

# Greater Essex

## Demographic Forecasts 2012-2037

Phase 6 Main Report

September 2014

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## Acknowledgements

Demographic statistics used in this report have been derived from data from the Office for National Statistics licensed under the Open Government Licence v.1.0.

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## Foreword

The era of regional planning through Regional Spatial Strategies has been replaced by a more localised approach to decision making regarding local growth and future development. This change has placed new and challenging responsibilities on local planning authorities to consider future growth levels for their own areas.

Local planning authorities retain responsibility for establishing spatial planning strategies for their area through preparation of Local Plans. Responsibility for establishing the level of future housing provision in their area will in future rest solely with the individual local planning authorities. A key part of estimating this future provision will be an objective assessment of the likely future population of each authority's area and the implications for housing, jobs, infrastructure, services and facilities.

The Essex Planning Officers Association (EPOA) has identified the need for continued collaboration between authorities on the preparation and use of demographic information. EPOA views the availability of robust and consistent demographic information and forecasts across a wide area as a vital component in any local planning authority evidence base; this then facilitates more informed discussion regarding future development with local communities, neighbouring authorities, infrastructure and service providers, developers and others. In particular, demographic data is a key component to inform and mobilise the 'duty to cooperate' which the Localism Act places on authorities, their neighbours and other organisations when engaged in policy development and Local Plan preparation.

The original EPOA project commissioned a programme of work conducted in four phases and concluded in summer 2012. A range of demographic forecasts representing a variety of scenarios were produced, together with a range of relevant demographic material. EPOA has now extended this commission to provide an annual update to the demographic forecasting evidence for its member authorities. This new evidence continues to include a variety of scenarios, including migration-led, dwelling-led and economic-led approaches to demographic forecasts.

It is not the intention of this project to produce a recommended or preferred demographic forecast for any area. Rather, the approach is to encourage examination of the demography of each area from different perspectives. Hopefully this will allow appreciation of how the demography of an authority may be influenced by local circumstances and local policy choices. It

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is for each local planning authority to determine its use of the forecasts and other outputs from this project to inform its future spatial policy development.

EPOA represents the twelve Local Planning Authorities in Essex, as well as the two unitary authorities of Southend-on-Sea and Thurrock and the County Council of Essex. The Association has also extended a welcome to East Hertfordshire District Council and Welwyn-Hatfield Borough Council as full contributing members of the project. The project also includes preparation of demographic forecast scenarios for additional local planning authorities which are not contributing to the project. This broader approach has been taken in order to provide EPOA members with equivalent demographic data for all their neighbouring authorities or sub-regional partners. This feature of the project is intended to facilitate the 'duty to cooperate' for all EPOA member authorities.

I trust that you find this initiative by the Association to be informative and of assistance at this time of change and uncertainty.

**Andrew Cook**

Chairman, Essex Planning Officers Association

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# 1. Introduction

## Context

- 1.1 With the revocation of the Regional Spatial Strategy (RSS), the development of housing requirements for Local Plans is now very much the responsibility of individual local authorities. The National Planning Policy Framework (NPPF)<sup>1</sup> and Planning Practice Guidance (PPG)<sup>2</sup> provide guidance on the appropriate approach to the objective assessment of housing need and the use of demographic and economic evidence to support this assessment. As a result, the development and presentation of demographic evidence to support local housing plans is subject to an increasing degree of public scrutiny.
- 1.2 The Essex Planning Officers Association (EPOA) has maintained its commitment for continued collaboration between authorities in the preparation and use of demographic information to support Local Plan development. EPOA views the availability of robust and consistent demographic information and forecasts across a wide area as a vital component in any local planning authority evidence base; facilitating more informed discussion regarding future development with local communities, neighbouring authorities, infrastructure and service providers, developers and others. In particular, demographic data is a key component to inform and mobilise the 'duty to cooperate' which the Localism Act places on authorities, their neighbours and other organisations when engaged in policy development and Local Plan preparation.
- 1.3 During 2010-12, EPOA commissioned an initial programme of work which delivered a range of demographic forecasts for its member authorities, providing a suite of scenarios from which future growth trajectories might be evaluated. This project was conducted in four phases and concluded in summer 2012.
- 1.4 EPOA has now extended this commission to provide an annual update to the demographic forecasting evidence for its member authorities. This new evidence continues to include a variety of forecasts, including official projections, alternative trend scenarios and economic-led growth outcomes.

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<sup>1</sup> <http://planningguidance.planningportal.gov.uk/blog/policy/>

<sup>2</sup> <http://planningguidance.planningportal.gov.uk/blog/guidance/>

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## Work programme

1.5 The new commission has been organised into three phases, continuing from the original programme of work, as follows:

1.6 **Phase 5: December 2013 – February 2014**

This phase included an update to the previous EPOA demographic forecasts and evidence to take account of: 2011 Census statistics; revisions to mid-year population estimates for 2002-10; the new 2011-based household projections; 2012 mid-year estimates; and the latest forecasts of economic growth.

1.7 **Phase 6: June 2014 – July 2014**

This latest phase incorporates updated 'official' statistics from the Office for National Statistics (ONS). This new evidence includes key assumptions from the 2012-based *national* population projection, plus area-specific data on fertility, mortality and migration which drive the 25-year, 2012-based sub-national population projections (SNPP). This new evidence is presented alongside revised jobs-led scenarios and the previous 2010-based SNPP.

All scenarios in Phase 6 have been formulated using POPGROUP 'version 4' technology, a 2014 upgrade to the forecasting software which incorporates important methodological changes, specifically to align more closely with ONS methods.

1.8 **Phase 7: quarter 1 2015**

A final phase of work will include updates to take account of new household projections (scheduled for release in quarter 4 2014), the latest mid-year population estimates and the latest forecasts of economic growth.

1.9 This document provides a summary of the Phase 6 analysis and forecasts.

## Forecasting methodology

1.10 Demographic forecasts have been developed using the POPGROUP suite of products. POPGROUP is a family of demographic models that enables forecasts to be derived for population, households and the labour force, for areas and social groups. The main POPGROUP model (Figure 1) is a cohort component model, which enables the development of population forecasts based on births, deaths and migration inputs and assumptions.

- 1.11 The Derived Forecast (DF) model (Figure 2) sits alongside the population model, providing a headship rate model for household forecasting and an economic activity rate model for labour-force forecasts.
- 1.12 The scenarios presented in the Phase 6 EPOA report have been developed using the latest version (version 4) of the POPGROUP demographic forecasting software. This new release of the software includes a number of enhancements but, most significantly, has made changes to the way in which 'internal' migration flows are handled within the model.
- 1.13 These changes have involved linking internal 'in-migration' rates directly to an external reference population (in this case the UK population) rather than to the population of the area itself. The internal 'out-migration' methodology is unchanged.
- 1.14 This has had the effect of changing the future impact of migration, with the level of internal in-migration changing in relation to growth in the reference population and the level of internal out-migration changing in relation to the growth of the population of each local area. This provides a more appropriate balance between in and out flows to and from an area.
- 1.15 These methodological changes have ensured that the POPGROUP version 4 approach is more consistent with the ONS population model and produces more robust alternative trend scenarios using the available evidence.
- 1.16 For detail on the POPGROUP methodology, please refer to the POPGROUP v.4 user manual, which can be found at the POPGROUP website: <http://www.ccsr.ac.uk/popgroup/index.html>



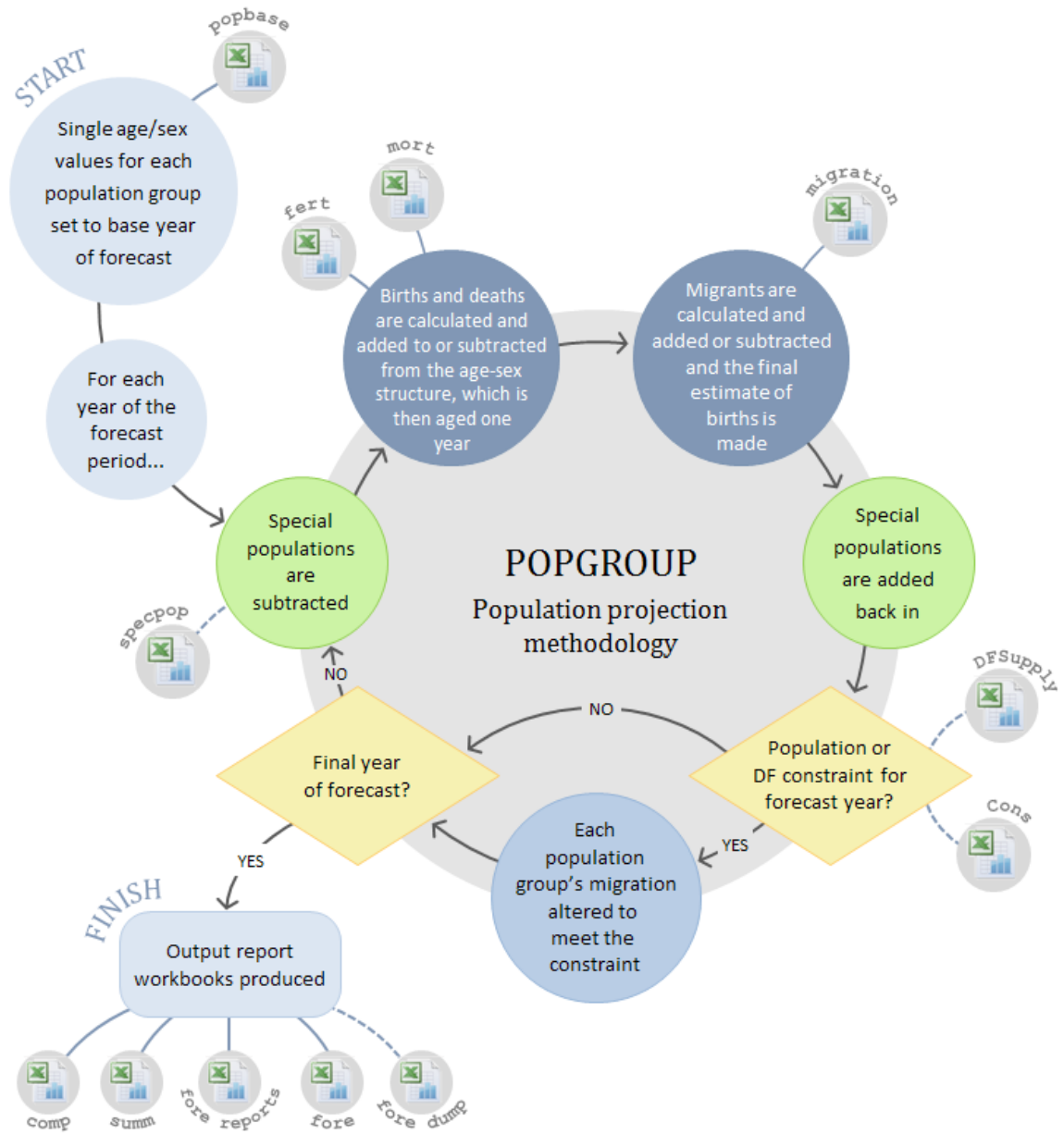
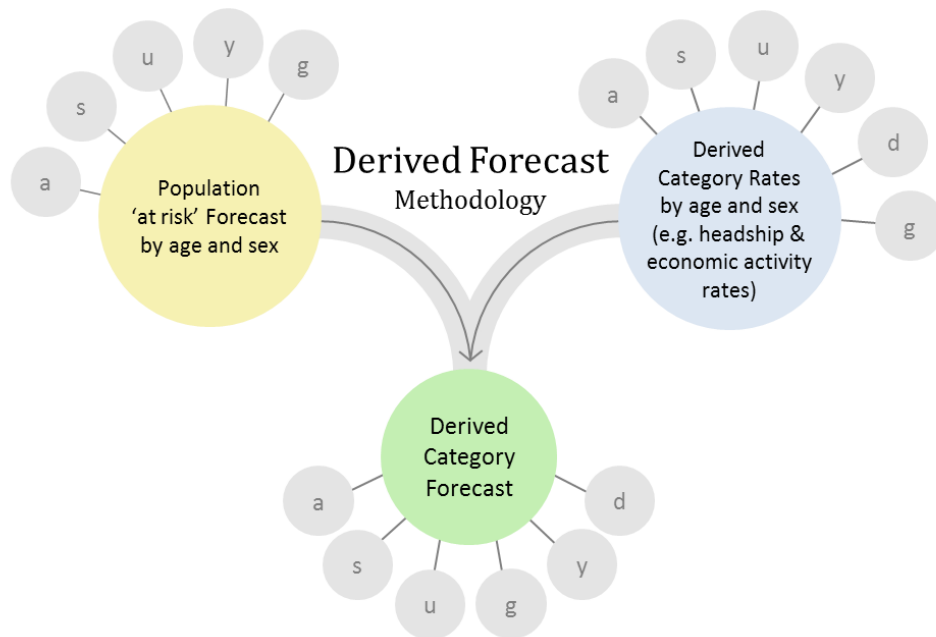


Figure 1: POPGROUP population projection methodology



$$D_{a,s,u,y,d,g} = \frac{P_{a,s,u,y,g} R_{a,s,u,y,d,g}}{100}$$

- D* Derived Category Forecast
- P* Population 'at risk' Forecast
- R* Derived Category Rates
- a* Age-group
- s* Sex
- u* Sub-population
- y* Year
- d* Derived category
- g* Group (usually an area, but can be an ethnic group or social group)

Figure 2: Derived Forecast (DF) methodology

## EPOA geography

1.17 The EPOA geographical area of interest encompasses a total of 24 local authority districts and unitary authorities plus a number of 'macro' areas, created as aggregates of these (Figure 3). Analysis, forecasting and reporting have been undertaken for each of these defined geographical areas.

Districts & Unitary Authorities				
ID	ONS old Area Code	ONS new Area Code	Area	Short label
1	22UB	E07000066	Basildon	BAS
2	22UC	E07000067	Braintree	BTE
3	22UD	E07000068	Brentwood	BRW
4	22UE	E07000069	Castle Point	CPT
5	22UF	E07000070	Chelmsford	CHL
6	22UG	E07000071	Colchester	COL
7	22UH	E07000072	Epping Forest	EPF
8	22UJ	E07000073	Harlow	HLW
9	22UK	E07000074	Maldon	MAL
10	22UL	E07000075	Rochford	ROC
11	22UN	E07000076	Tendring	TEN
12	22UQ	E07000077	Uttlesford	UTT
13	00KF	E06000033	Southend-on-Sea	SOS
14	00KG	E06000034	Thurrock	THU
15	12UB	E07000008	Cambridge	CamCity
16	12UG	E07000012	South Cambridgeshire	SCambs
17	26UB	E07000095	Broxbourne	Brox
18	26UD	E07000097	East Hertfordshire	EHerts
19	26UL	E07000241	Welwyn Hatfield	Wel Hat
20	42UB	E07000200	Babergh	Babergh
21	42UD	E07000202	Ipswich	Ipswich
22	42UE	E07000203	Mid Suffolk	MidSuff
23	42UG	E07000205	Suffolk Coastal	SufCoast
24	42UF	E07000204	St. Edmundsbury	StEdmun
Macro Areas				
ID	Definition		Area	Short label
25	1-12		Essex CC	EssexCC
26	1-14		Greater Essex	GtrEssex
27	1, 4, 10, 13, 14		Essex Thames Gateway	EsxTham
28	3, 5, 9		Heart of Essex	HrtEssex
29	2, 6, 9, 11		Essex Haven Gateway	EssexHG
30	20-23		Suffolk Haven Gateway	SufflkHG
31	2, 6, 9, 11, 20-23		Haven Gateway	HG
32	7, 8, 12		West Essex	Wessex
33	17, 18		Hertfordshire (East)	EastHert
34	7, 8, 12, 17, 18		Stansted/M11 Corridor	StansM11
35	7, 8, 18		Harlow Joint Working Area	Harlow

Figure 3: EPOA study area definition

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## Report Structure

- 1.18 Section 2 provides an introduction to the 2012-based population projections, their national context and the growth trend evident across the EPOA local authorities.
- 1.19 Section 3 illustrates the continuing influence of Greater London upon growth in the EPOA local authorities and summarises the most recent forecasts produced by the Greater London Authority (GLA) in its own evidence to support housing growth in the London Boroughs.
- 1.20 Section 4 provides a description of each of the scenarios that have been formulated using the latest POPGROUP v.4 technology.
- 1.21 Section 5 summarises the outcomes of each of these scenarios, presenting growth in terms of population, households, dwellings, labour force and jobs impacts for each of the 24 EPOA local authorities.
- 1.22 Section 6 provides a short summary of the analysis and an indication of the likely content of the Phase 7 analysis.
- 1.23 The Appendix to this document contains guidance on the data inputs and assumptions used in the development of the scenario evidence.
- 1.24 An accompanying report provides scenario summaries for each of the 11 Macro Areas within the EPOA study area.

## 2. Population estimates & projections

### Official statistics

- 2.1 Robust and timely population statistics are the most important component of the evidence required to support the assessment of housing requirements. They provide both an historical perspective on demographic growth and the basis for long-term projections of change. The current and evolving age structure of local populations drives the estimation of the likely levels of household formation and the changing size and shape of the resident labour force.
- 2.2 The UK does not have a population register and so relies on the ten-yearly Census for its definitive statistics on local populations (Figure 4). Between Censuses, mid-year population 'estimates' are published by ONS, taking account of the impact of births, deaths, internal migration and international migration upon each local authority's population. International migration is the most volatile component of demographic change and the most difficult to estimate accurately. Its sub-national estimation methodology has been subject to significant revision resulting in the re-calibration of mid-year population estimates over the course of the 2001-2011 decade.

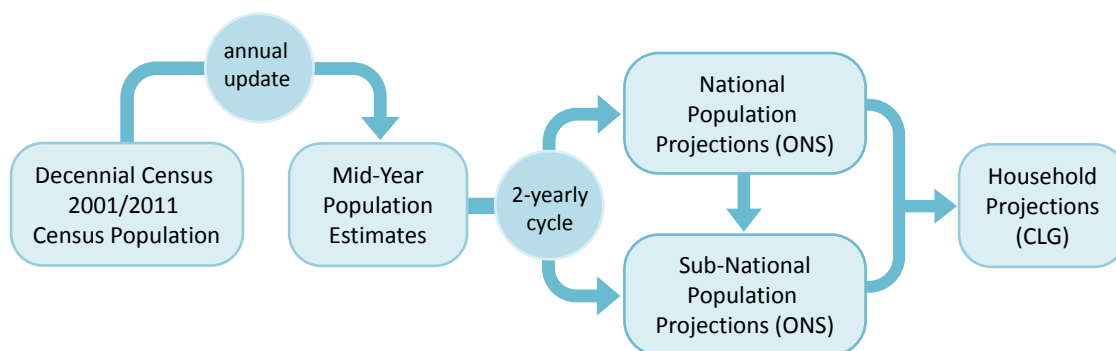


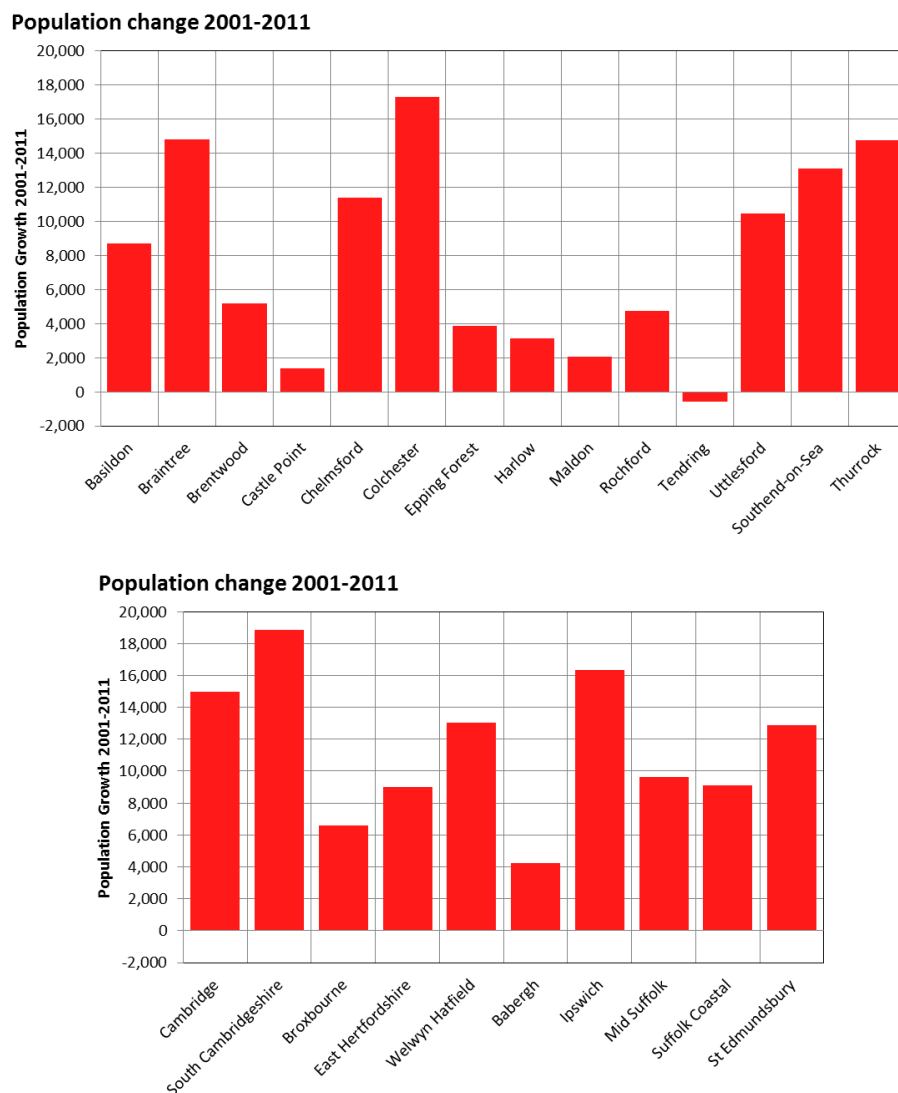
Figure 4: Official statistics on population and household estimates and projections

- 2.3 Every two years, ONS publishes a 'national' population projection for the UK and its constituent countries, including a 'principal' projection of growth and 'variant' projections which test the sensitivity of fertility, mortality and migration assumptions upon growth. A national projection with a starting year of 2012 is referred to as the '2012-based' national population projection.
- 2.4 The national projection is followed by the publication of 'sub-national' population projections,

providing an indication of likely growth in each local authority area over a 25-year projection horizon. No 'variant' alternatives are provided at a sub-national level but migration assumptions are typically based upon a prior 5-year period, with the '2012-based' naming convention consistent with the national projection.

## Population estimates & components of change

2.5 The 2011 Census provided a timely update on local population statistics suggesting substantial variation in the level of population change between the EPOA local authorities over the 2001-2011 time period (Figure 5).



Source: ONS

Figure 5: Population change - 2001-2011

- 2.6 The publication of population statistics from the 2011 Census has also resulted in the ‘rebasings’ of previous mid-year population estimates. This has important implications for both the interpretation of historical evidence on demographic change in local authority areas and on the derivation of projections of future growth based upon this evidence.
- 2.7 The rebasing of mid-year population estimates has had a variable impact upon local authorities within the EPOA study area. Table 1 lists the EPOA local authorities for which the revised mid-year estimates were higher than the pre-Census 2011 estimates (upward adjustment) and for which they were lower (downward adjustment).

Table 1: Population rebasing following the 2011 Census

Population (upward adjustment)	Population (downward adjustment)
Babergh	Castle Point
Basildon	Colchester
Braintree	East Hertfordshire
Brentwood	Epping Forest
Broxbourne	Maldon
Cambridge	Suffolk Coastal
Chelmsford	Tendring
Harlow	Thurrock
Ipswich	Welwyn Hatfield
Mid Suffolk	
Rochford	
South Cambridgeshire	
Southend-on-Sea	
St. Edmundsbury	
Uttlesford	

- 2.8 In rebasing population, ONS has made allowances for methodological adjustments and has made amendments to estimated errors in the components of population change during the 2001-2011 decade. Any residual difference in the population estimates, that could not be attributed to neither the methodological adjustments nor the estimated errors in the components of population change, has been classified as ‘Unattributable Population Change’ (UPC)<sup>3</sup>.

<sup>3</sup> 2012-based Subnational Population Projections for England – Report on Unattributable Population Change. ONS <http://www.ons.gov.uk/ons/about-ons/get-involved/consultations/consultations/consultation-on-the-2012-based-subnational-population-projections-for-england/index.html>

- 2.9 The final adjustment of each local authority's mid-year population estimate has been made with the application of an average UPC over the mid-2002 to mid-2011 period, using a cohort method to account for age-group transitions over time.
- 2.10 ONS identifies a number of factors that may have contributed to its UPC estimate:
- The accuracy of the 2001 and/or 2011 Census count, although adjustments were made to improve the quality of the 2001 Census and the 2011 Census is considered to be of a high quality;
  - Internal migration inaccuracies relating to onward student moves that may be subject to time-lags between moving and re-registering;
  - Redefinition of prisoner populations which will have had a relatively small impact upon local authorities with a prison population;
  - Difficulties associated with the robust estimation of international migration and the fact that the new methods for distributing immigration down to local authority level have only been applied to the years ending mid-2006 onwards.
- 2.11 On the assumption that the 2001 and 2011 Censuses provide a robust count of a local authority's population, that births and deaths are robustly recorded through vital statistics registers and that internal migration is adequately measured through the process of GP registration, it is most likely that the UPC is primarily due to the difficulty associated with the estimation of immigration and emigration impacts at a local level.
- 2.12 However, in its 2012-based projections, ONS does not make the assumption that UPC is primarily associated with international migration. Its methodological notes accompanying the 2012-based projections<sup>4</sup>, state that UPC has not been taken into account when setting long-term assumptions on migration for each local authority area.
- 2.13 In this Phase 6 report, the uncertainty associated with the UPC component is presented within the range of scenarios, which consider how the UPC might affect long-term migration assumptions. The UPC component is both included and excluded from international migration assumptions to evaluate how the different approaches might affect trajectories of population and household growth in individual EPOA local authorities.

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<sup>4</sup> 2012-based Subnational Population Projections for England – Report on Unattributable Population Change. ONS <http://www.ons.gov.uk/ons/about-ons/get-involved/consultations/consultations/consultation-on-the-2012-based-subnational-population-projections-for-england/index.html>



## Population projections

### *National projections*

- 2.14 ONS released its 2012-based national population projections in autumn 2013 and followed this with publication of the 2012-based sub-national projections in May 2014. Detailed methodological guidance has been provided to support both the national<sup>5</sup> and sub-national<sup>6</sup> releases.
- 2.15 The latest, 2012-based *national* projection from ONS suggests that the population of England will reach 62.2 million by 2037, an additional 8.7 million from its 2012 total. This equates to an increase of 16.2% over the 25-year projection period; approximately 0.65% per year (Table 2). This rate of annual population growth is lower than that experienced in the latest 10-year historical period (0.77% per year) or the latest 5-year historical period (0.82% per year).

Table 2: England – components of population change 2012-37

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	218,128	171,634	201,770
Net Internal Migration	-7,675	-14,381	-6,432
Net International Migration	204,288	213,612	151,552
Unattributable Population Change*	6,800	9,278	-
Annual Population Change	421,868	381,189	346,890
Annual Population Change (%)	0.82%	0.77%	0.65%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

- 2.16 Historically and in the 2012-37 projection, England has experienced a small annual loss of population due to net migration with the rest of the UK. Natural change and net international migration are the drivers of population growth at the national level, responsible for 57% and 43%, respectively, of the estimated future growth in England's population to 2037.
- 2.17 Significantly, the 2012-based projection has assumed a lower rate of growth due to international

<sup>5</sup> <http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2012-based-reference-volume--series-pp2/executive-summary.html>

<sup>6</sup> [http://www.ons.gov.uk/ons/dcp171776\\_364077.pdf](http://www.ons.gov.uk/ons/dcp171776_364077.pdf)

migration than has been recorded in the last five or ten years of evidence (even without the UPC adjustment). This has an important impact upon sub-national growth projections for the EPOA local authorities.

### *EPOA projections*

2.18 The 2012-based SNPP projection estimates that the population of the 24 EPOA local authorities will increase by 19% (approximately 546,000) over the 25-year period 2012-37. This equates to an average population growth of 0.75% per year, lower than that experienced in the latest 10-year historical period (0.86% per year) or the latest 5-year historical period (0.83% per year) (Table 3).

Table 3: EPOA local authorities – components of population change 2012-37

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	9,094	7,161	6,697
Net Internal Migration	8,480	9,191	13,379
Net International Migration	4,326	5,337	1,763
Unattributable Population Change*	1,339	1,517	-
Annual Population Change	23,183	23,206	21,838
Annual Population Change (%)	0.83%	0.86%	0.75%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

2.19 The average annual impact of natural change is maintained at a level that is consistent with the 10-year average, despite more significant increases due to the excess of births over deaths in the last five years.

2.20 The impact of internal migration (the net exchange of migrants to the EPOA local authorities from elsewhere in the UK) is subject to a significant uplift in the 2012-based projection. It is estimated to account for 61% (+13,379 per year) of change to 2037, compared to 40% (+9,191 per year) in the last ten years.

2.21 In contrast, the impact of international migration is much reduced, even without consideration of the UPC component. Just 8% (+1,763 per year) of population growth projected for 2012-37 is due to international migration, compared to 23% (+5,337) in the latest ten-year period.

