Ipswich Housing Market Area Population & Household Projections

An analysis of demographic change
September 2013

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Contents

1. Introduction

Luton Borough Council were contracted by Ipswich Borough Council to produce population and household projections for the Ipswich Housing Market area comprising the local authority areas of Babergh, Mid Suffolk, Suffolk Coastal and Ipswich. This work is part of the evidence base for the Ipswich Local Plan

The population forecasting was run using POPGROUP[1] software. POPGROUP uses a cohort component methodology for its population projections, a headship rate for its household projection model and an economic activity rate for its labour force projection model. POPGROUP's population forecasting model estimates future population change based on fertility, mortality and migration assumptions using historical data. Population forecasts can be used to derive likely household and housing profiles consistent with the population's age and sex composition.

Various forecasting scenarios were run using different assumptions. The scenarios were trend migration, low migration, a housing constrained scenario, and a scenario based on the East of England Economic Forecasting Model. All scenarios used the same fertility and mortality schedules. A full description of the methodology and assumptions used is provided in the technical appendix. The population base was taken from the Office for National Statistics' (ONS) 2011 mid-year population forecasts.

Executive Summary

- The population is projected to rise in all districts in all of the scenarios between 2011 and 2031
- The largest percentage increase in population will be in Mid Suffolk in the trend and low migration scenarios
- The largest percentage increase in population will be in Suffolk Coastal district in the EEFM scenario
- The smallest percentage increase will be in Babergh because of the lower fertility rate
- The planned house building programme will struggle to meet the demand for households from the increase in the population

[1] POPGROUP software used under licence from the Local Government Association.

2. Trend Migration Forecasting Scenario

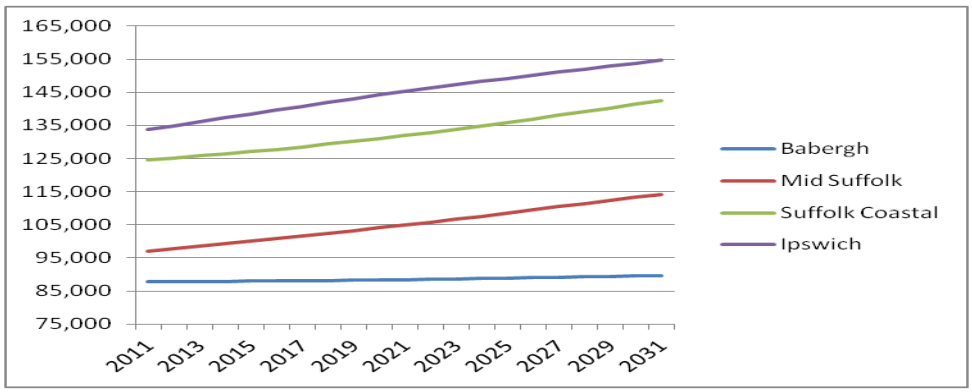
The trend migration scenario used an average of the past five years' migration into and out of the Ipswich Housing Market Area both to other parts of the UK and internationally. Standard mortality and fertility rates were applied to base population data and projections were run using the POPGROUP software. An adjustment for special populations of students and the armed forces were made using data provided by Suffolk County Council.

Table 2.1: Trend Migration: Total Population Change 2011-2031

	2011	2016	2021	2026	2031	2011-2031 change	2011-2031 % change
Babergh	87,900	88,050	88,400	89,050	89,600	1,700	1.9%
Mid Suffolk	97,100	100,800	104,900	109,500	114,200	17,100	17.6%
Suffolk Coastal	124,600	127,800	131,900	137,000	142,500	17,900	14.4%
Ipswich	133,750	139,650	145,250	150,200	154,700	20,950	15.7%
Ipswich HMA	443,350	456,300	470,450	485,750	501,000	57,650	13.0%

Source: Luton Borough Council using POPGROUP

Figure 2.1: Trend Migration: Total Population Projections 2011-2031



Source: Luton Borough Council using POPGROUP

- In the Trend migration scenario the total population of the Ipswich HMA is projected to increase from 443,350 to 501,000, a rise of 13 per cent between 2011 and 2031.
- The population of Mid Suffolk is projected to rise by 17.6% with Ipswich rising by 15.7% and Suffolk Coastal by 14.4% between 2011 and 2031.
- The smallest population increase is projected to be in Babergh, with an increase of 1,700 people, 1.9% between 2011 and 2031. This is influenced by the low fertility rate in Babergh which is below the national average and the other districts in the Ipswich HMA (See Appendix for rates).

Table 2.2: Babergh Age Breakdown and Proportions

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	Total
2011	4,450	5,850	5,600	2,300	47,100	13,750	6,250	2,600	87,900
2016	3,900	5,450	4,950	2,200	46,700	15,100	6,750	3,000	88,050
2021	4,100	4,800	4,650	2,100	46,300	14,650	8,250	3,600	88,400
2026	4,500	4,950	4,050	1,750	45,450	14,000	9,950	4,350	89,050
2031	4,750	5,400	4,150	1,600	43,500	14,750	9,650	5,750	89,600

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+
2011	5.1%	6.7%	6.4%	2.6%	53.6%	15.6%	7.1%	3.0%
2016	4.4%	6.2%	5.6%	2.5%	53.0%	17.1%	7.7%	3.4%
2021	4.6%	5.4%	5.3%	2.4%	52.4%	16.6%	9.3%	4.1%
2026	5.1%	5.6%	4.5%	2.0%	51.0%	15.7%	11.2%	4.9%
2031	5.3%	6.0%	4.6%	1.8%	48.5%	16.5%	10.8%	6.4%

Source: Luton Borough Council using POPGROUP

- In Babergh the school age and working age populations are projected to fall between 2011 and 2031
- The retirement age and elderly populations are projected to rise between 2011 and 2031

Table 2.3: Mid Suffolk Age Breakdown and Proportions

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	Total
2011	5,250	6,500	6,050	2,450	53,400	14,600	6,300	2,550	97,100
2016	4,900	6,650	5,550	2,450	54,650	16,350	7,200	3,050	100,800
2021	5,400	6,200	5,700	2,350	56,050	16,550	8,900	3,750	104,900
2026	6,150	6,700	5,300	2,350	56,850	16,400	10,950	4,750	109,500
2031	6,750	7,600	5,700	2,150	57,400	17,300	10,950	6,350	114,200

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+
2011	5.4%	6.7%	6.2%	2.5%	55.0%	15.0%	6.5%	2.6%
2016	4.9%	6.6%	5.5%	2.4%	54.2%	16.2%	7.1%	3.0%
2021	5.1%	5.9%	5.4%	2.2%	53.4%	15.8%	8.5%	3.6%
2026	5.6%	6.1%	4.8%	2.1%	51.9%	15.0%	10.0%	4.3%
2031	5.9%	6.7%	5.0%	1.9%	50.3%	15.1%	9.6%	5.6%

Source: Luton Borough Council using POPGROUP

- In Mid Suffolk the pre-school, school age, working age and retired populations are all projected to rise with the largest increase in the elderly population between 2011 and 2031.

Table 2.4: Suffolk Coastal Age Breakdown and Proportions

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	Total
2011	6,200	7,850	7,800	3,250	65,350	19,900	10,000	4,250	124,600
2016	5,800	7,900	6,700	3,100	67,100	21,600	10,500	5,050	127,800
2021	6,650	7,300	6,900	2,800	68,700	21,450	12,100	5,950	131,900
2026	7,800	8,250	6,250	2,750	69,450	20,950	14,500	7,050	137,000
2031	8,600	9,600	6,950	2,600	69,700	21,900	14,300	8,850	142,500

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+
2011	5.0%	6.3%	6.3%	2.6%	52.4%	16.0%	8.0%	3.4%
2016	4.5%	6.2%	5.2%	2.4%	52.5%	16.9%	8.2%	4.0%
2021	5.0%	5.5%	5.2%	2.1%	52.1%	16.3%	9.2%	4.5%
2026	5.7%	6.0%	4.6%	2.0%	50.7%	15.3%	10.6%	5.1%
2031	6.0%	6.7%	4.9%	1.8%	48.9%	15.4%	10.0%	6.2%

Source: Luton Borough Council using POPGROUP

- In Suffolk Coastal the pre-school, school age, working age and retired populations are all projected to rise with the largest increase in the elderly population between 2011 and 2031.

Table 2.5: Ipswich Age Breakdown and Proportions

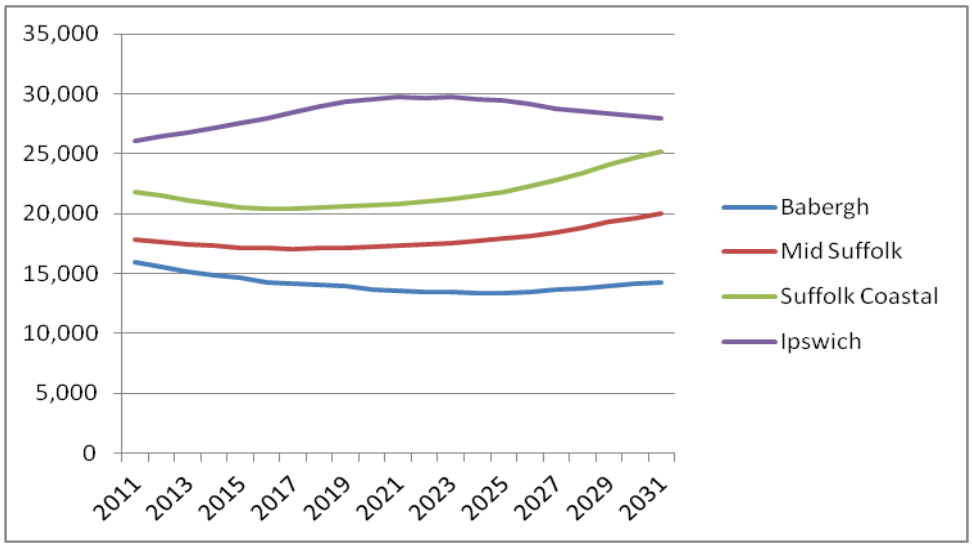
YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	Total
2011	9,300	9,100	7,650	3,450	80,600	13,350	7,100	3,150	133,750
2016	9,350	11,150	7,450	3,050	82,450	15,500	7,050	3,650	139,650
2021	9,000	11,550	9,200	3,250	83,150	17,250	7,800	4,050	145,250
2026	8,400	11,000	9,750	3,900	84,400	18,400	9,750	4,600	150,200
2031	8,300	10,300	9,350	3,850	86,400	20,000	10,950	5,550	154,700

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+
2011	7.0%	6.8%	5.7%	2.6%	60.3%	10.0%	5.3%	2.4%
2016	6.7%	8.0%	5.3%	2.2%	59.0%	11.1%	5.0%	2.6%
2021	6.2%	8.0%	6.3%	2.2%	57.2%	11.9%	5.4%	2.8%
2026	5.6%	7.3%	6.5%	2.6%	56.2%	12.3%	6.5%	3.1%
2031	5.4%	6.7%	6.0%	2.5%	55.9%	12.9%	7.1%	3.6%

Source: Luton Borough Council using POPGROUP

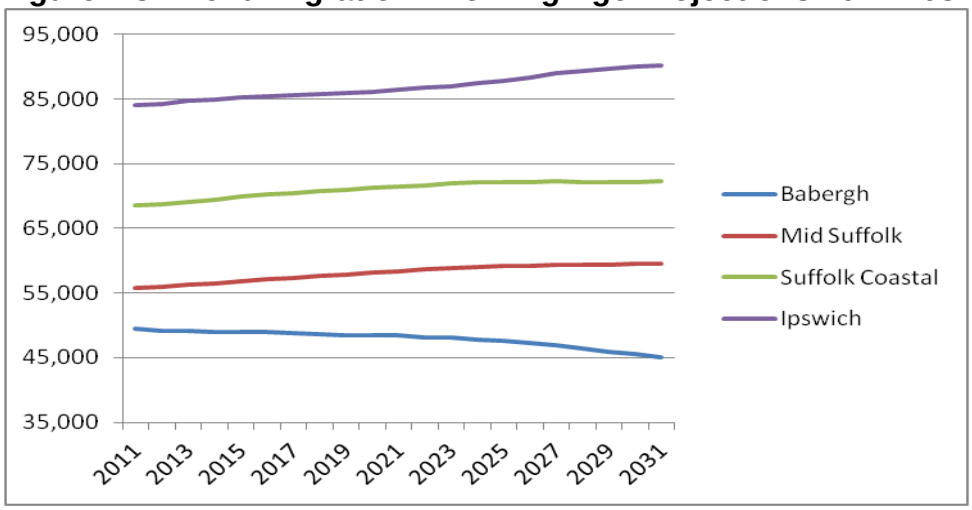
- The pre-school age population in Ipswich are projected to fall with all other age groups projected to rise between 2011 and 2031. The elderly population are projected to have the largest increase in population.

