Greater Essex

Demographic Forecasts 2013-2037

Phase 7 Main Report

May 2015

edge analytics

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Acknowledgements

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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The era of regional planning through Regional Spatial Strategies has been replaced by a more localised approach to decision making regarding local growth and future development.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 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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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)[1] and Planning Practice Guidance (PPG)[2] 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

[1] http://planningguidance.planningportal.gov.uk/blog/policy/
[2] http://planningguidance.planningportal.gov.uk/blog/guidance/

forecasting evidence for its member authorities. This new evidence continues to include a variety of forecasts, including official projections, alternative trend scenarios and jobs-led growth outcomes.

Work Programme

1.5 The EPOA commission has been organised into three additional phases, continuing from the four original phases 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 phase incorporated updated information from the Office for National Statistics (ONS) including 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 was presented alongside revised jobs-led scenarios and the previous 2010-based SNPP. All scenarios in phase 6 were formulated using POPGROUP 'version 4' technology, a 2014 upgrade to the forecasting software which incorporated methodological changes, specifically to align more closely with ONS methods.

1.8 **Phase 7: April 2015**

This final phase of work incorporates the new 2012-based household projections from the Department for Communities and Local Government (DCLG) plus the latest demographic components from the 2013 mid-year population estimate. In addition, the analysis includes new data and assumptions from the East of England Forecasting Model (EEFM), specifically its 2014 jobs forecasts for each EPOA area and the economic assumptions that underpin these forecasts. All scenarios in phase 7 have been formulated using POPGROUP 'version 4' technology.

1.9 This document provides a summary of the phase 7 analysis and forecasts.

EPOA Geography

1.10 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 (Table 1). Analysis, forecasting and reporting have been undertaken for each of these defined geographical areas.

Table 1: EPOA study area definition

Districts & Unitary Authorities		
ID	Area	Short label
1	Basildon	BAS
2	Braintree	BTE
3	Brentwood	BRW
4	Castle Point	CPT
5	Chelmsford	CHL
6	Colchester	COL
7	Epping Forest	EPF
8	Harlow	HLW
9	Maldon	MAL
10	Rochford	ROC
11	Tendring	TEN
12	Uttlesford	UTT
13	Southend-on-Sea UA	SOS
14	Thurrock UA	THU
15	Cambridge	CamCity
16	South Cambridgeshire	SCambs
17	Broxbourne	Brox
18	East Hertfordshire	EHerts
19	Welwyn Hatfield	WelHat
20	Babergh	Babergh
21	Ipswich	Ipswich
22	Mid Suffolk	MidSuff
23	Suffolk Coastal	SufCoast
24	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	Thames Gateway South Essex	TGSE
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

Report Structure

1.11 Section 2 provides an introduction to the 2012-based household projections, their national context and the growth trends evident across the EPOA local authorities.

1.12 Section 3 presents the latest inputs and outputs from the EEFM, summarising the jobs growth forecasts for each local authority area and the economic assumptions which underpin these forecasts.

1.13 Section 4 examines the continuing influence of Greater London upon growth in the EPOA local authorities and evaluates the most recent projections produced by the Greater London Authority (GLA) in its own evidence to support housing growth in the London Boroughs.

1.14 Section 5 provides a description and summary of each of the growth scenarios that have been formulated in this phase 7 analysis using the latest POPGROUP v.4 technology. These include trend scenarios and jobs-led alternatives.

1.15 Section 6 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.

1.16 Section 7 concludes the analysis with a short summary of the key issues that have arisen in the development of the phase 7 scenarios and the key considerations for local authorities as they seek to use the evidence to support Local Plan development.

1.17 The Appendix to this document contains guidance on the methodology, data inputs and assumptions used in the development of the scenario evidence.

1.18 An accompanying report provides phase 7 scenario summaries for each of the 11 Macro Areas within the EPOA study area.

2 Household Projections

Context

2.1 In each of the previous phases of the EPOA demographic analysis, POPGROUP technology has been used to evaluate and present a range of growth scenarios. In the most recent phase 6 report, the household-growth implications of each scenario were assessed using assumptions from both the 2008-based and 2011-based interim household projection models from the DCLG.

2.2 Scenario outcomes were presented under an 'Option A' alternative, in which the 2011-based interim household headship rates were applied, and an 'Option B' alternative, in which the 2008-based household headship rates were applied.

2.3 In February/March 2015, the 2012-based household projections were released by DCLG[3]. Underpinned by the 2012-based SNPP, these new statistics provide a household growth projection and household formation assumptions for each local authority area for the 2012–2037 period.

2.4 Planning Practice Guidance (PPG)[4] states that the most recent official household projections should "provide the starting point estimate of overall housing need" (PPG 2a-015-20140306) and that "the most recent demographic evidence, including the latest Office of National Statistics population estimates" should be considered (PPG 2a-017-20140306).

2.5 This phase 7 analysis, updates previous scenario analysis, evaluating the impact of the 2012-based household projection model assumptions upon the household and dwelling growth outcomes of each of a range of trend and jobs-led scenarios.

[3] 2012-based household projections in England, 2012 to 2037. DCLG 27th February 2015. https://www.gov.uk/government/statistics/2012-based-household-projections-in-england-2012-to-2037

[4] http://planningguidance.planningportal.gov.uk/blog/guidance/

2012-based Household Projections

2.6 The methodological basis of the 2012-based household projections is consistent with that employed in the previous 2008-based and 2011-based interim household projections[5]. In each, household projections have been derived through the application of projected household representative rates (also referred to as headship rates) to a projection of the private household population, disaggregated by age, sex and relationship status.

2.7 Whilst methodologically similar to previous releases, the 2012-based household projections provide an important update on the 2011-based interim household projections with the inclusion of the following new information:

- 2012-based SNPP by sex and age that extend to 2037 (rather than to 2021 as was the case in the 2011-based interim projections).
- Household population by sex, age and relationship-status consistent with the 2011 Census (rather than estimates for 2011, which were derived from 2001 Census data, projections and national trends, as used in the 2011-interim projections).
- Communal population statistics by age and sex consistent with the 2011 Census (rather than the previous estimate, which were calibrated to the total communal population from the 2011 Census).
- Further information on household representatives from the 2011 Census relating to aggregate household representative rates by relationship status and age.
- Aggregate household representative rates at local authority level, controlled to the national rate, based on the total number of households divided by the total adult household population (rather than the total number of households divided by the total household population).
- Adjustments to the projections of the household representative rates in 2012 based on the Labour Force Survey (LFS).

(Source: DCLG Methodology[6], page 6)

[5] 2012-based household projections: methodology, DCLG 2nd March 2015. https://www.gov.uk/government/statistics/2012-based-household-projections-methodology

[6] Household Projections 2012-based: Methodological Report. Department for Communities and Local Government (February 2015). https://www.gov.uk/government/statistics/2012-based-household-projections-methodology

2.8 The household projection methodology consists of two distinct stages. Stage One produces the national and local authority projections for the total number of households by age-group and relationship-status group over the projection period. All Stage One output and assumptions have been released by DCLG.

2.9 Stage Two provides the detailed 'household-type' projection by age-group. Seventeen different household types are typically included in household model outputs (see Appendix to the phase 6 EPOA report). Stage Two assumptions and output, which provide the more detailed household-type statistics, have yet to be released. Stage Two outputs would typically be controlled to the Stage One totals, so there should be no impact on the household and dwelling forecasts presented in the phase 7 analysis when the Stage Two information is published. However, further guidance will be forthcoming from DCLG on release of the Stage 2 analysis, anticipated in July-August 2015.

2.10 The Stage One data are used in this phase 7 analysis, to provide the basis for the evaluation of the impact of the 2012-based DCLG model assumptions upon the household growth outcomes of each trend and jobs-led sensitivity scenarios. Assumptions

2012-based Compared

2.11 Using the same underpinning 2012-based *population* projection in combination with comparable household representative rate assumptions, it is possible to isolate the general differences in household formation that result from each of the three models (2008-based, 2011-based and 2012-based).

2.12 Under the 2012-based household projection assumptions, the general trend for the EPOA local authorities is for 2012-based household growth rates to be lower than the 2008-based totals but higher than the 2011-based interim alternatives (Table 2).

2.13 There are variations in this general pattern within individual EPOA authorities. In Harlow, East Hertfordshire and Suffolk Coastal, the 2012-based assumptions result in a higher percentage change in the number of households over the 2012–2037 period, than both the 2008-based and 2011-based models.

2.14 In contrast, Brentwood, Chelmsford, Colchester and Uttlesford each have lower household change under the 2012-based assumptions compared to both the 2008-based and 2011-based models.

Table 2: Comparison of 2008-, 2011- and 2012-based household growth assumptions using the 2012-based sub-national population projection

Area	Change 2012–2037			Change 2012–2037 (%)		
	HH-08	HH-11	HH-12	HH-08	HH-11	HH-12
Basildon	17,288	15,068	16,124	23.5%	20.5%	21.9%
Braintree	17,282	15,890	16,705	27.9%	25.7%	27.0%
Brentwood	8,287	7,954	7,744	26.8%	25.7%	**25.0%**
Castle Point	7,169	5,636	6,834	19.6%	15.4%	18.6%
Chelmsford	17,091	16,169	16,016	24.2%	23.0%	**22.8%**
Colchester	21,413	20,836	20,830	29.4%	28.6%	**28.6%**
Epping Forest	17,124	16,383	16,804	32.6%	31.2%	32.0%
Harlow	8,496	8,151	8,499	24.3%	23.3%	**24.4%**
Maldon	5,489	4,577	5,344	21.1%	17.6%	20.5%
Rochford	7,070	5,402	6,370	20.9%	16.0%	18.8%
Tendring	16,075	15,981	16,038	25.8%	25.6%	25.7%
Uttlesford	13,072	12,112	12,054	40.7%	37.7%	**37.4%**
Southend-on-Sea UA	20,219	16,893	19,906	26.8%	22.4%	26.4%
Thurrock UA	20,491	17,747	19,992	32.5%	28.1%	31.7%
Cambridge	8,600	7,046	7,984	18.1%	14.9%	16.9%
South Cambridgeshire	21,178	19,303	20,175	34.6%	31.5%	33.0%
Broxbourne	9,986	7,908	9,667	26.2%	20.8%	25.3%
East Hertfordshire	19,163	17,404	19,189	33.3%	30.3%	**33.3%**
Welwyn Hatfield	14,280	13,728	14,016	32.2%	31.1%	31.8%
Babergh	6,737	6,372	6,552	17.8%	16.9%	17.3%
Ipswich	13,981	12,236	12,920	24.1%	21.1%	22.3%
Mid Suffolk	9,590	9,044	9,603	23.5%	22.1%	23.4%
Suffolk Coastal	10,604	9,116	11,202	19.7%	16.9%	**20.8%**
St Edmundsbury	9,620	7,872	8,735	20.8%	17.0%	18.9%
EPOA	320,305	288,828	309,303	26.4%	23.8%	25.5%

Blue *indicates the 2012-based household growth is equal to or lower than both the 2008-based and 2011-based household change*
Red *indicates the 2012-based household growth is equal to or higher than both the 2008-based and 2011-based household change*

Phase 7 Scenario Development

2.15 The 2012-based household projections are underpinned by the accompanying 2012-based sub-national population projection. Whilst this provides a benchmark outcome from the ONS, it is only one perspective on likely population growth. The local authority planning process

necessitates the evaluation of a range of alternative population growth outcomes, driven by a mix of demographic and economic considerations.

2.16 The analysis presented here evaluates the household growth outcomes associated with a range of scenarios, using the 2012-based household assumptions for direct comparison with previous 2011-based and 2008-based household output.

3 Economic Forecasts

East of England Forecasting Model

3.1 In each of the previous phases of the EPOA demographic analysis, POPGROUP technology has been used to evaluate 'jobs-led' scenarios, drawing data and assumptions directly from the East of England Forecasting Model (EEFM).

3.2 The EEFM provides a periodic release of jobs growth forecasts for local authority areas, using an economic forecasting methodology that is underpinned by Oxford Economics' World, UK National and UK Regional forecasting model and assumptions.

3.3 The alignment of economic and demographic forecasts is a challenging proposition, particularly when each uses a different methodological basis for the derivation of its key outputs. However, in the formulation and presentation of evidence to support local plans, the choice of assumptions used to evaluate the demographic impact of forecast economic growth is subject to increasing scrutiny.

3.4 In this phase 7 analysis, the latest economic forecasts from the EEFM are considered. In evaluating the likely demographic impact of these economic forecasts, key data and assumptions have been drawn directly from the EEFM and used within the POPGROUP model. The key data items taken from the EEFM are as follows:

- Employment growth, 2013-31
- Growth in workplace employed people, 2013-31
- EEFM modelled unemployment rate changes, 2001-31
- EEFM modelled economic activity rate changes, 2001-31
- EEFM modelled commuting ratio changes, 2001-31

3.5 Each of these data items has an important part to play in the jobs-led scenarios that are presented for each of the EPOA areas in this phase 7 report. Further detail and illustration is provided here as a precursor to the main scenario analysis.

Latest EEFM Growth Forecasts

3.6 The EEFM provides economic forecasts in the form of total jobs (full-time and part-time) and total workplace employed people. Forecasts are provided for the period 2013-31, for each of the EPOA local authority areas (Table 3).

3.7 The growth in total employment and workplace-employed people is forecast at 15.7% and 15.8% respectively over the 2013-31 period. Growth rates vary considerably between areas. Thurrock and South Cambridgeshire are forecast to have the greatest change in the number of jobs and workplace employed people whereas Castle Point and Tendring have the lowest change.

Table 3: Change in number of total employment and total workplace employed people (2013–2031)

Area	Total employment (2013–2031)		Total workplace employed people (2013–2031)	
	Change	%	Change	%
Basildon	11,342	12.1%	10,701	12.1%
Braintree	11,802	19.3%	11,498	19.4%
Brentwood	8,221	19.5%	7,533	19.8%
Castle Point	1,547	5.5%	1,649	5.7%
Chelmsford	19,287	20.0%	16,928	20.0%
Colchester	11,862	13.0%	11,633	13.5%
Epping Forest	9,929	17.3%	8,238	17.4%
Harlow	3,823	8.3%	3,638	8.4%
Maldon	2,970	11.6%	2,885	11.6%
Rochford	2,928	10.4%	2,952	10.5%
Tendring	3,153	6.6%	3,146	6.7%
Uttlesford	4,764	10.4%	4,552	10.7%
Southend-on-Sea UA	8,628	11.1%	8,612	11.2%
Thurrock UA	20,192	29.5%	19,295	30.1%
Cambridge	18,536	18.2%	18,383	18.4%
South Cambridgeshire	20,301	25.5%	19,415	25.9%
Broxbourne	8,625	18.2%	7,611	18.5%
East Hertfordshire	8,577	12.7%	7,516	12.7%
Welwyn Hatfield	17,064	21.6%	14,620	21.4%
Babergh	3,397	8.7%	3,338	8.8%
Ipswich	12,064	16.4%	11,666	16.2%
Mid Suffolk	5,389	12.3%	5,277	12.4%
Suffolk Coastal	8,536	14.6%	8,119	14.6%
St Edmundsbury	7,492	11.6%	6,567	11.7%
EPOA	230,430	15.7%	215,772	15.8%

(Source: EEFM 2014)

3.8 There are considerable changes in growth in total employment and workplace employed people between the 2014 'Baseline' scenario of the EEFM forecast used in phase 7 of the EPOA project and the revised 2013 'Baseline' scenario that was used in the previous phase 6 (Table 4 & Table 5).

3.9 The largest positive differences in average annual total employment and workplace employed people are noted in Basildon, +346 and +327 respectively. However, when looking at a percentage change, Castle Point shows the largest positive differences, with 1,199% and 1,822% respectively. The largest negative differences are found in East Hertfordshire, with the average annual growth in total employment reduced by 136 (25%) and the average annual growth in total workplace employed people reduced by 111 (24%) in phase 7 compared to phase 6.

Table 4: Differences in average annual total employment – phase 6 versus phase 7

Area	Average annual Total employment			
	Phase 6 (2012-37)	Phase 7 (2013-37)	Difference	% Difference
Basildon	201	547	346	172%
Braintree	368	608	240	65%
Brentwood	275	387	112	41%
Castle Point	-5	53	58	1199%
Chelmsford	928	1,013	85	9%
Colchester	697	601	-95	-14%
Epping Forest	418	488	71	17%
Harlow	206	173	-33	-16%
Maldon	100	141	41	41%
Rochford	51	127	76	150%
Tendring	167	142	-25	-15%
Uttlesford	266	197	-69	-26%
Southend-on-Sea UA	334	413	79	24%
Thurrock UA	854	1,060	206	24%
Cambridge	973	917	-56	-6%
South Cambridgeshire	782	1,046	264	34%
Broxbourne	221	403	183	83%
East Hertfordshire	540	404	-136	-25%
Welwyn Hatfield	1,010	909	-101	-10%
Babergh	85	147	62	72%
Ipswich	565	633	68	12%
Mid Suffolk	197	257	60	31%
Suffolk Coastal	461	429	-32	-7%
St Edmundsbury	255	399	144	56%

(Source: EEFM 2013 & EEFM 2014)

Table 5: Differences in average annual total workplace employed people – phase 6 versus phase 7

Area	Average annual Total workplace employed people			
	Phase 6 (2012-37)	Phase 7 (2013-37)	Difference	% Difference
Basildon	188	514	327	174%
Braintree	349	592	242	69%
Brentwood	271	354	84	31%
Castle Point	-3	56	60	1822%
Chelmsford	886	887	2	0%
Colchester	654	589	-65	-10%
Epping Forest	364	404	40	11%
Harlow	178	164	-14	-8%
Maldon	88	136	48	54%
Rochford	44	127	84	192%
Tendring	170	140	-29	-17%
Uttlesford	237	187	-50	-21%
Southend-on-Sea UA	284	412	128	45%
Thurrock UA	815	1,013	198	24%
Cambridge	801	909	108	13%
South Cambridgeshire	763	1,000	237	31%
Broxbourne	193	356	162	84%
East Hertfordshire	465	354	-111	-24%
Welwyn Hatfield	879	779	-100	-11%
Babergh	72	144	72	100%
Ipswich	499	610	111	22%
Mid Suffolk	164	250	86	53%
Suffolk Coastal	404	407	3	1%
St Edmundsbury	227	349	122	54%

(Source: EEFM 2013 & EEFM 2014)

3.10 In POPGROUP's evaluation of the relationship between the jobs-growth forecasts and implied projected population growth, the unemployment rate, commuting ratio and economic activity rate assumptions are key variables. Collectively, these assumptions will determine the extent to which the additional net in-migration might be required to meet the anticipated economic growth in each local authority area.

Unemployment Rates

3.11 The POPGROUP model requires an unemployment rate assumption that is consistent with the International Labour Organisation (ILO) definition:

Unemployment rate = unemployed / (employed + unemployed)

3.12 This statistic has been derived directly from the EEFM for each local authority area and used to

link jobs growth to population change in each phase 7 scenario. Changes in the unemployment rate over the 2011-31 forecast period as implied by the EEFM are illustrated (Table 6).

Table 6: Unemployment rates

Area	Unemployment Rate (%)			Change (2011–2031) percentage points (pp)
	2011	2013	2031	
Basildon	4.9%	4.7%	2.7%	-2.17
Braintree	3.4%	3.1%	1.7%	-1.71
Brentwood	2.6%	2.28%	1.37%	-1.24
Castle Point	3.6%	3.3%	2.1%	-1.52
Chelmsford	3.2%	2.7%	1.7%	-1.47
Colchester	3.7%	3.2%	1.8%	-1.88
Epping Forest	3.4%	2.9%	1.9%	-1.48
Harlow	5.6%	5.6%	3.5%	-2.10
Maldon	2.8%	2.5%	1.7%	-1.13
Rochford	2.6%	2.4%	1.6%	-1.02
Tendring	6.1%	5.5%	3.6%	-2.47
Uttlesford	1.9%	1.4%	1.0%	-0.95
Southend-on-Sea UA	5.8%	5.2%	3.4%	-2.40
Thurrock UA	5.2%	4.8%	2.6%	-2.66
Cambridge	2.8%	2.3%	1.5%	-1.30
South Cambridgeshire	1.6%	1.4%	0.9%	-0.66
Broxbourne	4.1%	3.5%	2.1%	-2.05
East Hertfordshire	2.3%	1.9%	1.1%	-1.16
Welwyn Hatfield	3.2%	2.8%	1.8%	-1.48
Babergh	2.7%	2.4%	1.4%	-1.27
Ipswich	5.8%	5.1%	3.6%	-2.18
Mid Suffolk	2.3%	1.9%	1.1%	-1.15
Suffolk Coastal	2.3%	1.8%	1.2%	-1.14
St Edmundsbury	2.6%	2.3%	1.6%	-1.06
EPOA	3.6%	3.2%	2.0%	-1.65

(Source: EEFM 2014)

3.13 The unemployment rate reduces over the course of the EEFM forecast period in all areas. The largest declines apply to Thurrock UA, Tendring and Southend-on-Sea UA, with the smallest in South Cambridgeshire and Uttlesford.

3.14 A reduction in the unemployment rate implies that an increasing percentage of the labour force is available to take up the jobs growth estimated by the EEFM forecast, reducing the necessity for net in-migration or a change in the commuting ratio to balance jobs with population. Improving rates of unemployment has been a consistent trend across EPOA local authorities in 2014-15.

Commuting Ratio

3.15 The commuting ratio is the balance between the size of the resident population in employment and the number of jobs available in a given local authority area. A commuting ratio value of more than one implies that the resident population in employment is larger than the number of jobs available. A value of less than one indicates that number of jobs exceed the number of residents employed. Edge Analytics routinely uses the 2011 Census commuting ratio as the basis for scenario evaluation, typically 'fixing' the ratio at its 2011 value throughout the forecast period.

3.16 The EEFM's derived commuting ratio for 2011 is directly comparable with the 2011 Census commuting ratio for each of the EPOA areas. However, in subsequent years, the commuting ratio varies to accommodate anticipated jobs growth. The commuting ratio value derived from the EEFM for each local authority area, has been used by the POPGROUP model to link jobs growth to population change in each phase 7 scenario.

3.17 The difference between the 2011 base-year commuting ratio and the EEFM's end-of-forecast-period value is illustrated for each of the EPOA local authorities (Table 7). There is significant variation in the degree to which the commuting ratio changes to accommodate the EEFM's jobs growth forecasts.

3.18 Brentwood experiences the most significant change in its commuting ratio over the forecast period, with a 2011 Census value of 1.07 reverting to a 2031 value of 0.92; a change from a net out-commute in 2011 to a net in-commute in 2031. Castle Point and Harlow also demonstrate significant changes in the same direction.

3.19 The majority of local authority areas have a commuting ratio that shifts towards greater self-containment over the EEFM forecast period. However, eight of the 24 areas either experience no change in their commuting ratio, or a value that suggests less self-containment. The most significant shift in the latter is found in Epping Forest and St Edmundsbury.

Table 7: Commuting Ratios

Area	Commuting Ratio			Change (2011–2031)
	2011	2013	2031	
Basildon	1.00	0.99	1.00	0.00
Braintree	1.29	1.21	1.19	-0.09
Brentwood	1.07	0.92	0.92	-0.15
Castle Point	1.63	1.41	1.49	-0.14
Chelmsford	1.05	1.06	1.03	-0.01
Colchester	1.02	1.00	0.99	-0.03
Epping Forest	1.29	1.43	1.40	0.10
Harlow	1.01	0.89	0.92	-0.10
Maldon	1.31	1.27	1.29	-0.03
Rochford	1.53	1.44	1.46	-0.06
Tendring	1.24	1.14	1.17	-0.07
Uttlesford	1.01	1.03	1.04	0.03
Southend-on-Sea UA	1.13	1.07	1.08	-0.05
Thurrock UA	1.21	1.23	1.16	-0.05
Cambridge	0.63	0.62	0.62	-0.01
South Cambridgeshire	1.06	1.05	1.00	-0.06
Broxbourne	1.19	1.16	1.14	-0.05
East Hertfordshire	1.24	1.29	1.29	0.05
Welwyn Hatfield	0.77	0.83	0.80	0.03
Babergh	1.18	1.17	1.19	0.01
Ipswich	0.91	0.93	0.91	-0.00
Mid Suffolk	1.17	1.15	1.15	-0.02
Suffolk Coastal	1.07	1.04	1.04	-0.03
St Edmundsbury	0.97	1.06	1.06	0.09

(Source: EEFM 2014)

Economic Activity Rates

3.20 Economic activity rates define the number of people who are either in employment or looking for employment as a percentage of the total population (aged 16–74). Within the POPGROUP model, these rates, in conjunction with the unemployment rates and commuting ratio, define the relationship between population growth and anticipated change in the number of jobs in each area.

3.21 Edge Analytics routinely uses 2011 Census economic activity rates with adjustments made to the 60–69 age groups in order to account for future changes to the State Pension Age (SPA) (see Appendix to the phase 6 report for more detail). For this phase 7 analysis, in order to achieve better alignment between the EEFM and the POPGROUP model, economic activity rates have been derived directly from the EEFM. These EEFM rates record the change in economic activity in the 16–74 year-old population that are implied by the EEFM's jobs growth forecasts.

3.22 The degree to which the underlying economic activity rates change over the EEFM forecast period is illustrated (Table 8 & Figure 1). Like the EEFM's implied commuting ratios, the rate of change in these economic activity rates varies considerably between EPOA local authority areas.

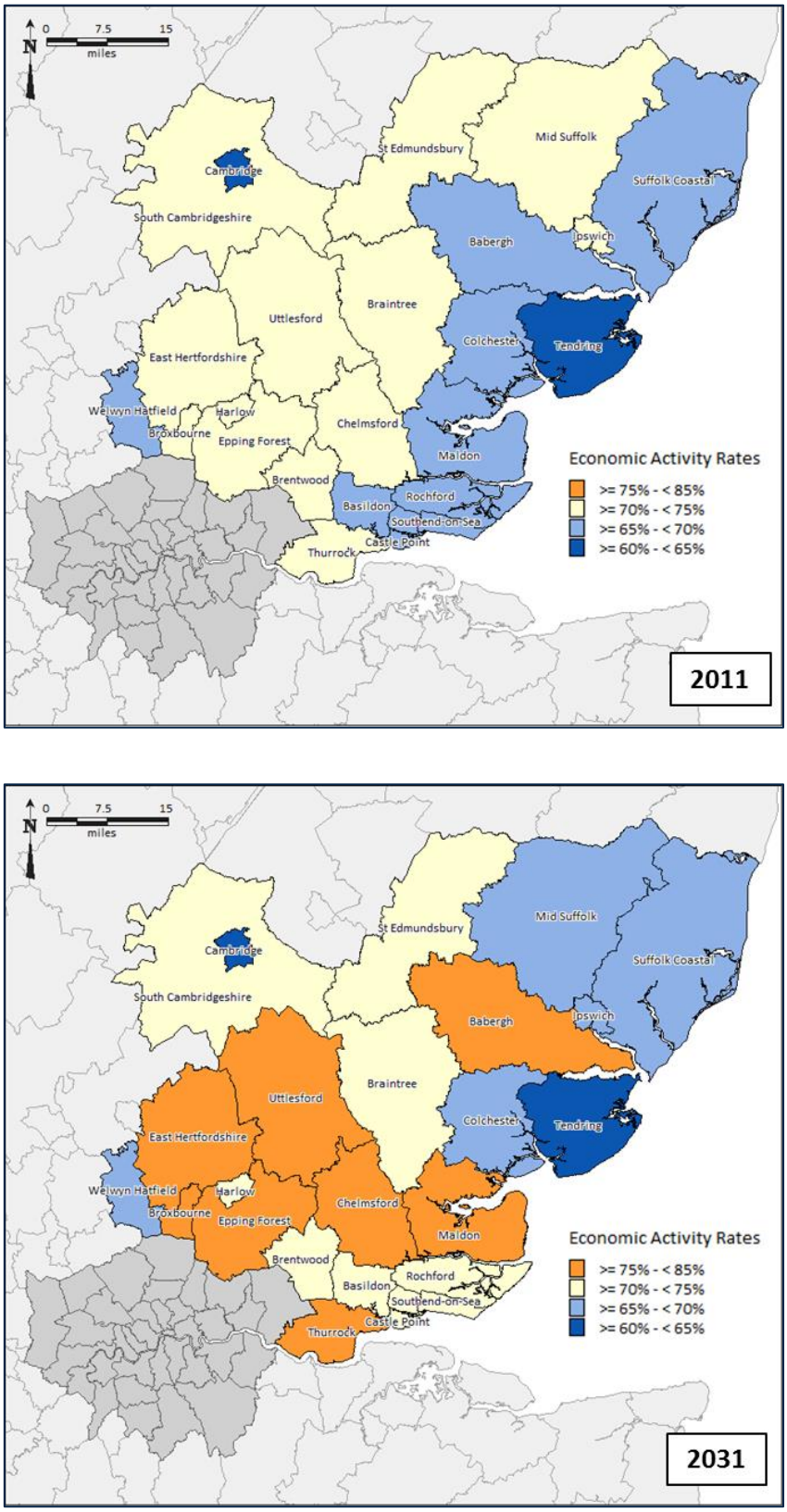
3.23 The largest growth in the aged 16–74 economic activity rate occurs in Epping Forest (+11.9 percentage points (pp)), Chelmsford (+7.9), Maldon (+7.7), Castle Point (+6.3) and Babergh (+6.2). Epping Forest and Chelmsford are anticipated to achieve the highest economic activity rates by 2031 at 82.3% and 80.1% respectively.

