



HOUSING VISION

Independent Assessment of Housing Needs and SHMA Update: the implications of 2014- based Subnational Population and Household Projections

September 2016

Independent Assessment of Housing Needs and SHMA Addendum: the implications of 2014-based Subnational Population and Household Projections

Report

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Date: 13th September 2016

Introduction

- 1.1 This report provides an update on the results from the Office for National Statistics' (ONS) 2014-based sub-national population projections (SNPP)¹ and the 2014-based household projections (SNHP)² from the Department for Communities and Local Government (CLG). It also considers evidence from ONS' Mid-Year Population Estimates (MYE) for 2014 and 2015. It should be read in the context of previous HNA/SHMA reports of December 2013³, July 2015⁴ and October 2015⁵
- 1.2 ONS produce population projections every two years. These look forward 25 years from a base year population, usually ONS' latest population estimate (MYE); the latest projections cover the period 2014-2039. National projections for the UK countries are followed, some months later, by sub-national projections for local authorities in England. The projections are trend-based, informed by estimates of change due to births, deaths and migration in the 5-6 year period leading up to the base year. Integral to the methodology is the inevitable process of ageing; the age structure of the population at the base date of the projections has a major influence on the future course of change. Details of the methods and data are in the 2013 HNA report (paragraphs 5.10-5.26).
- 1.3 The previous 2012-based, population projections took full account of the results of the 2011 Census and the subsequent revisions to estimates of population and migration for the period 2001-2011. The 2014-based projections provide an update, incorporating data from ONS' 2013 and 2014 Mid Year Population Estimates (MYE). ONS has made some revisions to methods and data since the 2012 SNPP
- 1.4 CLG's household projections apply assumptions about household formation to the population projections, after allowing for people living in non-household accommodation. Paragraphs 5.28 to 5.32 of the 2013 HNA report provide more detail of methods.

¹ "Subnational population projections for England: 2014-based projections", ONS, May 2016: <http://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/subnationalpopulationprojectionsforengland/2014basedprojections>

² "2014-based Household Projections: England, 2014-2039", Department for Communities and Local Government (CLG), 12 July 2016: <https://www.gov.uk/government/collections/household-projections>

³ "Independent Assessment of Housing Needs and Strategic Housing Market Assessment: St Albans City and District Council Final Report", Housing Vision, December 2013

⁴ "Independent Assessment of Housing Needs and SHMA Addendum: the implications of 2012-based Subnational Population and Household Projections", Housing Vision, July 2015

⁵ "Independent Assessment of Housing Needs and Strategic Housing Market Assessment Update: St Albans City and District Council", Housing Vision, October 2015

Projected population by age

1.5 Table 1 sets out the population by age over the period 2011-2031 according to the 2014-based SNPP. The SNPP start from the Mid Year Population Estimate (MYE) for 2014. For consistency with the period covered by the SHMA, Table 1 shows population change for the period 2011-2031; figures for 2011-2014 are from the Mid Year Estimates.

Table 1: Projected population of St Albans by age, 2011-2031 (2014 SNPP)

Age Band	Population (thousands)					Population Change 2011-2031	
	2011	2016	2021	2026	2031	thousands	%
0-14	28.5	30.9	33.5	34.6	35.4	6.9	24.4%
15-24	14.5	13.7	13.4	14.9	15.7	1.2	8.4%
25-34	17.5	17.6	18.5	17.9	17.2	-0.2	-1.3%
35-44	22.8	23.0	23.5	24.5	25.1	2.3	10.0%
45-54	20.3	21.9	22.3	22.8	23.6	3.2	15.9%
55-64	15.8	15.9	17.9	19.3	19.5	3.8	23.8%
65-74	11.1	12.8	13.3	13.6	15.3	4.2	38.1%
75-84	7.6	7.9	8.8	10.4	10.9	3.4	44.3%
85+	3.2	3.8	4.4	5.0	6.1	2.9	89.0%
Age 15 or older	112.8	116.7	122.1	128.3	133.5	20.7	18.4%
All ages	141.2	147.6	155.6	162.9	168.9	27.7	19.6%

(Sources: (1) 2014-based Sub-National Population Projections, ONS 2016; (2) Mid-Year Population Estimates for years between 2011 and 2014, ONS.

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[http://www.nationalarchives.gov.uk/doc/open-government-licence/.](http://www.nationalarchives.gov.uk/doc/open-government-licence/))

Note: figures rounded independently to nearest hundred. Sums & differences may not match totals

Key findings

- The population of St Albans is projected to increase by about 27,700, or 19.6%, between 2011 and 2031; the scale of growth is slightly more than in the 2012-based SNPP (27,000).
- In contrast, the population aged 15 or older is projected to grow by 20,700, marginally lower than the 20,800 in the 2012-based SNPP. This population provides the demographic basis for CLG's household projections (SNHP); the child population is not used in the calculation of future numbers of households.
- The age profile of the population is projected to change between 2011 and 2031, with implications for the number and type of households. Comparable figures from the 2012-based SNPP are shown in brackets:

- numbers below 15 years of age projected to grow by 6,900 or 24% (6,200 or 22% in the 2012 projections);
- numbers aged 15-24 projected to grow by 1,200 or 8% (9%);
- numbers aged 25-34 projected to fall slightly by -1% (+1%);
- numbers aged 35-44 projected to grow by 2,300 or 10% (8%);
- numbers aged 45-54 projected to grow by 3,200 or 16% (13%);
- numbers aged 55-64 projected to grow by 3,800, or 24% (25%).
- Rapid growth is projected for those aged 65 or older, although growth is somewhat slower than in the 2012 SNPP:
 - 4,200, or 38%, growth in those aged 65-74 (41%);
 - 3,400, or 44%, growth in those aged 75-84 (45%);
 - 2,900, or 89%, growth in those aged 85 and over (95%)

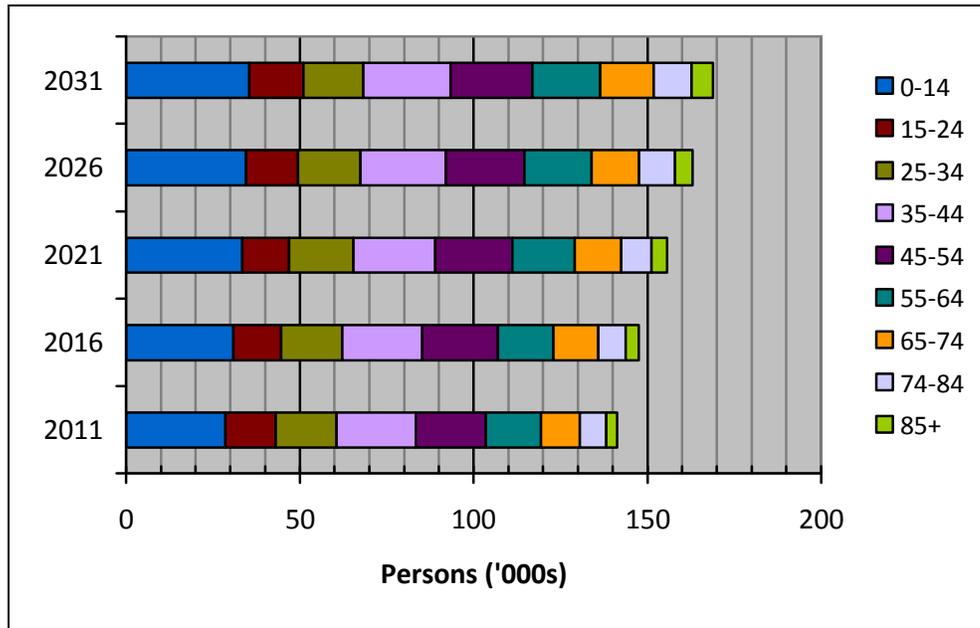
1.6 Rapid growth in the older population may result in:

- greater under-occupation of family housing unless options to downsize are available and taken up;
- greater need for housing that meets the needs of older households, including housing with care;
- greater need for places in care and nursing homes

These developments are considered in the main HNA reports.

1.7 Figure 1 shows the changing age profile of the population between 2011 and 2031. It is comparable to Figure 2.1 in the October 2015 Update and Figure 4.2 on page 170 in the 2013 SHMA report. It highlights rapid growth in the child population and those aged 65 and older. The population aged 15-64 is also projected to grow by 11%. Although growth in the child population does not influence the calculation of household numbers in the SNHP, it has major implications for the provision of education and other services.

Figure 1: Projected population of St Albans by age band, 2011 to 2031, 000s



Sources: (1) 2014-based Sub-National Population Projections, ONS 2016; (2) Mid-Year Estimates 2011 to 2014, ONS. Office for National Statistics website, <http://www.ons.gov.uk/ons/index.html>.

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Components of Population Change

1.8 Table 2a shows the Components of Population Change: natural change (births minus deaths), internal migration to and from the rest of the UK and international migration. For comparison, Table 2b presents the 2012-based projections. Figures, including totals, have been individually rounded to the nearest 100; sums and differences may not match totals.

Table 2a: 2014-based SNPP: Components of Change, St Albans, 2011-2031

	Persons ('000s)				
	2011-16*	2016-21	2021-26	2026-31	Total 2011-31
Total Change	6.4	7.9	7.3	6.0	27.7
Natural Change	4.3	4.7	5.1	4.8	19.0
Births	9.5	10.0	10.5	10.4	40.4
Deaths	5.2	5.3	5.4	5.6	21.4
All Migration Net Balance	2.1	3.1	2.2	1.2	8.5
UK Migration Net**	2.4	3.4	2.6	1.6	10.1
Into St Albans	41.9	43.6	44.4	45.4	175.3
From St Albans	39.5	40.2	41.8	43.8	165.2
International Migration Net	-0.3	-0.3	-0.5	-0.5	-1.5
Into St Albans	3.7	3.6	3.5	3.5	14.2
From St Albans	4.0	3.9	3.9	3.9	15.7
Other/ National adjustments	0.0	0.1	0.1	0/0	0.2

(Sources: (1) 2014-based Sub-National population projections & (2) Mid Year Population Estimates 2011-2014, Office for National Statistics ONS.

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[http://www.nationalarchives.gov.uk/doc/open-government-licence/.](http://www.nationalarchives.gov.uk/doc/open-government-licence/))

Note: All figures independently rounded;

Note*: 2011-14 figures are from Mid-Year estimates

Note** UK migration comprises "within England" and 'cross-border' (other UK) migration; shown separately in ONS projections but not in ONS estimates.