Figure 2.2: Trend Migration: Pre Working Age Projections 2011-2031



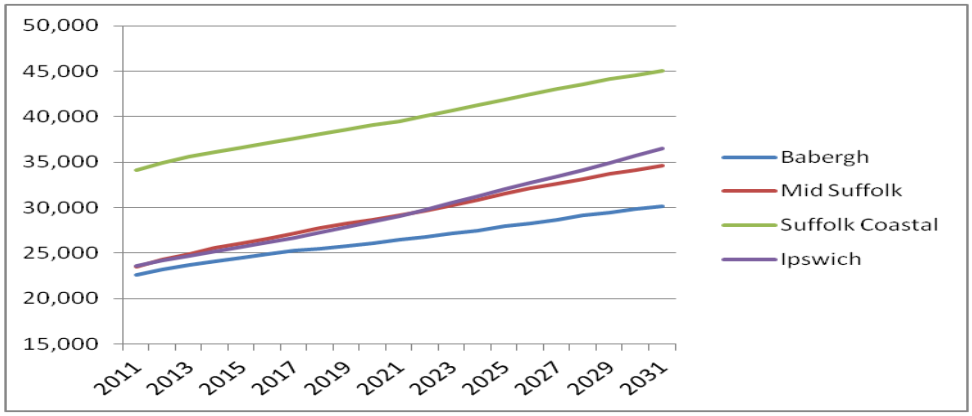
Source: Luton Borough Council using POPGROUP

Figure 2.3: Trend Migration: Working Age Projections 2011-2031



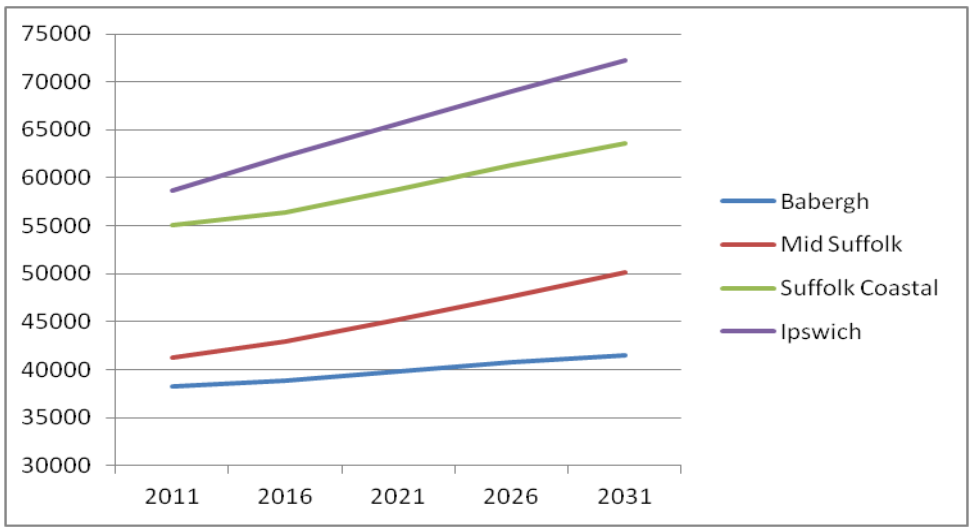
Source: Luton Borough Council using POPGROUP

Figure 2.4: Trend Migration: Retirement Age Projections 2011-2031



Source: Luton Borough Council using POPGROUP

Figure 2.5 & Table 2.6: Total Households Trend Migration Scenario



Source: Luton Borough Council using POPGROUP

	2011	*2016*	*2021*	*2026*	*2031*	2011-2031 change	2011-2031 % change
Babergh	38300	38800	39800	40750	41550	3250	8.5%
Mid Suffolk	41300	42900	45200	47650	50150	8850	21.4%
Suffolk Coastal	55050	56350	58800	61300	63650	8600	15.6%
Ipswich	58700	62250	65650	68950	72250	13550	23.1%
Ipswich HMA	193350	200300	209400	218700	227600	34250	17.7%

Source: Luton Borough Council using POPGROUP

The trend migration population scenario was run through the POPGROUP derived forecast model to calculate the potential number of households. An adapted version of the Communities and Local Government household rate projections were used in the model.

- The number of households in the Ipswich HMA are projected to rise by 34,250 between 2011 and 2031 an increase of 17.7%
- Mid Suffolk had the highest percentage growth in households, increasing by 21.5% between 2011 and 2031.
- The number of households in Babergh are projected to rise by 3,250 in comparison to an increase in population of 1,700. This is caused by the increase in single person households projected by Communities and Local Government.

3. Low Migration Scenario

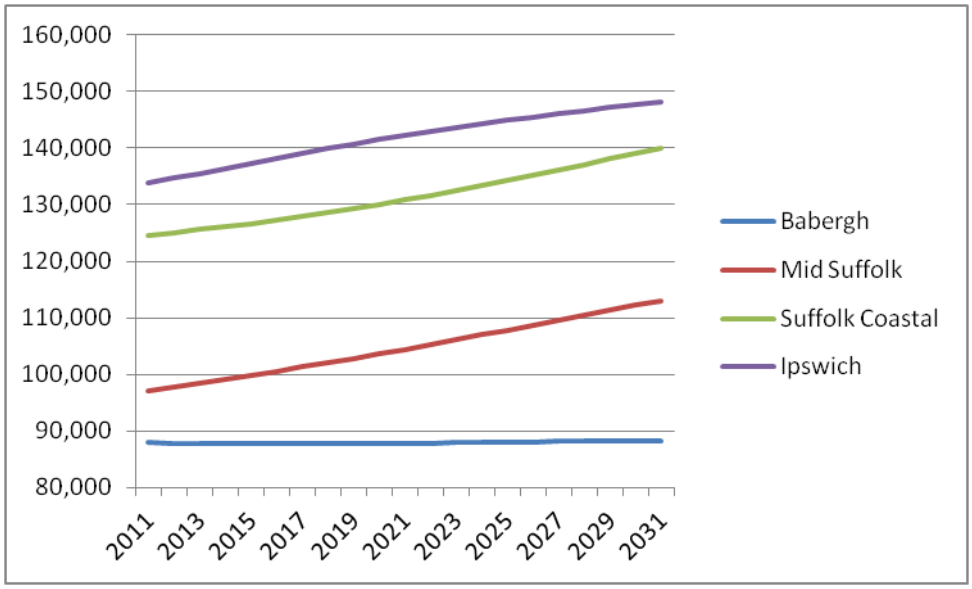
The low migration scenario used international migration data based on the government meeting its target to reduce net migration to under 100,000 by 2015. The assumption for this was that inward international migration would be reduced by 20.7%. All other migration types remain the same. Standard mortality and fertility rates were applied to base population data and projections were run using the POPGROUP software. An adjustment for special populations of students and the armed forces were made using data from Suffolk Council.

Table 3.1: Low Migration: Total Population Change 2011-2031

	2011	2016	2021	2026	2031	2011-2031 change	2011-2031 % change
Babergh	87,900	87,750	87,800	88,050	88,250	350	0.4%
Mid Suffolk	97,100	100,550	104,400	108,700	113,050	15,950	16.4%
Suffolk Coastal	124,600	127,250	130,800	135,200	139,950	15,350	12.3%
Ipswich	133,750	138,250	142,250	145,500	148,250	14,500	10.8%
Ipswich HMA	443,350	453,800	465,250	477,450	489,500	46,150	10.4%

Source: Luton Borough Council using POPGROUP

Figure 3.1: Low Migration: Total Population Projections 2011-2031



Source: Luton Borough Council using POPGROUP

The low migration scenario projects an increase in all of the districts but at a lower rate than the trend migration scenario.

- In the low migration scenario the total population of the Ipswich HMA is projected to increase from 443,350 to 489,500, a rise of 10.4 per cent between 2011 and 2031.
- The population of Mid Suffolk is projected to rise by 16.4% with Suffolk Coastal rising by 12.3% and Ipswich by 10.8% between 2011 and 2031.
- The smallest population increase is projected to be in Babergh, with an increase of 350 people, 0.4% between 2011 and 2031.

Table 3.2: Low Migration: Babergh Age Breakdown and Proportions

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	Total
2011	4,450	5,850	5,600	2,300	47,100	13,750	6,250	2,600	87,900
2016	3,850	5,450	4,950	2,200	46,450	15,050	6,750	3,000	87,750
2021	4,050	4,750	4,650	2,050	45,850	14,650	8,200	3,600	87,800
2026	4,400	4,900	4,000	1,750	44,750	13,950	9,950	4,350	88,050
2031	4,650	5,300	4,050	1,600	42,600	14,700	9,650	5,750	88,250
YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	
2011	5.1%	6.7%	6.4%	2.6%	53.6%	15.6%	7.1%	3.0%	
2016	4.4%	6.2%	5.6%	2.5%	52.9%	17.2%	7.7%	3.4%	
2021	4.6%	5.4%	5.3%	2.3%	52.2%	16.7%	9.3%	4.1%	
2026	5.0%	5.6%	4.5%	2.0%	50.8%	15.8%	11.3%	4.9%	
2031	5.3%	6.0%	4.6%	1.8%	48.3%	16.7%	10.9%	6.5%	

Source: Luton Borough Council using POPGROUP

Table 3.3: Low Migration: Mid Suffolk Age Breakdown and Proportions

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	Total
2011	5,250	6,500	6,050	2,450	53,400	14,600	6,300	2,550	97,100
2016	4,850	6,600	5,550	2,450	54,450	16,350	7,200	3,050	100,550
2021	5,350	6,150	5,700	2,350	55,650	16,550	8,900	3,750	104,400
2026	6,050	6,650	5,300	2,300	56,300	16,350	10,900	4,750	108,700
2031	6,650	7,500	5,650	2,150	56,600	17,250	10,900	6,350	113,050
YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	
2011	5.4%	6.7%	6.2%	2.5%	55.0%	15.0%	6.5%	2.6%	
2016	4.8%	6.6%	5.5%	2.4%	54.2%	16.3%	7.2%	3.0%	
2021	5.1%	5.9%	5.5%	2.3%	53.3%	15.9%	8.5%	3.6%	
2026	5.6%	6.1%	4.9%	2.1%	51.8%	15.0%	10.0%	4.4%	
2031	5.9%	6.6%	5.0%	1.9%	50.1%	15.3%	9.6%	5.6%	

Source: Luton Borough Council using POPGROUP

Table 3.4: Low Migration: Suffolk Coastal Age Breakdown and Proportions

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	Total
2011	6,200	7,850	7,800	3,250	65,350	19,900	10,000	4,250	124,600
2016	5,750	7,850	6,700	3,100	66,700	21,600	10,500	5,050	127,250
2021	6,550	7,250	6,850	2,800	67,850	21,400	12,100	5,950	130,800
2026	7,600	8,050	6,200	2,700	68,200	20,850	14,500	7,050	135,200
2031	8,400	9,350	6,800	2,550	68,000	21,750	14,250	8,850	139,950
YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	
2011	5.0%	6.3%	6.3%	2.6%	52.4%	16.0%	8.0%	3.4%	
2016	4.5%	6.2%	5.3%	2.4%	52.4%	17.0%	8.3%	4.0%	
2021	5.0%	5.5%	5.2%	2.1%	51.9%	16.4%	9.3%	4.5%	
2026	5.6%	6.0%	4.6%	2.0%	50.4%	15.4%	10.7%	5.2%	
2031	6.0%	6.7%	4.9%	1.8%	48.6%	15.5%	10.2%	6.3%	

Source: Luton Borough Council using POPGROUP

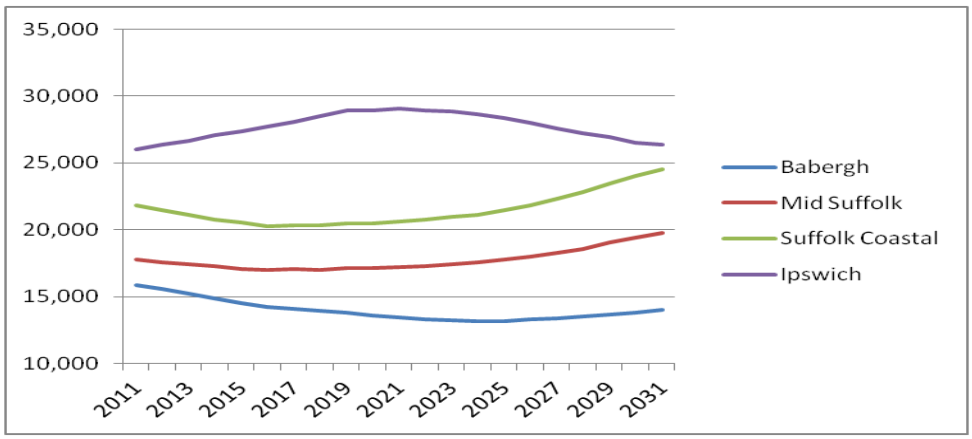
Table 3.5: Low Migration: Ipswich Age Breakdown and Proportions

