



GL Hearn

Derby HMA Housing Requirements Study

Appendix: Detailed Demographic Modelling

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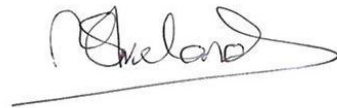
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26/09/12

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1 INTRODUCTION

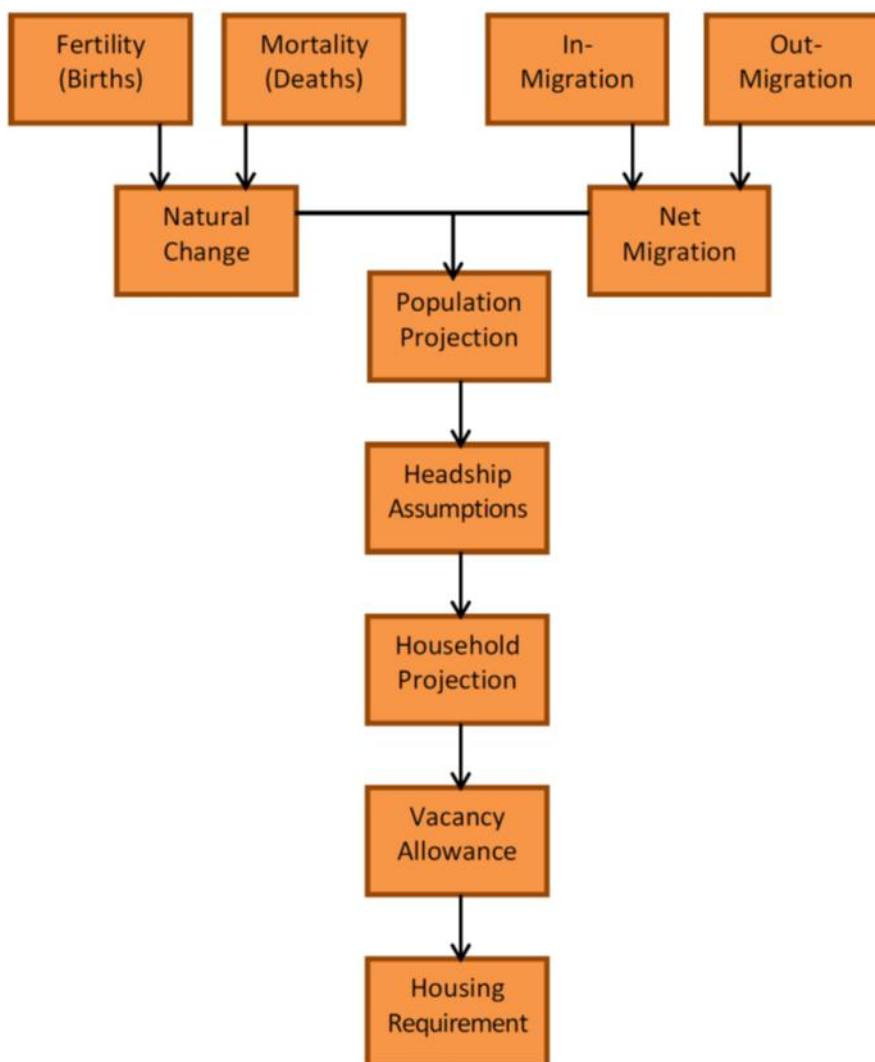
- 1.1 In the final section of the Housing Requirements Study (HRS) Report we set out a series of proposed assumptions to inform modelling of future population, household and dwelling growth. In this appendix we have built on the assumptions to develop the projections. The note largely repeats the detail in the HRS Report but with added information about the exact assumptions used where relevant.
- 1.2 Initially the aim was to run our assumptions through the County Council's POPGROUP model. However some of the outputs derived from the POPGROUP model did not tally with what might be expected. A comparative assessment was undertaken running assumptions from the ONS 2010-based Sub-National Population Projections (SNPP) through the POPGROUP model and comparing this against the published modelling results. This resulted in some anomalous results with some notable differences in the population age and sex outputs when compared with the published 2010-based SNPP data. We have therefore used our own model to assess likely future housing requirements based on the assumptions set out in the Housing Requirements Report. This approach was agreed with the commissioning authorities.
- 1.3 The model used for analysis has been developed by Justin Gardner Consulting and is based on standard demographic projection principles. Population projections have been computed using the cohort survival method. The cohort survival method uses three components -births, deaths and migration. The projected number of births and deaths determines the natural increase of a population, migration (net) accounts for additional population changes.
- 1.4 To ensure consistency with published population projections (by ONS) the model starts by calibrating all components of population change with those contained in the 2010-based SNPP. This includes a 'consolidation' factor which is used by ONS to ensure that subnational projections figures exactly add up to the 2010-based National Population Projections.
- 1.5 By matching the ONS assumptions we are able to derive baseline rates for each of fertility, mortality and migration (by age and sex and for different components of migration). Essentially the calibration exercise means that if ONS assumptions are input into the model then the outputs are exactly the same as in published projections. From this we are then able to test different scenarios such as higher or lower levels of in- and out-migration with adjustments made retaining the profile shown in the 2010-based SNPP. For example if we assume in-migration to be 10% lower than shown in the SNPP then migration levels for all age/sex groups will be assumed to be 10% lower.
- 1.6 The model can also be used to change age specific rates (e.g. to bias migration towards certain age groups) although as noted in the main Housing Requirements Study Report we do not feel that there is sufficient evidence available for this to be robustly justified.

- 1.7 From the population projection outputs we are then able to apply employment and headship rates on a year-by-year basis. This includes taking account of potential changes due to economic recovery and household formation rates. Again the model allows for these to be adjusted to test different scenarios although for the purposes of these projections we have used our suggested figures as derived in the Housing Requirements Report (and provided in more detail in this document).

2 PROJECTION METHODOLOGY

2.1 The first thing we need to establish is the current population and how will this change in the period from 2008 to 2028. This will require us to work out how likely it is that women will give birth (the fertility rate); how likely it is that people will die (the death rate) and how likely it is that people will move into or out of each local authority area. These are the principal components of population change and are used to construct our population projections. The figure below shows the key stages of the projection analysis through to the assessment of housing requirements.

Figure 1: Overview of Methodology

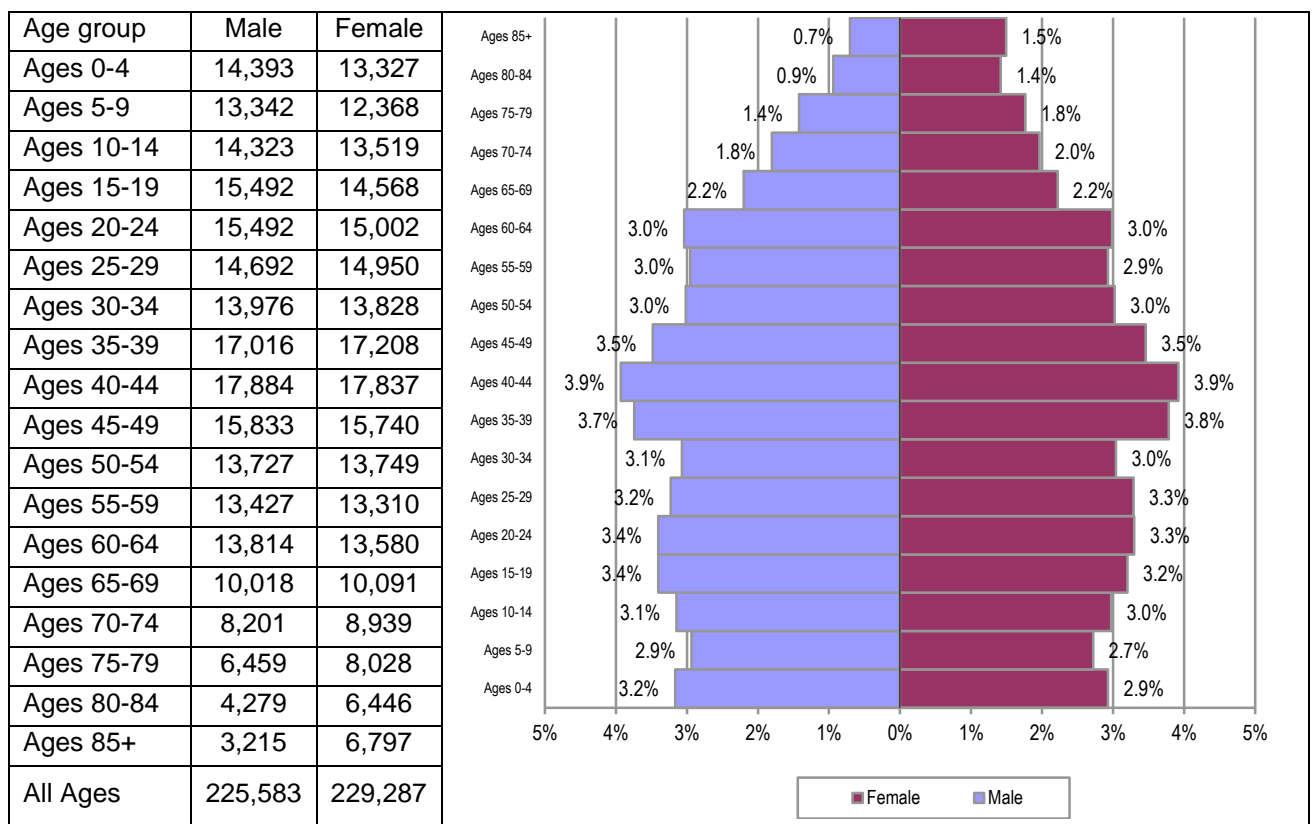


2.2 The projection itself technically runs from 2010 to 2028 with figures for 2008, 2009 and 2010 being fixed by reference to ONS adjusted mid-year population estimates.

3 BASELINE POPULATION

3.1 The baseline for our projections is taken to be 2008 with the projection run for each year over the period up to 2028. As noted, population figures for 2008, 2009 and 2010 have been fixed by reference to amended mid-year population estimates published by ONS in November 2011. The overall population in 2008 was estimated to be 454,870 with slightly more females than males. Estimated populations in each of the three local authorities were: Amber Valley – 120,952; Derby – 242,025 and South Derbyshire – 91,893.

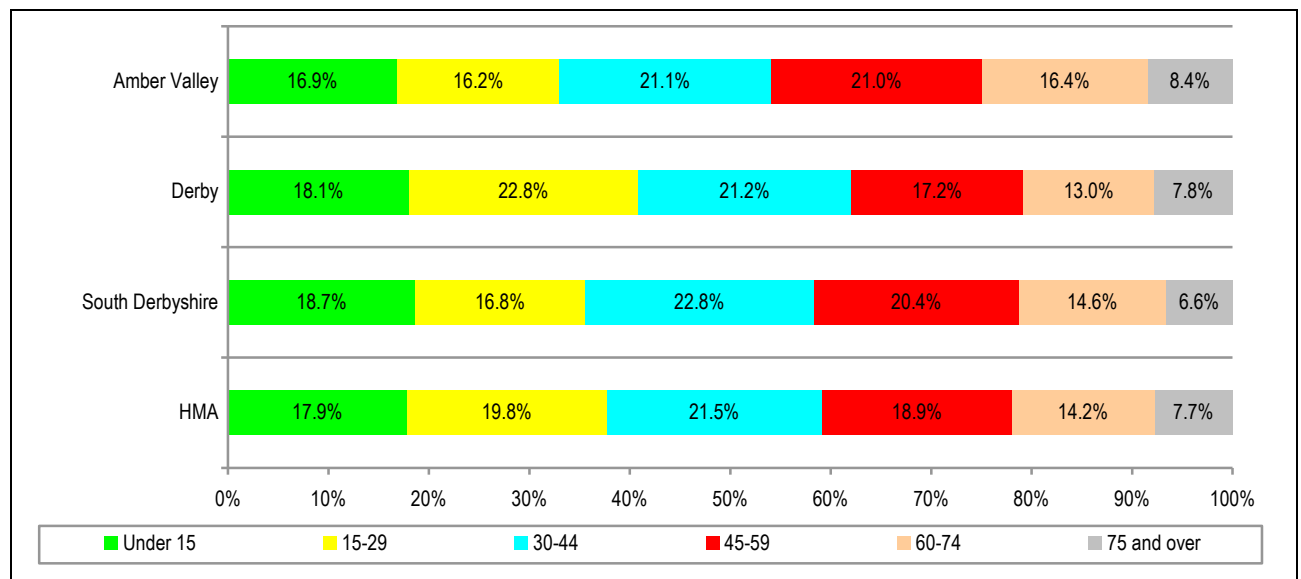
Figure 2: Population of Derby HMA (5 year age bands) - 2008



Source: Derived from ONS data

3.2 The population profile is however different in each of the three local authority areas and the figure below shows the population profile in each area presented in broad 15-year age bands. The data shows that Amber Valley has a particularly ‘old’ population with the population of Derby being younger. An estimated 24.8% of people in Amber Valley were aged 60 or over compared with just 20.8% in Derby. Derby has a particularly high proportion of the population aged 15 to 29.