3.24 In contrast to these increases in economic activity, six areas are anticipated to reduce their rates over the EEFM forecast period: Braintree, Colchester, Harlow, Ipswich, Mid Suffolk and South Cambridgeshire. At 60.3%, Tendring achieves the lowest rate of economic activity by the end of the forecast period.

Table 8: Economic Activity Rates

Area	Economic Activity Rate (16–74)			Change (2011–2031) (pp)
	2011	2013	2031	
Basildon	69.4%	72.1%	73.4%	4.03
Braintree	71.9%	68.7%	71.4%	-0.52
Brentwood	70.3%	67.4%	74.7%	4.40
Castle Point	66.5%	65.0%	72.8%	6.27
Chelmsford	72.2%	74.0%	80.1%	7.95
Colchester	69.1%	67.7%	66.4%	-2.74
Epping Forest	70.4%	75.6%	82.3%	11.95
Harlow	73.0%	69.4%	71.9%	-1.07
Maldon	68.6%	71.0%	76.3%	7.71
Rochford	69.1%	68.0%	71.7%	2.57
Tendring	60.2%	58.5%	60.3%	0.06
Uttlesford	72.8%	76.2%	77.8%	5.01
Southend-on-Sea UA	69.0%	68.6%	72.2%	3.12
Thurrock UA	71.6%	71.4%	75.3%	3.71
Cambridge	62.2%	63.3%	64.6%	2.37
South Cambridgeshire	74.6%	73.7%	74.2%	-0.41
Broxbourne	71.3%	72.5%	76.5%	5.12
East Hertfordshire	73.8%	76.4%	76.5%	2.61
Welwyn Hatfield	67.2%	69.6%	69.6%	2.44
Babergh	68.8%	72.0%	75.0%	6.18
Ipswich	71.5%	72.2%	69.9%	-1.60
Mid Suffolk	70.9%	70.3%	69.2%	-1.70
Suffolk Coastal	67.6%	67.0%	69.4%	1.85
St Edmundsbury	71.7%	76.3%	73.7%	2.07

(Source: EEFM 2014)



(Source: EEFM 2014)

Figure 1: Comparison of EEFM Economic Activity Rates, 2011 and 2031

Phase 7 Scenario Development

3.25 The scenario analysis presented in this phase 7 report evaluates the growth outcomes associated with a range of scenarios, using a consistent application of the EEFM statistics on unemployment, commuting and economic activity to determine the relationship between jobs growth and population change.

4 London's Demographic Influence

Migration History

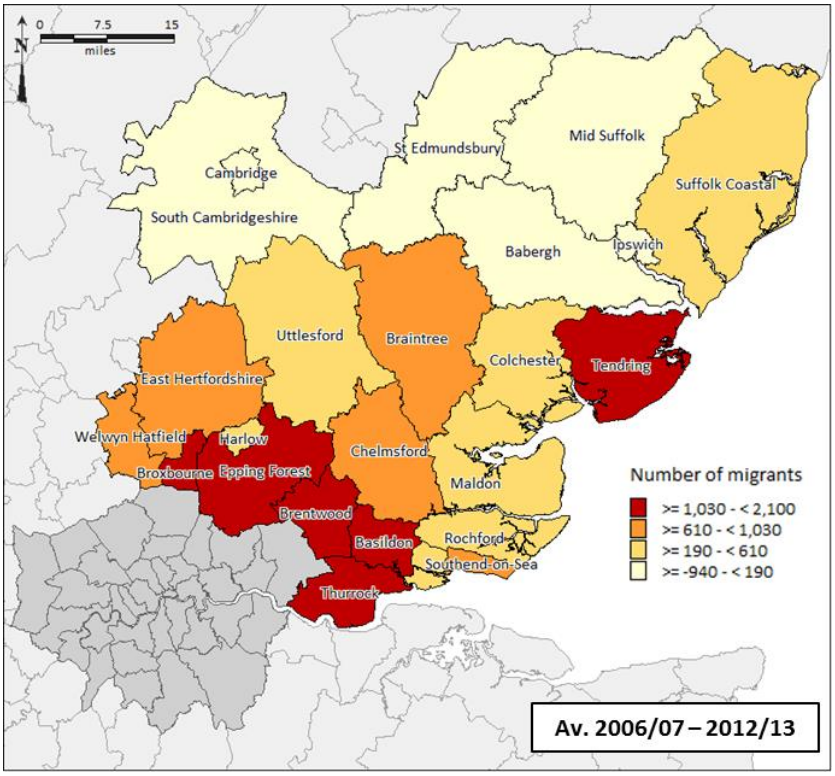
4.1 Greater London plays a significant role in shaping the demographic dynamics of the EPOA local authorities. The collection of London Boroughs, particularly those to the north east of the city, exerts a particular influence, providing a source of new migrants to drive population growth outside the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

4.2 The analysis of 'internal' migration flows between individual local authority areas 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.

4.3 PRDS statistics provide the basis for estimating the annual impact of internal migration in the 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, the GLA's own population projections for its London Boroughs and the POPGROUP projections presented in this phase 7 analysis.

4.4 The migration relationship between the London Boroughs and the EPOA local authorities is presented in Figure 2. The map illustrates the average annual net migration flows from Greater London into each of the EPOA local authorities for 2006/07–2012/13.

4.5 Epping Forest and Thurrock UA experienced the highest net inflow of migrants from Greater London in that period, with average annual net flows of +2,098 and +1,910 respectively. Cambridge is the only local authority district within the EPOA study area to have experienced an average annual net outflow to Greater London, at -940 per year from 2006/07–2012/13.



(Source: PRDS, 2006/07–2012/13)

Figure 2: Net migration from London Boroughs – average annual 2006/07–2012/13

4.6 In-migration from Greater London to the EPOA local authorities has been consistently higher than the corresponding out-migration to Greater London from these areas. Between 2001/02–2012/13 inflow and outflow have averaged 38,275 and 20,242 respectively; an 18,033 net impact (Figure 3).

4.7 However, in the last five years (2008/09–2012/13) the net migration balance has reduced from its twelve-year average of 18,000 to a five-year average of approximately 14,000. With the out-migration from the EPOA local authorities to Greater London remaining fairly stable, the reduction in the average net migration growth has been due to the fall in in-migration from Greater London.

4.8 Since 2011, in-migration has increased slightly with an associated uplift in the net migration growth in the EPOA local authorities.

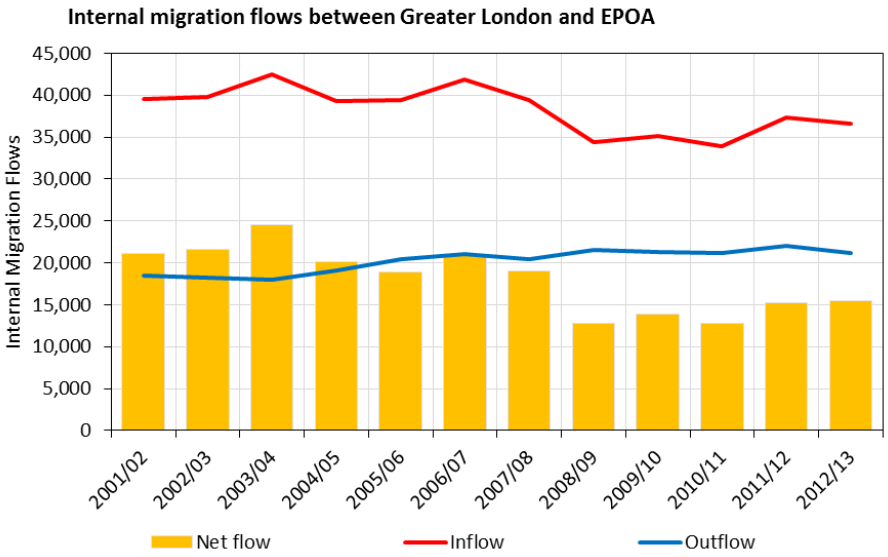


Figure 3: Internal migration flows between London and the EPOA study areas

Migration and the 2012-based SNPP

4.9 The 2012-based SNPP 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 9).

Table 9: EPOA – historical & projected components of population change

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

4.10 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. 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 10-year period.

4.11 In contrast, 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.

Migration and GLA Growth Projections

4.12 Whilst ONS publishes its official sub-national projections for local authority areas, the GLA routinely produces its own population projections for London Boroughs[78].

4.13 The GLA's 2013-round[9] 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).

4.14 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 whether these shifts in migration patterns are 'transient' or whether they represent a longer-term 'structural' change in the population exchange between London and the rest of the UK.

4.15 The alternative GLA scenarios are defined as follows:

- **High**: recent migration patterns persist despite an improving economic outlook.

[7] GLA 2013 round of trend-based population projections – Results.
https://www.london.gov.uk/sites/default/files/update-04-2014-2013rnd-trend-proj-results.pdf

[8] GLA 2013 round of trend-based population projections – Methodology.
https://www.london.gov.uk/sites/default/files/update-03-2014-2013rnd-trend-proj-methodology.pdf

[9] GLA 2014 round of projections was not available at the time of preparing the phase 7 analysis.

- **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 2017 and in-migration rates decreasing by 3% compared to the High variant.

- **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.

4.16 Each of the GLA scenario variants results in a population projection for London Boroughs that is lower than the ONS 2012-based equivalent (Figure 4).

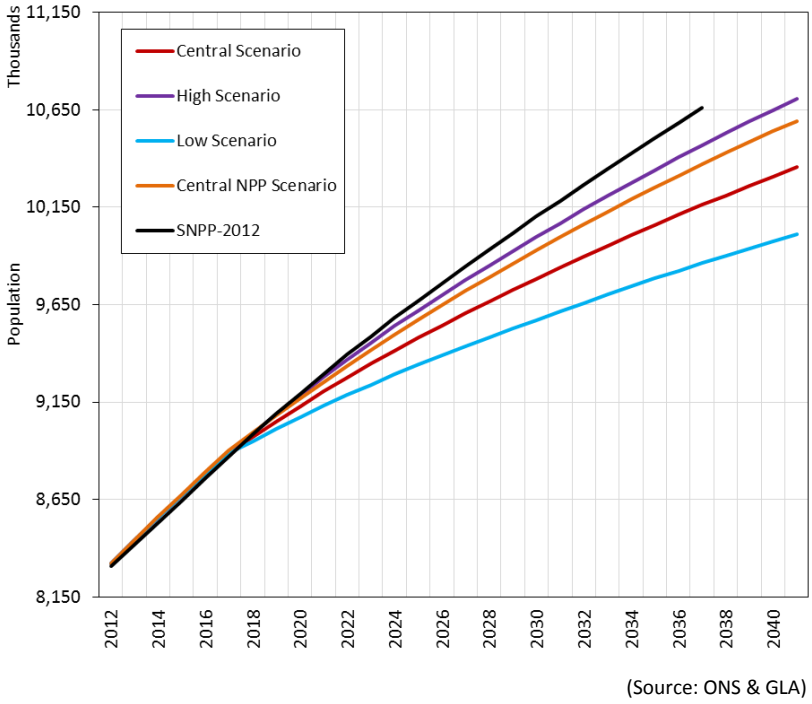


Figure 4: Comparison of 2012-based SNPP with variant GLA projections for all London Boroughs

4.17 Despite lower projected growth in the London Boroughs, there is an expectation of a higher net outflow due to internal migration. A higher net migration outflow would have an impact upon the level of in-migration to local authorities outside the Greater London border, particularly

those areas in the South East and East that have historically had a strong association with London.

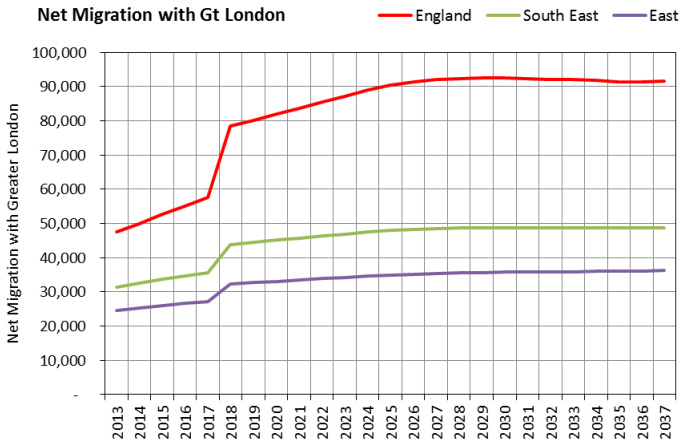
Comparing GLA & ONS Migration Assumptions

4.18 The GLA projections provide an alternative perspective on population change in the London Boroughs. However, they provide only partial evidence on how the lower population growth in London would manifest itself as higher in-migration to areas outside London and to the EPOA local authorities, in particular.

4.19 Following collaborative discussions with the GLA, the phase 7 analysis has been provided with additional model output to enable an assessment of the effect of higher out-migration flows from London. The GLA has provided detailed information on the internal migration flows that underpin its **Central** scenario. This scenario assumes a migration position between the **High** and **Low** extremes, with out-migration rates from London increasing by 5% after 2017 and in-migration rates reducing by 3%.

4.20 Within the GLA model, internal migration flows are modelled using age- and sex-specific migration probabilities. For the migration exchange between London Boroughs and areas outside London, the model adopts a three-zone system: South East, East and Rest-of-UK. It does not explicitly model the flows between each London Borough and each individual local authority outside of Greater London.

4.21 For the **Central** scenario, the net-migration profile for Greater London suggests a step-change in 2018 in the net population gain that is experienced by all non-London English local authority areas; rising from +58,000 annual net gain in 2017 to over +78,000 net gain the following year (Figure 5). The higher net migration continues on an upward trend but rising more slowly to 2030, flattening thereafter.



(Source: GLA)

Figure 5: Net Migration with Greater London – GLA **Central** scenario

4.22 For the South East and East macro regions, the step-change is replicated, albeit on a smaller scale. Net migration to the South East rises from approximately +36,000 in 2017, to +44,000 in 2018, an uplift of +8,000. Net migration to the East rises from approximately +27,000 in 2017, to +32,000 in 2018, an uplift of +5,000. The trend in net migration after 2018 appears to be flatter in the East than the South East, an important consideration for the analysis presented here, with all EPOA areas falling within the East region.

4.23 Whilst the GLA scenarios suggest higher net out-migration from London Boroughs compared to recent trends, the latest 2012-based SNPP from ONS suggest something similar with regard to overall net in-migration to the EPOA local authorities (Table 9). To evaluate the likely extent of the GLA's **Central** scenario net migration assumptions upon those implied by the 2012-based SNPP, a process of data matching and estimation has been required.

4.24 The datasets that have been used to complete the estimation and matching, include the following:

- Historical migration flows (2006/7-2012/13) to/from London to each local authority district (PRDS).
- Historical migration components of change from the ONS mid-year population estimates.
- GLA **Central** scenario, migration flows from London to macro regions.

- 2012-based SNPP projection, migration components of change.

4.25 The steps that have been taken to align the migration information from the GLA **Central** and SNPP-2012 scenarios are as follows:

- Using historical PRDS in-migration and out-migration data, the GLA macro region migration flows have been disaggregated to local authority area totals.
- Using the same historical PRDS information, the proportion of each local authority's 2012-based SNPP in-migration and out-migration that is associated with Greater London has been derived.
- Comparing the GLA **Central** and the 2012-based SNPP estimates of in-migration and out-migration from/to Greater London, provides a ratio with which the SNPP-2012 assumptions can be altered to match those implied by the GLA **Central** alternative.
- Within the estimation procedure, control totals have been provided by the macro-region migration statistics of the GLA's **Central** scenario and by the Greater London net-migration totals suggested by the 2012-based SNPP.
- The net migration assumptions from the GLA and 2012-based SNPP are consistent in 2013 for each local authority area, deviating thereafter.
- All estimation has taken account of the age-sex profiles associated with the respective migration statistics.

4.26 The results of the estimation process are summarised for the South East and East macro areas (Figure 6 & Figure 7). Whilst the GLA **Central** scenario models a step-change in the net migration effect with Greater London, the 2012-based SNPP suggests a gradual increase over the forecast period. The 2012 based SNPP assumptions on net migration gain from Greater London are estimated to reach and then exceed the GLA **Central** assumption, at a later point in the forecast period for the South East than the East.

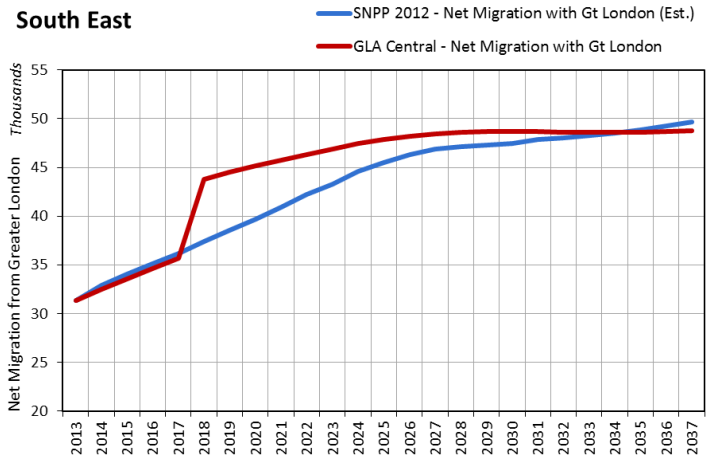


Figure 6: Net Migration with Greater London, South East – GLA **Central** scenario and **SNPP-2012**

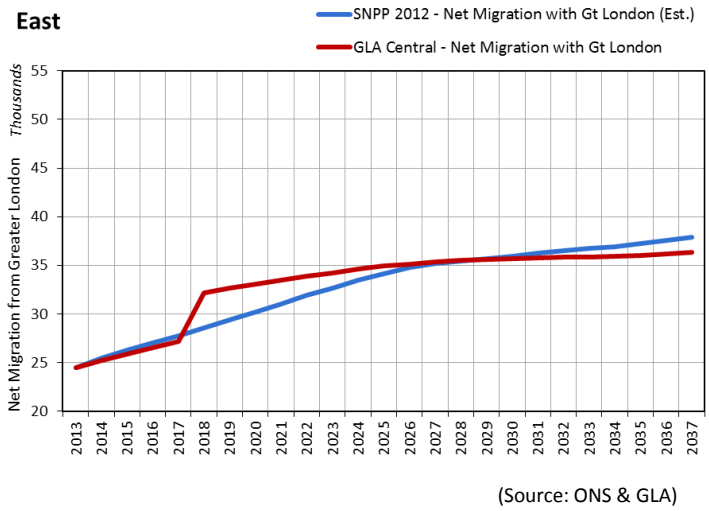


Figure 7: Net Migration with Greater London, East – GLA **Central** scenario and **SNPP-2012**

4.27 For the EPOA local authority areas, which are located within the East region, the GLA **Central** scenario would suggest higher growth than **SNPP-2012** if a 15-year forecast horizon was considered. However, there would be less of a difference over a 25-year forecast period as the 2012-based SNPP migration assumptions continue to rise, whilst the GLA **Central** migration assumptions remain at a relatively constant level.

Phase 7 Scenario Development

4.28 Using the comparison of migration assumptions from the GLA **Central** and the 2012-based SNPP, an additional scenario has been formulated which considers the growth impact of the migration uplift suggested by the GLA **Central** scenarios, over-and-above what is implied by the 2012-based SNPP. This scenario (**SNPP-2012-LONDON**) is presented alongside the wider suite of growth scenarios in this phase 7 analysis.

5 Scenario Definition

Introduction

5.1 There is no single definitive view on the likely level of growth expected in the EPOA study area; a mix of economic, demographic and national/local policy issues ultimately determines 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 provision.

5.2 Edge Analytics has used POPGROUP technology to develop a range of growth scenarios for the EPOA study area. For detail on the POPGROUP methodology, refer to Appendix A .

5.3 In line with the PPG, the most recent population and household projection models have been considered. A total of eleven scenarios have been developed, categorised as either official, trend or jobs-led.

5.4 Each scenario has been evaluated using 2008-, 2011- and 2012-based household headship rates, providing a 'range' of household and dwelling growth options for consideration. All scenarios have been produced with a 2013 base year and a horizon of 2037.

5.5 In the following sections, the scenarios are described and the broad assumptions specified. For further detail on the data inputs and assumptions, refer to Appendix B .

Scenario Description

Official Projections

5.6 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.

Alternative Trend Scenarios

5.7 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. In addition, it has been important to consider the alternative trend scenario formulated by the GLA as a direct contrast to the **SNPP-2012** outcome.

5.8 Five alternative trend 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 (2008/09 to 2012/13) with future in- and out-migration calculated using age-specific migration rates (ASMigR).
- **PG-5Yr-Fixed**: Internal and international migration assumptions are based on the last 5 years of historical evidence (2008/09 to 2012/13) with future in- and out-migration fixed at the derived five-year average.
- **PG-10Yr**: internal and international migration assumptions are based on the last 10 years of historical evidence (2003/04 to 2012/13) with future in- and out-migration calculated using age-specific migration rates (ASMigR).
- **PG-10Yr-Fixed**: Internal and international migration assumptions are based on the last 10 years of historical evidence (2003/04 to 2012/13) with future in- and out-migration fixed at the derived ten-year average.
- **Natural Change**: internal and international migration flows are set to zero.

5.9 The trend scenarios listed above assume that the 'unattributable population component' (UPC) for the 2001–2011 historical period is associated with the mis-estimation of international migration. Given the uncertainty associated with the UPC amendment, for the 2001–2011 historical period a sensitivity test on its importance in determining future growth assumptions is

appropriate. Two further trend scenarios have 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 (2008/09 to 2012/13), excluding UPC.
- **PG-10Yr-X**: internal and international migration assumptions are based on the last 10 years of historical evidence (2003/04 to 2012/13), excluding UPC.

5.10 A sixth trend scenario, the **SNPP-2012-LONDON** scenario considers the growth impact of the migration uplift suggested by the GLA **Central** scenarios, over-and-above what is implied by the 2012-based SNPP. The rationale behind this scenario is detailed in Section 4.

Jobs-led Scenarios

5.11 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 taking into account employment levels and commuting balances. 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.

5.12 The Autumn 2014 '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 local authorities, the EEFM model has identified a forecast of growth measured as both 'total employment' and the 'total workplace employed people'.

5.13 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'.

5.14 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. For this reason,

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.

5.15 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 10) presenting anticipated growth over the 2013-2031 horizon.

Table 10: Employment forecasts from the EEFM 2014

Area	Average annual net new jobs (2013-31)	
	Total employment	Total workplace employed people
Basildon	630	594
Braintree	656	639
Brentwood	457	419
Castle Point	86	92
Chelmsford	1,072	940
Colchester	659	646
Epping Forest	552	458
Harlow	212	202
Maldon	165	160
Rochford	163	164
Tendring	175	175
Uttlesford	265	253
Southend-on-Sea UA	479	478
Thurrock UA	1,122	1,072
Cambridge	1,030	1,021
South Cambridgeshire	1,128	1,079
Broxbourne	479	423
East Hertfordshire	476	418
Welwyn Hatfield	948	812
Babergh	189	185
Ipswich	670	648
Mid Suffolk	299	293
Suffolk Coastal	474	451
St Edmundsbury	416	365
EPOA	12,802	11,987

(Source: EEFM 2014)

Note: The jobs-led scenarios which are presented in this phase 7 analysis have assumed that the jobs growth anticipated in 2031 is continued in each year of the extended 2032-37 forecast period.

5.16 This data provide the basis for the development of two jobs-led scenarios:

- **Jobs**: demographic change is linked to the growth in total employment.
- **Employed People**: demographic change is linked to the growth in the number of workplace employed people.

5.17 To ensure consistency with other scenarios, growth statistics for the final year of the economic forecast are continued to 2037.

Scenario Summary

5.18 In summary, a total of eleven scenarios are presented, each providing an indication of population change to 2037. For each of these scenarios, three household growth outcomes have been derived, based on the 2008-, 2011- and 2012-based headship rate assumption (Table 11).

Table 11: Phase 7 - scenario summary

Scenario type	Scenario name
Official	SNPP-2012
Trend	PG-5Yr
	PG-5Yr-Fixed
	PG-5Yr-X
	PG-10Yr
	PG-10Yr-Fixed
	PG-10Yr-X
	Natural Change
	SNPP-2012-LONDON
Jobs-led	Jobs
	Employed People

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

6 Area Profiles

Guidelines

6.1 For each of the EPOA local authorities, the new scenario evidence is summarised in the form of a chart and an accompanying table of statistics.

6.2 The chart illustrates the 2013-2037 trajectory of population change resulting from each scenario.

6.3 The table summarises the change in population and household numbers that result from each scenario for the period 2013-2037. All household and dwelling output in this table is based on the application of 2012-based household formation assumptions (HH-12).

6.4 In each table, 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 growth and average annual jobs growth anticipated.

6.5 For each local authority area, a second table considers the dwelling growth outcomes that would result from the application of alternative household formation rate assumptions, comparing the 2012-based outcomes (HH-12) with results generated from the application of 2008-based (HH-08) and 2011-based (HH-11) household assumptions. The table is ranked according to the scale of dwelling growth estimated over the forecast period.

Consideration of Phase 6 – Phase 7 Differences

6.6 The phase 7 scenario evidence is an update on previous evidence, incorporating a range of new evidence and assumptions compared to previous phases of the EPOA project. A summary of the key differences is presented, providing guidance for the interpretation of the new evidence relative to previous scenario output (Table 12).

6.7 The historical demographic statistics on which alternative trend scenarios have been formulated include an additional year of data in the phase 7 analysis, adding the 2013 mid-year population estimate and the accompanying components of change (births, deaths and migration) for the 2012/13 period.

Table 12: Data inputs and assumptions – phase 6 versus phase 7 scenarios

Data Item	Phase 6	Phase 7
Population History	MYE 2001-12	MYE 2001-13
Births History	2001/2-2011/12	2001/2-2012/13
Deaths History	2001/2-2011/12	2001/2-2012/13
Migration History	2001/2-2011/12	2001/2-2012/13
Headship rates	2008 (B) & 2011 (A)	HH-08, HH-11 & HH-12
Communal establishment population	2011 Census (as in CLG2011HH)	2011 Census (as in CLG2012HH)
Vacancy rates	2011 Census	2011 Census
Job growth	EEFM 2013	EEFM 2014
Economic activity rates	2011 Census rates by 5-year age group and sex (ages 16-74), modified to account for changes to State Pension Age.	EEFM 2014 economic activity rate for an aggregate 16-74 age group
Commuting ratios	2011 Census value fixed over the forecast period	EEFM 2014
Unemployment rates	Annual Population Survey value, with a 5-year average (2008-12) in the base year returning to 9-year average (2004-12) over 2013-20 period	EEFM 2014 (changing values)

6.8 For the estimation of household and dwelling growth outcomes, the phase 7 analysis includes the new 2012-based household assumptions on headship rates and revised communal establishment population estimates. Note that the changes to the communal establishment population estimates are not significant but mean that the 2011-based and the 2008-based dwelling growth outcomes presented in this phase 7 analysis differ slightly from the ones presented in the phase 6 report. The dwelling vacancy rates remain consistent with the previous phase 6 work.

6.9 The most significant changes are in the economic assumptions. New jobs growth forecasts have been provided by the latest EEFM. The differences in jobs growth estimates between phase 6 and phase 7 is summarised in Table 4.

6.10 In addition, all economic activity rates, commuting ratios and unemployment rate assumptions

used in the phase 7 analysis have been drawn directly from the EEFM model to improve alignment between the economic and demographic forecasting approaches. This contrasts to the phase 6 work, in which the assumptions on economic activity, commuting and unemployment were not linked directly to these key EEFM model outputs.

