examination – Housing Need in the Derby HMA, Sensitivity Testing Analysis). These projections in turn built on earlier research for the Councils (Derby HMA Housing Requirements Study – GL Hearn, September 2012 and Derby HMA Strategic Housing Market Assessment Update – GL Hearn, July 2013).

3.5   Table 2 below shows estimates of population growth in the Sensitivity Paper, the earlier HRS/SHMA analysis and from the 2012-based SNPP. The analysis looks at the 2011-28 period to allow consistency between sources. The data shows that the 2012-based SNPP are remarkably similar in terms of overall population growth to the previous figures. Looking at the whole HMA, the original HRS suggested population growth of 12.2%. This was revised very slightly upwards (to 12.3%) in the Sensitivity Testing Paper whereas the new SNPP shows a slightly lower figure of 11.8%.

Table 2:   **Comparing Projections of Population Growth (2011-2028)**

	Population 2011	Population 2028	Change in population	% change
2012-based SNPP				
Amber Valley	122,521	133,002	10,481	8.6%
Derby	248,943	276,302	27,359	11.0%
South Derbyshire	94,915	111,933	17,018	17.9%
Derby HMA	466,379	521,237	54,858	11.8%
From Housing Requirements Study/SHMA				
Amber Valley	122,521	133,097	10,576	8.6%
Derby	248,943	275,714	26,771	10.8%
South Derbyshire	94,915	114,343	19,428	20.5%
Derby HMA	466,379	523,153	56,774	12.2%
Updated in Sensitivity Paper				
Amber Valley	122,521	133,153	10,632	8.7%
Derby	248,943	277,581	28,638	11.5%
South Derbyshire	94,915	113,195	18,280	19.3%
Derby HMA	466,379	523,929	57,550	12.3%

Source: ONS

3.6   Differences between figures really are quite slight and suggests that the earlier analysis upon which emerging plans are based remains sound. This is important in the context of the NPPG which says *'Wherever possible, local needs assessments should be informed by the latest available information. Local Plans should be kept up-to-date, and a meaningful change in the housing situation should be considered in this context, but this does not automatically mean that housing assessments are rendered outdated every time new projections are issued'.*[ID. 2a-016-20140306]

Components of Population Growth

3.7   Of the 49,300 projected increase in the population over the 2013-28 period, around 29,600 population growth is a result of projected natural increase (more births than deaths) whilst around 19,700 is the projected net number of migrants[1]. On a per annum basis, the level of both natural change and net migration is expected to decrease over time.

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[1] It will be noted that these figures do not exactly tally; this is due to ONS consolidating local area projections to ensure consistency with national projections – in Derby HMA this has an impact of 42 over the whole projection period (3 per annum).

Table 3:   **Projected Components of Population Change, mid-2013 to mid-2028 – Derby HMA**

	2013-18	2018-23	2023-28	TOTAL
Population at start	471,996	489,530	506,097	-
Births	30,431	30,695	30,560	91,685
Deaths	20,119	20,505	21,471	62,095
Natural Change	10,312	10,190	9,088	29,590
Net migration	7,246	6,389	6,058	19,693
Total change	17,558	16,578	15,146	49,283
Population at end	489,530	506,097	521,237	-

Source: ONS

3.8   Figure 4 below shows a summary of the components of population change along with past trends back to mid-2001. The data does suggest in the early part of the projection period that there is clear consistency between the past trends and the projection with regard to levels of natural change. For net migration the past levels have been recorded as being quite variable over time (as is the case for many areas). However, the start point of the projection (with net in-migration of about 1,500 persons in 2013/14) is consistent with the average seen in the 2007-12 period. As shown in the table above, natural change and net migration are expected by ONS to decrease over time reflecting changes in the age structure of the population over the plan period.

Figure 4:   Components of Population Change, mid-2001 to mid-2028 – Derby HMA
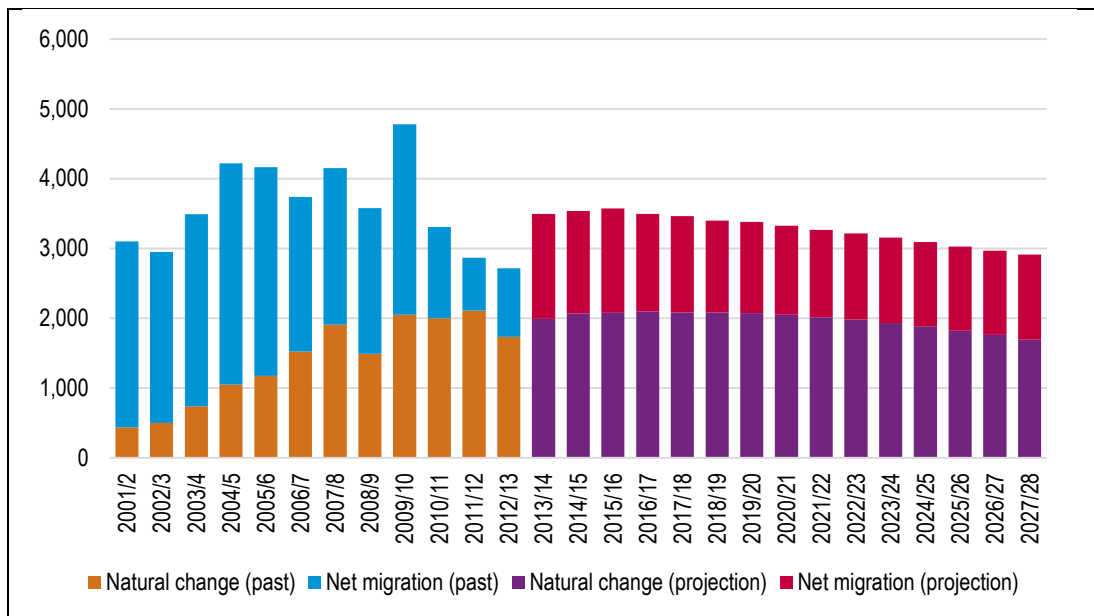
Source: ONS

Age Structure Changes

3.9   The SNPP projections consider how the age structure of the population will change over time, taking account of the ageing of the existing population, births and deaths, and the profile of in- and out-migration of people of different ages. With the overall change in the population will come changes to the age profile. Figure 5 below shows population pyramids for 2013 and 2028. The 'pyramids' clearly show the growth in population overall and highlight the ageing of the population, with a greater proportion of the population expected to be in age groups aged 60 and over (and even more so for older age groups). In particular the oldest age group (85+) shows an increase from 10,700 people to 18,000 (driven by increasing life expectancy).

3.10   Table 4 on the following page summarises the findings for key (5 year) age groups. The largest growth will be in people aged 65 and over. In 2028 it is estimated that there will be 111,100 people aged 65 and over. This is an increase of 30,100 from 2013, representing growth of 37%. The population aged 85 and over is projected to increase by an even greater proportion, 68%. Looking at the other end of the age spectrum the data shows that there are projected to be around 8% more people aged under 15 with increases (and some decreases) shown for other age groups.

Figure 5:   Distribution of Population 2013 and 2028 – Derby HMA

	2013		2028	
	Male	Female	Male	Female
Ages 85+	3,580	7,148	7,109	10,927
Ages 80-84	4,812	6,523	8,385	10,060
Ages 75-79	6,699	8,119	9,998	11,056
Ages 70-74	8,783	9,411	11,587	12,369
Ages 65-69	12,672	13,198	14,533	15,048
Ages 60-64	12,911	13,029	16,819	17,288
Ages 55-59	13,496	13,611	16,295	16,980
Ages 50-54	15,917	15,808	14,012	14,231
Ages 45-49	17,880	17,835	14,820	15,609
Ages 40-44	16,884	17,339	15,344	15,973
Ages 35-39	14,327	14,310	17,190	16,745
Ages 30-34	14,686	15,502	17,110	16,225
Ages 25-29	14,912	15,547	15,967	14,953
Ages 20-24	16,411	15,638	16,216	15,053
Ages 15-19	14,970	14,008	15,770	15,050
Ages 10-14	13,941	13,047	15,848	15,060
Ages 5-9	14,795	13,862	15,891	15,076
Ages 0-4	15,466	14,919	15,702	14,937

Source: ONS

Table 4: **Population change 2013 to 2028 by five year age bands – Derby HMA**

Age group	Population 2013	Population 2028	Change in population	% change from 2013
Under 5	30,385	30,639	254	0.8%
5-9	28,657	30,967	2,310	8.1%
10-14	26,988	30,908	3,920	14.5%
15-19	28,978	30,820	1,842	6.4%
20-24	32,049	31,269	-780	-2.4%
25-29	30,459	30,921	462	1.5%
30-34	30,188	33,335	3,147	10.4%
35-39	28,637	33,935	5,298	18.5%
40-44	34,223	31,317	-2,906	-8.5%
45-49	35,715	30,429	-5,286	-14.8%
50-54	31,725	28,243	-3,482	-11.0%
55-59	27,107	33,275	6,168	22.8%
60-64	25,940	34,106	8,166	31.5%
65-69	25,870	29,581	3,711	14.3%
70-74	18,194	23,956	5,762	31.7%
75-79	14,818	21,054	6,236	42.1%
80-84	11,335	18,444	7,109	62.7%
85+	10,728	18,036	7,308	68.1%
Total	**471,996**	**521,237**	**49,241**	**10.4%**

Source: ONS

4 CHANGES TO THE POPULATION OF WORKING AGE & IN EMPLOYMENT

4.1 The analysis above has suggested that there will be an ageing of the population moving forward with a greater proportion of the population being in age groups 65 and over. This may have an impact on the available labour force supply. Understanding likely growth in the labour force is an important part of the PPG which says that:

> *'Plan makers should make an assessment of the likely change in job numbers based on past trends and/or economic forecasts as appropriate and also having regard to the growth of the working age population'.*[ID 2a-018-20140306]

4.2 Guidance talks about the working age population and also the numbers who are economically active. Changes in the population in employment can be compared with job forecasts.

4.3 This document itself does not provide projections linked to analysis of job numbers but is able to use data about the population age structure to calculate the working age population and how this will change over time. The working age population is impacted not only by the age structure but also by changes to pensionable age. The box below summarises these changes.

Between 2012 and 2018, State Pension age will change from 65 years for men and 61 years for women, to 65 years for both sexes. Then between 2019 and 2020, State Pension age will change from 65 years to 66 years for both men and women. Between 2034 and 2046, State Pension age will increase in two stages from 66 years to 68 years for both sexes.

4.4 Drawing on information published by ONS[2] it is possible to calculate the number of people aged over 15 who have not yet reached retirement age (the working age population). It is also useful to consider the numbers likely to be working. Assumptions have been made on the basis of studying national trends in economic activity rates between 2001 and 2011 (from the Census) and interrogation of national economic forecasts.

4.5 The analysis in this report considers potential growth in residence-based employment with a baseline taken from 2011 Census data. Our analysis of past trends does however look at economic activity, with a small downward adjustment to economic activity rates made to take account of those who are economically active but not working (e.g. people who are unemployed) to calculate employment rates. The Census definition of unemployment is as follows:

> *'A person is defined as unemployed if he or she is not in employment, is available to start work in the next 2 weeks and has either looked for work in the last 4 weeks or is waiting to start a new job'*

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[2] see:http://www.ons.gov.uk/ons/dcp171776_330483.pdf

4.6 An explanation of the method used to project employment rates is provided in Appendix B. For the purposes of analysis, the employed population is taken to include people who are self-employed as well as employees.

4.7 By applying assumptions about working age and employment rate changes to the population projections, it is possible to calculate the working-age and working (employed) population. This is shown in Table 5 below along with figures for the total population aged 16 and over and the proportion of the population aged 16 and over. The data shows over the 15-year period that the population of working-age is expected to increase by around 27,400 people (a 9% increase). As a proportion of the total population aged 16 and over however the number of people of working-age is expected to decline from 76.4% in 2013 to 75.3% in 2028. The working (employed) population is expected to increase by around 22,800 people, with again a reduction in the employment rate (when based on the population aged 16 and over) linked to age structure changes over the period to 2028.

Table 5: **Working-age and employed population (2013-28) – Derby HMA**

Year	Woking-age population	Employed population	Total population (aged 16 and over)	% of population (16+) of working-age	% of population (16+) who are employed
2013	290,531	225,571	380,240	76.4%	59.3%
2014	293,021	227,147	383,282	76.5%	59.3%
2015	295,571	229,401	386,371	76.5%	59.4%
2016	298,178	231,440	389,224	76.6%	59.5%
2017	300,948	233,026	391,791	76.8%	59.5%
2018	303,572	234,753	394,235	77.0%	59.5%
2019	306,969	236,396	396,672	77.4%	59.6%
2020	310,393	238,100	399,251	77.7%	59.6%
2021	312,053	239,348	401,872	77.6%	59.6%
2022	312,943	240,647	404,661	77.3%	59.5%
2023	314,109	241,937	407,573	77.1%	59.4%
2024	315,188	243,284	410,666	76.8%	59.2%
2025	315,957	244,565	413,525	76.4%	59.1%
2026	316,935	245,934	416,571	76.1%	59.0%
2027	317,553	247,109	419,492	75.7%	58.9%
2028	317,952	248,322	422,504	75.3%	58.8%
Change 2013-28	27,420	22,751	42,264	-	-

Source: Derived from ONS data

4.8 The growth in the working age and working population can be compared with a recent job forecast provided to the Council by Oxford Economics[3]. The level of job growth in this forecast is for around 8,600 additional jobs in the 2013-28 period. Whilst the link between jobs and residents in employment is not perfect (for example it will be influenced by commuting dynamics and the proportion of people with more than one job) and there may be some major development projects

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[3] Oxford Economics (August 2013) *Derbyshire County Council – Employment Forecasts Report*

which could influence future economic growth in some parts of the HMA (e.g. rail freight distribution proposals) it is clear from the analysis above that the levels of population growth in the 2012-based SNPP will not be a barrier to economic growth across the HMA and that there is therefore no reason for adjusting upwards the level of housing provision to support economic growth.

