

East Hertfordshire

Population & Household Forecasts - Parish Groupings & Towns -

Incorporating Phase 1 and Phase 2 analysis

October 2012

edge analytics

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1. Introduction

1.1. Context

Since 2006/7 and the onset of the economic recession, new dwelling completions have fallen considerably. The Government has also introduced a more local approach to planning including the intention to abolish Regional Spatial Strategies (RSS) and their associated district-wide housing targets.

East Hertfordshire (East Herts) is a partner on the Demographic Study commissioned by the Essex Planning Officers' Association (EPOA) and completed by Edge Analytics Ltd. East Herts is a large polycentric district with five separate towns and no single, dominant centre. Whilst the work being carried out by Edge Analytics for the EPOA is very useful at district level, East Herts wishes to undertake further work at a sub-district level.

1.2. Requirements

East Herts Council is seeking to develop a more informed view of the recent and future development of its local communities, through the provision of additional demographic intelligence that can support the local development framework.

It wishes to use this intelligence to both inform its own views on the scale and distribution of future development but also to provide robust evidence which may at a future date be used to engage in consultation with local stakeholders across the district, taking into account local policy decisions.

The requirements of this project can be separated into two distinct stages. Firstly, East Herts would like to develop housing requirement figures for sub-district geographies ('Towns' and 'Parish Groupings') to use as a starting point towards informing strategic plans. The Council therefore requires a range of forecast scenarios to be conducted for both Parish Grouping and Town areas in order to inform the plans. The second stage in the project process is to make an assessment on the potential impacts which strategic housing plans would have upon the projected population of East Herts, but at the Parish Grouping level only.

1.3. Summary of methodology

The requirements for the first phase of this project have been met through the analysis of official statistics in conjunction with additional local information. Alternative projections have been developed using the POPGROUP suite of population and household models, testing alternative

‘trend-led’ and ‘policy-led’ growth trajectories. East Herts Council has previously undertaken a joint Strategic Housing Market Assessment (SHMA) with Broxbourne, Harlow, Epping Forest, Uttlesford and Brentwood, produced by ORS in 2008. Although the original SMHA included neighbouring districts, these small area projections are constrained to the East Herts district boundary. The Parish Groupings used in this study reflect the housing market areas identified for East Herts district in the SHMA. As such, the results for the Parish Groupings can be aggregated to provide results for each housing market area.

The second phase of the project tests a range of housing scenarios at Parish Grouping level, altering the dwelling constraints imposed on the population and household projection model in accordance with 20 year dwelling totals supplied by East Herts Council. A total of 7 housing-led scenarios have been tested to evaluate the impact upon population and household numbers.

1.4. Document structure

Definitions of the Parish Grouping and Town sub-district areas are detailed in Section 2. Section 3 describes the main sources of data used in the analysis and summarises the methodologies employed to develop the scenario forecasts. Section 4 provides an analysis of historical trends in population change in each of the defined sub-district areas. Section 5 details the results of the range of growth scenarios which have been tested on each Parish Grouping and Town area. Section 6 reports on phase 2 of the project, detailing the demographic impact of proposed housing targets on the East Herts Parish Groupings. Section 7 presents the findings alongside the growth scenarios developed in Section 5 in order to facilitate a comparison. Conclusions are presented in Section 8. Additional statistics on changing average household size associated with each scenario are provided in the Appendix.

1.5. Scope of study

The purpose of this study is to examine the demography of East Herts from a range of perspectives. It is not the intention of this project to produce a recommended or preferred demographic forecast or housing target for East Herts District or its small geographic areas. Instead, it enables East Herts Council, through its District Plan, to arrive at an appropriate housing target for East Herts to 2031. The use of trend based data is an accepted and established method for estimating the future demography of an area. It is not within the remit of this study to consider whether any predicted demographic change is appropriate. Rather, it is simply to estimate based on the current demography and likely trends, what the future demography of an area will be.

2. Area definitions

East Herts District is a largely rural area, containing five separate towns. For projection analysis, two sub-district geographies have been defined: Parish Grouping and Towns.

There are six Parish Groupings:

1. Bishop's Stortford and Northeastern
2. Buntingford and Central Northern
3. Hertford and Central Southwestern
4. Sawbridgeworth and Southeastern
5. Ware and Central Southern
6. Western

The boundaries of these areas are displayed in Figure 1.