Table 2b: 2012-based Components of Population Change, St Albans, 2011-2031

	Persons ('000s)				
	2011-16*	2016-21	2021-26	2026-31	Total 2011-31
Total Change	6.3	7.9	7.0	5.8	27.0
Natural Change	4.8	5.0	5.0	4.7	19.5
Births	10.0	10.2	10.4	10.3	40.8
Deaths	5.2	5.2	5.3	5.6	21.3
All Migration Net Balance	1.5	2.8	2.0	1.1	7.3
UK Migration Net**	2.5	3.4	2.6	1.7	10.1
Into St Albans	40.6	41.8	42.4	43.4	168.1
From St Albans	38.1	38.4	39.8	41.6	158.0
International Migration Net	-1.0	-0.6	-0.6	-0.6	-2.8
Into St Albans	3.3	3.4	3.4	3.4	13.5
From St Albans	4.4	4.0	4.0	4.0	16.3
Other/ National adjustments	0.0	0.1	0.1	0.0	0.2

(Sources: (1) 2012-based Sub-National population projections & (2) Mid Year Population Estimates 2011-2012, Office for National Statistics ONS.

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[http://www.nationalarchives.gov.uk/doc/open-government-licence/.](http://www.nationalarchives.gov.uk/doc/open-government-licence/))

Note: All figures independently rounded.

Note*: 2011-12 figures are from Mid-Year estimates

*Note** UK migration comprises “within England” and ‘cross-border’ (other UK) migration; shown separately in ONS projections but not in ONS estimates*

Key findings

- Natural change (births minus deaths) accounts for about two-thirds of projected growth in St Albans. In the 2014-based SNPP Natural Change adds 19,000 to the population over the period 2011-2031, with 40,400 births and 21,400 deaths; the natural increase is about 500 fewer than in the 2012-based SNPP. The number of deaths is very close to the numbers in the 2012-based SNPP.
- The 2014-based SNPP point to slightly fewer births than the 2012 SNPP. There were fewer births between 2012 and 2014 than projected by the 2012 SNPP. Nevertheless, the 2014 SNPP point to a more rapid increase in the child population than the 2012-based projection (key findings in Paragraph 1.5). This is caused by greater numbers of children projected to move into St Albans with their families (see below).
- Net in-migration is projected to add about 8,500 to the population. This is about 1,200 more than the net gain in the 2012-based SNPP. Migration flows from the rest of the UK are projected to exceed outflows, leading to an overall net gain of 10,100. This is offset to some extent by a projected net outflow of 1,500 through international migration.
- The net gain of about 10,100 people from the rest of the UK is the balance between much greater inflows (175,300) and outflows (165,200). The vast majority of movements are within England. The volumes of inflows and outflows are higher than in the 2012-based SNPP, but the net balance is almost identical in both projections. However, the age composition of net migration differs; the 2014 SNPP point to greater net in-migration of children and those aged between 25 and 44, with smaller gains or greater losses in other age groups.
- Migration flows to and from the rest of the UK are projected to increase in the years after 2016, but outflows are projected to rise more rapidly. The net gain from UK migration is highest during the period 2016-2021, but is projected to fall thereafter. The gain of 1,700 in the period 2026-2031 is half that in the period 2016-2021. Changes in migration inflows stem from changes in the populations of areas from which migrants come; outflows change in response to changes in the population of St Albans.
- A net loss through international migration of 1,500 is projected between 2011 and 2031. The 2012-based SNPP showed a greater loss of 2,800. Immigration is slightly greater: 14,200 compared with 13,500. Emigration is lower: 15,700, compared with 16,300.

- There is a high degree of uncertainty about future migration flows, particularly international flows. There have been wide swings in annual flows since 2011: see Figures 2 and 3 in the next section. The EU Referendum result, and the change in government, must raise doubts about the long-term continuation of large inflows from the EU. These inflows have greatly affected the assumptions in recent SNPP.
- International migration is projected to have a modest direct impact on St Albans, but the indirect effects could be much greater as London is a major source of net migration into St Albans. The capital has seen very rapid population growth in recent years and this is projected to continue; the 2014 SNPP point to a growth of 1.17 million persons between 2014 and 2024, an increase of 13.7%, despite a loss, through out-migration to other parts of the UK of 7%. International migration is projected to add 10% to London's population. In the projection methodology, future out-migration flows from London are affected by changes in its population.
- Population growth, particularly migration, attracts much attention as a major driver of household change. However, it must be remembered that changes in the age composition of the population, described in Table 1, also have major implications for future household change.

Comparison with earlier projections

1.9 In recent years, ONS has published population projections with base years of 2008, 2010, 2011 and 2012. Table 3 compares the basic results of the 2014-based projections with the older projections. All point to significant growth during the period, but vary to some extent: growth for the period 2011-2031 ranges from 24,400 to 27,700.