5   HOUSEHOLD AND DWELLING PROJECTIONS

Household Growth

5.1   Having studied the population size and the age/sex profile of the population, the next step in the process is to convert this information into estimates of the number of households in the area. To do this the concept of headship rates is used. Headship rates can be described in their most simple terms as the proportion of people who are counted as heads of households (or in this case the more widely used Household Reference Person (HRP)). Four different scenarios for headship rates have been developed to provide a range of outputs.

5.2   Whilst the population projections run from 2013 onwards (due to that being the most recent date for which baseline population information exists) the household projections have started from 2011. This is due to 2011 being the most recent date for which a baseline of households is available.

5.3   For the 2011-13 period all of the scenarios use published population data along with information in the 2011-based CLG household projections to study household growth. In reality, when we consider completions, it is quite probable that household growth in the 2011-13 period has been lower than shown in the projections – however, moving forward this would mean that further upward adjustments would be needed (from 2013 onwards) and hence the approach taken will not have any impact on overall conclusions about housing need (i.e. the modelling could potentially show lower 'need' in the 2011-13 period but this would require some degree of catch-up in the 2013-28 period. The methodology used essentially builds in any shortfall for 2011-13 during those years rather than seeking to make additional adjustments from 2013 onwards.

Scenario 1 - Extending the 2011-based household projection headship rates

5.4   For the purposes of this analysis the start point is data contained in the 2011-based CLG household projections about the relationship between the total population in an age group and the number of household reference persons (HRPs) in that age group. Because the 2011-based CLG household projections only go up to 2021, it has been necessary to make assumptions for the remainder of the projection period. To do this changes have been projected on a linear basis based on the last five years of data in the CLG projections (i.e. covering the 2016-21 period). The household formation rates in the 2011-based projections are based principally on trends over the 2001-11 period.

Scenario 2 - Tracking 2008-based household formation rates

5.5   Whilst the 2011-based CLG household projections contain headship rates based on trends from 2001 to 2011 it is also necessary to consider the extent to which household formation may have been constrained. Such a check is required by the NPPG which says:

'local planning authorities should take a view based on available evidence of the extent to which household formation rates are or have been constrained' [ID 2a-015-20140306]

5.6   A second scenario has therefore been developed which draws on headship rates in the earlier (2008-based) CLG household projections. These are based principally on long-term trends shown between the 1971-2001 Censuses.

5.7   This scenario assumes that household formation rates do not continue to diverge from the previous trend but that the long term trend tracks the 2008-based trend taking account of the extent that the headship rates in the 2011-based projections were above or below the 2008-based projection at the start of the projection period. In effect, this scenario assumes that there is a permanent correction in household formation rates moving forwards and that the factors that have driven changes in household formation rates in the past re-assert themselves in the future.

Scenario 3 – Midpoint between 2011-based and 2008-based (tracking)

5.8   The third scenario considers the midpoint trend between Scenarios 1 and 2 above. The methodology recognises work carried out by the Cambridge Centre for Housing and Planning Research (CCHPR) in a September 2013 study for the Town and Country Planning Association (TCPA) entitled *New estimates of housing demand and need in England, 2011 to 2031*. In particular this notes:

"The central question for the household projection is whether what happened in 2001 – 11 was a structural break from a 40-year trend; or whether household formation was forced downwards by economic and housing market pressures that are likely to ease with time. At the time of the 2011 Census, the British economy was still in recession and the housing market was depressed. The working assumption in this study is that a considerable part but not all of the 375,000 shortfall of households relative to trend was due to the state of the economy and the housing market. 200,000 is attributed to over-projection of households due to the much larger proportion of recent immigrants in the population, whose household formation rates are lower than for the population as a whole. This effect will not be reversed. The other 175,000 is attributed to the economy and the state of the housing market and is assumed to gradually reverse."

5.9   On the basis of this analysis it can broadly be suggested that around half of the lack of expected households is due to market factors with half attributable to other issues (notably international migration) and hence a midpoint between 2011- and 2008-based trends is reasonable. This method

is consistent with earlier work carried out ahead of the Amber Valley Local Plan examination in early 2014[4].

Scenario 4 – Blended headship rates

5.10   The fourth scenario, in common with scenario 3 uses information from both the 2011- and 2008-based CLG household projections. The difference is that the 2011-based rates are assumed to hold true until 2021 (the end date of these projections) and rates are assumed to track 2008-based figures thereafter.

5.11   This methodology is consistent with that accepted by a number of inspectors at Local Plan Inquires (e.g. South Worcestershire, Derbyshire Dales). In the case of Derbyshire Dales the inspector described this approach as 'blended' hence the tile used for the scenario. A full quote from Derbyshire Dales is as below:

'With the recovering economic situation it would be prudent to assume that the low 2011 headship rates are unlikely to remain in place over the whole plan period. It would be sensible to work on the basis that the household formation rate will gradually return to higher levels as the economy recovers. I therefore consider that a "blended" rate that assumes the 2011 rate until 2020 and the higher 2008 rate thereafter is appropriate. Whilst this may be a relatively unsophisticated approach, it is a practical one in the light of the uncertainties about future household formation rates'.

5.12   To provide a simple comparison of the four scenarios, Figure 6 below shows how average household size is expected to change in each projection. The figures are also compared with data from the 2008-based projections although some caution should be exercised on this comparison as the population bases do not match, and this can have an impact on household sizes.

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[4] GL Hearn (March 2014) *Housing Need in the Derby HMA – Sensitivity Testing Analysis*

Figure 6: Past and Projected trends in Average Household Size – Derby HMA
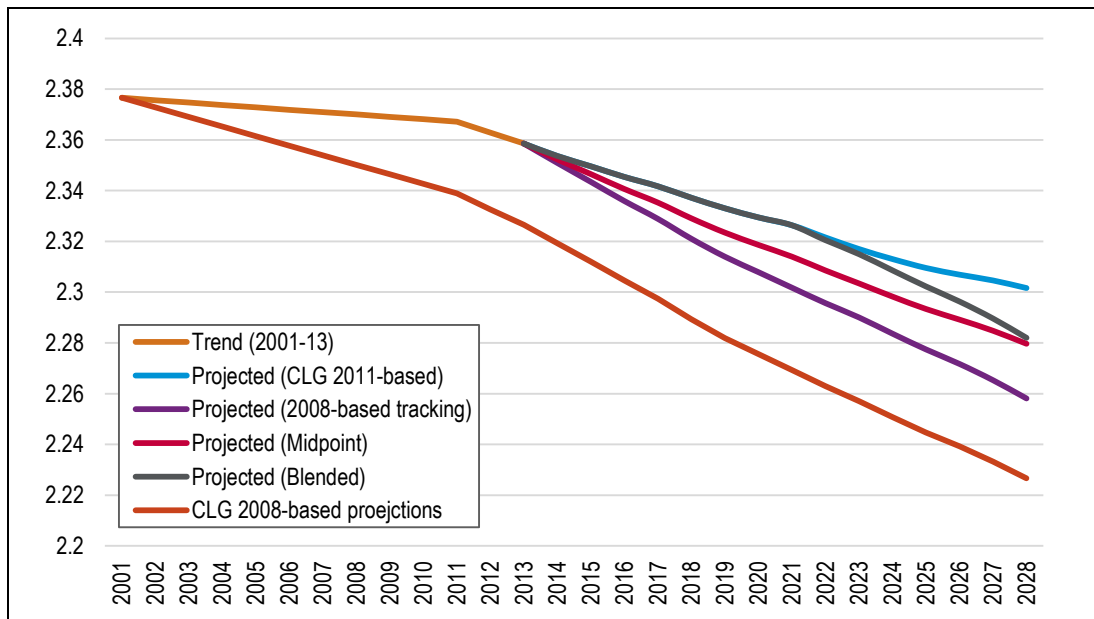
Source: Derived from ONS and CLG data

5.13   Table 6 and Figure 7 below show estimated household growth linked to the 2012-based SNPP for each of the headship scenarios described above. The analysis shows an increase in households of between 28,700 and 33,000 depending on the scenario studied. This is annual growth of between 1,689 and 1,942. The data shows that the increase in the number of households is expected to decrease slightly over time other than with the blended headship rate scenario.

Table 6:   **Projected Household Growth under Different Headship Scenarios – Derby HMA**

		2011-based (extended)	Tracking 2008-based	Midpoint	Blended
Households	2011	194,113	194,113	194,113	194,113
	2013	197,178	197,178	197,178	197,178
	2018	206,347	207,785	207,066	206,347
	2023	215,077	217,608	216,343	215,264
	2028	222,834	227,127	224,980	224,749
Annual household growth	2011	1,533	1,533	1,533	1,533
	2013-18	1,834	2,121	1,978	1,834
	2018-23	1,746	1,965	1,855	1,783
	2023-28	1,551	1,904	1,728	1,897
Total growth		28,721	33,014	30,868	30,636
Per annum		1,689	1,942	1,816	1,802

Figure 7:   Projected Households under Different Headship Scenarios – Derby HMA
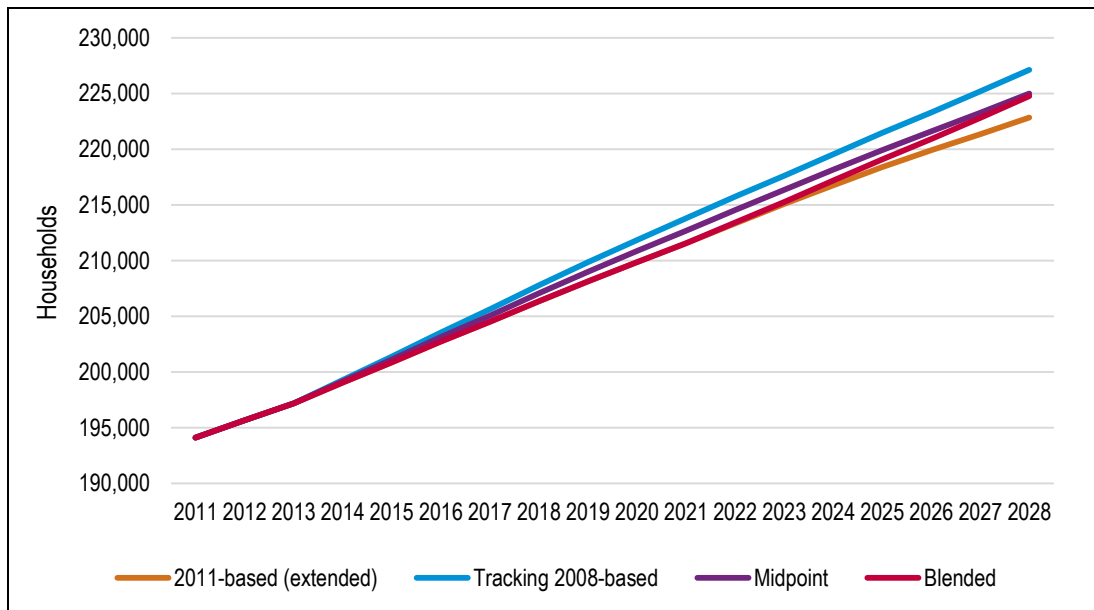
Household Types

5.14   As well as looking at overall household growth the outputs from the analysis can be used to study the projected change in household types. Whilst this output could be provided for any of the scenarios developed, the data below has been based on the 'midpoint' methodology.

5.15   Around half (47%) of the expected household growth is accounted for by one person households which are projected to rise by 14,500 from 2011 to 2028, or 853 per year on average. This drives a decrease in the average size of households from 2.37 persons per household in 2011 to 2.28 persons per household in 2028. By 2028, 14% of the private household population in Derby HMA is projected to live alone compared with 12% in 2011.

5.16   Collectively, couple households (with or without other adults) are projected to grow by 422 per year on average, equating to 23% of the increase in total households between 2011 and 2028. Lone parent households are projected to increase by 325 per annum, which amounts to a 37% increase in this type of household between 2011 and 2028.

5.17   The data in this section has been summarised from a longer list of household types used by CLG. More detailed tables about household type changes can be found in Appendix D at the end of the document.

Table 7: **Household Projections by Household Type (midpoint headship) – Derby HMA**

	2011	2028	Average annual change	As % of total	Total change (%)
One person households	57,331	71,826	853	47.0%	25.3%
A couple with no other adults	88,852	96,711	462	25.5%	8.8%
A couple with one or more other adults	20,926	20,252	-40	-2.2%	-3.2%
A lone parent (with or without other adults)	14,812	20,333	325	17.9%	37.3%
Other households	12,191	15,858	216	11.9%	30.1%
All households	194,113	224,980	1,816	100.0%	15.9%
Private household population	459,504	512,876	3,140	-	11.6%
Average household size (persons/household)	2.37	2.28	-	-	-

Dwelling Requirements

5.18   As well as providing estimates of household growth under different scenarios it is also possible to make estimates of the number of additional homes this might equate to. To do this a vacancy allowance is included in the data. Analysis of 2011 Census data about unoccupied household spaces provides the following vacancy rate figures which have been used in analysis:

- Amber Valley – 4.5%
- Derby – 4.3%
- South Derbyshire – 3.6%

5.19   It is assumed that such a level of vacant homes will allow for movement within the housing stock and includes an allowance for second homes. Table 8 below therefore shows estimates of the likely dwelling requirements under each of the scenarios developed

5.20   Table 8 therefore shows estimates of the likely housing need (for dwellings) under each of the scenarios developed. The analysis suggests a housing need for between about 29,900 and 34,400 dwellings over the 2011-28 period (1,759 to 2,022 per annum). The midpoint headship scenario shows a need for 1,891 homes; very slightly above the figure with a blended headship (1,876 per annum).