Figure 3: Local Authority Age Profile (2008)



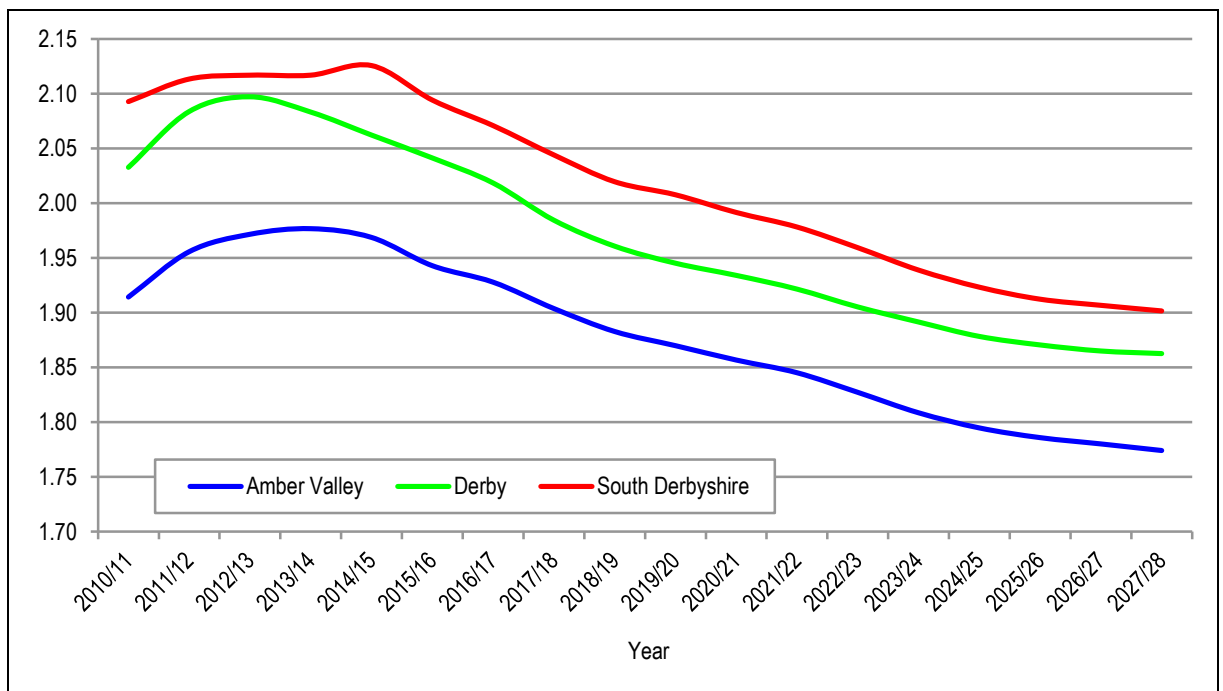
Source: Derived from ONS data

4 FERTILITY RATE ASSUMPTIONS

4.1 The latest Sub-National Population Projections (SNPP) (2010-based) project changes in fertility in each of the three authorities. They indicate short-term increases in fertility but with fertility declining over the longer-term. The expected trends in each local authority are similar those expected nationally.

4.2 We do not believe that there is a strong case to suggest that fertility rates will differ much from those set out in the 2010 SNPP based on current evidence. We would therefore recommend that the assumptions on future fertility trends within the 2010 SNPP are applied. These are shown in the figure below.

Figure 4: Change in Total Fertility Rate



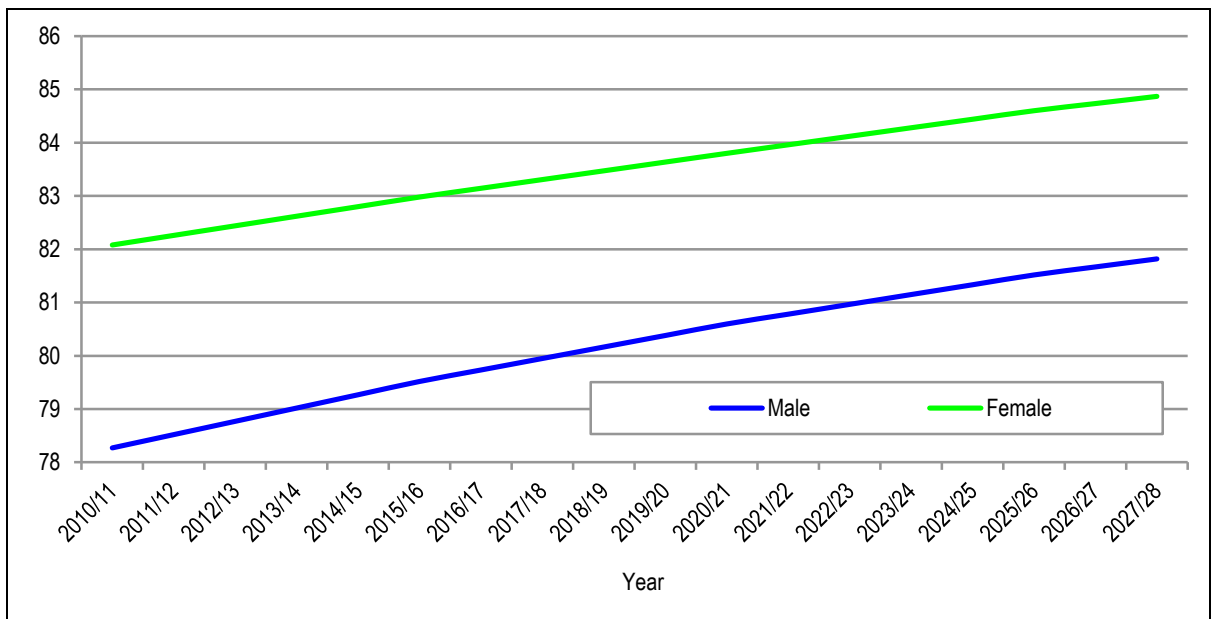
Source: ONS

5 MORTALITY

5.1 Mortality is modelled using life tables which relate to levels/ trends in life expectancy. Life expectancy in the three authorities is similar; and the 2010-based SNPP projects that these will improve over time at a similar rate to expected national trends. The differences in life expectancy between men and women are expected to converge over time.

5.2 Again we do not believe that there is a strong case to suggest that mortality rates will differ notably from those set out in the 2010 SNPP based on current evidence. We would therefore recommend that the assumptions on future mortality trends within the 2010 SNPP are applied. For the whole of Derby HMA the estimated life expectancy is shown in the figure below although it should be noted that in our modelling we have used the rates derived for each individual local authority.

Figure 5: Modelled Change in Life Expectancy – Derby HMA



Source: ONS

6 MIGRATION

- 6.1 Forecasting future migration is much more difficult: there is significant variance in migration levels year-on-year and it is difficult to accurately predict future trends.
- 6.2 The analysis of economic prospects undertaken in the main report indicates that economic performance moving forward could (theoretically) result in some moderation of migration levels relative to the past. However migration flows are biased towards those of working age and the link over the last few years between economic performance and migration has not been that linear (particularly in Derby). Furthermore there is considerable uncertainty regarding long-term economic prospects which feeds through into a considerable error margin which needs to be attached to economic forecasts.
- 6.3 On the basis of the balance of evidence we consider that greater weight should be attached to past demographic information. We address migration in each of the three authorities in turn.

Derby

- 6.4 In-migration to Derby has varied from 11,900 – 12,800 per annum between 2003/4 and 2009/10 with the range of out-migration narrower, 11,300 – 11,800 per annum. This has resulted in net migration of between 200-1,400 persons per annum (figures to the nearest 100). Net in-migration has been driven by a net inflow of international migrants, and a modest net outflow to other parts of the UK.
- 6.5 International in-migration is strongly focused towards economically active persons. In the future it can be expected to be influenced by student growth and the availability of employment opportunities. It seems reasonable to assume that international migration to Derby will continue; however we find it difficult to support the assumptions in the ONS SNPP that from 2011/12+ international in-migration of 2,770 (which between 2003-10 has only been exceeded in 2004/5) and out-migration of just 660 (below the level seen in any year between 2003-10) will occur. In policy terms it does not make sense to plan for this either, given the existing local latent labour force.
- 6.6 On this basis we recommend planning on the basis of international in-migration of [2,500] and out-migration of [1,030]. These are average levels experienced between 2005/6 – 2009/10. It is recommended that these are held constant throughout the projection period (2010 to 2028). This approach is broadly consistent with that taken by ONS in the 2010-based SNPP which hold international migration levels constant for the majority of this projection period.

- 6.7 We consider that the level of domestic migration will be influenced by a number of factors including housing supply, changes in the student population and job creation. It seems reasonable to assume that with a growing population and land supply constraints, out-migration may increase over time (as is suggested in the 2010-based SNPP).
- 6.8 Past trends in internal migration suggest that over time the gap between in- and out-migration has been widening with a general increase in levels of net out-migration and in the future we would expect this trend to continue as the population of both Derby and a wider area (to include the whole of the UK for example) grows. In other words as the population of the UK grows we would expect more people (in gross terms) to move to Derby but at the same time as the population of Derby grows we would expect more people to out-migrate. Given that the number of internal out-migrants is in excess of the number of in-migrants we would generally expect this gap to widen.
- 6.9 To take a start point for internal migration we have looked at trends over the past seven years. From this we conclude that a reasonable start position (mid-2010) would be to assume gross in-migration of 9,800 people per annum along with gross out-migration of about 10,600. Over a long-term period from 2010 to 2028, taking account of population growth in a wider area we might expect these figures to increase to 10,400 and 12,000 by 2028 respectively (changes consistent with the 2010-based SNPP). We recommend that this change in migration levels is modelled in line with figures from the 2010-based SNPP which is not linear over time.
- 6.10 As noted in the main Housing Requirements report levels of cross-border migration (both to and from Derby) are relatively slight and for the purposes of running a projection we suggest that figures within the 2010-based SNPP would be reasonable to assume moving forward.
- 6.11 There are also issues around the age structure of migration which may in part be influenced by issues such as the educational offer (students) and employment prospects. We do not have sufficient information to strongly suggest any alternative age profile to that in the 2010-based SNPP and would note that when getting down to this level of detail there will be issues around the accuracy of data feeding into the ONS model. It should however be noted in applying alternative levels of in- and out-migration into a demographic model that the age profile will also change (in net terms). We suggest that in applying different migration assumptions that the age/sex profile is adjusted on a proportionate basis (i.e. if the assumption shows a figure of say 10% below the ONS SNPP position then it should be assumed that 10% fewer migrants will fall into each age/sex band).