Table 3: ONS Sub-national Population Projections for St Albans

Base year	Population (,000s)			Change('000s)		
	2011	2021	2031	2011-21	2021-31	2011-31
2008*	138.7	151.8	163.1	+13.1	+11.3	+24.4
2010*	138.0	152.7	164.7	+14.7	+12.0	+26.7
2011**	141.2	154.6	n/a	+13.4	n/a	n/a
2012**	141.2	155.4	168.2	+14.2	+12.9	+27.0
2014**	141.2	155.6	168.9	+14.3	+13.4	+27.7

(Source: Sub-national Population projections for England, ONS
<http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Subnational+Population+Projections>)
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<http://www.nationalarchives.gov.uk/doc/open-government-licence/>)

Note: figures rounded independently to nearest hundred;

Note*: 2011 figures are projected from the respective base year

Note**: 2011 figures are from Population Estimates, based on the Census;

Key findings

- The 2014 projections show the greatest change, a gain of 27,700 people over the period 2011-2031.
 - The range of difference between the 2010, 2012 and 2014 projections is narrow: about 1,000. Growth in the 2008-based SNPP is lower.
 - Differences between the projections arise from:
 - differences in the base year population figures;
 - the updating of trend-based evidence;
 - revisions to methods and estimates of historical trends in migration; and
 - different national assumptions about future international migration.
- 1.10 In technical terms, the 2012 and 2014 projections should be the most robust, being informed by evidence revised in the light of the 2011 Census. Differences between these projections and the 2008 and 2010-based SNPP stem in part from the use of revised data and changes in methodology. The technical issues were discussed in some detail in paragraphs 1.10-1.16 of the July 2015 HNA Update Report. However, all projections are subject to a degree of uncertainty. This is heightened by ongoing problems in the quality of data for monitoring migration, and the limitations of projection methods.
- 1.11 The results of trend-based projections are sensitive to the choice of historical period for calculating assumptions about future trends; the choice is a matter of professional judgement. ONS use a 5/6 year historical reference period for calculating migration assumptions for the SNPP; this is a short period for projecting forward 20 years. It has been argued that a longer trend period could provide a more stable guide for setting migration assumptions for long-term projections. The Greater London Authority has recently issued population projections with variants based on five and twelve year trend periods⁶.
- 1.12 Reporting on consultation carried out during the preparation of the 2014-based SNPP, ONS stated: *“A large number of respondents (46) said that they would like to see a variant which uses 10 years of trend data in the subnational population projections or a change to the standard methodology to reflect a longer trend period”*⁷. ONS have committed to test such an approach.
- 1.13 Scenarios prepared for the original 2013 St Albans SHMA included ones based on five and ten-year trend periods leading up to 2012. The

⁶ “Trend-based Projection Methodology 2015 round population projections”, GLA, July 2016

⁷ “Response to the consultation on the 2014-based Subnational Population Projections for England”, ONS 25 May 2016).

next section looks at the effects that more recent data have on the calculation of five and ten-year migration averages.

Evidence on Migration Trends

- 1.14 Figure 2 shows the annual net migration balances for St Albans between 2001 and 2015. The latest data, for 2014-15, was released on 23 June 2016, postdating the 2014-based SNPP.
- 1.15 There are large year-on-year variations in the net migration balance. There was consistency during the period 2008-2011, but wide variations on either side. There was a large migration loss in 2003-2004, and a very large gain in 2013-2014. These outliers have major effects on the calculation of averages for five and ten-year periods. The gain in 2014-15 is much lower than in 2013-14.
- 1.16 Figure 3 provides a breakdown between flows to and from the rest of the UK and international flows. This picture is more complex. The large gain from UK migration in 2013-14 has been followed by a small net loss in 2014-15. Recent international flows show a reverse picture with a large net outflow in 2011-12, and large inflows in 2013-14 and 2014-15.

Figure 2: Net migration gains/losses, St Albans, 2002-2015

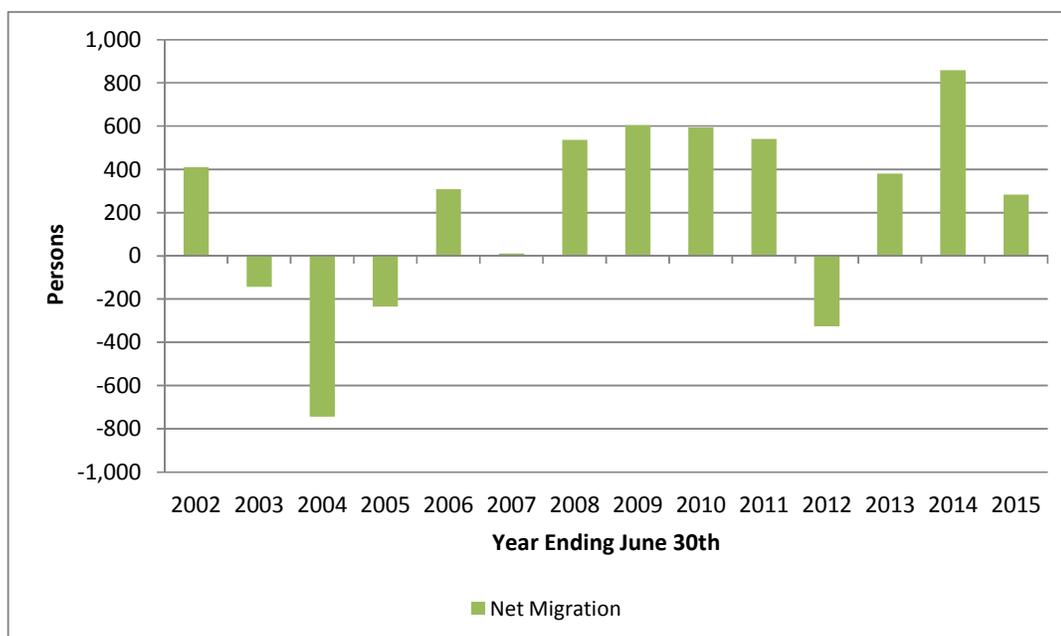
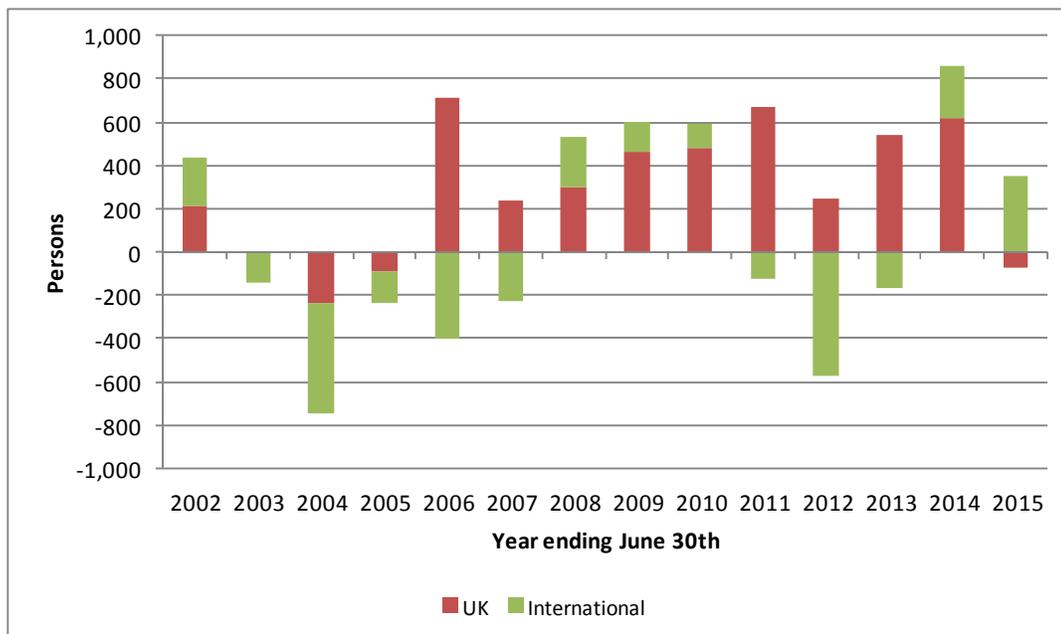