Table 8: **Projected Housing Need under different Headship Scenarios – Derby HMA**

		2011-based (extended)	Tracking 2008-based	Midpoint	Blended
Dwelling growth	2011-13	3,190	3,190	3,190	3,190
	2013-18	9,547	11,045	10,296	9,547
	2018-23	9,090	10,229	9,660	9,285
	2023-28	8,078	9,912	8,995	9,878
Annual dwelling growth	2011-13	1,595	1,595	1,595	1,595
	2013-18	1,909	2,209	2,059	1,909
	2018-23	1,818	2,046	1,932	1,857
	2023-28	1,616	1,982	1,799	1,976
Total growth		29,906	34,377	32,142	31,900
Per annum		1,759	2,022	1,891	1,876

5.21 The housing need derived from the 2012-based SNPP can be compared with those in earlier research carried out for the Councils (most specifically by GL Hearn in February 2014 (as part of the evidence base for the Amber Valley Local Plan Examination – Housing Need in the Derby HMA, Sensitivity Testing Analysis)). The sensitivity analysis suggested an annual need in the range of about 1,940 to 1,964 dwellings per annum depending on the population projections used (both figures based on a midpoint headship). The more recent analysis in this report therefore supports a slightly lower level of need – this will be due to the SNPP showing a lower future level of population growth than earlier projections developed by GL Hearn.

6 INTEGRATING WITH SHMA EVIDENCE

6.1   The PPG outlines that consideration should be given to affordable housing need and market signals in drawing overall conclusions on housing need. These issues where dealt with in a comprehensive way in the 2013 Strategic Housing Market Assessment Update. Here we summarise key findings and consider whether there is a case for adjusting housing provision conclusions drawn based on the demographic projections.

Market Signals

6.2   The PPG outlines that the level of housing need suggested by household projections may need to be adjusted to reflect appropriate market signals, and other indicators of the balance between the demand and supply of dwellings. It indicates that affordability constraints have worsened relative to wider areas, or there are indicators of particularly high demand, an upward adjustment to planned levels of housing provision should be made to improve affordability.

6.3   The 2013 SHMA assessed market signals. The analysis within the SHMA showed the following:

- House Prices – prices increased notably at the regional level, and within the HMA, between 2001-4. Across the region the price of a standard property almost doubled over this period, as demand grew faster than supply supported by a growing economy, low interest rates and competition in the mortgage market. More modest price growth was evident between 2004-7. Between 2008-11 price trends were very different, with values falling in real terms;
- Sales Trends – sales trends (for all properties) indicated a notable reduction in effective demand for housing for sale since 2008. Sales across the HMA in 2010 were 44% down on pre-recession levels (similar to the position across the East Midlands and England). Of the three authorities Derby was affected to the greatest degree; with a greater impact overall for terraced and flatted properties.
- Housing Supply Trends – growth in the housing stock between 2001-11 across the HMA (8.6%) was similar to that in the Nottingham HMA, above the England average (7.6%) but slightly below the East Midlands average (9.1%). Whilst new housing delivery (net completions) was rising prior to the onset of the recession, it dropped notably in 2008/9 (consistent with the sales evidence) and has remained more subdued in recent years. Between 2006-11 there was an under-provision of 1,284 homes against the targets in the former East Midlands Regional Plan.
- Overcrowding – levels of over-occupied households have increased – from 6,669 to 10,310 households across the HMA between 2001-11 (with growth principally in Derby). The growth in over-occupied homes was considered to relate partly to the nature of the housing offer in the City, with concerns also expressed about data quality. Only Derby has a level of overcrowding which exceeds regional and national benchmarks.

6.4   Updating the assessment to take account of the latest data and the PPG,

- House Prices – the latest data on house prices indicates that house prices in each of the Derby HMA authorities were similar to levels reached in 2006 in nominal terms. In real terms the cost of housing has fallen over this 7 year period. Over the 5 year period to Q2 2013[5] median house prices have fallen in all three authorities;

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[5] The latest data published at a local authority level by CLG Housing Statistics

- Affordability – lower quartile house prices stand at 4.4 times lower quartile earnings in Derby in 2013 (compared to 3.2 in 2003), at 5.5 in Amber Valley (compared to 4.5 in 2003) and 5.8 in South Derbyshire (compared to 5.7 in 2003). This compares to an England average of 5.2 in 2003 and 6.5 in 2013. Affordability throughout the HMA is better than is the case nationally. It has improved since 2008 in all three authorities.
- Housing Delivery – housing delivery in 2011/12 and 2012/13 totalled 845 homes and 866 homes respectively across the HMA, continuing to fall below levels prior to the onset of recession in 2008. This correlates to sales volumes which remain 45% below pre-recession averages.
- Rents – median rents in Derby, recorded by the VOA Private Rental Market Statistics, which over the year to March 2014 stood at £440 per month in Derby, £495 in Amber Valley and £550 in South Derbyshire compared to an East Midlands average of £500 per month; and a national average of £595. Time series data is not available to support long-term trend analysis.

6.5   Overall the analysis does not point to a supply-demand imbalance within the HMA. Over the last decade price growth relative to incomes has been modest relative to other parts of the country; affordability is better than the national average, and the trend has been of improving affordability despite lower housing delivery since 2008 as prices have fallen relative to earnings. Indeed the evidence from sales points to lower demand for market homes as influencing sales and price trends.

6.6   However even against this context, it is appropriate to place for a scenario in which household formation for younger households is projected to rise moving forwards. This represents a positive planning scenario and can be expected to see levels of overcrowding, concealed and shared households fall. The adjustments to the headship rates do this and in effect adjust upwards the level of housing provision linked to an assumption that affordability for younger households will improve.

Affordable Housing Need

6.7   The 2013 Strategic Housing Market Assessment Update assessed affordable housing need in accordance with the approach in the PPG. Using the Basic Needs Assessment Model it identified that, taking account of the turnover of existing affordable housing stock, 387 households per year in Amber Valley, 1035 in Derby and 345 in South Derbyshire would require support to meet their housing need (see Figure 108 in the SHMA Report). This is based on an analysis looking at the 2012-17 period.

6.8   Appendix B expresses the considers how affordable housing need relates to the plan period. It also explores the dynamics between affordable housing (based on the NPPF definition) and Private Rented Sector housing and the relative contribution of these to meeting the needs of households requiring support. Looking over the period to 2028 the analysis in Figure 160 indicated a need from 1,188 households per year. Based on the 2012 situation, private rented lettings would contribute around 830 lettings.

6.9   Taking account of this analysis, and the updated demographic modelling, the SHMA conclusion at Paragraph 8.100 holds true that there the affordable housing needs analysis per se does not provide a basis for adjusting upwards the overall assessment of housing need.

7 IMPLICATIONS

7.1   The purpose of this paper has been to examine the 2012-based Sub-National Population Projections and to consider whether there is a need to adjust the level of housing provision being planned for within the Derby HMA. The PPG clearly sets out that housing assessments are rendered outdated every time new projections are issued. This focus of this paper has therefore been on exploring whether the new projections represent a "meaningful change" which would warrant this.

7.2   The number of homes necessary to support the growing population projected in the 2012 SNPP will depend on household formation rates in different age groups. This will be influenced by economic circumstances. A number of scenarios for household formation have been considered. Two initial projections have been run, based on 'tracking' trends in household formation rates in the 2008- and 2011-based CLG household projections. These two scenarios suggest a need for housing between 1,759 and 2,022 homes per annum.

7.3   A midpoint between these is shown which suggests a need for 1,891 homes per annum. Whilst trends in household formation rates in recent years have changed, and any projections are somewhat uncertain, we consider that this represents a robust and positive assessment of demographically-based need for housing based on the current available evidence.

7.4   Evidence from market signals does not provide a clear basis for adjusting levels of housing provision from those shown in the demographic projections. The projections are capable of supporting expected economic growth, and meeting full need for market and affordable housing.

7.5   These figures are all for the 2011-28 period; across the Derby HMA, emerging plans are looking at the 2008-28 period and it is therefore important to also consider housing figures for the three years to 2011. To make an assessment of the total need for the 2008-28 period we have therefore additionally added on the number of completions in the 2008-11 period. Whilst household formation may have been influenced by supply over the 2008-11 period, following the PPG approach [ID 2a-015-20140306] this is addressed through adjustments to household formation rates.

7.6   Whilst this approach could potentially be criticised if there had been some degree of suppression in the housing market in the 2008-11 period it is the case that moving forward from 2011 that the methodology employed does build in improvements to household formation rates relative to past trends. Hence we would consider that such an approach (when taken for the plan period as a whole) does properly reflect the need for housing in the HMA.

7.7   Such an approach is also supported by a recent High Court ruling; Zurich Assurance Ltd vs Winchester City Council and South Downs National Park Authority of 18th March 2014. In this the

claimant (Zurich) considered that the Inspector at the Local Plan EiP had made a 'methodological error' in his assessment of the proposed housing requirement. In this regard, the Honourable Mr Justice Sales stated that:

"According to Mr Cahill's suggestion, the modellers in 2011 should have begun by saying that there was a shortfall of 854 homes against a previous estimate and then should have added that on to their own modelled estimates for new homes for 2011-2031 to produce the relevant total figure. In fact, none of them proceeded in that way, and rightly so. In my view, they would clearly have been wrong if they had tried to do so. Their own modelling for 2011-2031 is self-contained, with its own evidence base, and would have been badly distorted by trying to add in a figure derived from a different estimate using a different evidence base. That would have involved mixing apples and oranges in an unjustifiable way." [§95, Case Number: CO/5057/2013]

7.8 The table below therefore brings together our estimates of housing need from 2011 to 2028 along with completions data for 2008-11 to consider the overall need for housing during the 2008-28 plan period. The figures are all based on the 'midpoint' headship methodology although using the alternative 'blended' rates would not make any significant difference (slightly downwards). The table shows an overall HMA need for some 35,600 dwellings – 1,778 per annum.

Table 9: **Overall housing need (2008-28) – Derby HMA**

	Completions (2008-11)	Housing need (2011-28)	Total need (2008-28)	Per annum
Amber Valley	814	7,450	8,264	413
Derby	1,513	15,212	16,725	836
South Derbyshire	1,097	9,480	10,577	529
HMA	3,424	32,142	35,566	1,778

7.9 The information can also be used to study the residual requirement for housing from 2014 onwards (noting that we have completions data up until this point). The table below shows in the 2008-14 period that there were some 6,236 net completions – this leaves an additional 29,330 homes to be provided, just under 2,100 per annum.

Table 10: **Residual housing need (2014-28) – Derby HMA**

	Total need (2008-28)	Completions (2008-14)	Residual need (2014-28)	Per annum
Amber Valley	8,264	1,508	6,756	483
Derby	16,725	2,594	14,131	1,009
South Derbyshire	10,577	2,134	8,443	603
HMA	35,566	6,236	29,330	2,095

Appendices

APPENDIX A: Individual local authority data

Figure 8:   Indexed population growth (1981-2028)
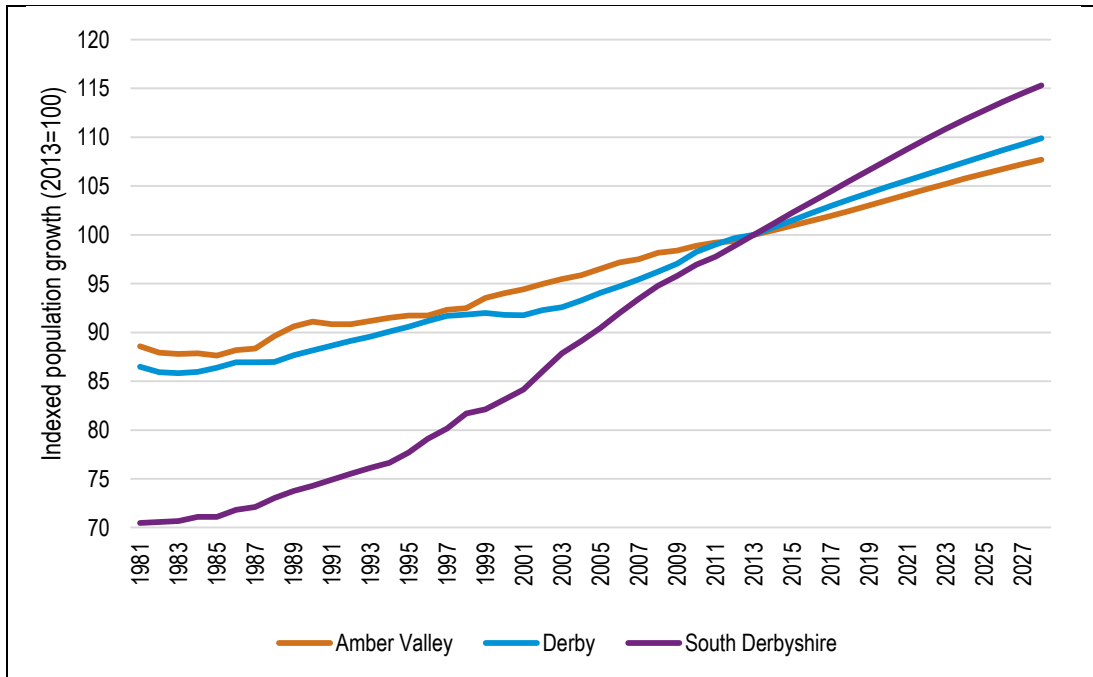
Source: ONS