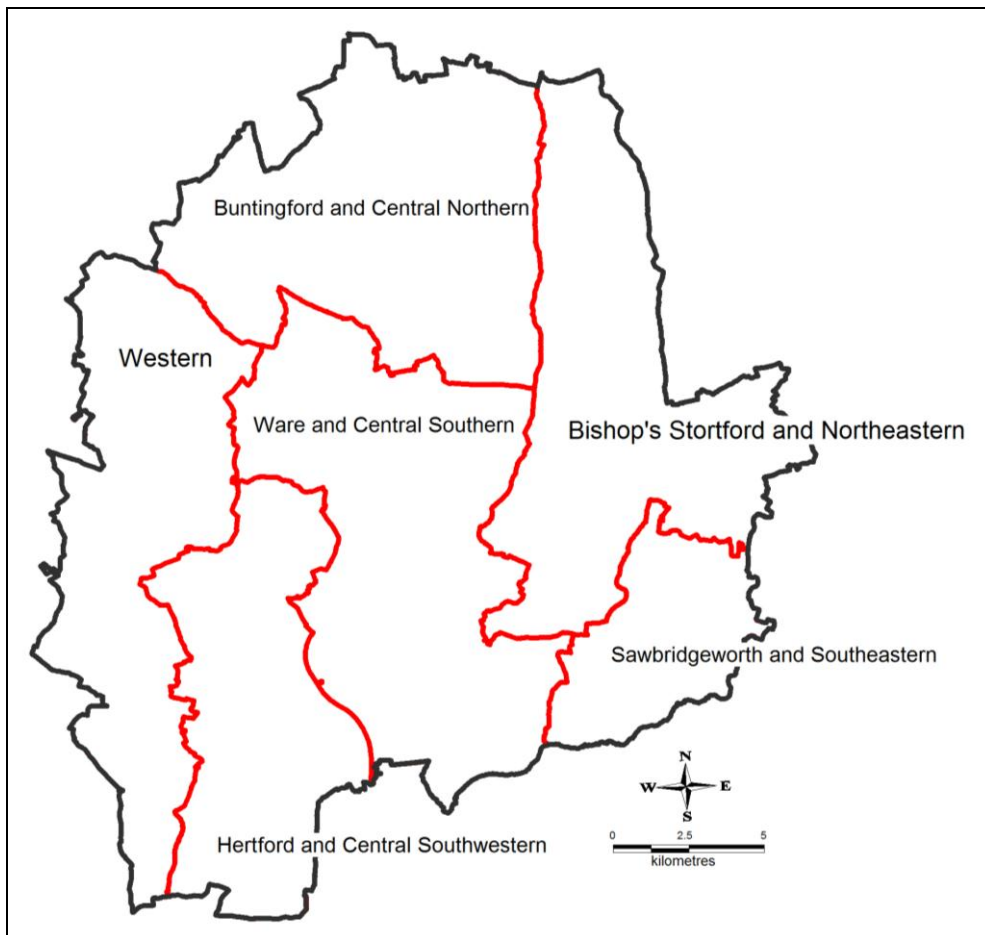


Figure 1: Parish Groupings in East Hertfordshire

There are five Towns within East Herts:

1. Bishop's Stortford
2. Buntingford
3. Hertford
4. Sawbridgeworth
5. Ware

The residual area has been designated 'Rural', and has been included as part of the Town forecasts within this report.

The boundaries of the towns are displayed in Figure 2.