Basildon

Trend Scenarios

6.11 The **SNPP-2012** scenario records a 15.7% growth in Basildon's population to 2037 and an estimated dwelling requirement of 659 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.12 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests higher population growth at 16.4% to 2037, with an associated annual dwelling requirement of 708 per year.

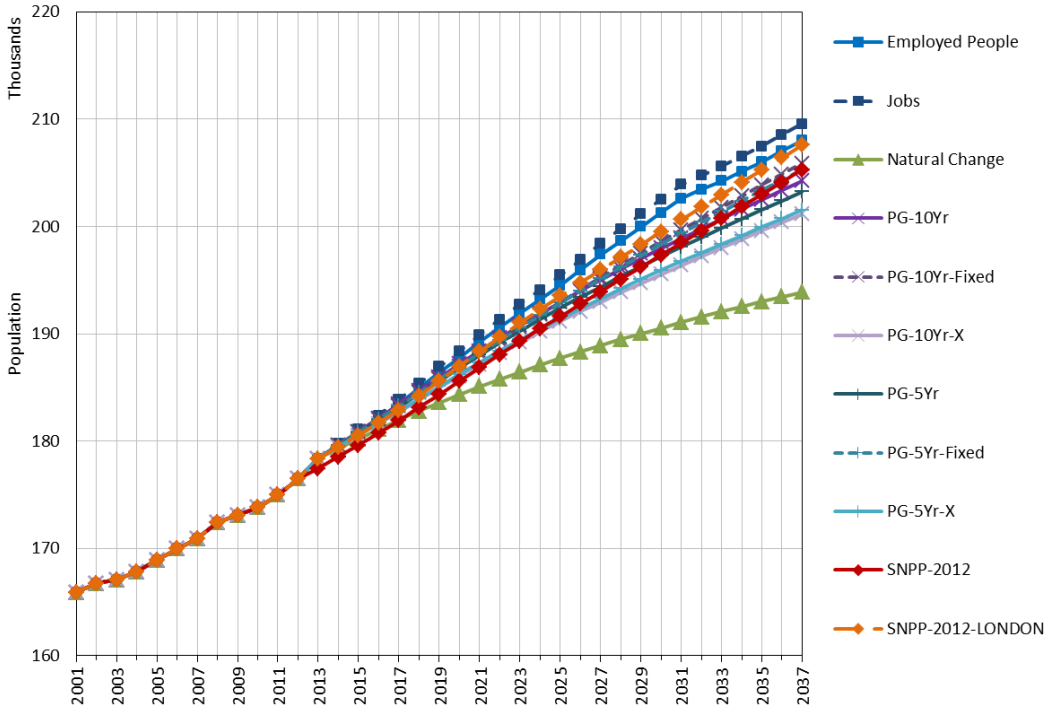
6.13 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Basildon's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.14 The **PG-10Yr**, **PG-5Yr** and the '**Fixed**' migration alternatives suggest growth rates that are not too dissimilar to **SNPP-2012**. The different population age structures estimated from these scenarios results in annual dwelling growth estimates that are slightly higher than the **SNPP-2012**, ranging from 653-676 per year.

6.15 The '**X**' scenarios suggest the lowest rate of population growth of the **PG** scenarios as they exclude the UPC adjustment that was allocated to the population to account for undercount between the 2001 and 2011 Censuses.

6.16 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 8.7% to 2037, with an associated annual dwelling requirement of 531 per year.

BASILDON



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs	31,208	17.5%	17,093	23.0%	441	725	547
Employed People	29,640	16.6%	16,448	22.1%	386	697	514
SNPP-2012-LONDON	29,211	16.4%	16,701	22.4%	399	708	531
SNPP-2012	27,849	15.7%	15,549	20.9%	342	659	477
PG-10Yr-Fixed	27,520	15.4%	15,936	21.4%	274	676	479
PG-5Yr-Fixed	26,926	15.1%	15,867	21.3%	269	673	474
PG-10Yr	25,900	14.5%	15,663	21.0%	227	664	450
PG-5Yr	24,871	13.9%	15,393	20.7%	206	653	435
PG-5Yr-X	23,153	13.0%	14,012	18.8%	151	594	382
PG-10Yr-X	22,805	12.8%	13,839	18.6%	123	587	374
Natural Change	15,506	8.7%	12,514	16.8%	0	531	234

Note: Household and dwelling estimates based on HH-12 assumptions

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 8: Basildon, HH-12 scenario outcomes

Jobs-led Scenarios

6.17 The employment forecasts from the 2014 EEFM are substantially higher than the previous 2013 output, with the annual growth in total jobs estimated at 547 per year in the latest data, compared to 201 per year in the 2013 statistics.

6.18 Population growth associated with the **Employed People** and **Jobs** scenarios is 16.6% and 17.5% respectively, with a range of annual dwelling requirement of 697-725 per year.

6.19 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 which rises to 73.4% by 2031, compared to its 2011 figure of 69.4%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.20 The EEFM commuting ratio remains largely unchanged throughout the forecast period, having little effect upon the balance between jobs and the level of resident employment within the area.

6.21 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling growth

6.22 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.23 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.24 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is higher than the HH-11 outcomes but lower than that suggested by the HH-08 outcomes.

Table 13: Basildon, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
Jobs	775	683	725
SNPP-2012-LONDON	760	670	708
Employed people	748	656	697
PG-10Yr-Fixed	720	620	676
PG-5Yr-Fixed	716	620	673
SNPP-2012	709	617	659
PG-10Yr	697	603	664
PG-5Yr	685	594	653
PG-5Yr-X	633	542	594
PG-10Yr-X	629	535	587
Natural Change	534	433	531

Braintree

Trend Scenarios

6.25 The **SNPP-2012** scenario records an 18.8% growth in Braintree's population to 2037 and an estimated dwelling requirement of 686 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.26 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests higher population growth at 19.1% to 2037, with an corresponding annual dwelling requirement of 698 per year.

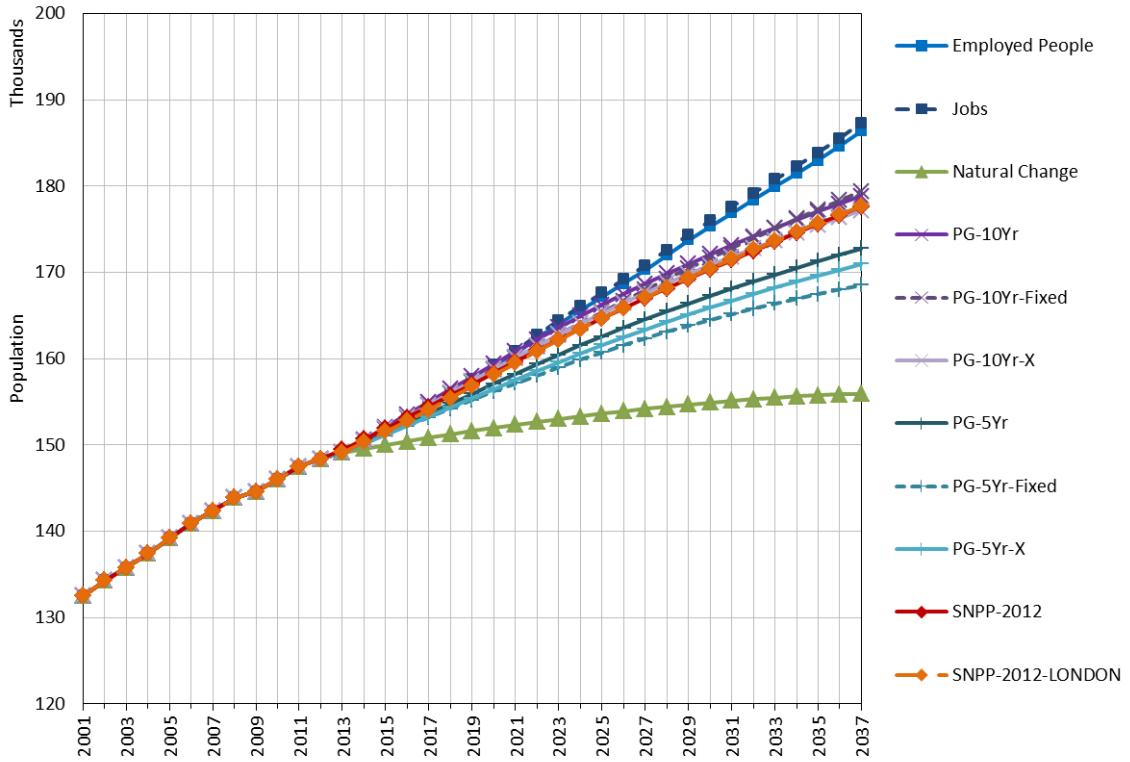
6.27 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Braintree's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.28 The **PG-10Yr** and **PG-10Yr-Fixed** scenarios suggest population growth rates that are higher than the **SNPP-2012**, reflecting higher net migration prior to 2008. The different population age structures estimated from these scenarios results in annual dwelling growth estimates that are lower than the **SNPP-2012**, ranging from 614-668 per year.

6.29 The lower net migration experienced in the last five years is reflected in the **PG-5Yr** and **PG-5Yr-Fixed** scenarios, with lower dwelling growth as a result.

6.30 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for undercount between the 2001 and 2011 Censuses.

BRAINTREE



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs	38,222	25.6%	20,132	32.3%	1,369	862	608
Employed People	37,251	25.0%	19,736	31.6%	1,333	845	592
PG-10Yr-Fixed	30,272	20.3%	14,344	23.0%	898	614	469
PG-10Yr	29,710	19.9%	15,611	25.0%	934	668	463
SNPP-2012-LONDON	28,554	19.1%	16,304	26.1%	1,004	698	449
SNPP-2012	28,108	18.8%	16,027	25.6%	985	686	432
PG-10Yr-X	28,053	18.8%	15,701	25.2%	918	672	440
PG-5Yr	23,620	15.8%	13,520	21.7%	778	579	340
PG-5Yr-X	21,883	14.7%	13,552	21.7%	751	580	318
PG-5Yr-Fixed	19,381	13.0%	10,697	17.2%	584	458	265
Natural Change	6,823	4.6%	6,440	10.3%	0	276	105

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 9: Braintree, HH-12 scenario outcomes

6.32 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 4.6% to 2037, with an annual dwelling requirement of 276 per year.

Jobs-led Scenarios

6.33 The employment forecasts from the 2014 EEFM are substantially higher than previous 2013 output, with the annual growth in total jobs estimated at 608 per year in the latest data, compared to 368 per year in the 2013 statistics.

6.34 Population growth associated with the **Employed People** and **Jobs** scenarios is 25.0% and 25.6% respectively, with a range of annual dwelling requirement of 845-862 per year.

6.35 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 but an economic activity rate for the population aged 16-74 that remains fairly constant, at 71.4% in 2031, compared to its 2011 figure of 71.9%. The declining unemployment rate will reduce the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.36 The EEFM commuting ratio reduces from its 1.29 Census figure to reach 1.19 in 2031, reflecting a greater degree of self-containment and a reduced requirement for higher net in-migration to meet the jobs growth forecast.

6.37 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling growth

6.38 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.39 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.40 For all scenarios (with the exception of the **PG-10Yr-Fixed** scenario), the HH-12 results suggest an average annual dwelling requirement that is higher than the HH-11 outcomes but lower than that

suggested by the HH-08 outcomes.

Table 14: Braintree, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
Jobs	897	832	862
Employed People	880	815	845
SNPP-2012-LONDON	732	673	698
SNPP-2012	718	659	686
PG-10Yr	709	647	668
PG-10Yr-X	699	640	672
PG-10Yr-Fixed	686	619	614
PG-5Yr	613	556	579
PG-5Yr-X	602	546	580
PG-5Yr-Fixed	515	455	458
Natural Change	280	213	276

Brentwood

Trend Scenarios

6.41 The **SNPP-2012** scenario records a 20.5% growth in Brentwood's population to 2037 and an estimated dwelling requirement of 326 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.42 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 21.1% to 2037, with an associated annual dwelling requirement of 345 per year. This scenario records the highest growth outcome of all scenarios.

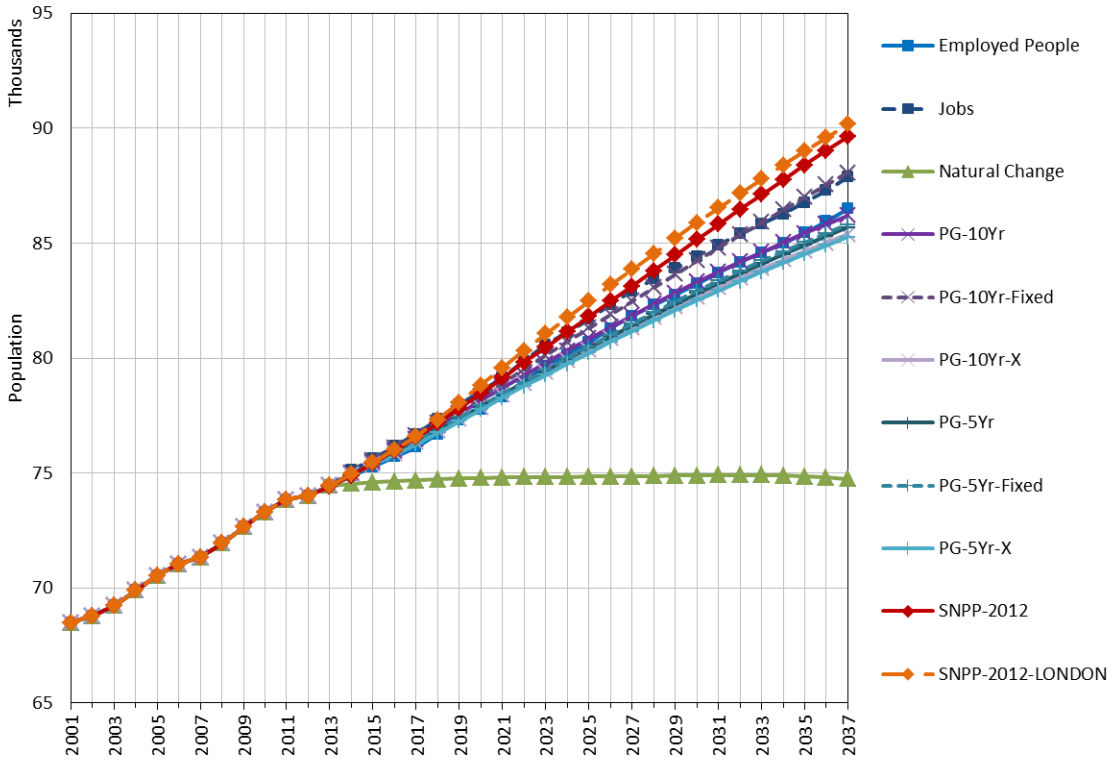
6.43 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Brentwood's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.44 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels.

6.45 The **'10-Yr'** scenarios result in higher growth than the **'5-Yr'** alternatives, reflecting the differential effects of migration upon population change in the respective historical periods**.** The **'Fixed'** migration scenarios suggest higher growth than the comparable scenarios based upon migration rates, with different age structures resulting in variations in the dwelling growth outcomes.

6.46 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for undercount between the 2001 and 2011 Censuses.

BRENTWOOD



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2012-LONDON	15,710	21.1%	7,918	25.4%	582	345	455
SNPP-2012	15,233	20.5%	7,479	24.0%	562	326	433
PG-10Yr-Fixed	13,602	18.3%	6,252	20.0%	448	273	402
Jobs	13,414	18.0%	6,777	21.7%	492	295	387
Employed People	12,046	16.2%	6,215	19.9%	443	271	354
PG-10Yr	11,747	15.8%	6,158	19.7%	411	268	350
PG-5Yr-Fixed	11,342	15.2%	6,407	20.5%	398	279	351
PG-5Yr	11,231	15.1%	6,647	21.3%	415	290	342
PG-10Yr-X	10,919	14.7%	5,506	17.6%	381	240	326
PG-5Yr-X	10,810	14.5%	6,206	19.9%	398	271	326
Natural Change	281	0.4%	2,384	7.6%	0	104	86

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 10: Brentwood, HH-12 scenario outcomes

6.47 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 0.4% to 2037, with an annual dwelling requirement of 104 per year.

Jobs-led Scenarios

6.48 The employment forecasts from the 2014 EEFM are substantially higher than previous 2013 output, with the annual growth in total jobs estimated at 387 per year in the latest data, compared to 275 per year in the 2013 statistics.

6.49 Population growth associated with the **Employed People** and **Jobs** scenarios is 16.2% and 18.0% respectively, with a range of annual dwelling requirement of 271-295 per year. These dwelling growth outcomes are lower than the **SNPP-2012**, which assumes a higher annual net migration impact.

6.50 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 74.7% in 2031, compared to its 2011 figure of 70.3%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.51 The commuting ratio reduces from its 1.07 Census figure to reach 0.92 in 2031. This reflects a greater degree of self-containment and a reversal to a net inflow of commuters, reducing the requirement for net in-migration to satisfy the forecast jobs growth.

6.52 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling growth

6.53 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.54 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using

the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.55 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally lower than both the HH-11 and HH-08 outcomes.

Table 15: Brentwood, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
SNPP-2012-LONDON	371	356	345
SNPP-2012	351	336	326
Jobs	321	307	295
PG-5Yr	301	287	290
PG-10Yr-Fixed	301	285	273
Employed People	296	282	271
PG-5Yr-Fixed	294	280	279
PG-10Yr	287	273	268
PG-5Yr-X	285	269	271
PG-10Yr-X	264	248	240
Natural Change	103	80	104

Castle Point

Trend Scenarios

6.56 The **SNPP-2012** scenario records a 12.0% growth in Castle Point's population to 2037 and an estimated dwelling requirement of 285 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.57 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 12.2% to 2037, with an associated annual dwelling requirement of 291 per year. This scenario records the highest growth outcome of all scenarios.

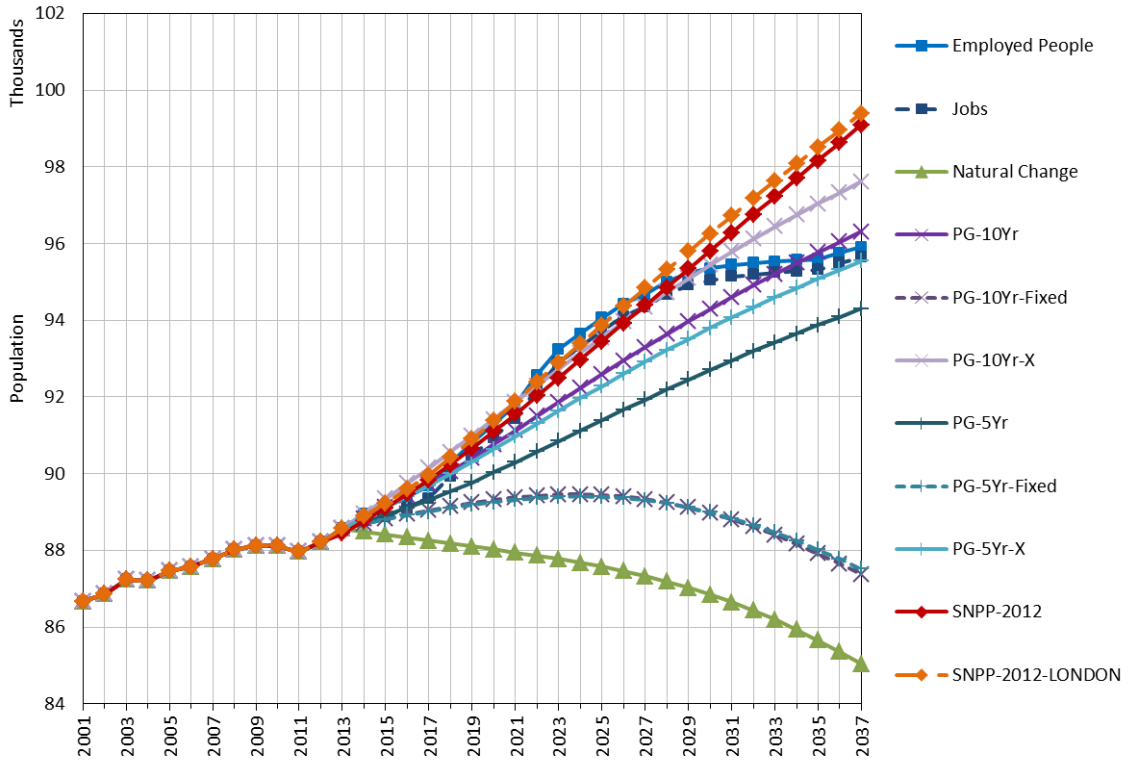
6.58 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Castle Point's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.59 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels. The **'Fixed'** migration scenarios suggest the lowest growth, with no change in net migration to reflect changing population totals and age structure.

6.60 The '**X**' scenarios imply higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an overcount between the 2001 and 2011 Censuses.

The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population decline of 4.0% to 2037, with an annual dwelling requirement of just 24 per year.

CASTLE POINT



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2012-LONDON	10,819	12.2%	6,745	18.3%	697	291	108
SNPP-2012	10,654	12.0%	6,625	18.0%	690	285	104
PG-10Yr-X	9,037	10.2%	5,968	16.2%	635	257	71
PG-10Yr	7,738	8.7%	5,942	16.1%	563	256	66
Employed People	7,331	8.3%	5,412	14.7%	552	233	56
Jobs	7,068	8.0%	5,299	14.4%	543	228	53
PG-5Yr-X	6,973	7.9%	5,154	14.0%	541	222	47
PG-5Yr	5,726	6.5%	5,130	13.9%	480	221	42
PG-5Yr-Fixed	-1,060	-1.2%	1,920	5.2%	195	83	-62
PG-10Yr-Fixed	-1,195	-1.3%	1,984	5.4%	205	85	-66
Natural Change	-3,532	-4.0%	567	1.5%	0	24	-90

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 11: Castle Point, HH-12 scenario outcomes

Jobs-led Scenarios

6.61 The employment forecasts from the 2014 EEFM are higher than previous 2013 output, with the annual growth in total jobs estimated at 53 per year in the latest data, compared to annual decline of 5 per year in the 2013 statistics.

6.62 Population growth associated with the **Employed People** and **Jobs** scenarios is 8.3% and 8.0% respectively, with a range of annual dwelling requirement of 228-233 per year. These dwelling growth outcomes are lower than the **SNPP-2012**, which assumes a higher annual net migration impact.

6.63 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 72.8% in 2031, compared to its 2011 figure of 66.5%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.64 The commuting ratio reduces from its 1.63 Census figure to reach 1.49 in 2031. This remains a large net outflow balance to commuting but reflects an improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.65 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.66 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.67 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.68 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but lower than the HH-08 outcomes.

Table 16: Castle Point, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
SNPP-2012-LONDON	307	245	291
SNPP-2012	300	235	285
PG-10Yr-X	275	213	257
PG-10Yr	268	209	256
Employed people	247	184	233
Jobs	242	179	228
PG-5Yr-X	237	175	222
PG-5Yr	231	173	221
PG-10Yr-Fixed	108	54	85
PG-5Yr-Fixed	107	52	83
Natural Change	32	-22	24

Chelmsford

Trend Scenarios

6.69 The **SNPP-2012** scenario records a 15.6% growth in Chelmsford's population to 2037 and an estimated dwelling requirement of 657 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.70 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 15.7% to 2037, with an associated annual dwelling requirement of 671 per year.

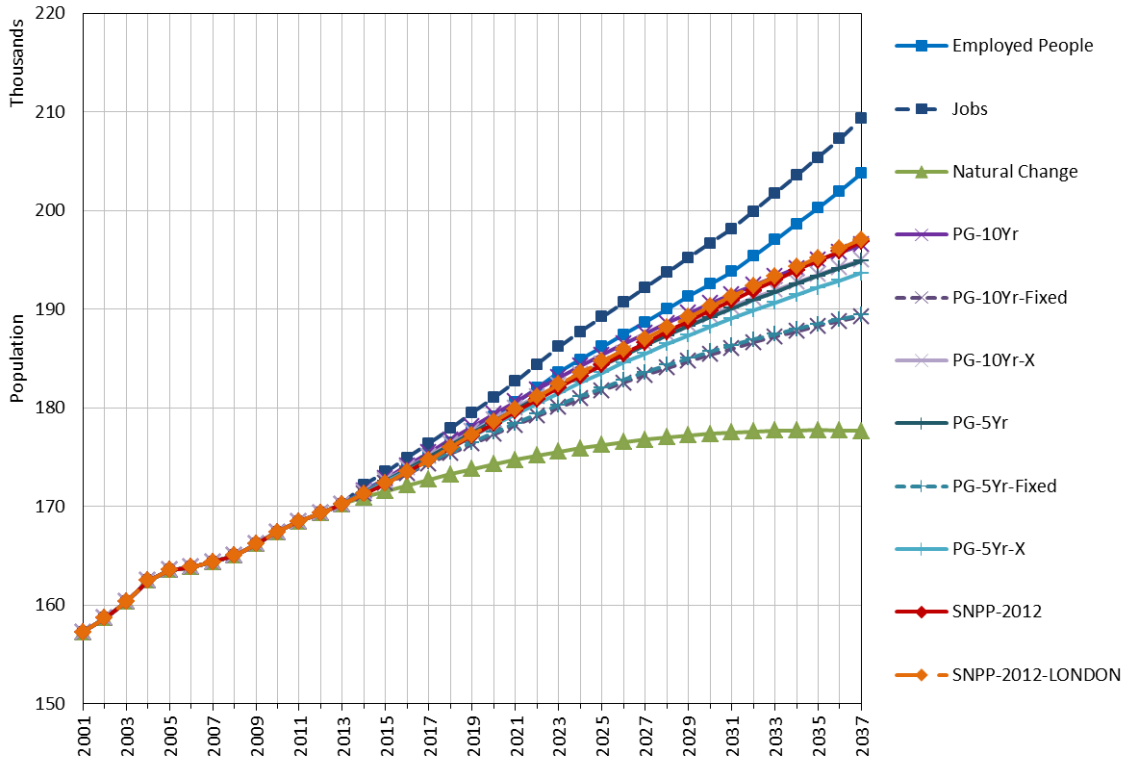
6.71 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Chelmsford's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.72 The range of '**PG'** scenarios suggests population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels. The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

6.73 The **'Fixed'** migration scenarios suggest the lowest growth, with no change in net migration to reflect changing population totals and age structure.

6.74 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 4.4% to 2037, with an annual dwelling requirement of just 404 per year.

CHELMSFORD



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs	39,057	22.9%	20,427	28.8%	1,090	870	1,013
Employed People	33,536	19.7%	18,194	25.6%	893	775	887
SNPP-2012-LONDON	26,808	15.7%	15,759	22.2%	636	671	738
SNPP-2012	26,602	15.6%	15,426	21.7%	628	657	727
PG-10Yr	26,296	15.4%	14,272	20.1%	551	608	726
PG-10Yr-X	24,741	14.5%	13,713	19.3%	497	584	695
PG-5Yr	24,623	14.5%	14,512	20.4%	572	618	664
PG-5Yr-X	23,399	13.7%	14,150	19.9%	529	603	640
PG-5Yr-Fixed	19,189	11.3%	12,072	17.0%	408	514	538
PG-10Yr-Fixed	19,036	11.2%	11,502	16.2%	367	490	556
Natural Change	7,435	4.4%	9,490	13.4%	0	404	324

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 12: Chelmsford, HH-12 scenario outcomes

Jobs-led Scenarios

6.75 The employment forecasts from the 2014 EEFM are slightly higher than previous 2013 output, with the annual growth in total jobs estimated at 1,013 per year in the latest data, compared to an annual growth of 928 per year in the 2013 statistics.

6.76 Population growth associated with the **Employed People** and **Jobs** scenarios is 19.7% and 22.9% respectively, with a range of annual dwelling requirement of 775-870 per year. These dwelling growth outcomes are higher than the **SNPP-2012** and are associated with a higher annual net migration impact.

6.77 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 80.1% in 2031, compared to its 2011 figure of 72.2%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.78 The commuting ratio reduces slightly from its 1.05 Census figure to reach 1.03 in 2031. This reflects a small improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.79 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.80 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.81 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.82 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally lower than both the HH-11 and HH-08 outcomes.