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+	Total
2011	9,300	9,100	7,650	3,450	80,600	13,350	7,100	3,150	133,750
2016	9,250	11,050	7,400	3,050	81,400	15,450	7,050	3,650	138,250
2021	8,650	11,300	9,100	3,200	81,000	17,200	7,750	4,050	142,250
2026	7,950	10,550	9,500	3,850	81,150	18,250	9,700	4,600	145,500
2031	7,750	9,700	8,900	3,700	82,000	19,800	10,900	5,500	148,250

YEAR	0-4	5-10	11-15	16-17	18 - retired	retired - 74	75-84	85+
2011	7.0%	6.8%	5.7%	2.6%	60.3%	10.0%	5.3%	2.4%
2016	6.7%	8.0%	5.4%	2.2%	58.9%	11.2%	5.1%	2.6%
2021	6.1%	7.9%	6.4%	2.2%	56.9%	12.1%	5.4%	2.8%
2026	5.5%	7.3%	6.5%	2.6%	55.8%	12.5%	6.7%	3.2%
2031	5.2%	6.5%	6.0%	2.5%	55.3%	13.4%	7.4%	3.7%

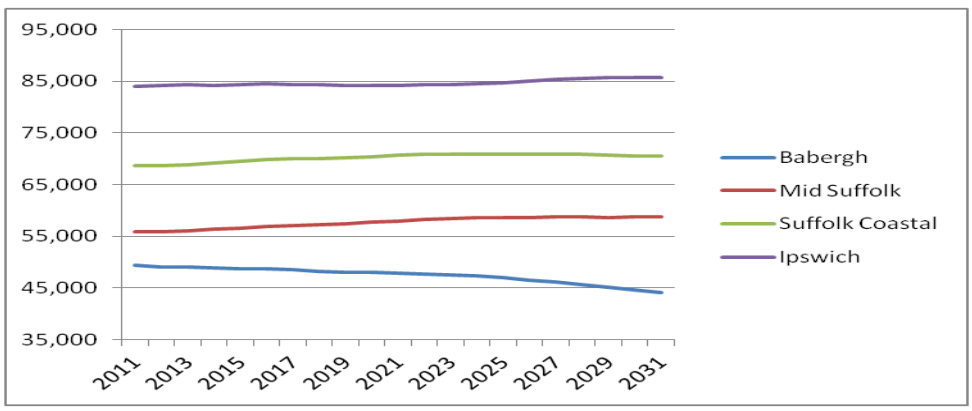
Source: Luton Borough Council using POPGROUP

Figure 3.2: Low Migration: Pre Working Age Projections 2011-2031



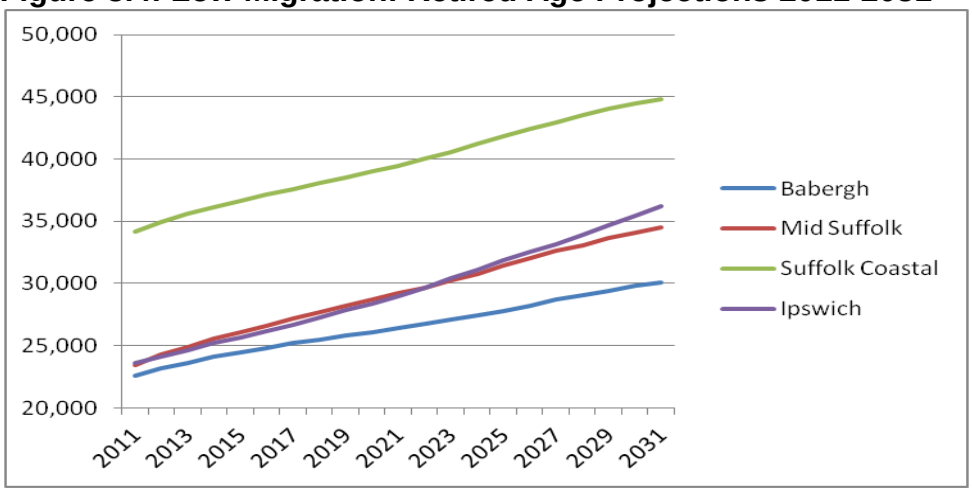
Source: Luton Borough Council using POPGROUP

Figure 3.3: Low Migration: Working Age Projections 2011-2031



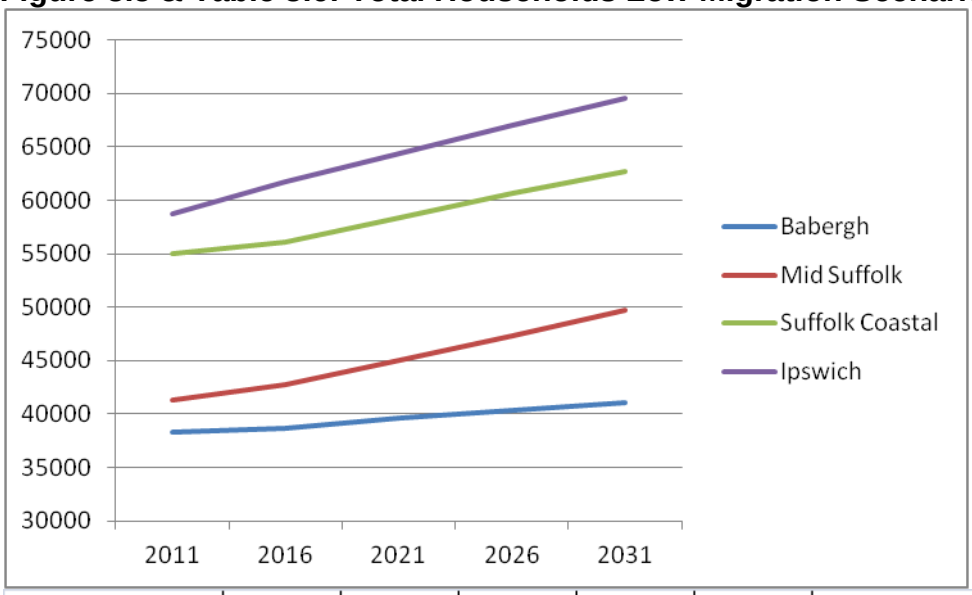
Source: Luton Borough Council using POPGROUP

Figure 3.4: Low Migration: Retired Age Projections 2011-2031



Source: Luton Borough Council using POPGROUP

Figure 3.5 & Table 3.6: Total Households Low Migration Scenario



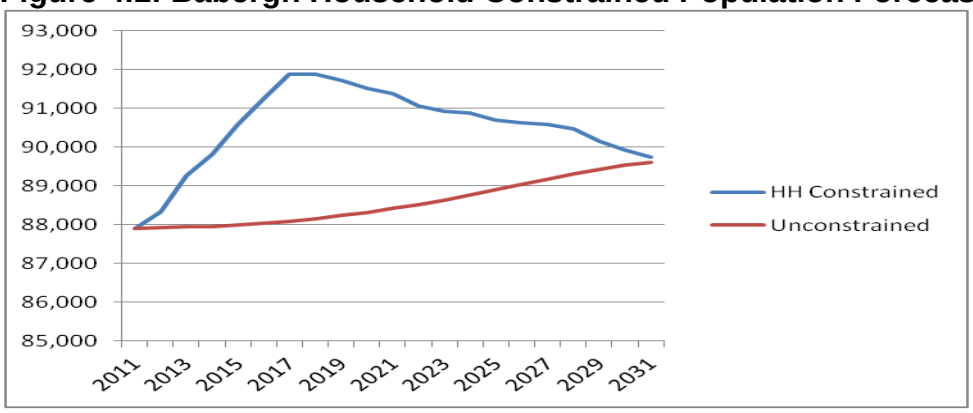
	2011	*2016*	*2021*	*2026*	*2031*	2011-2031 change	2011-2031 % change
Babergh	38300	38700	39600	40400	41050	2750	7.2%
Mid Suffolk	41300	42800	45000	47350	49750	8450	20.5%
Suffolk Coastal	55050	56150	58400	60650	62700	7650	13.9%
Ipswich	58700	61700	64400	67050	69550	10850	18.5%
Ipswich HMA	193350	199350	207400	215450	223050	29700	15.4%

Source: Luton Borough Council using POPGROUP

4. Household Constrained Scenario

This population scenario constrained the data to projected house-building in the Ipswich HMA. The housing constrained scenario population projections have been compared with the trend migration scenario. The purpose of this is to determine whether currently planned house building will meet the projected population. The household projections used are adapted from CLG's rates by Suffolk District Council.

Figure 4.1: Babergh Household Constrained Population Forecasts

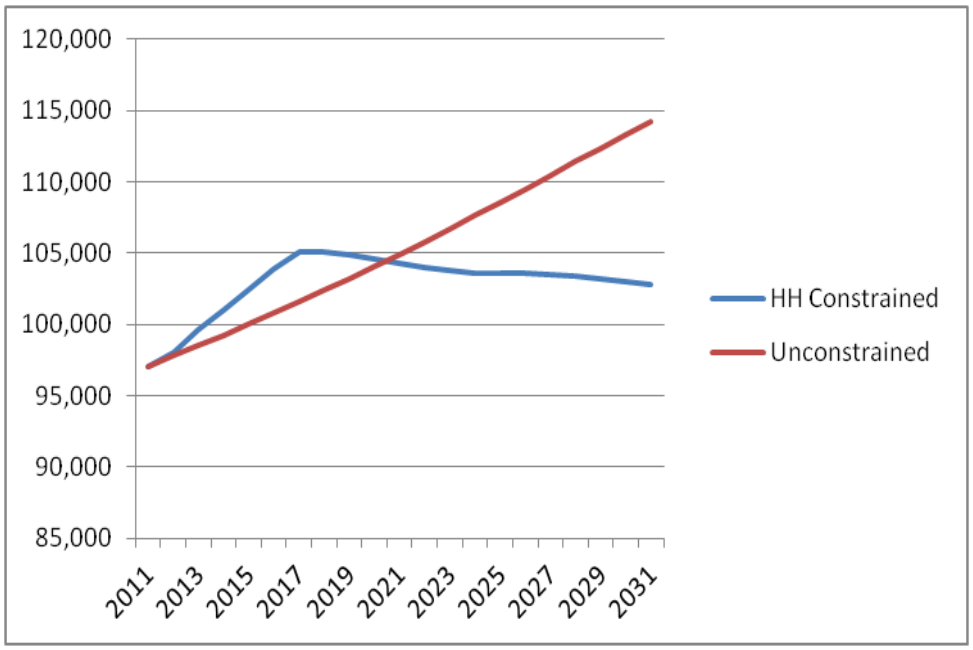


	2011	2016	2021	2026	2031
HH Constrained	87,900	91,250	91,400	90,650	89,750
Unconstrained	87,900	88,050	88,400	89,050	89,600
Difference		3,200	3,000	1,600	150

Source: Luton Borough Council using POPGROUP

- The planned house building in Babergh is more than adequate to reach the projected population and will lead to a higher population than the trend migration scenario.

Figure 4.2: Mid Suffolk Household Constrained Population Forecasts



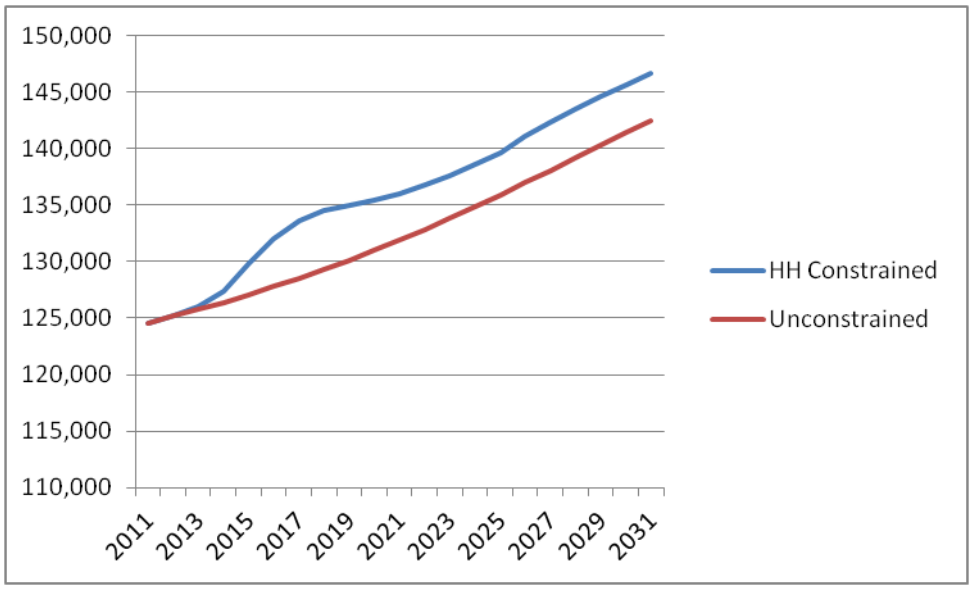
Source: Luton Borough Council using POPGROUP

	2011	2016	2021	2026	2031
HH Constrained	97,100	103,900	104,300	103,550	102,850
Unconstrained	97,100	100,800	104,900	109,500	114,200
Difference		3,100	-600	-5,950	-11,350

Source: Luton Borough Council using POPGROUP

- Comparing the household constrained scenario with the trend migration scenario shows that the planned building in Mid Suffolk will meet demand until 2020.