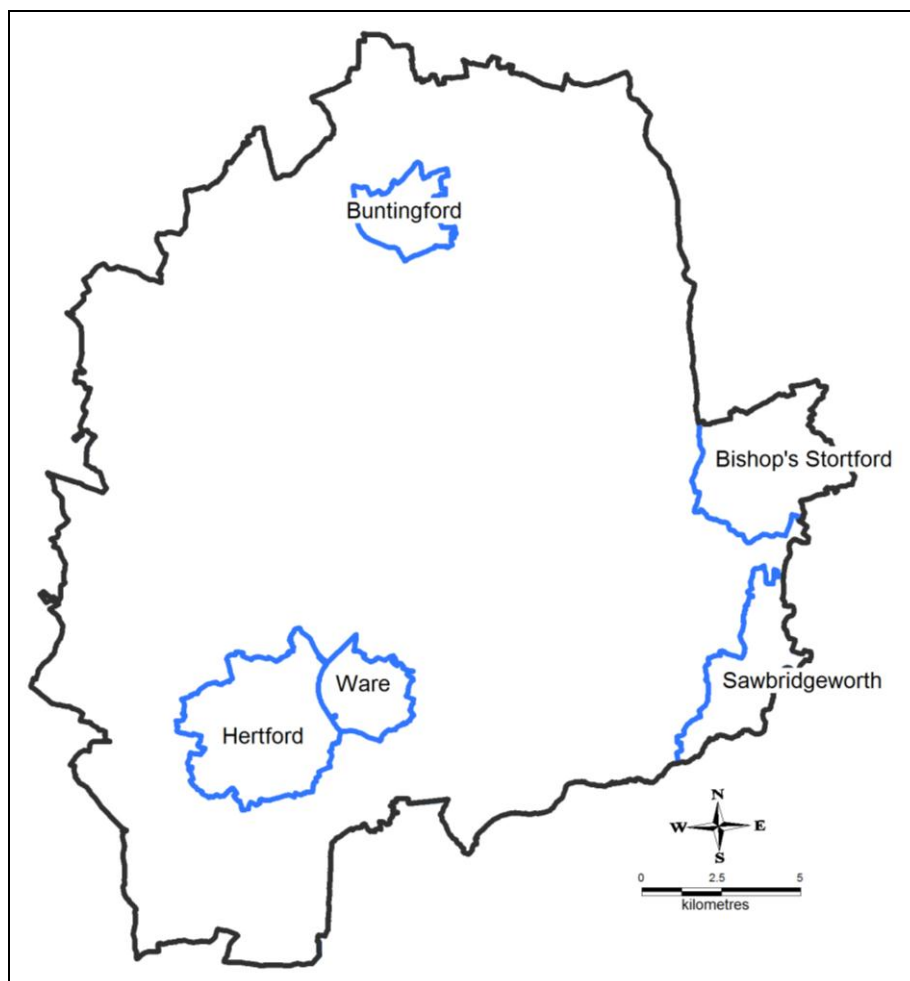


Figure 2: Towns in East Hertfordshire

3. Demographic statistics and forecast methodology

3.1. Demographic data – official statistics

In the absence of a population register, England and Wales rely on successive, annual updates of 2001 Census data to produce mid-year population estimates. The Office for National Statistics (ONS) estimates the mid-year population for each local authority area using data on births and deaths, internal migration and international migration. These estimates provide the statistical baseline for the creation of both national and sub-national population projections (SNPP). SNPP for England are produced on a two-yearly cycle by ONS and are constrained to the total, national projection estimates. Household projections are produced by Communities and Local Government (CLG) and typically follow the delivery of the SNPP. Household projections are produced through the application of headship rates (by household type, age and sex) to the age-sex profile of the population projected in the SNPP statistics (Figure 3).

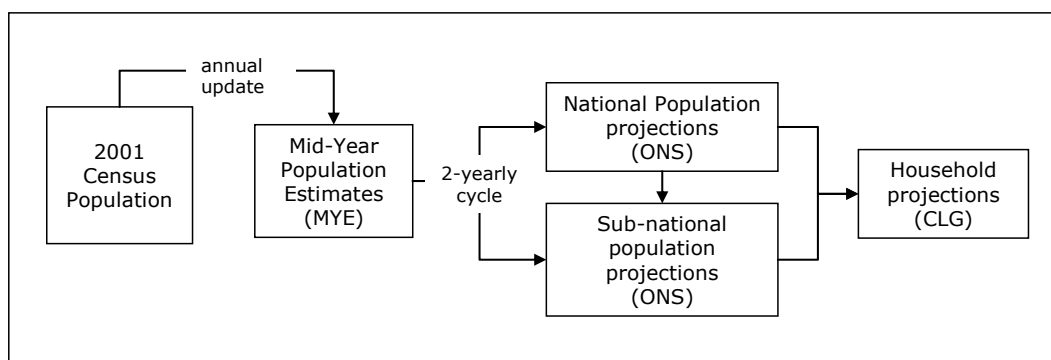


Figure 3: Official statistics: population and households

With regard to the robustness of the data inputs that underpin the ONS MYE, birth and death statistics are derived from vital statistics registers and provide an accurate measure of natural change by local area. Internal migration data are derived from GP registers, providing the best available representation of inter-district flows. International migration is the most difficult component to estimate with confidence.

The accuracy of the ‘components of change’ (births, deaths, internal migration and international migration) in the MYE is critical to the development of SNPP (and therefore the household projections). Historical trends for a prior five-year period provide a key input to the ‘trend’ based SNPP (i.e. evidence from 2006-2010 will drive the 2010-based projections). Recognition of the relative importance of the components of change within the MYE is necessary in order to interpret what is driving the 25-year trend projection of the SNPP.