6.12 To conclude we recommend modelling the following migration patterns in Derby

Figure 6: Assumptions for international migration in Derby City

	In-migration	Out-migration	Net migration
2010/11	2,500	1,030	+1,470
2027/28	2,500	1,030	+1,470

Figure 7: Assumptions for internal migration in Derby City

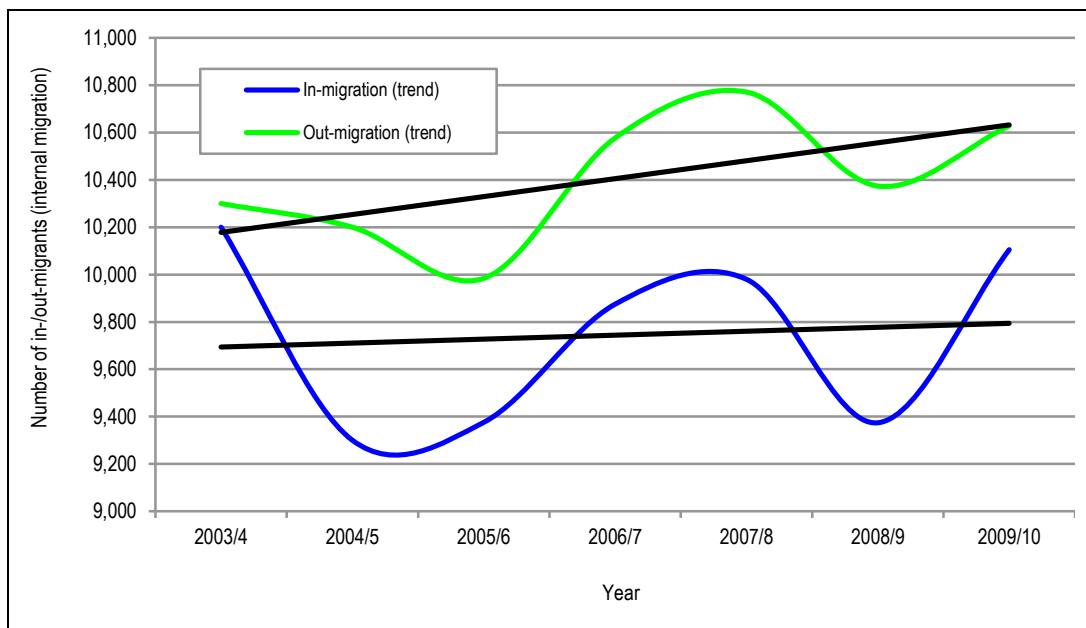
	In-migration	Out-migration	Net migration
2010/11	9,800	10,600	-800
2027/28	10,400	12,000	-1,600

Figure 8: Assumptions for cross-border migration in Derby City

	In-migration	Out-migration	Net migration
2010/11	As in 2010-based SNPP	As in 2010-based SNPP	As in 2010-based SNPP
2027/28	As in 2010-based SNPP	As in 2010-based SNPP	As in 2010-based SNPP

6.13 The start point for the internal migration levels can be justified by studying the trends in migration over the past seven years. By drawing a linear trend line through each of in- and out-migration we can see that in 2010 the start points would be as shown in the table above.

Figure 9: Derby City – Internal migration trends



Source: ONS

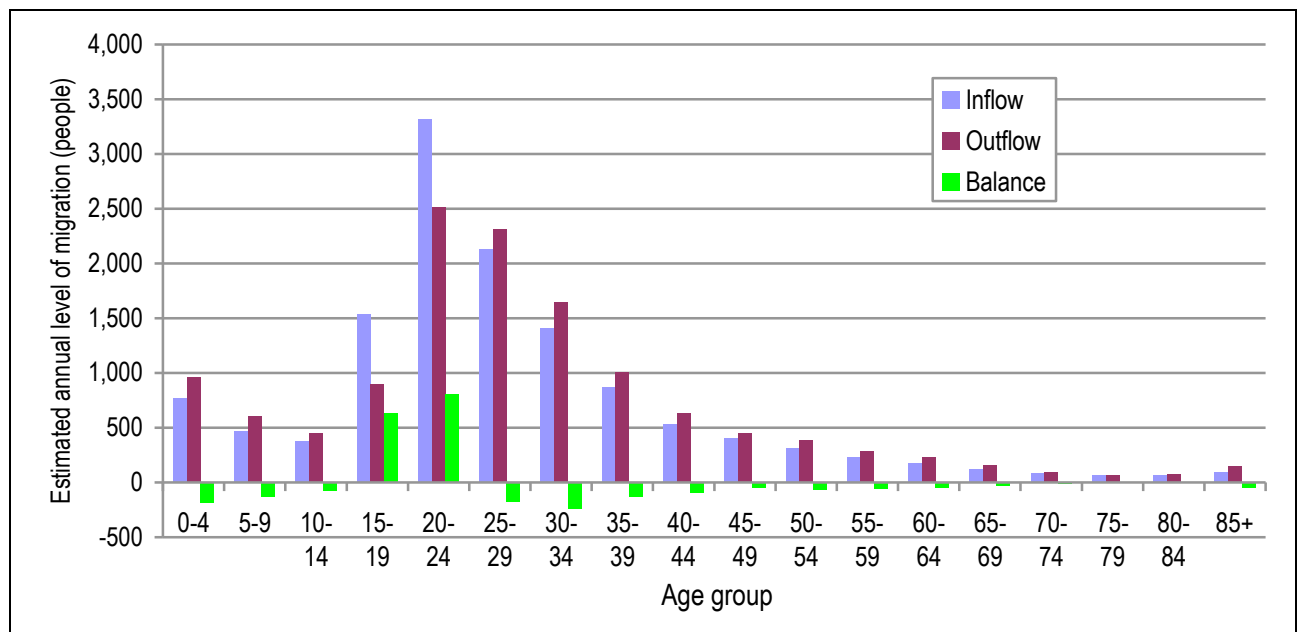
6.14 The detailed levels of in- and out-migration by component used in the analysis are summarised in the table below.

Figure 10: Derby City - Detailed Migration Figures used for Projection

Period	Internal in-	Internal out-	Cross-border in-	Cross-border out-	Inter-national in-	Inter-national out-	Total in-	Total out-
2010/11	9,800	10,600	411	421	2,500	1,030	12,711	12,051
2011/12	9,835	10,759	405	427	2,500	1,030	12,741	12,216
2012/13	9,871	10,895	399	433	2,500	1,030	12,770	12,358
2013/14	9,906	11,012	393	438	2,500	1,030	12,799	12,480
2014/15	9,941	11,107	393	438	2,500	1,030	12,834	12,575
2015/16	9,976	11,217	393	438	2,500	1,030	12,869	12,686
2016/17	10,012	11,311	393	438	2,500	1,030	12,905	12,779
2017/18	10,047	11,411	393	438	2,500	1,030	12,940	12,879
2018/19	10,082	11,512	393	438	2,500	1,030	12,975	12,980
2019/20	10,118	11,606	393	438	2,500	1,030	13,011	13,075
2020/21	10,153	11,688	393	438	2,500	1,030	13,046	13,157
2021/22	10,188	11,740	393	438	2,500	1,030	13,081	13,208
2022/23	10,224	11,785	393	438	2,500	1,030	13,116	13,253
2023/24	10,259	11,823	393	438	2,500	1,030	13,152	13,291
2024/25	10,294	11,861	393	438	2,500	1,030	13,187	13,329
2025/26	10,329	11,908	393	438	2,500	1,030	13,222	13,376
2026/27	10,365	11,952	393	438	2,500	1,030	13,258	13,421
2027/28	10,400	11,993	393	438	2,500	1,030	13,293	13,461

6.15 As noted above, for the purposes of understanding the profile of migrants we have drawn on the ONS 2010-based sub-national population projections with figures for each component of migration being adjusted in line with the figures in the table above. Below we have provided details of the overall age structure of migration used in the analysis (shown as an annual average for the period from 2010 to 2028).

Figure 11: Derby City – Estimated annual level of net migration by five year age band (2010-2028)



Source: Derived from ONS 2010-based population projections

Amber Valley

- 6.16 Net migration to Amber Valley is primarily of family households (with notable in-migration of those in their 30s and early 40s) although there is also some movement of older households into the area as well. There is substantial net in-migration to the District from Derby.
- 6.17 As discussed in the main HRA report the vast majority of migration movement to and from Amber Valley is from other parts of England with very little international or cross-border migration. For this reason we have carried out migration modelling for the population as a whole (essentially merging data for each of internal, international and cross-border migration into one group). Such an approach will not undermine the figures given that in gross terms migration other than internal only makes up about 5% of all population movement.
- 6.18 In Amber Valley there are a consistently higher proportion of in-migrants when compared with out-migrants (i.e. net in-migration). Given expected population increase in Amber Valley (and other areas) we would expect levels of both in- and out-migration to increase in the future (as indeed is projected in the 2010-based SNPP) and we recommend that analysis of future migration patterns broadly track those in the SNPP. However, analysis of the SNPP compared with past trends suggests that the start points for both in- and out-migration are somewhat at odds with what we might expect and hence we suggest a rebasing of figures for migration in 2010/11 to take account of these trends.

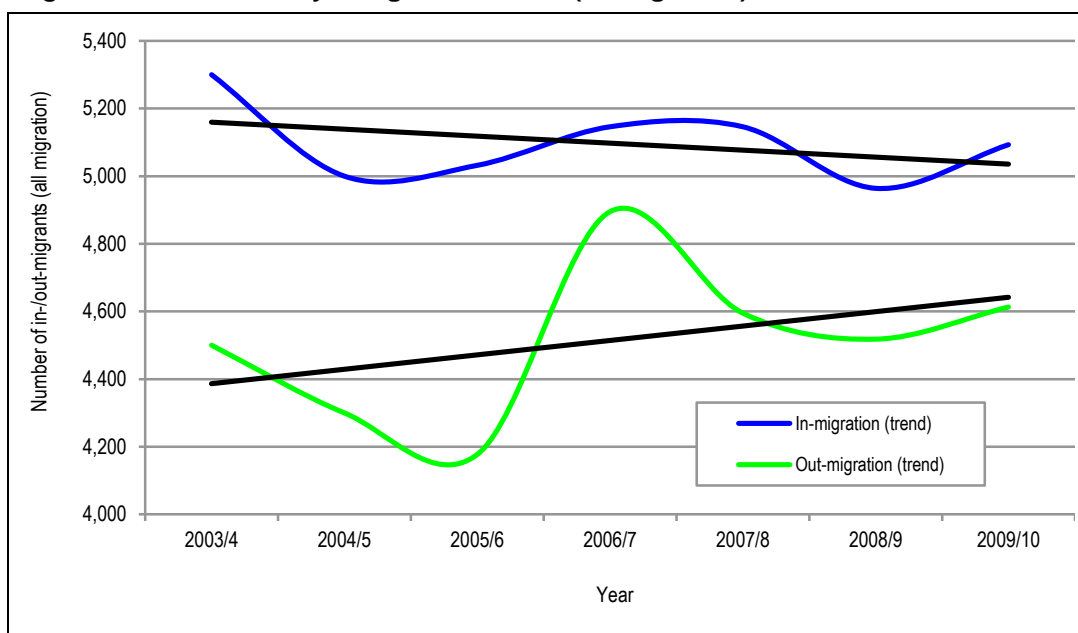
6.19 As shown in the figure below we would recommend for the purposes of modelling future change that in 2010/11 in migration is assumed to be around 5,040 with an out-migration of 4,640. By 2027/28 these figures might be expected to increase to 5,560 and 4,850 respectively. Again we recommend that migration changes are modelled broadly in line with SNPP assumptions which mean that changes in migration levels are not linear over time.

Figure 12: Assumptions for all migration in Amber Valley

	In-migration	Out-migration	Net migration
2010/11	5,040	4,640	+400
2027/28	5,560	4,850	+710

6.20 The start point for the migration levels can be justified by studying the trends in migration over the past seven years. By drawing a linear trend line through each of in- and out-migration we can see that in 2010 the start points would be as shown in the table above.

Figure 13: Amber Valley – Migration trends (all migration)



Source: ONS

6.21 As with Derby we do not have any strong evidence to support a fundamental change in the age/sex structure of migrants in Amber Valley from that which is suggested in the 2010-based SNPP. We would however recommend that any adjustments from the ONS position are treated proportionately across all age/sex groups.