Figure 3: Net UK and international migration gains/losses, St Albans, 2002-2015



(Sources: Mid Year Population Estimates, Office for National Statistics (ONS), website <http://www.ons.gov.uk/ons/index.html>. Contains public sector information licensed under the Open Government Licence v1.0 <http://www.nationalarchives.gov.uk/doc/open-government-licence/>.)

- 1.17 'Moving' averages are commonly used to try and smooth out annual variations and provide a more stable basis for projections. Table 4 shows two types of average for years between 2011 and 2015. One is based on the preceding ten years. The other is based on the shorter periods used by ONS to set the SNPP migration assumptions: 5 years for UK migration and six years for international migration. The averages reduce year-on-year variation, but there is a major difference in the ten-year averages before and after 2013.

Table 4: Annual average net migration for St Albans

Period ending	UK		International		All	
	5 year period	10 year period	6 year period	10 year period	5/6 year period	10 year period
2011	429	275	-45	-85	384	188
2012	430	278	-73	-165	357	115
2013	480	332	-62	-167	418	167
2014	511	417	-61	-91	450	327
2015	401	420	-26	-41	375	379

(Sources: derived from Mid Year Population Estimates 2002-2015 Office for National Statistics ONS website <http://www.ons.gov.uk/ons/index.html>. Contains public sector information licensed under the Open Government Licence v1.0 <http://www.nationalarchives.gov.uk/doc/open-government-licence/>.)

- 1.18 The ten-year average total net migration gains are much higher for the period ending in 2014 than for periods ending in 2011 and 2013. This stems from an exceptional coincidence: the replacement in the calculation for 2014 of the large loss in 2003-4 by the large gain recorded in 2013-14 (Figure 2). Where annual 'outliers' vary so much they can overwhelm the smoothing effect of using an arithmetic average, even over a ten year period.
- 1.19 This shift can be seen also in the ten-year figures for UK migration. For net international migration, there is also a reduction in the net losses.
- 1.20 The smoothing effect of the ten-year approach reasserts itself somewhat in the 2014-2015 average. Although annual net migration in 2014-15 was much lower than in 2013-14 (figure 2), the ten-year average for 2005-2015 is higher than the 2004-2014 average.
- 1.21 The 5/6 period ending in 2014 informed the 2014-based SNPP. The 5/6 year average net migration gain for this period is noticeably higher than the 2012 average. However, the most recent average, for the period ending in 2015, is lower, and close to the ten year average.
- 1.22 The instability in migration flows is a major barrier to providing a robust long-term view of future population and household change. As noted earlier, such problems are greater in areas such as St Albans, which fall within London's orbit of influence. London is a major source of migration to St Albans, and the projected growth in the Capital's population is driven in large part by international migration.