Figure 4.3: Suffolk Coastal: Household Constrained Population Forecasts

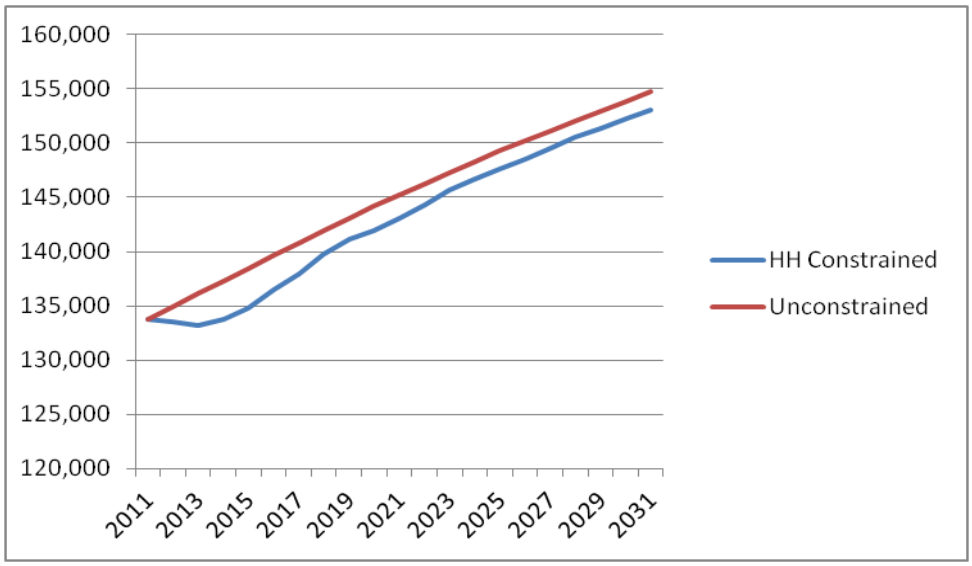


- The house-building plan will meet the projected population growth in Suffolk Coastal.

	2011	2016	2021	2026	2031
HH Constrained	124,600	132,000	136,050	141,050	146,700
Unconstrained	124,600	127,800	131,900	137,000	142,500
Difference		4,200	4,150	4,050	4,200

Source: Luton Borough Council using POPGROUP

Figure 4.4: Ipswich: Household Constrained Population Forecasts

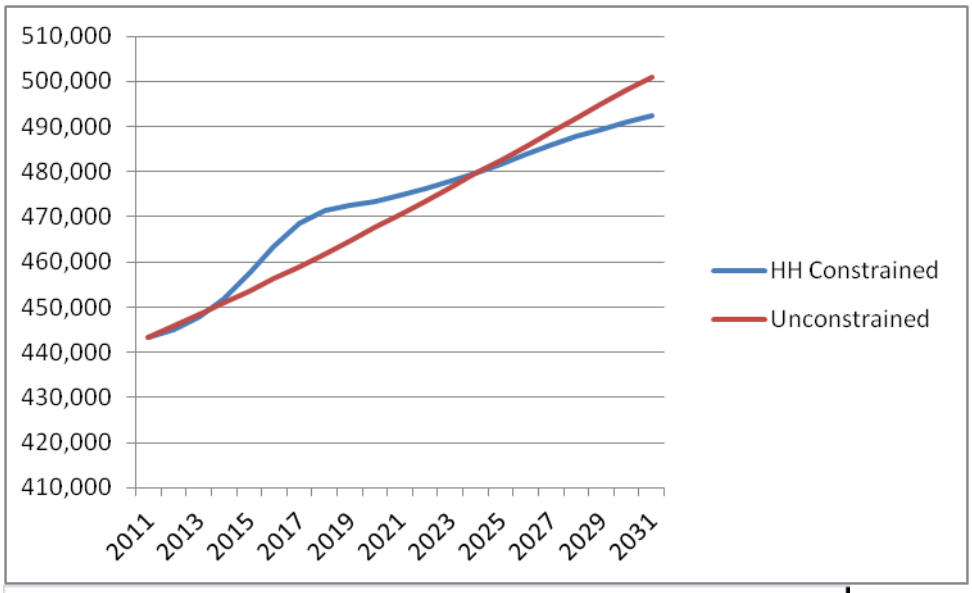


	2011	2016	2021	2026	2031
HH Constrained	133,750	136,450	143,100	148,500	153,050
Unconstrained	133,750	139,650	145,250	150,200	154,700
Difference		-3,200	-2,150	-1,700	-1,650

Source: Luton Borough Council using POPGROUP

- The trend migration projections show that the planned house building in Ipswich will not be adequate to meet expected population growth.

Figure 4.5: Total Ipswich HMA: Household Constrained Population Forecasts



	2011	2016	2021	2026	2031
HH Constrained	443,300	463,600	474,800	483,800	492,350
Unconstrained	443,300	456,250	470,500	485,700	501,050
Difference		7,350	4,300	-1,900	-8,700

Source: Luton Borough Council using POPGROUP

- Figure 3.5 shows that the planned house building in the Suffolk HMA will be able to meet expected population growth until 2025.

5. East of England Forecasting Model Scenario

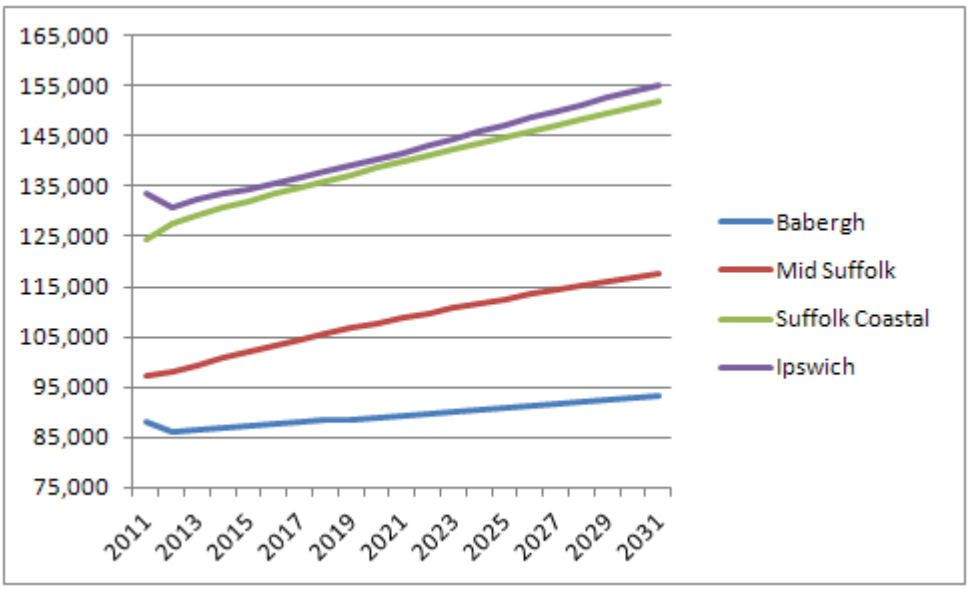
The East of England Forecasting Model (EEFM) was developed by Oxford Economics to project economic, demographic and housing trends in a consistent fashion. It covers a wide range of variables, and is designed to be flexible so that alternative scenarios can be run. In 2012 Oxford Economics ran three scenarios, a baseline forecast, lost decade forecast assuming low economic growth and a high migration scenario. These population and household forecasts have been constrained to the EEFM's baseline population forecasts, with the data split into pre working age, working age and retirement age groups. The EEFM population data were used in POPGROUP for population and household projections. The East of England population projections differ from the other scenarios in that the population base is based on pre Census 2011 population estimates. The EEFM's population figures were apportioned to age groups using the proportions from the trend migration scenario population projections.

Table 5.1: EEFM Constrained: Total Population 2011-2031

	2011	2016	2021	2026	2031	2011-2031 change	2011-2031 % change
Babergh	87,900	87,500	89,300	91,200	93,350	5,450	6.2%
Mid Suffolk	97,100	103,200	108,700	113,550	117,800	20,700	21.3%
Suffolk Coastal	124,600	133,400	139,850	146,050	151,950	27,350	22.0%
Ipswich	133,750	135,600	141,750	148,600	155,150	21,400	16.0%
Ipswich HMA	443,350	459,700	479,600	499,400	518,250	74,900	16.9%

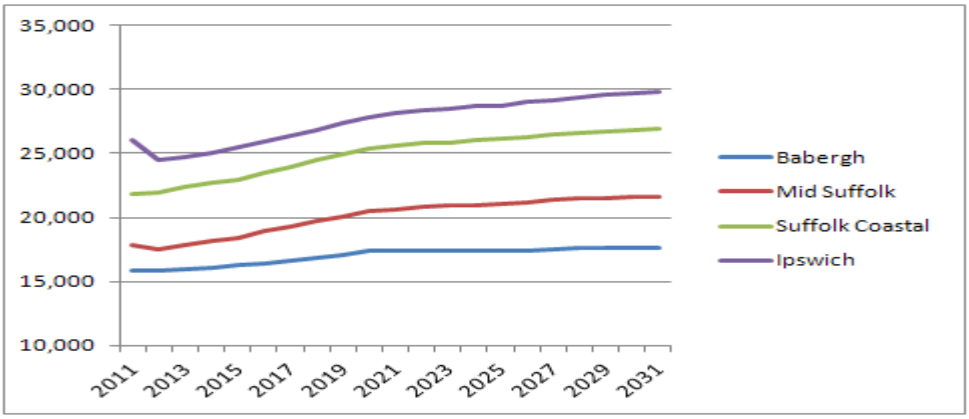
Source: Luton Borough Council using POPGROUP

Figure 5.1: EEFM Constrained: Total Population 2011-2031



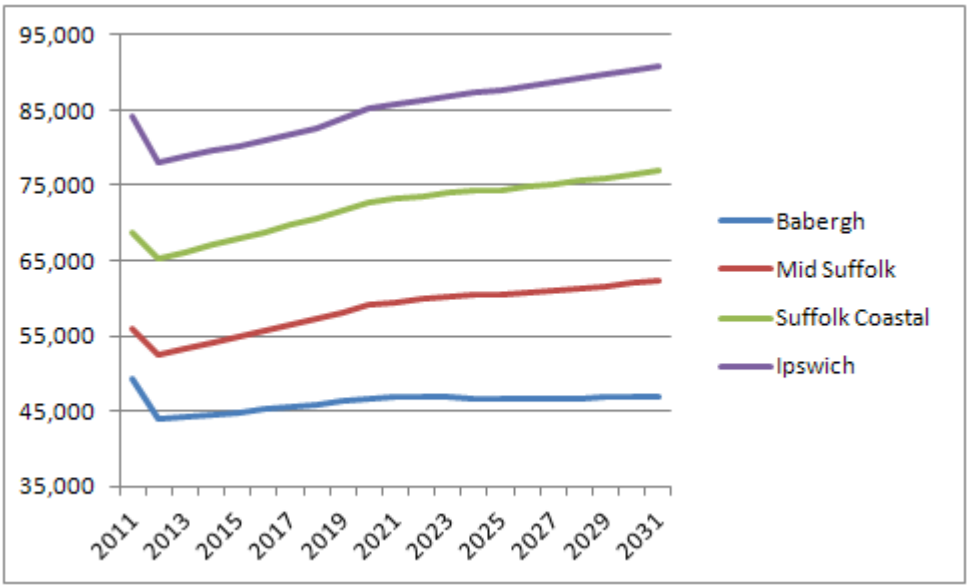
Source: Luton Borough Council using POPGROUP