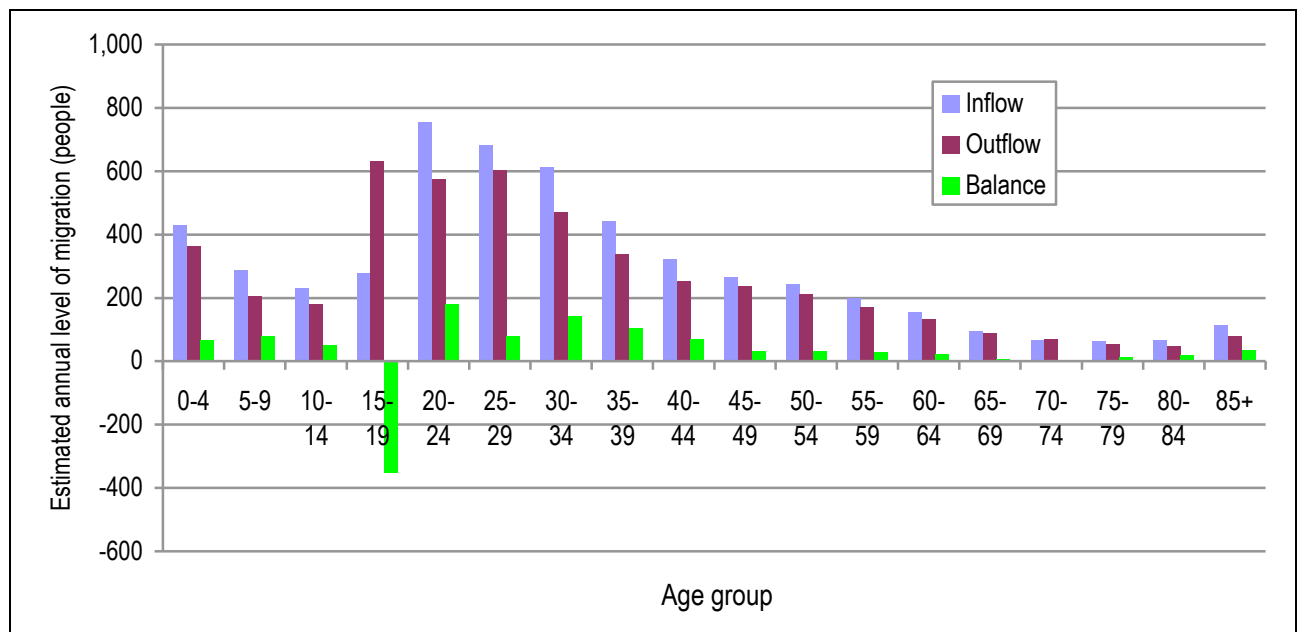
6.22 The detailed levels of in- and out-migration by component used in the analysis are summarised in the table below.

Figure 14: Amber Valley – Detailed Migration Figures used for Projection

Period	Internal in-	Internal out-	Cross-border in-	Cross-border out-	Inter-national in-	Inter-national out-	Total in-	Total out-
2010/11	4,749	4,401	131	144	160	95	5,040	4,640
2011/12	4,755	4,361	128	144	188	115	5,071	4,621
2012/13	4,788	4,361	125	146	188	116	5,101	4,623
2013/14	4,821	4,363	123	147	188	117	5,132	4,627
2014/15	4,851	4,374	123	147	188	118	5,162	4,639
2015/16	4,882	4,387	123	147	188	120	5,193	4,654
2016/17	4,913	4,390	123	147	188	122	5,224	4,659
2017/18	4,943	4,401	123	147	188	122	5,254	4,670
2018/19	4,973	4,411	123	147	188	122	5,285	4,680
2019/20	5,003	4,405	123	147	188	123	5,315	4,675
2020/21	5,033	4,419	124	148	189	123	5,346	4,689
2021/22	5,063	4,435	124	148	189	123	5,376	4,706
2022/23	5,093	4,456	124	148	190	124	5,407	4,728
2023/24	5,123	4,488	125	149	190	124	5,438	4,760
2024/25	5,153	4,510	125	149	191	124	5,468	4,783
2025/26	5,183	4,534	125	149	191	124	5,499	4,807
2026/27	5,213	4,557	125	149	191	125	5,529	4,831
2027/28	5,243	4,575	125	150	191	125	5,560	4,850

6.23 As noted above, for the purposes of understanding the profile of migrants we have drawn on the ONS 2010-based sub-national population projections with figures for each component of migration being adjusted in line with the figures in the table above. Below we have provided details of the overall age structure of migration used in the analysis (shown as an annual average for the period from 2010 to 2028).

Figure 15: Amber Valley – Estimated annual level of net migration by five-year age band (2010-2028)



Source: Derived from ONS 2010-based population projections

South Derbyshire

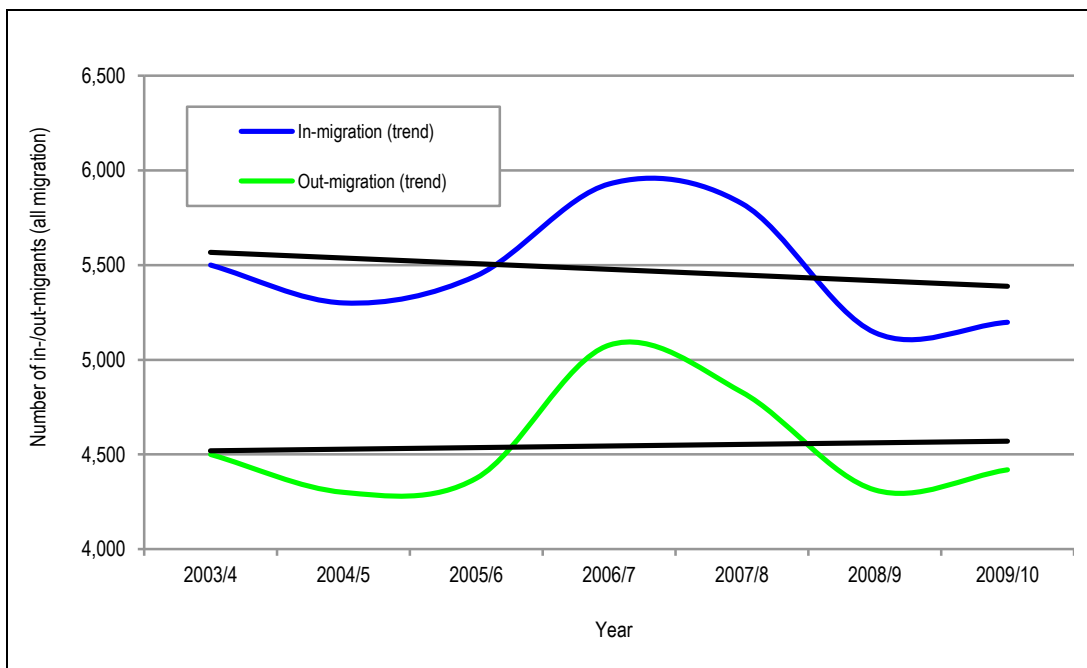
- 6.24 South Derbyshire has clearly experienced high net in-migration over the last decade, in part influenced by strong housing supply. Net migration has varied over time, albeit that the recent trend is downward – likely partly influenced by recent reductions in new housing delivery. We consider that it is realistic to assume that migration may therefore remain somewhat moderate in the short-term.
- 6.25 As with Amber Valley, levels of international and cross-border migration are relatively low when compared with internal migration figures and so we have treated the migration component of the projection as a single category including all three of these sources of migration.
- 6.26 Looking at trends over the past seven years we conclude that as of 2010/11 it would be reasonable to have a start point with in-migration at 5,400 people per annum and out-migration at 4,570 (net migration of 830 people). Over the longer-term we would expect both in- and out-migration to increase (due to a growing population) and this is also the position taken in the 2010-based SNPP. As with other areas we consider the SNPP assumptions to be the most realistic in terms of projecting forward but believe that a slightly different start point for migration (in 2010/11) should be taken to reflect recent trends. The table below shows our migration assumptions for modelling at the start and end of the projection period. As with other areas it should be noted that these changes are not linear over time.

Figure 16: Assumptions for all migration in South Derbyshire

	In-migration	Out-migration	Net migration
2010/11	5,400	4,570	+830
2027/28	6,000	5,290	+710

6.27 The start point for the migration levels can again be justified by studying the trends in migration over the past seven years. By drawing a linear trend line through each of in- and out-migration we can see that in 2010 the start points would be as shown in the table above.

Figure 17: South Derbyshire – Migration trends (all migration)



Source: ONS

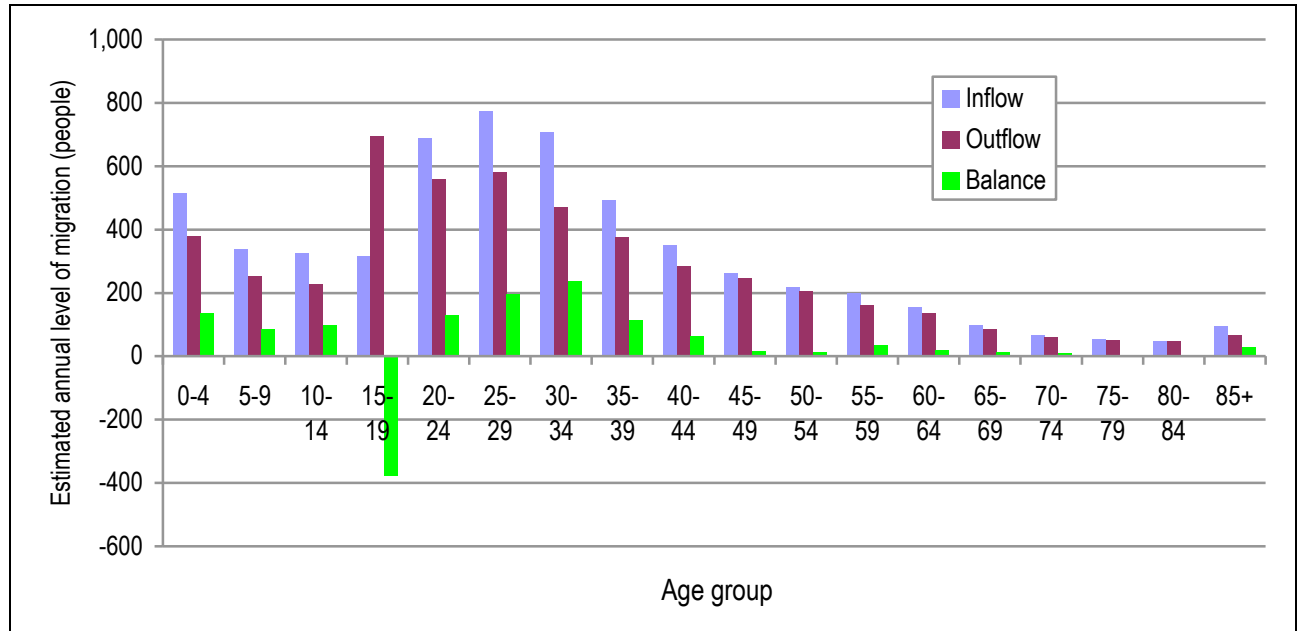
6.28 As with Derby and Amber Valley we do not think there is a strong case to suggest that the age/sex profile of migrants will differ significantly from that in the 2010-based SNPP. The detailed levels of in- and out-migration by component used in the analysis are summarised in the table below.

Figure 18: South Derbyshire – Detailed Migration Figures used for Projection

Period	Internal in-	Internal out-	Cross-border in-	Cross-border out-	Inter-national in-	Inter-national out-	Total in-	Total out-
2010/11	5,086	4,319	122	143	193	109	5,400	4,570
2011/12	5,090	4,319	119	143	226	133	5,435	4,594
2012/13	5,128	4,346	117	144	226	134	5,471	4,624
2013/14	5,165	4,374	115	146	226	135	5,506	4,656
2014/15	5,201	4,409	114	145	226	137	5,541	4,691
2015/16	5,237	4,443	114	145	226	139	5,576	4,728
2016/17	5,272	4,477	114	145	225	142	5,612	4,764
2017/18	5,307	4,517	114	145	225	142	5,647	4,804
2018/19	5,342	4,536	114	145	226	142	5,682	4,824
2019/20	5,377	4,571	114	146	226	142	5,718	4,858
2020/21	5,412	4,600	115	146	226	142	5,753	4,889
2021/22	5,447	4,661	115	146	227	143	5,788	4,950
2022/23	5,481	4,723	115	147	227	143	5,824	5,013
2023/24	5,515	4,774	116	147	228	144	5,859	5,065
2024/25	5,549	4,839	116	148	229	144	5,894	5,131
2025/26	5,584	4,897	116	148	229	145	5,929	5,189
2026/27	5,618	4,955	116	149	230	145	5,965	5,249
2027/28	5,653	4,993	117	149	230	145	6,000	5,287

6.29 As noted above, for the purposes of understanding the profile of migrants we have drawn on the ONS 2010-based sub-national population projections with figures for each component of migration being adjusted in line with the figures in the table above. Below we have provided details of the overall age structure of migration used in the analysis (shown as an annual average for the period from 2010 to 2028).