Official household projections

- 1.23 Official projections of the number of households (SNHP) published by CLG, are consistent with the SNPP. The most recent, 2014-based SNHP, were published in July 2016
- 1.24 Three sets of SNHP have been produced since the 2011 Census using 2011, 2012 and 2014 base years. The 2011-based projections were 'interim' and only covered the period to 2021 because very little Census data was available at the time of production. Projections from a 2012 base were published in two stages: February and December 2015. The 2012-based projections used additional Census data not available for the 2011-based projections. However, technical issues with the Census data have prevented a comprehensive review of household trends at local authority level. The 2014-based SNHP broadly follow the same methodology as the 2012-based SNHP. It should be noted that the updated base year figure is an estimate derived from the Labour Force Survey, a regular sample survey carried out by ONS.
- 1.25 ONS' population projection is converted into households by
- deducting residents of communal establishments (care homes, prisons etc) from the population⁸ and,
 - applying household representative rates (formerly headship rates) to the remaining 'household population'.
- 1.26 The rate is the number of household representatives divided by the household population; rates are calculated for gender, age and relationship (single, married, previously married). Projected future changes in household representative rates are modelled on the basis of long-term historical trends. Paragraphs 5.28 to 5.32 of the 2013 HNA report, and CLG's methodology document⁹, provide more details.
- 1.27 Household representative rates vary by age and gender. Very few household representatives are younger than 20 years of age. Rates increase rapidly after the age of 25, as many people set up home for the first time. Rates are at their highest in the oldest age groups, mainly because of the survival of one partner following the death of the other. Numbers living in care and nursing homes are also highest in the older age groups; residents in such institutions are not part of the 'household population' and are discounted before household rates are calculated.

⁸ Numbers of persons aged under 75 living in establishments remain constant. It is assumed that the proportion of the population aged over 74 that live in establishments remains constant; numbers change as the overall older population changes.

⁹ "Household Projections 2014-based Methodology Report, Department for Communities and Local Government, 12 July 2016: website: <https://www.gov.uk/government/collections/household-projections>

1.28 The previous update report provided details of household representatives by age. Unfortunately, the December 2015 release of additional 'stage 2' household details from the 2012-based projections revealed some technical issues of consistency. These are also present in the 2014-based projections. The age breakdowns have not been included in the report at this stage, pending consideration of the best approach. It should be emphasised that the overall household totals, described below, are not affected by this issue.

1.29 Table 5 compares the headline results of the 2014-based projections with the 2008, 2011, and 2012-based SHNP; the 2008-based projections predate the Census.

Table 5: CLG Household Projections for St Albans

Base year	Households ('000s)			Change ('000s)		
	2011	2021	2031	2011-21	2021-31	2011-31
2008	57,322	64,223	70,614	6,901	6,391	13,292
2011	56,359	61,676	n/a	5,317	n/a	n/a
2012	56,354	62,529	69,089	6,175	6,560	12,735
2014	56,350	62,367	68,738	6,017	6,371	12,388

(Sources: CLG Household Projections for England, CLG
<https://www.gov.uk/government/collections/household-projections>)

Note: All figures rounded independently rounded to nearest 100; sums and differences calculated from exact figures and then rounded

1.30 The 2014-based projection shows the least growth between 2011 and 2031: 12,400 households. The 2008-based has the greatest gain of 13,300. The timing of growth differs. The 2008-based projection shows more rapid growth in the period 2011-2021, with a slowing down in the period after 2021. The 2011-based projections show the least growth during this period. The 2012 and 2014 projections show more rapid growth after 2021 than before. The 2012-based projection has the greatest growth in the period 2021-2031 but the range between the highest and lowest projections is fairly narrow.

1.31 Differences stem from a number of contributory factors including:

- population growth;
- age/gender composition of the population;
- relationship assumptions;
- population living in communal establishments;
- trends in household representative rates; and
- differences in data and methodology.

- 1.32 Table 6 shows the equivalent change in dwelling numbers if allowance is made for vacant dwellings, second homes and holiday homes. It follows the assumption made by Edge Analytics' for the housing scenarios in the 2013 SHMA: that 3% of dwellings will not be occupied by persons resident in St Albans; The latest 2014-based projection implies an annual increase of 639 dwellings; 620 per annum up to 2021 and 657 in the period 2021-2031.

Table 6: Dwelling implications of CLG Household Projections for St Albans

Base year	Net Additions to Housing Stock					
	Total			Annual average		
	2011-21	2021-31	2011-31	2011-21	2021-31	2011-31
2008	7,116	6,590	13,707	712	659	685
2011	5,483	n/a	n/a	548	n/a	n/a
2012	6,368	6,765	13,132	637	676	657
2014	6,205	6,570	12,775	620	657	639

(Sources: derived from: (1) Household Projections for England, CLG

<https://www.gov.uk/government/collections/household-projections>,

(2) Para. 3.26 of "Housing growth forecasts for St Albans, Demographic analysis & forecasts" Edge Analytics, October 2013)

- 1.33 The figures in Table 6 are illustrative and do not cover all aspects of the relationship between households and dwellings needed to specify the OAN for housing. The wider issue of net and gross housing need estimation is dealt with in the main HNA reports as there are uncertain implications in respect of the particular forms of housing needed. New household formation and dwelling demand as a result of an aging population is a particular factor because there are many alternative housing choices, including multi-generational households or new forms of accommodation. This could reduce the need for new conventional housing. This issue is discussed in more detail in Chapter 6 of the October 2015 HNA report.
- 1.34 Table 7 shows how much of the projected change in household numbers stems from population change and how much from future trends in household formation. Population growth and changes in age composition are the predominant drivers of projected household growth. It is important to stress the importance of the changing age structure, as these changes are almost inevitable, barring a major deterioration in mortality rates.