2.22 The 19% population growth average for the EPOA local authorities ranges from 32% in Uttlesford to 8% in Babergh (Table 4). A number of areas are estimated to experience a net loss due to natural change over the 2012-37 projection period, with the largest negative impact in Tendring and Suffolk Coastal.

Table 4: EPOA local authorities – 2012-based SNPP components of change summary

AREANAME	2012-2037 population change				
	Natural Change	Net Internal Migration	Net International Migration	Population Change	Population Change %
Uttlesford	3,448	21,222	1,387	26,057	32%
Welwyn Hatfield	13,002	-6,490	22,785	29,297	26%
Thurrock UA	30,891	6,479	3,242	40,612	25%
Epping Forest	10,336	21,476	263	32,075	25%
South Cambridgeshire	14,143	19,349	4,621	38,113	25%
East Hertfordshire	13,149	16,056	4,280	33,486	24%
Colchester	20,380	10,706	10,100	41,186	23%
Brentwood	1,775	14,972	-1,127	15,621	21%
Harlow	15,465	-2,473	3,954	16,946	20%
Broxbourne	13,351	7,244	-1,410	19,185	20%
Braintree	4,858	23,782	554	29,194	20%
Tendring	-16,729	43,628	-694	26,204	19%
Southend-on-Sea UA	12,016	24,006	-3,365	32,657	19%
Ipswich	21,797	2,272	-2,115	21,954	16%
Basildon	20,498	7,996	315	28,809	16%
Chelmsford	12,153	13,215	2,135	27,503	16%
Rochford	-300	11,958	-512	11,146	13%
Mid Suffolk	-3,723	19,056	-2,365	12,968	13%
Maldon	-4,652	12,144	634	8,126	13%
Castle Point	-6,055	17,205	-272	10,877	12%
St Edmundsbury	1,806	15,476	-4,856	12,426	11%
Suffolk Coastal	-14,099	29,134	-2,413	12,621	10%
Cambridge	12,471	-12,934	11,980	11,517	9%
Babergh	-8,563	18,993	-3,049	7,382	8%
<b>EPOA (24)</b>	<b>167,418</b>	<b>334,470</b>	<b>44,073</b>	<b>545,961</b>	<b>19%</b>

2.23 The effect of net internal migration is projected to be positive for all areas; with Tendring and Suffolk Coastal having the highest net impact; and Ipswich, Welwyn Hatfield, Thurrock and Basildon the lowest.

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- 2.24 The net impact of population growth due to international migration is also positive in all cases. The most significant impact due to international migration is estimated for Welwyn Hatfield and also for Cambridge and Colchester.
- 2.25 Historical and forecast components of change statistics and additional scenario evidence are presented in more detail in the Area Profile for each local authority area (Section 5).

## 3. London's demographic influence

### Migration relationship

- 3.1 Greater London plays a significant role in shaping the demographic dynamics of the EPOA local authorities (Figure 6). The collection of Boroughs to the north east of the city exerts a particular influence, providing a source of new migrants to drive population growth outside the Greater London boundary.

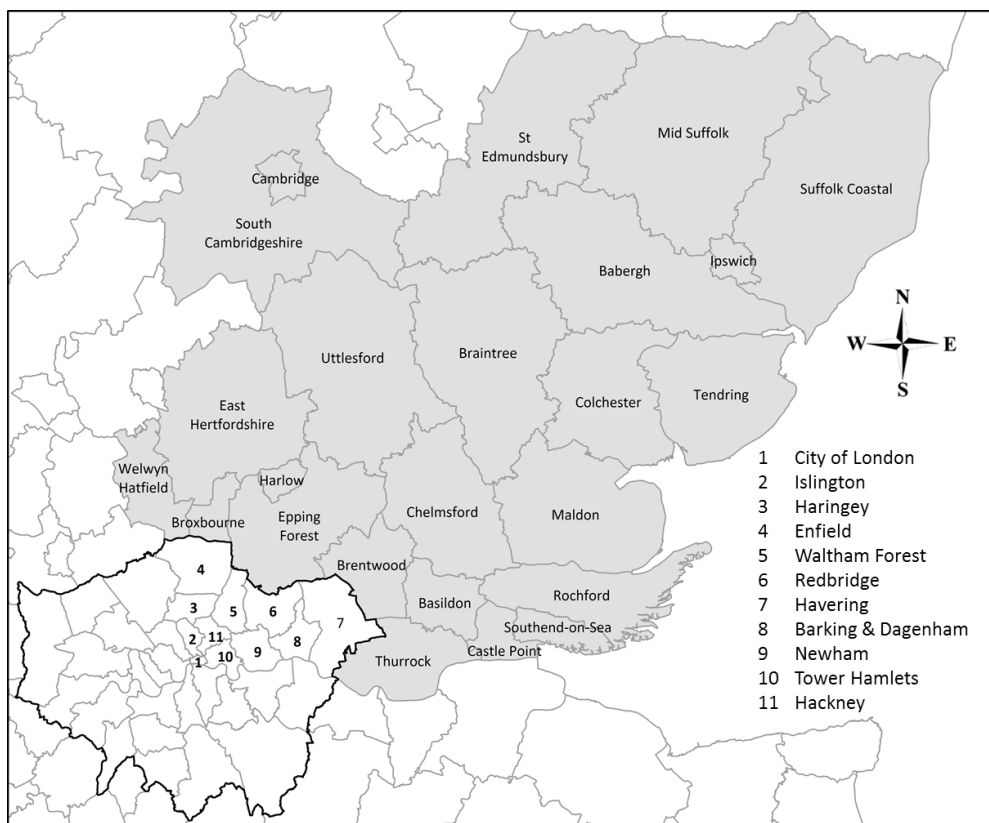
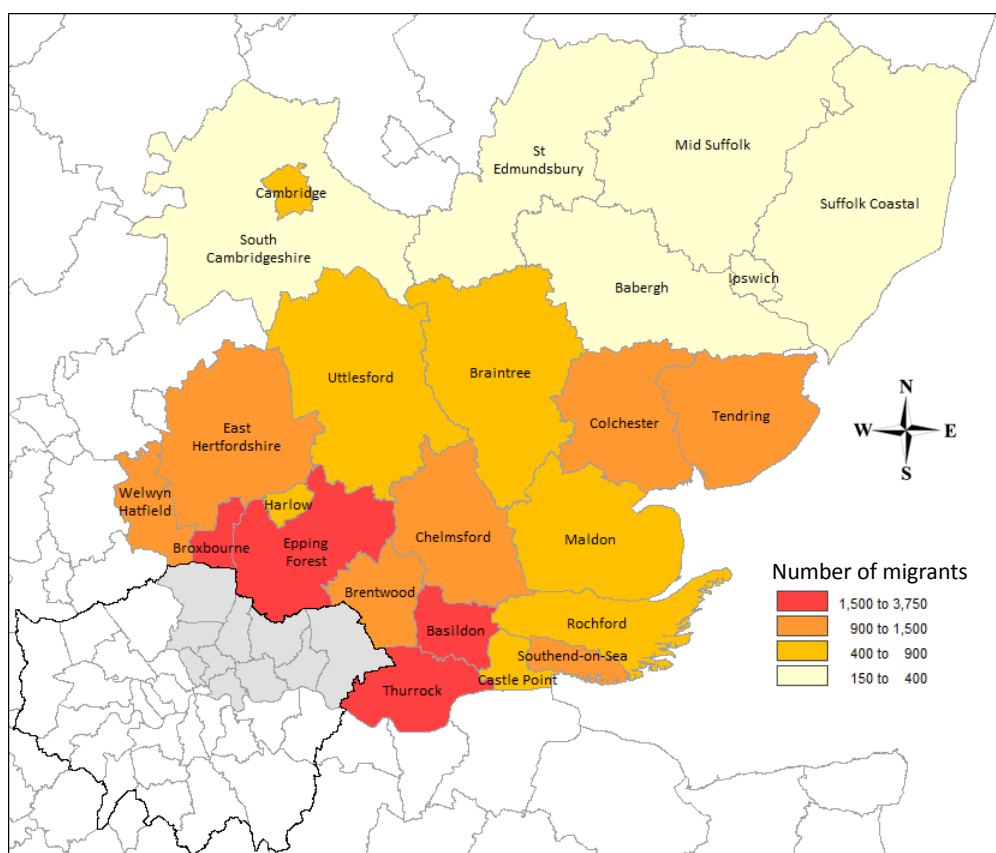


Figure 6: EPOA study area & NE London Boroughs definition

- 3.2 The analysis of internal migration flows relies upon statistics captured by the process of GP registration; the Patient Register Data Service (PRDS). When an individual relocates, re-registration with a new GP results in a migration event being recorded, identifying where a person has moved from and to. Each household member that re-registers will be captured as an individual migrant.

- 3.3 PRDS statistics provide the basis for estimating the annual impact of internal migration in ONS mid-year population estimates. Subsequently, this historical evidence provides the basis for the derivation of internal migration assumptions in both the ONS sub-national trend projections and in the GLA's own population forecasts for its London Boroughs.
- 3.4 The migration relationship between the north east London Boroughs and the EPOA local authorities is most significant for those areas that are immediately contiguous with the Greater London boundary. Epping Forest, Thurrock and Broxbourne received an annual average inflow of 3,500, 2,775 and 2,116 respectively between 2006/7 and 2012/13. Basildon, Brentwood and Tendring were slightly lower at 1,735, 1,435 and 1,332 per year respectively (Figure 7).

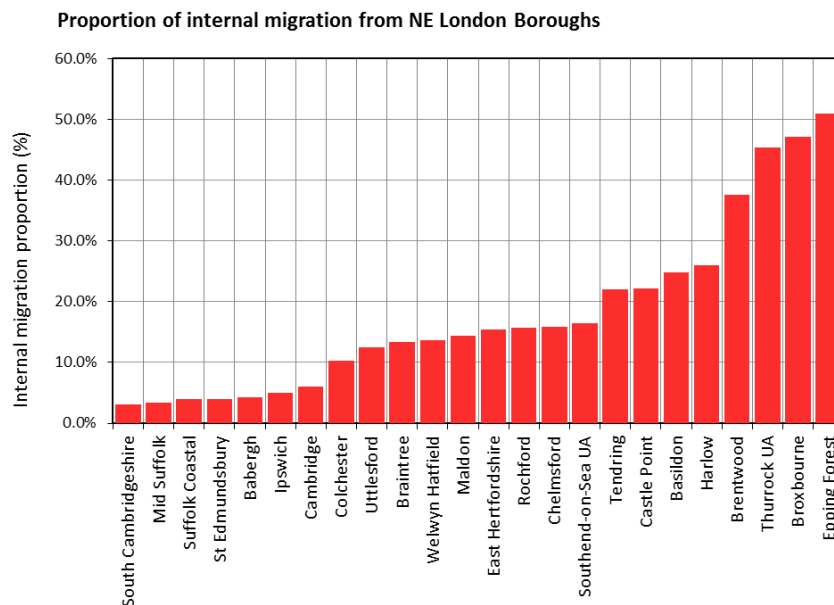


Source: PRDS (2006/7 – 2012/13)

Figure 7: Migration from NE London Boroughs – annual average 2006/7 – 2012/13

- 3.5 The movement of migrants to and from the EPOA local authorities is a complex mix of inflows and outflows but it is the relative importance of the north east Boroughs that is of particular interest when considering the London influence. During 2006/7 – 2012/13, over 50% of Epping Forest's migrant inflow originated from north east London; over 45% in the case of Broxbourne

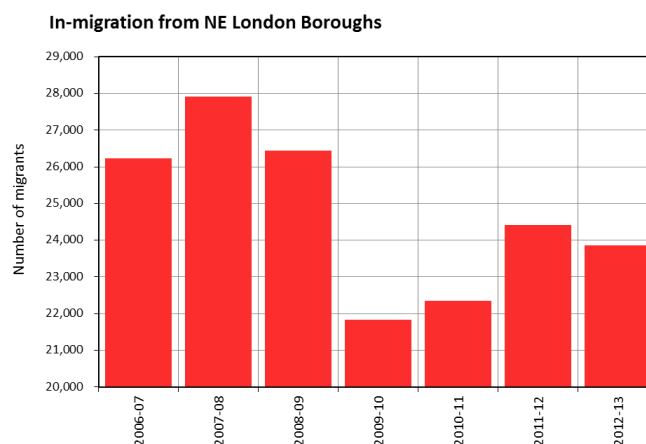
and Thurrock, 38% for Brentwood and approximately 20-25% in Harlow, Basildon, Castle Point and Tendring (Figure 8).



Source: PRDS (2006/7 – 2012/13)

Figure 8: Migration from NE London Boroughs as a proportion of all internal migration

- 3.6 Whilst the directional *pattern* of migration from north east London continued after the onset of the economic recession in 2008, the *level* of flow reduced significantly, to 80% of its 2007/08 total by 2009/10. The migration inflow has recovered thereafter but the latest statistics suggest that the inflow from NE London Boroughs to EPOA areas is equivalent to just 85% of the 2007/08 total (Figure 9).



Source: PRDS (2006/7 – 2012/13)

Figure 9: Migration from NE London Boroughs to EPOA study areas

3.7 The 2012-based sub-national population projections for the EPOA local authorities suggest an average annual net growth impact of +13,379 due to internal migration to 2037 (see Table 3), an increase on the most recent 5-year and 10-year evidence. The sensitivity of growth forecasts to changes in the balance of domestic in-migration and out-migration is a key consideration of the latest 2013-round of the GLA's own population projections.

### *GLA growth projections*

3.8 Whilst ONS publishes its official sub-national projections for local authority areas, the GLA routinely produces its own population projections for London Boroughs<sup>7</sup>. These projections incorporate the latest available demographic statistics and the key assumptions on fertility, mortality and international migration from the most recent ONS alternatives.

3.9 The GLA's latest, 2013-round, population and household projections include four trend-based variants: 'High', 'Central' and 'Low' plus an additional 'Central-NPP' scenario which incorporates more recent fertility assumptions from the 2012-based ONS National Population Projection (NPP).

3.10 The scenarios differ in their choice of *internal* migration assumptions beyond 2017. With the recession associated with a fall in migration from London to the rest of the UK and a corresponding rise in migration from the rest of the UK to London, the scenario variants are designed to evaluate the 'transient' or 'structural' nature of these shifts in migration patterns. The alternative scenarios are defined as follows:

- **'High'**: recent migration patterns persist despite an improving economic outlook.
- **'Low'**: migration patterns return to pre-recession trends beyond 2018. Out-migration rates increase by 10% and in-migration rates decrease by 6% compared to the 'High' variant.
- **'Central'**: the scenario assumes a migration position between the 'High' and 'Low' extremes, with out-migration rates increasing by 5% after 2018 and in-migration rates decreasing by 3% compared to the 'High' variant.

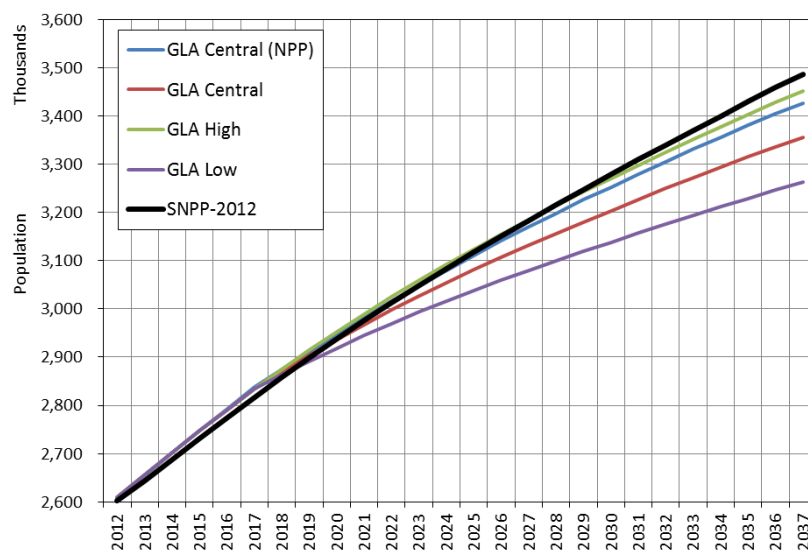
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<sup>7</sup> <http://data.london.gov.uk/datastore/package/gla-2013-round-population-and-household-projections>



- **‘Central-NPP’**: uses the same migration assumptions as the ‘Central’ projection but incorporates age-specific-fertility-rates from ONS’ 2012-based NPP, resulting in an increase in fertility rates by approximately 10% over the forecast period.

3.11 Each of the GLA scenario variants results in a population projection for the NE London Boroughs that is lower than the ONS 2012-based equivalent (Figure 10). However, despite lower projected growth in these Boroughs, there is an expectation of a higher net outflow due to internal migration, which would have consequences for projected growth in the EPOA areas, particularly those with a strong association with the NE London Boroughs.



Source: ONS, GLA

Figure 10: Comparison of 2012-based SNPP with variant GLA projections for NE London Boroughs

- 3.12 A ‘components of change’ analysis illustrates how both the ONS 2012-based SNPP and the GLA’s ‘Central-NPP’ scenario estimate population growth in the NE London Boroughs compared to recent historical change (Table 5).
- 3.13 Natural change is projected to increase in importance (relative to the last five or ten years), accounting for over 35,000 of average annual population growth to 2037. Conversely, net international migration, is estimated to reduce in importance as a driver of population growth, with the (ONS long-term) assumptions on immigration and emigration resulting in an annual average increase of approximately 32,500 population in the NE London Boroughs to 2037.

Table 5: NE London – historical &amp; projected components of population change

NE London	Historical		Projected	Projected
	5-Year Average	10-Year Average	ONS (SNPP-2012)	GLA (central-NPP)
	2007/08–2011/12	2002/03–2011/12	2012/13–2036/37 (average per year)	2012/13 - 2036/37 (average per year)
Natural Change	28,441	24,868	34,002	35,578
Net Internal Migration	-17,341	-25,533	-31,140	-35,454
Net International Migration	39,161	34,228	32,554	32,660
Unattributable Population Change*	3,101	4,117		
Annual Population Change	53,266	37,604	35,415	32,784
Annual Population Change (%)	2.3%	1.7%	1.4%	1.3%
Net Internal as % of Net International	44%	75%	96%	109%

\*UPC is only applicable to the years 2001/02 – 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

- 3.14 The estimated change in the balance of internal (domestic) migration is the most significant, with an average annual net loss in excess of 35,000 in the Central-NPP scenario and approximately 31,000 in the 2012-based SNPP. These contrast to the 5-year and 10-year historical averages of 17,341 and 25,533 respectively.
- 3.15 The GLA's Central-NPP scenario estimates lower growth than the 2012-based SNPP, primarily as a result of a progressively higher net outflow from internal migration (Figure 11). This growth projection would clearly have implications for those EPOA authorities that historically have had a strong migration link with NE London Boroughs.

GLA 'Central-NPP' Components of Change 2002–2037

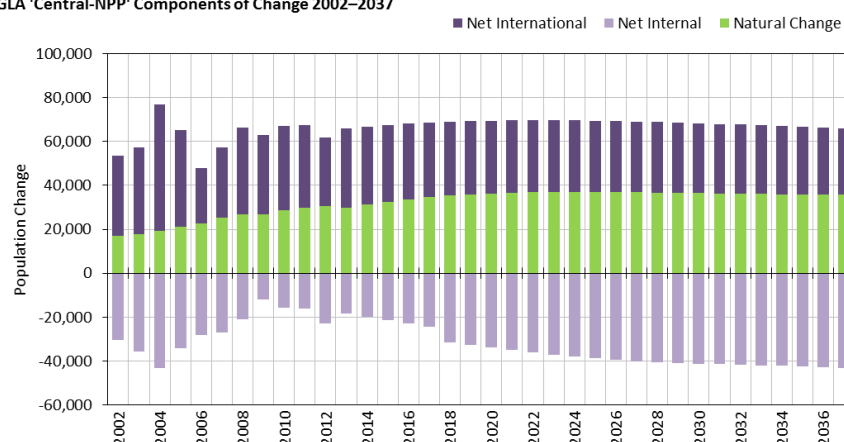


Figure 11: NE London – GLA 'Central-NPP' scenario components of population change

- 3.16 In its most recent presentations to London and South East stakeholders, GLA has presented its migration sensitivity analysis as part of its 'Further Alterations to the London Plan' (FALP) evidence<sup>8</sup>. The GLA advocates using a 10-year rather than the 5-year history, when setting future internal migration assumptions. This is appropriate given the recessionary effect upon recent migration flows, but the cumulative effect of the (Central-NPP) assumptions is a level of net population outflow from NE London that exceeds the 2012-based SNPP estimates and results in a significant uplift on the latest 10-year average.
- 3.17 Whilst the GLA forecasts do not provide a definitive view on future population growth in London, this additional demographic evidence is an important component of housing needs assessment for all local authorities in the wider South East. The likelihood of higher (or lower) levels of in-migration from London should be given appropriate consideration when evaluating the suite of growth outcomes presented for each EPOA authority in the remainder of this document.

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<sup>8</sup> FALP - Consultation issues from the wider South East, 25<sup>th</sup> June 2014

## 4. Scenario Definition

### Scenario Context

- 4.1 The NPPF/PPG provide guidance on the development of a robust evidence base to support the development of local housing plans. The guidance makes it clear that data inputs, assumptions and methodology should be robust and should consider future growth potential from a number of perspectives.
- 4.2 For any local authority area, there is no single, definitive view on the likely level of future growth, with a mix of economic, demographic and national/local policy issues ultimately determining the speed and scale of change. For local planning purposes, it is necessary to evaluate a range of growth alternatives to establish the most 'appropriate' basis for determining future housing requirements.
- 4.3 The formulation of evidence to support the estimation of future housing requirements is made considerably more challenging by the dynamic nature of key data inputs. Economic and demographic factors, coupled with the continuous release of new statistics, often undermine the robustness of underpinning evidence. This was a particular issue during 2013, with the release of new 2011 Census statistics, updated household projections and revisions to historical population estimates.
- 4.4 The use of a recognised forecasting product (e.g. POPGROUP), which incorporates industry-standard methodologies (i.e. a cohort component model for population forecasting and a headship rate model for household forecasting) ensures a robustness of approach and enables a focus on assumptions and output, rather than methods.
- 4.5 To enable effective interpretation of forecasts, all data and assumptions used in this Phase 6 analysis have been clearly documented in the accompanying Appendix A. In accordance with the PPG, the scenario alternatives are 'benchmarked' against the most recent official population projections from the ONS.
- 4.6 Each scenario has been evaluated using both 2011-based (Option A) and 2008-based (Option B) household headship rates, providing a 'range' of household and dwelling growth options for

consideration. All scenarios have been produced with a 2012 base year and a horizon of 2037.

## Scenario Description

### *Official Projections*

- 4.7 In the development and analysis of population forecasts, it is important to benchmark any growth alternatives against the latest official population projection. The most recent official projection is the ONS 2012-based sub-national population projection (SNPP), released in May 2014. The 'SNPP-2012' scenario presented in this report replicates this official population projection and evaluates its household, dwelling and jobs growth implications.
- 4.8 The 'SNPP-2010' scenario, which replicates the ONS 2010-based SNPP, is included for comparison, providing the 'pre-Census' perspective on growth. The interim, 2011-based SNPP from ONS is excluded from the comparison as it provided only a ten-year growth trajectory and was formulated using an inappropriate combination of pre-Census assumptions and post-Census population statistics.
- 4.9 The official projections included in the scenario analysis are defined as follows:
- **'SNPP-2010'**: population growth scenario that is consistent with the 2010-based sub-national projection from ONS.
  - **'SNPP-2012'**: population growth scenario that is consistent with the 2012-based sub-national projection from ONS.

### *Alternative Trend Scenarios*

- 4.10 A five year historical period is a typical time-frame from which migration 'trend' assumptions are derived (this is consistent with the ONS official methodology). However, given the unprecedented economic change that has occurred since 2008, it is important to give due consideration to an extended historical time period for assumption derivation.
- 4.11 Four alternative trend-based scenarios have been developed, based upon the latest demographic evidence:

- **'PG-5Yr'**: Internal and international migration assumptions are based on the last 5 years of historical evidence (2007/08 to 2011/12).
- **'PG-10Yr'**: internal and international migration assumptions are based on the last 10 years of historical evidence (2002/03 to 2011/12).
- **'Natural Change'**: internal and international migration flows are set to zero.
- **'Net Nil'**: internal and international in- and out-migration are maintained, but the net migration balance is set at zero.

4.12 The trend scenarios listed above assume that the 'unattributable population component' (UPC) is associated with international migration. The nature of the UPC amendment suggests that a sensitivity test on its importance is appropriate. Two further 'migration-led' scenarios have therefore been developed that exclude the UPC from the international migration assumptions:

- **'PG-5Yr-X'**: Internal and international migration assumptions are based on the last 5 years of historical evidence (2007/08 to 2011/12), excluding the UPC.
- **'PG-10Yr-X'**: internal and international migration assumptions are based on the last 10 years of historical evidence (2002/03 to 2011/12), excluding the UPC.

### *Jobs-led Scenarios*

4.13 In a 'jobs-led' scenario, population growth is linked to the rate of jobs growth (or decline) within an area. POPGROUP evaluates the impact of a particular jobs growth trajectory by measuring the relationship between the number of jobs in an area, the size of the labour force and the size of the resident population. Migration is used to balance the relationship between the size of the population's labour force and the forecast number of jobs. A higher level of net in-migration will occur if there is insufficient population and resident labour force to meet the forecast number of jobs. A higher level of net out-migration will occur if the population is too high relative to the forecast number of jobs.

4.14 The revised 2013 'Baseline' scenario from the East of England Forecasting Model (EEFM) has provided the latest employment growth forecasts for the EPOA local authorities. For each of the

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local authorities, the EEFM model has identified a forecast of growth measured as both 'total employment' and the 'total workplace employed people'.

- 4.15 Employment growth gives an indication of the total number of new jobs, both part-time and full-time. Converting these statistics into a 'full time equivalent' provides an associated forecast of 'employed people'.
- 4.16 It is difficult to establish the precise relationship between part-time/full-time employment and the *future* size and profile of the labour force. Some workers may have more than one part-time job, others may rely on part-time employment as their sole source of income. Both the 'jobs' and 'employed people' forecasts are evaluated here to provide a range of growth outcomes that consider this uncertainty in the relationship between economic and demographic change.
- 4.17 An indication of the latest EEFM 'jobs' ('Total employment') and 'employed people' ('Total workplace employed people') forecasts for each EPOA local authority are illustrated (Table 6), presenting anticipated growth over the 2013-2031 horizon.

Table 6: Employment forecasts from the East of England Forecasting Model (EEFM)

Area Name	Average annual net new jobs (2013 - 2031)	
	Total workplace employed people	Total employment
Basildon	242	258
Braintree	391	411
Brentwood	316	321
Castle Point	12	11
Chelmsford	923	967
Colchester	689	735
Epping Forest	405	464
Harlow	193	222
Maldon	105	119
Rochford	59	68
Tendring	189	185
Uttlesford	281	315
Southend-on-Sea	307	362
Thurrock	884	926
Cambridge	857	1,042
South Cambridgeshire	821	834
Broxbourne	250	284
East Hertfordshire	518	600
Welwyn Hatfield	915	1,050
Babergh	97	113
Ipswich	513	581
Mid Suffolk	185	221
Suffolk Coastal	423	483
St Edmundsbury	257	288

Source: EEFM 2013

Note: The jobs-led scenarios which are presented in this Phase 6 analysis have assumed that the jobs growth anticipated in 2031 is continued in each year of the extended 2032-37 forecast period.



- 4.18 These data provide the basis for the development of two jobs-led scenarios:
- **‘Jobs’**: demographic change is constrained to the growth in total employment.
  - **‘Employed people’**: demographic change is constrained to the growth in the number of workplace employed people.
- 4.19 To ensure consistency with other scenarios, growth statistics for the final year of the economic forecast are continued to 2037.

## Scenario Summary

- 4.20 In summary, a total of ten alternative growth scenarios are presented, each providing an indication of population change to 2037. For each of these scenarios, two household growth outcomes have been derived, based on the 2011-based (Option A) and 2008-based (Option B) headship rate assumption (Table 7).

Table 7: Phase 6 - scenario summary

Scenario type	Household headship rates	
	Option A - CLG 2011	Option B - CLG 2008
Official	SNPP-2012 A	SNPP-2012 B
	SNPP-2010 A	SNPP-2010 B
Trend	PG-5Yr A	PG-5Yr B
	PG-5Yr-X A	PG-5Yr-X B
	PG-10Yr A	PG-10Yr B
	PG-10Yr-X A	PG-10Yr-X B
	Net Nil A	Net Nil B
	Natural Change A	Natural Change B
Employment-led	Jobs A	Jobs B
	Employed people A	Employed people B

*Note: Refer to Appendix A for further information on the scenario data inputs and assumptions*

## 5. Area Profiles

### Guidelines

- 5.1 For each of the EPOA local authorities, the new demographic evidence is summarised: first with an illustration of the 'components of change' which have shaped historical population growth over the last 5 and 10 years, compared with those that have been estimated as the drivers of change in the ONS 2012-based SNPP; and secondly with a table of dwelling growth outcomes from the suite of scenarios that has been evaluated.
- 5.2 A more detailed summary of the results of each scenario forecast is provided in the form of a chart and accompanying tables of statistics. The chart illustrates the trajectory of population change resulting from each scenario. The tables summarise the change in population and household numbers from 2012-2037 that result from each scenario.
- 5.3 The scenarios are ranked according to the estimated level of population change over the forecast period. Each table illustrates the average annual net migration associated with the population change, plus the expected average annual dwelling and jobs growth based on the assumptions used in each scenario.
- 5.4 Scenario results are presented in two separate tables, each relating to the application of different household headship rates. The 'Option A' results use the CLG 2011-based headship rates and the 'Option B' results use the 2008-based headship rates.