For local authorities considering the development of alternative growth strategies, the ONS 'official' statistics on population and households provide the 'benchmark' against which a range of alternative evidence should be compared. However, the ONS SNPP provide only one growth trajectory - a trend-led forecast that is typically based on historical data that has already been superseded by more recent evidence. In developing a robust, realistic and defensible evidence base to support housing policy and plans, it is advisable to consider a range of alternative growth scenarios.

The development of alternative scenarios is particularly important as ONS has released 'revisions' to its population estimates methodology that has had a direct impact upon trend projections. ONS has an ongoing programme of 'improvement' to its estimation methodologies to ensure the most accurate data on immigration and emigration is used in its MYE. In 2010, ONS released a set of 'revised' MYE for 2001-2009 and a revised 2008-based population projection, which took account of a number of such improvements; specifically, the improved handling of onward student moves and the integration of administrative data sources to better estimate the local impact of international migration. In November 2011, ONS released further revisions to MYE for 2006-2010, using a revised methodology for international migration estimates based upon an approach developed by Dr Peter Boden and Professor Phil Rees working at the University of Leeds (see references below).

Boden P and Rees P (2010) Using administrative data to improve the estimation of immigration to local areas in England, *Statistics in Society – Series A*, Volume 173 Issue 4m, p707-731, October 2010 <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-985X.2009.00637.x/abstract>

ONS (2011) Improved Immigration Estimates to Local Authorities in England and Wales: Overview of Methodology <http://www.ons.gov.uk/ons/guide-method/method-quality/imps/improvements-to-local-authority-immigration-estimates/index.html>

These latest revisions, although yet to be made 'official statistics', have been used for the district and sub-district analysis presented in this report. They have a significant impact upon the sub-district MYE and therefore upon trend projections that are based upon these MYEs.

During the course of this project, ONS has also released its latest 2010-based SNPP. They are presented as alternative projections in this analysis, for comparison with other scenarios. In addition, population statistics from the 2011 Census plus 2011 mid-year population estimates have been released. These new data do not feature in this analysis but will be part of the Phase 4, Essex Planning Officers Association (EPOA) study, due for completion during October-December 2012.

3.2. Forecast methodology

POPGROUP software has been used to generate the population and household forecasts presented in this report. POPGROUP uses a standard **cohort component** methodology for its population projections (the methodology used by the UK statistical agencies). The household projections use a standard **household headship rate** as employed by Communities and Local Government (CLG) for its household projection statistics. A more detailed description of the population and household projection methodologies is available from the User Guide and Reference Manuals on the POPGROUP website www.csr.ac.uk/popgroup/about/manuals.html. The following illustrations provide a schematic of the operation of the POPGROUP and Derived Forecast methodologies (Figure 4 & Figure 5).