Table 17: Chelmsford, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
Jobs	915	872	870
Employed people	818	778	775
SNPP-2012-LONDON	710	676	671
SNPP-2012	699	663	657
PG-5Yr	674	640	618
PG-10Yr	666	629	608
PG-5Yr-X	651	617	603
PG-10Yr-X	635	598	584
PG-5Yr-Fixed	579	545	514
PG-10Yr-Fixed	554	520	490
Natural Change	425	391	404

Colchester

Trend Scenarios

6.83 The **SNPP-2012** scenario records a 22.1% growth in Colchester's population to 2037 and an estimated dwelling requirement of 868 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.84 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests higher population growth at 23.4% to 2037, with an associated annual dwelling requirement of 913 per year.

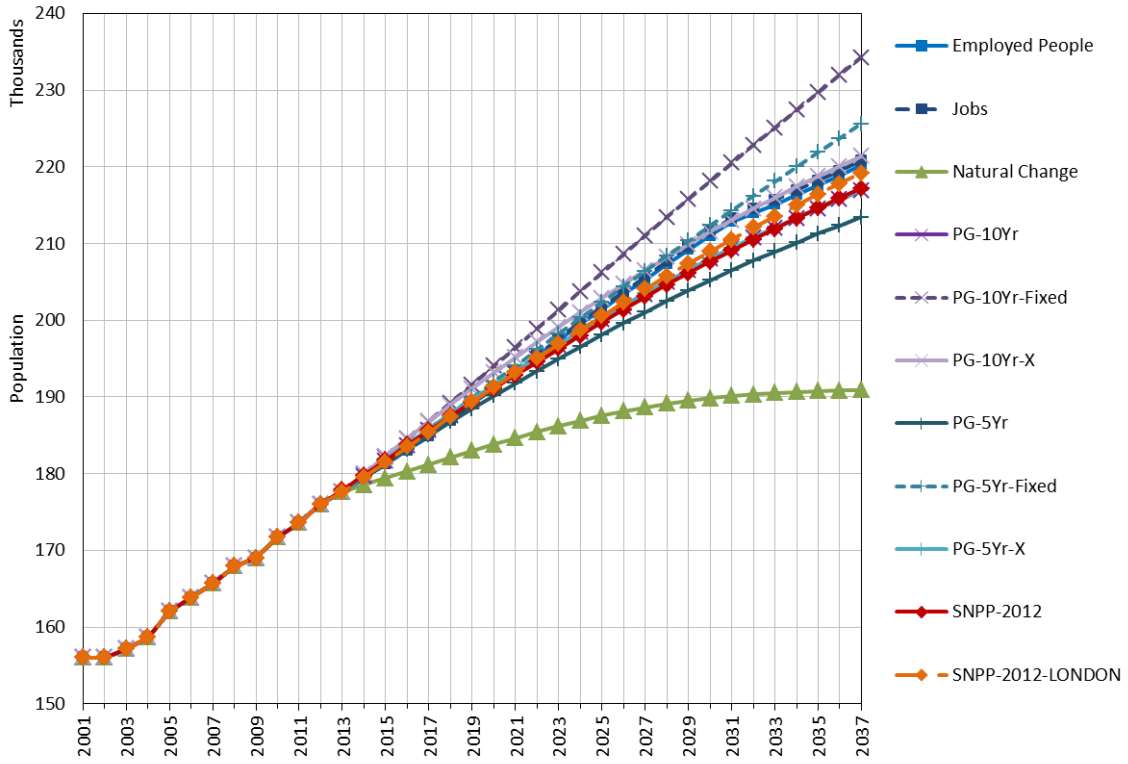
6.85 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Colchester's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.86 The **PG-5Yr** and **PG-10Yr** scenarios, which use migration rates to determine future migration effects, produce growth outcomes that are similar to the **SNPP-2012.** In contrast, the **'Fixed'** alternatives to these scenarios suggest substantially higher growth, maintaining the historically high migration impacts throughout the forecast period.

6.87 The '**X**' scenarios imply higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an overcount between the 2001 and 2011 Censuses.

6.88 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 7.5% to 2037, with an annual dwelling requirement of just 584 per year.

COLCHESTER



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-10Yr-Fixed	56,632	31.9%	26,280	35.7%	1,360	1,139	880
PG-5Yr-Fixed	47,967	27.0%	24,212	32.9%	1,118	1,050	737
PG-10Yr-X	43,764	24.6%	22,842	31.0%	964	990	637
Jobs	43,227	24.3%	21,485	29.2%	966	932	601
Employed People	42,580	24.0%	21,231	28.8%	943	920	589
SNPP-2012-LONDON	41,542	23.4%	21,055	28.6%	916	913	583
PG-5Yr-X	39,327	22.1%	21,396	29.1%	842	928	561
PG-10Yr	39,314	22.1%	20,549	27.9%	804	891	538
SNPP-2012	39,308	22.1%	20,011	27.2%	822	868	524
PG-5Yr	35,820	20.2%	19,460	26.4%	717	844	482
Natural Change	13,308	7.5%	13,458	18.3%	0	584	45

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 13: Colchester, HH-12 scenario outcomes

Jobs-led Scenarios

6.89 The employment forecasts from the 2014 EEFM are slightly lower than previous 2013 output, with the annual growth in total jobs estimated at 601 per year in the latest data, compared to annual growth of 697 per year in the 2013 statistics.

6.90 Population growth associated with the **Employed People** and **Jobs** scenarios is 24.0% and 24.3% respectively, with a range of annual dwelling requirement of 920-932 per year. These dwelling growth outcomes are higher than the **SNPP-2012** and assume a higher annual net migration impact.

6.91 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 but an economic activity rate for the population aged 16-74 that reduces to 66.4% in 2031, compared to its 2011 figure of 69.1%. The declining unemployment rate is countered by the reducing economic activity, affecting the requirement for net in-migration to meet anticipated annual jobs growth.

6.92 The commuting ratio reduces from its 1.02 Census figure to reach 0.99 in 2031. This reflects an improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.93 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.94 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.95 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.96 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is reasonably consistent with the HH-11 outcomes but lower than the HH-08 outcomes.

Table 18: Colchester, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
PG-10Yr-Fixed	1,194	1,162	1,139
PG-5Yr-Fixed	1,063	1,030	1,050
PG-10Yr-X	1,014	990	990
Jobs	968	942	932
Employed people	957	931	920
SNPP-2012-LONDON	949	923	913
PG-5Yr-X	935	912	928
PG-10Yr	921	899	891
SNPP-2012	901	876	868
PG-5Yr	856	835	844
Natural Change	563	565	584

Epping Forest

Trend Scenarios

6.97 The **SNPP-2012** scenario records a 24.5% growth in Epping Forest's population to 2037 and an estimated dwelling requirement of 711 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.98 The GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly lower population growth at 24.4% to 2037, with an associated annual dwelling requirement of 704 per year. This reflects the relatively high migration assumptions within the **SNPP-2012**.

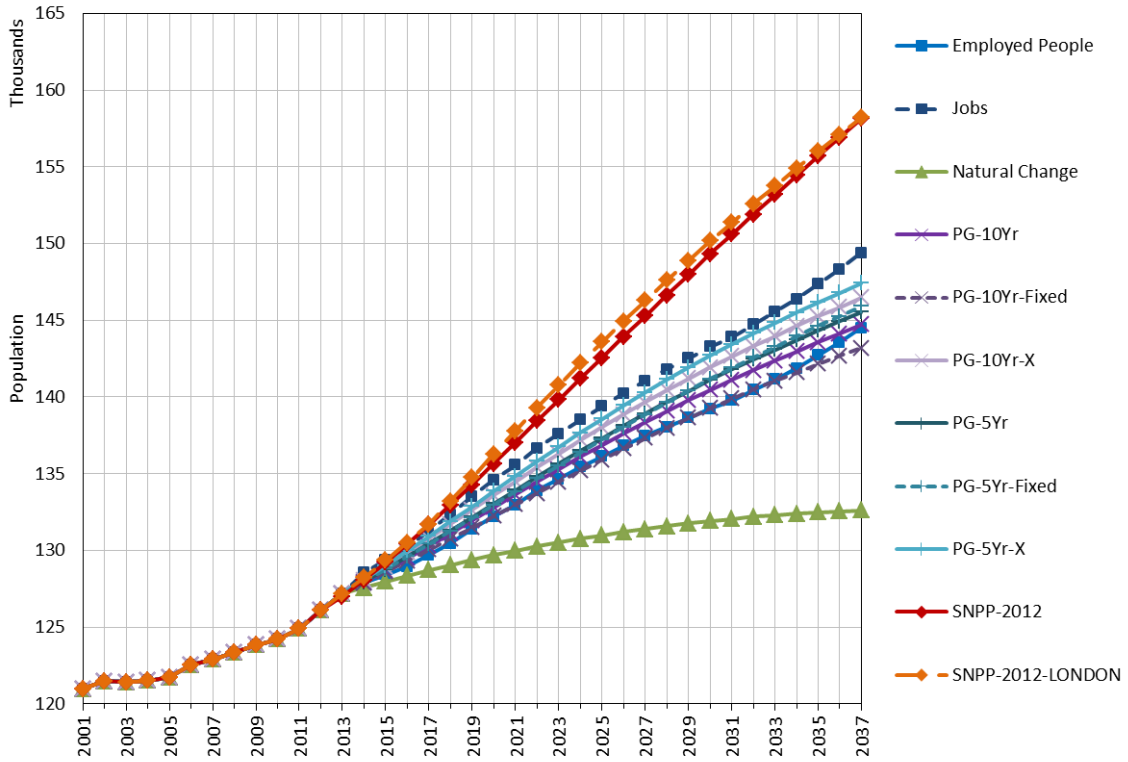
6.99 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Epping Forest's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.100 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels. The **'5-Yr'** scenarios suggest higher growth than the '**10-Yr'** alternatives due to the relatively high migration experienced in the latest historical evidence.

6.101 The '**X**' scenarios imply higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an overcount between the 2001 and 2011 Censuses.

6.102 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 4.3% to 2037, with an annual dwelling requirement of just 243 per year.

EPPING FOREST



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2012	31,159	24.5%	16,315	30.7%	880	711	639
SNPP-2012-LONDON	31,019	24.4%	16,142	30.4%	875	704	647
Jobs	22,209	17.5%	12,770	24.1%	549	557	488
PG-5Yr-X	20,247	15.9%	11,262	21.2%	457	491	424
PG-10Yr-X	19,297	15.2%	10,996	20.7%	426	479	416
PG-5Yr-Fixed	18,731	14.7%	9,372	17.7%	371	409	395
PG-5Yr	18,358	14.4%	10,773	20.3%	393	470	399
PG-10Yr	17,540	13.8%	10,494	19.8%	366	458	388
Employed People	17,314	13.6%	10,765	20.3%	376	469	404
PG-10Yr-Fixed	16,020	12.6%	8,625	16.3%	283	376	358
Natural Change	5,446	4.3%	5,581	10.5%	0	243	178

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 14: Epping Forest, HH-12 scenario outcomes

Jobs-led Scenarios

6.103 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 488 per year in the latest data, compared to annual growth of 418 per year in the 2013 statistics.

6.104 Population growth associated with the **Employed People** and **Jobs** scenarios is 13.6% and 17.5% respectively, with a range of annual dwelling requirement of 469-557 per year. These dwelling growth outcomes are lower than the **SNPP-2012**, which assumes a higher annual net migration impact.

6.105 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to a high 82.3% in 2031, compared to its 2011 figure of 70.4%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.106 The commuting ratio increases from its 1.29 Census figure to reach 1.40 in 2031 suggesting a reduced level of self-containment and a higher net out-commute.

6.107 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.108 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.109 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.110 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but lower than the HH-08 outcomes.

Table 19: Epping Forest, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
SNPP-2012-LONDON	735	700	704
SNPP-2012	726	693	711
Jobs	569	539	557
PG-5Yr-X	514	479	491
PG-5Yr	498	465	470
PG-10Yr-X	494	458	479
Employed people	480	453	469
PG-10Yr	478	444	458
PG-5Yr-Fixed	463	428	409
PG-10Yr-Fixed	417	380	376
Natural Change	236	205	243

Harlow

Trend Scenarios

6.111 The **SNPP-2012** scenario records a 19.6% growth in Harlow's population to 2037 and an estimated dwelling requirement of 355 per year, assuming that household formation rates follow the trend in the 2012-based household model. Natural change is the dominant driver of the population growth forecast.

6.112 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 20.1% to 2037, with an associated annual dwelling requirement of 366 per year. This scenario records the highest growth outcome of all scenarios.

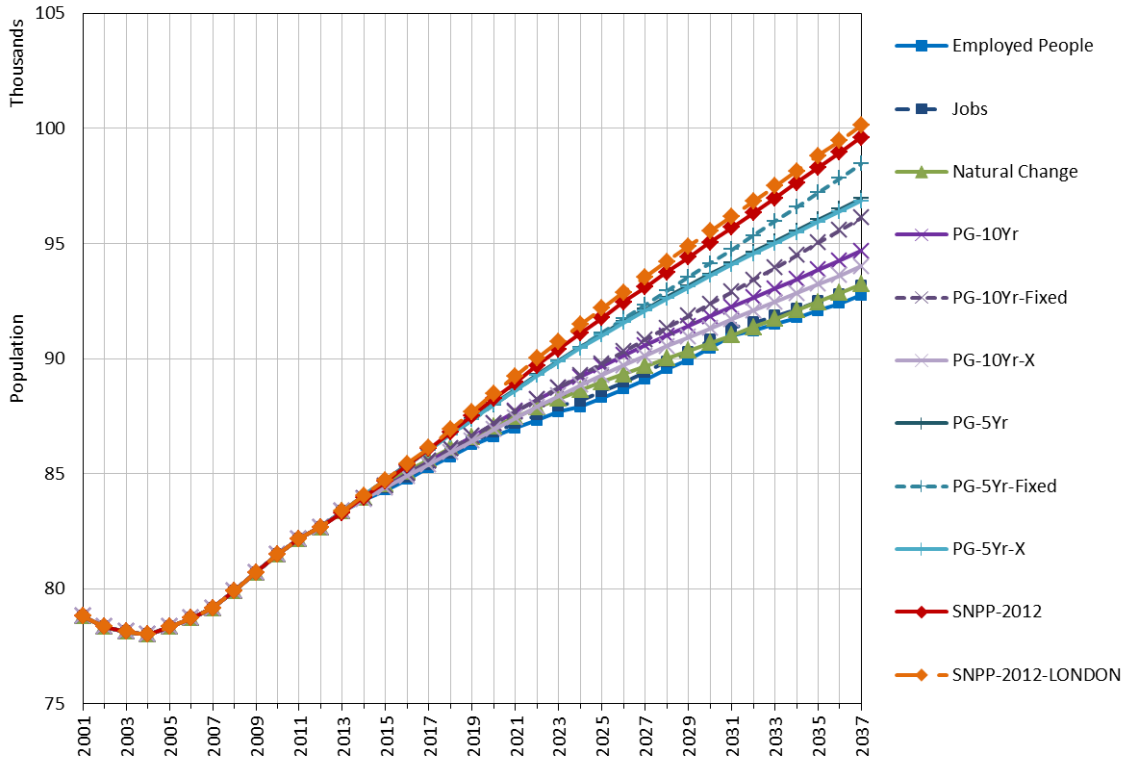
6.113 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Harlow's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.114 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels. The **'5-Yr'** scenarios suggest higher growth than the '**10-Yr'** alternatives due to higher net migration experienced in the later historical evidence.

6.115 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

6.116 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 11.8% to 2037, with an annual dwelling requirement of just 293 per year.

HARLOW



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2012-LONDON	16,766	20.1%	8,517	24.2%	78	366	335
SNPP-2012	16,323	19.6%	8,254	23.5%	60	355	315
PG-5Yr-Fixed	15,085	18.1%	7,901	22.5%	67	340	293
PG-5Yr	13,591	16.3%	7,662	21.8%	-2	329	263
PG-5Yr-X	13,489	16.2%	7,273	20.7%	-17	313	251
PG-10Yr-Fixed	12,755	15.3%	6,750	19.2%	-60	290	246
PG-10Yr	11,298	13.6%	6,520	18.6%	-134	280	225
PG-10Yr-X	10,629	12.7%	5,967	17.0%	-173	257	204
Natural Change	9,861	11.8%	6,819	19.4%	0	293	195
Jobs	9,786	11.7%	5,650	16.1%	-165	243	173
Employed People	9,377	11.2%	5,481	15.6%	-178	236	164

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 15: Harlow, HH-12 scenario outcomes

Jobs-led Scenarios

6.117 The employment forecasts from the 2014 EEFM are lower than the previous 2013 output, with the annual growth in total jobs estimated at 173 per year in the latest data, compared to annual growth of 206 per year in the 2013 statistics.

6.118 Population growth associated with the **Employed People** and **Jobs** scenarios is 11.2% and 11.7% respectively, with a range of annual dwelling requirement of 236-243 per year. These dwelling growth outcomes are lower than the **SNPP-2012**, which assumes a higher annual net migration impact.

6.119 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and a small change in economic activity rate for the population aged 16-74 that decreases to 71.9% in 2031, compared to its 2011 figure of 73.0%. The declining unemployment rate is countered by the reducing economic activity, affecting the requirement for net in-migration to meet anticipated annual jobs growth.

6.120 The commuting ratio reduces from its 1.01 Census figure to reach 0.92 in 2031. This reflects an improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.121 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.122 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.123 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.124 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is consistent with the HH-08 outcomes but higher than the HH-11 outcome.

Table 20: Harlow, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
SNPP-2012-LONDON	367	352	366
SNPP-2012	353	338	355
PG-5Yr-Fixed	345	331	340
PG-5Yr	330	318	329
PG-5Yr-X	312	299	313
PG-10Yr-Fixed	295	279	290
PG-10Yr	280	266	280
Natural Change	270	262	293
PG-10Yr-X	255	239	257
Jobs	238	225	243
Employed people	231	218	236

Maldon

Trend Scenarios

6.125 The **SNPP-2012** scenario records a 12.7% growth in Maldon's population to 2037 and an estimated dwelling requirement of 227 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.126 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests similar population growth at 12.7% to 2037, with an associated annual dwelling requirement of 226 per year. This similarity in growth reflects the relatively high migration assumptions within the **SNPP-2012**.

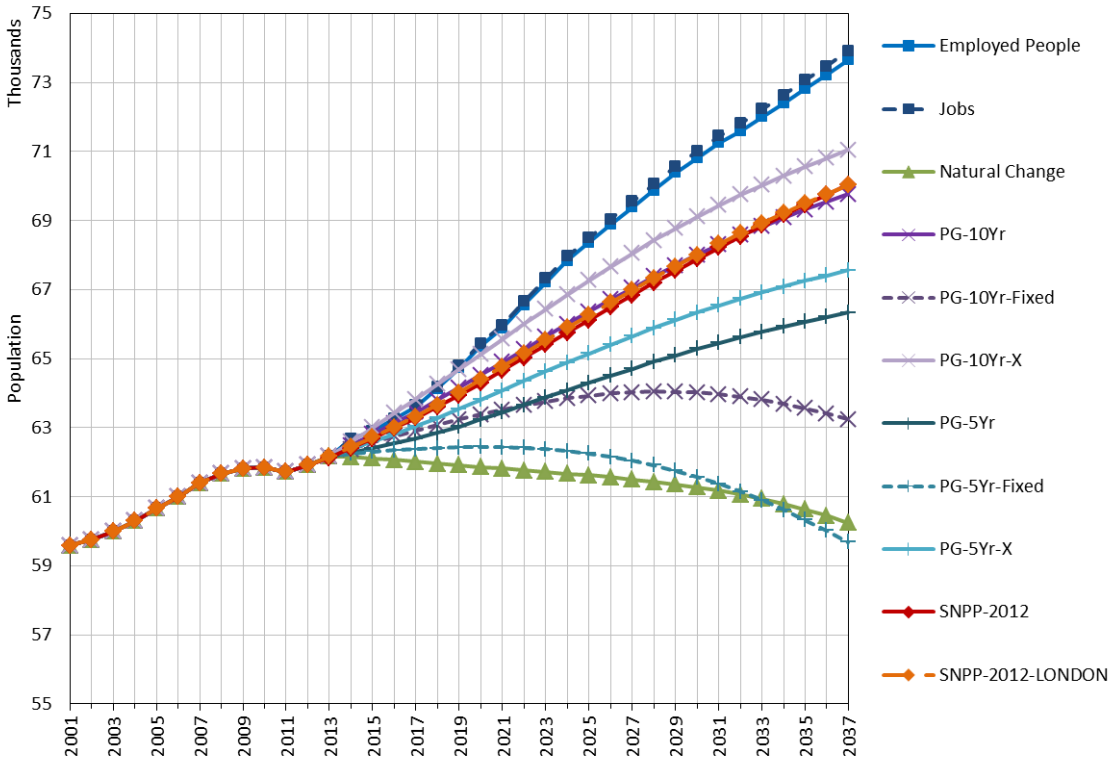
6.127 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Maldon's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.128 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels. The **'Fixed'** migration scenarios suggest the lowest growth, with no change in net migration to reflect changing population totals and age structure.

6.129 The '**X**' scenarios imply higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an overcount between the 2001 and 2011 Censuses.

6.130 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population decline of 3.1% to 2037, with an annual dwelling requirement of just 1 per year.

MALDON



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs	11,758	18.9%	6,698	25.5%	669	294	141
Employed People	11,492	18.5%	6,590	25.1%	658	289	136
PG-10Yr-X	8,876	14.3%	5,224	19.9%	532	229	90
SNPP-2012	7,918	12.7%	5,159	19.7%	521	227	77
SNPP-2012-LONDON	7,868	12.7%	5,138	19.6%	519	226	75
PG-10Yr	7,595	12.2%	5,073	19.3%	474	223	73
PG-5Yr-X	5,393	8.7%	4,132	15.7%	406	181	32
PG-5Yr	4,172	6.7%	3,972	15.1%	351	174	17
PG-10Yr-Fixed	1,074	1.7%	2,319	8.8%	225	102	-57
Natural Change	-1,918	-3.1%	27	0.1%	0	1	-107
PG-5Yr-Fixed	-2,475	-4.0%	1,215	4.6%	97	53	-115

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 16: Maldon, HH-12 scenario outcomes

Jobs-led Scenarios

6.131 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 141 per year in the latest data, compared to annual growth of 100 per year in the 2013 statistics.

6.132 Population growth associated with the **Employed People** and **Jobs** scenarios is 18.5% and 18.9% respectively, with a range of annual dwelling requirement of 289-294 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.133 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 76.3% in 2031, compared to its 2011 figure of 68.6%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.134 The commuting ratio reduces slightly from its 1.31 Census figure to reach 1.29 in 2031, reflecting a small improvement in self-containment.

6.135 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.136 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.137 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.138 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but lower than the HH-08 outcomes.

Table 21: Maldon, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
Jobs	305	264	294
Employed people	300	259	289
PG-10Yr-X	241	203	229
SNPP-2012-LONDON	239	200	226
SNPP-2012	236	197	227
PG-10Yr	231	193	223
PG-5Yr-X	186	148	181
PG-5Yr	178	139	174
PG-10Yr-Fixed	120	81	102
PG-5Yr-Fixed	65	27	53
Natural Change	9	-35	1

Rochford

Trend Scenarios

6.139 The **SNPP-2012** scenario records a 12.9% growth in Rochford's population to 2037 and an estimated dwelling requirement of 265 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.140 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 13.4% to 2037, with an associated annual dwelling requirement of 272 per year.

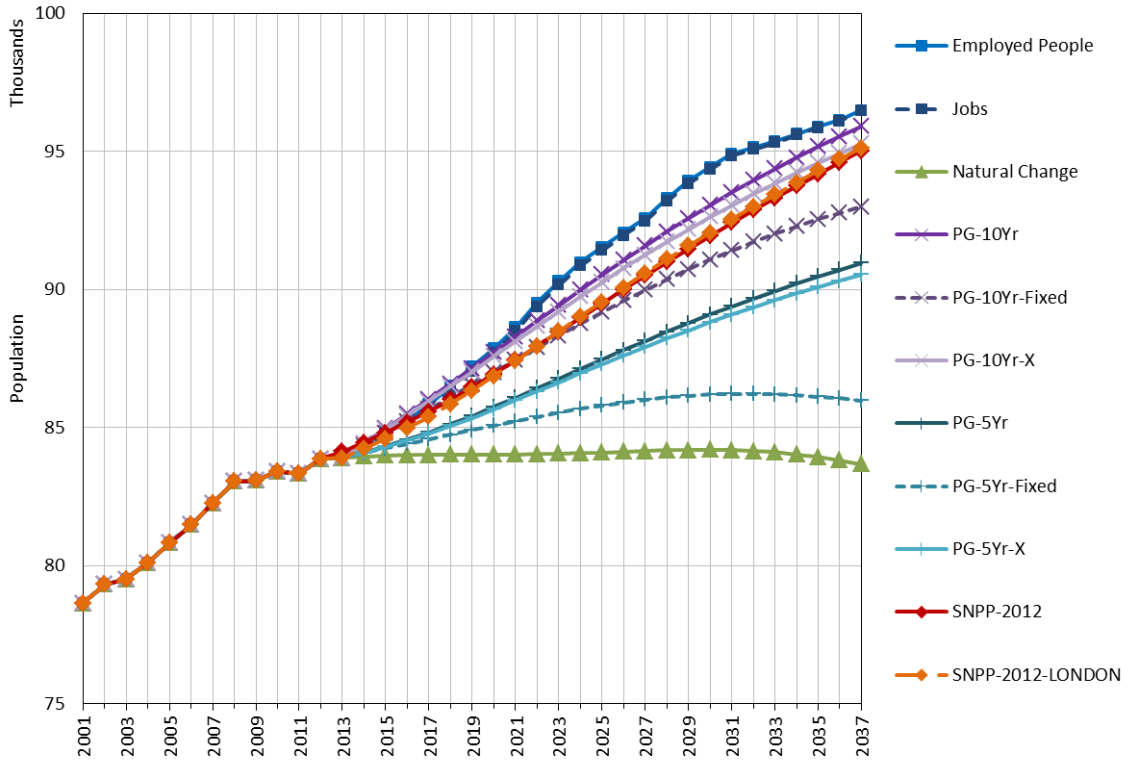
6.141 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Rochford's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.142 The **PG-10Yr** scenarios suggest population growth rates that are higher than the **PG-5Yr** alternatives, reflecting the low levels of migration experienced in the latest years of the historical period. The **'Fixed'** migration scenarios suggest lower growth, with no change in net migration to reflect changing population totals and age structure.

6.143 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

6.144 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population decline of 0.3% to 2037, with an annual dwelling requirement of 89 per year.

ROCHFORD



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Employed People	12,569	15.0%	6,913	20.4%	524	296	127
Jobs	12,549	15.0%	6,901	20.3%	524	295	127
PG-10Yr	12,008	14.3%	7,255	21.4%	518	310	122
PG-10Yr-X	11,374	13.6%	6,492	19.1%	494	278	107
SNPP-2012-LONDON	11,225	13.4%	6,360	18.7%	480	272	111
SNPP-2012	10,889	12.9%	6,186	18.1%	466	265	105
PG-10Yr-Fixed	9,097	10.8%	5,500	16.2%	387	235	64
PG-5Yr	7,055	8.4%	4,988	14.7%	332	213	46
PG-5Yr-X	6,638	7.9%	4,429	13.0%	313	189	36
PG-5Yr-Fixed	2,065	2.5%	2,025	6.0%	120	87	-51
Natural Change	-237	-0.3%	2,077	6.1%	0	89	-74

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 17: Rochford, HH-12 scenario outcomes

Jobs-led Scenarios

6.145 The employment forecasts from the 2014 EEFM are higher than previous 2013 output, with the annual growth in total jobs estimated at 127 per year in the latest data, compared to annual decline of 51 per year in the 2013 statistics.

6.146 Population growth associated with the **Employed People** and **Jobs** scenarios is 15%, with an annual dwelling requirement of 295-296 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.147 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 71.7% in 2031, compared to its 2011 figure of 69.1%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.148 The commuting ratio reduces from its 1.53 Census figure to reach 1.46 in 2031. This remains a large net outflow balance to commuting but reflects an improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.149 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.150 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.151 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.152 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but lower than the HH-08 outcomes.

Table 22: Rochford, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
PG-10Yr	330	258	310
Employed people	326	255	296
Jobs	325	254	295
SNPP-2012-LONDON	304	235	272
PG-10Yr-X	304	231	278
SNPP-2012	296	225	265
PG-10Yr-Fixed	273	197	235
PG-5Yr	245	175	213
PG-5Yr-X	226	155	189
PG-5Yr-Fixed	151	76	87
Natural Change	111	27	89

Tendring

Trend Scenarios

6.153 The **SNPP-2012** scenario records an 18.5% growth in Tendring's population to 2037 and an estimated dwelling requirement of 705 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.154 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly lower population growth at 18.2% to 2037, with an associated annual dwelling requirement of 698 per year.