## Basildon

### *Components of population change*

- 5.6 Average annual population growth estimated by the 'SNPP-2012' is 0.65% per year over the 25-year period 2012-37. Natural change has been a dominant component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection, albeit at a level below that of the latest five year average. Historically, the average annual net effect of internal migration upon population growth has been negative, whereas the 'SNPP-2012' suggests a +320 average annual net impact. The positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection but on a smaller scale.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	925	820	820
Net Internal Migration	-4	-163	320
Net International Migration	55	117	13
Unattributable Population Change*	135	201	-
Annual Population Change	1,111	972	1,152
Annual Population Change (%)	0.65%	0.58%	0.65%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.7 The 'SNPP-2012' scenario records a total population growth of 16.3% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (18.5% estimated growth to 2037).
- 5.8 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 14.3% and 14.5% respectively.
- 5.9 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 13.0%, whereas the 'PG-10Yr-X' scenario records a

population increase of 12.6%.

- 5.10 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that aligns closely to the 'PG-5Yr-X' and 'PG-10Yr-X' scenarios, at 12.7-13.1%.
- 5.11 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 8.9% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in higher growth at 11.0%.

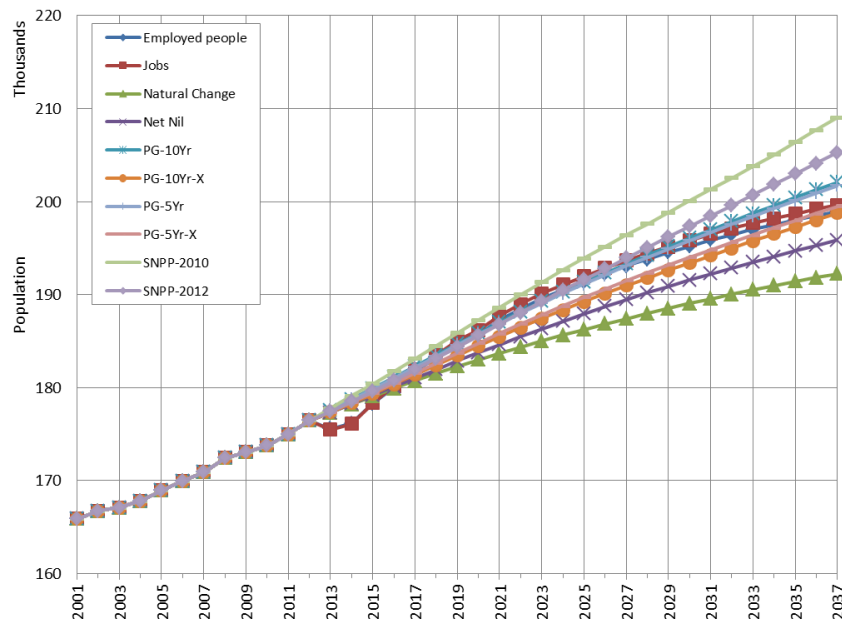
### *Dwelling growth implications*

- 5.12 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 15.7% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.13 Considering the average of the A and B alternatives, suggests a dwelling requirement of 555-627 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a higher growth average at 659 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
SNPP-2010	677	770	724
SNPP-2012	613	704	659
PG-5Yr	583	672	627
PG-10Yr	572	664	618
PG-5Yr-X	547	635	591
Jobs	524	610	567
PG-10Yr-X	519	609	564
Employed people	512	598	555
Net Nil	460	545	503
Natural Change	422	522	472

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Basildon



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 A	32,563	18.5%	16,633	22.6%	482	677	467
SNPP-2012 A	28,809	16.3%	15,068	20.5%	332	613	316
PG-10Yr A	25,630	14.5%	14,054	19.1%	178	572	280
PG-5Yr A	25,275	14.3%	14,313	19.4%	203	583	254
Jobs A	23,166	13.1%	12,874	17.5%	121	524	201
PG-5Yr-X A	23,017	13.0%	13,429	18.2%	128	547	210
Employed people A	22,463	12.7%	12,586	17.1%	98	512	188
PG-10Yr-X A	22,310	12.6%	12,746	17.3%	71	519	214
Net Nil A	19,373	11.0%	11,305	15.4%	0	460	133
Natural Change A	15,771	8.9%	10,367	14.1%	0	422	8

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 B	32,563	18.5%	18,925	25.7%	482	770	467
SNPP-2012 B	28,809	16.3%	17,288	23.5%	332	704	316
PG-10Yr B	25,630	14.5%	16,317	22.2%	178	664	280
PG-5Yr B	25,275	14.3%	16,515	22.4%	203	672	254
Jobs B	23,166	13.1%	14,978	20.3%	121	610	201
PG-5Yr-X B	23,017	13.0%	15,595	21.2%	128	635	210
Employed people B	22,463	12.7%	14,684	19.9%	98	598	188
PG-10Yr-X B	22,310	12.6%	14,957	20.3%	71	609	214
Net Nil B	19,373	11.0%	13,400	18.2%	0	545	133
Natural Change B	15,771	8.9%	12,823	17.4%	0	522	8

## Braintree

### *Components of population change*

- 5.14 Average annual population growth estimated by the 'SNPP-2012' is 0.79% per year over the 25-year period 2012-37. Natural change has been an important component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection, albeit at a reduced level. Historically, the average annual net effect of internal migration upon population growth has been lower in the last five years than in the extended ten-year period, whereas the 'SNPP-2012' suggests a higher +951 average annual net impact. The small positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	485	415	194
Net Internal Migration	561	891	951
Net International Migration	58	13	22
Unattributable Population Change*	105	96	-
Annual Population Change	1,210	1,412	1,168
Annual Population Change (%)	0.85%	1.05%	0.79%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.15 The 'SNPP-2012' scenario records a total population growth of 19.7% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (23.4% estimated growth to 2037).
- 5.16 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth around the new 'SNPP-2012' benchmark, 18.7% and 22.1% respectively.
- 5.17 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower in each case. The 'PG-5Yr-X' scenario records a growth of 17.5%, whereas the 'PG-10Yr-X' scenario

records a population increase of 21.1%.

- 5.18 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that exceeds all other scenarios, at 27.1-27.9%.
- 5.19 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 5.0% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in lower growth at 1.0%.

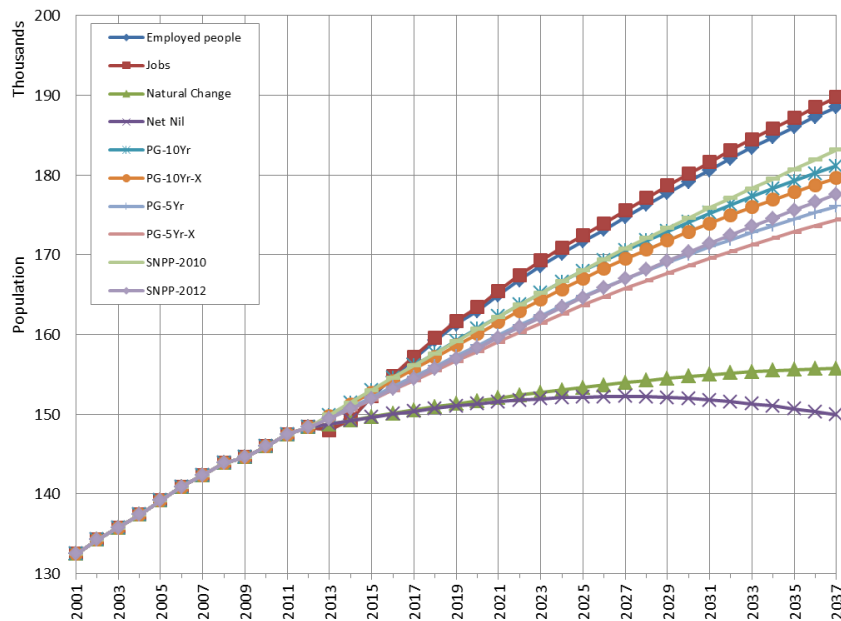
### *Dwelling growth implications*

- 5.20 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 8.4% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.21 Considering the average of the A and B alternatives, suggests a dwelling requirement of 606-888 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording an average of 681 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	857	919	888
Employed people	837	898	867
SNPP-2010	725	785	755
PG-10Yr	674	733	704
SNPP-2012	653	710	681
PG-10Yr-X	651	709	680
PG-5Yr	604	661	632
PG-5Yr-X	578	634	606
Natural Change	217	281	249
Net Nil	200	244	222

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Braintree



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	41,375	27.9%	20,861	33.7%	1,401	857	368
Employed people A	40,161	27.1%	20,366	32.9%	1,358	837	349
SNPP-2010 A	34,793	23.4%	17,653	28.5%	1,131	725	313
PG-10Yr A	32,745	22.1%	16,403	26.5%	975	674	265
PG-10Yr-X A	31,237	21.1%	15,842	25.6%	926	651	241
SNPP-2012 A	29,194	19.7%	15,890	25.7%	973	653	180
PG-5Yr A	27,693	18.7%	14,697	23.8%	846	604	160
PG-5Yr-X A	26,006	17.5%	14,064	22.7%	790	578	134
Natural Change A	7,379	5.0%	5,284	8.5%	0	217	-121
Net Nil A	1,551	1.0%	4,859	7.9%	0	200	-253

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	41,375	27.9%	22,360	36.1%	1,401	919	368
Employed people B	40,161	27.1%	21,855	35.3%	1,358	898	349
SNPP-2010 B	34,793	23.4%	19,102	30.9%	1,131	785	313
PG-10Yr B	32,745	22.1%	17,846	28.8%	975	733	265
PG-10Yr-X B	31,237	21.1%	17,265	27.9%	926	709	241
SNPP-2012 B	29,194	19.7%	17,282	27.9%	973	710	180
PG-5Yr B	27,693	18.7%	16,077	26.0%	846	661	160
PG-5Yr-X B	26,006	17.5%	15,423	24.9%	790	634	134
Natural Change B	7,379	5.0%	6,840	11.1%	0	281	-121
Net Nil B	1,551	1.0%	5,939	9.6%	0	244	-253



## Brentwood

### *Components of population change*

- 5.22 Average annual population growth estimated by the 'SNPP-2012' is 0.84% per year over the 25-year period 2012-37. Natural change has been a relatively small component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been the main driver of growth and this continues in the 'SNPP-2012' with a +599 average annual net impact. The small positive impact of international migration upon historical growth reverts to a small negative impact in the 'SNPP-2012'.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	84	58	71
Net Internal Migration	408	348	599
Net International Migration	14	73	-45
Unattributable Population Change*	30	47	-
Annual Population Change	535	524	625
Annual Population Change (%)	0.75%	0.76%	0.84%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.23 The 'SNPP-2012' scenario records a total population growth of 21.1% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (24.1% estimated growth to 2037).
- 5.24 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 16.9% and 17.0% respectively.
- 5.25 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 16.3%, whereas the 'PG-10Yr-X' scenario records a

population increase of 16.1%.

- 5.26 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that exceeds all other scenarios, at 27.4-27.7%.
- 5.27 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 0.4% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in higher growth at 0.3%.

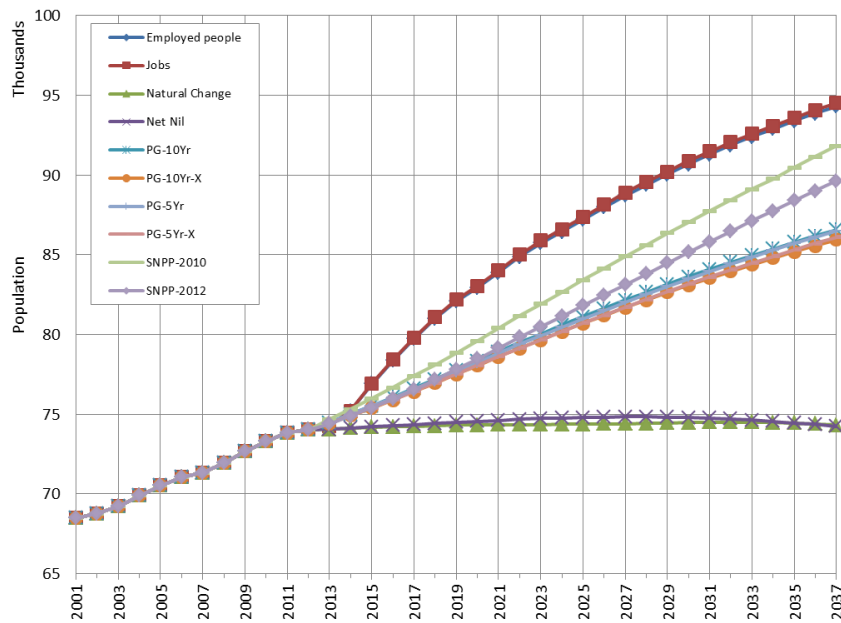
### *Dwelling growth implications*

- 5.28 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 3.8% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.29 Considering the average of the A and B alternatives, suggests a dwelling requirement of 270-426 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording an average of 340 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	420	432	426
Employed people	416	429	423
SNPP-2010	360	370	365
SNPP-2012	333	347	340
PG-5Yr	296	309	302
PG-5Yr-X	289	302	295
PG-10Yr	275	287	281
PG-10Yr-X	264	276	270
Natural Change	79	100	89
Net Nil	74	83	79

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Brentwood



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	20,498	27.7%	10,030	32.4%	713	420	275
Employed people A	20,292	27.4%	9,946	32.2%	706	416	271
SNPP-2010 A	17,817	24.1%	8,596	27.8%	591	360	264
SNPP-2012 A	15,621	21.1%	7,954	25.7%	554	333	185
PG-10Yr A	12,556	17.0%	6,563	21.2%	419	275	124
PG-5Yr A	12,491	16.9%	7,066	22.8%	440	296	119
PG-5Yr-X A	12,084	16.3%	6,903	22.3%	426	289	111
PG-10Yr-X A	11,922	16.1%	6,312	20.4%	397	264	112
Natural Change A	292	0.4%	1,879	6.1%	0	79	-138
Net Nil A	233	0.3%	1,772	5.7%	0	74	-109

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	20,498	27.7%	10,332	33.4%	713	432	275
Employed people B	20,292	27.4%	10,248	33.1%	706	429	271
SNPP-2010 B	17,817	24.1%	8,845	28.6%	591	370	264
SNPP-2012 B	15,621	21.1%	8,287	26.8%	554	347	185
PG-10Yr B	12,556	17.0%	6,855	22.2%	419	287	124
PG-5Yr B	12,491	16.9%	7,383	23.9%	440	309	119
PG-5Yr-X B	12,084	16.3%	7,217	23.3%	426	302	111
PG-10Yr-X B	11,922	16.1%	6,600	21.3%	397	276	112
Natural Change B	292	0.4%	2,383	7.7%	0	100	-138
Net Nil B	233	0.3%	1,993	6.4%	0	83	-109

## Castle Point

### *Components of population change*

- 5.30 Average annual population growth estimated by the 'SNPP-2012' is 0.49% per year over the 25-year period 2012-37, considerably higher than recent historical change would suggest. Natural change has had a small negative impact upon population change since 2002/03; increasing to a more substantial net loss in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive, increasing to a +688 average annual net impact in the 'SNPP-2012'. The minor impact of international migration upon historical growth continues in the 'SNPP-2012' projection.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	-73	-69	-242
Net Internal Migration	301	384	688
Net International Migration	1	-49	-11
Unattributable Population Change*	-138	-128	-
Annual Population Change	89	136	435
Annual Population Change (%)	0.10%	0.16%	0.49%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.31 The 'SNPP-2012' scenario records a total population growth of 12.3% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (15.1% estimated growth to 2037).
- 5.32 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 7.0% and 9.9% respectively.
- 5.33 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is higher. The 'PG-5Yr-X' scenario records a growth of 9.4%, whereas the 'PG-10Yr-X' scenario records a

population increase of 12.2%.

- 5.34 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that exceeds the 'SNPP-2012' scenario, at 13.0-13.2%.
- 5.35 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 4.2% population decline to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, also results in population decline of 8.8%.

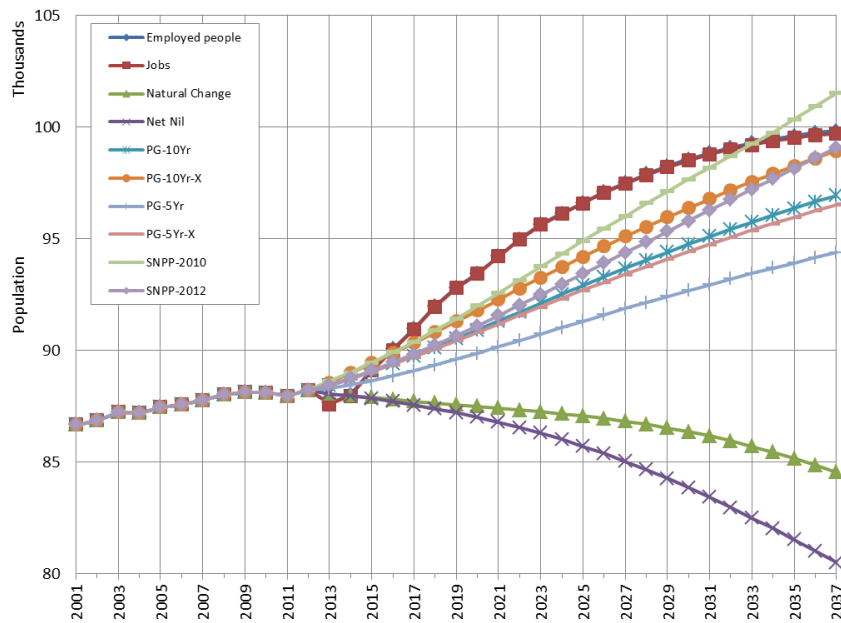
### *Dwelling growth implications*

- 5.36 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 25.8% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.37 Considering the average of the A and B alternatives, suggests a dwelling requirement of 208-282 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 265 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
SNPP-2010	281	339	310
PG-10Yr-X	252	311	282
Employed people	249	313	281
Jobs	247	311	279
SNPP-2012	233	297	265
PG-10Yr	218	277	248
PG-5Yr-X	216	275	245
PG-5Yr	179	237	208
Natural Change	-21	33	6
Net Nil	-62	-3	-32

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Castle Point



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 A	13,319	15.1%	6,804	18.6%	767	281	47
Employed people A	11,616	13.2%	6,021	16.4%	696	249	-3
Jobs A	11,489	13.0%	5,972	16.3%	692	247	-5
SNPP-2012 A	10,877	12.3%	5,636	15.4%	677	233	-9
PG-10Yr-X A	10,725	12.2%	6,100	16.7%	660	252	3
PG-10Yr A	8,728	9.9%	5,279	14.4%	586	218	-21
PG-5Yr-X A	8,322	9.4%	5,214	14.2%	558	216	-21
PG-5Yr A	6,163	7.0%	4,325	11.8%	478	179	-47
Natural Change A	-3,674	-4.2%	-510	-1.4%	0	-21	-143
Net Nil A	-7,721	-8.8%	-1,489	-4.1%	0	-62	-226

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 B	13,319	15.1%	8,207	22.4%	767	339	47
Employed people B	11,616	13.2%	7,558	20.6%	696	313	-3
Jobs B	11,489	13.0%	7,509	20.5%	692	311	-5
SNPP-2012 B	10,877	12.3%	7,169	19.6%	677	297	-9
PG-10Yr-X B	10,725	12.2%	7,529	20.5%	660	311	3
PG-10Yr B	8,728	9.9%	6,697	18.3%	586	277	-21
PG-5Yr-X B	8,322	9.4%	6,638	18.1%	558	275	-21
PG-5Yr B	6,163	7.0%	5,738	15.7%	478	237	-47
Natural Change B	-3,674	-4.2%	787	2.1%	0	33	-143
Net Nil B	-7,721	-8.8%	-82	-0.2%	0	-3	-226

## Chelmsford

### *Components of population change*

- 5.38 Average annual population growth estimated by the 'SNPP-2012' is 0.65% per year over the 25-year period 2012-37. Natural change has been a dominant component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection, albeit at a level below that of the latest five year average. Historically, the average annual net effect of internal migration upon population growth has been lower in the last five years, whereas the 'SNPP-2012' suggests a higher +529 average annual net impact. The smaller, but positive, impact of international migration upon historical growth continues in the 'SNPP-2012' projection.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	685	624	486
Net Internal Migration	84	284	529
Net International Migration	151	69	85
Unattributable Population Change*	85	93	-
Annual Population Change	990	1,066	1,100
Annual Population Change (%)	0.60%	0.67%	0.65%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.39 The 'SNPP-2012' scenario records a total population growth of 16.2% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (17.6% estimated growth to 2037).
- 5.40 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below (14.6%) and above (17.1%) the new 'SNPP-2012' respectively due to the differences in the five-year and ten-year components of change.
- 5.41 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The

'PG-5Yr-X' scenario records a growth of 13.9%, whereas the 'PG-10Yr-X' scenario records a population increase of 16.3%.

- 5.42 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that is considerably higher than all other scenarios, at 35.8-37.0%.
- 5.43 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 4.7% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in higher growth at 5.8%.

### *Dwelling growth implications*

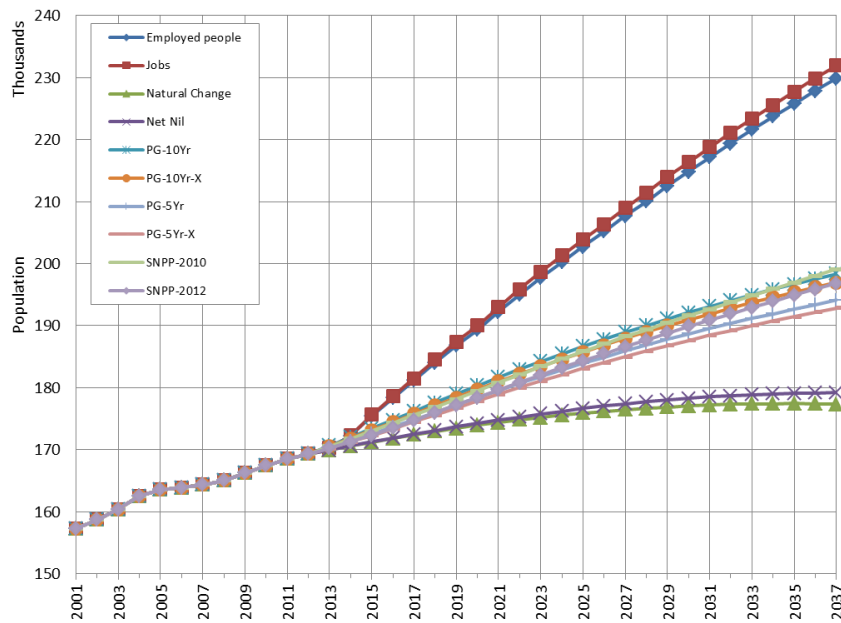
- 5.44 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 5.2% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.45 Considering the average of the A and B alternatives, suggests a wide range of dwelling requirements of 620-1,264 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average at 680 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	1,238	1,289	1,264
Employed people	1,204	1,254	1,229
SNPP-2010	702	742	722
SNPP-2012	661	699	680
PG-10Yr	635	676	655
PG-5Yr	624	659	641
PG-10Yr-X	613	653	633
PG-5Yr-X	603	637	620
Natural Change	393	429	411
Net Nil	371	401	386

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*



## Chelmsford



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	62,660	37.0%	30,273	43.0%	1,814	1,238	928
Employed people A	60,560	35.8%	29,435	41.8%	1,742	1,204	886
SNPP-2010 A	29,788	17.6%	17,163	24.4%	696	702	346
PG-10Yr A	29,001	17.1%	15,518	22.0%	556	635	280
PG-10Yr-X A	27,622	16.3%	14,982	21.3%	510	613	252
SNPP-2012 A	27,503	16.2%	16,169	23.0%	614	661	223
PG-5Yr A	24,782	14.6%	15,248	21.7%	513	624	154
PG-5Yr-X A	23,500	13.9%	14,745	20.9%	470	603	128
Net Nil A	9,893	5.8%	9,068	12.9%	0	371	-132
Natural Change A	8,008	4.7%	9,610	13.7%	0	393	-201

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	62,660	37.0%	31,519	44.7%	1,814	1,289	928
Employed people B	60,560	35.8%	30,661	43.5%	1,742	1,254	886
SNPP-2010 B	29,788	17.6%	18,137	25.7%	696	742	346
PG-10Yr B	29,001	17.1%	16,513	23.4%	556	676	280
PG-10Yr-X B	27,622	16.3%	15,960	22.6%	510	653	252
SNPP-2012 B	27,503	16.2%	17,091	24.2%	614	699	223
PG-5Yr B	24,782	14.6%	16,100	22.8%	513	659	154
PG-5Yr-X B	23,500	13.9%	15,581	22.1%	470	637	128
Net Nil B	9,893	5.8%	9,798	13.9%	0	401	-132
Natural Change B	8,008	4.7%	10,483	14.9%	0	429	-201

## Colchester

### *Components of population change*

- 5.46 Average annual population growth estimated by the 'SNPP-2012' is 0.94% per year over the 25-year period 2012-37, lower than recent evidence has recorded. Natural change has been an important component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive; this continues in the 'SNPP-2012' but at a lower rate of +428 average annual net impact. The positive impact of international migration upon historical growth continues in the 'SNPP-2012' but again at a lower rate.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	811	630	815
Net Internal Migration	869	863	428
Net International Migration	721	874	404
Unattributable Population Change*	-312	-365	-
Annual Population Change	2,078	2,002	1,647
Annual Population Change (%)	1.25%	1.28%	0.94%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.47 The 'SNPP-2012' scenario records a total population growth of 23.4% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (31.6% estimated growth to 2037).
- 5.48 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth that is similar to the new 'SNPP-2012' benchmark, 22.7% and 23.3% respectively.
- 5.49 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is higher. The 'PG-5Yr-X' scenario records a growth of 25.3%, whereas the 'PG-10Yr-X' scenario records a

population increase of 26.3%.

- 5.50 The EEFM 'Jobs' scenario results in population growth that exceeds all but the 'SNPP-2010' scenario, at 28.2%. The 'Employed people' scenario records a lower growth of 27.0%.
- 5.51 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 7.9% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in higher growth at 8.8%.

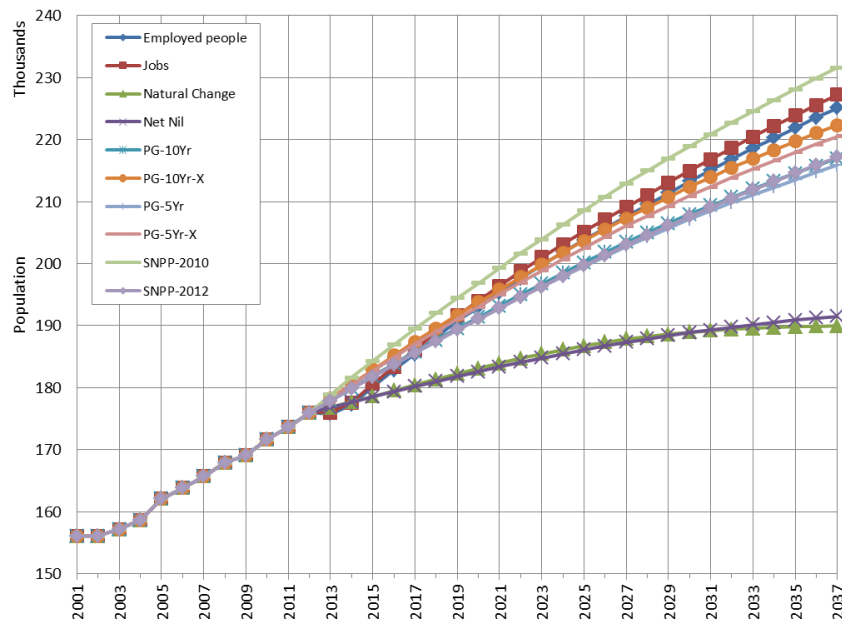
### *Dwelling growth implications*

- 5.52 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 2.4% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.53 Considering the average of the A and B alternatives, suggests a dwelling requirement of 880-1,045 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 879 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
SNPP-2010	1,156	1,174	1,165
Jobs	1,031	1,059	1,045
Employed people	996	1,023	1,009
PG-10Yr-X	976	1,000	988
PG-5Yr-X	948	970	959
PG-10Yr	884	906	895
PG-5Yr	870	891	880
SNPP-2012	867	891	879
Natural Change	550	547	549
Net Nil	432	446	439

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Colchester



## Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 A	55,617	31.6%	27,764	38.1%	1,305	1,156	874
Jobs A	51,226	29.1%	24,779	34.0%	1,171	1,031	697
Employed people A	49,111	27.9%	23,926	32.8%	1,102	996	654
PG-10Yr-X A	46,374	26.3%	23,446	32.2%	940	976	638
PG-5Yr-X A	44,510	25.3%	22,771	31.2%	937	948	600
SNPP-2012 A	41,186	23.4%	20,836	28.6%	832	867	493
PG-10Yr A	40,959	23.3%	21,236	29.1%	773	884	516
PG-5Yr A	39,897	22.7%	20,912	28.7%	793	870	498
Net Nil A	15,523	8.8%	10,385	14.2%	0	432	-45
Natural Change A	13,937	7.9%	13,224	18.1%	0	550	-23

## Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 B	55,617	31.6%	28,201	38.7%	1,305	1,174	874
Jobs B	51,226	29.1%	25,444	34.9%	1,171	1,059	697
Employed people B	49,111	27.9%	24,577	33.7%	1,102	1,023	654
PG-10Yr-X B	46,374	26.3%	24,031	33.0%	940	1,000	638
PG-5Yr-X B	44,510	25.3%	23,306	32.0%	937	970	600
SNPP-2012 B	41,186	23.4%	21,413	29.4%	832	891	493
PG-10Yr B	40,959	23.3%	21,763	29.9%	773	906	516
PG-5Yr B	39,897	22.7%	21,396	29.4%	793	891	498
Net Nil B	15,523	8.8%	10,721	14.7%	0	446	-45
Natural Change B	13,937	7.9%	13,152	18.1%	0	547	-23

## Epping Forest

### *Components of population change*

- 5.54 Average annual population growth estimated by the 'SNPP-2012' is 1.02% per year over the 25-year period 2012-37, which is substantially higher than recent historical evidence has suggested. Natural change has been an important component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection and at a level above that of the latest five year average. Historically, the average annual net effect of internal migration upon population growth has been positive, continuing at a much-enhanced average level of +859 per year in the 'SNPP-2012'. The small positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection but on a slightly smaller scale.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	354	260	413
Net Internal Migration	410	326	859
Net International Migration	45	25	11
Unattributable Population Change*	-166	-150	-
Annual Population Change	640	460	1,283
Annual Population Change (%)	0.52%	0.38%	1.02%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.55 The 'SNPP-2012' scenario records a total population growth of 25.4% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (26.5% estimated growth to 2037).
- 5.56 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 14.5% and 14.0% respectively.
- 5.57 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is higher. The

'PG-5Yr-X' scenario records a growth of 16.3%, whereas the 'PG-10Yr-X' scenario records a population increase of 15.6%.