Figure 9:   Past and projected population growth – Amber Valley
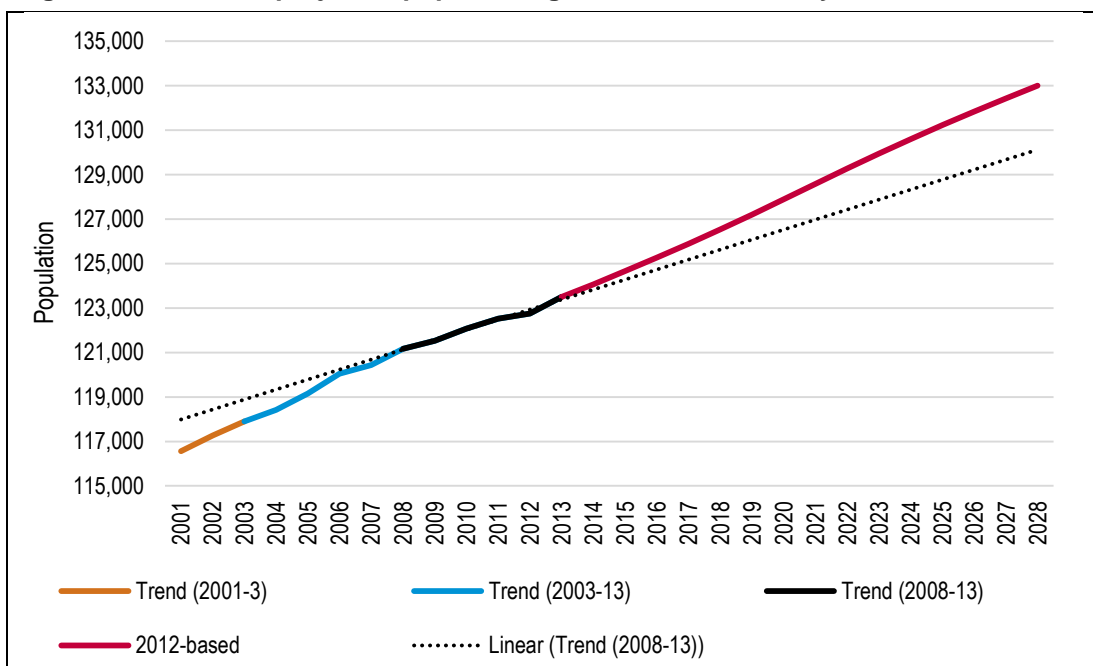
Source: ONS

Figure 10: Past and projected population growth – Derby
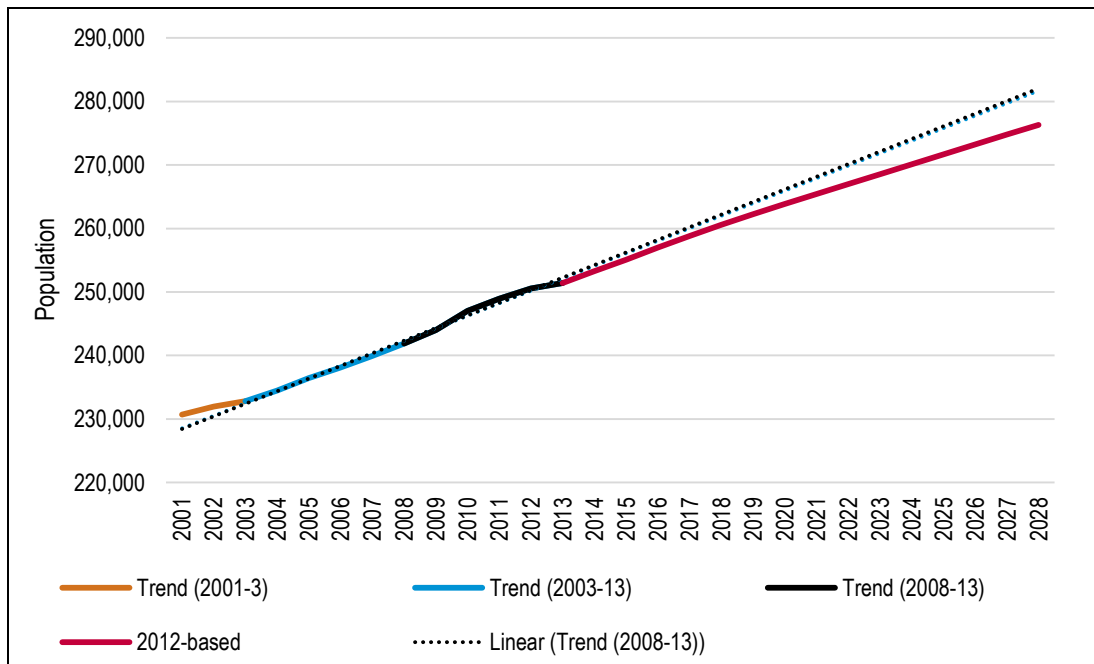
Source: ONS

Figure 11: Past and projected population growth – South Derbyshire
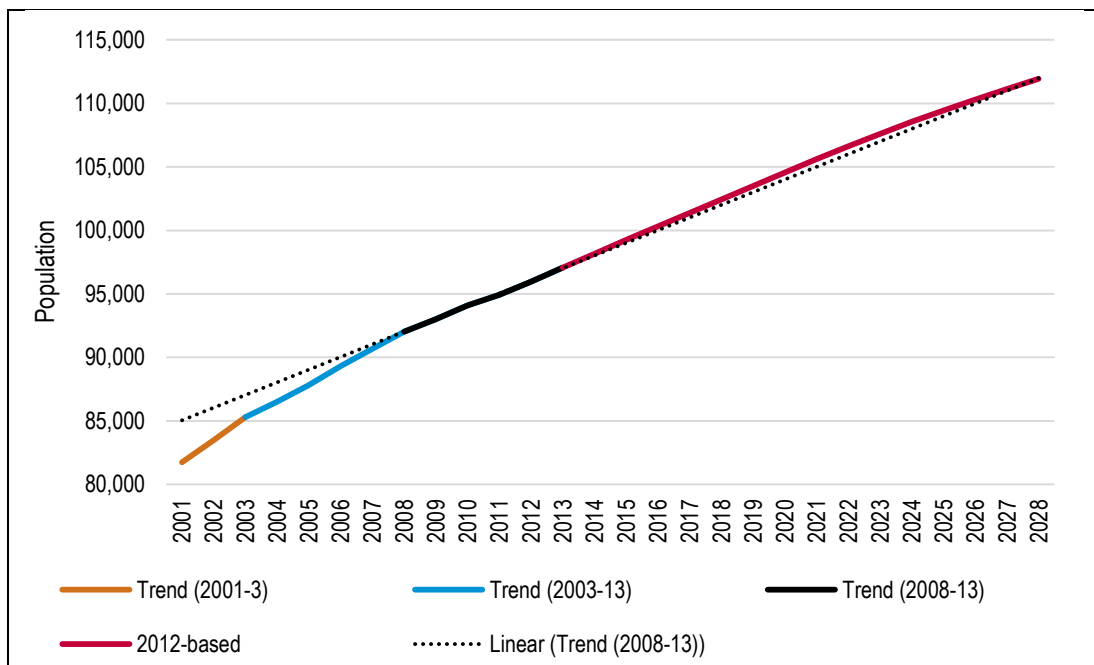
Source: ONS

Table 11: **Projected components of change, mid-2013 to mid-2028 – Amber Valley**

	2013-18	2018-23	2023-28	TOTAL
Population at start	123,498	126,538	129,945	-
Births	6,520	6,569	6,484	19,573
Deaths	6,046	6,261	6,696	19,003
Natural Change	475	307	-213	570
Net migration	2,555	3,085	3,253	8,893
Total change	3,030	3,392	3,041	9,463
Population at end	126,538	129,945	133,002	-

Source: ONS

Table 12: **Projected components of change, mid-2013 to mid-2028 – Derby**

	2013-18	2018-23	2023-28	TOTAL
Population at start	251,423	260,556	268,557	-
Births	18,125	18,240	18,223	54,587
Deaths	10,105	10,014	10,170	30,288
Natural Change	8,020	8,226	8,053	24,299
Net migration	1,160	-188	-273	700
Total change	9,181	8,039	7,780	24,999
Population at end	260,556	268,557	276,302	-

Source: ONS

Table 13: **Projected components of change, mid-2013 to mid-2028 – South Derbyshire**

|	2013-18	2018-23	2023-28	TOTAL
Population at start	97,075	102,435	107,595	-
Births	5,785	5,886	5,853	17,525
Deaths	3,969	4,230	4,605	12,804
Natural Change	1,816	1,656	1,248	4,721
Net migration	3,531	3,492	3,078	10,100
Total change	5,347	5,148	4,326	14,821
Population at end	102,435	107,595	111,933	-

Source: ONS

Figure 12: **Components of population change, mid-2001 to mid-2028 (summary chart) – Amber Valley**
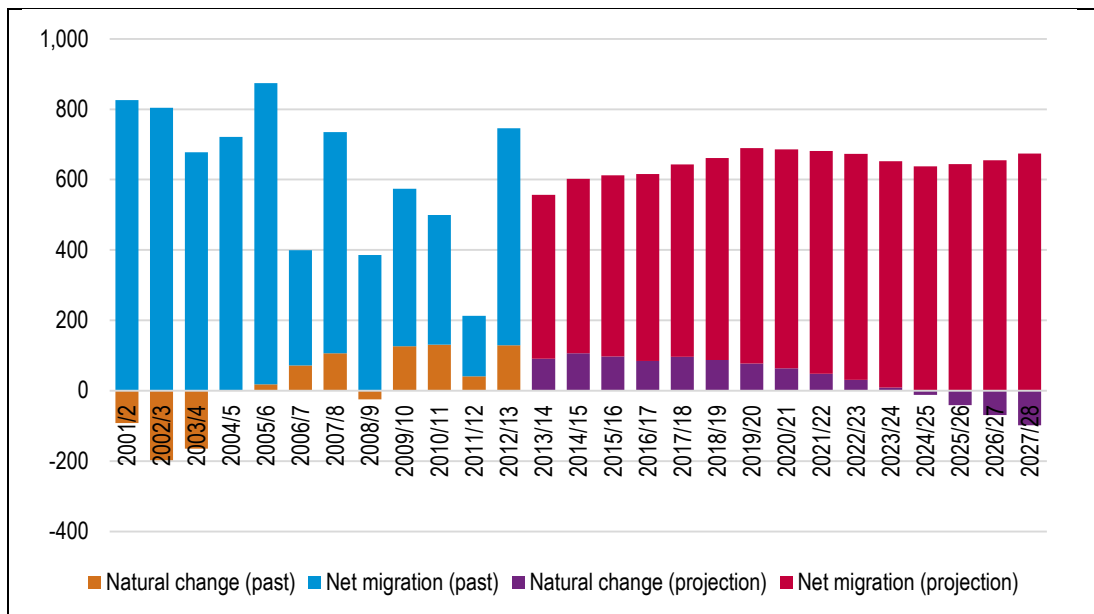
Source: ONS

Figure 13: **Components of population change, mid-2001 to mid-2028 (summary chart) – Derby**
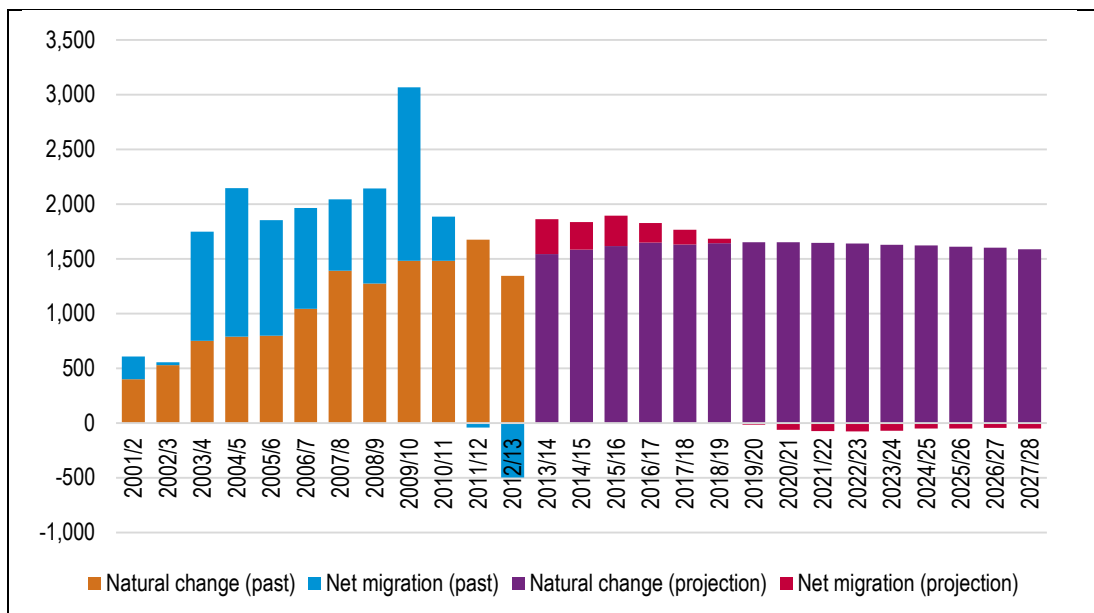
Source: ONS

Figure 14: Components of population change, mid-2001 to mid-2028 (summary chart) – South Derbyshire
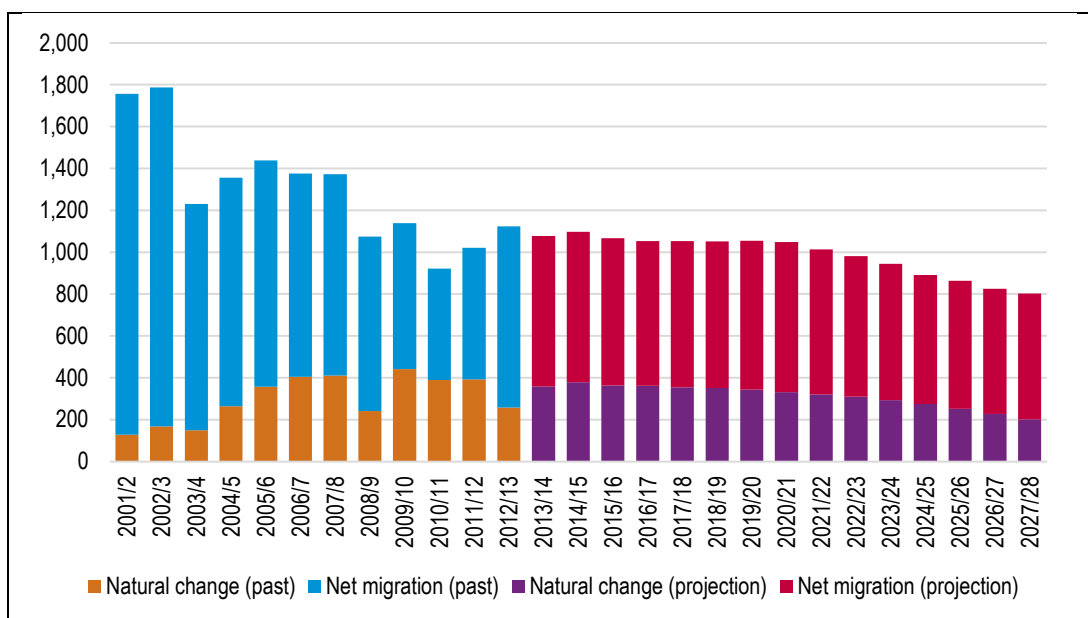
Source: ONS