Figure 19: South Derbyshire – Estimated annual level of net migration by five-year age band (2010-2028)

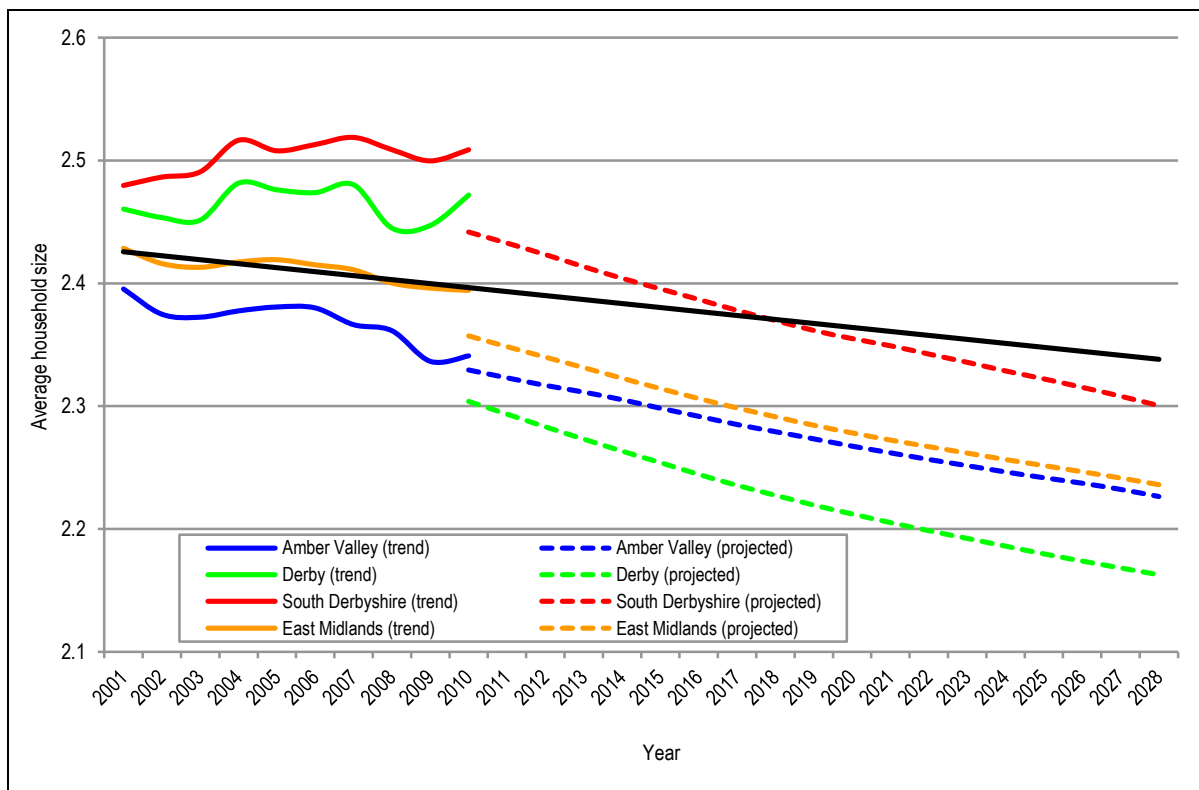


Source: Derived from ONS 2010-based population projections

7 HEADSHIP RATES

- 7.1 Within the report we identified that projected reductions in household size in both Derby and South Derbyshire do not appear to have occurred in recent years. In our view the trend in South Derbyshire may be partly influenced by in-migration of family households (influenced by the types of homes delivered). When comparing population age profile changes over the past ten years in South Derbyshire and Amber Valley this potential explanation for no reduction in household sizes is broadly supported with greater relative growth in working-age groups compared with older persons. The first of these groups are more likely to live in larger households (e.g. with children) whilst the latter tend to have smaller household sizes.
- 7.2 In Derby, the trends may reflect migration of younger workers and students to the City, with an increase over the last decade in larger households within the private rented sector including younger people, students and migrants.
- 7.3 In the main report we provided trends in average household size for each of the three local authorities and below we have reproduced this figure. At a regional level the data also shows that there has been a notable movement away from long-term trends projected in the CLG 2008-based household projections. Overall our linear trend line (which looks plausible) suggests that regionally the true level of change is roughly midway between constant household sizes and the long-term trend. Overall, we might therefore expect the three Derby HMA authorities to tend towards this regional position.

Figure 20: Headship rate trends and projections (measured through average household size)



Source: Derived from ONS and CLG data

- 7.4 In reality we have seen different trends in each of the three areas with Derby and South Derbyshire showing no change in household sizes over the last ten years (possibly even increasing in South Derbyshire) whilst Amber Valley has been close to long term-trends but with a bit of difference being seen in the last year studied.
- 7.5 Clearly it would not be realistic to suggest that household sizes will return to the long-term trends given the differences shown to exist even at a base date of 2010 (particularly in Derby and South Derbyshire) and the housing market context in the short-term. However, as the population ages we might expect to see some decrease in household sizes but at a lesser rate to that projected by CLG in 2008. Given the trends seen over the past ten years we suggest that in Derby and South Derbyshire that it would be reasonable to project that headship rates follow a trend that is somewhere between ‘no change’ and the regional average with Amber Valley falling in the gap between the regional average and long-term trends.

Figure 21: Headship rate assumptions

	2010	2028
Amber Valley	Rebase to 2010 position	Revert to midway between regional and long-term trends
Derby		Revert to midway between 'no change' and regional trends
South Derbyshire		

7.6 Within these changes we might expect growth in headship in the medium-term (e.g. to 2016) to continue to be moderated by economic and market conditions, returning over this period towards long-term trends. This will mean that headship growth is suppressed for a good proportion of the first half of the plan period. For the purposes of looking at a projection up to 2028 this distinction would make little difference to overall housing figures although it is likely to see a slightly lower housing requirement in the early part of the projection.

7.7 The table below shows headship rates derived from our analysis for each of the key periods of 2008 and 2028. The data shows that whilst most headship rates remain at a fairly constant level over time there are a number of groups where notable changes are projected to occur (both in an upward and downward direction and particularly in relation to females).

Figure 22: Headship Rates by Age and Sex (2008 and 2028)

Age group	Amber Valley				Derby				South Derbyshire			
	Male		Female		Male		Female		Male		Female	
	2008	2028	2008	2028	2008	2028	2008	2028	2008	2028	2008	2028
Ages 15-19	2.7%	2.9%	2.9%	3.9%	3.7%	4.2%	4.4%	5.1%	1.8%	1.8%	1.7%	2.0%
Ages 20-24	26.5%	26.2%	13.5%	16.5%	30.6%	30.4%	19.6%	21.6%	25.4%	24.5%	10.8%	13.3%
Ages 25-29	63.5%	61.4%	17.5%	19.9%	58.2%	54.9%	24.8%	27.0%	67.7%	64.9%	15.7%	18.9%
Ages 30-34	82.6%	80.1%	22.7%	26.3%	74.7%	71.6%	29.3%	34.5%	85.8%	82.3%	17.6%	21.6%
Ages 35-39	87.6%	85.7%	21.7%	26.3%	85.0%	81.5%	29.1%	34.1%	88.7%	85.6%	16.3%	16.9%
Ages 40-44	91.0%	89.4%	20.5%	23.4%	87.3%	84.9%	26.8%	29.0%	91.3%	89.2%	17.3%	18.5%
Ages 45-49	92.6%	90.7%	19.3%	19.7%	88.3%	84.9%	23.9%	24.0%	92.5%	89.3%	16.1%	16.1%
Ages 50-54	92.7%	89.5%	18.7%	20.9%	90.9%	87.4%	23.9%	27.1%	93.4%	89.7%	16.8%	18.7%
Ages 55-59	95.1%	92.6%	18.8%	22.4%	92.1%	89.2%	23.0%	27.0%	95.2%	91.4%	16.8%	19.9%
Ages 60-64	95.8%	93.0%	21.2%	23.2%	93.2%	90.0%	25.4%	29.0%	95.2%	91.4%	20.1%	23.9%
Ages 65-69	97.0%	94.9%	26.9%	27.3%	93.3%	89.9%	29.7%	30.0%	95.8%	92.9%	25.8%	24.2%
Ages 70-74	95.9%	94.3%	35.5%	31.2%	93.7%	90.2%	38.2%	34.2%	96.1%	93.5%	36.0%	29.9%
Ages 75-79	95.3%	93.8%	48.0%	38.5%	92.9%	89.8%	50.4%	39.6%	94.2%	92.0%	48.7%	37.4%
Ages 80-84	92.1%	91.2%	60.9%	48.5%	90.8%	88.0%	61.6%	47.3%	90.2%	89.6%	62.9%	50.6%
Ages 85+	80.9%	80.2%	60.3%	55.0%	89.9%	86.6%	74.5%	63.3%	81.1%	82.0%	55.0%	46.5%

Source: Derived from CLG 2008-based household projections

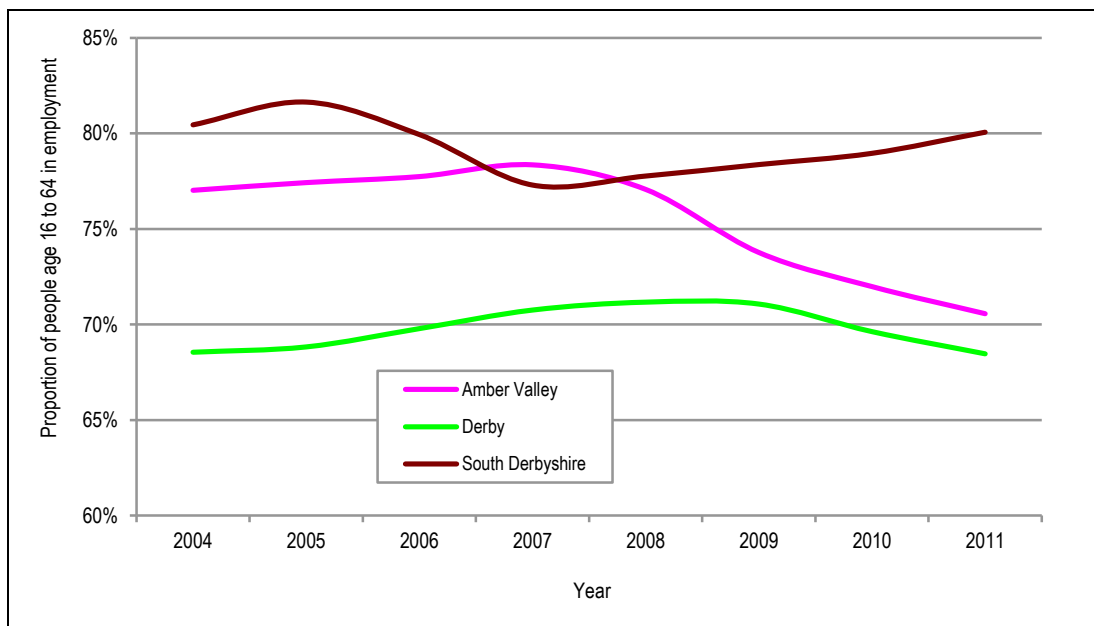
8 VACANT DWELLINGS

- 8.1 In converting an estimated number of households (derived through headship rates) into requirements for additional dwellings it is also necessary to factor in a vacancy allowance. For the analysis we suggest that a vacancy rate in the range of 2%-3% is appropriate for new stock – such a level might be considered to be a ‘frictional’ vacancy rate and would be necessary to allow for households to move within the housing stock. We recommend that a figure of 2.5% vacant homes should be modelled (mid-point of the 2%-3% range).
- 8.2 A 2.5% vacancy rate is slightly lower than is recorded across the whole HMA and we would make the distinction between vacant homes in the existing stock and new dwellings – it is for example unlikely that developers will continue to build/complete homes if there are problems finding potential occupants. Where vacancy rates in the existing stock are higher than 2.5% (notably in Derby City) there may be an opportunity to bring some homes back into use which may reduce newbuild housing requirements slightly. Overall, however the assumption around vacant homes makes relatively little difference to the outputs of the analysis.