5.58 The EEFM 'Jobs' and 'Employed people' scenarios result in higher population growth, at 26.3-29.1%.

5.59 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 4.3% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in higher growth at 5.7%.

### *Dwelling growth implications*

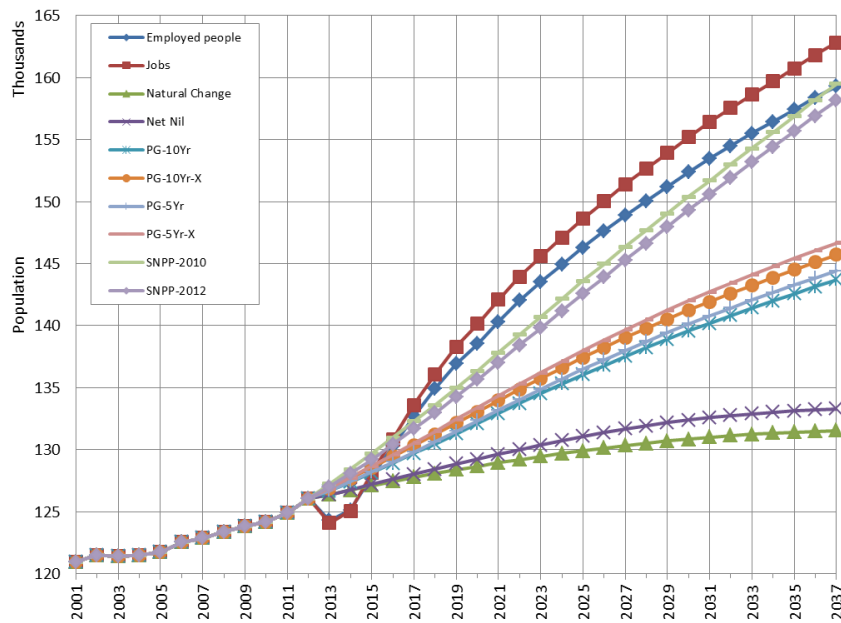
5.60 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 5.4% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).

5.61 Considering the average of the A and B alternatives, suggests a dwelling requirement of 443-782 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 701 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	767	798	782
SNPP-2010	727	761	744
Employed people	707	738	723
SNPP-2012	686	717	701
PG-5Yr-X	497	528	513
PG-10Yr-X	459	493	476
PG-5Yr	461	491	476
PG-10Yr	427	459	443
Net Nil	277	297	287
Natural Change	203	233	218

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Epping Forest



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	36,736	29.1%	18,317	34.8%	1,014	767	418
SNPP-2010 A	33,414	26.5%	17,376	33.0%	990	727	418
Employed people A	33,206	26.3%	16,901	32.1%	894	707	364
SNPP-2012 A	32,075	25.4%	16,383	31.2%	870	686	351
PG-5Yr-X A	20,603	16.3%	11,875	22.6%	455	497	158
PG-10Yr-X A	19,640	15.6%	10,968	20.9%	403	459	157
PG-5Yr A	18,337	14.5%	11,002	20.9%	378	461	124
PG-10Yr A	17,631	14.0%	10,190	19.4%	334	427	126
Net Nil A	7,226	5.7%	6,605	12.6%	0	277	-20
Natural Change A	5,453	4.3%	4,853	9.2%	0	203	-118

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	36,736	29.1%	19,067	36.2%	1,014	798	418
SNPP-2010 B	33,414	26.5%	18,178	34.6%	990	761	418
Employed people B	33,206	26.3%	17,622	33.5%	894	738	364
SNPP-2012 B	32,075	25.4%	17,124	32.6%	870	717	351
PG-5Yr-X B	20,603	16.3%	12,619	24.0%	455	528	158
PG-10Yr-X B	19,640	15.6%	11,767	22.4%	403	493	157
PG-5Yr B	18,337	14.5%	11,718	22.3%	378	491	124
PG-10Yr B	17,631	14.0%	10,964	20.8%	334	459	126
Net Nil B	7,226	5.7%	7,106	13.5%	0	297	-20
Natural Change B	5,453	4.3%	5,557	10.6%	0	233	-118

## Harlow

### *Components of population change*

- 5.62 Average annual population growth estimated by the 'SNPP-2012' is 0.82% per year over the 25-year period 2012-37. Natural change has been a dominant component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been negative; this continues in the 'SNPP-2012' albeit at a lower level of -99 average annual net impact. The positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection but on a slightly smaller scale.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	615	558	619
Net Internal Migration	-138	-393	-99
Net International Migration	211	225	158
Unattributable Population Change*	18	45	-
Annual Population Change	702	434	678
Annual Population Change (%)	0.89%	0.55%	0.82%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.63 The 'SNPP-2012' scenario records a total population growth of 20.5% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (21.3% estimated growth to 2037).
- 5.64 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 17.7% and 13.2% respectively.
- 5.65 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 17.4%, whereas the 'PG-10Yr-X' scenario records a



population increase of 12.3%.

- 5.66 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that is below the 'SNPP-2012' scenario, at 17.5-19.2%.
- 5.67 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 12.5% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in considerably higher growth at 18.0%.

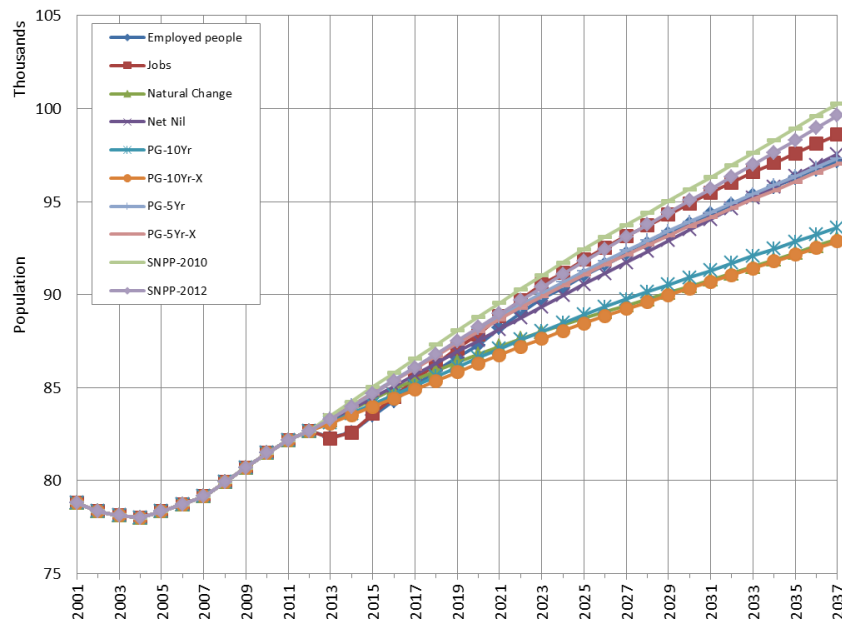
### *Dwelling growth implications*

- 5.68 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 4.6% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.69 Considering the average of the A and B alternatives, suggests a dwelling requirement of 244-326 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a higher growth average at 344 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
SNPP-2010	363	379	371
SNPP-2012	336	351	344
Jobs	319	333	326
PG-5Yr	318	331	324
PG-5Yr-X	312	326	319
Net Nil	298	311	305
Employed people	295	309	302
Natural Change	263	270	266
PG-10Yr	249	264	256
PG-10Yr-X	237	251	244

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Harlow



## Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 A	17,589	21.3%	8,787	25.2%	21	363	293
SNPP-2012 A	16,946	20.5%	8,151	23.3%	59	336	228
Jobs A	15,915	19.2%	7,733	22.2%	22	319	206
Net Nil A	14,878	18.0%	7,219	20.7%	0	298	178
PG-5Yr A	14,646	17.7%	7,695	22.0%	-10	318	188
Employed people A	14,499	17.5%	7,158	20.5%	-24	295	178
PG-5Yr-X A	14,349	17.4%	7,572	21.7%	-20	312	182
PG-10Yr A	10,931	13.2%	6,040	17.3%	-176	249	137
Natural Change A	10,319	12.5%	6,361	18.2%	0	263	82
PG-10Yr-X A	10,202	12.3%	5,739	16.4%	-199	237	123

## Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 B	17,589	21.3%	9,181	26.3%	21	379	293
SNPP-2012 B	16,946	20.5%	8,496	24.3%	59	351	228
Jobs B	15,915	19.2%	8,066	23.1%	22	333	206
Net Nil B	14,878	18.0%	7,537	21.6%	0	311	178
PG-5Yr B	14,646	17.7%	8,017	23.0%	-10	331	188
Employed people B	14,499	17.5%	7,481	21.4%	-24	309	178
PG-5Yr-X B	14,349	17.4%	7,891	22.6%	-20	326	182
PG-10Yr B	10,931	13.2%	6,386	18.3%	-176	264	137
Natural Change B	10,319	12.5%	6,534	18.7%	0	270	82
PG-10Yr-X B	10,202	12.3%	6,078	17.4%	-199	251	123

## Maldon

### *Components of population change*

- 5.70 Average annual population growth estimated by the 'SNPP-2012' is 0.52% per year over the 25-year period 2012-37, higher than recent historical evidence has suggested. Natural change has had little impact population change since 2002/03, with a more substantial average annual net loss projected in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive and this continues in the 'SNPP-2012' projection albeit at a higher rate of +486 per year. The small positive impact of international migration upon historical growth continues in the 'SNPP-2012'.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	3	1	-186
Net Internal Migration	187	318	486
Net International Migration	36	10	25
Unattributable Population Change*	-121	-109	-
Annual Population Change	104	216	325
Annual Population Change (%)	0.17%	0.36%	0.52%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.71 The 'SNPP-2012' scenario records a total population growth of 13.1% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (18.2% estimated growth to 2037).
- 5.72 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below (8.0%) and above (13.2%) the new 'SNPP-2012' benchmark respectively.
- 5.73 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is higher. The 'PG-5Yr-X' scenario records a growth of 11.0%, whereas the 'PG-10Yr-X' scenario records a

population increase of 15.8%.

- 5.74 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that exceeds other scenarios, at 24.3-25.6%.
- 5.75 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 3.0% population decline to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in a decline of 9.2%.

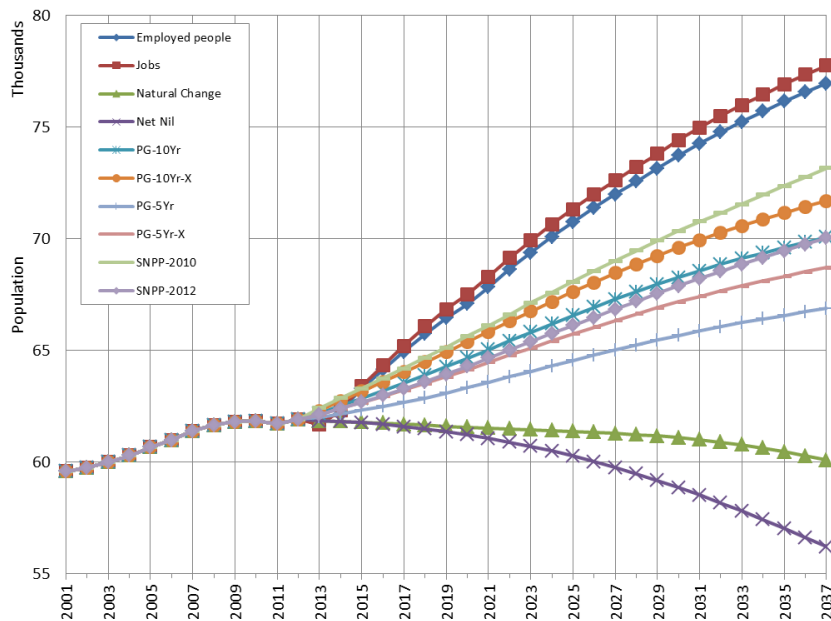
### *Dwelling growth implications*

- 5.76 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 16.8% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.77 Considering the average of the A and B alternatives, suggests a dwelling requirement of 173-345 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 212 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	324	365	345
Employed people	310	351	331
SNPP-2010	255	293	274
PG-10Yr-X	223	261	242
PG-10Yr	196	233	215
SNPP-2012	193	231	212
PG-5Yr-X	185	224	205
PG-5Yr	154	192	173
Natural Change	-33	10	-12
Net Nil	-35	-3	-19

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Maldon



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	15,845	25.6%	7,681	29.5%	795	324	100
Employed people A	15,041	24.3%	7,358	28.3%	766	310	88
SNPP-2010 A	11,249	18.2%	6,051	23.2%	640	255	67
PG-10Yr-X A	9,777	15.8%	5,289	20.3%	538	223	26
PG-10Yr A	8,152	13.2%	4,648	17.9%	480	196	2
SNPP-2012 A	8,126	13.1%	4,577	17.6%	511	193	-9
PG-5Yr-X A	6,797	11.0%	4,398	16.9%	442	185	-19
PG-5Yr A	4,959	8.0%	3,657	14.0%	375	154	-46
Natural Change A	-1,834	-3.0%	-778	-3.0%	0	-33	-143
Net Nil A	-5,708	-9.2%	-820	-3.2%	0	-35	-206

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	15,845	25.6%	8,663	33.3%	795	365	100
Employed people B	15,041	24.3%	8,333	32.0%	766	351	88
SNPP-2010 B	11,249	18.2%	6,944	26.7%	640	293	67
PG-10Yr-X B	9,777	15.8%	6,190	23.8%	538	261	26
PG-10Yr B	8,152	13.2%	5,534	21.2%	480	233	2
SNPP-2012 B	8,126	13.1%	5,489	21.1%	511	231	-9
PG-5Yr-X B	6,797	11.0%	5,305	20.4%	442	224	-19
PG-5Yr B	4,959	8.0%	4,547	17.5%	375	192	-46
Natural Change B	-1,834	-3.0%	229	0.9%	0	10	-143
Net Nil B	-5,708	-9.2%	-65	-0.2%	0	-3	-206

## Rochford

### *Components of population change*

- 5.78 Average annual population growth estimated by the 'SNPP-2012' is 0.53% per year over the 25-year period 2012-37. Natural change has been a minor component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection, albeit as a small annual net loss. Historically, the average annual net effect of internal migration upon population growth has been positive, and the 'SNPP-2012' suggests a continuing +478 average annual net impact. The negative impact of international migration upon historical growth continues in the 'SNPP-2012' projection.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	69	54	-12
Net Internal Migration	256	436	478
Net International Migration	-16	-46	-20
Unattributable Population Change*	9	17	-
Annual Population Change	320	453	446
Annual Population Change (%)	0.39%	0.57%	0.53%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.79 The 'SNPP-2012' scenario records a total population growth of 13.3% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (19.4% estimated growth to 2037).
- 5.80 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below (11.6%) and above (15.1%) the new 'SNPP-2012' benchmark respectively.
- 5.81 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 11.4%, whereas the 'PG-10Yr-X' scenario records a

population increase of 14.8%.

- 5.82 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that is higher than all but the 'SNPP-2010' scenario, at 16.4-17.0%.
- 5.83 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 0.2% population decline to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in a decline of 1.8%.

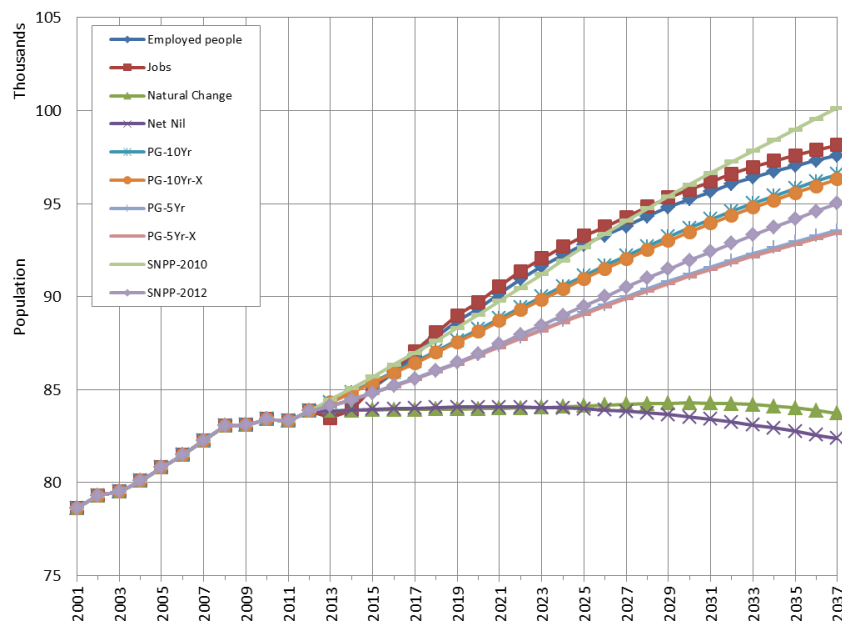
### *Dwelling growth implications*

- 5.84 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 27.2% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.85 Considering the average of the A and B alternatives, suggests a dwelling requirement of 251-308 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 256 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
SNPP-2010	303	370	337
Jobs	274	343	308
Employed people	265	333	299
PG-10Yr	262	332	297
PG-10Yr-X	258	328	293
SNPP-2012	222	290	256
PG-5Yr	219	287	253
PG-5Yr-X	217	285	251
Natural Change	27	108	68
Net Nil	28	88	58

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Rochford



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 A	16,268	19.4%	7,389	21.8%	634	303	111
Jobs A	14,295	17.0%	6,669	19.7%	563	274	51
Employed people A	13,721	16.4%	6,445	19.0%	543	265	44
PG-10Yr A	12,706	15.1%	6,393	18.9%	522	262	44
PG-10Yr-X A	12,441	14.8%	6,287	18.6%	512	258	41
SNPP-2012 A	11,146	13.3%	5,402	16.0%	458	222	13
PG-5Yr A	9,702	11.6%	5,337	15.8%	420	219	-3
PG-5Yr-X A	9,560	11.4%	5,281	15.6%	415	217	-5
Natural Change A	-143	-0.2%	661	2.0%	0	27	-143
Net Nil A	-1,488	-1.8%	672	2.0%	0	28	-146

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 B	16,268	19.4%	9,021	26.6%	634	370	111
Jobs B	14,295	17.0%	8,352	24.7%	563	343	51
Employed people B	13,721	16.4%	8,124	24.0%	543	333	44
PG-10Yr B	12,706	15.1%	8,092	23.9%	522	332	44
PG-10Yr-X B	12,441	14.8%	7,982	23.6%	512	328	41
SNPP-2012 B	11,146	13.3%	7,070	20.9%	458	290	13
PG-5Yr B	9,702	11.6%	6,999	20.7%	420	287	-3
PG-5Yr-X B	9,560	11.4%	6,941	20.5%	415	285	-5
Natural Change B	-143	-0.2%	2,638	7.8%	0	108	-143
Net Nil B	-1,488	-1.8%	2,146	6.3%	0	88	-146



## Tendring

### *Components of population change*

- 5.86 Tendring's population was subject to a very significant downward adjustment as a result of the 2011 Census count. This makes the interpretation of the historical components of change and the derivation of forecast assumptions a more challenging proposition. The 2011 Census suggested a population total that was very similar to its 2011 total, effectively no growth in the intervening years, although with potential issues resulting from the 2001 Census count.
- 5.87 Average annual population growth estimated by the 'SNPP-2012' is 0.76% per year over the 25-year period 2012-37, very different to the rate of change suggested by the historical evidence. Natural change has been an important component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive, and the 'SNPP-2012' suggests a higher +1,745 average annual net impact. The positive impact of international migration upon historical growth reverts to an annual net loss in the 'SNPP-2012' projection.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	-677	-806	-669
Net Internal Migration	1,087	1,512	1,745
Net International Migration	24	139	-28
Unattributable Population Change*	-885	-954	-
Annual Population Change	-449	-104	1,048
Annual Population Change (%)	-0.32%	-0.07%	0.76%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.88 The 'SNPP-2012' scenario records a total population growth of 18.9% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (25.6% estimated growth to 2037).
- 5.89 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component

assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 4.6% and 13.4% respectively.

- 5.90 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is higher. The 'PG-5Yr-X' scenario records a growth of 15.2%, whereas the 'PG-10Yr-X' scenario records a population increase of 24.9%.
- 5.91 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth above the 'SNPP-2012' scenario, at 22.9-23.0%.
- 5.92 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 7.0% population decline to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in a decline of 14.9%.

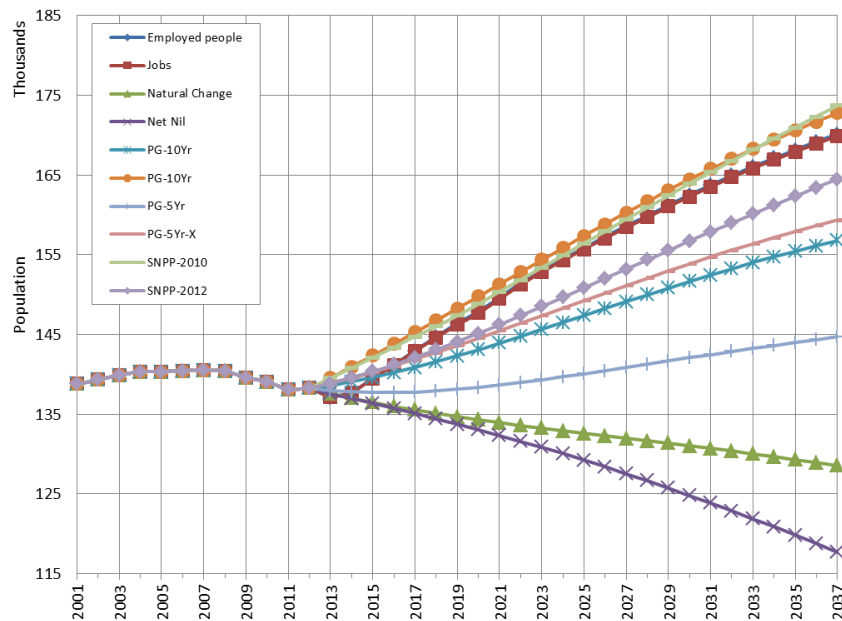
### *Dwelling growth implications*

- 5.93 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 0.3% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.94 Considering the average of the A and B alternatives, suggests a dwelling requirement of 285-797 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 691 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
SNPP-2010	905	902	904
Employed people	795	799	797
Jobs	791	794	792
PG-10Yr-X	791	793	792
SNPP-2012	689	693	691
PG-5Yr-X	530	533	532
PG-10Yr	525	526	526
PG-5Yr	284	287	285
Net Nil	-145	-140	-142
Natural Change	-224	-226	-225

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Trending



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 A	35,435	25.6%	20,998	33.7%	2,145	905	267
PG-10Yr-X A	34,497	24.9%	18,359	29.4%	1,845	791	266
Employed people A	31,837	23.0%	18,438	29.6%	1,923	795	170
Jobs A	31,611	22.9%	18,340	29.4%	1,914	791	167
SNPP-2012 A	26,204	18.9%	15,981	25.6%	1,717	689	98
PG-5Yr-X A	21,086	15.2%	12,299	19.7%	1,347	530	79
PG-10Yr A	18,501	13.4%	12,181	19.5%	1,335	525	22
PG-5Yr A	6,415	4.6%	6,594	10.6%	868	284	-133
Natural Change A	-9,705	-7.0%	-5,201	-8.3%	0	-224	-214
Net Nil A	-20,578	-14.9%	-3,361	-5.4%	0	-145	-520

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 B	35,435	25.6%	20,936	33.6%	2,145	902	267
PG-10Yr-X B	34,497	24.9%	18,392	29.5%	1,845	793	266
Employed people B	31,837	23.0%	18,524	29.7%	1,923	799	170
Jobs B	31,611	22.9%	18,426	29.6%	1,914	794	167
SNPP-2012 B	26,204	18.9%	16,075	25.8%	1,717	693	98
PG-5Yr-X B	21,086	15.2%	12,364	19.8%	1,347	533	79
PG-10Yr B	18,501	13.4%	12,203	19.6%	1,335	526	22
PG-5Yr B	6,415	4.6%	6,648	10.7%	868	287	-133
Natural Change B	-9,705	-7.0%	-5,247	-8.4%	0	-226	-214
Net Nil B	-20,578	-14.9%	-3,243	-5.2%	0	-140	-520

## Uttlesford

### *Components of population change*

- 5.95 Average annual population growth estimated by the 'SNPP-2012' is 1.28% per year over the 25-year period 2012-37, slightly lower than recent historical evidence has suggested. Natural change has been an important component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection, albeit at a level below that of the latest five and ten year averages. Historically, the average annual net effect of internal migration upon population growth has been positive, continuing in the 'SNPP-2012' at +849 average annual net impact. The positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection but on a smaller scale.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	221	167	138
Net Internal Migration	1,028	789	849
Net International Migration	106	141	55
Unattributable Population Change*	49	75	-
Annual Population Change	1,398	1,170	1,042
Annual Population Change (%)	1.89%	1.69%	1.28%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.96 The 'SNPP-2012' scenario records a total population growth of 32.1% over the 2012-37 forecast period, higher than the previous 'SNPP-2010' (31.2% estimated growth to 2037).
- 5.97 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 30.4% and 24.4% respectively.
- 5.98 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The

'PG-5Yr-X' scenario records a growth of 29.6%, whereas the 'PG-10Yr-X' scenario records a population increase of 23.3%.

- 5.99 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth lower than the 'SNPP-2012' scenario, at 30.1% and 28.4%.
- 5.100 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 5.2% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in lower growth at 0.7%.