Table 14: **Population change 2013 to 2028 by five year age bands – Amber Valley**

Age group	Population 2013	Population 2028	Change in population	% change from 2013
Under 5	6,507	6,642	135	2.1%
5-9	6,491	7,069	578	8.9%
10-14	6,747	7,282	535	7.9%
15-19	7,211	6,827	-384	-5.3%
20-24	6,504	5,592	-912	-14.0%
25-29	6,542	6,305	-237	-3.6%
30-34	6,844	7,545	701	10.2%
35-39	6,994	8,239	1,245	17.8%
40-44	9,281	7,737	-1,544	-16.6%
45-49	9,810	7,711	-2,099	-21.4%
50-54	9,078	7,491	-1,587	-17.5%
55-59	8,184	9,525	1,341	16.4%
60-64	8,254	9,928	1,674	20.3%
65-69	8,489	8,887	398	4.7%
70-74	5,815	7,477	1,662	28.6%
75-79	4,317	6,791	2,474	57.3%
80-84	3,221	6,097	2,876	89.3%
85+	3,209	5,856	2,647	82.5%
Total	**123,498**	**133,002**	**9,504**	**7.7%**

Source: ONS

Table 15: **Population change 2013 to 2028 by five year age bands – Derby**

Age group	Population 2013	Population 2028	Change in population	% change from 2013
Under 5	18,053	17,851	-202	**-1.1%**
5-9	16,274	17,312	1,038	**6.4%**
10-14	14,415	16,703	2,288	**15.9%**
15-19	15,853	17,621	1,768	**11.2%**
20-24	20,453	21,079	626	**3.1%**
25-29	18,378	19,316	938	**5.1%**
30-34	17,303	19,147	1,844	**10.7%**
35-39	15,518	18,221	2,703	**17.4%**
40-44	17,245	16,431	-814	**-4.7%**
45-49	17,869	15,728	-2,141	**-12.0%**
50-54	15,700	14,153	-1,547	**-9.9%**
55-59	12,936	15,804	2,868	**22.2%**
60-64	11,811	16,018	4,207	**35.6%**
65-69	11,697	13,787	2,090	**17.9%**
70-74	8,558	10,951	2,393	**28.0%**
75-79	7,685	9,396	1,711	**22.3%**
80-84	6,012	8,238	2,226	**37.0%**
85+	5,663	8,547	2,884	**50.9%**
Total	**251,423**	**276,302**	**24,879**	**9.9%**

Source: ONS

Table 16: **Population change 2013 to 2028 by five year age bands – South Derbyshire**

Age group	Population 2013	Population 2028	Change in population	% change from 2013
Under 5	5,825	6,145	320	**5.5%**
5-9	5,892	6,586	694	**11.8%**
10-14	5,826	6,923	1,097	**18.8%**
15-19	5,914	6,372	458	**7.7%**
20-24	5,092	4,598	-494	**-9.7%**
25-29	5,539	5,299	-240	**-4.3%**
30-34	6,041	6,642	601	**10.0%**
35-39	6,125	7,476	1,351	**22.1%**
40-44	7,697	7,149	-548	**-7.1%**
45-49	8,036	6,990	-1,046	**-13.0%**
50-54	6,947	6,598	-349	**-5.0%**
55-59	5,987	7,947	1,960	**32.7%**
60-64	5,875	8,160	2,285	**38.9%**
65-69	5,684	6,908	1,224	**21.5%**
70-74	3,821	5,528	1,707	**44.7%**
75-79	2,816	4,868	2,052	**72.9%**
80-84	2,102	4,110	2,008	**95.5%**
85+	1,856	3,632	1,776	**95.7%**
Total	**97,075**	**111,933**	**14,858**	**15.3%**

Source: ONS

Table 17: **Working-age and employed population (2013-28) – Amber Valley**

Year	Woking-age population	Employed population	Total population (aged 16 and over)	% of population (16+) of working-age	% of population (16+) who are employed
2013	74,400	60,583	102,290	72.7%	59.2%
2014	74,673	60,648	102,859	72.6%	59.0%
2015	74,999	60,957	103,466	72.5%	58.9%
2016	75,380	61,254	104,046	72.4%	58.9%
2017	75,794	61,403	104,495	72.5%	58.8%
2018	76,265	61,626	104,976	72.6%	58.7%
2019	76,975	61,835	105,454	73.0%	58.6%
2020	77,643	62,024	105,929	73.3%	58.6%
2021	77,799	62,121	106,467	73.1%	58.3%
2022	77,745	62,222	107,049	72.6%	58.1%
2023	77,796	62,343	107,649	72.3%	57.9%
2024	77,776	62,446	108,247	71.9%	57.7%
2025	77,629	62,572	108,751	71.4%	57.5%
2026	77,617	62,719	109,341	71.0%	57.4%
2027	77,504	62,899	109,928	70.5%	57.2%
2028	77,381	63,023	110,506	70.0%	57.0%
Change 2013-28	2,981	2,440	8,216		

Source: Derived from ONS data

Table 18: **Working-age and employed population (2013-28) – Derby**

| Year	Woking-age population	Employed population	Total population (aged 16 and over)	% of population (16+) of working-age	% of population (16+) who are employed
2013	156,155	115,171	199,736	78.2%	57.7%
2014	157,694	116,189	201,236	78.4%	57.7%
2015	159,254	117,505	202,753	78.5%	58.0%
2016	160,813	118,705	204,161	78.8%	58.1%
2017	162,479	119,707	205,482	79.1%	58.3%
2018	164,008	120,796	206,691	79.3%	58.4%
2019	165,826	121,758	207,855	79.8%	58.6%
2020	167,693	122,801	209,136	80.2%	58.7%
2021	168,680	123,567	210,364	80.2%	58.7%
2022	169,219	124,356	211,651	80.0%	58.8%
2023	169,959	125,166	213,106	79.8%	58.7%
2024	170,771	126,015	214,726	79.5%	58.7%
2025	171,454	126,826	216,280	79.3%	58.6%
2026	172,197	127,673	217,924	79.0%	58.6%
2027	172,742	128,373	219,458	78.7%	58.5%
2028	173,205	129,150	221,099	78.3%	58.4%
Change 2013-28	17,051	13,979	21,363		

Source: Derived from ONS data

Table 19:   **Working-age and employed population (2013-28) – South Derbyshire**

Year	Woking-age population	Employed population	Total population (aged 16 and over)	% of population (16+) of working-age	% of population (16+) who are employed
2013	59,977	49,816	78,214	76.7%	63.7%
2014	60,655	50,310	79,187	76.6%	63.5%
2015	61,318	50,939	80,152	76.5%	63.6%
2016	61,984	51,480	81,018	76.5%	63.5%
2017	62,676	51,916	81,815	76.6%	63.5%
2018	63,298	52,331	82,568	76.7%	63.4%
2019	64,169	52,803	83,362	77.0%	63.3%
2020	65,057	53,275	84,185	77.3%	63.3%
2021	65,574	53,660	85,041	77.1%	63.1%
2022	65,978	54,069	85,960	76.8%	62.9%
2023	66,355	54,429	86,818	76.4%	62.7%
2024	66,641	54,822	87,694	76.0%	62.5%
2025	66,874	55,167	88,493	75.6%	62.3%
2026	67,121	55,542	89,307	75.2%	62.2%
2027	67,306	55,836	90,105	74.7%	62.0%
2028	67,365	56,149	90,899	74.1%	61.8%
Change 2013-28	7,388	6,332	12,685		

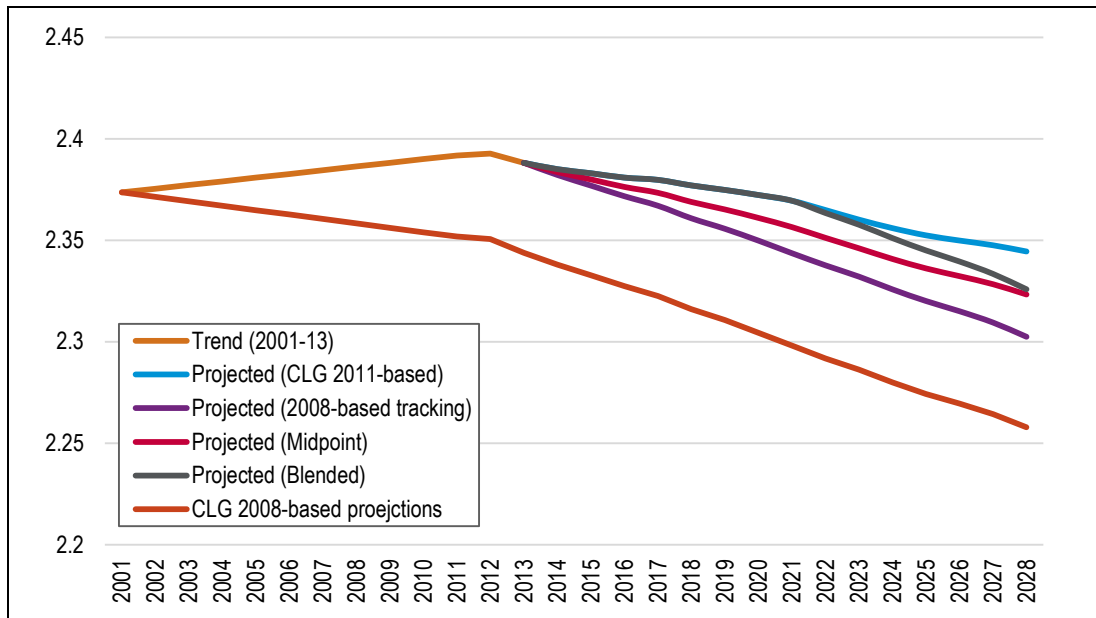Source: Derived from ONS data

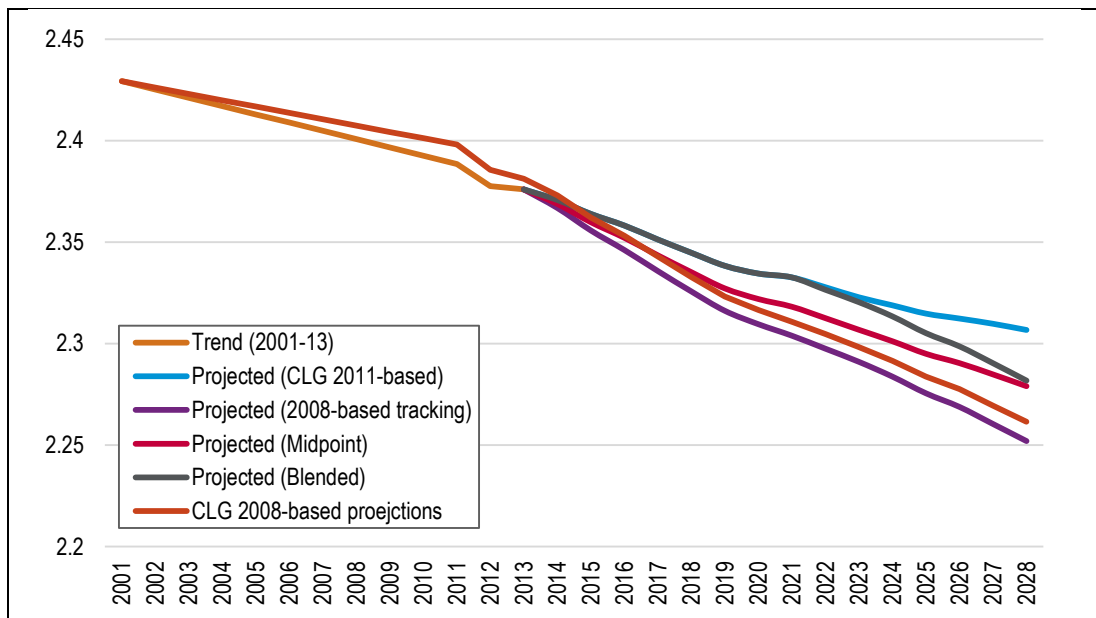**Figure 15: Past and projected trends in Average Household Size – Amber Valley**
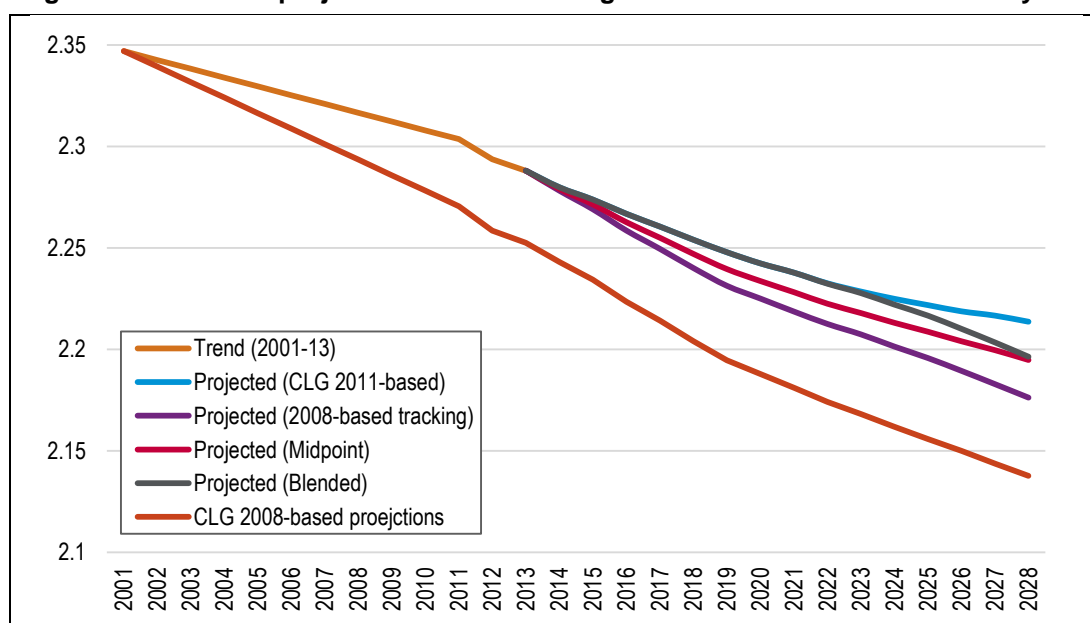
Source: Derived from ONS and CLG data