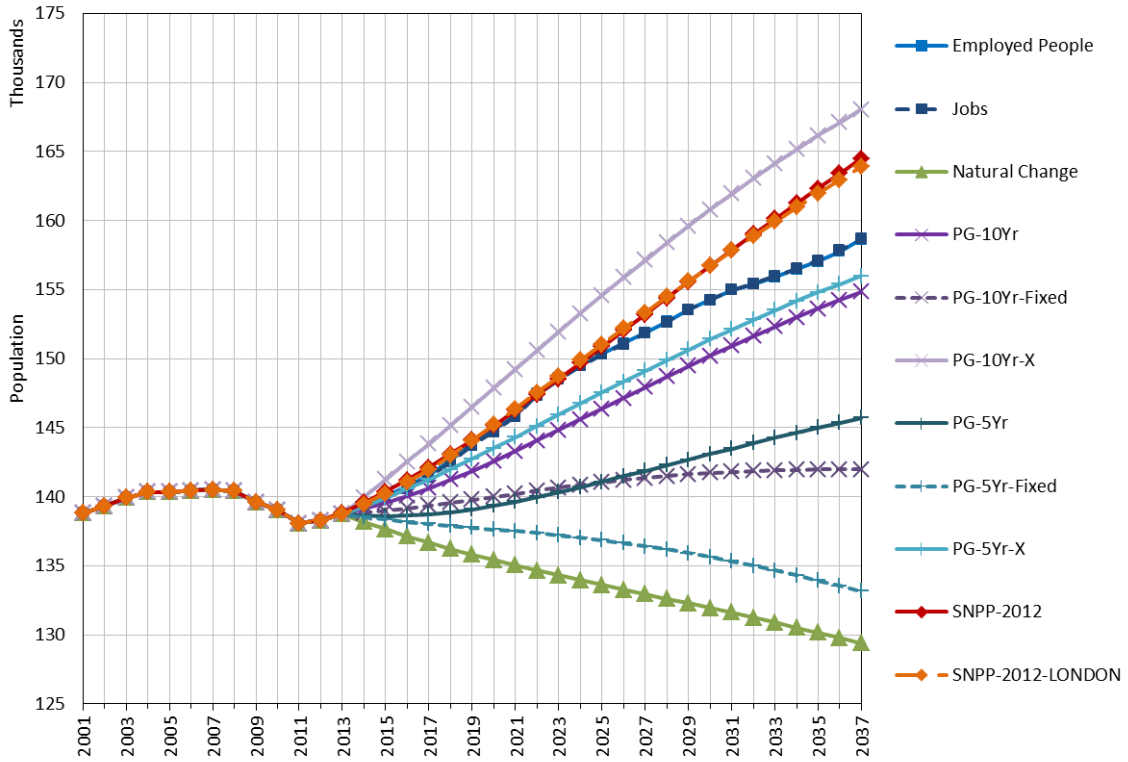
6.155 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Tendring's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.156 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels. The **'Fixed'** migration scenarios suggest the lowest growth, with no change in net migration to reflect changing population totals and age structure.

6.157 The '**X**' scenarios imply significantly higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the major adjustment that was allocated to the population to account for the disparity between the population estimates between the 2001 and 2011 Censuses.

6.158 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population decline of 6.7% to 2037, with a decline in the annual dwelling requirement.

TENDRING



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-10Yr-X	29,306	21.1%	17,472	28.0%	1,874	785	264
SNPP-2012	25,638	18.5%	15,702	25.1%	1,737	705	225
SNPP-2012-LONDON	25,182	18.2%	15,544	24.9%	1,718	698	222
Jobs	19,996	14.4%	13,334	21.3%	1,507	599	142
Employed People	19,902	14.3%	13,297	21.3%	1,503	597	140
PG-5Yr-X	17,263	12.4%	11,472	18.4%	1,373	515	85
PG-10Yr	16,118	11.6%	10,666	17.1%	1,273	479	88
PG-5Yr	6,966	5.0%	6,246	10.0%	897	280	-45
PG-10Yr-Fixed	3,255	2.3%	2,943	4.7%	669	132	-95
PG-5Yr-Fixed	-5,569	-4.0%	-688	-1.1%	347	-31	-231
Natural Change	-9,336	-6.7%	-5,131	-8.2%	0	-230	-291

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 18: Tendring, HH-12 scenario outcomes

Jobs-led Scenarios

6.159 The employment forecasts from the 2014 EEFM are lower than the previous 2013 output, with the annual growth in total jobs estimated at 142 per year in the latest data, compared to annual growth of 167 per year in the 2013 statistics.

6.160 Population growth associated with the **Employed People** and **Jobs** scenarios is 14.3% and 14.4% respectively, with a range of annual dwelling requirement of 597-599 per year. These dwelling growth outcomes are lower than the **SNPP-2012**, which assumes a higher annual net migration impact.

6.161 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 but no change in the economic activity rate for the population aged 16-74 that remains at its 2011 level to 2031. The declining unemployment rate will contribute to a reduction in the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.162 The commuting ratio reduces from its 1.24 Census figure to reach 1.17 in 2031. This remains a large net outflow balance to commuting but reflects an improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.163 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.164 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.165 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.166 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally consistent with the HH-08 and HH-11 outcomes.

Table 23: Tendring, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
PG-10Yr-X	787	785	785
SNPP-2012	707	701	705
SNPP-2012-LONDON	701	696	698
Jobs	603	598	599
Employed people	601	597	597
PG-5Yr-X	520	518	515
PG-10Yr	496	494	479
PG-5Yr	297	294	280
PG-10Yr-Fixed	176	174	132
PG-5Yr-Fixed	10	8	-31
Natural Change	-223	-222	-230

Uttlesford

Trend Scenarios

6.167 The **SNPP-2012** scenario records a 30.30% growth in Uttlesford's population to 2037 and an estimated dwelling requirement of 505 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.168 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 31.2% to 2037, with an associated annual dwelling requirement of 529 per year.

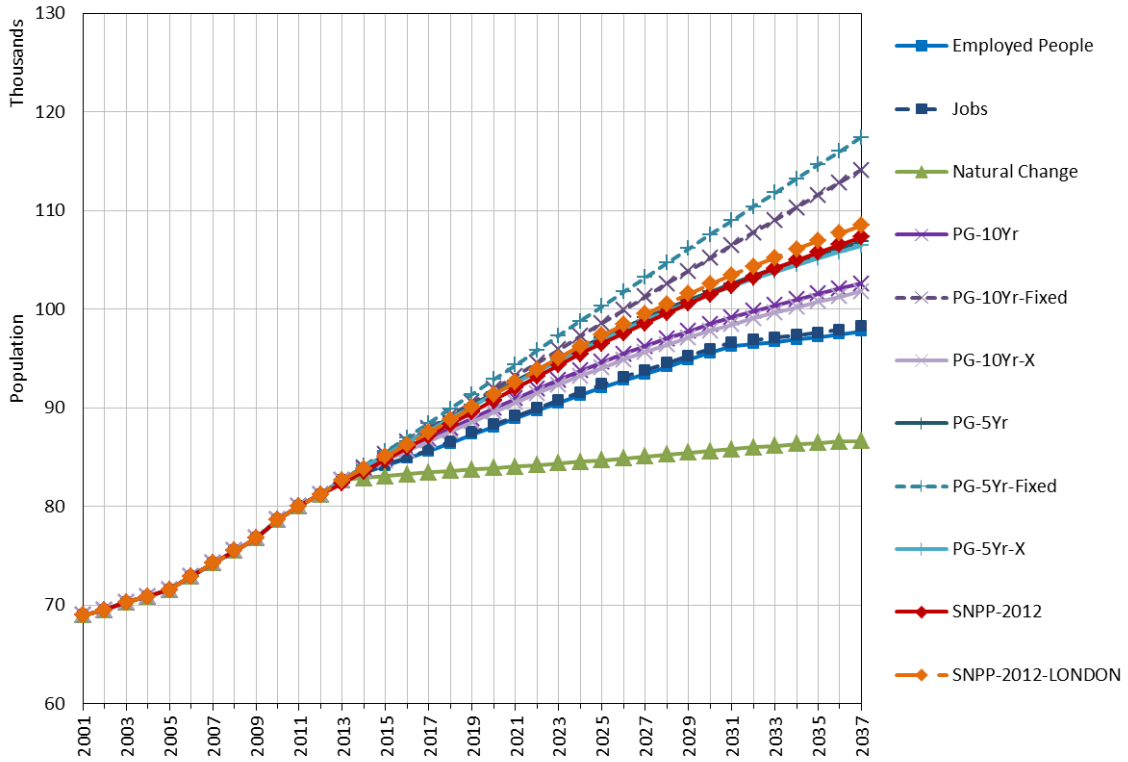
6.169 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Uttlesford's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.170 The **PG-10Yr** and **PG-5Yr** scenarios suggest population growth rates that are lower than the **SNPP-2012,** although the '**5Yr**' outcome is similar to the **SNPP-2012**, reflecting the relatively high net migration of the later years of the historical period. The **'Fixed'** migration scenarios suggest the highest growth, with a continuation of historically high levels of net in-migration but no change in net migration to reflect changing population totals and age structure.

6.171 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

6.172 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 4.8% to 2037, with an annual dwelling requirement of 182 per year.

UTTLESFORD



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-5Yr-Fixed	34,730	42.0%	14,038	42.9%	1,196	614	625
PG-10Yr-Fixed	31,438	38.0%	12,619	38.5%	1,060	552	553
SNPP-2012-LONDON	25,834	31.2%	12,093	36.9%	940	529	431
SNPP-2012	24,947	30.3%	11,550	35.3%	903	505	400
PG-5Yr	24,135	29.2%	11,415	34.8%	854	499	387
PG-5Yr-X	23,767	28.7%	11,247	34.3%	845	492	374
PG-10Yr	19,932	24.1%	9,754	29.8%	696	426	297
PG-10Yr-X	19,110	23.1%	9,542	29.1%	672	417	279
Jobs	15,560	18.8%	8,073	24.6%	551	353	197
Employed People	15,095	18.3%	7,893	24.1%	534	345	187
Natural Change	3,983	4.8%	4,156	12.7%	0	182	-45

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 19: Uttlesford, HH-12 scenario outcomes

Jobs-led Scenarios

6.173 The employment forecasts from the 2014 EEFM are lower than the previous 2013 output, with the annual growth in total jobs estimated at 197 per year in the latest data, compared to annual growth of 266 per year in the 2013 statistics.

6.174 Population growth associated with the **Employed People** and **Jobs** scenarios is 18.3% and 18.8% respectively, with a range of annual dwelling requirement of 345-353 per year. These dwelling growth outcomes are lower than the **SNPP-2012**, which assumes a considerably higher annual net migration impact.

6.175 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 77.8% in 2031, compared to its 2011 figure of 72.8%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.176 The commuting ratio increases from its 1.01 Census figure to reach 1.04 in 2031. This reflects a trend towards lower self-containment and a larger net out-commute balance.

6.177 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.178 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.179 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.180 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is either consistent or lower than the HH-11 outcomes and lower than the HH-08 outcomes.

Table 24: Uttlesford, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
PG-5Yr-Fixed	676	625	614
PG-10Yr-Fixed	611	560	552
SNPP-2012-LONDON	573	532	529
SNPP-2012	544	504	505
PG-5Yr	536	495	499
PG-5Yr-X	524	484	492
PG-10Yr	457	418	426
PG-10Yr-X	443	405	417
Jobs	389	354	353
Employed people	380	346	345
Natural Change	179	134	182

Southend-on-Sea UA

Trend Scenarios

6.181 The **SNPP-2012** scenario records an 18.0% growth in Southend-on-Sea's population to 2037 and an estimated dwelling requirement of 844 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.182 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 18.7% to 2037, with an associated annual dwelling requirement of 877 per year.

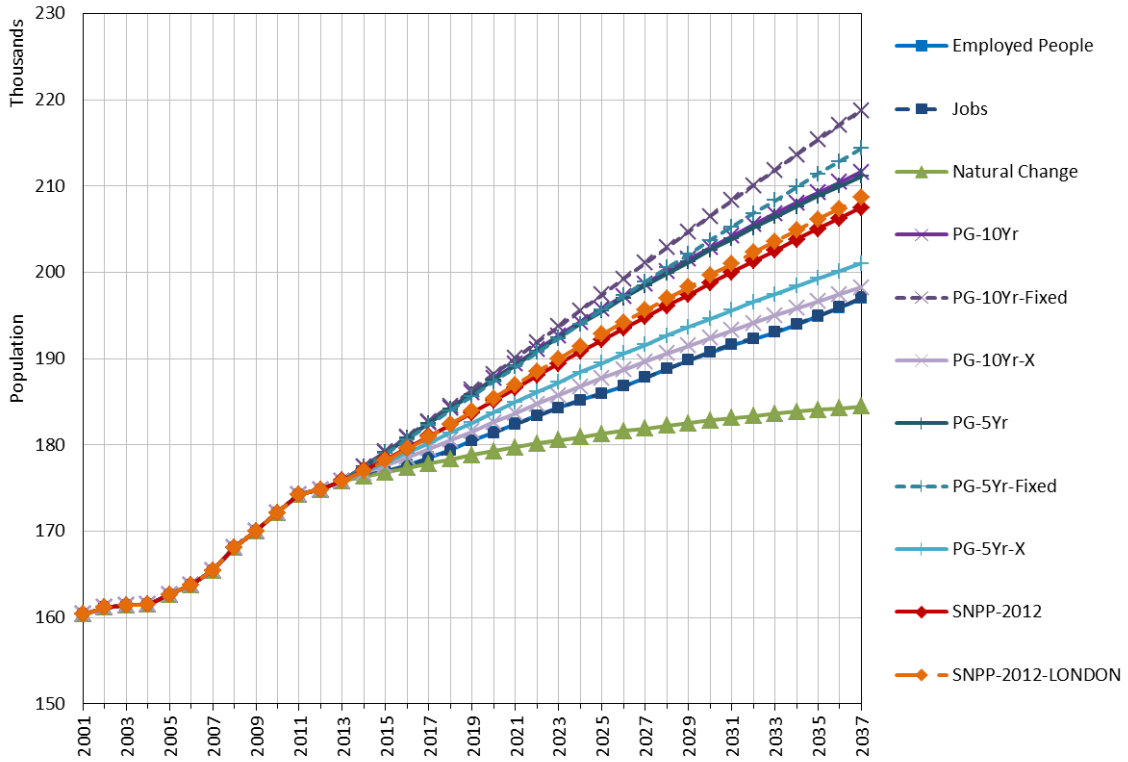
6.183 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Southend-on-Sea's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.184 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are higher than the **SNPP-2012,** reflecting the effect of the historical UPC adjustment upon the calibrated future migration assumptions.

6.185 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the large adjustment that was allocated to the population to account for discrepancies in the mid-year population estimates and the 2001 and 2011 Census counts.

6.186 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 4.9% to 2037, with an annual dwelling requirement of 378 per year.

SOUTHEND-ON-SEA UA



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-10Yr-Fixed	42,975	24.4%	23,915	31.5%	1,155	1,049	886
PG-5Yr-Fixed	38,552	21.9%	22,158	29.2%	1,063	972	794
PG-10Yr	35,796	20.4%	21,756	28.7%	960	954	720
PG-5Yr	35,330	20.1%	21,482	28.3%	977	942	708
SNPP-2012-LONDON	32,848	18.7%	19,999	26.3%	886	877	653
SNPP-2012	31,607	18.0%	19,251	25.3%	834	844	610
PG-5Yr-X	25,200	14.3%	16,348	21.5%	618	717	489
PG-10Yr-X	22,436	12.8%	15,300	20.2%	503	671	440
Jobs	21,250	12.1%	14,877	19.6%	473	652	413
Employed People	21,176	12.0%	14,848	19.6%	470	651	412
Natural Change	8,653	4.9%	8,623	11.4%	0	378	207

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 20: Southend-on-Sea UA, HH-12 scenario outcomes

Jobs-led Scenarios

6.187 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 413 per year in the latest data, compared to annual growth of 334 per year in the 2013 statistics.

6.188 Population growth associated with the **Employed People** and **Jobs** scenarios is 12.0% and 12.1% respectively, with a range of annual dwelling requirement of 651-652 per year. These dwelling growth outcomes are lower than the **SNPP-2012**, which assumes a considerably higher annual net migration impact.

6.189 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 72.2% in 2031, compared to its 2011 figure of 69.0%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.190 The commuting ratio reduces from its 1.13 Census figure to reach 1.08 in 2031. This remains a net outflow balance to commuting but reflects an improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.191 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.192 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.193 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.194 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that aligns most closely to the HH-08 outcomes and is higher than the HH-11 outcomes.

Table 25: Southend-on-Sea UA, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
PG-10Yr-Fixed	1,060	925	1,049
PG-5Yr-Fixed	985	849	972
PG-10Yr	957	820	954
PG-5Yr	948	812	942
SNPP-2012-LONDON	895	754	877
SNPP-2012	860	718	844
PG-5Yr-X	731	596	717
PG-10Yr-X	688	551	671
Jobs	664	526	652
Employed people	663	525	651
Natural Change	377	243	378

Thurrock UA

Trend Scenarios

6.195 The **SNPP-2012** scenario records a 24.3% growth in Thurrock's population to 2037 and an estimated dwelling requirement of 825 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.196 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests higher population growth at 25.2% to 2037, with an associated annual dwelling requirement of 858 per year. This scenario records the highest growth outcome of all scenarios.

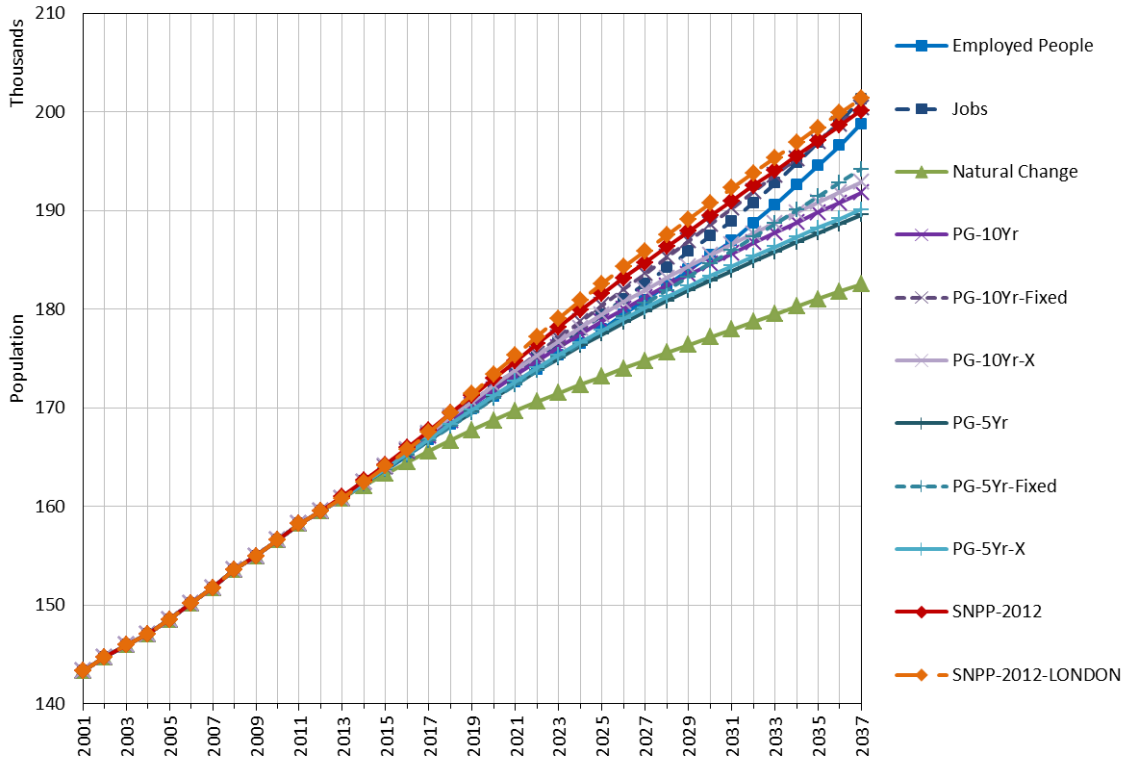
6.197 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Thurrock's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.198 The **PG-10Yr** scenarios suggest population growth rates that are higher than the **PG-5Yr** alternatives, reflecting the lower levels of migration experienced in the latest years of the historical period. The '**Fixed**' migration scenarios suggest higher growth, with no change in net migration to reflect changing population totals and age structure.

6.199 The '**X**' scenarios imply slightly higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an overcount between the 2001 and 2011 Censuses.

6.200 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 13.5% to 2037, with an annual dwelling requirement of 613 per year.

THURROCK UA



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2012-LONDON	40,551	25.2%	20,114	31.6%	453	858	1,089
Jobs	40,416	25.1%	19,686	30.9%	462	840	1,060
PG-10Yr-Fixed	39,605	24.6%	18,520	29.1%	332	790	1,038
SNPP-2012	39,121	24.3%	19,321	30.3%	393	825	1,032
Employed People	37,936	23.6%	18,733	29.4%	379	800	1,013
PG-5Yr-Fixed	33,380	20.8%	16,676	26.2%	179	712	915
PG-10Yr-X	32,042	19.9%	16,231	25.5%	82	693	890
PG-10Yr	30,953	19.2%	15,449	24.2%	0	659	871
PG-5Yr-X	29,284	18.2%	15,689	24.6%	51	670	833
PG-5Yr	28,738	17.9%	15,144	23.8%	-5	646	824
Natural Change	21,715	13.5%	14,362	22.5%	0	613	704

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 21: Thurrock UA, HH-12 scenario outcomes

Jobs-led Scenarios

6.201 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 1,060 per year in the latest data, compared to annual growth of 854 per year in the 2013 statistics.

6.202 Population growth associated with the **Employed People** and **Jobs** scenarios is 23.6% and 25.1% respectively, with a range of annual dwelling requirement of 800-840 per year. +

6.203 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 75.3% in 2031, compared to its 2011 figure of 71.6%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.204 The commuting ratio reduces from its 1.21 Census figure to reach 1.16 in 2031. This remains a net outflow balance to commuting but reflects an improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.205 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.206 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.207 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.208 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is higher than the HH-11 outcomes but generally lower than the HH-08 outcomes.

Table 26: Thurrock UA, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
SNPP-2012-LONDON	894	779	858
Jobs	860	745	840
SNPP-2012	844	731	825
Employed people	818	705	800
PG-10Yr-Fixed	790	669	790
PG-10Yr-X	711	597	693
PG-5Yr-Fixed	706	595	712
PG-5Yr-X	676	567	670
PG-10Yr	660	545	659
PG-5Yr	639	530	646
Natural Change	589	495	613

Cambridge

Trend Scenarios

6.209 The **SNPP-2012** scenario records a 9.6% growth in Cambridge's population to 2037 and an estimated dwelling requirement of 348 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.210 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests lower population growth at 4.9% to 2037, with an associated annual dwelling requirement of 267 per year. This scenario records the lowest growth outcome of all scenarios.

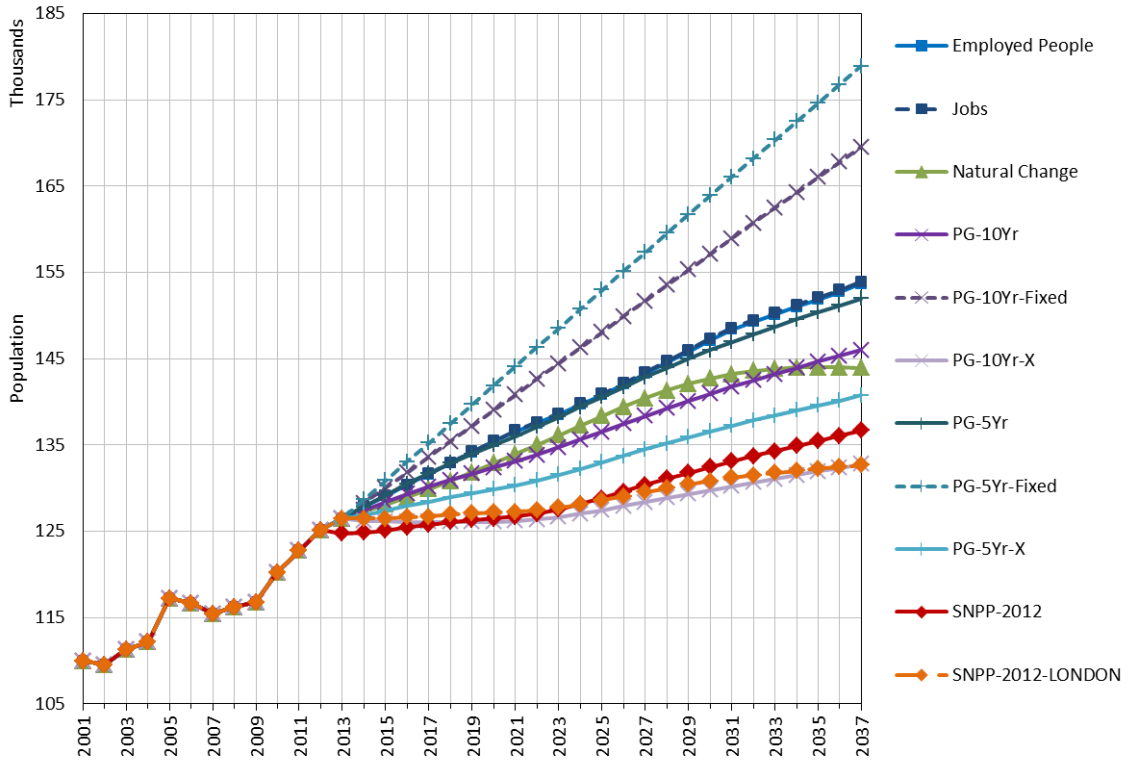
6.211 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Cambridge's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.212 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are higher than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are lower than recent historical levels. The **'Fixed'** migration scenarios suggest high growth, driven by a continuation in historically high estimates of net immigration.

6.213 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

6.214 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 13.8% to 2037, with an annual dwelling requirement of just 817 per year.

CAMBRIDGE



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-5Yr-Fixed	52,390	41.4%	28,558	59.9%	1,425	1,230	1,822
PG-10Yr-Fixed	43,058	34.0%	22,902	48.0%	1,007	986	1,473
Jobs	27,438	21.7%	14,607	30.6%	532	629	917
Employed People	27,204	21.5%	14,513	30.4%	523	625	909
PG-5Yr	25,484	20.1%	14,237	29.9%	404	613	810
PG-10Yr	19,499	15.4%	10,799	22.6%	136	465	625
Natural Change	17,444	13.8%	18,964	39.8%	0	817	422
PG-5Yr-X	14,241	11.3%	9,083	19.0%	33	391	450
SNPP-2012	11,928	9.6%	8,078	17.1%	6	348	392
PG-10Yr-X	6,279	5.0%	4,749	10.0%	-300	205	195
SNPP-2012-LONDON	6,164	4.9%	6,209	13.0%	-235	267	179

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 22: Cambridge, HH-12 scenario outcomes

Jobs-led Scenarios

6.215 The employment forecasts from the 2014 EEFM are slightly lower than the previous 2013 output, with the annual growth in total jobs estimated at 917 per year in the latest data, compared to annual growth of 973 per year in the 2013 statistics.

6.216 Population growth associated with the **Employed People** and **Jobs** scenarios is 21.5% and 21.7% respectively, with a range of annual dwelling requirement of 625-629 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.217 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 64.6% in 2031, compared to its 2011 figure of 62.2%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.218 The commuting ratio remains relatively unchanged from its 2011 value of 0.63, reflecting a significant and continuing net in-commute.

6.219 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.220 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.221 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.222 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but generally lower than the HH-08 outcomes.

Table 27: Cambridge, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
PG-5Yr-Fixed	1,192	1,131	1,230
PG-10Yr-Fixed	992	940	986
Natural Change	820	949	817
Jobs	666	595	629
Employed people	662	591	625
PG-5Yr	646	584	613
PG-10Yr	514	448	465
PG-5Yr-X	422	355	391
SNPP-2012	370	307	348
SNPP-2012-LONDON	270	212	267
PG-10Yr-X	254	185	205

South Cambridgeshire

Trend Scenarios

6.223 The **SNPP-2012** scenario records a 23.5% growth in South Cambridgeshire's population to 2037 and an estimated dwelling requirement of 824 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.224 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 24.5% to 2037, with an associated annual dwelling requirement of 815 per year.