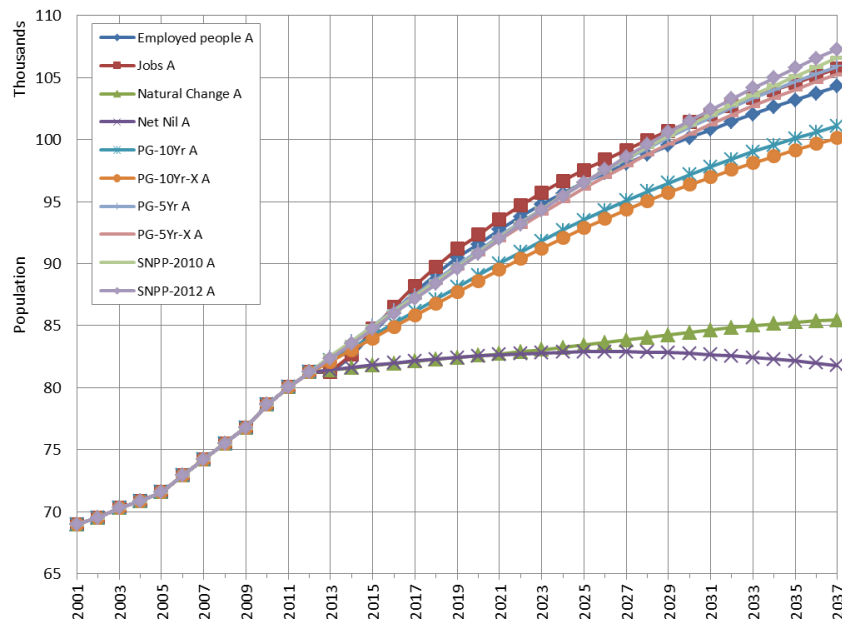
### *Dwelling growth implications*

- 5.101 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 8.6% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.102 Considering the average of the A and B alternatives, suggests a dwelling requirement of 409-509 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a higher growth average at 529 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
SNPP-2012	508	549	529
PG-5Yr	489	530	509
SNPP-2010	488	530	509
Jobs	487	526	506
PG-5Yr-X	478	519	499
Employed people	463	501	482
PG-10Yr	404	444	424
PG-10Yr-X	390	428	409
Natural Change	134	179	157
Net Nil	98	125	112

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Uttlesford



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2012 A	26,057	32.1%	12,112	37.7%	904	508	300
SNPP-2010 A	25,361	31.2%	11,634	36.2%	881	488	327
PG-5Yr A	24,677	30.4%	11,641	36.2%	829	489	290
Jobs A	24,492	30.1%	11,592	36.1%	842	487	266
PG-5Yr-X A	24,015	29.6%	11,397	35.5%	806	478	276
Employed people A	23,042	28.4%	11,034	34.3%	791	463	237
PG-10Yr A	19,852	24.4%	9,628	30.0%	660	404	199
PG-10Yr-X A	18,892	23.3%	9,282	28.9%	627	390	179
Natural Change A	4,189	5.2%	3,204	10.0%	0	134	-153
Net Nil A	552	0.7%	2,333	7.3%	0	98	-214

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2012 B	26,057	32.1%	13,072	40.7%	904	549	300
SNPP-2010 B	25,361	31.2%	12,622	39.3%	881	530	327
PG-5Yr B	24,677	30.4%	12,618	39.2%	829	530	290
Jobs B	24,492	30.1%	12,520	38.9%	842	526	266
PG-5Yr-X B	24,015	29.6%	12,364	38.5%	806	519	276
Employed people B	23,042	28.4%	11,947	37.2%	791	501	237
PG-10Yr B	19,852	24.4%	10,567	32.9%	660	444	199
PG-10Yr-X B	18,892	23.3%	10,206	31.7%	627	428	179
Natural Change B	4,189	5.2%	4,263	13.3%	0	179	-153
Net Nil B	552	0.7%	2,988	9.3%	0	125	-214

## Southend-on-Sea

### *Components of population change*

- 5.103 Southend-on-Sea's population was subject to a very significant upward adjustment as a result of the 2011 Census count. The scale of this adjustment (reflected in the UPC assigned to historical population estimates) suggests that there may have been a population undercount in the 2001 Census (although this is difficult to verify). This has important implications when interpreting the range of scenarios presented her.
- 5.104 Average annual population growth estimated by the 'SNPP-2012' is 0.75% per year over the 25-year period 2012-37. Natural change has been an important component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection and at a higher level than previously. Historically, the average annual net effect of internal migration upon population growth has been positive and this continues in the 'SNPP-2012' at an enhanced rate of +960 average annual net impact. The negative impact of international migration upon historical growth continues in the 'SNPP-2012' projection and at a slightly higher level.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	445	215	481
Net Internal Migration	671	375	960
Net International Migration	-18	-101	-135
Unattributable Population Change*	789	884	-
Annual Population Change	1,885	1,369	1,306
Annual Population Change (%)	1.14%	0.85%	0.75%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.105 The 'SNPP-2012' scenario records a total population growth of 18.7% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (22.4% estimated growth to 2037).
- 5.106 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component



assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth above the new 'SNPP-2012' benchmark, 24.8% and 21.0% respectively. The scale of these growth forecasts is being driven by the impact of the UPC adjustment which is compensating, not just for mis-estimation of international migration but also the possible undercount associated with the 2001 Census.

- 5.107 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 17.3%, whereas the 'PG-10Yr-X' scenario records a population increase of 12.9%. These scenarios may provide more realistic growth outcomes (than the 'PG-5Yr' and 'PG-10Yr' scenarios) given the possible 2001 Census undercount issues. But there is still a residual uncertainty associated with the true scale of international migration within these scenarios, which the removal of UPC ignores.
- 5.108 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that aligns to the 'SNPP-2012' scenario, at 18.3-19.9%.
- 5.109 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 5.2% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in slightly lower growth at 5.1%.

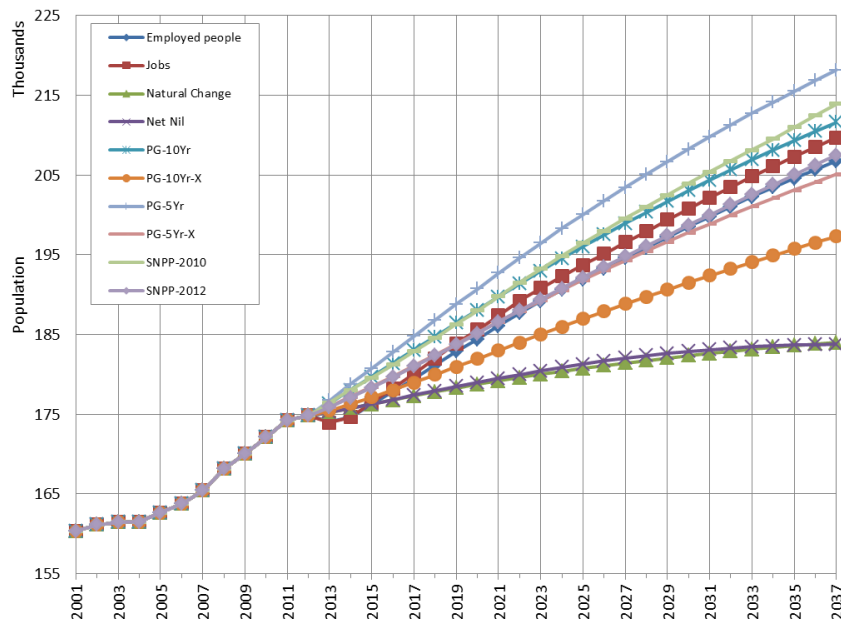
### *Dwelling growth implications*

- 5.110 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 18.2% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.111 Considering the average of the A and B alternatives, suggests a dwelling requirement of 635-1,010 resulting from the 'PG' and EEFM scenarios, although the 'PG-5Yr' and 'PG-10Yr' outcomes are unlikely outcomes given the residual 2001 Census count issues. The 'SNPP-2012' records a growth average of 781 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
PG-5Yr	941	1,079	1,010
PG-10Yr	815	950	883
SNPP-2010	793	928	861
Jobs	749	890	820
SNPP-2012	711	851	781
PG-5Yr-X	712	845	779
Employed people	698	838	768
PG-10Yr-X	569	700	635
Net Nil	309	439	374
Natural Change	246	380	313

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Southend-on-Sea



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-5Yr A	43,340	24.8%	22,357	29.7%	1,179	941	523
SNPP-2010 A	39,079	22.4%	18,831	25.0%	959	793	474
PG-10Yr A	36,803	21.0%	19,355	25.7%	935	815	421
Jobs A	34,852	19.9%	17,799	23.6%	901	749	334
SNPP-2012 A	32,657	18.7%	16,893	22.4%	826	711	297
Employed people A	31,942	18.3%	16,582	22.0%	802	698	284
PG-5Yr-X A	30,288	17.3%	16,920	22.5%	747	712	286
PG-10Yr-X A	22,504	12.9%	13,522	17.9%	474	569	160
Natural Change A	9,163	5.2%	5,837	7.7%	0	246	-102
Net Nil A	8,924	5.1%	7,340	9.7%	0	309	-103

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-5Yr B	43,340	24.8%	25,622	34.0%	1,179	1,079	523
SNPP-2010 B	39,079	22.4%	22,050	29.2%	959	928	474
PG-10Yr B	36,803	21.0%	22,570	29.9%	935	950	421
Jobs B	34,852	19.9%	21,135	28.0%	901	890	334
SNPP-2012 B	32,657	18.7%	20,219	26.8%	826	851	297
Employed people B	31,942	18.3%	19,895	26.4%	802	838	284
PG-5Yr-X B	30,288	17.3%	20,081	26.6%	747	845	286
PG-10Yr-X B	22,504	12.9%	16,634	22.1%	474	700	160
Natural Change B	9,163	5.2%	9,022	12.0%	0	380	-102
Net Nil B	8,924	5.1%	10,429	13.8%	0	439	-103

## Thurrock

### *Components of population change*

- 5.112 Average annual population growth estimated by the 'SNPP-2012' is 1.02% per year over the 25-year period 2012-37. Natural change has been a dominant component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been very small, whereas the 'SNPP-2012' suggests a +259 average annual net impact. The positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection but on a smaller scale.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	1,277	1,105	1,236
Net Internal Migration	-1	49	259
Net International Migration	337	411	130
Unattributable Population Change*	-50	-79	-
Annual Population Change	1,559	1,481	1,624
Annual Population Change (%)	1.03%	1.02%	1.02%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.113 The 'SNPP-2012' scenario records a total population growth of 25.5% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (30.0% estimated growth to 2037).
- 5.114 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 20.1% and 20.8% respectively.
- 5.115 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 20.7%, whereas the 'PG-10Yr-X' scenario records a population increase of 21.6%.

- 5.116 The EEFM 'Jobs' and 'Employed people' scenarios result in much higher population growth than other scenarios, at 35.8 – 37.2%.
- 5.117 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 14.1% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in higher growth at 18.1%.

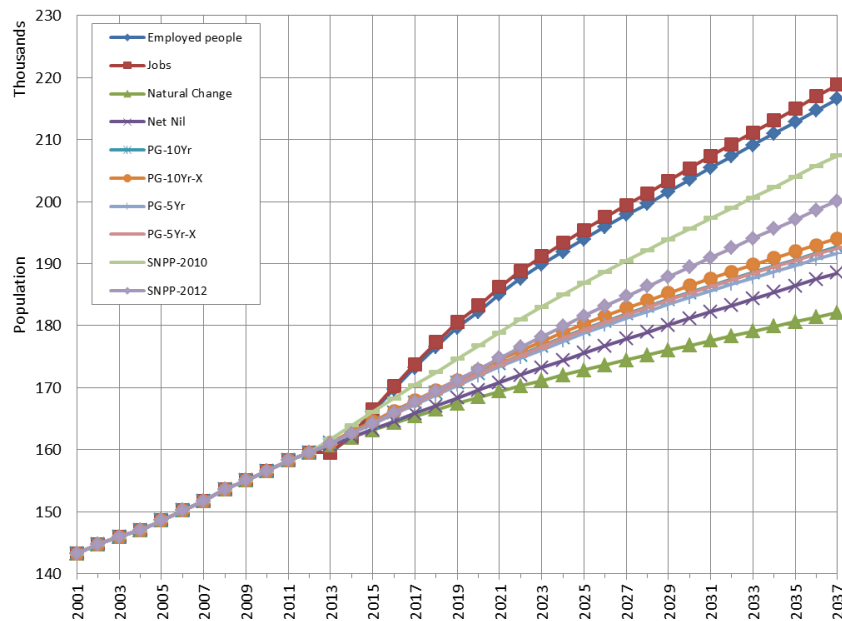
### *Dwelling growth implications*

- 5.118 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 16.2% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.119 Considering the average of the A and B alternatives, suggests a dwelling requirement of 609-1,080 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 783 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	1,018	1,142	1,080
Employed people	983	1,105	1,044
SNPP-2010	836	960	898
SNPP-2012	727	840	783
PG-10Yr-X	580	698	639
PG-5Yr-X	566	679	623
PG-10Yr	560	676	618
PG-5Yr	553	666	609
Net Nil	544	649	596
Natural Change	493	589	541

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Thurrock



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	59,342	37.2%	24,855	39.4%	978	1,018	854
Employed people A	57,035	35.8%	23,988	38.0%	904	983	815
SNPP-2010 A	47,933	30.0%	20,416	32.4%	615	836	737
SNPP-2012 A	40,612	25.5%	17,747	28.1%	389	727	540
PG-10Yr-X A	34,539	21.6%	14,157	22.4%	50	580	470
PG-10Yr A	33,164	20.8%	13,666	21.7%	8	560	446
PG-5Yr-X A	33,013	20.7%	13,808	21.9%	49	566	426
PG-5Yr A	32,139	20.1%	13,496	21.4%	22	553	411
Net Nil A	28,953	18.1%	13,269	21.0%	0	544	342
Natural Change A	22,551	14.1%	12,035	19.1%	0	493	146

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	59,342	37.2%	27,863	44.1%	978	1,142	854
Employed people B	57,035	35.8%	26,962	42.7%	904	1,105	815
SNPP-2010 B	47,933	30.0%	23,421	37.1%	615	960	737
SNPP-2012 B	40,612	25.5%	20,491	32.5%	389	840	540
PG-10Yr-X B	34,539	21.6%	17,028	27.0%	50	698	470
PG-10Yr B	33,164	20.8%	16,507	26.1%	8	676	446
PG-5Yr-X B	33,013	20.7%	16,582	26.3%	49	679	426
PG-5Yr B	32,139	20.1%	16,252	25.7%	22	666	411
Net Nil B	28,953	18.1%	15,834	25.1%	0	649	342
Natural Change B	22,551	14.1%	14,382	22.8%	0	589	146

## Cambridge

### *Components of population change*

- 5.120 Average annual population growth estimated by the 'SNPP-2012' is 0.37% per year over the 25-year period 2012-37, lower than recent historical evidence has suggested. Natural change has been an important component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been negative, and this continues in the 'SNPP-2012' but at a lower level of -517 average annual net impact. The positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection but on a smaller scale at +479 per year.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	631	471	499
Net Internal Migration	-861	-1,133	-517
Net International Migration	936	881	479
Unattributable Population Change*	1,240	1,340	-
Annual Population Change	1,936	1,560	461
Annual Population Change (%)	1.68%	1.43%	0.37%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.121 The 'SNPP-2012' scenario records a total population growth of 9.2% over the 2012-37 forecast period, higher than the previous 'SNPP-2010' (3.4% estimated growth to 2037).
- 5.122 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth above the new 'SNPP-2012' benchmark, 20.5% and 16.6% respectively.
- 5.123 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 12.5%, whereas the 'PG-10Yr-X' scenario records a

population increase of 7.9%.

- 5.124 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that is higher than other scenarios, at 25.8-29.9%.
- 5.125 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 13.7% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in lower growth at 11.3%.

### *Dwelling growth implications*

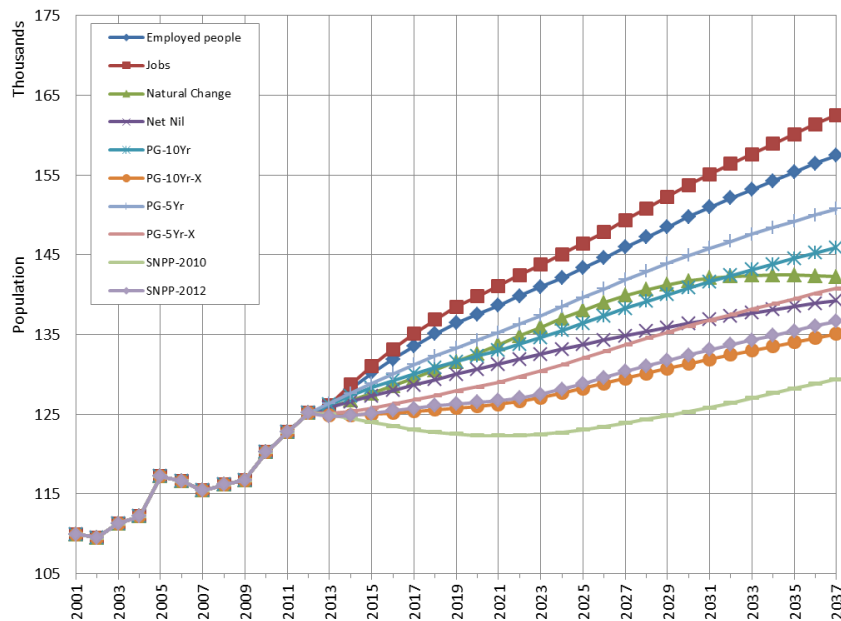
- 5.126 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 16.1% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.127 Considering the average of the A and B alternatives, suggests a dwelling requirement of 292-767 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 323 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Natural Change	910	782	846
Jobs	727	807	767
Employed people	643	720	681
PG-5Yr	573	635	604
PG-10Yr	439	509	474
PG-5Yr-X	408	464	436
Net Nil	332	396	364
SNPP-2012	291	356	323
PG-10Yr-X	260	323	292
SNPP-2010	76	157	116

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*



## Cambridge



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	37,373	29.9%	17,592	37.2%	832	727	973
Employed people A	32,290	25.8%	15,554	32.9%	658	643	801
PG-5Yr A	25,617	20.5%	13,852	29.3%	336	573	632
PG-10Yr A	20,728	16.6%	10,626	22.5%	118	439	458
Natural Change A	17,099	13.7%	22,017	46.5%	0	910	551
PG-5Yr-X A	15,607	12.5%	9,861	20.8%	5	408	297
Net Nil A	14,102	11.3%	8,023	17.0%	0	332	174
SNPP-2012 A	11,517	9.2%	7,046	14.9%	-38	291	100
PG-10Yr-X A	9,925	7.9%	6,294	13.3%	-235	260	92
SNPP-2010 A	4,231	3.4%	1,835	3.9%	-223	76	-104

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	37,373	29.9%	19,524	41.1%	832	807	973
Employed people B	32,290	25.8%	17,403	36.6%	658	720	801
PG-5Yr B	25,617	20.5%	15,357	32.3%	336	635	632
PG-10Yr B	20,728	16.6%	12,304	25.9%	118	509	458
Natural Change B	17,099	13.7%	18,924	39.8%	0	782	551
PG-5Yr-X B	15,607	12.5%	11,214	23.6%	5	464	297
Net Nil B	14,102	11.3%	9,581	20.2%	0	396	174
SNPP-2012 B	11,517	9.2%	8,600	18.1%	-38	356	100
PG-10Yr-X B	9,925	7.9%	7,818	16.4%	-235	323	92
SNPP-2010 B	4,231	3.4%	3,787	8.0%	-223	157	-104

## South Cambridgeshire

### *Components of population change*

- 5.128 Average annual population growth estimated by the 'SNPP-2012' is 1.01% per year over the 25-year period 2012-37. Natural change has been an important component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive and this continues in the 'SNPP-2012' but at a reduced level of +774 average annual net impact. The positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection but on a smaller scale.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	752	635	566
Net Internal Migration	963	941	774
Net International Migration	336	431	185
Unattributable Population Change*	-110	-91	-
Annual Population Change	1,958	1,938	1,525
Annual Population Change (%)	1.35%	1.45%	1.01%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.129 The 'SNPP-2012' scenario records a total population growth of 25.2% over the 2012-37 forecast period, slightly higher than the previous 'SNPP-2010' (25.0% estimated growth to 2037).
- 5.130 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 24.4% and 24.3% respectively.
- 5.131 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is higher. The 'PG-5Yr-X' scenario records a growth of 25.3%, whereas the 'PG-10Yr-X' scenario records a

population increase of 25.0%.

- 5.132 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that exceeds other scenarios, at 35.2-35.8%.
- 5.133 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 6.9% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in similar growth at 6.9%.

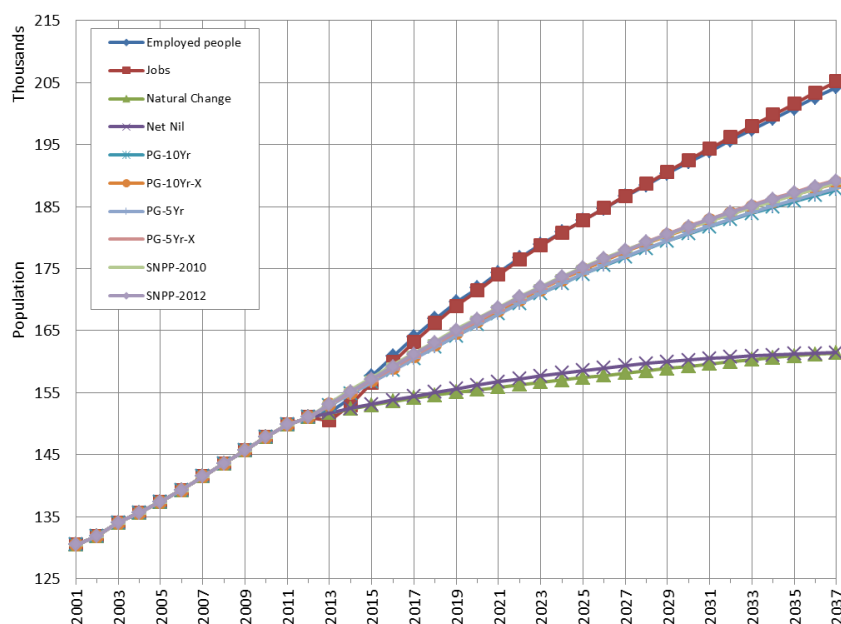
### *Dwelling growth implications*

- 5.134 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 9.7% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.135 Considering the average of the A and B alternatives, suggests a dwelling requirement of 781-1,090 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 833 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	1,047	1,132	1,090
Employed people	1,035	1,119	1,077
SNPP-2012	795	872	833
PG-5Yr-X	783	864	823
SNPP-2010	783	861	822
PG-5Yr	762	843	802
PG-10Yr-X	756	838	797
PG-10Yr	740	821	781
Net Nil	337	404	370
Natural Change	321	413	367

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## South Cambridgeshire



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	54,128	35.8%	25,432	41.6%	1,520	1,047	782
Employed people A	53,236	35.2%	25,124	41.1%	1,485	1,035	763
PG-5Yr-X A	38,233	25.3%	19,007	31.1%	882	783	461
SNPP-2012 A	38,113	25.2%	19,303	31.5%	959	795	456
SNPP-2010 A	37,832	25.0%	19,006	31.1%	977	783	465
PG-10Yr-X A	37,742	25.0%	18,371	30.0%	843	756	440
PG-5Yr A	36,889	24.4%	18,500	30.2%	838	762	433
PG-10Yr A	36,653	24.3%	17,968	29.4%	808	740	417
Net Nil A	10,379	6.9%	8,194	13.4%	0	337	-98
Natural Change A	10,361	6.9%	7,800	12.7%	0	321	-181

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	54,128	35.8%	27,496	44.9%	1,520	1,132	782
Employed people B	53,236	35.2%	27,172	44.4%	1,485	1,119	763
PG-5Yr-X B	38,233	25.3%	20,992	34.3%	882	864	461
SNPP-2012 B	38,113	25.2%	21,178	34.6%	959	872	456
SNPP-2010 B	37,832	25.0%	20,919	34.2%	977	861	465
PG-10Yr-X B	37,742	25.0%	20,362	33.3%	843	838	440
PG-5Yr B	36,889	24.4%	20,465	33.4%	838	843	433
PG-10Yr B	36,653	24.3%	19,943	32.6%	808	821	417
Net Nil B	10,379	6.9%	9,800	16.0%	0	404	-98
Natural Change B	10,361	6.9%	10,040	16.4%	0	413	-181

## Broxbourne

### *Components of population change*

- 5.136 Average annual population growth estimated by the 'SNPP-2012' is 0.81% per year over the 25-year period 2012-37. Natural change has been a dominant component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been small, whereas the 'SNPP-2012' suggests a +290 average annual net impact. The impact of international migration is negative throughout the 'SNPP-2012' projection.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	564	476	534
Net Internal Migration	54	-18	290
Net International Migration	-30	42	-56
Unattributable Population Change*	147	181	-
Annual Population Change	733	680	767
Annual Population Change (%)	0.81%	0.78%	0.81%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.137 The 'SNPP-2012' scenario records a total population growth of 20.3% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (23.5% estimated growth to 2037).
- 5.138 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 16.4% in each case.
- 5.139 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 14.0%, whereas the 'PG-10Yr-X' scenario records a population increase of 13.6%.

- 5.140 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that is similar to the 'SNPP-2012' scenario, at 19.6-21.4%.
- 5.141 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 9.5% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in higher growth at 13.3%.

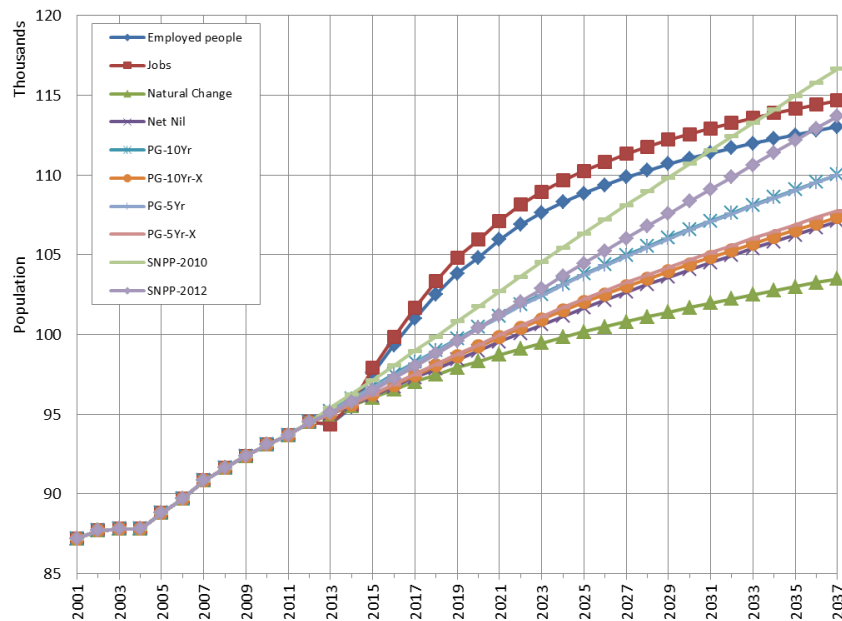
### *Dwelling growth implications*

- 5.142 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 28.9% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.143 Considering the average of the A and B alternatives, suggests a dwelling requirement of 260-394 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 372 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
SNPP-2010	365	452	408
Jobs	351	437	394
SNPP-2012	329	416	372
Employed people	325	409	367
PG-5Yr	272	357	315
PG-10Yr	260	346	303
PG-5Yr-X	237	320	279
Net Nil	229	310	270
PG-10Yr-X	218	302	260
Natural Change	196	279	238

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Broxbourne



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 A	22,174	23.5%	8,763	23.0%	355	365	283
Jobs A	20,180	21.4%	8,442	22.2%	235	351	221
SNPP-2012 A	19,185	20.3%	7,908	20.8%	233	329	208
Employed people A	18,526	19.6%	7,806	20.5%	182	325	193
PG-10Yr A	15,541	16.4%	6,234	16.4%	80	260	151
PG-5Yr A	15,513	16.4%	6,546	17.2%	96	272	144
PG-5Yr-X A	13,259	14.0%	5,702	15.0%	20	237	107
PG-10Yr-X A	12,874	13.6%	5,244	13.8%	-8	218	106
Net Nil A	12,609	13.3%	5,498	14.5%	0	229	103
Natural Change A	8,987	9.5%	4,710	12.4%	0	196	-2

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2010 B	22,174	23.5%	10,848	28.5%	355	452	283
Jobs B	20,180	21.4%	10,496	27.5%	235	437	221
SNPP-2012 B	19,185	20.3%	9,986	26.2%	233	416	208
Employed people B	18,526	19.6%	9,832	25.8%	182	409	193
PG-10Yr B	15,541	16.4%	8,308	21.8%	80	346	151
PG-5Yr B	15,513	16.4%	8,586	22.5%	96	357	144
PG-5Yr-X B	13,259	14.0%	7,694	20.2%	20	320	107
PG-10Yr-X B	12,874	13.6%	7,261	19.0%	-8	302	106
Net Nil B	12,609	13.3%	7,450	19.5%	0	310	103
Natural Change B	8,987	9.5%	6,706	17.6%	0	279	-2

## East Hertfordshire

### *Components of population change*

- 5.144 Average annual population growth estimated by the 'SNPP-2012' is 0.96% per year over the 25-year period 2012-37. Natural change has been a dominant component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive and the 'SNPP-2012' suggests a +642 average annual net impact. The positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	633	592	526
Net Internal Migration	564	325	642
Net International Migration	161	185	171
Unattributable Population Change*	-147	-157	-
Annual Population Change	1,209	944	1,339
Annual Population Change (%)	0.90%	0.73%	0.96%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.145 The 'SNPP-2012' scenario records a total population growth of 24.0% over the 2012-37 forecast period, slightly higher than the previous 'SNPP-2010' (23.2% estimated growth to 2037).
- 5.146 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 17.2% and 15.3% respectively.
- 5.147 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is higher. The 'PG-5Yr-X' scenario records a growth of 18.6%, whereas the 'PG-10Yr-X' scenario records a population increase of 16.7%.



- 5.148 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that exceeds other scenarios, at 29.8-33.0%.
- 5.149 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 6.5% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in higher growth at 7.2%.