Figure 16: Past and projected trends in Average Household Size – Derby

Source: Derived from ONS and CLG data

Figure 17: Past and projected trends in Average Household Size – South Derbyshire

Source: Derived from ONS and CLG data

Table 20: **Projected household growth under different headship scenarios – Amber Valley**

		2011-based (extended)	Tracking 2008-based	Midpoint	Blended
Households	2011	52,656	52,656	52,656	52,656
	2013	53,434	53,434	53,434	53,434
	2018	55,542	55,888	55,715	55,542
	2023	57,622	58,173	57,898	57,642
	2028	59,279	60,297	59,788	59,744
Annual household growth	2011-13	389	389	389	389
	2013-18	422	491	456	422
	2018-23	416	457	436	420
	2023-28	331	425	378	420
Total growth		6,622	7,641	7,131	7,087
Per annum		390	449	419	417

Table 21: **Projected household growth under different headship scenarios – Derby**

		2011-based (extended)	Tracking 2008-based	Midpoint	Blended
Households	2011	102,356	102,356	102,356	102,356
	2013	103,535	103,535	103,535	103,535
	2018	107,817	108,557	108,187	107,817
	2023	111,903	113,251	112,577	112,023
	2028	115,881	117,996	116,938	116,809
Annual household growth	2011-13	590	590	590	590
	2013-18	856	1,004	930	856
	2018-23	817	939	878	841
	2023-28	796	949	872	957
Total growth		13,525	15,640	14,582	14,453
Per annum		796	920	858	850

Table 22: **Projected household growth under different headship scenarios – South Derbyshire**

		2011-based (extended)	Tracking 2008-based	Midpoint	Blended
Households	2011	39,100	39,100	39,100	39,100
	2013	40,209	40,209	40,209	40,209
	2018	42,988	43,340	43,164	42,988
	2023	45,552	46,185	45,868	45,599
	2028	47,675	48,834	48,254	48,196
Annual household growth	2011-13	554	554	554	554
	2013-18	556	626	591	556
	2018-23	513	569	541	522
	2023-28	424	530	477	519
Total growth		8,575	9,733	9,154	9,096
Per annum		504	573	538	535

Table 23:   **Household projections by household type (midpoint headship) – Amber Valley**

	2011	**2028**	**Average annual change**	**As % of total**	**Total change (%)**
One person households	14,836	18,491	215	51.3%	24.6%
A couple with no other adults	26,216	28,579	139	33.1%	9.0%
A couple with one or more other adults	5,490	4,560	-55	-13.0%	-16.9%
A lone parent (with or without other adults)	3,262	4,440	69	16.5%	36.1%
Other households	2,852	3,718	51	12.1%	30.3%
All households	52,656	59,788	419	100.0%	13.5%
Private household population	121,297	131,221	584	-	8.2%
Average household size (persons/household)	2.30	2.19	-	-	-

Table 24:   **Household projections by household type (midpoint headship) – Derby**

	2011	**2028**	**Average annual change**	**As % of total**	**Total change (%)**
One person households	32,092	39,124	414	48.2%	21.9%
A couple with no other adults	42,476	44,720	132	15.4%	5.3%
A couple with one or more other adults	11,204	11,601	23	2.7%	3.5%
A lone parent (with or without other adults)	9,066	11,984	172	20.0%	32.2%
Other households	7,519	9,509	117	13.6%	26.5%
All households	102,356	116,938	858	100.0%	14.2%
Private household population	244,816	271,682	1,580	-	11.0%
Average household size (persons/household)	2.39	2.32	-	-	-

Table 25:   **Household projections by household type (midpoint headship) – South Derbyshire**

	2011	**2028**	**Average annual change**	**As % of total**	**Total change (%)**
One person households	10,403	14,212	224	41.6%	36.6%
A couple with no other adults	20,161	23,411	191	35.5%	16.1%
A couple with one or more other adults	4,233	4,091	-8	-1.5%	-3.3%
A lone parent (with or without other adults)	2,484	3,908	84	15.6%	57.3%
Other households	1,820	2,632	48	8.9%	44.6%
All households	39,100	48,254	538	100.0%	23.4%
Private household population	93,391	109,973	975	-	17.8%
Average household size (persons/household)	2.39	2.28	-	-	-

Table 26: **Projected dwelling requirements under different headship scenarios – Amber Valley**

		2011-based (extended)	Tracking 2008-based	Midpoint	Blended
Dwelling growth	2011-13	812	812	812	812
	2013-18	2,203	2,564	2,383	2,203
	2018-23	2,172	2,387	2,280	2,193
	2023-28	1,730	2,219	1,975	2,196
Annual dwelling growth	2011-13	406	406	406	406
	2013-18	441	513	477	441
	2018-23	434	477	456	439
	2023-28	346	444	395	439
Total growth		6,917	7,982	7,450	7,404
Per annum		407	470	438	436

Table 27: **Projected dwelling requirements under different headship scenarios – Derby**

|		2011-based (extended)	Tracking 2008-based	Midpoint	Blended
Dwelling growth	2011-13	1,230	1,230	1,230	1,230
	2013-18	4,466	5,238	4,852	4,466
	2018-23	4,262	4,896	4,579	4,387
	2023-28	4,150	4,950	4,550	4,993
Annual dwelling growth	2011-13	615	615	615	615
	2013-18	893	1,048	970	893
	2018-23	852	979	916	877
	2023-28	830	990	910	999
Total growth		14,109	16,315	15,212	15,077
Per annum		830	960	895	887

Table 28: **Projected dwelling requirements under different headship scenarios – South Derbyshire**

		2011-based (extended)	Tracking 2008-based	Midpoint	Blended
Dwelling growth	2011-13	1,148	1,148	1,148	1,148
	2013-18	2,878	3,243	3,061	2,878
	2018-23	2,656	2,946	2,801	2,705
	2023-28	2,198	2,744	2,471	2,689
Annual dwelling growth	2011-13	574	574	574	574
	2013-18	576	649	612	576
	2018-23	531	589	560	541
	2023-28	440	549	494	538
Total growth		8,880	10,080	9,480	9,420
Per annum		522	593	558	554

APPENDIX B: Employment Rate Assumptions

B.1   With the change in demographic structure will come changes in the number of people who are working (as the population of people of working age changes). It is not however a simple task to convert population data into estimates into estimates of the number of people who will be working as employment rates are likely to change in the future for three main reasons:

- Changes to pensionable age will potentially see people working for longer and increase the proportion of older age groups who are in employment
- Moving out of recession there is likely to be a reduction in unemployment which would increase employment rates
- The general trend over the past decade has been for increased economic activity for many age groups (notably older people (both sexes) and females aged 25 and over). This trend may be expected to continue into the future

B.2   To study how employment rates might change in the future the analysis starts by looking at past trends in economic activity over the 2001-11 period from Census data. This analysis has been carried out at a national level (for England). The data shows the following key trends:

- Reducing economic activity rates for those aged 16-24 (particularly for males)
- No particular change in rates for males aged 25-49
- Increasing economic participation for males aged 50 and over
- Increasing participation rates for all female age groups from age 25 and upwards

B.3   The trends studied below are for economic activity rates although in this report the analysis is based on employment rates (which is the economically active population minus those who are unemployed). Ideally trends in employment rates would have been studied but this has proved difficult due to different definitions used in the 2001 and 2011 Census (relating to how students are recorded). For the purposes of analysis it is assumed that employment rate trends follow a similar pattern to economic activity rate trends.

Figure 18: Past trends and projected change to economic activity rates (national)
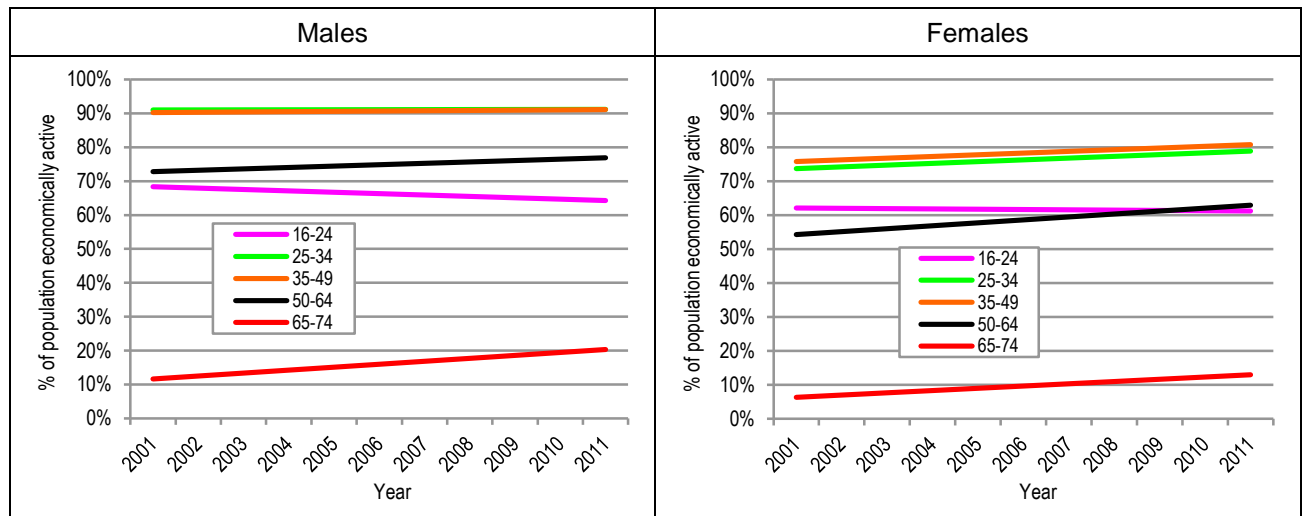

Source: Census (2001 and 2011)

B.4   To project these rates forward some of the reasons for these trends need to be considered. In particular the reduction in economic activity rates for people aged 16-24 is likely to some degree to be linked to an increase in students (which may not continue into the future) whilst some of the rapid increases for females are arguably unlikely to continue at the same rate as in the past.

B.5   To try to get a realistic view about how employment rates might change in the future an analysis of a national economic forecast (from Experian) and also the national (2012-based) population projections has been undertaken. Essentially the method used works on the basis that both the Experian forecasts and the population projections are correct and then models what level of change to employment rates would be required for both the population and the number of jobs to pan-out.

B.6   The figures below show the projected changes to employment rates for males and females through this modelling. It can be seen that for many age groups there are expected to continue to be increases in the future but that these improvements reduce over time. The figures in the charts are for employment rates (rather than economic activity as shown above) with the past trends being plotted in line with economic activity trends but to a different baseline in 2011 (which is informed by Census data).

Figure 19: Projected changes to employment rates (England) – males
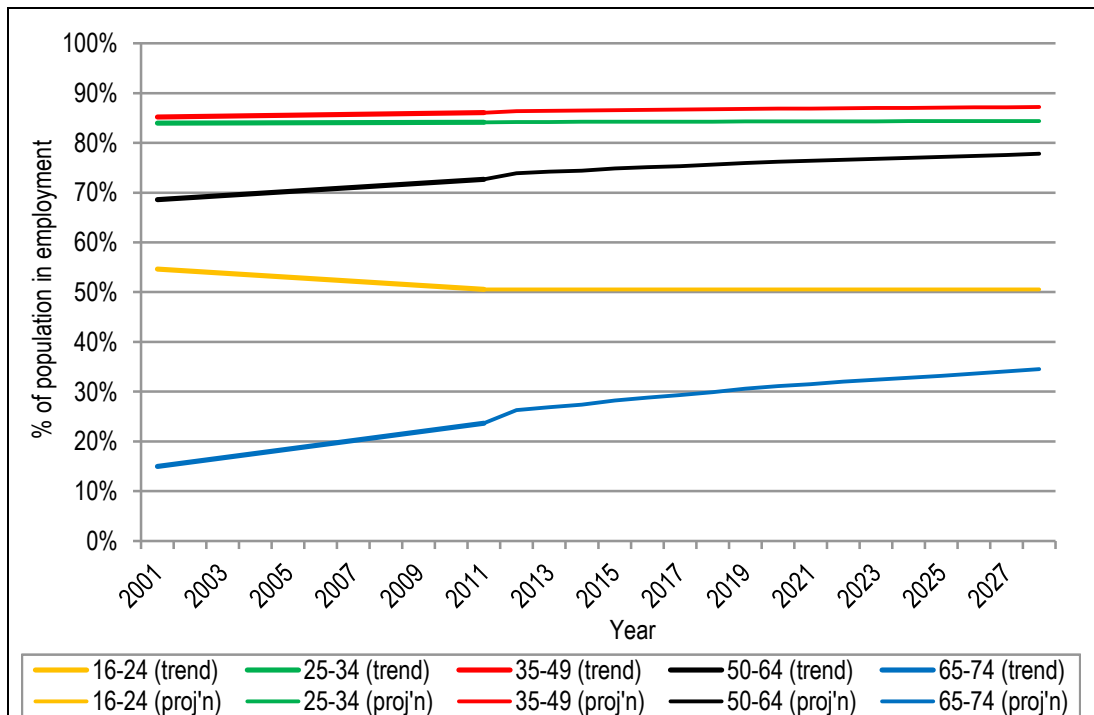
Source: Derived from Census, Experian and ONS national population projections