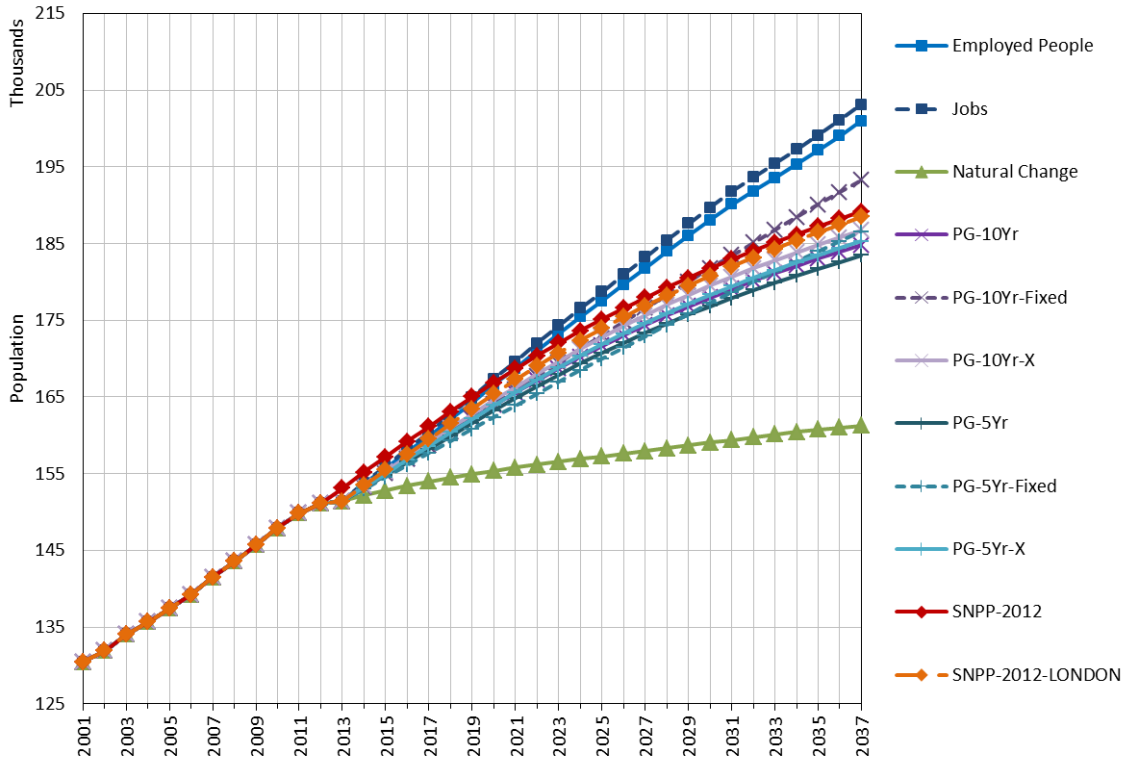
6.225 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and South Cambridgeshire's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.226 The **PG-10Yr**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels. The **PG-10Yr** growth rates are higher than the **PG-5Yr**, alternatives, due to the lower levels of migration experienced in the latest years of the historical period. The **PG-10Yr-Fixed** scenario suggests higher growth, with no change in net migration to reflect changing population totals and age structure.

6.227 The '**X**' scenarios imply higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an overcount between the 2001 and 2011 Censuses.

6.228 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 6.5% to 2037, with an annual dwelling requirement of 377 per year.

SOUTH CAMBRIDGESHIRE



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs	51,659	34.1%	25,009	40.7%	1,532	1,073	1,046
Employed People	49,536	32.7%	24,182	39.4%	1,456	1,037	1,000
PG-10Yr-Fixed	41,829	27.6%	18,305	29.8%	1,077	785	786
SNPP-2012-LONDON	37,061	24.5%	19,011	30.9%	983	815	729
SNPP-2012	36,044	23.5%	19,217	30.9%	941	824	710
PG-10Yr-X	35,278	23.3%	17,889	29.1%	842	767	673
PG-5Yr-Fixed	35,140	23.2%	15,475	25.2%	832	664	642
PG-5Yr-X	33,842	22.3%	17,053	27.8%	790	731	643
PG-10Yr	33,349	22.0%	16,952	27.6%	767	727	625
PG-5Yr	32,033	21.2%	16,339	26.6%	712	701	605
Natural Change	9,812	6.5%	8,796	14.3%	0	377	123

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 23: South Cambridgeshire, HH-12 scenario outcomes

Jobs-led Scenarios

6.229 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 1,046 per year in the latest data, compared to annual growth of 782 per year in the 2013 statistics.

6.230 Population growth associated with the **Employed People** and **Jobs** scenarios is 32.7% and 34.1% respectively, with a range of annual dwelling requirement of 1,037-1,073 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.231 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 but an economic activity rate for the population aged 16-74 that largely remains at its 2011 level of 74.6% in 2031. The declining unemployment rate will reduce the requirement for higher net in-migration to meet anticipated annual jobs growth but the static economic activity rates will have little impact on this.

6.232 The commuting ratio reduces from its 1.06 Census figure to reach 1.00 in 2031. This suggests an improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.233 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.234 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.235 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.236 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but lower than the HH-08 outcomes.

Table 28: South Cambridgeshire, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
Jobs	1,125	1,036	1,073
Employed people	1,089	1,001	1,037
PG-10Yr-Fixed	905	813	785
SNPP-2012-LONDON	878	796	815
SNPP-2012	869	791	824
PG-10Yr-X	839	759	767
PG-5Yr-X	812	735	731
PG-5Yr-Fixed	802	718	664
PG-10Yr	798	716	727
PG-5Yr	781	702	701
Natural Change	408	312	377

Broxbourne

Trend Scenarios

6.237 The **SNPP-2012** scenario records a 19.6% growth in Broxbourne's population to 2037 and an estimated dwelling requirement of 406 per year, assuming that household formation rates follow the trend in the 2012-based household model.

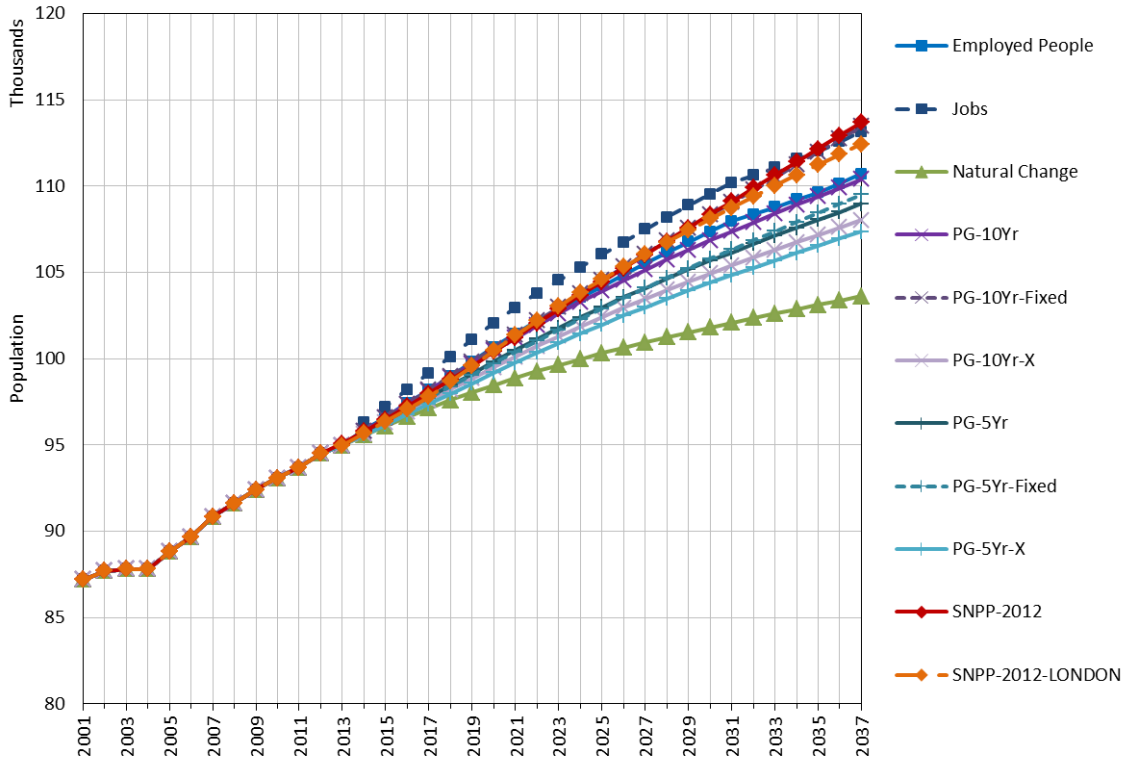
6.238 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly lower population growth at 18.4% to 2037, with an associated annual dwelling requirement of 377 per year. This reflects the relatively high migration assumptions within the **SNPP-2012**.

6.239 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Broxbourne's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.240 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels. The **PG-10Yr** growth rates are higher than the **PG-5Yr** alternatives, due to the lower levels of migration experienced in the latest years of the historical period. The '**Fixed**' migration scenarios suggest higher growth, with no change in net migration to reflect changing population totals and age structure.

6.241 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

BROXBOURNE



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2012	18,591	19.6%	9,367	24.4%	239	406	413
PG-10Yr-Fixed	18,481	19.5%	8,381	21.8%	224	363	390
Jobs	18,174	19.1%	9,242	24.0%	212	401	403
SNPP-2012-LONDON	17,431	18.4%	8,699	22.6%	191	377	392
Employed People	15,714	16.5%	8,261	21.5%	128	358	356
PG-10Yr	15,394	16.2%	7,930	20.6%	101	344	342
PG-5Yr-Fixed	14,522	15.3%	7,479	19.5%	110	324	318
PG-5Yr	13,978	14.7%	7,770	20.2%	75	337	317
PG-10Yr-X	13,042	13.7%	6,785	17.7%	13	294	290
PG-5Yr-X	12,380	13.0%	6,838	17.8%	16	297	276
Natural Change	8,632	9.1%	6,828	17.8%	0	296	214

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 24: Broxbourne, HH-12 scenario outcomes

6.242 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 9.1% to 2037, with an annual dwelling requirement of 296 per year.

Jobs-led Scenarios

6.243 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 403 per year in the latest data, compared to annual growth of 221 per year in the 2013 statistics.

6.244 Population growth associated with the **Employed People** and **Jobs** scenarios is 16.5% and 19.1% respectively, with a range of annual dwelling requirement of 358-401 per year. These dwelling growth outcomes are lower than the **SNPP-2012**, which assumes a higher annual net migration impact.

6.245 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 76.5% in 2031, compared to its 2011 figure of 71.3%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.246 The commuting ratio reduces from its 1.19 Census figure to reach 1.14 in 2031. This remains a net outflow balance to commuting but reflects an improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.247 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.248 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.249 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using

the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.250 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but lower than the HH-08 outcomes.

Table 29: Broxbourne, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
SNPP-2012	420	333	406
Jobs	415	329	401
SNPP-2012-LONDON	408	321	377
PG-10Yr-Fixed	393	303	363
Employed people	372	288	358
PG-10Yr	359	272	344
PG-5Yr	352	268	337
PG-5Yr-Fixed	352	268	324
PG-5Yr-X	317	234	297
PG-10Yr-X	315	230	294
Natural Change	280	198	296

East Hertfordshire

Trend Scenarios

6.251 The **SNPP-2012** scenario records a 23.0% growth in East Herfordshire's population to 2037 and an estimated dwelling requirement of 790 per year, assuming that household formation rates follow the trend in the 2012-based household model.

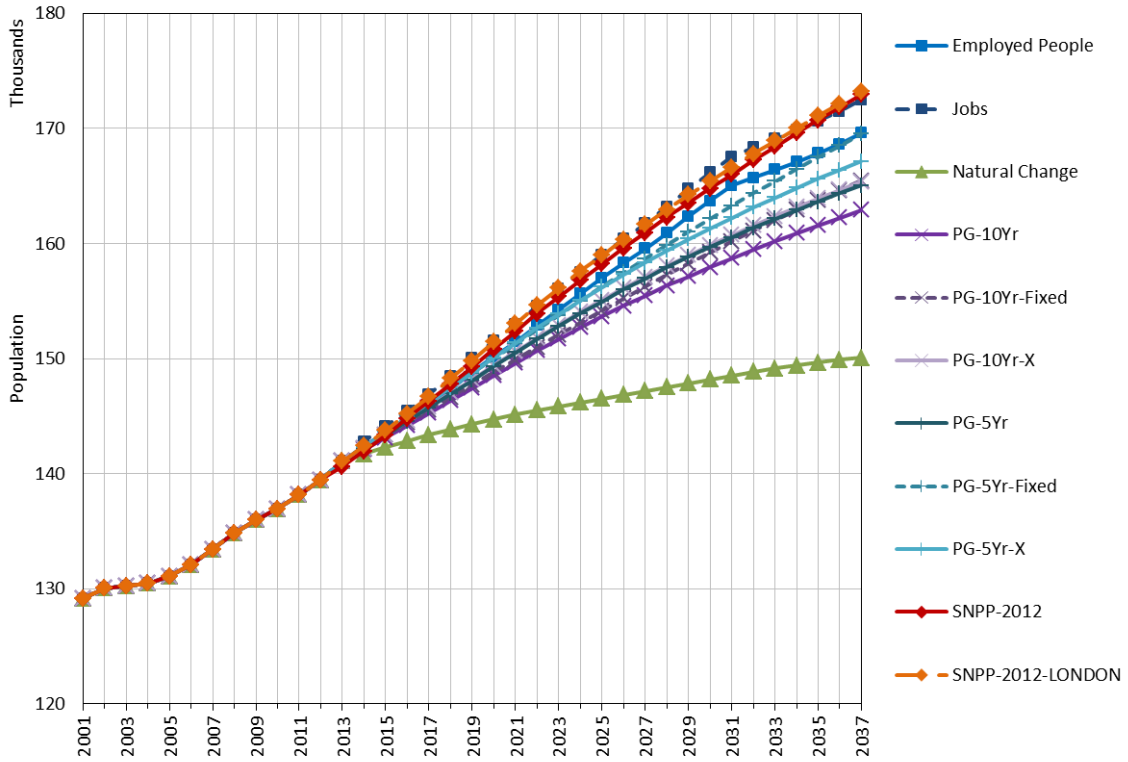
6.252 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests a similar population growth at 22.8% to 2037, with an associated annual dwelling requirement of 803 per year. This similarity in outcomes reflects the relatively high migration assumptions within the **SNPP-2012**.

6.253 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and East Hertfordshire's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.254 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are lower than the **SNPP-2012**, reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels. The **PG-10Yr** growth rates are lower than the **PG-5Yr** alternatives, due to the higher levels of migration experienced in the latest years of the historical period. The '**Fixed**' migration scenarios suggest higher growth, with no change in net migration to reflect changing population totals and age structure.

6.255 The '**X**' scenarios imply higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an overcount between the 2001 and 2011 Censuses.

EAST HERTFORDSHIRE



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
SNPP-2012	32,344	23.0%	18,393	31.5%	823	790	428
SNPP-2012-LONDON	32,111	22.8%	18,688	32.0%	813	803	429
Jobs	31,428	22.3%	18,239	31.2%	774	784	404
Employed People	28,505	20.2%	17,023	29.2%	672	731	354
PG-5Yr-Fixed	28,458	20.2%	15,123	25.9%	647	650	326
PG-5Yr-X	26,064	18.5%	15,435	26.4%	561	663	299
PG-10Yr-Fixed	24,385	17.3%	13,896	23.8%	492	597	263
PG-10Yr-X	24,300	17.2%	14,645	25.1%	465	629	271
PG-5Yr	23,980	17.0%	14,551	24.9%	496	625	261
PG-10Yr	21,842	15.5%	13,603	23.3%	393	585	225
Natural Change	8,998	6.4%	9,544	16.3%	0	410	10

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 25: East Hertfordshire, HH-12 scenario outcomes

6.256 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 6.4% to 2037, with an annual dwelling requirement of 410 per year.

Jobs-led Scenarios

6.257 The employment forecasts from the 2014 EEFM are lower than the previous 2013 output, with the annual growth in total jobs estimated at 404 per year in the latest data, compared to annual growth of 540 per year in the 2013 statistics.

6.258 Population growth associated with the **Employed People** and **Jobs** scenarios is 20.2% and 22.3% respectively, with a range of annual dwelling requirement of 731-784 per year. These dwelling growth outcomes are lower than the **SNPP-2012**, which assumes a higher annual net migration impact.

6.259 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 76.5% in 2031, compared to its 2011 figure of 73.8%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.260 The commuting ratio increases from its 1.24 Census figure to reach 1.29 in 2031. This reflects a fall in self-containment over the forecast period.

6.261 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.262 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.263 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.264 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but slightly lower than the HH-08 outcomes.

Table 30: East Hertfordshire, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
SNPP-2012-LONDON	813	742	803
SNPP-2012	792	722	790
Jobs	784	714	784
Employed people	732	664	731
PG-5Yr-Fixed	680	610	650
PG-5Yr-X	672	605	663
PG-10Yr-X	637	566	629
PG-5Yr	632	566	625
PG-10Yr-Fixed	616	545	597
PG-10Yr	590	521	585
Natural Change	390	330	410

Welwyn Hatfield

Trend Scenarios

6.265 The **SNPP-2012** scenario records a 24.6% growth in Welwyn Hatfield's population to 2037 and an estimated dwelling requirement of 586 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.266 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests higher population growth at 26.4% to 2037, with an associated annual dwelling requirement of 637 per year.

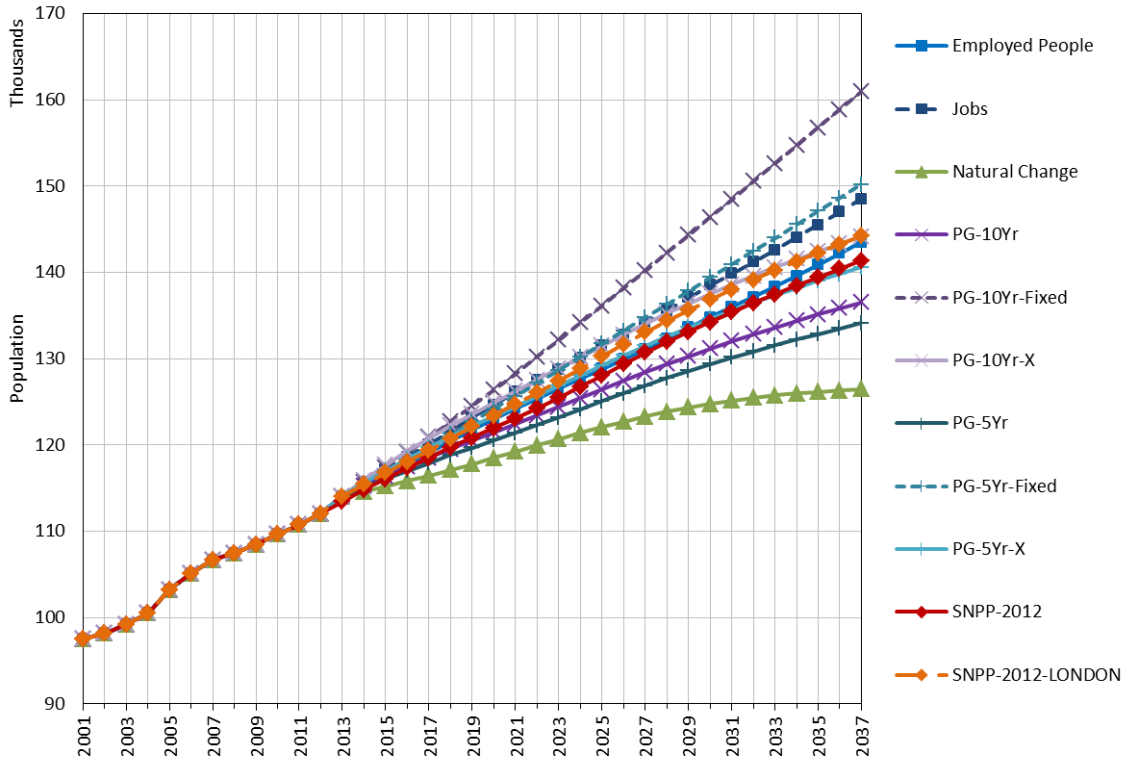
6.267 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Welwyn Hatfield's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.268 The **PG-10Yr** and **PG-5Yr** scenarios suggest population growth rates that are lower than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels, given the UPC adjustment. The '**X**' scenarios imply higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an overcount between the 2001 and 2011 Censuses.

6.269 The **'Fixed'** migration scenarios suggest much higher growth, with no change in the net migration balance to reflect changing population totals and age structure.

6.270 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 10.9% to 2037, with an annual dwelling requirement of 459 per year.

WELWYN HATFIELD



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-10Yr-Fixed	46,876	41.1%	20,328	45.2%	1,097	884	1,221
PG-5Yr-Fixed	36,101	31.7%	16,524	36.7%	843	719	944
Jobs	34,423	30.2%	15,775	35.0%	872	686	909
SNPP-2012-LONDON	30,124	26.4%	14,649	32.5%	733	637	821
PG-10Yr-X	30,098	26.4%	13,958	31.0%	594	607	782
Employed People	29,442	25.8%	13,856	30.8%	696	603	779
SNPP-2012	27,908	24.6%	13,474	30.2%	641	586	736
PG-5Yr-X	26,494	23.2%	13,104	29.1%	567	570	675
PG-10Yr	22,452	19.7%	11,348	25.2%	349	494	581
PG-5Yr	20,049	17.6%	10,762	23.9%	357	468	507
Natural Change	12,392	10.9%	10,550	23.4%	0	459	290

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 26: Welwyn Hatfield, HH-12 scenario outcomes

Jobs-led Scenarios

6.271 The employment forecasts from the 2014 EEFM are lower than the previous 2013 output, with the annual growth in total jobs estimated at 909 per year in the latest data, compared to annual growth of 1,010 per year in the 2013 statistics.

6.272 Population growth associated with the **Employed People** and **Jobs** scenarios is 25.8% and 30.2% respectively, with a range of annual dwelling requirement of 603-686 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.273 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to a small degree to 69.6% in 2031, compared to its 2011 figure of 67.2%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.274 The commuting ratio increases slightly from its 0.77 Census figure to 0.80 in 2031. This remains a large net intflow balance to commuting flows.

6.275 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.276 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.277 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.278 The HH-12 results suggest an average annual dwelling requirement that varies in comparison to the HH-11 and HH-08 outcomes, although the results of all three alternatives are within a relatively narrow band of outcomes.

Table 31: Welwyn Hatfield, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
PG-10Yr-Fixed	870	829	884
PG-5Yr-Fixed	717	686	719
Jobs	710	685	686
SNPP-2012-LONDON	666	642	637
Employed people	626	603	603
PG-10Yr-X	613	585	607
SNPP-2012	605	583	586
PG-5Yr-X	586	563	570
PG-10Yr	490	465	494
PG-5Yr	476	457	468
Natural Change	457	443	459

Babergh

Trend Scenarios

6.279 The **SNPP-2012** scenario records an 8.4% growth in Babergh's population to 2037 and an estimated dwelling requirement of 275 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.280 The migration associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly lower population growth at 7.9% to 2037, with an associated annual dwelling requirement of 271 per year.

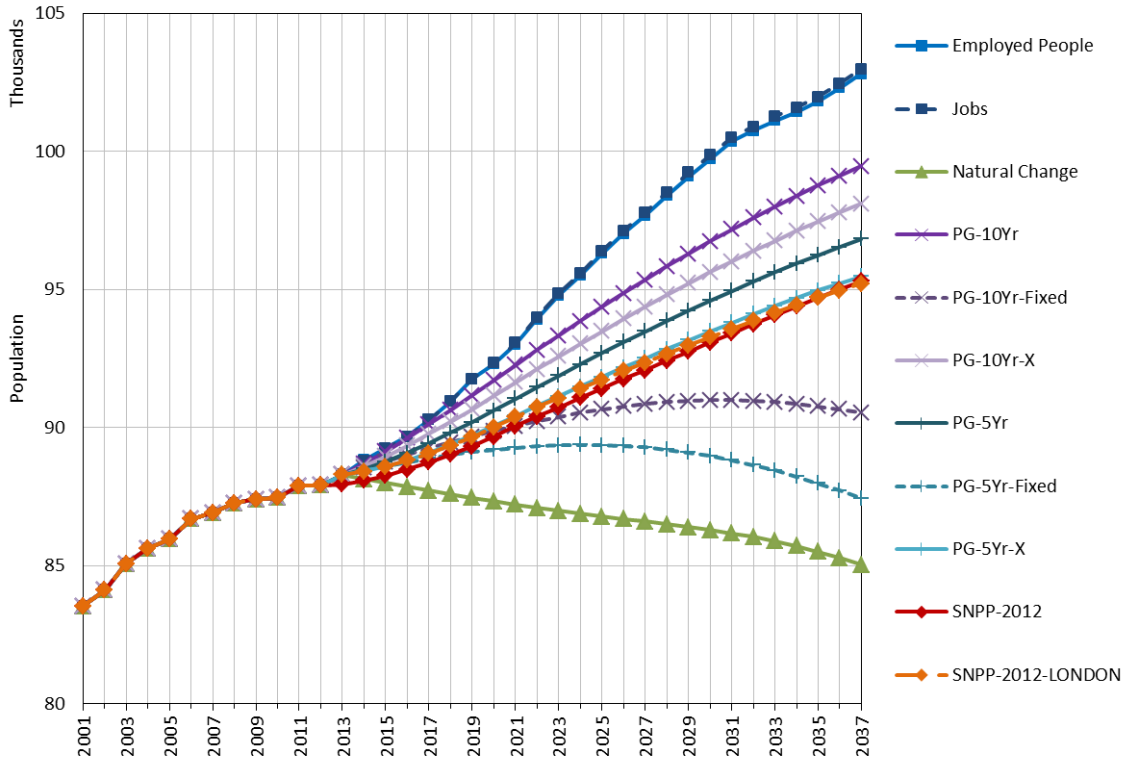
6.281 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Babergh's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.282 The **PG-5Yr** scenario suggests a population growth rate that is similar to the **SNPP-2012,** whereas the **PG-10Yr** scenario records higher growth, reflecting higher migration in the extended historical period. The **'Fixed'** migration scenarios suggest the lowest growth, with no change in net migration to reflect changing population totals and age structure and a strong component of population decline associated with natural change.

6.283 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

6.284 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population decline of 3.7% to 2037, with an annual dwelling requirement of just 14 per year.

BABERGH



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs	14,702	16.7%	9,462	24.8%	939	410	147
Employed People	14,529	16.5%	9,391	24.6%	932	407	144
PG-10Yr	11,181	12.7%	7,513	19.7%	739	325	99
PG-10Yr-X	9,819	11.1%	7,042	18.5%	705	305	71
PG-5Yr	8,536	9.7%	6,560	17.2%	682	284	33
SNPP-2012	7,347	8.4%	6,351	16.7%	655	275	14
PG-5Yr-X	7,192	8.1%	6,161	16.2%	643	267	9
SNPP-2012-LONDON	6,931	7.9%	6,263	16.4%	638	271	6
PG-10Yr-Fixed	2,252	2.6%	3,712	9.7%	387	161	-71
PG-5Yr-Fixed	-852	-1.0%	2,273	6.0%	306	98	-148
Natural Change	-3,259	-3.7%	312	0.8%	0	14	-164

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 27: Babergh, HH-12 scenario outcomes

Jobs-led Scenarios

6.285 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 147 per year in the latest data, compared to annual decline of 85 per year in the 2013 statistics.

6.286 Population growth associated with the **Employed People** and **Jobs** scenarios is 16.5% and 16.7% respectively, with a range of annual dwelling requirement of 407-410 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.287 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 75.0% in 2031, compared to its 2011 figure of 68.8%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.288 The commuting ratio changes little from its 1.18 Census figure to reach 1.19 in 2031. This remains a net outflow balance to commuting flows.

6.289 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.290 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.291 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.292 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but slightly lower than the HH-08 outcomes.

Table 32: Babergh, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
Jobs	424	406	410
Employed people	421	403	407
PG-10Yr	334	315	325
PG-10Yr-X	316	299	305
PG-5Yr	295	281	284
SNPP-2012	286	271	275
SNPP-2012-LONDON	284	269	271
PG-5Yr-X	280	267	267
PG-10Yr-Fixed	173	157	161
PG-5Yr-Fixed	121	110	98
Natural Change	25	-3	14

Ipswich

Trend Scenarios

6.293 The **SNPP-2012** scenario records a 15.5% growth in Ipswich's population to 2037 and an estimated dwelling requirement of 534 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.294 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 16.1% to 2037, with a corresponding annual dwelling requirement of 539 per year.