Figure 5.2: EEFM Constrained: 0-15 Year Olds 2011-2031



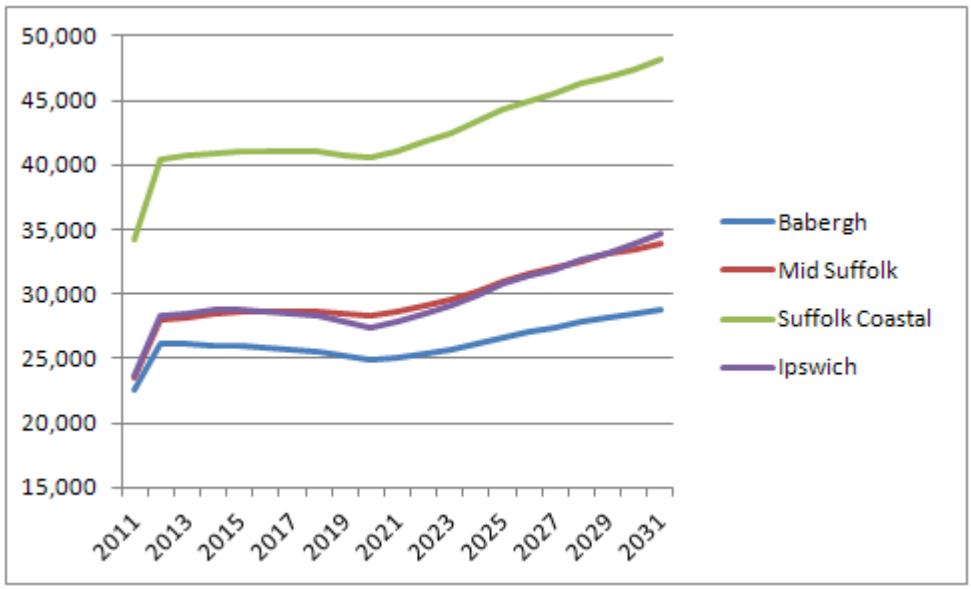
Source: Luton Borough Council using POPGROUP

Figure 5.3: EEFM Constrained: Working Age Population 2011-2031



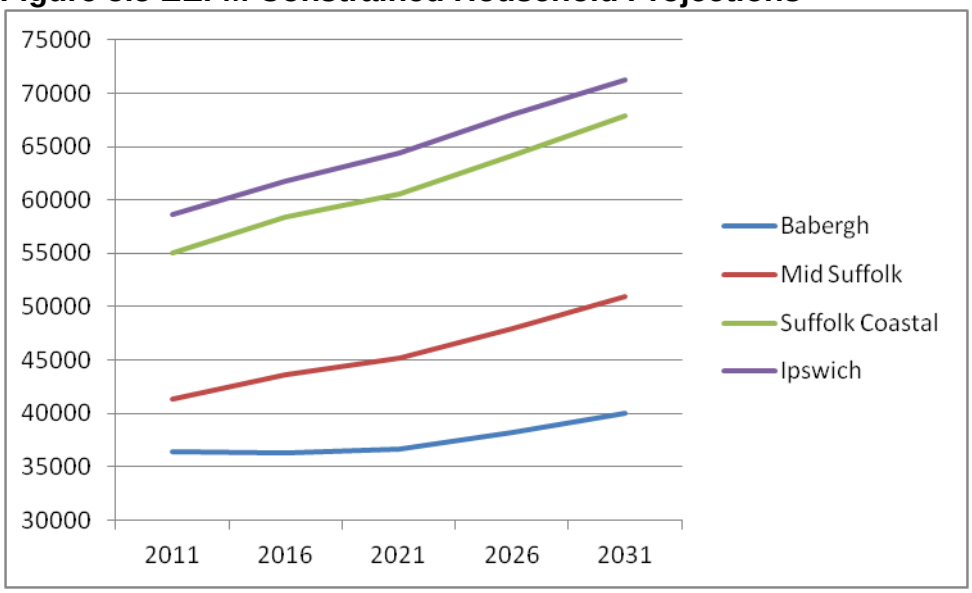
Source: Luton Borough Council using POPGROUP

Figure 5.4: EEFM Constrained: Retirement Age Population 2011-2031



Source: Luton Borough Council using POPGROUP

Figure 5.5 EEFM Constrained Household Projections



Source: Luton Borough Council using POPGROUP

Table 5.2: EEFM Constrained: Household Projections 2011-2031

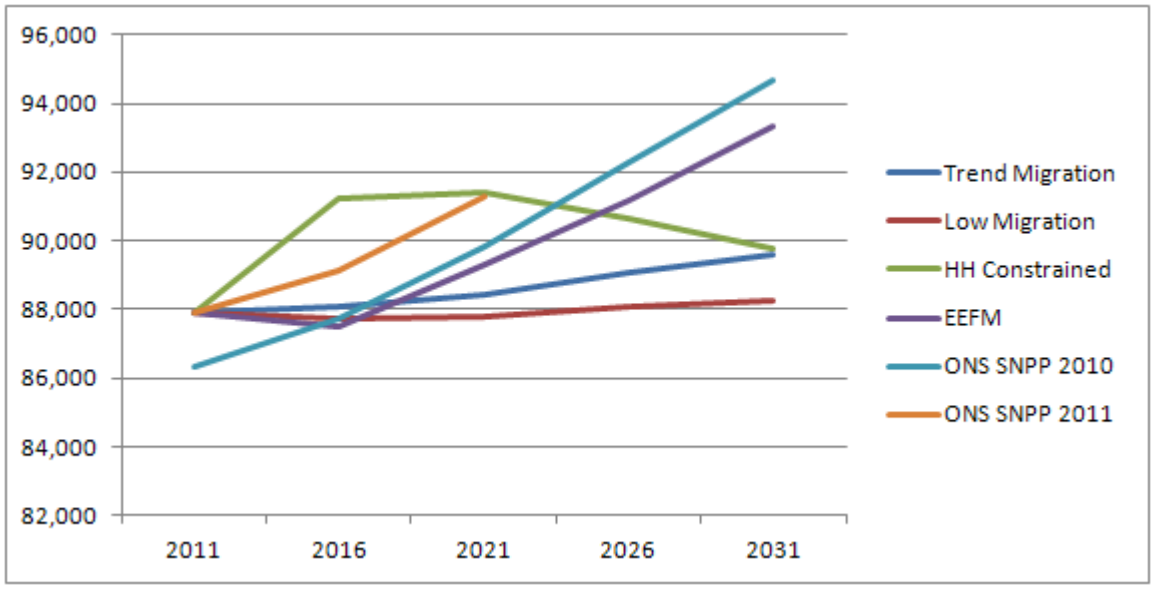
	2011	*2016*	*2021*	*2026*	*2031*	2011-2031 change	2011-2031 % change
Babergh	36450	36250	36650	38200	40050	3600	9.9%
Mid Suffolk	41300	43650	45250	48000	50900	9600	23.2%
Suffolk Coastal	55050	58450	60600	64150	67900	12850	23.3%
Ipswich	58700	61800	64350	68000	71200	12500	21.3%
Ipswich HMA	191550	200150	206850	218400	230000	38450	20.1%

Source: Luton Borough Council using POPGROUP

6. Ipswich Housing Market Area Scenario Comparisons

The population forecasting scenarios are shown together for each district alongside the forecasting scenarios from the Office for National Statistics based on the 2010 mid- year population estimates and the estimates based on the 2011 mid- year population estimates. CLG's household estimates from the 2011 interim household rates and the rates based on the 2008 population projections are compared with the forecasting scenarios.

Figure 6.1 & Table 6.1: Babergh Total Population Forecasts Scenario Comparisons



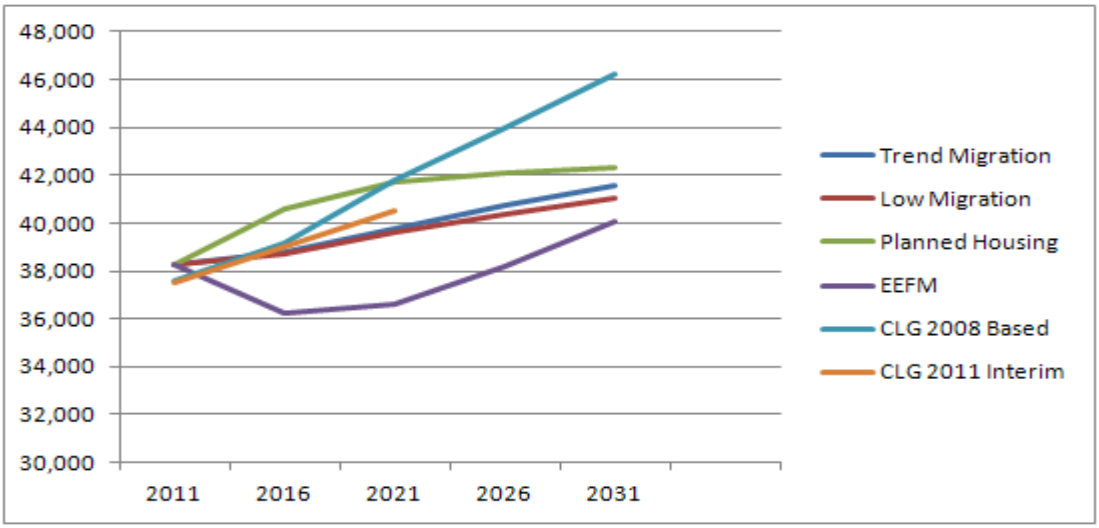
Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

	Trend Migration	Low Migration	HH Constrained	EEFM	ONS SNPP 2010	ONS SNPP 2011
2011	87,900	87,900	87,900	87,900	86,300	87,900
2016	88,050	87,750	91,250	87,500	87,700	89,100
2021	88,400	87,800	91,400	89,300	89,800	91,300
2026	89,050	88,050	90,650	91,200	92,300	
2031	89,600	88,250	89,750	93,350	94,700	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

- The lower projected population growth for Babergh is caused by a lower fertility rate being applied to the forecasts. The lower fertility rates are from the most recent rates published by the ONS. These were not used in the ONS' most recent scenarios. The ONS have also projected a growth in internal migration which is another factor in their higher growth rate. The POPGROUP forecasts have assumed a constant rate of internal migration based on past trends.

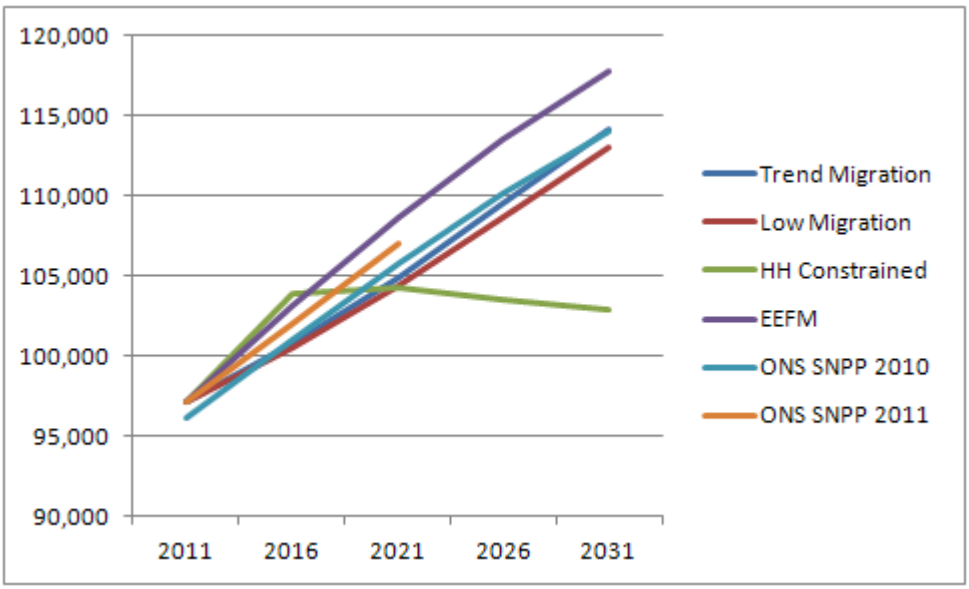
Figure 6.2 & Table 6.2: Babergh Total Household Projections Scenario Comparisons



	Trend Migration	Low Migration	Planned Housing	EEFM	CLG 2008 Based	CLG 2011 Interim
2011	38,300	38,300	38,300	38,300	37600	37550
2016	38,800	38,700	40,600	36,250	39200	39000
2021	39,800	39,600	41,700	36,650	41800	40550
2026	40,750	40,400	42,100	38,200	44000	
2031	41,550	41,050	42,350	40,050	46200	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