Figure 20: Projected changes to employment rates (England) – females
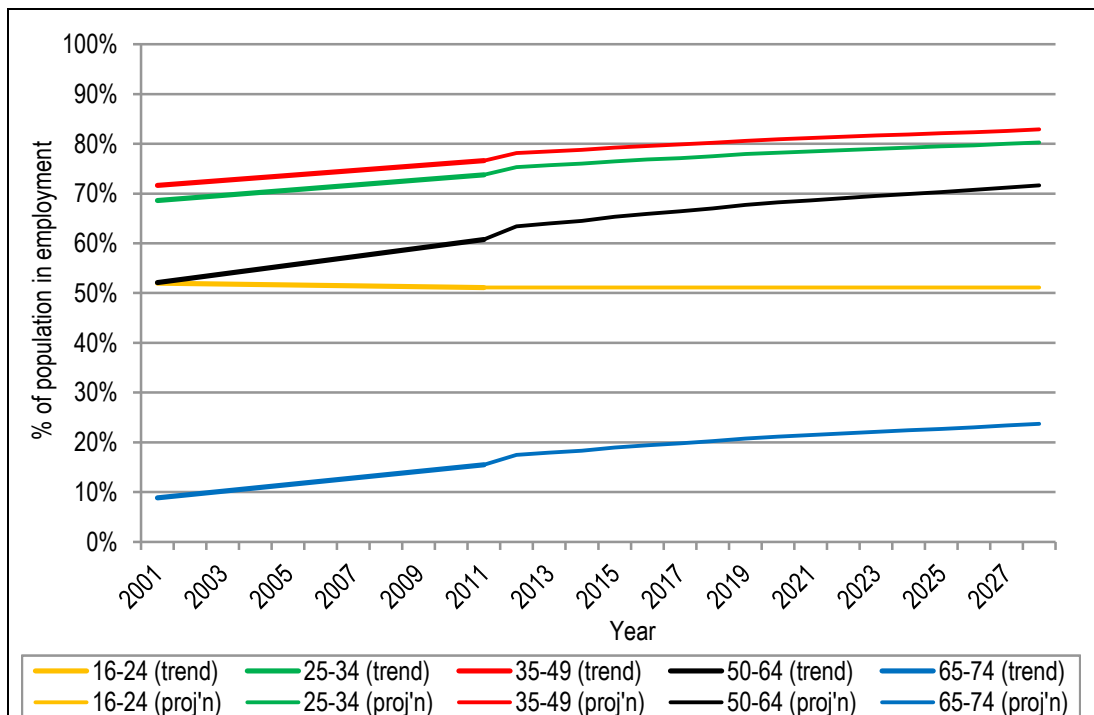

Source: Derived from Census, Experian and ONS national population projections

B.7   At the local area level the derived national data has been applied – using the incremental changes year-on-year and applied to a baseline 2011 position. The figure below shows (for Derby HMA) that

although actual employment rates in 2011 are different for some age/sex groups when compared with the national position the general trends seen over the past decade are quite similar. Hence is appears sound to use the national calculation for employment rates changes and apply this at the local level.
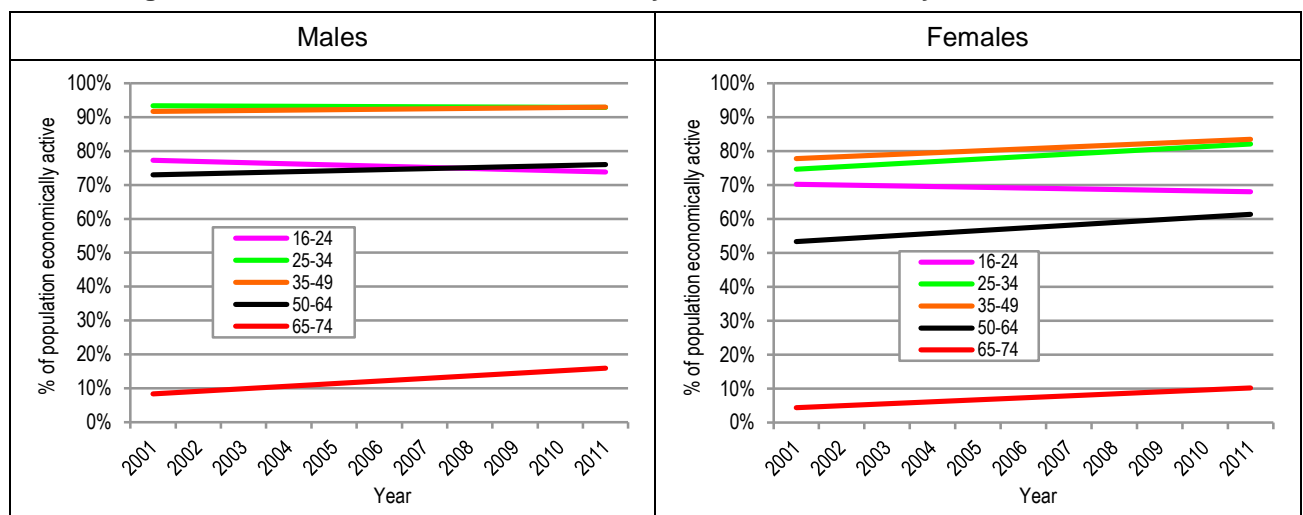
Figure 21: Past trends in economic activity rates – Derby HMA
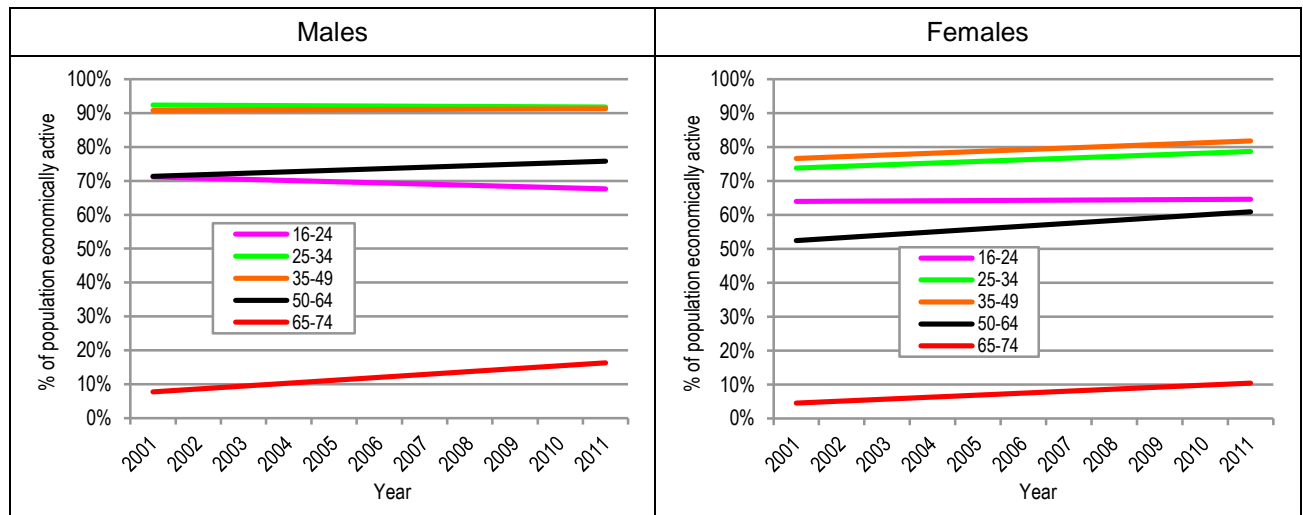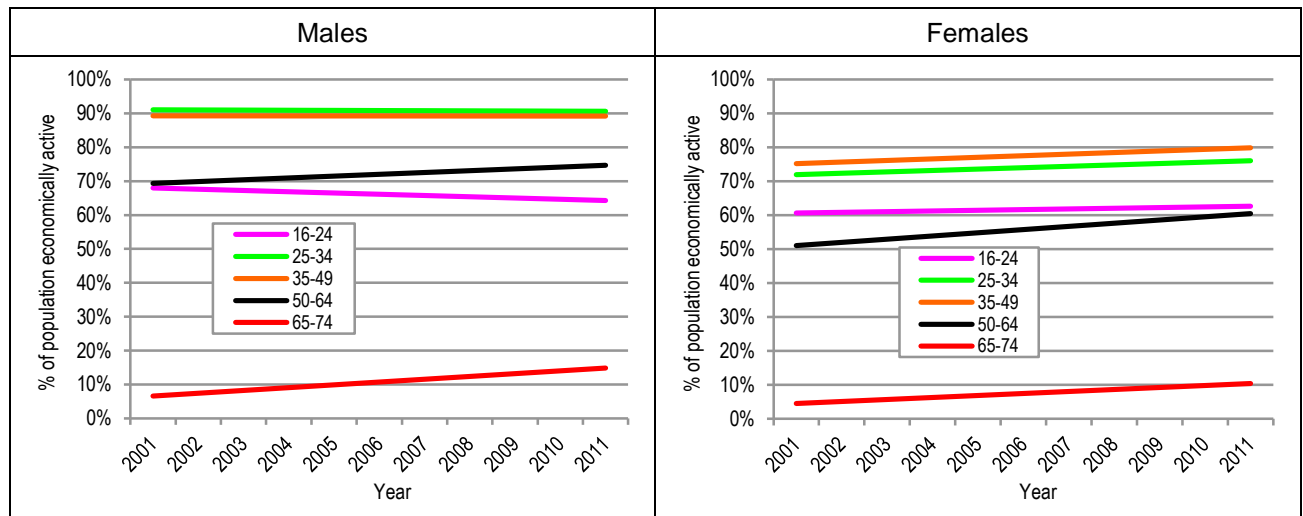

Source: Census (2001 and 2011)

B.8   Data for each of the individual local authorities also suggests that there is a close correlation with the observed national trends.

Figure 22: Past trends in economic activity rates – Amber Valley
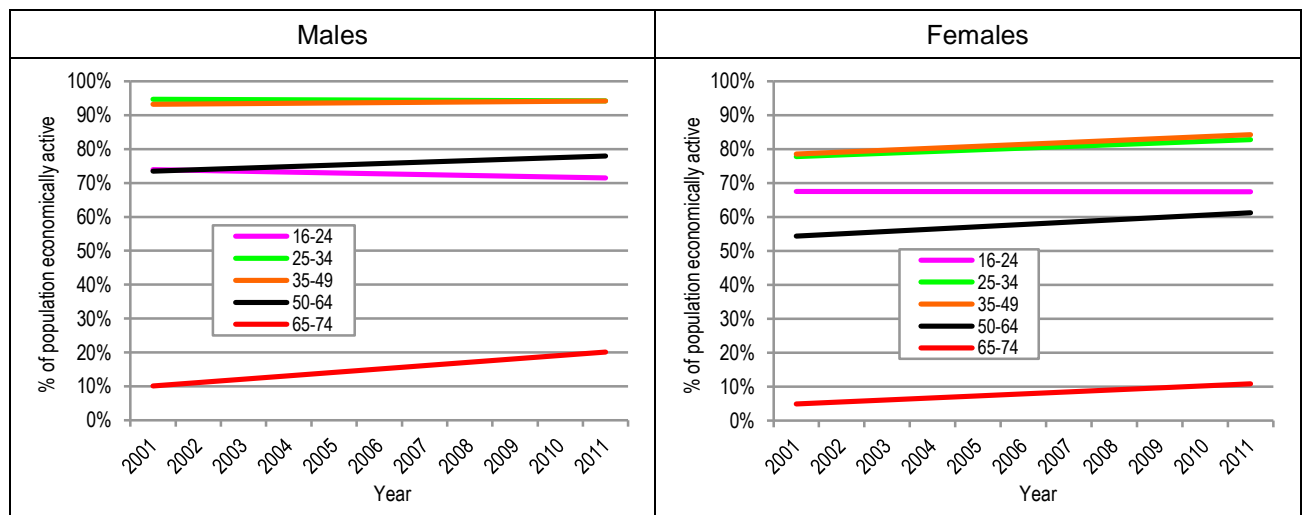

Source: Census (2001 and 2011)

Figure 23: Past trends in economic activity rates – Derby

Source: Census (2001 and 2011)

Figure 24: Past trends in economic activity rates – South Derbyshire

Source: Census (2001 and 2011)

B.9   The table below shows the employment rates used for modelling from 2013 to 2028. From the population modelling exercise it was estimated in mid-2013 that there were 225,571 people in employment with an employment rate for those aged 16-64 of 72.7% - due to the modelled improvement in rates this figure rises to 75.4% by 2028. Looking at the employment rate based on the population aged 16-74 sees a change from 65.7% to 68.0% whilst the rate calculated as a proportion of the total population aged 16 or over would actually be expected to fall slightly. Further tables below show the same data for each individual local authority.