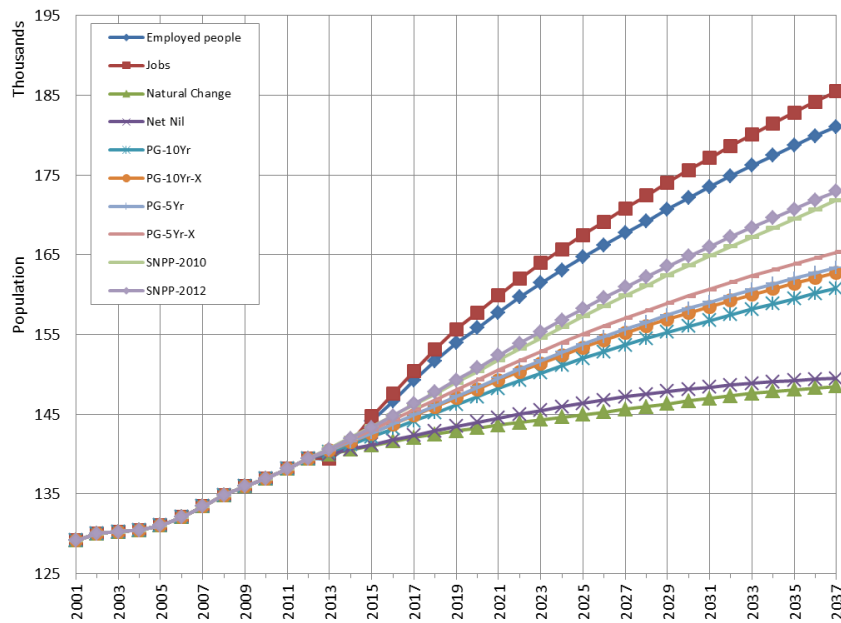
### *Dwelling growth implications*

- 5.150 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 11.0% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.151 Considering the average of the A and B alternatives, suggests a dwelling requirement of 526-964 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 754 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	925	1,004	964
Employed people	853	930	891
SNPP-2010	718	793	755
SNPP-2012	718	791	754
PG-5Yr-X	578	649	614
PG-5Yr	549	619	584
PG-10Yr-X	520	593	557
PG-10Yr	490	561	526
Net Nil	329	389	359
Natural Change	317	381	349

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

### East Hertfordshire



*Option A: 2011-based CLG household model*

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	46,036	33.0%	22,417	39.0%	1,230	925	540
Employed people A	41,626	29.8%	20,670	35.9%	1,081	853	465
SNPP-2012 A	33,486	24.0%	17,404	30.3%	813	718	329
SNPP-2010 A	32,404	23.2%	17,399	30.3%	845	718	354
PG-5Yr-X A	25,879	18.6%	14,013	24.4%	541	578	192
PG-5Yr A	23,963	17.2%	13,314	23.2%	477	549	159
PG-10Yr-X A	23,333	16.7%	12,618	21.9%	407	520	161
PG-10Yr A	21,323	15.3%	11,884	20.7%	341	490	126
Net Nil A	10,053	7.2%	7,986	13.9%	0	329	-72
Natural Change A	9,019	6.5%	7,682	13.4%	0	317	-170

*Option B: 2008-based CLG household model*

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	46,036	33.0%	24,343	42.3%	1,230	1,004	540
Employed people B	41,626	29.8%	22,534	39.2%	1,081	930	465
SNPP-2012 B	33,486	24.0%	19,163	33.3%	813	791	329
SNPP-2010 B	32,404	23.2%	19,228	33.4%	845	793	354
PG-5Yr-X B	25,879	18.6%	15,733	27.4%	541	649	192
PG-5Yr B	23,963	17.2%	15,002	26.1%	477	619	159
PG-10Yr-X B	23,333	16.7%	14,374	25.0%	407	593	161
PG-10Yr B	21,323	15.3%	13,606	23.7%	341	561	126
Net Nil B	10,053	7.2%	9,420	16.4%	0	389	-72
Natural Change B	9,019	6.5%	9,229	16.0%	0	381	-170

## Welwyn Hatfield

### *Components of population change*

- 5.152 Average annual population growth estimated by the 'SNPP-2012' is 1.05% per year over the 25-year period 2012-37. Natural change has been an important component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has declined in the most recent five-year period but has remained positive. The 'SNPP-2012' assumes an annual net loss of -260 over the projection period. The large positive impact of international migration upon historical growth continues in the 'SNPP-2012' projection but on a slightly smaller scale.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	471	357	520
Net Internal Migration	83	595	-260
Net International Migration	1,209	1,199	911
Unattributable Population Change*	-693	-757	-
Annual Population Change	1,072	1,392	1,172
Annual Population Change (%)	1.00%	1.42%	1.05%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.153 The 'SNPP-2012' scenario records a total population growth of 26.1% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (34.7% estimated growth to 2037).
- 5.154 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below the new 'SNPP-2012' benchmark, 16.7% and 19.7% respectively.
- 5.155 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is higher. The 'PG-5Yr-X' scenario records a growth of 23.1%, whereas the 'PG-10Yr-X' scenario records a

population increase of 27.0%.

- 5.156 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth exceeds other scenarios, at 35.8-40.2%.
- 5.157 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 11.0% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in lower growth at 8.2%.

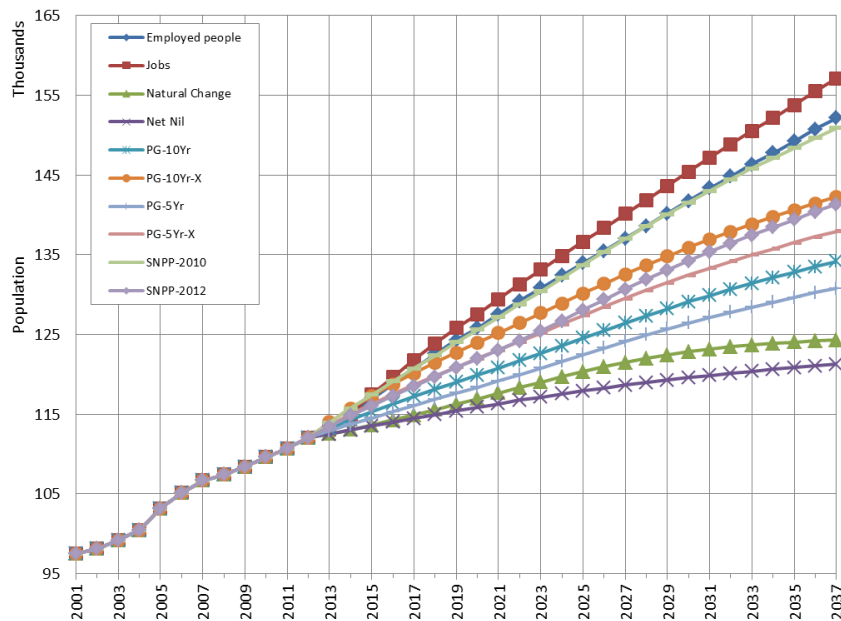
### *Dwelling growth implications*

- 5.158 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 4.4% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.159 Considering the average of the A and B alternatives, suggests a dwelling requirement of 413-835 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 585 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	820	850	835
SNPP-2010	752	783	767
Employed people	742	770	756
SNPP-2012	573	596	585
PG-10Yr-X	549	578	564
PG-5Yr-X	512	536	524
PG-10Yr	426	451	439
Natural Change	418	434	426
PG-5Yr	403	423	413
Net Nil	235	249	242

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Welwyn Hatfield



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	45,070	40.2%	19,627	44.5%	1,185	820	1,010
Employed people A	40,140	35.8%	17,777	40.3%	1,019	742	879
SNPP-2010 A	38,885	34.7%	18,006	40.8%	869	752	941
PG-10Yr-X A	30,225	27.0%	13,155	29.8%	546	549	657
SNPP-2012 A	29,297	26.1%	13,728	31.1%	652	573	591
PG-5Yr-X A	25,908	23.1%	12,261	27.8%	495	512	509
PG-10Yr A	22,118	19.7%	10,211	23.1%	296	426	433
PG-5Yr A	18,758	16.7%	9,639	21.8%	272	403	311
Natural Change A	12,277	11.0%	10,016	22.7%	0	418	152
Net Nil A	9,240	8.2%	5,637	12.8%	0	235	10

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	45,070	40.2%	20,348	45.9%	1,185	850	1,010
Employed people B	40,140	35.8%	18,446	41.6%	1,019	770	879
SNPP-2010 B	38,885	34.7%	18,742	42.3%	869	783	941
PG-10Yr-X B	30,225	27.0%	13,851	31.3%	546	578	657
SNPP-2012 B	29,297	26.1%	14,280	32.2%	652	596	591
PG-5Yr-X B	25,908	23.1%	12,828	29.0%	495	536	509
PG-10Yr B	22,118	19.7%	10,810	24.4%	296	451	433
PG-5Yr B	18,758	16.7%	10,122	22.8%	272	423	311
Natural Change B	12,277	11.0%	10,383	23.4%	0	434	152
Net Nil B	9,240	8.2%	5,958	13.4%	0	249	10

## Babergh

### *Components of population change*

- 5.160 Average annual population growth estimated by the 'SNPP-2012' is 0.34% per year over the 25-year period 2012-37. Natural change has had a small negative impact upon population change since 2002/03, whereas the 'SNPP-2012' projection assumes a more substantial annual net loss. Historically, the average annual net effect of internal migration upon population growth has been positive and this continues in the 'SNPP-2012' but at a higher level of +760 average annual net impact. The impact of international migration is negative throughout the 'SNPP-2012' projection period.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	-90	-57	-343
Net Internal Migration	230	326	760
Net International Migration	-59	5	-122
Unattributable Population Change*	115	104	-
Annual Population Change	195	378	295
Annual Population Change (%)	0.23%	0.45%	0.34%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.161 The 'SNPP-2012' scenario records a total population growth of 8.4% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (12.0% estimated growth to 2037).
- 5.162 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth above the new 'SNPP-2012' benchmark, 10.6% and 14.7% respectively.
- 5.163 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 8.9%, whereas the 'PG-10Yr-X' scenario records a

population increase of 13.2%.

- 5.164 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that exceeds other scenarios, at 20.8-21.8%.
- 5.165 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 3.6% population decline to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in a decline of 10.9%.

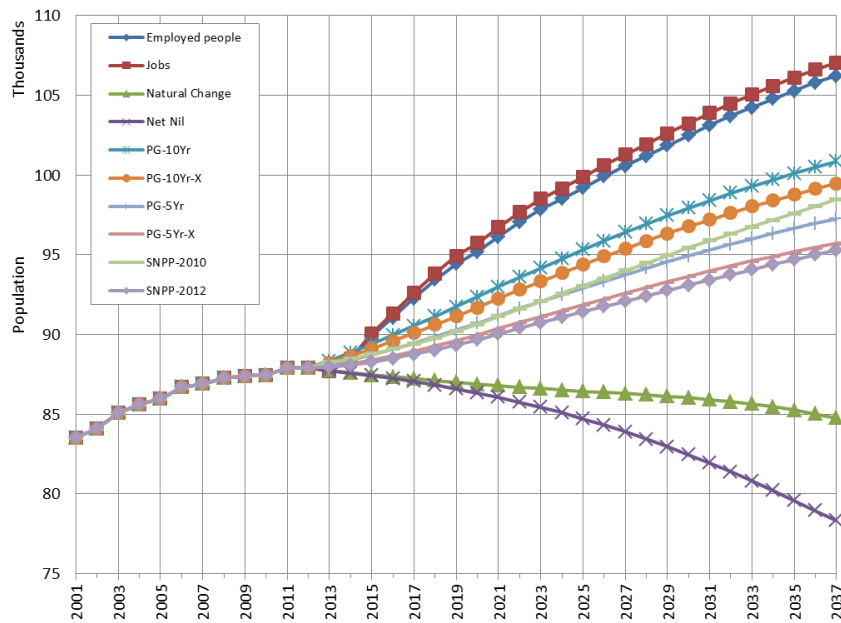
### *Dwelling growth implications*

- 5.166 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 5.4% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.167 Considering the average of the A and B alternatives, suggests a dwelling requirement of 272-481 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth of 273 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	471	490	481
Employed people	456	475	466
PG-10Yr	328	348	338
SNPP-2010	309	328	318
PG-10Yr-X	306	325	315
PG-5Yr	288	304	296
SNPP-2012	265	280	273
PG-5Yr-X	264	279	272
Natural Change	0	28	14
Net Nil	-20	-11	-15

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Babergh



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	19,129	21.8%	11,321	29.9%	1,070	471	85
Employed people A	18,292	20.8%	10,966	29.0%	1,039	456	72
PG-10Yr A	12,956	14.7%	7,879	20.8%	759	328	29
PG-10Yr-X A	11,564	13.2%	7,349	19.4%	709	306	5
SNPP-2010 A	10,555	12.0%	7,424	19.6%	742	309	-7
PG-5Yr A	9,341	10.6%	6,926	18.3%	684	288	-57
PG-5Yr-X A	7,803	8.9%	6,344	16.8%	628	264	-83
SNPP-2012 A	7,382	8.4%	6,372	16.9%	638	265	-105
Natural Change A	-3,153	-3.6%	7	0.0%	0	0	-214
Net Nil A	-9,595	-10.9%	-476	-1.3%	0	-20	-377

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	19,129	21.8%	11,788	31.2%	1,070	490	85
Employed people B	18,292	20.8%	11,426	30.2%	1,039	475	72
PG-10Yr B	12,956	14.7%	8,361	22.1%	759	348	29
PG-10Yr-X B	11,564	13.2%	7,816	20.7%	709	325	5
SNPP-2010 B	10,555	12.0%	7,881	20.8%	742	328	-7
PG-5Yr B	9,341	10.6%	7,316	19.3%	684	304	-57
PG-5Yr-X B	7,803	8.9%	6,719	17.8%	628	279	-83
SNPP-2012 B	7,382	8.4%	6,737	17.8%	638	280	-105
Natural Change B	-3,153	-3.6%	683	1.8%	0	28	-214
Net Nil B	-9,595	-10.9%	-264	-0.7%	0	-11	-377



## Ipswich

### *Components of population change*

- 5.168 Average annual population growth estimated by the 'SNPP-2012' is 0.65% per year over the 25-year period 2012-37, lower than the recent historical evidence would suggest. Natural change has been a dominant component of population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive in the last five-years but negative over a ten year period. The 'SNPP-2012' suggests a +91 average annual net impact. The positive impact of international migration upon historical growth reverts to a net loss in the 'SNPP-2012' projection.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	810	627	872
Net Internal Migration	302	-107	91
Net International Migration	189	601	-85
Unattributable Population Change*	503	547	-
Annual Population Change	1,798	1,664	878
Annual Population Change (%)	1.43%	1.41%	0.65%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.169 The 'SNPP-2012' scenario records a total population growth of 16.3% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (19.8% estimated growth to 2037).
- 5.170 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth considerably higher than the new 'SNPP-2012' benchmark, 27.2% and 26.4% respectively.
- 5.171 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 21.1%, whereas the 'PG-10Yr-X' scenario records a

population increase of 19.8%.

- 5.172 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth of 25.1% and 23.0% respectively.
- 5.173 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 10.8% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in higher growth at 16.3%.

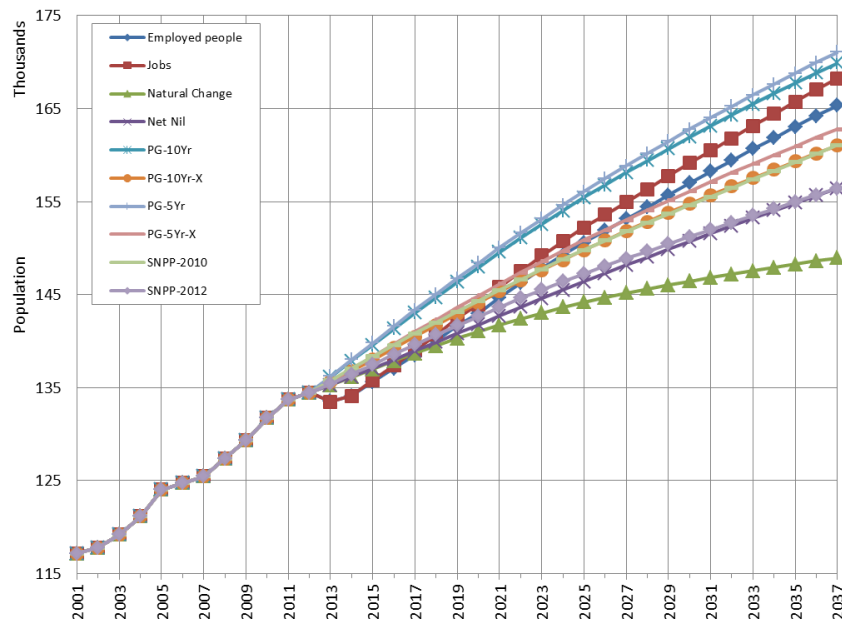
### *Dwelling growth implications*

- 5.174 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 10.6% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.175 Considering the average of the A and B alternatives, suggests a dwelling requirement of 647-805 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 543 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
PG-5Yr	769	841	805
PG-10Yr	767	837	802
Jobs	713	784	748
Employed people	661	732	697
PG-5Yr-X	624	695	660
PG-10Yr-X	612	682	647
SNPP-2010	602	659	630
SNPP-2012	507	579	543
Net Nil	506	577	541
Natural Change	438	519	478

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Ipswich



## Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-5Yr A	36,588	27.2%	18,570	32.1%	509	769	653
PG-10Yr A	35,453	26.4%	18,528	32.0%	442	767	639
Jobs A	33,778	25.1%	17,214	29.7%	415	713	565
Employed people A	30,863	23.0%	15,971	27.6%	318	661	499
PG-5Yr-X A	28,330	21.1%	15,076	26.0%	249	624	458
SNPP-2010 A	26,611	19.8%	14,539	25.1%	187	602	495
PG-10Yr-X A	26,594	19.8%	14,787	25.5%	171	612	428
Net Nil A	21,980	16.3%	12,217	21.1%	0	506	303
SNPP-2012 A	21,954	16.3%	12,236	21.1%	6	507	296
Natural Change A	14,490	10.8%	10,569	18.3%	0	438	113

## Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-5Yr B	36,588	27.2%	20,314	35.0%	509	841	653
PG-10Yr B	35,453	26.4%	20,215	34.9%	442	837	639
Jobs B	33,778	25.1%	18,932	32.7%	415	784	565
Employed people B	30,863	23.0%	17,692	30.5%	318	732	499
PG-5Yr-X B	28,330	21.1%	16,799	29.0%	249	695	458
SNPP-2010 B	26,611	19.8%	15,917	27.5%	187	659	495
PG-10Yr-X B	26,594	19.8%	16,467	28.4%	171	682	428
Net Nil B	21,980	16.3%	13,942	24.1%	0	577	303
SNPP-2012 B	21,954	16.3%	13,981	24.1%	6	579	296
Natural Change B	14,490	10.8%	12,532	21.6%	0	519	113

## Mid Suffolk

### *Components of population change*

- 5.176 Average annual population growth estimated by the 'SNPP-2012' is 0.53% per year over the 25-year period 2012-37, lower than the recent historical evidence would suggest. Natural change has had a small positive impact upon population change since 2002/03 but this reverts to a more substantial annual net loss in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive and the 'SNPP-2012' suggests a +762 average annual net impact. The average annual impact of international migration upon growth is negative in the 'SNPP-2012' projection.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	77	65	-149
Net Internal Migration	574	802	762
Net International Migration	-36	15	-95
Unattributable Population Change*	151	123	-
Annual Population Change	752	989	519
Annual Population Change (%)	0.81%	1.13%	0.53%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.177 The 'SNPP-2012' scenario records a total population growth of 13.3% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (21.2% estimated growth to 2037).
- 5.178 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth above the new 'SNPP-2012' benchmark, 17.4% and 21.9% respectively.
- 5.179 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 15.2%, whereas the 'PG-10Yr-X' scenario records a

population increase of 20.1%.

- 5.180 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that exceed other scenarios, at 25.1-27.1%.
- 5.181 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 0.4% population decline to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in a decline of 5.2%.

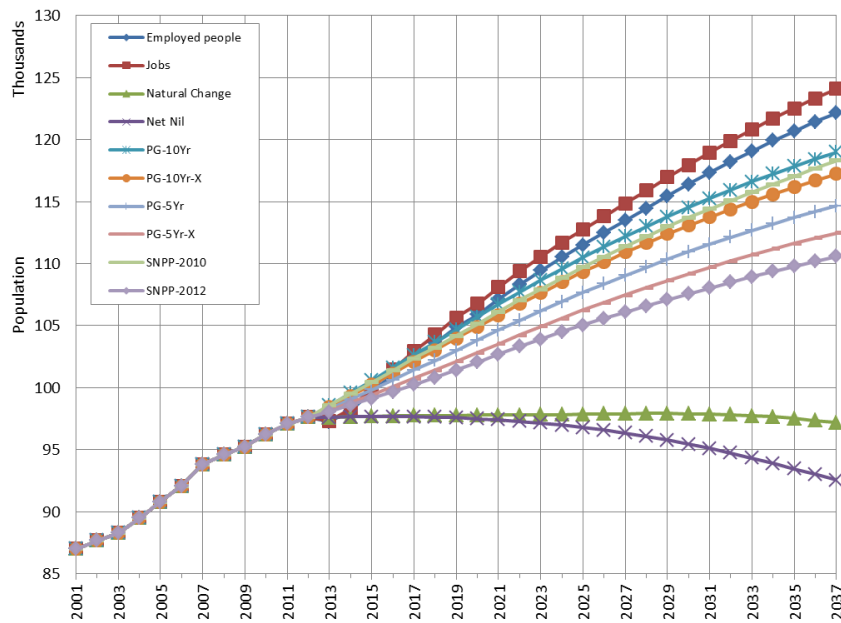
### *Dwelling growth implications*

- 5.182 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 5.4% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.183 Considering the average of the A and B alternatives, suggests a dwelling requirement of 399-619 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 388 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	605	633	619
Employed people	572	599	585
SNPP-2010	499	524	511
PG-10Yr	491	519	505
PG-10Yr-X	464	491	478
PG-5Yr	419	444	432
PG-5Yr-X	387	411	399
SNPP-2012	376	399	388
Net Nil	74	92	83
Natural Change	66	88	77

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## Mid Suffolk



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	26,482	27.1%	14,555	35.6%	1,161	605	197
Employed people A	24,523	25.1%	13,752	33.6%	1,090	572	164
PG-10Yr A	21,387	21.9%	11,796	28.8%	922	491	135
SNPP-2010 A	20,719	21.2%	11,990	29.3%	997	499	112
PG-10Yr-X A	19,627	20.1%	11,152	27.3%	862	464	103
PG-5Yr A	17,029	17.4%	10,069	24.6%	777	419	48
PG-5Yr-X A	14,875	15.2%	9,292	22.7%	702	387	11
SNPP-2012 A	12,968	13.3%	9,044	22.1%	668	376	-32
Natural Change A	-421	-0.4%	1,576	3.9%	0	66	-226
Net Nil A	-5,065	-5.2%	1,787	4.4%	0	74	-326

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	26,482	27.1%	15,216	37.2%	1,161	633	197
Employed people B	24,523	25.1%	14,397	35.2%	1,090	599	164
PG-10Yr B	21,387	21.9%	12,468	30.5%	922	519	135
SNPP-2010 B	20,719	21.2%	12,592	30.8%	997	524	112
PG-10Yr-X B	19,627	20.1%	11,807	28.9%	862	491	103
PG-5Yr B	17,029	17.4%	10,680	26.1%	777	444	48
PG-5Yr-X B	14,875	15.2%	9,883	24.2%	702	411	11
SNPP-2012 B	12,968	13.3%	9,590	23.5%	668	399	-32
Natural Change B	-421	-0.4%	2,106	5.2%	0	88	-226
Net Nil B	-5,065	-5.2%	2,206	5.4%	0	92	-326

## Suffolk Coastal

### *Components of population change*

- 5.184 Average annual population growth estimated by the 'SNPP-2012' is 0.41% per year over the 25-year period 2012-37. Natural change has had a large negative impact upon population change since 2002/03 and this trend continues in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive but lower in the last five years. The 'SNPP-2012' suggests an enhanced +1,165 average annual net impact. The impact of international migration is negative throughout the 'SNPP-2012' projection period.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	-287	-296	-564
Net Internal Migration	556	1,061	1,165
Net International Migration	-13	138	-97
Unattributable Population Change*	-2	-51	-
Annual Population Change	266	860	505
Annual Population Change (%)	0.21%	0.74%	0.41%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.185 The 'SNPP-2012' scenario records a total population growth of 10.2% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (21.8% estimated growth to 2037).
- 5.186 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth below (10.1%) and above (19.4%) the new 'SNPP-2012' respectively.
- 5.187 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is marginally higher. The 'PG-5Yr-X' scenario records a growth of 10.1%, whereas the 'PG-10Yr-X' scenario records a population increase of 20.0%.

- 5.188 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth that exceeds other scenarios, at 33.5-36.1%.
- 5.189 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 5.2% population decline to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in a decline of 12.9%.

### *Dwelling growth implications*

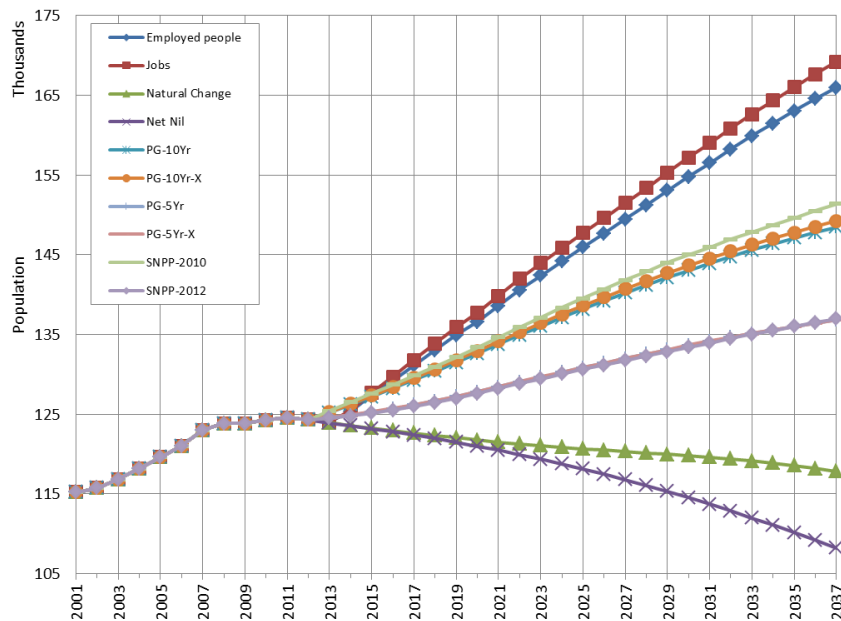
- 5.190 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 11.9% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.191 Considering the average of the A and B alternatives, suggests a dwelling requirement of 393-1,010 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 430 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	969	1,052	1,010
Employed people	912	993	953
SNPP-2010	670	743	707
PG-10Yr-X	588	661	624
PG-10Yr	576	648	612
SNPP-2012	397	462	430
PG-5Yr-X	361	426	393
PG-5Yr	360	425	393
Natural Change	-108	-44	-76
Net Nil	-109	-58	-83

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*



## Suffolk Coastal



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs A	44,876	36.1%	22,246	41.3%	2,257	969	461
Employed people A	41,668	33.5%	20,945	38.9%	2,140	912	404
SNPP-2010 A	27,059	21.8%	15,386	28.5%	1,585	670	163
PG-10Yr-X A	24,903	20.0%	13,487	25.0%	1,468	588	115
PG-10Yr A	24,165	19.4%	13,216	24.5%	1,442	576	101
SNPP-2012 A	12,621	10.2%	9,116	16.9%	1,069	397	-114
PG-5Yr-X A	12,532	10.1%	8,278	15.4%	1,039	361	-116
PG-5Yr A	12,501	10.1%	8,267	15.3%	1,038	360	-117
Natural Change A	-6,482	-5.2%	-2,480	-4.6%	0	-108	-346
Net Nil A	-16,095	-12.9%	-2,496	-4.6%	0	-109	-613

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs B	44,876	36.1%	24,140	44.7%	2,257	1,052	461
Employed people B	41,668	33.5%	22,799	42.3%	2,140	993	404
SNPP-2010 B	27,059	21.8%	17,063	31.6%	1,585	743	163
PG-10Yr-X B	24,903	20.0%	15,166	28.1%	1,468	661	115
PG-10Yr B	24,165	19.4%	14,886	27.6%	1,442	648	101
SNPP-2012 B	12,621	10.2%	10,604	19.7%	1,069	462	-114
PG-5Yr-X B	12,532	10.1%	9,771	18.1%	1,039	426	-116
PG-5Yr B	12,501	10.1%	9,760	18.1%	1,038	425	-117
Natural Change B	-6,482	-5.2%	-1,001	-1.9%	0	-44	-346
Net Nil B	-16,095	-12.9%	-1,329	-2.5%	0	-58	-613

## St Edmundsbury

### *Components of population change*

- 5.192 Average annual population growth estimated by the 'SNPP-2012' is 0.45% per year over the 25-year period 2012-37, lower than the historical evidence would suggest. Natural change has been an important component of population change since 2002/03 but this trend continues at a reduced level in the 'SNPP-2012' projection. Historically, the average annual net effect of internal migration upon population growth has been positive and the 'SNPP-2012' suggests an enhanced +619 average annual net impact. The negative impact of international migration upon historical growth continues in the 'SNPP-2012' projection and at a higher level.

Component of Change	Historical		Projected
	5-year average (2007/08–2011/12)	10-year average (2002/03–2011/12)	2012-based SNPP average (2012/13–2036/37)
Natural Change	307	257	72
Net Internal Migration	296	382	619
Net International Migration	-94	-62	-194
Unattributable Population Change*	586	604	-
Annual Population Change	1,093	1,211	497
Annual Population Change (%)	1.03%	1.21%	0.45%

\* UPC is only applicable to the years 2001/02 - 2010/11

Annual Population Change is calculated as a % change from the start year of the time period

### *Scenario growth summary*

- 5.193 The 'SNPP-2012' scenario records a total population growth of 11.1% over the 2012-37 forecast period, lower than the previous 'SNPP-2010' (16.1% estimated growth to 2037).
- 5.194 Alternative trend projections have been developed from the POPGROUP model. Using the historical evidence on growth to set migration assumptions and with the UPC component assigned to international migration, the 'PG-5Yr' and 'PG-10Yr' scenarios record growth above the new 'SNPP-2012' benchmark, 20.2% and 22.3% respectively.
- 5.195 If the UPC component of historical population change is ignored when calculating future migration assumptions, the forecast of population growth for these 'X' scenarios is lower. The 'PG-5Yr-X' scenario records a growth of 12.0%, whereas the 'PG-10Yr-X' scenario records a

population increase of 14.0%.