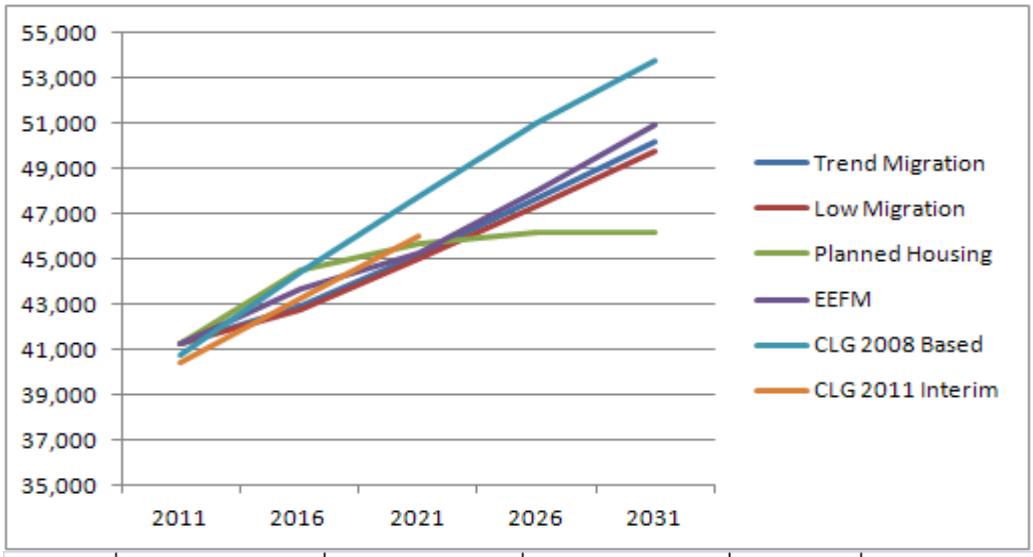
Figure 6.3 & Table 6.3: Suffolk Coastal Total Population Forecasts Scenario Comparisons



	Trend Migration	Low Migration	HH Constrained	EEFM	ONS SNPP 2010	ONS SNPP 2011
2011	97,100	97,100	97,100	97,100	96,200	97,100
2016	100,800	100,550	103,900	103,200	101,000	102,000
2021	104,900	104,400	104,300	108,700	105,800	107,000
2026	109,500	108,700	103,550	113,550	110,200	
2031	114,200	113,050	102,850	117,800	114,000	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

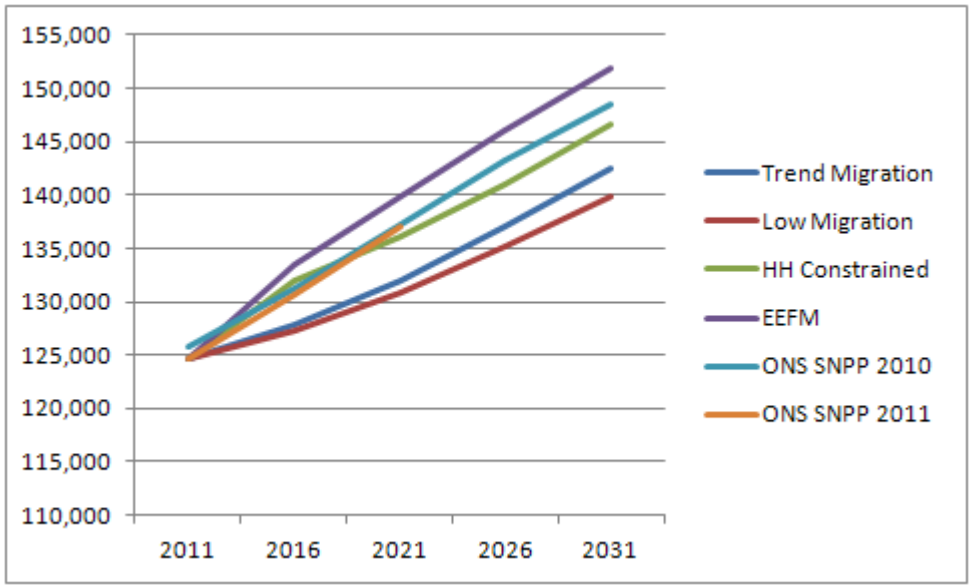
Figure 6.4 & Table 6.4: Mid Suffolk Total Household Projections Scenario Comparisons



	Trend Migration	Low Migration	Planned Housing	EEFM	CLG 2008 Based	CLG 2011 Interim
2011	41,300	41,300	41,300	41,300	40800	40450
2016	42,900	42,800	44,500	43,650	44400	43300
2021	45,200	45,000	45,700	45,250	47800	46050
2026	47,650	47,350	46,200	48,000	51000	
2031	50,150	49,750	46,200	50,900	53800	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

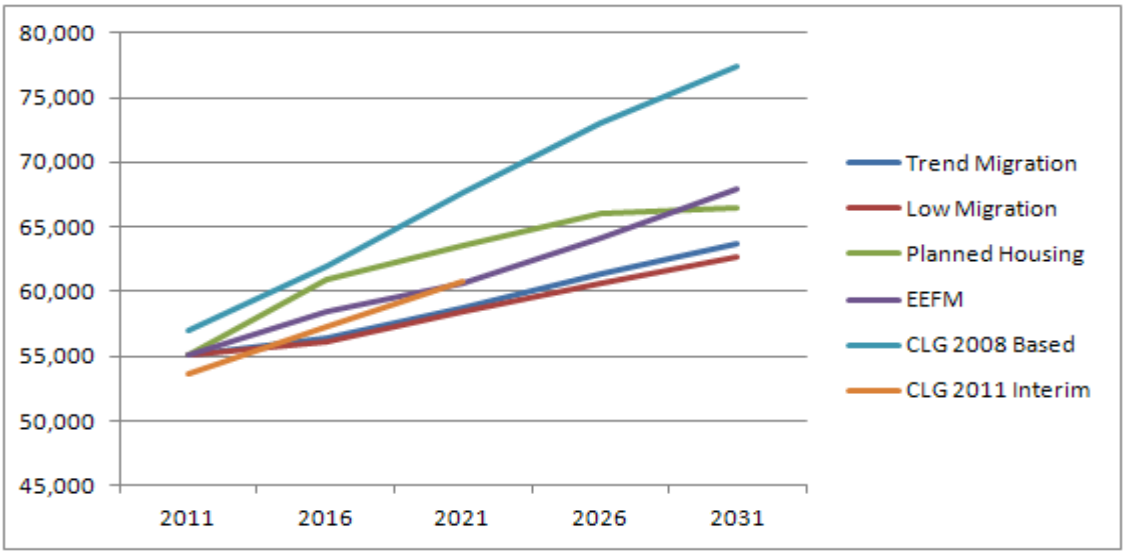
Figure 6.5 & Table 6.5: Suffolk Coastal Total Population Forecasts Scenario Comparisons



	Trend Migration	Low Migration	HH Constrained	EEFM	ONS SNPP 2010	ONS SNPP 2011
2011	124,600	124,600	124,600	124,600	125700	124600
2016	127,800	127,250	132,000	133,400	131200	130600
2021	131,900	130,800	136,050	139,850	137200	137100
2026	137,000	135,200	141,050	146,050	143200	
2031	142,500	139,950	146,700	151,950	148500	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

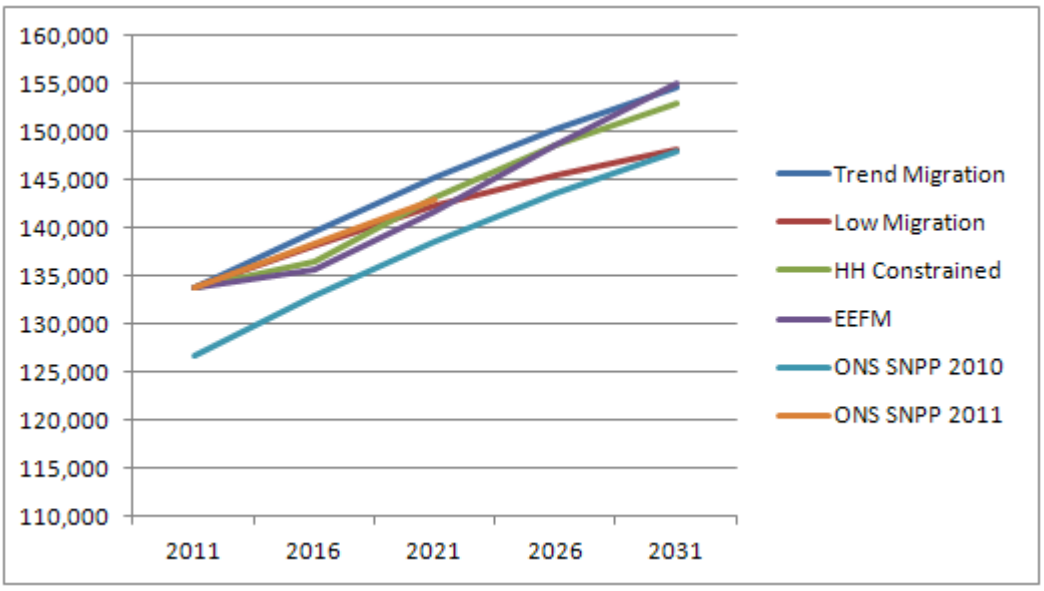
Figure 6.6 & Table 6.6: Suffolk Coastal Total Household Projections Scenario Comparisons



	Trend Migration	Low Migration	Planned Housing	EEFM	CLG 2008 Based	CLG 2011 Interim
2011	55,050	55,050	55,050	55,050	57000	53650
2016	56,350	56,150	60,950	58,450	62000	57250
2021	58,800	58,400	63,600	60,600	67600	60800
2026	61,300	60,650	66,050	64,150	73000	
2031	63,650	62,700	66,500	67,900	77400	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

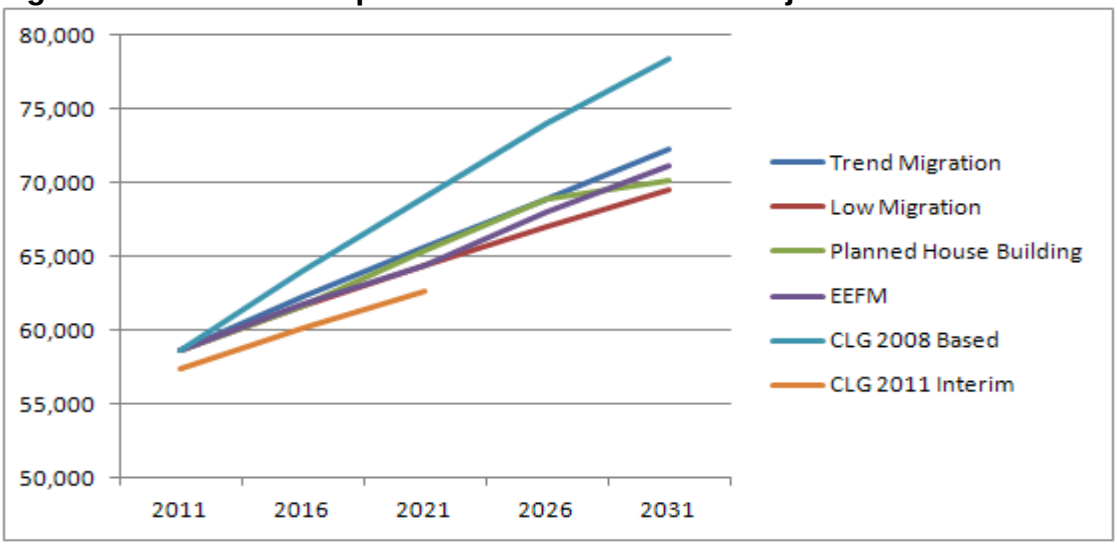
Figure 6.7 & Table 6.7: Ipswich Housing Market Area Total Population Forecasts Scenario Comparisons



	Trend Migration	Low Migration	HH Constrained	EEFM	ONS SNPP 2010	ONS SNPP 2011
2011	133,750	133,750	133,750	133,750	126,700	133,700
2016	139,650	138,250	136,450	135,600	132,900	138,300
2021	145,250	142,250	143,100	141,750	138,600	142,900
2026	150,200	145,500	148,500	148,600	143,600	
2031	154,700	148,250	153,050	155,150	148,000	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