9 CHANGES IN EMPLOYMENT

- 9.1 The projection modelling set out above is purely based on interrogating demographic trends. We also need to consider the implications of population change on the working population in each area. As part of this project we analysed Experian economic projections for the HMA but concluded that these looked fairly pessimistic – hence we are not recommending tying a projection back to these figures.
- 9.2 We have however modelled the likely change in employment arising from the demographic projection and would urge the Councils to consider whether or not the changes in the number of people working are realistic to achieve. This may then suggest some moderation of housing requirements to take account of economic conditions.
- 9.3 In looking at how levels of employment might be expected to change we have looked at employment rates over the past few years and specifically the impact of the economic downturn (i.e. post-2008). The analysis recognises that there may be some people who will be able to get back into work were jobs available. We also consider likely changes in employment rates as a result of changes to pensionable age. Generally, in Amber Valley and Derby there appears to be greater scope to improve employment rates in the long-term with the employment rate in South Derbyshire generally being quite high (even through the recessionary period).
- 9.4 The figure below shows employment rates in each local authority (this is based on the proportion of the working age population (those aged 16 to 64) who are working, including self-employment). In Amber Valley the data is clear that employment rates have dropped and in particular since 2007/8 (the start of the economic downturn). In Derby the employment rate rose slightly to 2008/9 but has fallen back since whilst in South Derbyshire the employment rate has generally been quite high throughout this period.

Figure 23: Proportion of Population Working

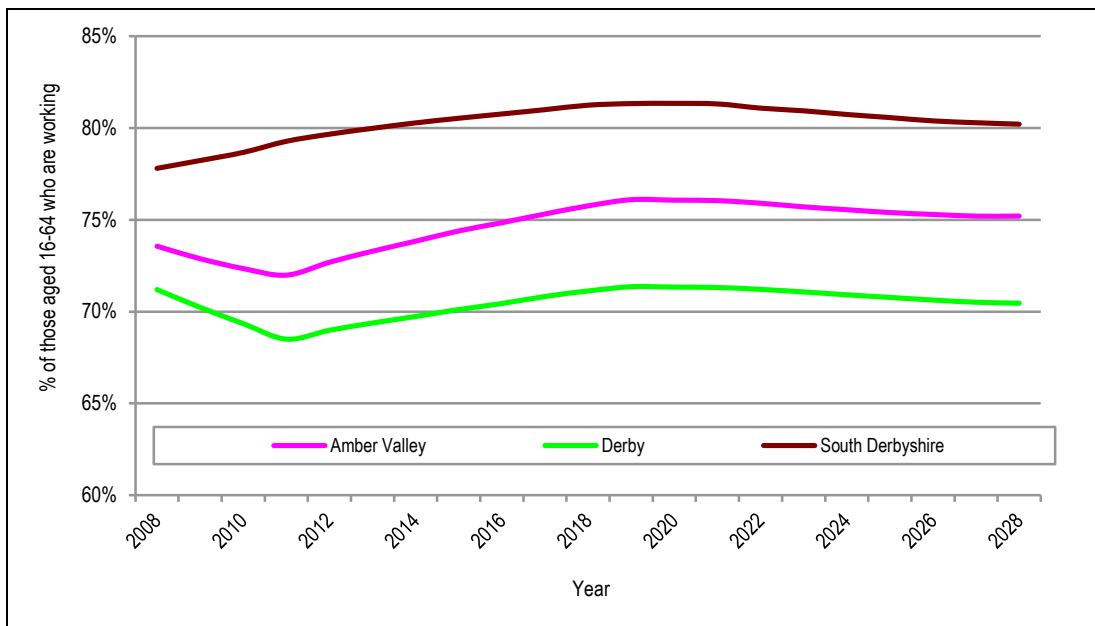


Source: NOMIS/Annual Population Survey

- 9.5 This latter data suggests that there is significant scope in Amber Valley to fill additional local jobs through improvements to employment rates although this possibility is less clear in Derby and South Derbyshire. Closer inspection of data around employment rates reveals in Derby that there has been a slight drop in male employment rates over time with the same finding for females in South Derbyshire. There may therefore be some scope in these areas to improve employment rates through finding work for the existing population although the issues of matching jobs to skills will be important in enabling this to happen. In Amber Valley both males and females have seen notable drops in employment rates over time.
- 9.6 The figure below shows the employment rate trends that have been assumed for our analysis. For the period from 2008 to 2011 these are largely based on the data presented above (with some degree of smoothing to take account of the fact that the APS data is survey based and therefore subject to some statistical variation).
- 9.7 Our assumptions are in Amber Valley and Derby that the rate drops from 2008 to 2011 and then steadily improves to about 2021. The rate levels off after this although in fact the data suggests a slight decline – this is due to changes in the age structure with age specific rates being held constant from 2021 onwards (other than some projected changes due to changes in pensionable age).

9.8 In South Derbyshire we have assumed that the rate improved slightly from 2008 to 2011 and continues to do so until about 2021 – further improvements in employment rates in South Derbyshire have been modelled on the basis that females rates have been declining slightly and so there may be the possibly for small improvements for this group. Post 2021 the data again suggests that the rate drops off slightly although as with Amber Valley and Derby this is due to changes in the population age structure.

Figure 24: Projected Proportion of Population Working



Source: NOMIS (from 2001 Census) adjusted using APS data

9.9 The figure below shows the age specific employment rates used for modelling in 2008 and 2028. Although we have modelled for improvements in Derby and Amber Valley from 2011 it is notable that the rates are only expected to be back at 2008 levels at the end of the projection period in 2028.

Figure 25: Employment Rates by Age and Sex (2008 and 2028)

Age group	Amber Valley				Derby				South Derbyshire			
	Male		Female		Male		Female		Male		Female	
	2008	2028	2008	2028	2008	2028	2008	2028	2008	2028	2008	2028
Aged 16 to 19	53.2%	55.5%	66.1%	67.0%	44.5%	44.2%	48.6%	47.4%	43.6%	44.4%	55.5%	58.1%
Aged 20 to 24	69.1%	72.0%	71.5%	72.5%	71.9%	71.5%	59.1%	57.8%	86.4%	88.0%	72.5%	76.0%
Aged 25 to 29	80.3%	83.7%	77.3%	78.4%	83.7%	83.3%	73.4%	71.7%	93.6%	95.4%	78.3%	82.0%
Aged 30 to 34	83.0%	86.5%	74.7%	75.8%	86.5%	86.0%	72.3%	70.6%	95.3%	97.1%	76.0%	79.6%
Aged 35 to 39	88.1%	91.8%	79.9%	81.0%	86.0%	85.5%	72.9%	71.2%	96.8%	98.6%	76.0%	79.6%
Aged 40 to 44	87.6%	91.3%	85.4%	86.6%	85.0%	84.5%	78.3%	76.5%	95.4%	97.1%	77.6%	81.3%
Aged 45 to 49	86.8%	90.4%	84.7%	85.9%	83.8%	83.3%	77.0%	75.2%	93.0%	94.7%	77.9%	81.6%
Aged 50 to 54	78.3%	81.6%	88.2%	89.5%	85.5%	85.0%	81.9%	80.0%	95.7%	97.5%	88.0%	92.2%
Aged 55 to 59	68.9%	71.8%	67.0%	68.0%	73.1%	72.7%	63.6%	62.1%	83.3%	84.8%	69.3%	72.6%
Aged 60 to 64	44.1%	45.9%	27.7%	39.3%	45.3%	45.0%	28.2%	38.5%	54.7%	55.7%	31.5%	46.2%
Aged 65 to 69	35.4%	40.5%	29.1%	35.4%	14.5%	15.9%	12.5%	14.7%	35.0%	39.2%	18.1%	22.8%
Aged 70 to 74	19.4%	20.2%	11.6%	11.7%	6.5%	6.5%	5.8%	5.6%	19.3%	19.7%	6.8%	7.2%

Source: NOMIS (from 2001 Census) adjusted using APS data

10 COMMUTING PATTERNS

10.1 The analysis based on employment rates provides an indication of the likely number of local residents who are in employment (regardless of the location of their work). It is possible through analysis of commuting patterns to also determine the number of local jobs that this growth might align to. The table below shows summary data on commuting patterns taken from the main Housing Requirements report.

Figure 26: Commuting Ratios in the Derby HMA

Location	Work in area	Live in area and are working	Commuting ratio
Amber Valley	49,106	54,540	111.1%
Derby	110,815	95,215	85.9%
South Derbyshire	27,220	39,947	146.8%

Source: Based on 2001 Census data

10.2 The data shows that there is significant net out-commuting from South Derbyshire and also a small level of net out-commuting from Amber Valley. Derby on the other hand shows net in-commuting for work. These commuting ratios have been applied to outputs about employment growth to show possible relevant job growth figures.

11 POPULATION PROJECTIONS

11.1 The table below shows the expected growth in population in each local authority and for the Derby HMA as a whole summarised in five year bands (the next table shows year-by-year detail). The data shows that population growth is expected to vary from around 10% in Amber Valley up to 25% in South Derbyshire. Across the whole HMA the projection suggests population growth of around 16% or 71,000 additional people over the 20-year period.

Figure 27: Population Estimates 2008 to 2028

Area	2008	2013	2018	2023	2028
Amber Valley	120,952	123,511	126,780	130,229	133,259
	0.0%	2.1%	4.8%	7.7%	10.2%
Derby	242,025	253,470	263,186	270,982	277,591
	0.0%	4.7%	8.7%	12.0%	14.7%
South Derbyshire	91,893	97,822	104,093	110,124	115,188
	0.0%	6.5%	13.3%	19.8%	25.4%
Derby HMA	454,870	474,804	494,058	511,335	526,038
	0.0%	4.4%	8.6%	12.4%	15.6%

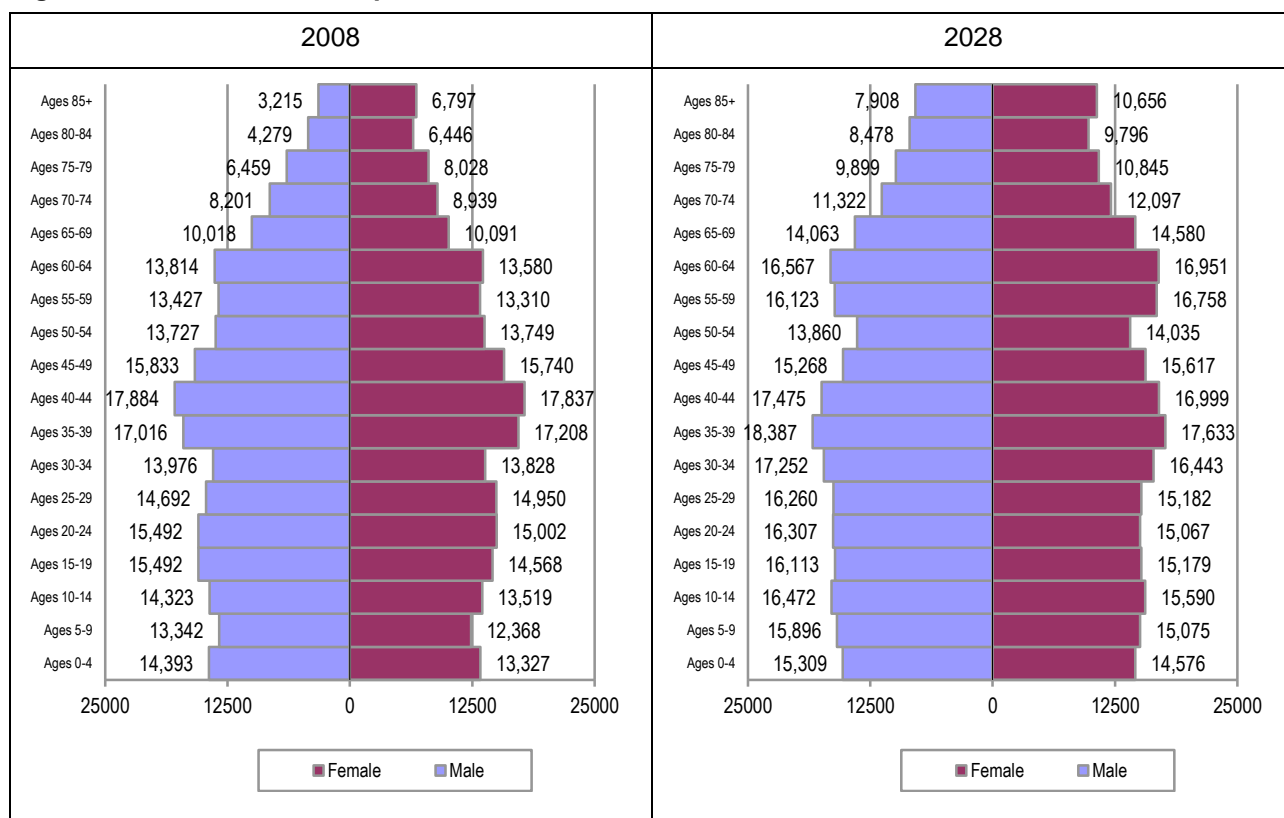
Figure 28: Annual Population Estimates 2008 to 2028