- 5.196 The EEFM 'Jobs' and 'Employed people' scenarios result in population growth of 22.2% and 21.0% respectively.
- 5.197 The 'Natural Change' scenario, with no migration impact and with only births and deaths driving growth, results in 3.1% population growth to 2037. The 'Net Nil' scenario which maintains a migration inflow and outflow but applies a zero migration balance, results in lower growth at 0.7%.

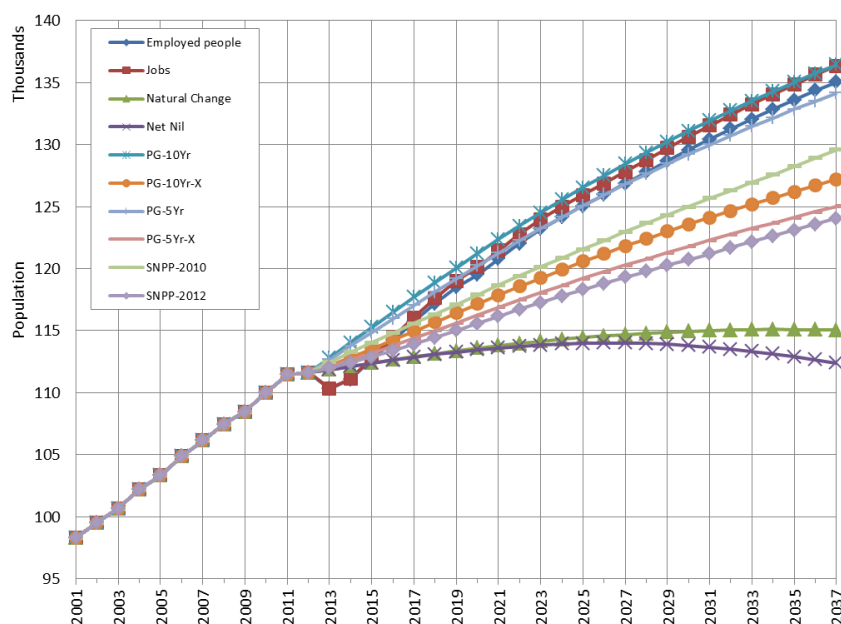
### *Dwelling growth implications*

- 5.198 The application of the 2008-based household formation rates (Option B) results in a dwelling requirement that is approximately 17.1% higher than that associated with the application of the 2011-based household formation rates (Option A) (this calculation excludes the 'Natural Change' and 'Net Nil' scenarios).
- 5.199 Considering the average of the A and B alternatives, suggests a dwelling requirement of 367-569 resulting from the 'PG' and EEFM scenarios, with the 'SNPP-2012' recording a growth average of 360 dwellings per year.

Scenario	Average annual dwelling requirement, 2012-37		
	Option A (2011-based)	Option B (2008-based)	Average
Jobs	530	608	569
PG-10Yr	518	595	556
Employed people	508	585	546
PG-5Yr	474	549	511
SNPP-2010	407	481	444
PG-10Yr-X	373	445	409
PG-5Yr-X	332	402	367
SNPP-2012	324	396	360
Natural Change	144	211	178
Net Nil	139	205	172

*Note: This project does not produce a recommended or preferred demographic forecast for any local authority area. Rather it presents a range of scenarios to inform further assessment and consideration by the individual local authorities. Local circumstances may dictate that certain scenarios are more appropriate than others but, for completeness, all scenarios are presented here.*

## St Edmundsbury



### Option A: 2011-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-10Yr A	24,845	22.3%	12,583	27.2%	825	518	307
Jobs A	24,750	22.2%	12,881	27.9%	858	530	255
Employed people A	23,426	21.0%	12,341	26.7%	812	508	227
PG-5Yr A	22,554	20.2%	11,511	24.9%	745	474	243
SNPP-2010 A	17,994	16.1%	9,877	21.4%	646	407	152
PG-10Yr-X A	15,591	14.0%	9,065	19.6%	513	373	102
PG-5Yr-X A	13,408	12.0%	8,055	17.4%	433	332	45
SNPP-2012 A	12,426	11.1%	7,872	17.0%	425	324	-2
Natural Change A	3,435	3.1%	3,504	7.6%	0	144	-134
Net Nil A	787	0.7%	3,373	7.3%	0	139	-232

### Option B: 2008-based CLG household model

Scenario	Change 2012 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-10Yr B	24,845	22.3%	14,443	31.2%	825	595	307
Jobs B	24,750	22.2%	14,760	31.9%	858	608	255
Employed people B	23,426	21.0%	14,206	30.7%	812	585	227
PG-5Yr B	22,554	20.2%	13,331	28.8%	745	549	243
SNPP-2010 B	17,994	16.1%	11,685	25.3%	646	481	152
PG-10Yr-X B	15,591	14.0%	10,813	23.4%	513	445	102
PG-5Yr-X B	13,408	12.0%	9,767	21.1%	433	402	45
SNPP-2012 B	12,426	11.1%	9,620	20.8%	425	396	-2
Natural Change B	3,435	3.1%	5,126	11.1%	0	211	-134
Net Nil B	787	0.7%	4,973	10.8%	0	205	-232

## 6. Summary comments

### Phase 6 development

- 6.1 The purpose of this Phase 6 analysis has been to produce a consistent set of demographic growth scenarios for the EPOA members to consider; to enable local assessment and to inform policy development. It is not the intention of this Phase 6 report to produce a recommended or preferred demographic forecast for any area. Rather, the approach is to encourage examination of the demography of each area from different perspectives. It will be for each local planning authority to determine its use of the forecasts and other outputs from this project to inform its future spatial policy development.
- 6.2 Throughout each phase of this project, POPGROUP demographic forecasting models have been applied, ensuring a robustness and consistency of approach. In addition, all data and assumptions have been presented in a transparent manner to enable the most effective interpretation of the issues and output under consideration.
- 6.3 The Phase 6 analysis has been completed using the latest POPGROUP 'version 4' software, released in 2014. The most significant methodological change relates to the handling of internal migration in the POPGROUP forecasting model. The level of internal in-migration to an area is now calculated as a rate of migration relative to a defined 'reference population' (by default the UK population), rather than as a rate of migration relative to the population of the area itself (as in POPGROUP v.3.1). This approach ensures a closer alignment with the 'multi-regional' approach to modelling migration that is used by ONS.
- 6.4 The Phase 6 analysis has presented new material for the EPOA members to consider, updating the evidence from the previous phases of the project. The new information includes:
- The latest 2012-based population projections from ONS, with updated assumptions on migration, fertility and mortality.
  - Revised 5-year and 10-year trend scenarios using the POPGROUP v.4 software.
  - The evaluation of all growth scenarios using both the 2008-based and 2011-based CLG models.

- An evaluation of the latest EEFM employment forecasts, using economic activity rates which take account of changes to State Pension Age (SPA), unemployment rates which assume a 'recovery' from recessionary levels and commuting ratios updated from the 2011 Census.

6.5 With a 2012-2037 time horizon, a total of ten population growth scenarios have been presented for each of the 24 local authority districts:

- ONS 2010-based and 2012-based projections.
- Migration-led ('PG' and 'PG-X') scenarios which consider a 5-year and 10-year history and which examine the impact of the UPC element of historical population change upon future growth trajectories.
- Natural Change and Net-Nil scenarios.
- Jobs-led scenarios based upon the latest EEFM forecasts of 'jobs' growth and the growth in 'employed people'.

## Phase 6 outcomes

6.6 In considering the scenario evidence for the EPOA study area and for individual local authority areas, there are a number of key issues that are particularly significant:

- A general reduction in the long-term impact of international migration upon population growth in the EPOA areas;
- A general increase in the long-term impact of internal migration upon population growth in the EPOA areas;
- The 'range' of dwelling growth differences that result from the 2011-based and 2008-based household formation rates;
- The impact of the anticipated jobs and employed people forecasts upon demographic change, particularly in relation to the combined effect of changing economic activity rates in older age-groups, local commuting ratios and the balancing effect of in- and out-migration upon the resident labour force.

6.7 Whilst each of the ten scenarios includes assumptions on the long-term impact of growth through internal migration in each EPOA area, the GLA's own population projections have presented growth outcomes which suggest a higher net outflow of population from London

Boroughs. This net population outflow (presented in this report for the NE London Boroughs), which is higher than the 2012-based SNPP evidence and 5-year and 10-year historical evidence, would imply a higher net inflow to the EPOA areas. In scrutinising the scenario evidence presented in this Phase 6 report, the EPOA authorities should give due consideration to the GLA's own evidence and its potential impact on wider housing needs analysis.

## Phase 7 developments

- 6.8 The final Phase of this project is scheduled for completion during January-March 2015.
- 6.9 This Phase will incorporate an evaluation of the 2012-based sub-national household projections from CLG, which are due to be released in autumn 2014.
- 6.10 An updated suite of growth forecasts will be presented, with the household implications of each forecast evaluated using both the 2008-based and 2011-based household formation rates in conjunction with the new 2012-based evidence.
- 6.11 Revised EEFM forecasts will be evaluated to assess the impact of anticipated jobs growth upon demographic change within each EPOA local authority.
- 6.12 Phase 7 will also include an assessment of any complementary forecasts that have been formulated by the GLA to support its own housing needs analysis.

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# Appendix A

## Data inputs & assumptions

### Introduction

- A.1 Edge Analytics has developed a suite of demographic scenarios using POPGROUP.
- A.2 The POPGROUP model draws data from a number of sources, building an historical picture of population, households, fertility, mortality and migration on which to base its scenario forecasts. Using the historical data evidence for 2001–2012, in conjunction with information from ONS national projections, a series of assumptions have been derived which drive the scenario forecasts.
- A.3 In the following sections, a narrative on the data inputs and assumptions underpinning the scenarios is presented.

### Population, Births & Deaths

#### *Population*

- A.4 In each scenario, historical population statistics are provided by the mid-year population estimates for 2001–2012, with all data recorded by single-year of age and sex. These data include the revised mid-year population estimates for 2002–2010, which were released by the ONS in May 2013. The revised mid-year population estimates provide consistency in the measurement of the components of change (i.e. births, deaths, internal migration and international migration) between the 2001 and 2011 Censuses.
- A.5 In the ‘SNPP-2010’ scenario, future population counts are provided by single-year of age and sex to ensure consistency with the trajectory of the official 2010-based sub-national population projection. The ‘SNPP-2010’ scenario is scaled to ensure consistency with the 2012 mid-year population estimate total, following its designated growth trend thereafter. This enables the



different scenario alternatives to be more easily compared from a consistent base year and does not alter the underlying assumptions or growth trajectory.

- A.6 In the 'SNPP-2012' scenario, future population counts are provided by single-year of age and sex to ensure consistency with the trajectory of the official 2012-based sub-national population projection.

### *Births & Fertility*

- A.7 In each scenario, historical mid-year to mid-year counts of births by sex from 2001/02 to 2011/12 have been sourced from ONS Vital Statistics.
- A.8 In the 'SNPP-2010' and 'SNPP-2012' scenarios, future counts of births are specified to ensure consistency with the official forecasts.
- A.9 In the other scenarios, a 'local' (i.e. area-specific) age-specific fertility rate (ASFR) schedule, which measures the expected fertility rates by age and sex in 2013/14, is included in the POPGROUP model assumptions. This is derived from the ONS 2012-based sub-national population projection.
- A.10 Long-term assumptions on changes in age-specific fertility rates are taken from the ONS 2012-based sub-national population projection.
- A.11 In combination with the 'population-at-risk' (i.e. all women between the ages of 15–49), the area-specific ASFR and future fertility rate assumptions provide the basis for the calculation of births in each year of the forecast period.

### *Deaths & Mortality*

- A.12 In each scenario, historical mid-year to mid-year counts of deaths by age and sex from 2001/02 to 2011/12 have been sourced from ONS Vital Statistics.
- A.13 In the 'SNPP-2010' and 'SNPP-2012' scenarios, future counts of deaths are specified to ensure consistency with the official forecasts.
- A.14 In the other scenarios, a 'local' (i.e. area-specific) age-specific mortality rate (ASMR) schedule, which measures the expected mortality rates by age and sex in 2013/14 is included in the

POPGROUP model assumptions. This is derived from the ONS 2012-based sub-national population projection.

- A.15 Long-term assumptions on changes in age-specific mortality rates are taken from the ONS 2012-based sub-national population projection.
- A.16 In combination with the 'population-at-risk' (i.e. the total population), the area-specific ASMR and future mortality rate assumptions provide the basis for the calculation of deaths in each year of the forecast period.

## Migration

### *Internal Migration*

- A.17 In all scenarios, historical mid-year to mid-year counts of in- and out-migration by five year age group and sex from 2001/02 to 2011/12 have been sourced from the 'components of change' files that underpin the ONS mid-year population estimates. The original source of these internal migration statistics is the Patient Register Data Service (PRDS), which captures the movement of patients as they register with a GP. This data provides an accurate representation of inter-area flows, albeit with some issues with regard to potential under-registration in certain age groups (young males in particular).
- A.18 In the 'SNPP-2010' and 'SNPP-2012' scenarios, future counts of internal migrants are specified to ensure consistency with the official forecasts.
- A.19 In the alternative trend-based scenarios, age-specific migration rate (ASMigR) schedules are derived from the area-specific historical migration data. In the 'PG-5Yr' and 'PG-5Yr-X' scenarios, a five year internal migration history is used (2007/08–2011/12). In the 'PG-10Yr' and 'PG-10Yr-X' scenarios, a ten year history is used (2002/03–2011/12).
- A.20 In the 'Natural Change' scenario, internal in- and out-migration flows are set to zero in each year of the forecast period (i.e. no in- or out-migration occurs).
- A.21 In the 'Net Nil' scenario, net internal migration is set at zero in each year of the forecast period (i.e. in- and out-migration still occur but the net balance is zero). Future counts of in- and out-migration are consistent with the internal in-migration flow from the 'SNPP-2012' scenario.

- A.22 The jobs-led scenarios calculate their own internal migration assumptions to ensure an appropriate balance between the population and the target number of jobs that is defined in each year of the forecast period. In a jobs-led scenario, a higher level of net internal migration will occur if there is insufficient population and resident labour force to meet the forecast number of jobs. The profile of internal migrants is defined by an ASMigR schedule, derived from the ONS 2012-based sub-national population projection.
- A.23 In the case of internal in-migration, the ASMigR schedule of rates is applied to an external 'reference' population (i.e. the population 'at-risk' of migrating into the area). This is different to the other components (i.e. births, deaths, internal out-migration and international migration), where the schedule of rates is applied to the area-specific population. In the case of the EPOA local authorities, the reference population is the UK population.

### *International Migration*

- A.24 Historical mid-year to mid-year counts of total immigration and emigration from 2001/02 to 2011/12 have been sourced from the 'components of change' files that underpin the ONS mid-year population estimates. Any 'adjustments' made to the mid-year population estimates to account for asylum cases are included in the international migration balance.
- A.25 Implied within the international migration component of change in all scenarios (apart from the 'PG-5Yr-X' and 'PG-10Yr-X' scenarios) is an 'unattributable population change' (UPC) figure, which ONS identified within its latest mid-year estimate revisions. The POPGROUP model has assigned the UPC to international migration as it is the component with the greatest uncertainty associated with its estimation (see paragraphs 2.8 - 2.13 of the main report). In the 'PG-5Yr-X' and 'PG-10Yr-X' scenarios, the UPC is not considered when calculating the migration assumptions.
- A.26 In all scenarios, future international migration assumptions are defined as 'counts' of migration.
- A.27 In the 'SNPP-2010' and 'SNPP-2012' scenarios, the international in- and out-migration counts are drawn directly from the official projections.
- A.28 In the alternative trend-based scenarios, the international in- and out-migration counts are derived from the area-specific historical migration data. In the 'PG-5Yr' and 'PG-5Yr-X' scenarios, a five year international migration history is used (2007/08–2011/12). In the 'PG-10Yr' and 'PG-

10Yr-X' scenarios, a ten year history is used (2002/03–2011/12). An ASMigR schedule is derived from either a five year or ten year migration history and is used to distribute future counts by single year of age.

- A.29 In the 'Natural Change' scenario, the future migration counts set the in- and out-migration flows to zero in each year of the forecast period (i.e. no immigration or emigration occurs).
- A.30 In the 'Net Nil' scenario, the future migration counts set the net international flows to zero in each year of the forecast period (i.e. immigration and emigration still occur but the net balance is zero).
- A.31 In the jobs-led scenarios, international migration counts are taken from the ONS 2012-based sub-national population projection (i.e. counts are consistent with the 'SNPP-2012' scenario). An ASMigR schedule from the ONS 2012-based sub-national population projection is used to distribute future counts by single year of age.

## Household & Dwellings

- A.32 The 2011 Census defines a household as:

*“one person living alone, or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room or sitting room or dining area.”<sup>9</sup>*

- A.33 A dwelling is defined as a unit of accommodation which may comprise one or more household spaces (a household space is the accommodation used or available for use by an individual household).
- A.34 For each scenario, the household and dwelling implications of the population growth trajectory have been evaluated through the application of headship rate statistics, communal population statistics and a dwelling vacancy rate. These data assumptions have been sourced from the 2001 and 2011 Censuses and the 2008-based and 2011-based household projection models from the CLG.

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<sup>9</sup> <http://www.ons.gov.uk/ons/guide-method/census/2011/census-data/2011-census-user-guide/glossary/index.html>

## Household Headship Rates

A.35 Household headship rates define the likelihood of a particular household type being formed in a particular year, given the age-sex profile of the population in that year. Household-types are modelled within a 17-fold classification (Table 8).

Table 8: Household type classification

ONS Code	DF Label	Household Type
OPM	OPMAL	One person households: Male
OPF	OPFEM	One person households: Female
OCZP	FAMC0	One family and no others: Couple: No dependent children
OC1P	FAMC1	One family and no others: Couple: 1 dependent child
OC2P	FAMC2	One family and no others: Couple: 2 dependent children
OC3P	FAMC3	One family and no others: Couple: 3+ dependent children
OL1P	FAML1	One family and no others: Lone parent: 1 dependent child
OL2P	FAML2	One family and no others: Lone parent: 2 dependent children
OL3P	FAML3	One family and no others: Lone parent: 3+ dependent children
MCZDP	MIX C0	A couple and one or more other adults: No dependent children
MC1P	MIX C1	A couple and one or more other adults: 1 dependent child
MC2P	MIX C2	A couple and one or more other adults: 2 dependent children
MC3P	MIX C3	A couple and one or more other adults: 3+ dependent children
ML1P	MIX L1	A lone parent and one or more other adults: 1 dependent child
ML2P	MIX L2	A lone parent and one or more other adults: 2 dependent children
ML3P	MIX L3	A lone parent and one or more other adults: 3+ dependent children
OTAP	OTHHH	Other households
TOT	TOTHH	Total

A.36 The household headship rates used in the POPGROUP modelling have been taken from the CLG 2008-based and 2011-based household projections. The 2011-based household projections were released for local authority districts in England in April 2013, superseding the 2008-based model. However, as the 2011-based household model is underpinned by the 2011-based SNPP, the headship rate assumptions have only been published for the 2011–2021 period. Therefore, the

headship rates have been trended after 2021 to extend the rates to the end of the forecast period.

- A.37 Edge Analytics assesses household growth using both the 2008-based and the 2011-based headship rates, in recognition of the uncertainties surrounding future rates of household formation.
- A.38 Both the 2008-based and 2011-based headship rates have been applied, producing two alternative outcomes for each scenario:
- ‘Option A’: CLG 2011-based headship rates, with the 2011–2021 trend continued after 2021.
  - ‘Option B’: CLG 2008-based headship rates, scaled to be consistent with the 2011 CLG household total, but following the original trend thereafter.

### *Communal Population*

- A.39 Household projections in POPGROUP exclude the ‘population-not-in-households’ (i.e. the communal or institutional population). This data has been drawn from the CLG 2011-based household projection, which uses statistics from the 2011 Census. Examples of communal establishments include prisons, residential care homes and student halls of residence.

### *Vacancy Rate*

- A.40 The model uses the vacancy rate as a conversion factor in order to determine the relationship between the number of households and the number of dwellings. Table 9 compares vacancy rates by area as derived from the 2001 and 2011 Censuses. The 2011 vacancy rates have been used in the forecasts, remaining constant throughout the forecast period.

Table 9: Vacancy rates, 2001 &amp; 2011

Area Name	Vacancy rates (%)	
	2001	2011
Basildon	2.3	1.7
Braintree	2.5	2.6
Brentwood	3.2	4.4
Castle Point	1.4	3.3
Chelmsford	2.0	2.2
Colchester	2.5	3.9
Epping Forest	2.4	4.4
Harlow	1.7	3.1
Maldon	3.9	5.1
Rochford	2.3	2.6
Tendring	5.1	7.2
Uttlesford	3.5	4.7
Southend-on-Sea	3.9	5.0
Thurrock	1.5	2.4
Cambridge	1.8	3.3
South Cambridgeshire	2.6	2.9
Broxbourne	2.7	3.9
East Hertfordshire	2.3	3.0
Welwyn Hatfield	2.0	4.2
Babergh	3.3	3.8
Ipswich	3.5	3.4
Mid Suffolk	3.7	3.8
Suffolk Coastal	6.9	8.2
St Edmundsbury	3.7	2.8

## Labour Force & Jobs

- A.41 For each scenario (excluding the jobs-led scenarios), the labour force and jobs implications of the population growth trajectory have been evaluated through the application of three key data items: economic activity rates, a commuting ratio and an unemployment rate.
- A.42 In the jobs-led scenarios, these three data items are used to determine the population growth required by a particular jobs growth trajectory.

### *Economic Activity Rates*

- A.43 'Economically active' refers to the population that is both employed and unemployed, i.e. the labour force. Economic activity rates determine the level of labour force participation associated with a particular age-sex category.
- A.44 The economic activity rates used in all the scenarios are based on the latest statistics from the 2011 Census, published in November 2013. This section provides evidence and rationale for the derivation of the economic activity rate statistics used in the scenario analysis.

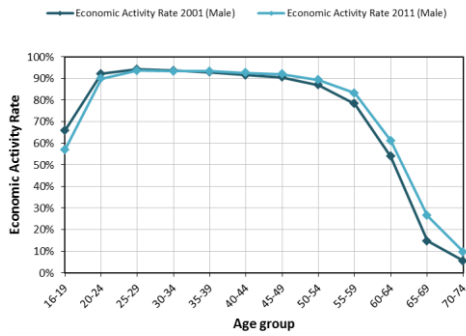
### *2011 Census Economic Activity Rates*

- A.45 Economic activity rates provide the basis for calculating the size of the labour force within the population. Economic activity rates by five year age group (ages 16-74) and sex have been derived from 2011 Census statistics.
- A.46 The 2011 Census statistics include an open-ended 65+ age categorisation, so economic activity rates for the 65–69 and 70–74 age groups have been estimated using a combination of Census 2011 tables, disaggregated using evidence from the 2001 Census.
- A.47 A comparison of the 2001 and 2011 economic activity rates for each EPOA local authority is provided (Figure 12). This comparison indicates that economic activity rates have increased in the older age groups for both males and females in all districts, particularly for females, for whom rates have seen a general increase across all age-groups 20+.

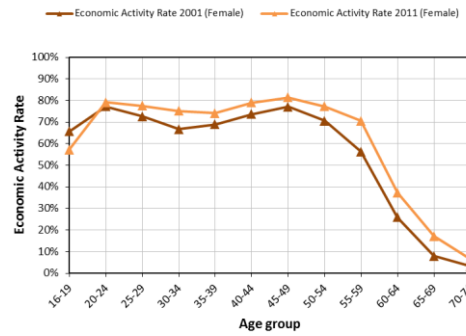


### Economic activity rates, 2001 vs. 2011 (males & females)

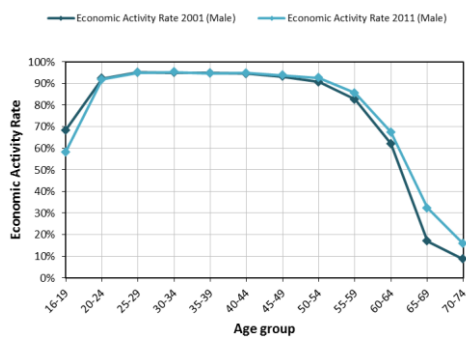
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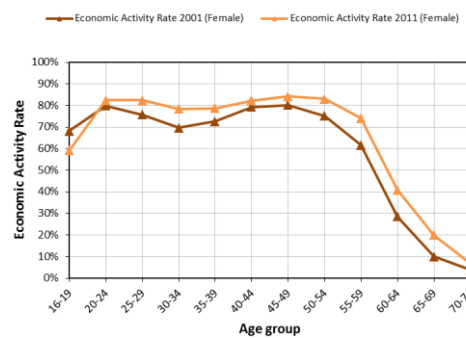
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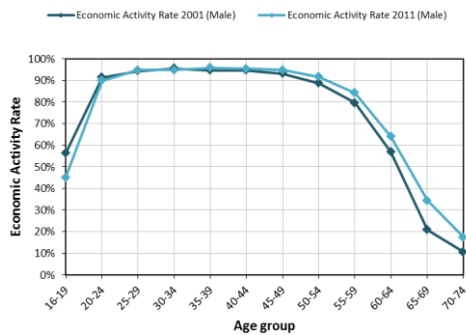
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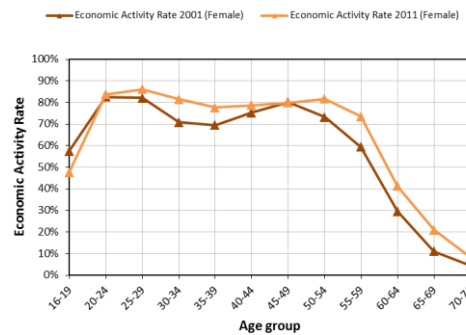
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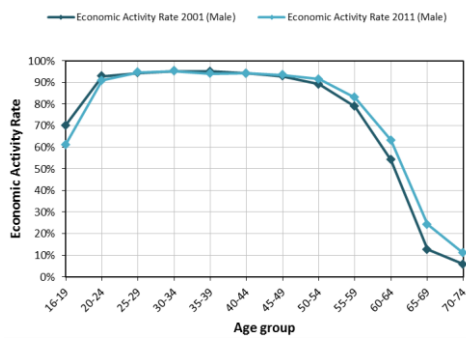
**Brentwood**



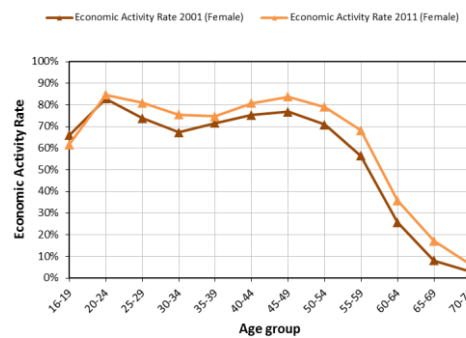
**Brentwood**



**Castle Point**

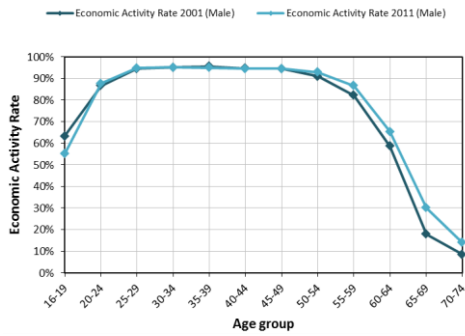


**Castle Point**

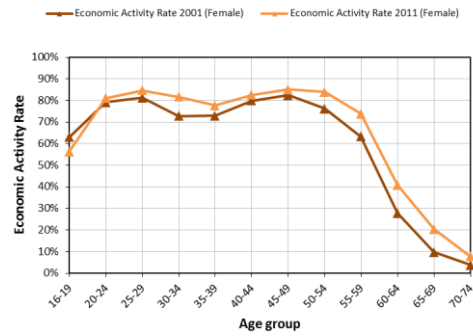


### Economic activity rates, 2001 vs. 2011 (males & females)

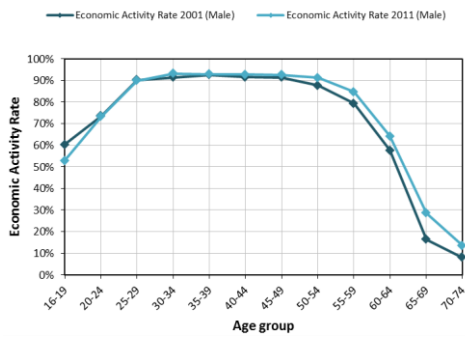
**Chelmsford**



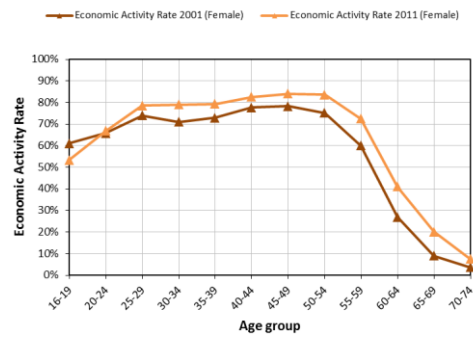
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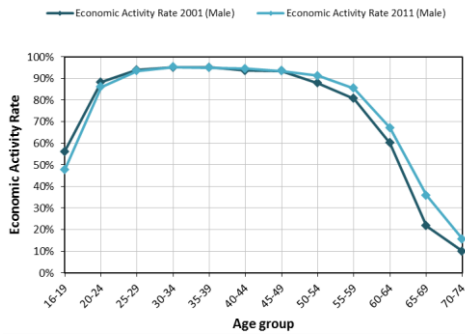
**Colchester**