Figure 6.8 & Table 6.8: Ipswich Total Household Projections Scenario Comparisons

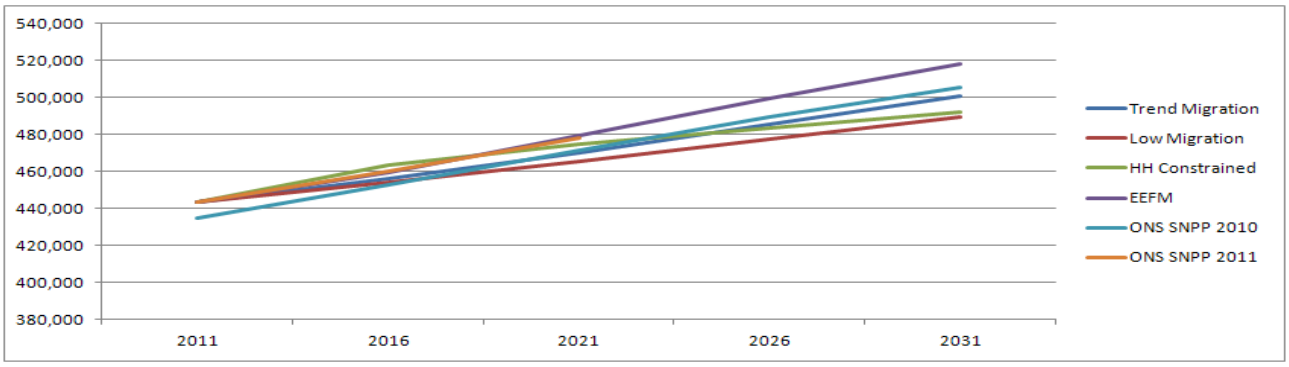


	Trend Migration	Low Migration	Planned House Building	EEFM	CLG 2008 Based	CLG 2011 Interim
2011	58,700	58,700	58,700	58,700	58600	57450
2016	62,250	61,700	61,600	61,800	64000	60100
2021	65,650	64,400	65,350	64,350	69000	62600
2026	68,950	67,050	68,900	68,000	74000	
2031	72,250	69,550	70,200	71,200	78400	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

- The Ipswich household projections show a greater increase for the trend migration scenario than the EEFM scenario despite higher population growth in the EEFM population scenario. This is caused by there being a younger population and therefore lower household formation from the EEFM population from the CLG household rates.

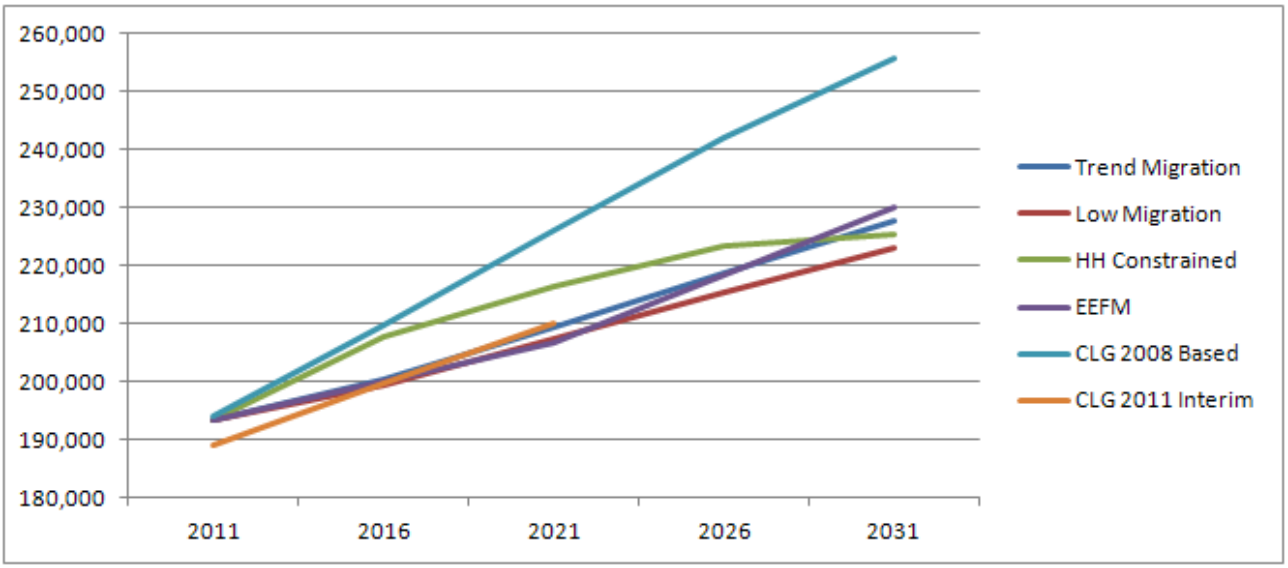
Figure 6.9 & Table 6.9: Ipswich Housing Market Area Total Population Forecasts Scenario Comparisons



	Trend Migration	Low Migration	HH Constrained	EEFM	ONS SNPP 2010	ONS SNPP 2011
2011	443,350	443,350	443,350	443,350	434,900	443,300
2016	456,300	453,800	463,600	459,700	452,800	460,000
2021	470,450	465,250	474,850	479,600	471,400	478,300
2026	485,750	477,450	483,750	499,400	489,300	
2031	501,000	489,500	492,350	518,250	505,200	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

Figure 6.10 & Table 6.10: Ipswich Housing Market Area Total Household Projections Scenario Comparisons



	Trend Migration	Low Migration	HH Constrained	EEFM	CLG 2008 Based	CLG 2011 Interim
2011	193,350	193,350	193,350	193,350	194,000	189,100
2016	200,300	199,350	207,650	200,150	209,600	199,650
2021	209,450	207,400	216,350	206,850	226,200	210,000
2026	218,650	215,450	223,250	218,350	242,000	
2031	227,600	223,050	225,250	230,050	255,800	

Source: Luton Borough Council using POPGROUP, Oxford Economics, Office for National Statistics

- The CLG 2008 based household rates show the highest increase in household growth. The data are based on household rates calculated in a time of economic growth. The much lower rates in the 2011 interim CLG figures are based on rates calculated during the recession and therefore project lower growth.

Appendix

Appendix 1: Technical Paper

The population forecasting was run using POPGROUP software. POPGROUP uses a cohort component methodology for its population projections, a headship rate for its household projection model and an economic activity rate for its labour force projection model. POPGROUP's population forecasting model estimates future population change based on fertility, mortality and migration assumptions using historical data. Population forecasts can be used to derive likely household and housing profiles consistent with the population's age and sex composition.

Various forecasting scenarios were run using different assumptions. The scenarios were trend migration, low migration, a housing constrained scenario, and a scenario based on the East of England Economic Forecasting Model's population projections. All scenarios used the same fertility and mortality schedules.

Fertility Rates

For all scenarios the fertility rates from the Office for National Statistics for the four districts were used. The Total Fertility Rate (TFR) is the average number of live children that a group of women would bear if they experienced the age-specific fertility rates of the calendar year in question throughout their childbearing lifespan. The national TFRs have been calculated using the number of live births and the 2011 based population projections by single year of age. The sub-national TFRs have been calculated using the number of live births and the mid-2011 population estimates by five year age group. The fertility rate for Babergh is 1.89, 2.0 for Mid Suffolk, 2.01 for Suffolk Coastal and 2.02 for Ipswich. The UK fertility rate is 1.99.

Mortality Rates

The standard mortality rates from the Office for National Statistics were used in all of the scenarios.

Scenario 1: Trend Migration

The trend migration scenario uses an average of the last five years for international migration and internal migration to other parts of the UK. The migration data are from the components of population change published by the Office for National Statistics with the 2011 mid-year population estimates in 2012. International migration data are distributed to the local level from the national figures using a methodology combining the International Passenger Survey, international national insurance registrations, and GP registrations from overseas. Internal migration data are distributed from the national to local level using GP registration records. Using a five year average is consistent with the methods used in the ONS' sub national population projections.

Table 1: International Migration In

	2006-7	2007-8	2008-9	2009-10	2010-11	5 Year Average
Babergh	336	268	250	211	279	269
Mid Suffolk	260	210	229	177	229	221
Suffolk Coastal	750	525	435	330	430	494
Ipswich	1,466	1,597	1,334	1,077	913	1277

Source: Office for National Statistics

Table 2: International Migration Out

	2006-7	2007-8	2008-9	2009-10	2010-11	5 Year Average
Babergh	304	263	413	265	227	294
Mid Suffolk	241	196	305	193	199	227
Suffolk Coastal	651	424	533	287	385	456
Ipswich	1,334	893	1,206	631	908	994

Source: Office for National Statistics

Table 3: Internal Migration In

	2006-7	2007-8	2008-9	2009-10	2010-11	5 Year Average
Babergh	4,804	4,400	4,126	4,373	4,481	4437
Mid Suffolk	5,905	4,886	4,502	5,251	4,673	5043
Suffolk Coastal	7,067	5,909	5,348	5,777	5,454	5911
Ipswich	5,579	5,538	5,937	6,298	6,188	5908

Source: Office for National Statistics

Table 4: Internal Migration Out

	2006-7	2007-8	2008-9	2009-10	2010-11	5 Year Average
Babergh	4,687	4,131	3,796	4,267	4,229	4222
Mid Suffolk	4,353	4,272	4,026	4,451	4,258	4272
Suffolk Coastal	4,929	4,940	4,919	5,117	4,918	4965
Ipswich	6,203	5,612	5,565	5,785	5,772	5787

Source: Office for National Statistics

Scenario 2: Low Migration Scenario

The low migration scenario used estimated levels of migration based on the government successfully meeting its target to reduce inward international migration. A 20.7% reduction was applied to the five year average of the inward international migration for each district. This scenario assumed that all other migration types were the same as the trend migration scenario.

Table 5: Low Migration Inward International Migration

	In
Babergh	213
Mid Suffolk	175
Suffolk Coastal	392
Ipswich	1013

Source: Office for National Statistics five year average with a 20.7% reduction

Migration was assumed to be constant in all the forecast scenarios and no forward projections were made for migration.

Scenario 3: Planned Housing Scenario

A forecasting scenario was run with a household constraint applied to the trend migration projections. The household constraints were supplied by the local planning authorities based on the house-building targets in the local plans with the Ipswich Housing Market Area.

Table 6: Suffolk Household Targets in the Local Plan

		2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
	Dwellings Census 2011	Dwellings Built	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion
Babergh	39,015	259	410	292	347	280	312	230	210	165	165
Ipswich	59,301	283	119	437	607	831	749	814	828	647	728
Mid Suffolk	41,918	396	573	556	549	531	510	215	200	125	125
Suffolk Coastal	58,330	270	312	509	833	716	639	556	474	474	474

	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31 +
	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion	Dwellings Identified for Completion
Babergh	115	115	105	50	50	50	50	50	50	50
Ipswich	759	789	709	650	650	650	650	-	-	-
Mid Suffolk	125	100	100	100	100	-	-	-	-	-
Suffolk Coastal	494	487	484	484	489	489	-	-	-	-

Source: Suffolk County Council

Special Populations

The POPGROUP model can adjust for 'special populations' such as armed forces and the student population by excluding them from the demographic change and adding the populations back in at the end of the forecasts.

Student Population (e.g. over 18 in full-time education)

Ipswich has a relatively new university, the main campus of the University Campus Suffolk (UCS). The Council Tax Base records some 152 equivalent dwellings in Ipswich used as halls of residence, which is solely the new Athena Hall near UCS's Ipswich Campus. This provides 589 rooms for students (equivalent to four students as one household). A further 1,149 bed spaces have been permitted and are awaiting completion in Ipswich. A smaller education establishment, also part of the UCS network, is present at Otley, within Suffolk Coastal. Students are present in all areas as part of the existing population, which ages and migrates. Student populations that move to an area to study have different characteristics and need to be modelled differently. For modelling purposes, a special population has been created for Ipswich only (based on the 2011 Census which recorded 1,669 students in Ipswich) to reflect its on-going role as a destination for higher education.

The proportions of the student population by age for east region from the 2011 Census were applied to the total student population of Ipswich. The age group from 18-24 were then split by

single year of age for the POPGROUP model. Without any data on the sex distribution at the university in Ipswich, a 50% male female split was used. At the time of compilation of the data an age and sex breakdown of the student population from the 2011 Census had not been published, so a 50-50 split was also used.