Table 7: Drivers of projected growth in household numbers in St Albans, 2011-2031

Indicator	Population Change*	Household formation *	Interaction**	Total
Numbers('000s)	+11.5	+0.5	+0.4	+12.4
% change	+92.4%	+3.8%	+3.8%	100.0%

(Source: Derived from 2014-based Household Projections for England, CLG
<https://www.gov.uk/government/collections/household-projections>)

Note: Figures independently rounded to nearest 100

Note: * using "stage 1" household representative rates. See CLG methodology report

Note: ** Interaction between population change and change in household rates

1.35 Table 8 shows how different trends in household representative rates affect future household growth. CLG's 2008, 2011, 2012 and 2014-based household representative rates are applied to the same population: CLG's 2014-based projection of the population in households, derived from ONS' 2014-based population projection.

Table 8: Effect of different household formation assumptions, St Albans

CLG household assumptions*	Households ('000s)			Change ('000s)		
	2011	2021	2031	2011-21	2021-31	2011-31
2008	57.5	63.9	70.6	+6.3	+6.7	+13.0
2011	56.0	61.5	n/a	+5.5	n/a	n/a
2012	56.4	62.3	68.7	+6.0	+6.4	+12.4
2014	56.4	62.4	68.7	+6.0	+6.4	+12.4

(Source: calculated from: CLG Household Projections for England, CLG
<https://www.gov.uk/government/collections/household-projections>)

Note: All figures rounded independently rounded to nearest 100; sums and differences calculated from exact figures and then rounded

Note: using "stage 1" household representative rates. See CLG methodology report.

Note: * using CLG's 2014-based data on relationship status (single, previously married, married) and institutional population

1.36 The different assumptions have a fairly small effect on change in household numbers between 2011 and 2031. The range between the highest and lowest is 600. There is little difference between the 2012 and 2014 trends. The 2008-based trends point to slightly more rapid household growth; it should be noted that the 2008-based trends are based mainly on household trends between 1971 and 2001. These trends also influence the 2011, 2012 and 2014 projections, with the addition of the 2011 Census data point.

1.37 The 2008-based rates produce a 2011 figure that is greater than the number of households measured by the Census. The 2011-based projection rates underestimate the number of households in 2011; they

were produced before the release of Census data on age, relationship and communal establishments.

- 1.38 In conclusion, the 2014-based projections point to an increase of 12,400 households over the period 2011-2031. Growth is slightly less rapid than in the 2012-based projections. The differences stem mainly from differences between the population projections. The 2014-based projections imply an increase of nearly 12,800 dwellings, or 639 per annum between 2011 and 2031. The next section sets the latest projections in the context of the scenarios produced for the 2013 Housing Needs Assessment.

Edge Analytics demographic and household scenarios

- 1.39 This section compares the new evidence from the official 2014 household and population sub-national projections against the scenarios prepared by Edge Analytics for the 2013 HNA main report. Paragraphs 5.37 to 5.65 of the main HNA report described the Scenarios and the impacts of different population and household formation assumptions.

Demographic Scenarios

- 1.40 Nine demographic scenarios were produced. Most were based on calculations of migration trends using official ONS data on migration in years leading up to 2012. Two scenarios modelled the possible impacts of policies which determined the amount of housing to be provided. The nil-net migration scenario modelled the effect of balancing the flows of migrants into and out of St Albans.
- 1.41 Another Scenario used assumptions from the 2010-based sub-national population projections. It should be noted that the 2011 base population was scaled to the Census-based estimate, rather than the original projection. This has some effect on the projected change during the period 2011-2031, showing growth of 27,300 rather than the 26,700 in the published projections in Table 3.

Household Scenarios

- 1.42 Two sets of household formation assumptions were applied to each demographic scenario; these modelled 2011 and 2008-based household-representative rates and were termed A and B respectively. As the 2011 projections only run to 2021, for Option A, it was assumed that trends in household representative rates during the period 2011-2021 would persist until 2031.
- 1.43 The 2008-based projections overstated the number of households in 2011. For option B, the projection was controlled to the same total number of households in 2011 as option A, based on the Census. Thereafter the trends in household formation follow the trajectory in CLG's 2008-based projection.

Population and household growth

- 1.44 Table 9 summarises the scenario results from Tables 5.5 and 5.6 of the 2013 SHMA report. The table also shows the effect of applying Edge's option A and B household formation assumptions to ONS' 2012 and 2014-based SNPP. The intention is to provide a consistent basis for comparison with the Edge demographic scenarios.
- 1.45 The population growth in the 2014-based SNPP is next to the top of the range; only 'Mig-led High' shows greater growth. The 2014-based SNPP also has the second highest household growth when option A household rates are applied. Under option B assumptions, the 2014-based SNPP would show the fourth highest household growth. For all demographic scenarios household growth is greater under option B assumptions than under A.

Table 9: Population and household scenarios: 2011 to 2031

Scenarios & projections	Population Change		Household Change			
	Nos.	%	Option A		Option B	
			Nos.	%	Nos.	%
Edge Scenarios (1)						
Mig-led High	28,838	20.4	12,821	22.8	14,494	25.7
Mig-led High X	26,602	18.8	12,099	21.5	13,695	24.3
SNPP 2010*	27,329	19.3	12,005	21.3	13,710	24.3
Mig-led (5 years)	24,398	17.3	11,329	20.1	12,834	22.8
Dwell-led 550	23,614	16.7	10,550	18.7	10,526	18.7
Net-nil migration	14,911	10.6	9,098	16.1	10,772	19.1
Mig-led (10 years)	18,093	12.8	8,452	15.0	10,370	18.4
Mig-led Low	17,680	12.5	9,068	16.1	9,960	17.7
Dwell-led 250	8,531	6.0	5,023	8.9	4,999	8.9
ONS Projections(2)						
SNPP 2012	27,000	19.2	12,038	21.4	13,481	23.9
SNPP 2014	27,688	19.6	12,130	21.5	13,601	24.1