Table 29: **Employment Rates by Age and Sex – Derby HMA**

Sex	Year	Aged 16 to 24	Aged 25 to 34	Aged 35 to 49	Aged 50 to 64	Aged 65 to 74
Male	2013	52.9%	84.5%	86.9%	73.6%	21.9%
	2028	52.6%	84.5%	87.5%	77.3%	29.6%
Female	2013	53.5%	75.5%	79.7%	62.3%	14.7%
	2028	53.2%	80.1%	84.1%	70.0%	20.5%

Source: Derived from a range of data sources (including Census, Experian and ONS national population projections)

Table 30: **Employment Rates by Age and Sex – Amber Valley**

Sex	Year	Aged 16 to 24	Aged 25 to 34	Aged 35 to 49	Aged 50 to 64	Aged 65 to 74
Male	2013	59.5%	86.1%	89.2%	74.2%	21.3%
	2028	59.5%	86.3%	90.0%	77.8%	28.9%
Female	2013	58.3%	79.3%	81.9%	62.8%	14.1%
	2028	58.3%	83.9%	86.3%	70.4%	20.0%

Source: Derived from a range of data sources (including Census, Experian and ONS national population projections)

Table 31: **Employment Rates by Age and Sex – Derby**

Sex	Year	Aged 16 to 24	Aged 25 to 34	Aged 35 to 49	Aged 50 to 64	Aged 65 to 74
Male	2013	48.5%	82.4%	83.5%	71.8%	20.2%
	2028	48.5%	82.6%	84.3%	75.4%	27.9%
Female	2013	50.2%	72.1%	77.1%	61.8%	14.7%
	2028	50.2%	76.6%	81.5%	69.4%	20.6%

Source: Derived from a range of data sources (including Census, Experian and ONS national population projections)

Table 32: **Employment Rates by Age and Sex – South Derbyshire**

Sex	Year	Aged 16 to 24	Aged 25 to 34	Aged 35 to 49	Aged 50 to 64	Aged 65 to 74
Male	2013	59.6%	89.1%	91.9%	76.9%	26.3%
	2028	59.6%	89.2%	92.7%	80.5%	33.9%
Female	2013	58.4%	81.6%	83.2%	62.9%	15.2%
	2028	58.4%	86.1%	87.6%	70.6%	21.1%

Source: Derived from a range of data sources (including Census, Experian and ONS national population projections)
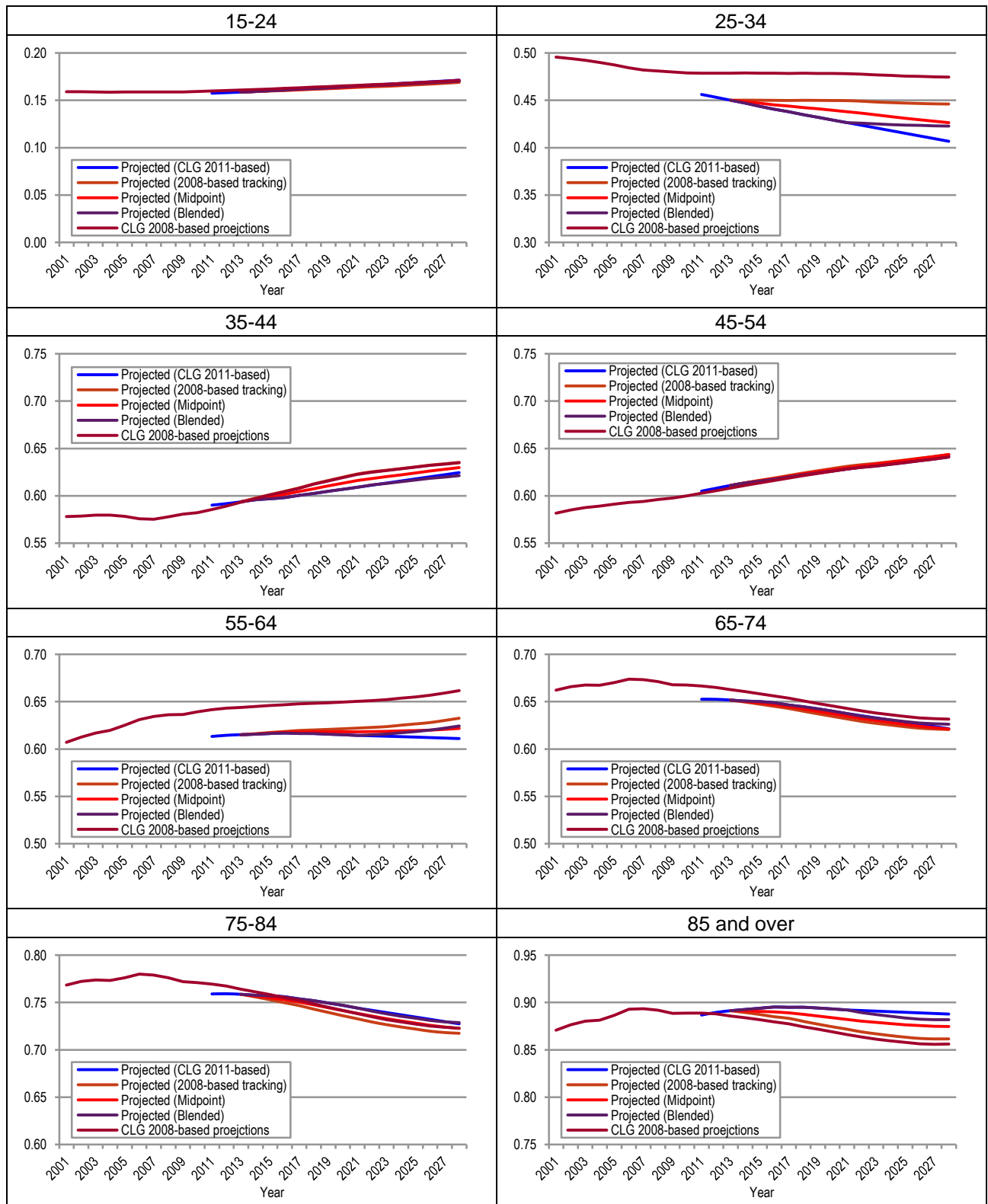
APPENDIX C: Headship Rates by Age

Figure 25:   Projected household formation rates by age of head of household – Amber Valley
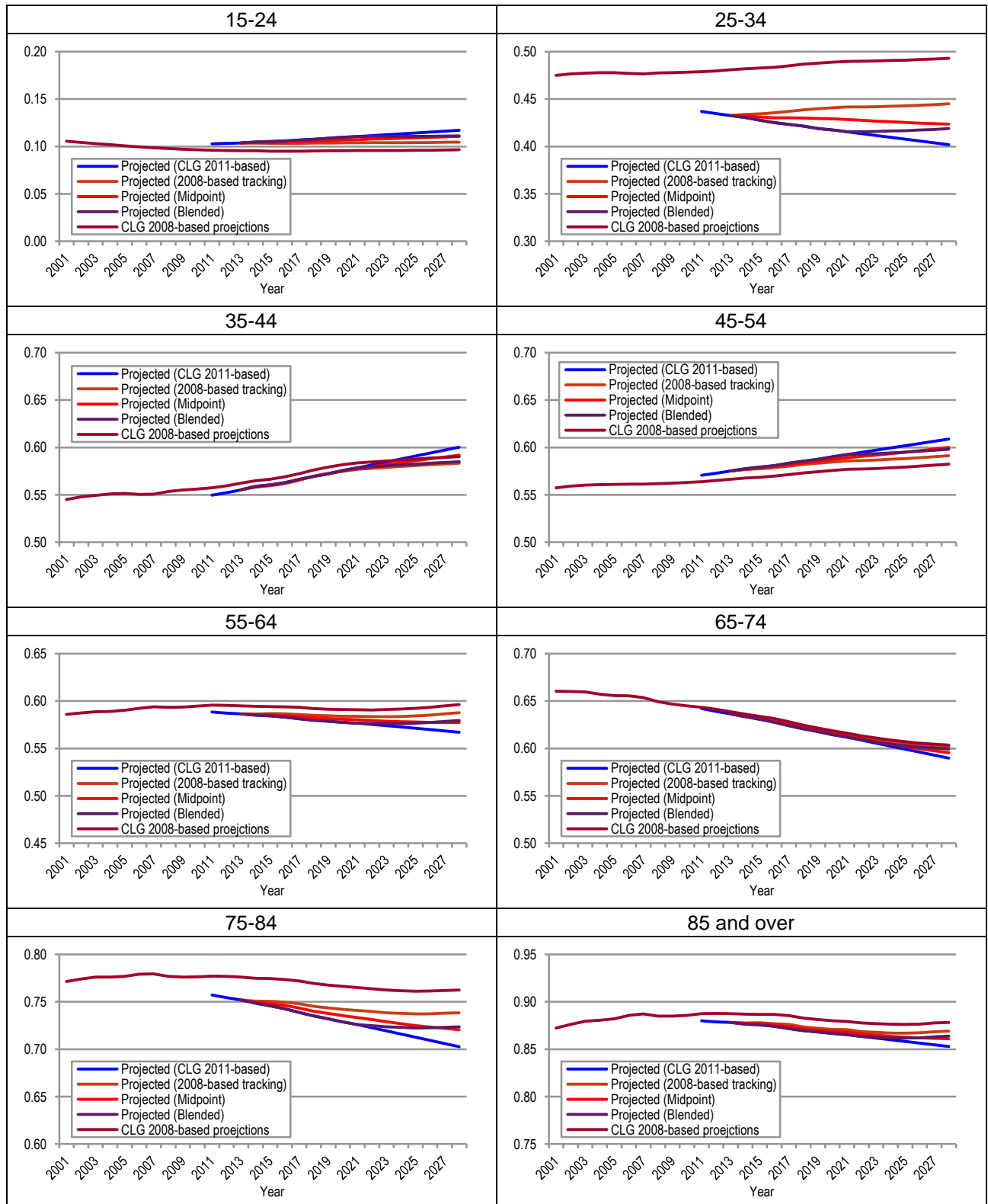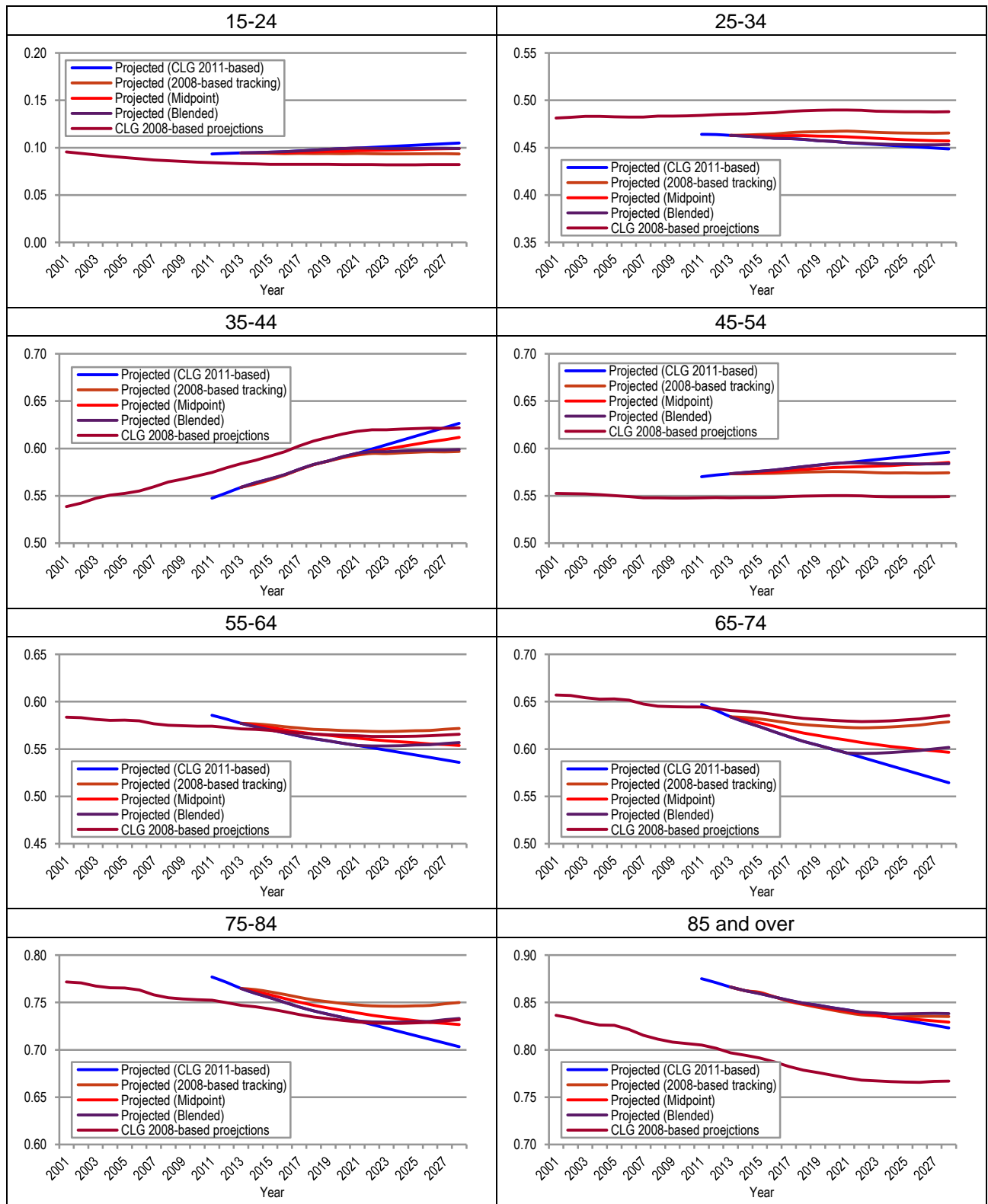

Source: Derived from CLG data

Figure 26:   Projected household formation rates by age of head of household – Derby

Source: Derived from CLG data

Figure 27: Projected household formation rates by age of head of household – South Derbyshire

Source: Derived from CLG data

APPENDIX D: Detailed Household Type Estimates

Table 33: **Detailed household types (2011-28) – midpoint headship – Derby HMA**

	2011	2028	Change	% change
One person households: Male	26,328	33,505	7,177	27.3%
One person households: Female	31,003	38,321	7,318	23.6%
One family and no others: Couple: No dependent children	53,530	60,809	7,279	13.6%
One family and no others: Couple: 1 dependent child	13,754	15,737	1,983	14.4%
One family and no others: Couple: 2 dependent children	15,179	14,021	-1,158	-7.6%
One family and no others: Couple: 3+ dependent children	6,389	6,144	-245	-3.8%
One family and no others: Lone parent: 1 dependent child	6,791	10,022	3,232	47.6%
One family and no others: Lone parent: 2 dependent children	4,294	5,855	1,562	36.4%
One family and no others: Lone parent: 3+ dependent children	1,957	2,709	753	38.5%
A couple and one or more other adults: No dependent children	15,262	15,141	-120	-0.8%
A couple and one or more other adults: 1 dependent child	3,235	2,633	-602	-18.6%
A couple and one or more other adults: 2 dependent children	1,605	1,585	-20	-1.2%
A couple and one or more other adults: 3+ dependent children	825	893	69	8.3%
A lone parent and one or more other adults: 1 dependent child	1,167	1,125	-42	-3.6%
A lone parent and one or more other adults: 2 dependent children	392	405	14	3.5%
A lone parent and one or more other adults: 3+ dependent children	213	215	3	1.2%
Other households	12,191	15,858	3,667	30.1%
TOTAL	194,113	224,980	30,868	15.9%