Year	Amber Valley	Derby	South Derbyshire	HMA
2008	120,952	242,025	91,893	454,870
2009	121,241	243,948	92,919	458,108
2010	121,788	246,924	94,055	462,767
2011	122,335	249,170	95,311	466,817
2012	122,905	251,329	96,562	470,795
2013	123,511	253,470	97,822	474,804
2014	124,136	255,550	99,077	478,763
2015	124,786	257,582	100,353	482,721
2016	125,441	259,526	101,613	486,580
2017	126,108	261,402	102,859	490,370
2018	126,780	263,186	104,093	494,058
2019	127,456	264,880	105,334	497,670
2020	128,159	266,493	106,569	501,222
2021	128,859	268,034	107,794	504,687
2022	129,551	269,530	108,980	508,061
2023	130,229	270,982	110,124	511,335
2024	130,880	272,394	111,230	514,504
2025	131,508	273,762	112,284	517,555
2026	132,113	275,080	113,291	520,484
2027	132,692	276,351	114,251	523,294
2028	133,259	277,591	115,188	526,038

12 DETAILED DEMOGRAPHIC CHANGE

12.1 The figure below shows population pyramids for 2008 and 2028 for the Derby HMA as a whole. 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 10,012 people to 18,564.

Figure 29: Distribution of Population 2008 and 2028



12.2 The tables below summarise the findings for key (15 year) age groups for the Derby HMA as a whole and in each local authority area with the figures showing percentage population growth for five-year age bands. The data clearly shows the expected ageing of the population, particularly in South Derbyshire and to a slightly lesser extent in Amber Valley. The population of Derby is also expected to age although this trend is less pronounced.

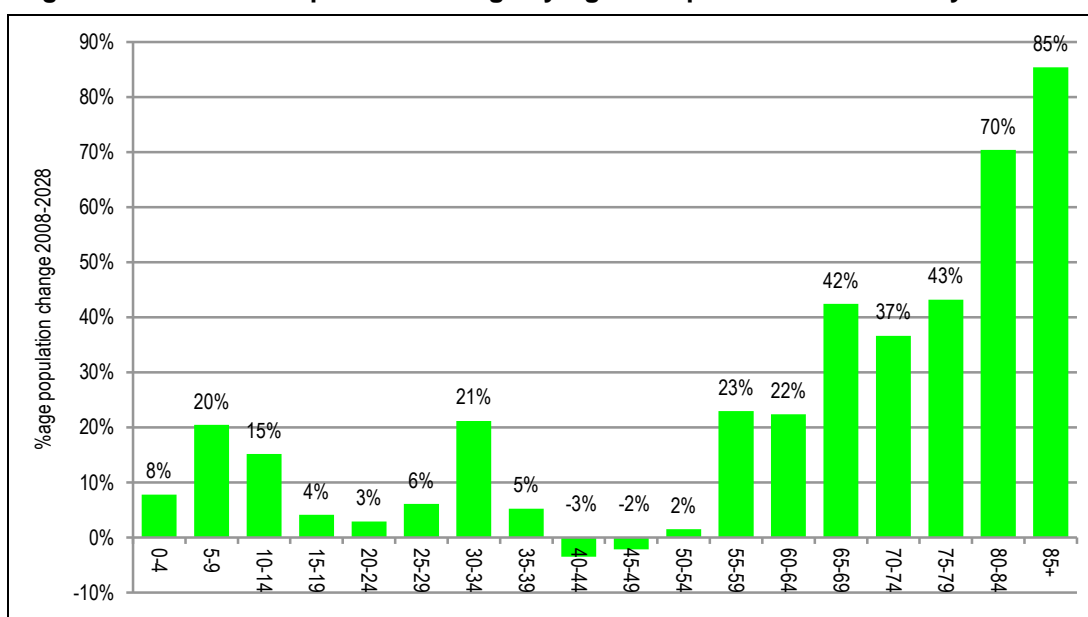
12.3 In the HMA as a whole there is expected to be relatively little population growth in some of the key age bands who are likely to be economically active whilst the number of children (aged under 15) is expected to increase by around 14%.

Derby HMA

Figure 30: population change 2008 to 2028 by five year age bands – Derby HMA

Age group	Population 2008	Population 2028	Change in population	% change from 2008
Under 15	81,272	92,918	11,646	14.3%
15-29	90,196	94,108	3,912	4.3%
30-44	97,749	104,190	6,441	6.6%
45-59	85,786	91,660	5,874	6.8%
60-74	64,643	85,580	20,937	32.4%
75+	35,224	57,582	22,358	63.5%
Total	454,870	526,038	71,168	15.6%

Figure 31: Forecast Population Change by Age Group 2008 – 2028 – Derby HMA

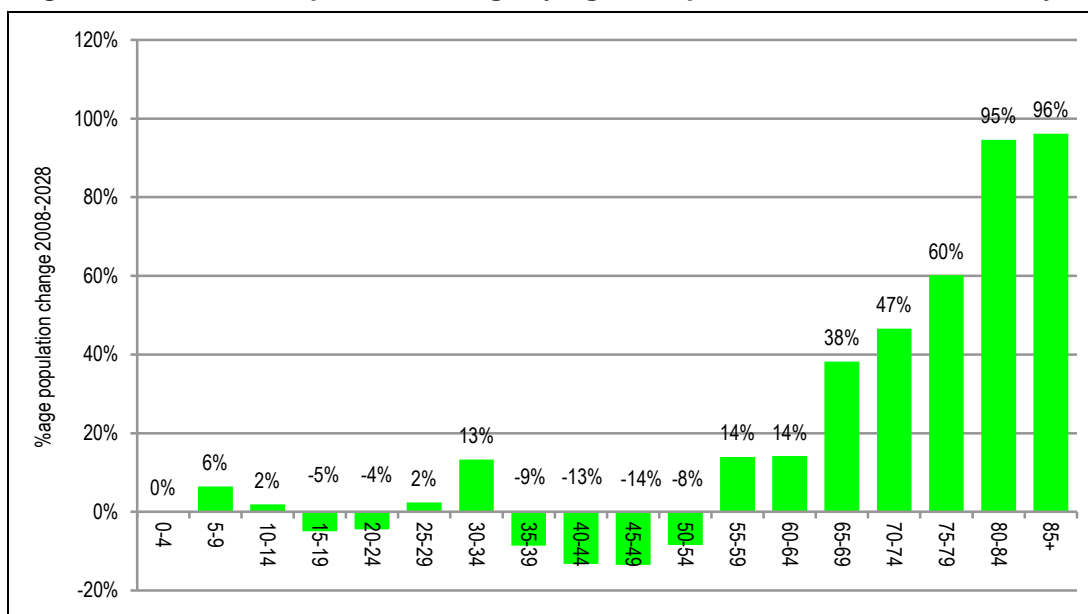


Amber Valley

Figure 32: Population change 2008 to 2028 by five year age bands – Amber Valley

Age group	Population 2008	Population 2028	Change in population	% change from 2008
Under 15	20,392	20,960	568	2.8%
15-29	19,547	19,054	-493	-2.5%
30-44	25,474	24,238	-1,236	-4.9%
45-59	25,459	24,726	-733	-2.9%
60-74	19,866	25,783	5,917	29.8%
75+	10,214	18,498	8,284	81.1%
Total	120,952	133,259	12,307	10.2%

Figure 33: Forecast Population Change by Age Group 2008 – 2028 – Amber Valley

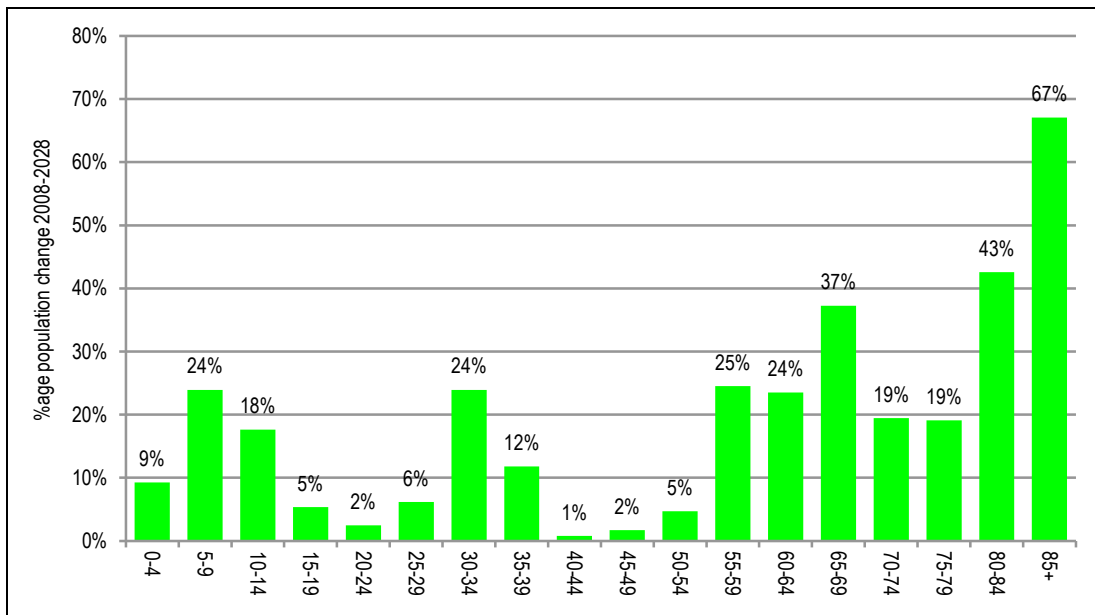


Derby

Figure 34: Population change 2008 to 2028 by five year age bands – Derby

Age group	Population 2008	Population 2028	Change in population	% change from 2008
Under 15	43,696	50,956	7,260	16.6%
15-29	55,175	57,698	2,523	4.6%
30-44	51,283	57,239	5,956	11.6%
45-59	41,615	45,572	3,957	9.5%
60-74	31,349	39,688	8,339	26.6%
75+	18,907	26,438	7,531	39.8%
Total	242,025	277,591	35,566	14.7%

Figure 35: Forecast Population Change by Age Group 2008 – 2028 – Derby

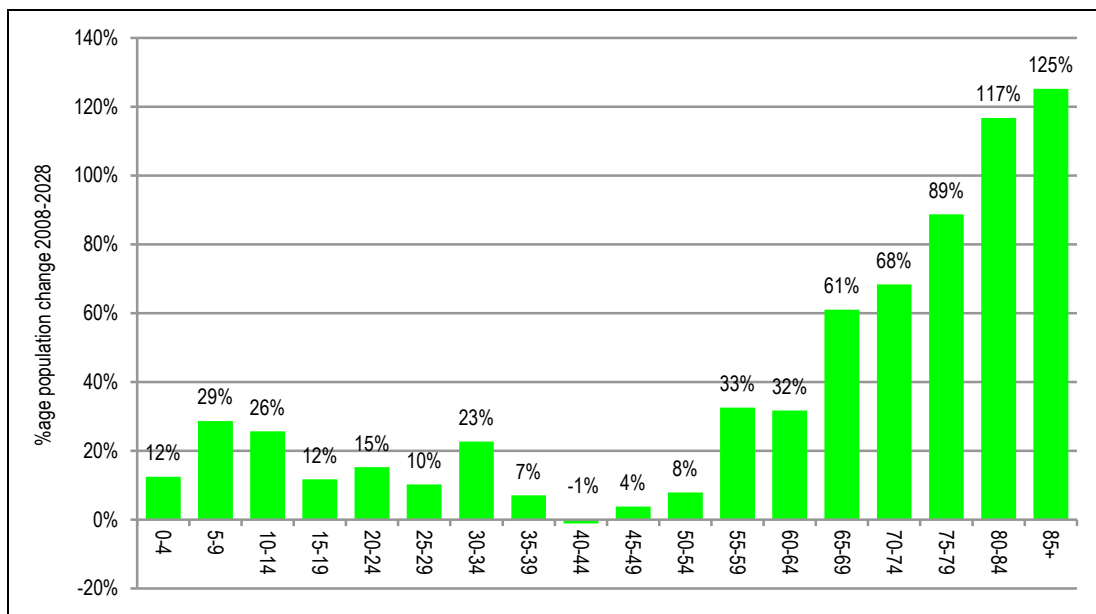


South Derbyshire

Figure 36: Population change 2008 to 2028 by five year age bands – South Derbyshire