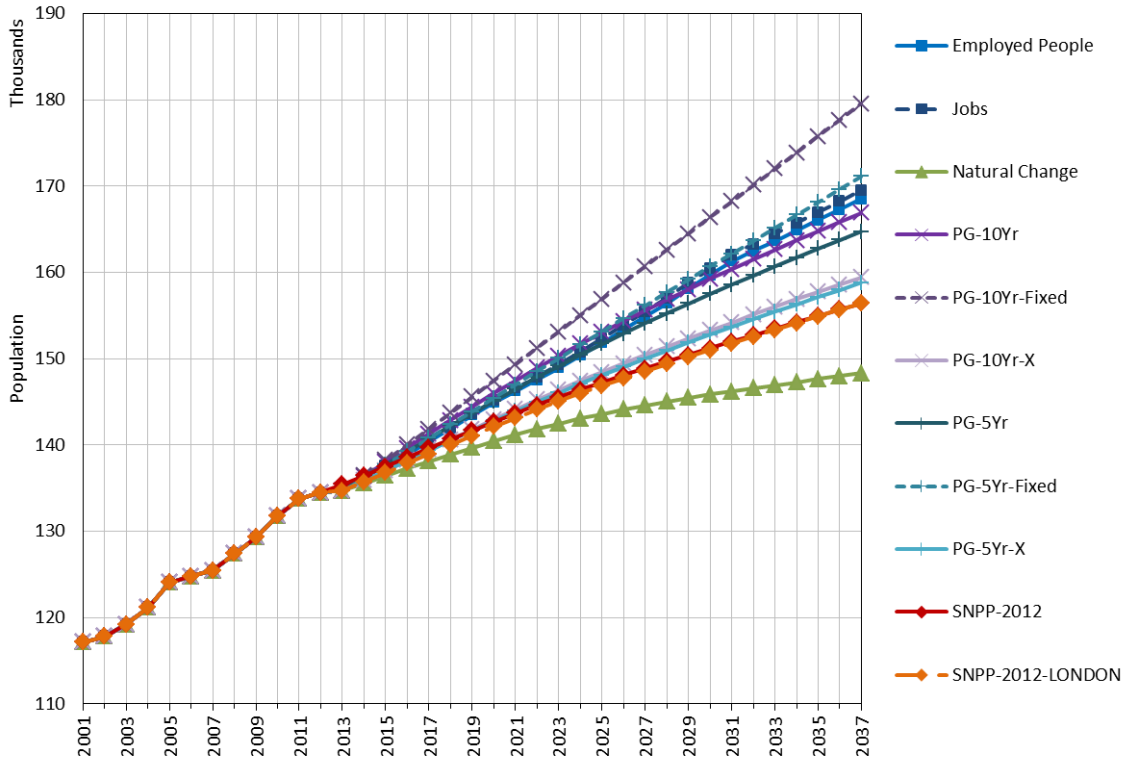
6.295 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Ipswich's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.296 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios, which include a large UPC adjustment, all suggest population growth rates that are higher than the **SNPP-2012**. The **'Fixed'** migration scenarios suggest the highest growth, with the UPC assumptions included and no change in net migration to reflect changing population totals and age structure.

6.297 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

6.298 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 10.1% to 2037, with an annual dwelling requirement of 489 per year.

IPSWICH



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
PG-10Yr-Fixed	44,840	33.3%	22,939	39.4%	867	989	901
PG-5Yr-Fixed	36,418	27.0%	19,465	33.5%	625	839	700
Jobs	34,827	25.9%	18,105	31.1%	505	781	633
Employed People	33,817	25.1%	17,681	30.4%	469	762	610
PG-10Yr	32,175	23.9%	17,765	30.5%	403	766	608
PG-5Yr	30,021	22.3%	16,747	28.8%	375	722	545
PG-10Yr-X	24,738	18.4%	14,268	24.5%	107	615	429
PG-5Yr-X	24,103	17.9%	13,885	23.9%	145	599	403
SNPP-2012-LONDON	21,699	16.1%	12,507	21.5%	29	539	342
SNPP-2012	21,006	15.5%	12,379	21.2%	0	534	326
Natural Change	13,595	10.1%	11,347	19.5%	0	489	196

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 28: Ipswich, HH-12 scenario outcomes

Jobs-led Scenarios

6.299 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 633 per year in the latest data, compared to annual growth of 565 per year in the 2013 statistics.

6.300 Population growth associated with the **Employed People** and **Jobs** scenarios is 25.1% and 25.9% respectively, with a range of annual dwelling requirement of 762-781 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.301 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 but an economic activity rate for the population aged 16-74 that reduces to 69.9% in 2031, compared to its 2011 figure of 71.5%. The declining unemployment rate is countered by the falling economic activity, suggesting that higher net in-migration would be required to meet anticipated annual jobs growth.

6.302 The commuting ratio changes little from its 0.91 Census figure over the forecast period. This remains a net inflow balance to commuting flows but its stability over the forecast period assumes no variation in commuting to accommodate the anticipated jobs growth.

6.303 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.304 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.305 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.306 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but lower than the HH-08 outcomes.

Table 33: Ipswich, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
PG-10Yr-Fixed	1,031	961	989
PG-5Yr-Fixed	877	796	839
Jobs	833	759	781
Employed people	815	741	762
PG-10Yr	807	735	766
PG-5Yr	758	682	722
PG-10Yr-X	668	599	615
PG-5Yr-X	644	572	599
SNPP-2012-LONDON	592	517	539
SNPP-2012	587	512	534
Natural Change	517	436	489

Mid Suffolk

Trend Scenarios

6.307 The **SNPP-2012** scenario records a 12.8% growth in Mid Suffolk's population to 2037 and an estimated dwelling requirement of 399 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.308 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly higher population growth at 12.9% to 2037, with an associated annual dwelling requirement of 401 per year.

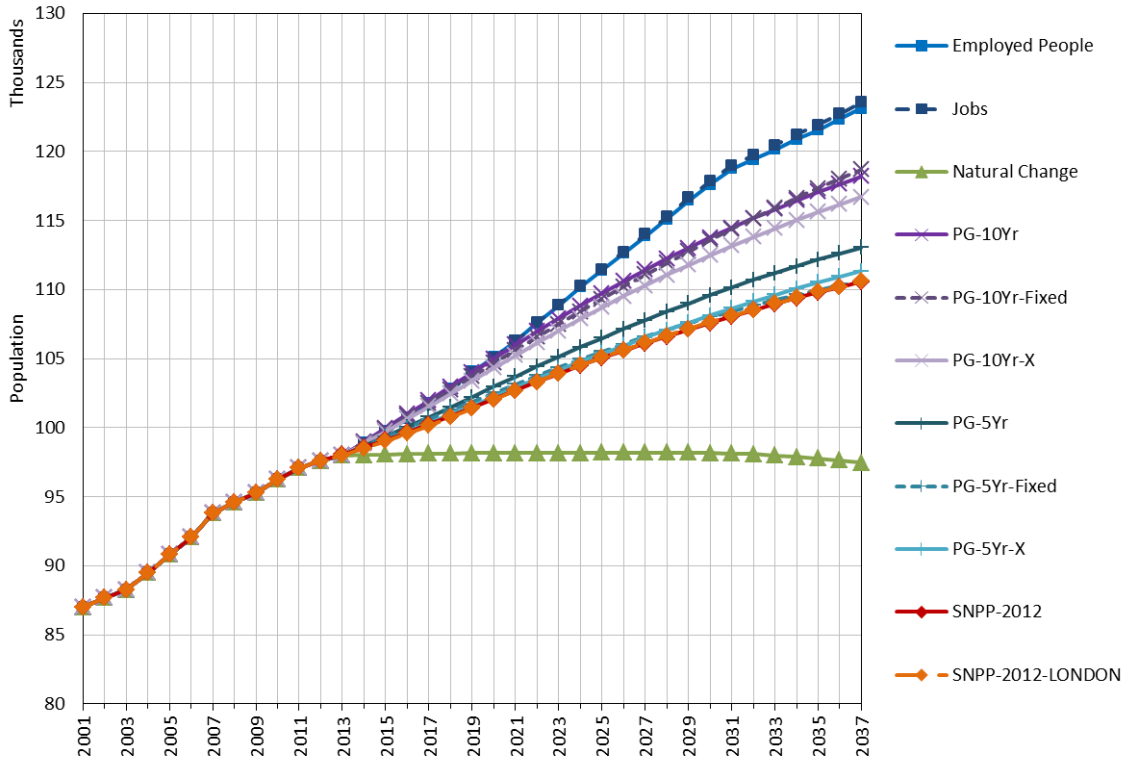
6.309 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Mid Suffolk's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.310 The **PG-10Yr** and **PG-5Yr** scenarios suggest population growth rates that are higher than the **SNPP-2012,** reflecting longer-term net migration assumptions in the **SNPP-2012** that are higher than recent historical levels, when UPC is included.

6.311 The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

6.312 The variable impact of international migration affects the **'Fixed'** migration scenarios with a net loss through international migration in the most recent historical data contrasting to a net gain in previous years. This produces a relatively low population growth in the **PG-5Yr-Fixed** scenarios compared to the **PG-10Yr-Fixed** alternative.

MID SUFFOLK



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs	25,589	26.1%	14,567	35.3%	1,172	631	257
Employed People	25,152	25.7%	14,397	34.9%	1,155	624	250
PG-10Yr-Fixed	20,729	21.2%	10,397	25.2%	896	451	144
PG-10Yr	20,242	20.7%	11,544	28.0%	921	500	162
PG-10Yr-X	18,736	19.1%	11,676	28.3%	895	506	146
PG-5Yr	15,077	15.4%	9,512	23.1%	737	412	67
PG-5Yr-X	13,368	13.6%	9,547	23.1%	696	414	49
SNPP-2012-LONDON	12,620	12.9%	9,257	22.4%	681	401	36
PG-5Yr-Fixed	12,599	12.9%	7,504	18.2%	611	325	-6
SNPP-2012	12,522	12.8%	9,214	22.3%	677	399	33
Natural Change	-519	-0.5%	1,974	4.8%	0	86	-222

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 29: Mid Suffolk, HH-12 scenario outcomes

6.313 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population decline of 0.5% to 2037, with an annual dwelling requirement of just 86 per year.

Jobs-led Scenarios

6.314 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 257 per year in the latest data, compared to annual growth of 197 per year in the 2013 statistics.

6.315 Population growth associated with the **Employed People** and **Jobs** scenarios is 25.7% and 26.1% respectively, with a range of annual dwelling requirement of 624-631 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.316 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 but an economic activity rate for the population aged 16-74 that reduces to 69.2% in 2031, compared to its 2011 figure of 70.9%. The declining unemployment rate is countered by the falling economic activity, suggesting that higher net in-migration would be required to meet anticipated annual jobs growth.

6.317 The commuting ratio reduces from its 1.17 Census figure to reach 1.15 in 2031. This remains a net outflow balance to commuting but reflects a slight improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.318 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.319 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.320 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using

the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.321 The HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but lower than the HH-08 outcomes.

Table 34: Mid Suffolk, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
Jobs	651	624	631
Employed people	644	617	624
PG-10Yr	523	497	500
PG-10Yr-X	522	497	506
PG-10Yr-Fixed	506	480	451
PG-5Yr	429	405	412
PG-5Yr-X	424	401	414
SNPP-2012-LONDON	420	398	401
SNPP-2012	414	392	399
PG-5Yr-Fixed	367	345	325
Natural Change	98	77	86

Suffolk Coastal

Trend Scenarios

6.322 The **SNPP-2012** scenario records a 10.0% growth in Suffolk Coastal's population to 2037 and an estimated dwelling requirement of 492 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.323 The migration associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests slightly lower population growth at 9.6% to 2037, with an associated annual dwelling requirement of 484 per year.

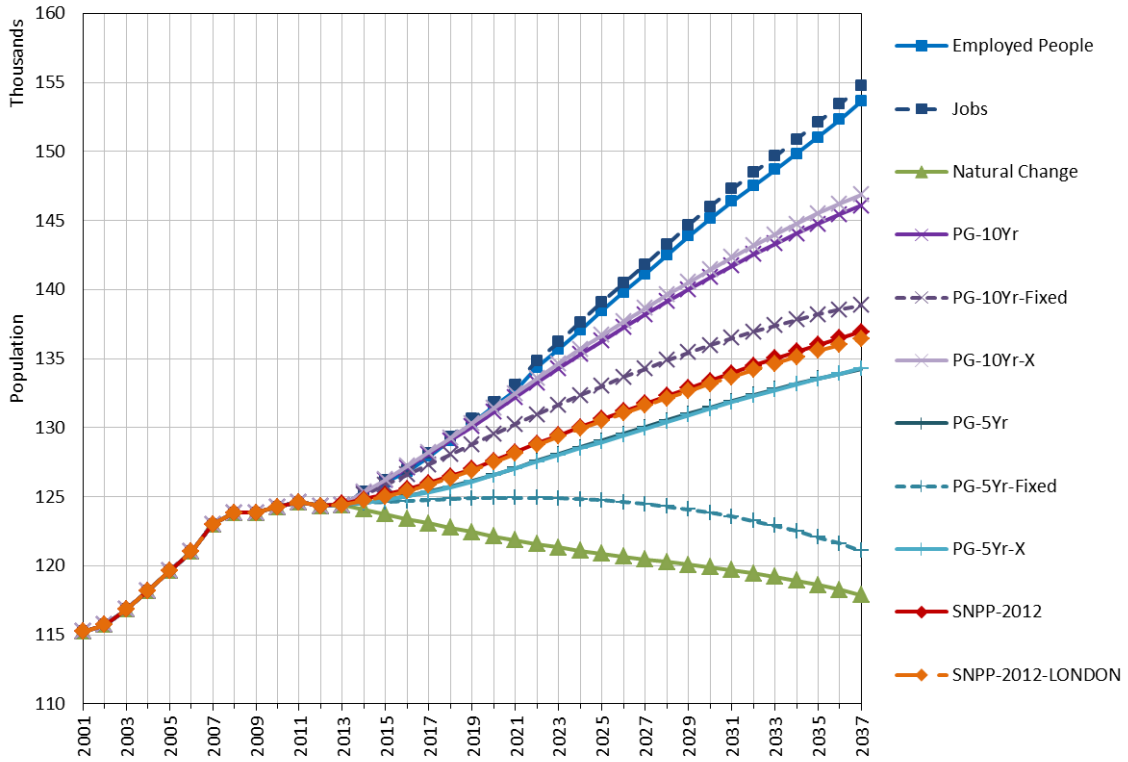
6.324 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and Suffolk Coastal's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.325 The **PG-10Yr** and **PG-10Yr-Fixed** scenarios suggest population growth rates that are higher than the **SNPP-2012,** whereas the **PG-5Yr** and **PG-5Yr-Fixed** suggest lower growth. These differences reflect the very different five-year and ten-year migration histories for the area. The **'Fixed'** migration scenarios suggest lower growth, with no change in net migration to reflect changing population totals and age structure.

6.326 The '**X**' scenarios imply higher rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an overcount between the 2001 and 2011 Censuses.

6.327 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population decline of 5.2% to 2037, with an annual dwelling requirement of -11 per year.

SUFFOLK COASTAL



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs	30,385	24.4%	18,467	34.1%	1,781	838	429
Employed People	29,218	23.5%	17,974	33.2%	1,737	816	407
PG-10Yr-X	22,480	18.1%	14,932	27.6%	1,440	678	287
PG-10Yr	21,666	17.4%	14,099	26.0%	1,396	640	255
PG-10Yr-Fixed	14,452	11.6%	9,947	18.4%	1,063	451	104
SNPP-2012	12,439	10.0%	10,843	20.0%	1,089	492	87
SNPP-2012-LONDON	11,998	9.6%	10,670	19.7%	1,071	484	77
PG-5Yr-X	9,870	7.9%	9,790	18.1%	992	444	36
PG-5Yr	9,861	7.9%	9,164	16.9%	981	416	18
PG-5Yr-Fixed	-3,304	-2.7%	3,095	5.7%	452	140	-258
Natural Change	-6,517	-5.2%	-250	-0.5%	0	-11	-281

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 30: Suffolk Coastal, HH-12 scenario outcomes

Jobs-led Scenarios

6.328 The employment forecasts from the 2014 EEFM are lower than the previous 2013 output, with the annual growth in total jobs estimated at 429 per year in the latest data, compared to annual growth of 461 per year in the 2013 statistics.

6.329 Population growth associated with the **Employed People** and **Jobs** scenarios is 23.5% and 24.4% respectively, with a range of annual dwelling requirement of 816-838 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.330 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases slightly to 69.4% in 2031, compared to its 2011 figure of 67.6%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.331 The commuting ratio reduces from its 1.07 Census figure to reach 1.04 in 2031. This remains a net outflow balance to commuting but reflects a small improvement in self-containment, contributing to the reduction in the requirement for net in-migration to satisfy the forecast jobs growth.

6.332 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.333 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.334 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.335 For all scenarios, the HH-12 results suggest an average annual dwelling requirement that is generally higher than both the HH-11 and HH-08 outcomes.

Table 35: Suffolk Coastal, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
Jobs	822	746	838
Employed people	799	725	816
PG-10Yr-X	671	599	678
PG-10Yr	628	556	640
SNPP-2012	477	412	492
SNPP-2012-LONDON	475	410	484
PG-10Yr-Fixed	454	386	451
PG-5Yr-X	429	365	444
PG-5Yr	398	335	416
PG-5Yr-Fixed	133	78	140
Natural Change	-40	-103	-11

St Edmundsbury

Trend Scenarios

6.336 The **SNPP-2012** scenario records a 10.8% growth in St Edmundsbury's population to 2037 and an estimated dwelling requirement of 361 per year, assuming that household formation rates follow the trend in the 2012-based household model.

6.337 The migration uplift associated with the GLA's **Central** scenario (**SNPP-2012-LONDON**) suggests similar population growth at 10.7% to 2037, with an associated annual dwelling requirement of 352 per year. This scenario records the highest growth outcome of all scenarios.

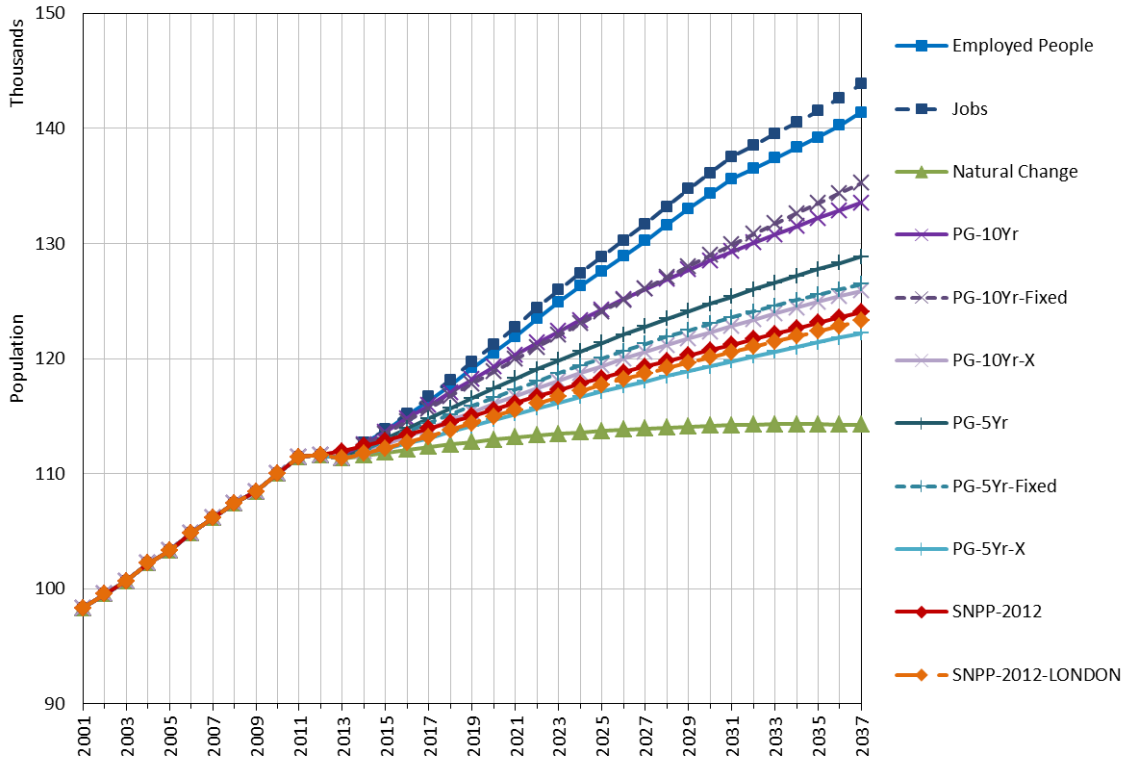
6.338 The alternative **PG** trend scenarios derive alternative growth outcomes based on the last five and ten years of migration history, using either migration 'rates' or 'fixed' migration counts to determine future assumptions. The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and St Edmundsbury's own population (which drives out-migration). The 'fixed' scenarios assume that historical migration levels are replicated in the future, regardless of changes to population size and age structure. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

6.339 The **PG-10Yr**, **PG-10Yr-Fixed**, **PG-5Yr** and **PG-5Yr-Fixed** scenarios suggest population growth rates that are higher than the **SNPP-2012,** predominantly a reflection of the impact of the inter-censal UPC adjustments. The '**X**' scenarios imply lower rates of population growth than the equivalent scenarios that include UPC in the historical data; a reflection of the adjustment that was allocated to the population to account for an undercount between the 2001 and 2011 Censuses.

6.340 The **'Fixed'** migration scenarios suggest higher growth, with no change in net migration to reflect changing population totals and age structure.

6.341 The **Natural Change** scenario, excluding the impact of migration in its forecast, suggests population growth of 2.6% to 2037, with an annual dwelling requirement of 205 per year.

ST EDMUNDSBURY



Scenario	Change 2013 - 2037				Average per year		
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings	Jobs
Jobs	32,572	29.3%	16,683	36.1%	1,194	715	399
Employed People	30,081	27.0%	15,691	33.9%	1,102	673	349
PG-10Yr-Fixed	23,922	21.5%	12,380	26.8%	809	531	241
PG-10Yr	22,218	20.0%	12,495	27.0%	778	536	209
PG-5Yr	17,562	15.8%	9,927	21.5%	617	426	92
PG-5Yr-Fixed	15,151	13.6%	7,874	17.0%	504	338	35
PG-10Yr-X	14,588	13.1%	9,802	21.2%	510	420	57
SNPP-2012	12,058	10.8%	8,415	18.1%	437	361	-14
SNPP-2012-LONDON	11,959	10.7%	8,213	17.8%	433	352	-15
PG-5Yr-X	10,894	9.8%	7,646	16.5%	382	328	-34
Natural Change	2,929	2.6%	4,780	10.3%	0	205	-161

Note: Household and dwelling estimates based on HH-12 assumptions

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.

Figure 31: St Edmundsbury HH-12 scenario outcomes

Jobs-led Scenarios

6.342 The employment forecasts from the 2014 EEFM are higher than the previous 2013 output, with the annual growth in total jobs estimated at 399 per year in the latest data, compared to annual growth of 255 per year in the 2013 statistics.

6.343 Population growth associated with the **Employed People** and **Jobs** scenarios is 27.0% and 29.3% respectively, with a range of annual dwelling requirement of 673-715 per year. These dwelling growth outcomes are higher than the **SNPP-2012**, which assumes a lower annual net migration impact.

6.344 These outcomes assume that jobs growth continues at its 2031 level to the end of the forecast period. They also assume a declining unemployment rate to 2031 and an economic activity rate for the population aged 16-74 that increases to 73.7% in 2031, compared to its 2011 figure of 71.7%. The declining unemployment rate and rising economic activity align to the forecast economic growth within the local area, reducing the requirement for higher net in-migration to meet anticipated annual jobs growth.

6.345 The commuting ratio increases from its 0.97 Census figure to reach 1.06 in 2031. This reverts from a net inflow balance to a net outflow balance over the forecast period.

6.346 Each of the trend scenarios has been run with the inclusion of the EEFM assumptions on unemployment, commuting and economic activity, providing jobs growth outcomes from each scenario that can be compared to the **Jobs** and **Employed People** alternatives.

Household Formation & Dwelling Growth

6.347 The DCLG's 2012-based household model has provided an update to previous 2008-based and 2011-based household formation data and assumptions.

6.348 For direct comparison with previous assumptions, the 2012-based (HH-12) dwelling growth outcomes for each of the phase 7 scenarios are presented alongside comparable outcomes using the 2008-based (HH-08) and 2011-based (HH-11) household data.

6.349 The HH-12 results suggest an average annual dwelling requirement that is generally higher than the HH-11 outcomes but lower than the HH-08 outcomes.

Table 36: St Edmundsbury, dwelling growth requirements comparison

Scenario	Average annual dwelling requirement (2013–2037)		
	HH-08	HH-11	HH-12
Jobs	771	690	715
Employed people	727	647	673
PG-10Yr-Fixed	570	493	531
PG-10Yr	563	487	536
PG-5Yr	472	399	426
PG-10Yr-X	449	377	420
PG-5Yr-Fixed	407	333	338
SNPP-2012	405	333	361
SNPP-2012-LONDON	401	328	352
PG-5Yr-X	375	305	328
Natural Change	208	142	205

7 Summary Comments

Phase 7 Development

7.1 Phase 7 provides an update on previous EPOA reports, presenting a suite of growth scenarios for each of the 24 local authority areas using a range of new inputs and assumptions. Scenarios include an official 2012-based benchmark, consideration of GLA projections, alternative trend scenarios and growth outcomes linked to economic forecasts. All scenarios have been formulated using POPGROUP 'version 4' technology, with outcomes summarised to a 2037 horizon.

7.2 The historical demographic statistics on which the phase 7 trend scenarios have been formulated incorporate an additional year of data, including the 2013 mid-year population estimate and its accompanying components of change (births, deaths and migration) for the 2012/13 period. For the estimation of household and dwelling growth outcomes, the phase 7 analysis includes the new 2012-based household assumptions.

7.3 In comparing phase 7 output with previous scenario results, the most significant changes are in the economic assumptions that have been applied in this latest analysis. New jobs growth forecasts have been provided by the EEFM's Autumn 2014 'Baseline' scenario output. In addition, all economic activity rates, commuting ratios and unemployment rate assumptions have been drawn directly from the EEFM model output and applied to all phase 7 scenarios. These contrast to the phase 6 work, in which Edge Analytics made specific changes to these three key assumptions across all EPOA local authorities. The new approach has been adopted in order to attempt to align the economic and demographic forecasting approaches more closely.

Household Formation Rates

7.4 The 2012-based household model from DCLG has provided an update on the likely future

trajectory of household growth across English local authority areas. DCLG has yet to complete its more detailed analysis of 'household-type' growth trajectories and, in addition, the precise methodological details of its Stage One data release remain a little unclear.

7.5 However, the latest data and assumptions have enabled new household and dwelling growth outcomes (HH-12) to be derived for each of the phase 7 scenarios, comparing them directly to outcomes based on previous household growth assumptions (HH-08 and HH-11).

7.6 The general pattern is for the HH-12 outcomes to be lower than comparable HH-08 totals but higher than the HH-11 alternatives; but this pattern is not consistent, with variation between authorities.

7.7 The HH-12 outcomes provide an important update on household formation rates but they do not close the debate on the likelihood of (a return to) higher rates of household formation in young adult-age-groups (in particular) if market affordability issues can be addressed.

The London Influence

7.8 The 2012-based household projections are underpinned by the 2012-based population projections, a robust update to the 2010-based evidence (ignoring the inappropriately-formulated 2011-based projection).

7.9 In conjunction with the 2012-based household assumptions, the **SNPP-2012** provides the benchmark growth outcome, against which other trend and economic scenarios might be compared.

7.10 The likely effect of the GLA's **Central** scenario upon higher migration to EPOA areas has been presented here. Direct comparability between GLA and **SNPP-2012** data and assumptions is difficult, so a mix of historical and forecast data has been used to derive a hybrid scenario. This hybrid combines the **SNPP-2012** assumptions with the estimates of net internal migration associated with the GLA **Central** scenario.

7.11 This estimation process indicates that the GLA **Central** scenario assumes a step-change in net out-migration from Greater London from 2018, increasing at a slower rate thereafter. The **SNPP-2012** is also estimated to increase its net out-migration from Greater London but at a more

gradual rate, remaining lower than the GLA figure to (approximately) 2030 but equalling or exceeding it thereafter.