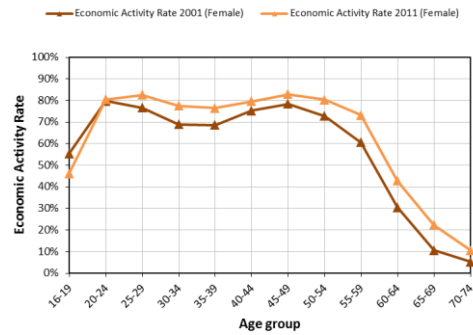
**Colchester**



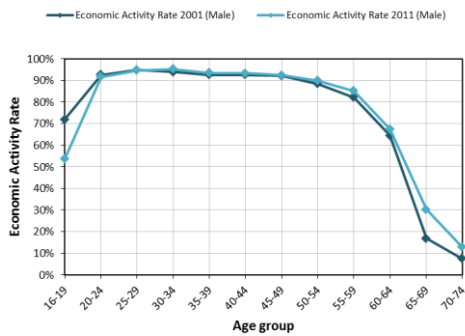
**Epping Forest**



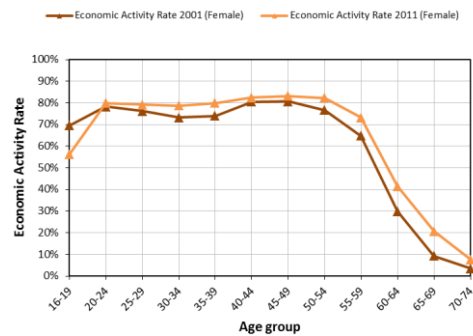
**Epping Forest**



**Harlow**

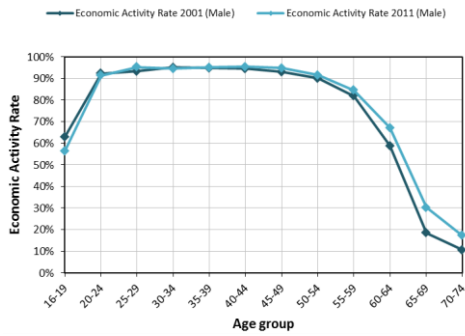


**Harlow**

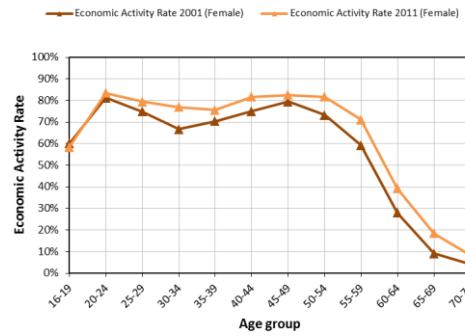


### Economic activity rates, 2001 vs. 2011 (males & females)

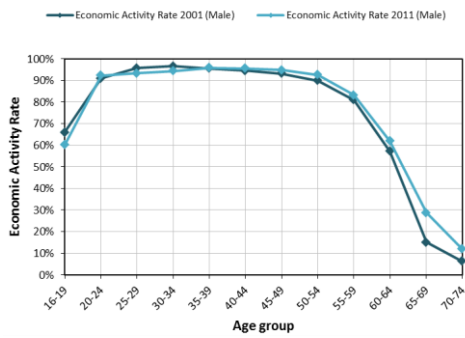
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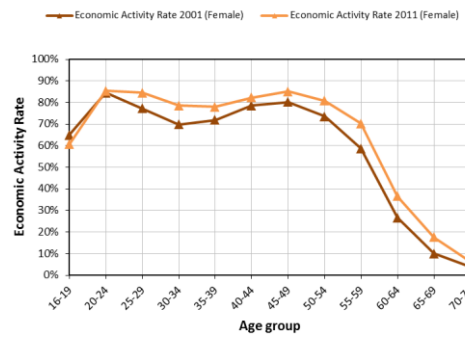
**Maldon**



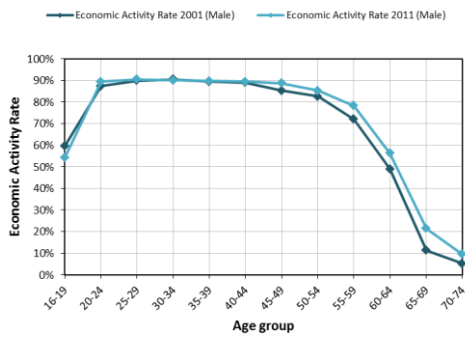
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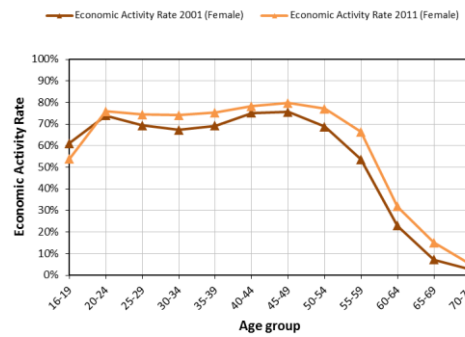
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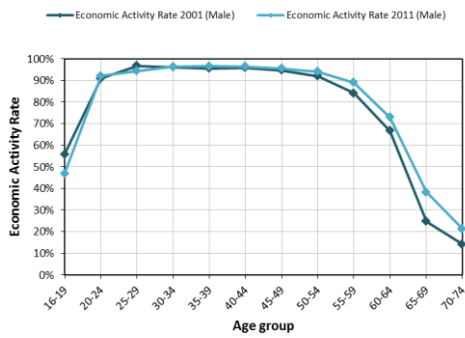
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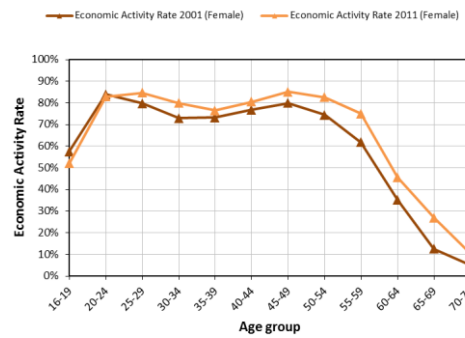
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**Uttlesford**

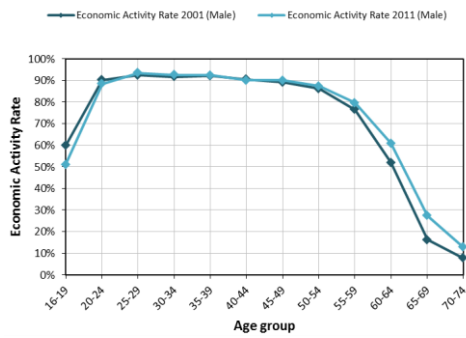


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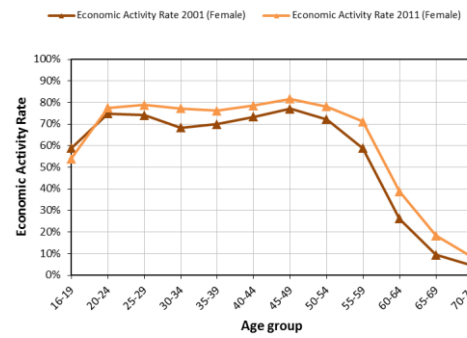


### Economic activity rates, 2001 vs. 2011 (males & females)

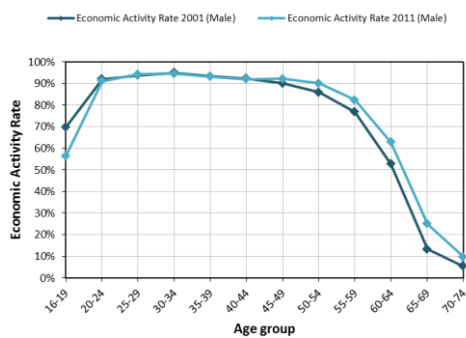
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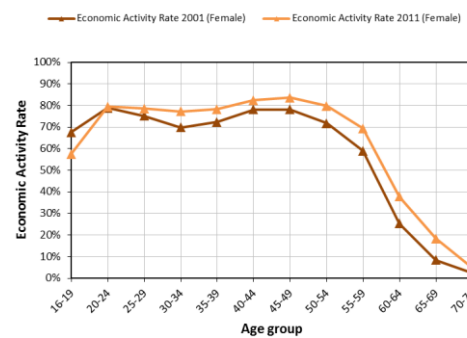
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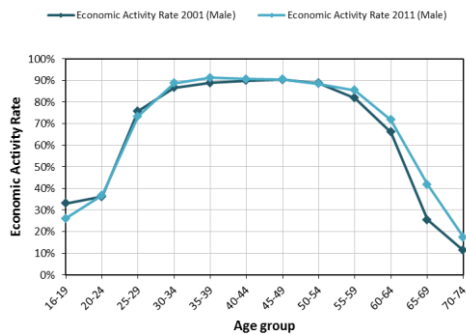
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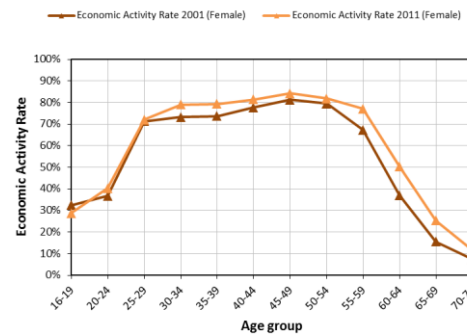
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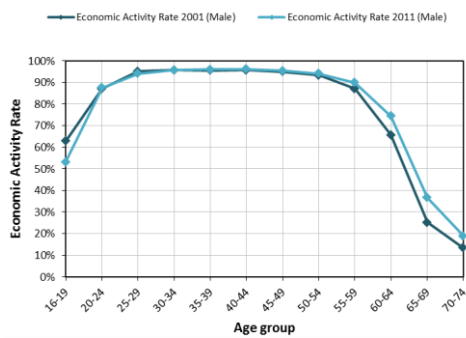
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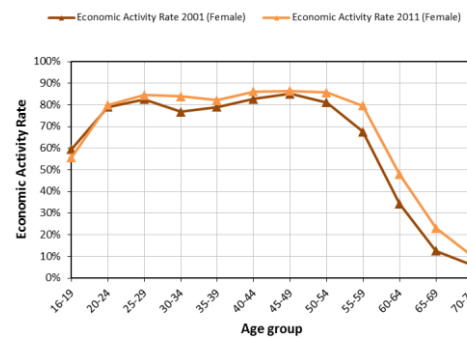
**Cambridge**



**South Cambridgeshire**

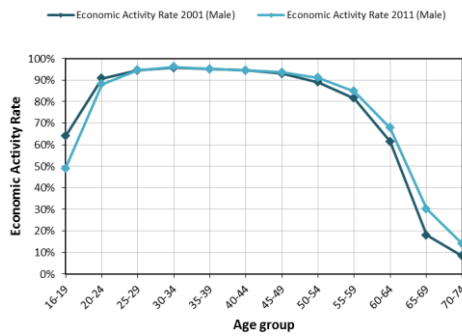


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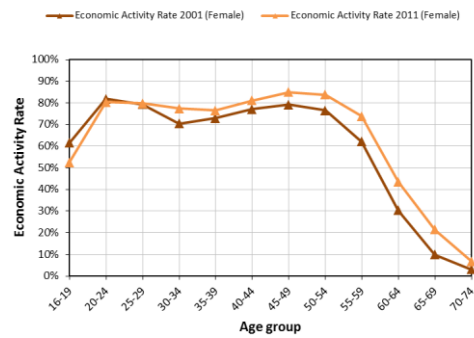


### Economic activity rates, 2001 vs. 2011 (males & females)

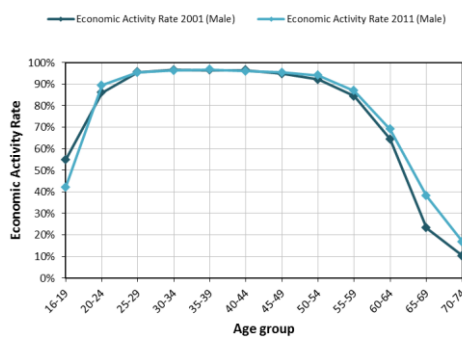
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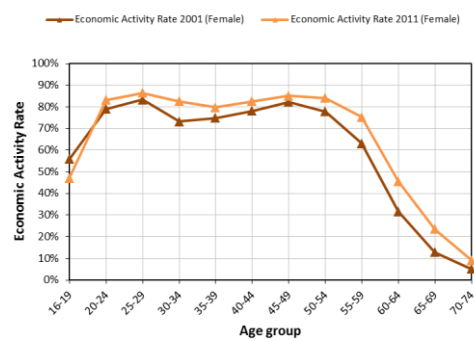
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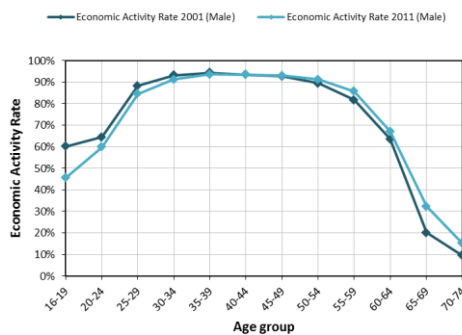
**East Hertfordshire**



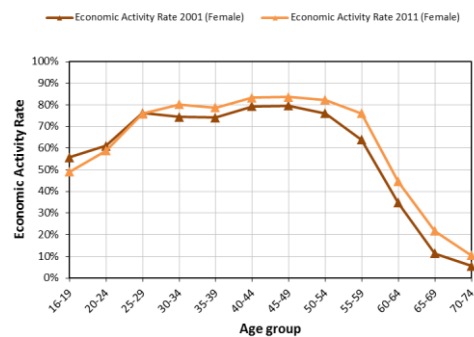
**East Hertfordshire**



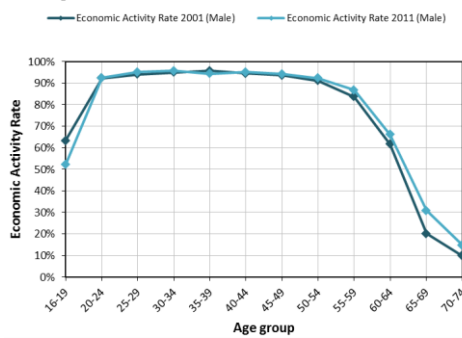
**Welwyn Hatfield**



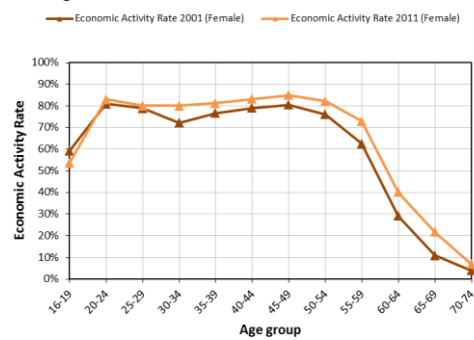
**Welwyn Hatfield**



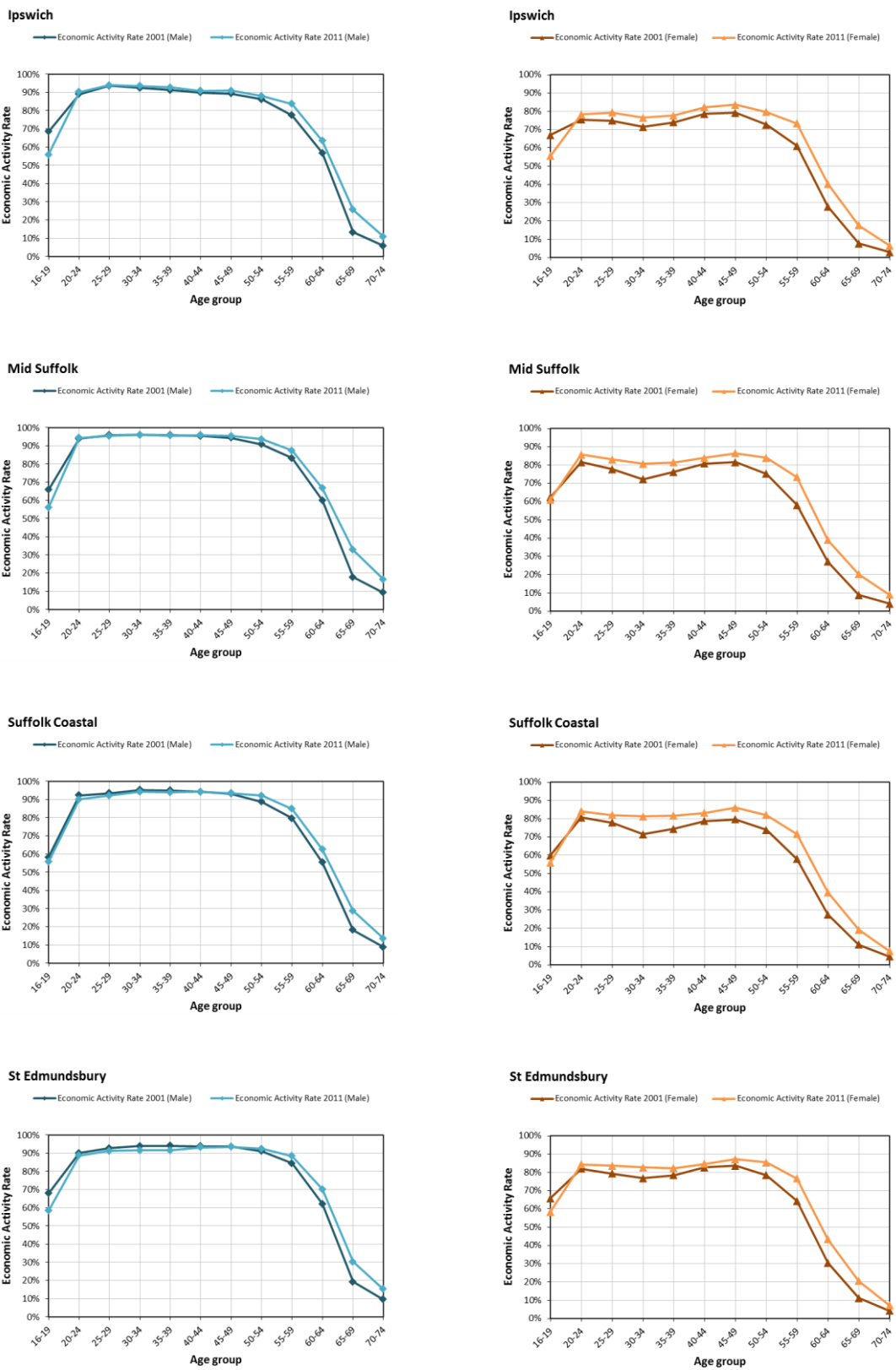
**Babergh**



**Babergh**



### Economic activity rates, 2001 vs. 2011 (males & females)



Source: Census 2001 & 2011

Figure 12: Economic activity rates, 2001 vs. 2011 (males & females)

## *Amendments to Economic Activity Rates*

- A.48 Using the 2011 Census statistics as a base, changes have been made to the age-sex specific economic activity rates to take account of changes to the State Pension Age (SPA) and to accommodate potential changes in economic participation which might result from an ageing but healthier population in the older labour-force age-groups.
- A.49 Employment forecasts (including those from the EEFM) routinely apply changes to older-age economic participation rates in the derivation of longer-term forecasts of jobs growth. It is therefore important to give these assumptions due consideration in the demographic assessment of these forecasts.
- A.50 The SPA for women is increasing from 60 to 65 by 2018, bringing it in line with that for men. Between December 2018 and April 2020, the SPA for both men and women will then rise to 66. Under current legislation, the SPA will be increased to 67 between 2034 and 2036 and 68 between 2044 and 2046. It has been proposed that the rise in the SPA to 67 is brought forward to 2026–2028<sup>10</sup>.
- A.51 ONS published its last set of economic activity rate forecasts from a 2006 base<sup>11</sup>. These incorporated an increase in SPA for women to 65 by 2020 but this has since been altered to an accelerated transition by 2018 plus a further extension to 66 by 2020. Over the 2011–2020 period, the ONS forecasts suggested that male economic activity rates would rise by 5.6% and 11.9% in the 60-64 and 65-69 age groups respectively. Corresponding female rates would rise by 33.4% and 16.3% (Figure 13).
- A.52 Given the accelerated pace of change in the female SPA and the clear trends for increased female labour force participation across all age-groups in the last decade, these 2011–2020 rate increases would appear to be relatively conservative assumptions.

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<sup>10</sup> <https://www.gov.uk/changes-state-pension>

<sup>11</sup> ONS January 2006, Projections of the UK labour force, 2006 to 2020 <http://www.ons.gov.uk/ons/rel/lms/labour-market-trends--discontinued-/volume-114--no--1/projections-of-the-uk-labour-force--2006-to-2020.pdf>

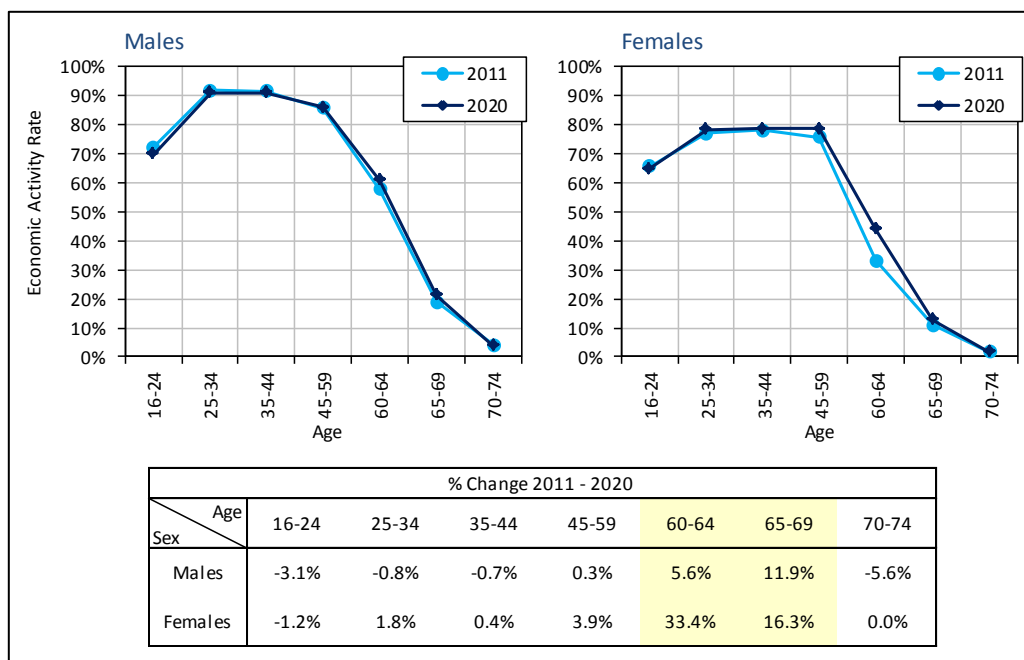


Figure 13: ONS Labour Force Projection 2006 – Economic Activity Rates 2011–2020 (Source: ONS)

A.53 To take account of planned changes to the SPA, the following modifications have been made to the economic activity rates for each EPOA local authority:

- Women aged 60-64: 40% increase from 2011 to 2020.
- Women aged 65-69: 20% increase from 2011 to 2020.
- Men aged 60-64: 5% increase from 2011 to 2020.
- Men aged 65-69: 10% increase from 2011 to 2020.

*Note: a 10% increase implies a 10% change in the economic activity rate. So for example, a 20% economic activity rate would be increased to 22%. A 10% change does not imply an increase from 20% to 30%.*

A.54 Changes have been applied incrementally over the 2011–2020 forecast period. Note that the rates for women in the 60–64 age and 65–69 age-groups are higher than the original ONS figures, accounting for the accelerated pace of change in the SPA. No changes have been applied to other age-groups. In addition, no changes have been applied to economic activity rates beyond 2020. This is an appropriately prudent approach given the uncertainty associated with forecasting future rates of economic participation.

A.55 These alternative economic activity rates are presented as realistic and robust alternatives to the very unlikely scenario of ‘fixed’ rates over the forecast period.



## *Unemployment Rate*

- A.56 Within the forecasting methodology, the unemployment rate, together with the commuting ratio, controls the balance between the size of the labour force and the number of jobs available within an area.
- A.57 The EEFM model, which provides the jobs forecasts used within this analysis, uses an unemployment rate figure that is based on a job-seekers allowance (JSA) claimant statistic, rather than the standard measure defined by the International Labour Organisation (ILO) and used within the POPGROUP forecasting analysis.
- A.58 Within its forecasts the EEFM varies the JSA statistic over time, reflecting changing economic conditions and anticipated jobs growth or decline. The forecasting analysis presented here varies the underlying unemployment statistic to account for a period of recovery post-2013. The change in the rate of unemployment is relatively modest but enables a recovery to an unemployment rate position that is equivalent to each local authority's 'average' position over the last nine years (for which data is available).
- A.59 For each local authority, an initial unemployment rate is defined based upon the five-year average (2008-2012) (Table 10). Over the 2013-2020 forecast period, these initial unemployment rates reduce to a figure that is equivalent to a nine-year average (2004 – 2012). If the nine-year average is higher than the five-year average, no change is made to the initial unemployment rate figure over the forecast period.
- A.60 EEFM unemployment rates continue to fall beyond 2020 but the scenario assessment presented here assumes that the rates remain fixed after 2020, throughout the forecast period.

Table 10: Unemployment rate, 5-year and 9-year averages

Area Name	Unemployment rates (%), NOMIS	
	5-year average (2008-12)	9-year average (2004-12)
Basildon	7.9	6.4
Braintree	6.5	4.9
Brentwood	4.7	3.7
Castle Point	5.7	4.8
Chelmsford	6.2	5.0
Colchester	5.7	5.0
Epping Forest	7.9	6.3
Harlow	10.2	8.1
Maldon	8.0	5.3
Rochford	5.3	4.8
Tendring	8.7	7.6
Uttlesford	3.5	3.3
Southend-on-Sea	6.5	5.9
Thurrock	8.5	6.4
Cambridge	4.4	4.8
South Cambridgeshire	4.4	3.7
Broxbourne	7.4	6.1
East Hertfordshire	3.7	3.8
Welwyn Hatfield	7.3	6.1
Babergh	4.2	3.9
Ipswich	7.5	5.9
Mid Suffolk	4.2	3.6
Suffolk Coastal	5.0	4.1
St Edmundsbury	6.4	4.9

Source: NOMIS

## Commuting Ratio

- A.61 The commuting ratio, together with the unemployment rate, controls the balance between the size of the labour force and the number of jobs available within an area.
- A.62 The commuting ratio measures the number of workers living in a district (i.e. the resident labour force) and the number of jobs available in the district. Information on commuting from the 2011 Census has not yet been published. Using a combination of statistics from the 2011 Census, commuting ratios have been derived for each of the EPOA local authorities.
- A.63 From the 2011 Census, the number of workers includes all economically active residents (i.e. all residents aged 16–74). The number of jobs has been calculated by subtracting the number of

residents not in employment and the number of residents aged 0–15 and those aged 75+ from the district’s workday population.

A.64 The derived 2011 commuting ratios for all EPOA local authorities are illustrated (Table 11). For comparison, these are presented alongside the 2001 commuting ratios, derived from 2001 Census statistics. In the case of the 2001 commuting ratio, ‘workers’ and ‘jobs’ are both derived from aggregating travel-to-work statistics.

Table 11: Commuting ratios, 2001 and 2011

Area Name	Commuting Ratios	
	2001	2011
Basildon	1.0	1.0
Braintree	1.3	1.3
Brentwood	1.0	1.1
Castle Point	1.9	1.7
Chelmsford	1.1	1.1
Colchester	1.0	1.0
Epping Forest	1.5	1.3
Harlow	1.0	1.0
Maldon	1.4	1.3
Rochford	1.7	1.6
Tendring	1.3	1.3
Uttlesford	1.0	1.0
Southend-on-Sea	1.1	1.1
Thurrock	1.2	1.2
Cambridge	0.6	0.6
South Cambridgeshire	1.1	1.1
Broxbourne	1.3	1.2
East Hertfordshire	1.2	1.3
Welwyn Hatfield	0.8	0.8
Babergh	1.3	1.2
Ipswich	0.8	0.9
Mid Suffolk	1.2	1.2
Suffolk Coastal	1.1	1.1
St Edmundsbury	1.0	1.0

Source: Census 2001 & 2011

A.65 In all scenarios, commuting ratios are held constant for the duration of the forecast period 2012–37.

A.66 A commuting ratio greater than 1.0 indicates that the size of the resident workforce exceeds the number of jobs available in the district, resulting in a net out-commute. A commuting ratio that is less than 1.0 indicates a net in-commute.