Table 7: East Region Student Proportions by age

Students by age	2001	2011
Age 16 to 17	45%	45%
Age 18 to 19	21%	20%
Age 20 to 24	21%	22%
Age 25 to 29	5%	6%
Age 30 to 34	3%	3%
Age 35 to 39	2%	2%
Age 40 to 44	1%	1%
Age 45 to 49	1%	1%
Age 50 to 54	0%	0%
Age 55 to 59	0%	0%
Age 60 to 64	0%	0%
Age 65 to 69	0%	0%
Age 70 to 74	0%	0%

Source: 2011 Census, Office for National Statistics

Table 8: Ipswich Student Population for Special Population Forecast in POPGROUP

Age	Total	M	F
18	397	199	199
19	397	199	199
20	175	87	87
21	175	87	87
22	175	87	87
23	175	87	87
24	175	87	87

Source: 2011 Census Student Population split by age

Armed Forces

The characteristics of armed forces also need to be modelled as special populations, most service personnel are young and tend to be posted for three years. There are two military bases in the Ipswich Housing Market Area, these are:

- Wattisham Airfield, which straddles the Babergh and Mid Suffolk Districts, is the base for nearly 2,500 people, most of which (1,800) are Services Personnel from the Army Air Corps (AAC), the Royal Electrical and Mechanical Engineers (REME), or RAF Search and Rescue (2 regiments and a battalion).

- The 23 Engineer Regiment is based at Rock Barracks, near Woodbridge, which is also a ministry training facility. Living accommodation for junior, Sergeant and Officer ranks is available in Rocks Barracks.

The armed forces totals for Babergh, Mid Suffolk, Suffolk Coastal and Ipswich were taken from the 2011 Census and apportioned to age and sex using proportions from Defence Analytical Services and Advice (DASA) data. All the housing market area is used because some personnel live off-base in service and private accommodation.

Table 9: Armed Forces Population

Area	Armed Forces
Babergh	363
Ipswich	301
Mid Suffolk	1,102
Suffolk Coastal	618

Source: 2011 Census, Office for National Statistics

Table 10: Armed Forces Proportions by Age and Sex

Age	Percentage
Under 18	2%
18-19	6%
20-24	25%
25-29	24%
30-34	18%
35-39	13%
40-44	8%
45-49	3%
50-54	1%
55+	0%

Age	%Male	%Female
Under 18	92%	8%
18-19	92%	8%
20-24	91%	9%
25-29	90%	10%
30-34	89%	11%
35-39	92%	8%
40-44	92%	8%
45-49	95%	5%
50-54	98%	2%
55+	91%	9%

Source: Defence Analytical Services and Advice (DASA)

Table 10: Armed Forces Age Estimates for POPGROUP Special Populations

Male	Babergh	Ipswich	Mid Suffolk	Suffolk Coastal
Under 18	7	6	20	11
18-19	20	17	61	34
20-24	83	68	251	141
25-29	78	65	237	133
30-34	58	48	177	99
35-39	43	36	132	74
40-44	27	22	81	46
45-49	10	9	32	18
50-54	4	3	11	6
55+	0	0	0	0

Female	Babergh	Ipswich	Mid Suffolk	Suffolk Coastal
Under 18	1	0	2	1
18-19	2	1	5	3
20-24	8	7	25	14
25-29	9	8	28	15
30-34	7	6	21	12
35-39	4	3	12	6
40-44	2	2	7	4
45-49	0	0	2	1
50-54	0	0	0	0
55+	0	0	0	0

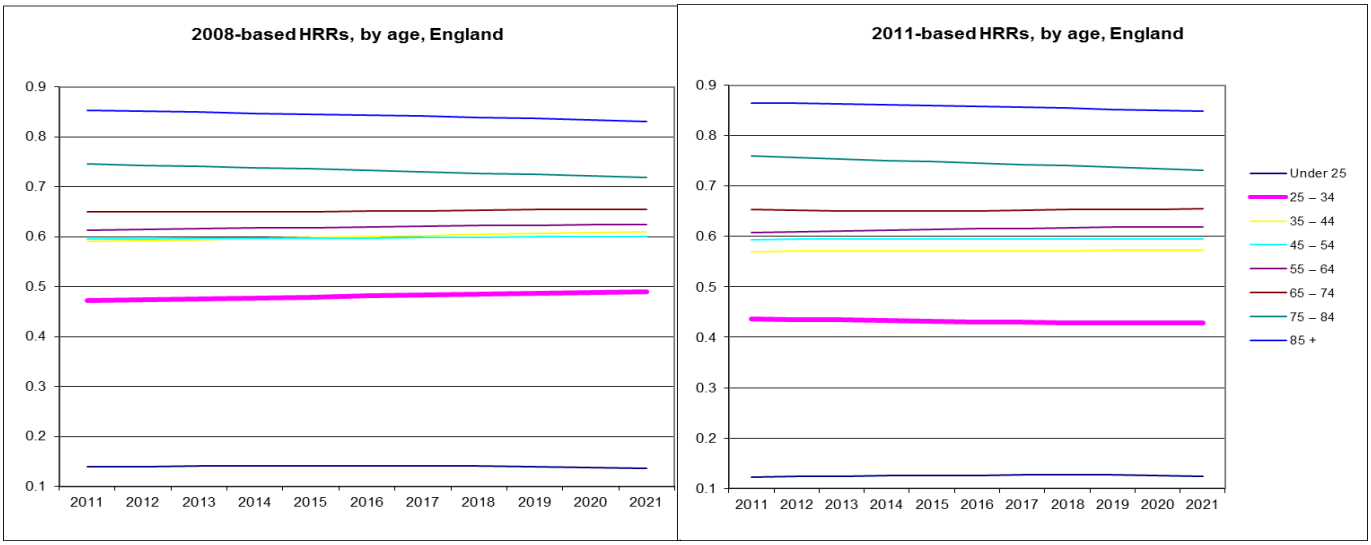
Source: Census 2011, Office for National Statistics, proportions from DASA, sum may not add to totals due to rounding

Household Forecasts

Household Forecasts were run using the POPGROUP derived forecast model. Suffolk County Council provided the household headship rates which were adapted from the 2011Interim

household projections produced by Communities & Local Government (CLG). An adapted version has been used because there are concerns amongst local authorities regarding the use of these rates. The main matter to arise from the consideration of representative rates is the extent to which these rates have been influenced by the economic conditions since 2007 and the affordability of homes, which is influenced by a lack in the supply of homes. Of particular note is the effect to younger headship rates between the two bases. This reflects previous evidence that younger people are less likely to form households because of the constraints in the housing markets.

Figure 1. Household Headship Rates (HRRs) used in 2008 and 2011-based projections, by age for England.



Source: DCLG

The charts above show the difference that the representative rates make based on the 2011-base household population projections used by DCLG. By way of example, if the 2008 rates are used, just over 1,400 more young-person households would be projected for Ipswich in 2021 than using the 2011-based results.

However, to accept the declining trend in young household formation would be contrary to recognised evidence as well as the Government's objectives, and would result in a "self-reinforcing process" of suppressed household growth trends informing projections which, in turn, become a determinate of supply.[2]

Selection of household representative/headship rates

The use of the POPGROUP forecasting model provides an opportunity to produce detailed results following the same categories as DCLG's household projections. This gives raise to the following four options, each has advantages and disadvantages:

	Advances	Disadvantages
Use 2008-based headship rates	– Already installed within model – Provides long-term trend before recession	– Rates do not reflect conditions as confirmed by 2011 Census
Replace these rates with 2011-base	– Updated rates publically available	– Data only available between 2011-2021

[2] Bramley, G (2013) "Housing Market Models and Planning", *Town Planning Review*, v.84, 1 / 2013

	– Rates linked available results from 2011 Census	– Projected rates influenced by suppressed household formation of young people.
Combine 2011-base with trends from the previous 2008-base	– Incorporate 2011 Census – Less influenced by suppression of household formation than 2011-base – Forecasts to 2031 possible	– Changes in 2008-base rates unrelated to 2011-based projections. – Approach not officially recognised
Devise new rates based on local information and review of Census results	– Potential for greater recognition of locally-specific information	– Extensive analysis and data collection required – Consultation and testing necessary

The choice of household representative rates does need to be informed by the latest evidence such as the 2011 Census. There would be little point in assuming that conditions in 2011 did not exist. This suggests that the 2011-based results or the combined approach should be used and the 2008-base should be dismissed.

The fact that the 2011-based projections only go to 2021 does mean, however, that data in later years would need to the inputted. Another disadvantage is the influence of the potential suppressed household formation, particularly young people. Critically, as noted above, this approach would not accord with Government policy.

Therefore, and given devising a whole new approach would not be feasible given time and resource constraints, a combined approach has been chosen. A wholly revised set of household projections will not be available until Autumn 2014.

Combined 2008 and 2011 approach

This approach uses the 2011-base for the year 2011 as the baseline. The annual changes to the rates from the 2008-base are then applied to each year and household type.

Using Ipswich as an example, the rate for a family (23-44) with two children in Ipswich from the 2011-base is 0.135. From the 2008-base, the difference in the rate for 2012 and 2011 is -0.001, which applied to the 2011-base figure (to give a rate of 0.134). All negative values are reset to 0.

This approach does produce some notable differences compared to the 2008 and 2011 bases. The 2008-base projected increasing rates of young males living alone converging on 0.146 in 2021. The 2011 results, however, lowered the rates at 2011 and, for ages 25-34, projected a decline.

For example some districts rates have led to a decrease in household formation despite an increase in the population base in the 2011 census.

The rates for Babergh project more households than population growth because of the increase in single person households.

POPGROUP Forecasting Software

Popgroup software is maintained by Edge Analytics under licence the Local Government Association. Popgroup provides a means to make estimates of the current population and

forecasts of the future population for national, sub-national and local areas, for the whole population of an area and for sub-populations including ethnic groups. Users enter past information and their assumptions about the future for births and fertility, deaths and mortality, and migration into Excel data sheets. Information from population estimates can also be incorporated. Popgroup uses a standard cohort component forecasting method to produce forecasts and provides results in Excel sheets.

The Household projections are calculated using the Derived Forecast (DF) model which is a new development in the POPGROUP suite of demographic models. It incorporates in one model set up, one forecast routine and one output reporter all the previous features of LABGROUP and HOUSEGROUP which made labour market and household projections. In addition, it has the flexibility to accommodate the methods of household projection from each of the four UK statistical agencies. The Communities and Local Government rates were used in these forecasts.

Office for National Statistics Sub National Population Projections

The sub national population projections produced by the Office for National Statistics are an updated set of projections which incorporate data from the 2011 Census but are only up to 2021. These projections are not forecasts and do not attempt to predict the impact that future government or local policies, changing economic circumstances or other factors might have on demographic behaviour. The primary purpose of the sub-national projections is to provide an estimate of the future size and age structure of the population of local authorities in England. These are used as a common framework for informing local-level policy and planning in a number of different fields as they are produced in a consistent way.

Appendix 2: Luton Traded Services, Research & Geospatial Service

Research and Geospatial Information Service (R&GI)

Introduction

The Luton Traded Services Research and Geospatial Information Service (R&GI) offer high quality, evidence-based research, with expert analysis of the findings. R&GI is the ideal service provider to support a large variety of projects such as service planning, policy development and service transformation. We can focus on many topics such as the economy, population, crime, and local mapping. We achieve this by offering a unique bespoke service to research and analyse your information using a range of analytical and geospatial techniques.

We also offer a full range of mapping and data services to support your project, this will include collecting initial data, conducting detailed analysis of this data, presenting the findings clearly and precisely, and finally, offering any consultancy needed. The R&GI team is very skilled in project management which means you can trust our team to both manage our work for you and to offer training and consultancy with you when needed.

Below is a list of the services we can provide:

- Population Analysis
- Consumer Analysis/Segmentation.
- Crime Analysis.
- Market Research/Surveys

- Project Management Training.
- GIS Data Capture and Management.
- Data Management Service.
- GIS and Address Management Consultancy.

Why Use Us?

- We provide high quality evidence based research and analysis.
- Our team is experienced in a wide range of areas including population, economics, customer profiling, crime, GIS, research, analysis, and project management.
- Experience in delivering data and analysis to small and large audiences.
- Our expertise has been utilised both locally and nationally, and upon invitation we have presented our analytical work to major conferences. This includes those organised by the EU such as the Smart Cities Customer Insight Conference, The Local Government Chronicle, and The British Society for Population Studies.
- We believe passionately that our service goes beyond data analysis; we will work with you to create something more.
- We can provide robust analytical products and make recommendations that are relevant to your specific circumstances, making a visible difference to your customer/client groups.
- Experience of working with a number of local authorities including Dacorum Borough Council, Ipswich Borough Council and Luton Borough Council.

For further information on using R&GI Services, please contact Paul Barton on 01582 546311 or via email paul.barton@luton.gov.uk or paul.barton@lutontradedservices.com

R&GI is a service within “Luton Traded Services – making a visible difference”

Luton Traded Services is the trading arm of Luton Borough Council. We offer a broad range of services including Building Control, Consultancy, Dog Wardens, Events, Fleet Maintenance & Mot, Highways Maintenance, Parks, Research, Training, Venues and Waste.

For further information on the full range of services offered by Luton Traded Services and how to access these, please see www.lutontradedservices.com or contact us on 01582 546265 or info@lutontradedservices.com