(Sources: (1) Edge Analytics

(2) Population data from SNPP/CLG projections and Mid-Year Estimates (ONS); household scenarios by Housing Vision using data from Edge Analytics)

Note: *Scenario based on assumptions from 2010-based SNPP

- 1.46 Table 10 considers the 2012 and 2014-based official projections, comparing the A and B scenario household figures, from Table 11, with the published CLG results. Both the 2012 and 2014-based CLG results lie between the A and B scenarios. Differences arise partly from different household formation trends, but also reflect technical differences in modelling.

Table 10: Household Change 2011-2031: Different Household Assumptions

Base Year	Household Change					
	CLG		Scenario A		Scenario B	
	Nos.	%	Nos.	%	Nos.	%
2012	12,735	22.6	12,038	21.4	13,481	23.9
2014	12,388	22.0	12,130	21.5	13,601	24.1

(Sources: Population data from SNPP/CLG projections and Mid-Year Estimates (ONS); household scenarios by Housing Vision using data from Edge Analytics)

Key findings

- The population growth in ONS' 2012 and 2014 projections lie near the top end of the range of the SHMA demographic scenarios, and close to the "Mig-led High X" scenario.
- Under Option A household assumptions, the 2014 and 2012 SNPP point to household growth of about 12,000. This is very close to the number from the 2010 SNPP, and near the top end of the range of the Edge demographic scenarios.
- Under Option B household assumptions, the 2012 and 2014 SNPP point to household growth in the range 13,500-13,600. Both projections are towards the top end of the range of the SHMA scenarios.
- CLG's 2014-based household projections point to growth of about 12,400 over the period 2011-2031. This lies between the A and B scenarios based on ONS' 2014-based population projections. CLG's 2012-based projection of 12,700 also lies about midway between the respective A and B scenarios.
- The results of the 2012 and 2014 official population and household projections fall within the range of demographic and household scenarios prepared for the SHMA, albeit towards the upper end of the ranges. The scenarios prepared for the original SHMA continue to provide a reasonable range of possible outcomes from trend-based projections of future change.

Summary and Conclusions

- 1.47 CLG's latest 2014-based projections point to an increase in household numbers of nearly 12,400 over the period 2011-2031. After allowing for vacant, second and holiday homes, this equates to an increase of 12,775 dwellings, at an annual average of 639. The annual addition to the housing stock 2011-2021 would be 620; in the period 2021-2031 it would be 657.
- 1.48 CLG's 2014 and 2012-based sub-national population and household projections show similar population and household growth, although there are differences in the age composition of population change.

- 1.49 ONS' 2012 and 2014-based projections point to population growth that lies towards the upper end of the range of scenarios and close to the "Mig-led High X" scenario. Both are substantially higher than the growth shown by Edge's Mig-led (10 years) Scenario.
- 1.50 The 2014-based CLG projections point to household formation trends that lie between Edge's option A and B assumptions. Option A scenarios, produce less household growth than the corresponding CLG projection, while option B scenarios, show greater growth. The CLG's projection benefits from 2011 Census data not available when the scenarios were prepared.
- 1.51 Annual net migration remains subject to wide variation. St Albans gain from migration increased sharply between 2012 and 2014, but fell in 2014-15 when there was a net out-movement to the rest of the UK.
- 1.52 International migration is volatile and very difficult to forecast. The vote to leave the EU, and the change in government, introduce new doubts about the likely long-term continuation of the high levels of net immigration experienced in recent years. Although international migration has had limited direct impact on St Albans, it has been a primary driver of London's rapid growth in recent years. Out migration from the capital is a major input into housing pressures on many areas including St Albans.
- 1.53 ONS' projections are informed by averages that try and even out annual fluctuations and provide a stable basis for predicting the long-term future. ONS currently use a 5/6-year approach. Arguments have been made by a number of agencies that a longer time span should be used, and ONS has indicated that it will test this approach.
- 1.54 The impact of recent Mid-Year Estimates on five/six and ten year averages was explored in paragraphs 1.14 to 1.22. There has been a large increase in the ten-year net migration averages since 2012, and a convergence with the 5/6 year averages. The averages for the five and ten-year period ending in 2015 are very close.
- 1.55 Edge's Mig-led (10 years) scenario was based on trends leading up to 2012. An updating of this scenario to reflect more recent evidence would produce somewhat higher population and household growth.
- 1.56 National Planning Guidance states that "*Establishing future need for housing is not an exact science. No single approach will provide a definitive answer.*"¹⁰ In reality, there is unlikely to be a single definitive answer given the limitations of data and models and the inherent

¹⁰ "Housing and economic development needs assessments Methodology: assessing housing need" Paragraph: 014 Reference ID: 2a-014-20140306; Planning Practice Guidance (<http://planningguidance.planningportal.gov.uk>)

instability of migration. Selection of a single figure is a matter of judgment; it should be informed by evidence, but be aware of the limitations of that evidence. Recent evidence confirms that the demographic and household scenarios prepared by Edge Analytics for the 2013 HNA provide a robust indication of the range of outcomes to be expected under different assumptions about demographic and household trends.