Age group	Population 2008	Population 2028	Change in population	% change from 2008
Under 15	17,184	21,002	3,818	22.2%
15-29	15,474	17,356	1,882	12.2%
30-44	20,992	22,712	1,720	8.2%
45-59	18,712	21,362	2,650	14.2%
60-74	13,428	20,109	6,681	49.8%
75+	6,103	12,647	6,544	107.2%
Total	91,893	115,188	23,295	25.4%

Figure 37: Forecast Population Change by Age Group 2008 – 2028 – South Derbyshire



13 ECONOMIC (EMPLOYMENT) CHANGE

13.1 The table below shows the estimated number of people living in the HMA (and each local authority) who are working. The data shows that all areas are expected to see an increase in the number of people working but that this varies quite considerably by area (from about 3% in Amber Valley to nearly 19% in South Derbyshire). Across the whole HMA the number of people in employment is expected to increase by 9.6% over the 20-year period from 2008 to 2028 – an increase of just over 21,000 people.

Figure 38: Employment Estimates 2008 to 2028

Area	2008	2013	2018	2023	2028
Amber Valley	59,869	59,845	61,806	61,994	61,848
	0.0%	0.0%	3.2%	3.5%	3.3%
Derby	114,189	115,883	121,233	123,231	124,458
	0.0%	1.5%	6.2%	7.9%	9.0%
South Derbyshire	48,108	51,365	53,950	55,913	57,146
	0.0%	6.8%	12.1%	16.2%	18.8%
Derby HMA	222,166	227,092	236,989	241,138	243,452
	0.0%	2.2%	6.7%	8.5%	9.6%

13.2 The table below shows the working population increase for each year of the projection. It is notable in both Amber Valley and Derby that there is a decline in the working population from 2008 to 2011 with increases seen thereafter (this is in line with APS data about employment levels in these two local authorities).

Figure 39: Annual Employment Estimates 2008 to 2028

Year	Amber Valley	Derby	South Derbyshire	HMA
2008	59,869	114,189	48,108	222,166
2009	59,428	113,618	48,779	221,825
2010	59,112	113,687	49,349	222,148
2011	58,933	113,270	50,243	222,447
2012	59,413	114,566	50,827	224,807
2013	59,845	115,883	51,365	227,092
2014	60,231	117,029	51,924	229,184
2015	60,661	118,229	52,487	231,376
2016	61,076	119,306	53,033	233,415
2017	61,463	120,334	53,520	235,318
2018	61,806	121,233	53,950	236,989
2019	62,120	122,030	54,462	238,612
2020	62,193	122,578	54,965	239,735
2021	62,227	122,899	55,380	240,506
2022	62,121	123,071	55,643	240,836
2023	61,994	123,231	55,913	241,138
2024	61,917	123,510	56,200	241,628
2025	61,837	123,742	56,444	242,022
2026	61,830	123,949	56,693	242,473
2027	61,827	124,175	56,907	242,909
2028	61,848	124,458	57,146	243,452

13.3 Given that in Amber Valley and Derby the employment level drops in the early part of the study/projection period it is also of interest to look at projected employment growth post-2011 (where some growth is shown for all areas) and so the table below shows total and annual growth in the working population in each area for 2008 to 2028 and also 2011 to 2028.

13.4 Across the whole HMA it is interesting to note that the percentage growth in 2008 to 2028 is not much different to that in the 2011-2028 period although the annual change is notably higher post-2011. However, we see that in Amber Valley the employment growth post-2011 is expected to be around 5% (compared with just 3% from 2008) whilst in Derby the employment growth goes from 9% to 10%. In South Derbyshire the employment growth is actually quite strong in the 2008-2011 period and so when looking at the shorter 2011-2028 timeframe we actually see a lower projected level of employment growth.

Figure 40: Employment Change 2008-2028 and 2011-2028

Area	Change 2008-2028	Annual change	% change from 2008	Change 2011-2028	Annual change	% change from 2011
Amber Valley	1,979	99	3.3%	2,915	171	4.9%
Derby	10,269	513	9.0%	11,188	658	9.9%
South Derbyshire	9,038	452	18.8%	6,903	406	13.7%
Derby HMA	21,286	1,064	9.6%	21,005	1,236	9.4%

13.5 By using the commuting ratios set out earlier in this document we can also translate this information into expected job growth (as in jobs in a local authority area). We have presented this data in a consistent format to the above table (i.e. looking at the 2008-2028 and 2011-2028 periods separately). The data shows that with commuting patterns remaining constant we might expect this level of population/employment growth to require around 20,000 additional jobs. Concentrating on the period post-2011 the data suggests job growth of around 13,000 in Derby, 4,700 in South Derbyshire and 2,600 in Amber Valley.

Figure 41: Change in number of Jobs 2008-2028 and 2011-2028

Area	Change 2008-2028	Annual change	Change 2011-2028	Annual change
Amber Valley	1,781	89	2,623	154
Derby	11,955	598	13,024	766
South Derbyshire	6,157	308	4,702	277
Derby HMA	19,893	995	20,350	1,197

14 HOUSEHOLD (AND HOUSING) GROWTH

14.1 The table below shows the projected growth in the number of households in each local authority and the HMA as a whole. Again the figures vary by location with both Derby and Amber Valley expected to see around 15% household growth with a much higher figure of 27% in South Derbyshire. Across the whole HMA we might expect household growth of around 18% which is a little under 33,000 over the 20-year period. The second table below shows this data on an annual basis.

Figure 42: Household Estimates 2008 to 2028

Area	2008	2013	2018	2023	2028
Amber Valley	51,220	53,027	55,071	57,025	58,844
	0.0%	3.5%	7.5%	11.3%	14.9%
Derby	98,990	102,858	107,185	110,902	114,207
	0.0%	3.9%	8.3%	12.0%	15.4%
South Derbyshire	36,628	39,092	41,689	44,299	46,625
	0.0%	6.7%	13.8%	20.9%	27.3%
Derby HMA	186,838	194,978	203,944	212,226	219,676
	0.0%	4.4%	9.2%	13.6%	17.6%

Figure 43: Annual Household Estimates 2008 to 2028

Year	Amber Valley	Derby	South Derbyshire	HMA
2008	51,220	98,990	36,628	186,838
2009	51,891	99,687	37,172	188,750
2010	52,025	99,893	37,490	189,408
2011	52,302	100,817	37,984	191,103
2012	52,689	101,857	38,548	193,093
2013	53,027	102,858	39,092	194,978
2014	53,362	103,856	39,613	196,830
2015	53,810	104,676	40,139	198,625
2016	54,272	105,579	40,655	200,506
2017	54,643	106,352	41,166	202,161
2018	55,071	107,185	41,689	203,944
2019	55,438	107,998	42,227	205,663
2020	55,852	108,683	42,736	207,271
2021	56,260	109,437	43,280	208,977
2022	56,620	110,190	43,807	210,618
2023	57,025	110,902	44,299	212,226
2024	57,430	111,748	44,780	213,958
2025	57,755	112,205	45,279	215,239
2026	58,123	112,887	45,717	216,726
2027	58,476	113,724	46,242	218,442
2028	58,844	114,207	46,625	219,676

14.2 The analysis above concentrated on the number of additional households. In reality there are always likely to be some vacant homes in the area and so the number of properties required to house all of these households will be slightly greater than the projected household numbers. We have therefore added a vacancy allowance of 2.5% to all of the above figures to make estimated housing requirements with figures shown in the table below.

Figure 44: Estimated Housing Numbers with 2.5% Vacancy Allowance

Area	Annual		2008-2028	
	Household growth	Dwelling requirement	Household growth	Dwelling requirement
Amber Valley	381	391	7,624	7,814
Derby	761	780	15,217	15,598
South Derbyshire	500	512	9,997	10,247
Derby HMA	1,642	1,683	32,838	33,659

15 SUMMARY

15.1 Below we have provided summary tables for our projection. The tables show population and employment growth along with the estimated housing requirement that this equates to. The first table below shows figures on an annual basis with the second table showing figures for the full 20-year plan period. There may be some merit in also considering data (particularly housing numbers) for the period from 2011 to 2028 (as we have for employment figures) and data provided earlier in this document will allow this to be carried out.

Figure 45: Summary of Projections 2008 to 2028 - Annual

Area	Population growth		Housing numbers		Employment growth	
	Per annum	% change	Per annum	% change	Per annum	% change
Amber Valley	615	0.5%	391	0.7%	99	0.2%
Derby	1,778	0.7%	780	0.8%	513	0.4%
South Derbyshire	1,165	1.3%	512	1.4%	452	0.9%
Derby HMA	3,558	0.8%	1,683	0.9%	1,064	0.5%

Figure 46: Summary of Projections 2008 to 2028 - Total

Area	Population growth		Housing numbers		Employment growth	
	Total	% change	Total	% change	Total	% change
Amber Valley	12,307	10.2%	7,814	14.9%	1,979	3.3%
Derby	35,566	14.7%	15,598	15.4%	10,269	9.0%
South Derbyshire	23,295	25.4%	10,247	27.3%	9,038	18.8%
Derby HMA	71,168	15.6%	33,659	17.6%	21,286	9.6%

16 ZERO NET MIGRATION PROJECTION

- 16.1 Finally, we have provided an alternative projection by way of looking at the different components impacting on population and household growth and below we have provided the core outputs for a zero net-migration projection. This projection uses exactly the same assumptions as in the main projection with the exception that overall levels of in- and out-migration are set to be equal. This projection does not mean ‘no migration’ and there will be impacts on the population of the age structure of migrants. To achieve a zero net migration projection we have reduced levels of in migration to equal the out-migration figures (an alternative approach of matching out-migration to in-migration could equally have been carried out but would not make any significant difference to the outputs).
- 16.2 The data shows in all areas that population growth is lower (as is the consequent housing requirement). However, for Derby the difference from our main projection is fairly minor whilst in Amber Valley and South Derbyshire applying zero net migration assumptions has a significant impact on the figures – in both cases the estimated housing requirement is much lower and negative employment growth is projected.
- 16.3 Taking the HMA as a whole the analysis under zero net-migration assumptions suggests a housing requirement over the 20-year period of 22,100 homes compared with 33,700 with our main migration assumptions.

Figure 47: Summary of Projections 2008 to 2028 – Annual (Zero Net Migration)

Area	Population growth		Housing numbers		Employment growth	
	Per annum	% change	Per annum	% change	Per annum	% change
Amber Valley	8	0.0%	157	0.3%	-230	-0.4%
Derby	1,669	0.7%	739	0.7%	466	0.4%
South Derbyshire	306	0.3%	211	0.6%	-24	-0.1%
Derby HMA	1,984	0.4%	1,107	0.6%	211	0.1%

Figure 48: Summary of Projections 2008 to 2028 - Total (Zero Net Migration)

Area	Population growth		Housing numbers		Employment growth	
	Total	% change	Total	% change	Total	% change
Amber Valley	154	0.1%	3,132	6.0%	-4,607	-7.7%
Derby	33,388	13.8%	14,786	14.6%	9,325	8.2%
South Derbyshire	6,128	6.7%	4,221	11.2%	-490	-1.0%
Derby HMA	39,671	8.7%	22,139	11.6%	4,228	1.9%