7.12 For some EPOA local authorities, internal migration projections in the **SNPP-2012** are already significantly in excess of historical trends and so the **SNPP-2012-LONDON** effect is relatively small. For others the uplift is more substantial.

7.13 However, the **SNPP-2012-LONDON** scenario would suggest much higher population, household and dwelling growth in most local authorities, if the 2013-2026 forecast period was considered in isolation (rather than the longer 2013-37 period). This is due to the differences in the rate of change in the respective migration assumptions over the shorter and longer term forecast horizon.

7.14 Whilst the **SNPP-2012-LONDON** scenario is not a definitive alignment of the GLA and ONS evidence, it is presented in this phase 7 report as a robust formulation of alternative migration assumptions and their potential effect upon growth outcomes in the EPOA local authority areas; an important consideration in the collation of evidence to support local plan development.

Alternative Trend Scenarios

7.15 A series of additional trend scenarios have been formulated using POPGROUP technology, which use the five- and ten-year history of population change in each local authority area to derive assumptions on future migration.

7.16 In a number of local authority areas, there is a significant difference in the effect of migration in the last five years compared to the ten-year perspective; this is reflected in variation in the respective trend scenarios.

7.17 Whilst internal migration estimation based upon age-specific migration 'rates' is a preferred approach in the formulation of trend scenarios, an evaluation of a continuation of a 'fixed' level of migration (based on a five-year or ten-year history) is presented here for comparison.

7.18 The migration rates approach ensures that levels of migration are determined by changes to the population and age structure of both the UK reference population (which drives in-migration) and an area's own population (which drives out-migration). The 'fixed' scenarios assume that

historical migration levels are replicated in the future, regardless of changes to population size and age structure.

7.19 The effect of UPC upon inter-censal population change is an important component to consider in the formulation of scenarios. It is assumed that UPC is most likely associated with the mis-estimation of international migration and so is included in the derivation of future migration assumptions. However, in some local authorities, there remain residual enumeration issues associated with the 2001 Census and so the allocation of UPC to international migration is less appropriate. The '**X**' scenarios use the migration rates approach but consider the growth outcomes that result from the exclusion of UPC from the historical migration statistics.

7.20 The range of alternative five-year and ten-year trend scenarios is presented for comparison with the **SNPP-2012** and **SNPP-2012-LONDON**, providing a more direct use of the most recent historical evidence on population growth for the derivation of future assumptions on migration.

Linking Economic and Demographic Change

7.21 The alignment of economic and demographic forecasts remains a challenging proposition. In this phase 7 analysis, the latest economic forecasts from the EEFM are considered. In evaluating the likely demographic impact of these economic forecasts, key data and assumptions have been drawn directly from the EEFM and used within the POPGROUP model.

7.22 The key data items taken from the EEFM include: employment growth, 2013-31; growth in workplace employed people, 2013-31; EEFM modelled unemployment rate changes, 2001-31; EEFM modelled economic activity rate changes, 2001-31; and EEFM modelled commuting ratio changes, 2001-31.

7.23 The choice of assumptions on unemployment, economic activity and commuting have a key bearing on the population and dwelling growth outcomes of the **Employed People** and **Jobs** scenarios presented here. A reducing unemployment rate and higher economic activity rates imply a larger local labour force is available to accommodate anticipated jobs growth, reducing the requirement for additional net in-migration. Similarly, changes in the commuting ratio of an area will affect the balance between jobs created and the location of workers who take up these jobs.

7.24 The EEFM statistics are presented in detail in this report, providing an indication of how unemployment, economic activity and commuting assumptions influence the derived jobs growth forecasts and how they vary between each of the EPOA local authority areas. These data are key to the interpretation of the **Employed People** and **Jobs** outcomes presented in this phase 7 analysis.

Using the Evidence

7.25 To reiterate the comments made in the Foreword to this phase 7 report, 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 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.

7.26 For each EPOA local authority, detailed output files have been provided for each scenario, enabling a more detailed scrutiny, evaluation and use of the evidence that has been presented in this phase 7 review.

Appendix A

POPGROUP Methodology

Forecasting Methodology

A.1 Evidence is often challenged on the basis of the appropriateness of the methodology that has been employed to develop growth forecasts. The use of a recognised forecasting product which incorporates an industry-standard methodology (a cohort component model) removes this obstacle and enables a focus on assumptions and output, rather than methods.

A.2 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 32) is a cohort component model, which enables the development of population forecasts based on births, deaths and migration inputs and assumptions.

A.3 The Derived Forecast (DF) model (Figure 33) sits alongside the population model, providing a headship rate model for household projections and an economic activity rate model for labour-force projections.

A.4 The latest development in the POPGROUP suite of demographic models is POPGROUP v.4, which was released in January 2014. A number of changes have been made to the POPGROUP model to improve its operation and to ensure greater consistency with ONS forecasting methods. 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 the previous version of POPGROUP model, POPGROUP v3.1). This approach ensures a closer alignment with the 'multi-regional' approach to modelling migration that is used by ONS.

A.5 For further information on POPGROUP, please refer to the Edge Analytics website: http://edgeanalytics.co.uk/popgroup.

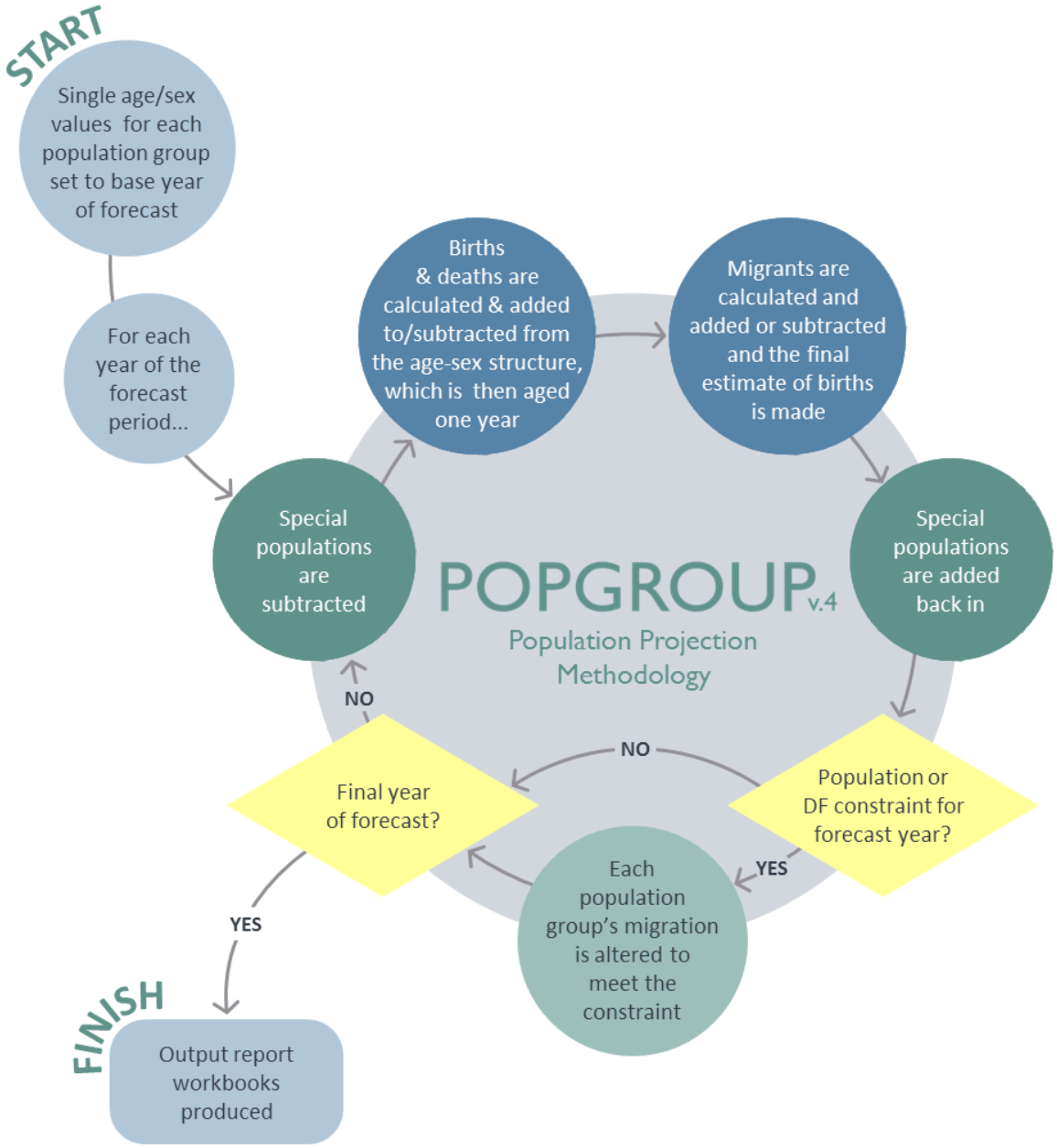
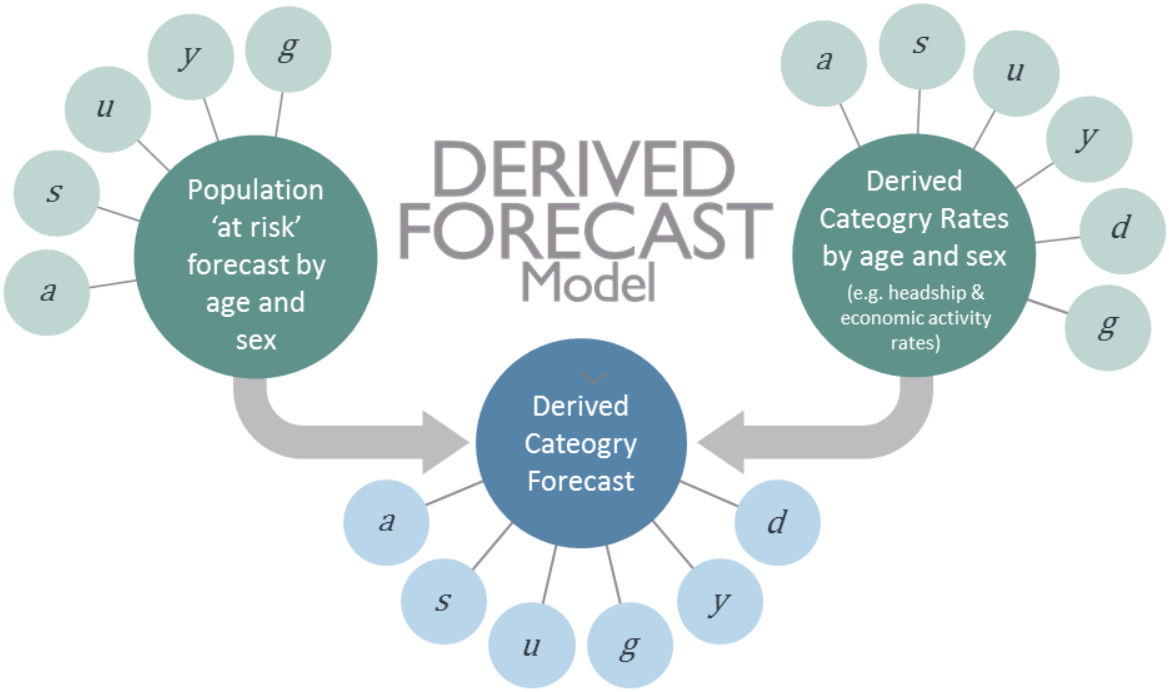


Figure 32: POPGROUP population projection methodology



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

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

Figure 33: Derived Forecast (DF) methodology

Appendix B

Data Inputs & Assumptions

Introduction

B.1 Edge Analytics has developed a suite of demographic scenarios for the EPOA local authority districts using POPGROUP v.4 and the Derived Forecast model. The POPGROUP suite of demographic models 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 historical data evidence for 2001–2013, in conjunction with information from ONS sub-national population projection (SNPP) and DCLG household projections, a series of assumptions have been derived which drive the scenario forecasts.

B.2 The following scenarios have been produced:

- SNPP-2012
- SNPP-2012-LONDON
- PG-5Yr
- PG-5Yr-Fixed
- PG-5Yr-X
- PG-10Yr
- PG-10Yr-Fixed
- PG-10Yr-X
- Natural Change
- Jobs
- Employed People

B.3 In the following sections, a narrative on the data inputs and assumptions underpinning the scenarios is presented.

Population, Births & Deaths

Population

B.4 In each scenario, historical population statistics are provided by the mid-year population estimates (MYEs) for 2001–2013, with all data recorded by single-year of age and sex. These data include the revised MYEs for 2002–2010, which were released by the ONS in May 2013. The revised MYEs 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.

B.5 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 ONS 2012-based SNPP.

Births & Fertility

B.6 In each scenario, historical mid-year to mid-year counts of births by sex from 2001/02 to 2012/13 have been sourced from ONS Vital Statistics.

B.7 In the **SNPP-2012** and **SNPP-2012-LONDON** scenarios, future counts of births are specified to ensure consistency with the official projections.

B.8 In the other scenarios, a 'local' (i.e. area-specific) age-specific fertility rate (ASFR) schedule, which measures the expected fertility rates by age in 2013/14, is included in the POPGROUP model assumptions. This is derived from the ONS 2012-based SNPP.

B.9 Long-term assumptions on changes in age-specific fertility rates are taken from the ONS 2012-based SNPP.

B.10 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

B.11 In each scenario, historical mid-year to mid-year counts of deaths by age and sex from 2001/02 to 2012/13 have been sourced from ONS Vital Statistics.

B.12 In the **SNPP-2012** and **SNPP-2012-LONDON** scenarios, future counts of deaths are specified to ensure consistency with the official projections.

B.13 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 SNPP.

B.14 Long-term assumptions on changes in age-specific mortality rates are taken from the ONS 2012-based SNPP.

B.15 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

B.16 In all scenarios, historical mid-year to mid-year estimates of in- and out-migration by five-year age group and sex from 2001/02 to 2012/13 have been sourced from the 'components of population change' files that underpin the ONS MYEs. These internal migration flows are estimated using data from the Patient Register (PR), the National Health Service Central Register (NHSCR) and Higher Education Statistics Agency (HESA).

B.17 In the **SNPP-2012** scenario, future counts of internal migrants are specified, to ensure consistency with the official projections.

B.18 In the **SNPP-2012-LONDON** scenario, future counts of internal migrants are specified that include migration uplift suggested by the GLA **Central** scenario added to the official projections.

B.19 In the **Natural Change** scenario, internal in- and out-migration flows are set to zero for each year in the forecast period (i.e. no in- or out-migration occurs).

B.20 In the alternative trend scenarios, future internal migration flows are based on the area-specific historical migration data. In the **PG-5Yr**, **PG-5Yr-Fixed** and **PG-5Yr-X** scenarios, a five year internal

migration history is used (2008/09 to 2012/13). In the **PG10Yr**, **PG-10Yr-Fixed** and **PG-10Yr-X** scenarios, a ten year history is used (2003/04 to 2012/13).

B.21 In the non-'fixed' alternative trend scenarios (i.e. **PG-5Yr**, **PG-5Yr-X**, **PG-10Yr** and **PG-10Yr-X**), the relevant historical time period is used to derive the age-specific migration rate (ASMigR) schedules, which are then used to determine the future number of in- and out-migrants. In the case of internal in-migration, the ASMigR schedules are 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 and international out-migration), where the schedule of rates is applied to the area-specific population (i.e. the population 'at-risk' of migrating out of the area). In the case of the EPOA local authority districts, it is the UK reference population.

B.22 In the 'fixed' alternative trend scenarios (i.e. **PG-5Yr-Fixed** and **PG-10Yr-Fixed**), internal in- and out-migrant counts are defined in each year of the forecast. These are based on the historical average annual internal migration counts over the relevant historical time period. The ASMigR schedules are used to distribute these counts to single year of age.

B.23 The **Jobs** and **Employed People** scenarios calculate their own internal migration assumptions to ensure an appropriate balance between the population and the targeted increase in the number of jobs that is defined in each year of the forecast period. 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. In the **Jobs** and **Employed People** scenarios, the profile of internal migrants is defined by an ASMigR schedule, derived from the ONS 2012-based SNPP.

International Migration

B.24 Historical mid-year to mid-year counts of immigration and emigration by 5-year age group and sex from 2001/02 to 2012/13 have been sourced from the 'components of population change' files that underpin the ONS MYEs. Any 'adjustments' made to the MYEs to account for asylum cases are included in the international migration balance.

B.25 Implied within the international migration component of change in all 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. In the '**X**' scenarios, the UPC adjustment is not included in the international migration assumptions.

B.26 In all scenarios, future international migration assumptions are defined as 'counts' of migration. In the **SNPP-2012** and **SNPP-2012-LONDON** scenarios, the international in- and out-migration counts are drawn directly from the official projection.

B.27 In the **Natural Change** scenario, the future migration counts set the in- and out-migration flows to zero for each year in the forecast period (i.e. no in- or out-migration occurs).

B.28 In the alternative trend scenarios, the international in- and out-migration counts are derived from the area-specific historical migration data. In the **PG-5Yr**, **PG-5Yr-Fixed** and **PG-5Yr-X** scenarios, a five year international migration history is used (2008/09 to 2012/13). In the **PG-10Yr**, **PG-10Yr-Fixed**, and **PG-10Yr-X** scenarios, a ten year history is used (2003/04 to 2012/13).

B.29 In all scenarios, 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.

B.30 In the **Jobs** and **Employed People** scenarios, international migration counts are taken from the ONS 2012-based SNPP (i.e. counts are consistent with the **SNPP-2012** scenario). An ASMigR schedule of rates from the ONS 2012-based SNPP is used to distribute future counts by single year of age.

Households & Dwellings

B.31 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."*

B.32 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).

B.33 In all scenarios 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, 2011-based and 2012-based household projection models from the DCLG.

Household Headship Rates

B.34 A household headship rate (also known as household representative rate) is the *"probability of anyone in a particular demographic group being classified as being a household representative"*[10].

B.35 The household headship rates used in the POPGROUP modelling have been taken from the DCLG 2008-based, 2011-based and 2012-based household projections. The DCLG household projections are derived through the application of projected headship rates to a projection of the private household population.

B.36 In the scenarios presented here, headship rate assumptions have been sourced from the new 2012-based household projection model, and from the earlier 2011-based and 2008-based models, producing three alternative outcomes for each scenario:

- In the **HH-12** outcome, the 2012-based DCLG headship rates are applied.
- In the **HH-11** outcome, the 2011-based DCLG headship rates are applied
- In the **HH-08** outcome, the 2008-based DCLG headship rates are applied, scaled to be consistent with the 2011 DCLG household total, but following the original trend thereafter.

2012-based Headship Rates

B.37 The 2012-based headship rates have been sourced from the new 2012-based household projection model from DCLG. The methodology used by DCLG in its household projection models consists of two distinct stages:

- **Stage One** produces the national and local authority projections for the total number of households by sex, age-group and relationship-status group over the projection period. All Stage One output and assumptions for the 2012-based household projection model have been released by DCLG.

[10] Household Projections 2012-based: Methodological Report. Department for Communities and Local Government (February 2015). https://www.gov.uk/government/statistics/2012-based-household-projections-methodology

- **Stage Two** provides the detailed 'household-type' projection by age-group, controlled to the previous Stage One totals. Stage Two assumptions and output for the 2012-based model have yet to be released by DCLG.

B.38 In POPGROUP, the 2012-based headship rates are defined by age, sex and relationship status. These rates therefore determine the likelihood of a person of a particular age-group, sex and relationship status being head of a household in a particular year, given the age-sex structure of the population.

2008-based & 2011-based Headship Rates

B.39 The 2011-based and 2008-based headship rates are provided by age-group and household type and therefore define the likelihood of a particular household type being formed in a particular year, given the age-sex profile of the population. Household types are modelled with a 17-fold classification (Table 37).

Table 37: Household type classification

ONS Code	DF Label	Household Type
OPM	OPMAL	One person households: Male
OPF	OPFEM	One person households: Female
OCZZP	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

Communal Population Statistics

B.40 Household projections in POPGROUP exclude the population 'not-in-households' (i.e. the communal/institutional population). These data are drawn from the DCLG 2012-based household projections, which use statistics from the 2011 Census. Examples of communal establishments include prisons, residential care homes and student halls of residence.

B.41 For ages 0–74, the number of people in each age group 'not-in-households' is kept fixed throughout the forecast period. For ages 75–85+, the proportion of the population 'not-in-households' is recorded. Therefore, the population 'not-in-households' for ages 75–85+ varies across the forecast period depending on the size of the population.

Vacancy Rate

B.42 The relationship between households and dwellings is modelled using a 'vacancy rate', sourced from the 2011 Census. The vacancy rate is calculated using statistics on households (occupied, second homes and vacant) and dwellings (shared and unshared).

B.43 Vacancy rates for each of the EPOA local authority districts as used in the scenarios are presented in Table 38.

Table 38: Vacancy rates, 2011 Census

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

B.44 The 2011 vacancy rates have been fixed throughout the forecast period. Using this vacancy rates, the dwelling requirement of each household growth trajectory has been evaluated.

Labour Force & Jobs

B.45 Apart from the **Jobs** and **Employed People** scenarios, the labour force and jobs implications of the population growth trajectory are evaluated through the application of three key data items: economic activity rates, an unemployment rate and a commuting ratio.

Economic Activity Rates

B.46 Economic activity rates define the number of people who are either in employment or looking for employment as a percentage of the total population (16–74). Within the POPGROUP model, these rates, in conjunction with the unemployment rates and commuting ratio, define the relationship between population growth and anticipated change in the number of jobs in each area.

B.47 Edge Analytics routinely uses 2011 Census economic activity rates with adjustments made to the 60–69 age groups in order to account for future changes to the State Pension Age (SPA) (see Appendix to the phase 6 report for more detail). In order to achieve better alignment between the EEFM and the POPGROUP model, economic activity rates have been derived directly from the EEFM. These EEFM rates record the change in economic activity in the 16–74 year-old population that are implied by EEFM's jobs growth forecasts.

B.48 The degree to which the underlying economic activity rates change over the EEFM forecast period is illustrated in Table 39.

Table 39: Economic Activity Rates (16–74), EEFM 2014

Area	Economic Activity Rate (16–74)			Change (2011–2031) (pp)
	2011	2013	2031	
Basildon	69.4%	72.1%	73.4%	4.03
Braintree	71.9%	68.7%	71.4%	-0.52
Brentwood	70.3%	67.4%	74.7%	4.40
Castle Point	66.5%	65.0%	72.8%	6.27
Chelmsford	72.2%	74.0%	80.1%	7.95
Colchester	69.1%	67.7%	66.4%	-2.74
Epping Forest	70.4%	75.6%	82.3%	11.95
Harlow	73.0%	69.4%	71.9%	-1.07
Maldon	68.6%	71.0%	76.3%	7.71
Rochford	69.1%	68.0%	71.7%	2.57
Tendring	60.2%	58.5%	60.3%	0.06
Uttlesford	72.8%	76.2%	77.8%	5.01
Southend-on-Sea UA	69.0%	68.6%	72.2%	3.12
Thurrock UA	71.6%	71.4%	75.3%	3.71
Cambridge	62.2%	63.3%	64.6%	2.37
South Cambridgeshire	74.6%	73.7%	74.2%	-0.41
Broxbourne	71.3%	72.5%	76.5%	5.12
East Hertfordshire	73.8%	76.4%	76.5%	2.61
Welwyn Hatfield	67.2%	69.6%	69.6%	2.44
Babergh	68.8%	72.0%	75.0%	6.18
Ipswich	71.5%	72.2%	69.9%	-1.60
Mid Suffolk	70.9%	70.3%	69.2%	-1.70
Suffolk Coastal	67.6%	67.0%	69.4%	1.85
St Edmundsbury	71.7%	76.3%	73.7%	2.07

(Source: EEFM 2014)

Commuting Ratio

B.49 The commuting ratio is the balance between the size of the resident population in employment and the number of jobs available in a given local authority area. A commuting ratio value of more than one implies that the resident population in employment is larger than the number of jobs available. A value of less than one indicates that number of jobs exceed the number of residents employed. Edge Analytics routinely uses the 2011 Census commuting ratio as the basis for scenario evaluation, typically 'fixing' the ratio at its 2011 value throughout the forecast period.

B.50 In 2011, the EEFM derived commuting ratio is directly comparable with the 2011 Census commuting ratio for each of the EPOA areas. However, in subsequent years, the commuting ratio varies to accommodate anticipated jobs growth. The commuting ratio value derived from the

EEFM for each local authority area, has been used by the POPGROUP model to link jobs growth to population change in each phase 7 scenario.

B.51 The degree to which the underlying commuting ratios change over the EEFM forecast period is illustrated in Table 40.

Table 40: Commuting Ratios, EEFM 2014

Area	Commuting Ratio			Change (2011–2031)
	2011	2013	2031	
Basildon	1.00	0.99	1.00	0.00
Braintree	1.29	1.21	1.19	-0.09
Brentwood	1.07	0.92	0.92	-0.15
Castle Point	1.63	1.41	1.49	-0.14
Chelmsford	1.05	1.06	1.03	-0.01
Colchester	1.02	1.00	0.99	-0.03
Epping Forest	1.29	1.43	1.40	0.10
Harlow	1.01	0.89	0.92	-0.10
Maldon	1.31	1.27	1.29	-0.03
Rochford	1.53	1.44	1.46	-0.06
Tendring	1.24	1.14	1.17	-0.07
Uttlesford	1.01	1.03	1.04	0.03
Southend-on-Sea UA	1.13	1.07	1.08	-0.05
Thurrock UA	1.21	1.23	1.16	-0.05
Cambridge	0.63	0.62	0.62	-0.01
South Cambridgeshire	1.06	1.05	1.00	-0.06
Broxbourne	1.19	1.16	1.14	-0.05
East Hertfordshire	1.24	1.29	1.29	0.05
Welwyn Hatfield	0.77	0.83	0.80	0.03
Babergh	1.18	1.17	1.19	0.01
Ipswich	0.91	0.93	0.91	-0.00
Mid Suffolk	1.17	1.15	1.15	-0.02
Suffolk Coastal	1.07	1.04	1.04	-0.03
St Edmundsbury	0.97	1.06	1.06	0.09

(Source: EEFM 2014)

Unemployment Rate

B.52 The POPGROUP model requires an unemployment rate assumption that is consistent with the International Labour Organisation (ILO) definition:

Unemployment rate = unemployed / (employed + unemployed)

B.53 This statistic has been derived directly from the EEFM for each local authority area and used to link jobs growth to population change in each phase 7 scenario. Changes in the unemployment rate over the 2011-31 forecast period as implied by the EEFM are illustrated in Table 41.

Table 41: Unemployment rates, EEFM 2014

Area	Unemployment Rate (%)			Change (2011–2031) (pp)
	2011	2013	2031	
Basildon	4.9%	4.7%	2.7%	-2.17
Braintree	3.4%	3.1%	1.7%	-1.71
Brentwood	2.6%	2.28%	1.37%	-1.24
Castle Point	3.6%	3.3%	2.1%	-1.52
Chelmsford	3.2%	2.7%	1.7%	-1.47
Colchester	3.7%	3.2%	1.8%	-1.88
Epping Forest	3.4%	2.9%	1.9%	-1.48
Harlow	5.6%	5.6%	3.5%	-2.10
Maldon	2.8%	2.5%	1.7%	-1.13
Rochford	2.6%	2.4%	1.6%	-1.02
Tendring	6.1%	5.5%	3.6%	-2.47
Uttlesford	1.9%	1.4%	1.0%	-0.95
Southend-on-Sea UA	5.8%	5.2%	3.4%	-2.40
Thurrock UA	5.2%	4.8%	2.6%	-2.66
Cambridge	2.8%	2.3%	1.5%	-1.30
South Cambridgeshire	1.6%	1.4%	0.9%	-0.66
Broxbourne	4.1%	3.5%	2.1%	-2.05
East Hertfordshire	2.3%	1.9%	1.1%	-1.16
Welwyn Hatfield	3.2%	2.8%	1.8%	-1.48
Babergh	2.7%	2.4%	1.4%	-1.27
Ipswich	5.8%	5.1%	3.6%	-2.18
Mid Suffolk	2.3%	1.9%	1.1%	-1.15
Suffolk Coastal	2.3%	1.8%	1.2%	-1.14
St Edmundsbury	2.6%	2.3%	1.6%	-1.06
EPOA	3.6%	3.2%	2.0%	-1.65

(Source: EEFM 2014)