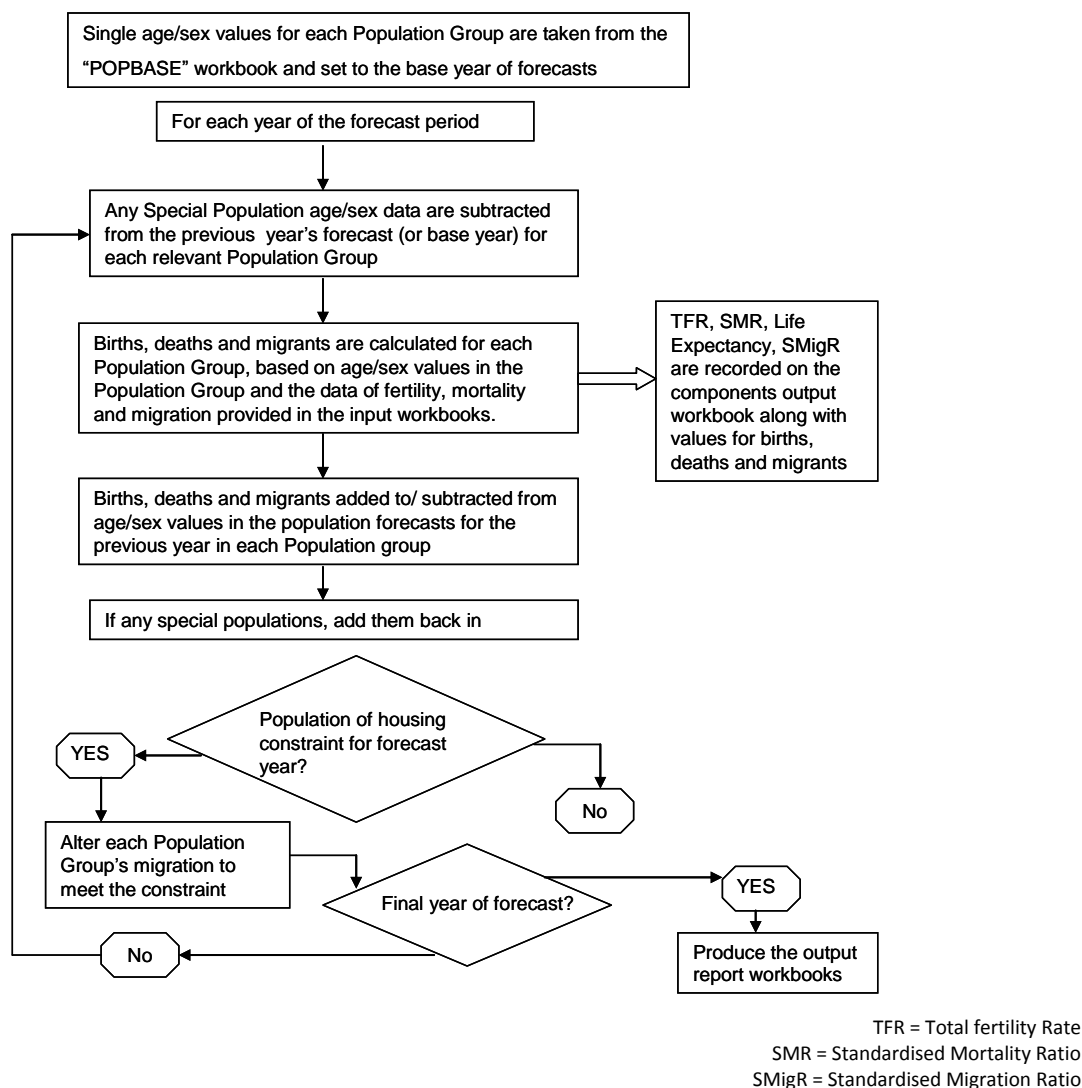
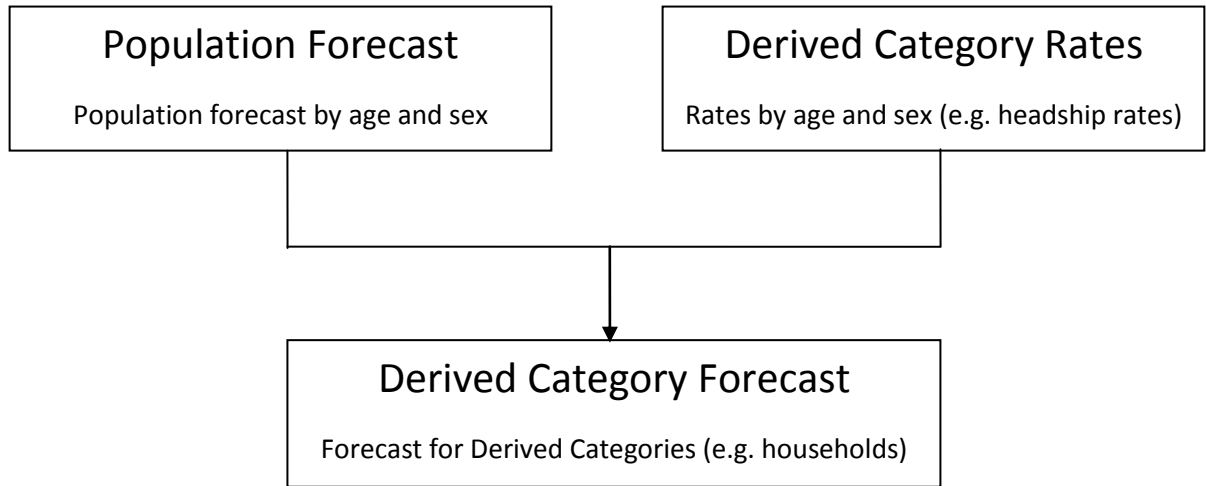


Figure 4: POPGROUP population projection methodology



Algebraically the model is defined as follows:

$$D_{a,s,u,y,d,g} = P_{a,s,u,y,g} * R_{a,s,u,y,d,g} / 100$$

Where:

D = Derived Category Forecast
 P = Population 'at risk' Forecast
 R = Derived Category Rates

and

a = age-group
 s = sex
 u = Sub-population
 y = year
 d = derived category
 g = group (usually an area, but can be an ethnic group or social group)

Figure 5: Derived Forecast Model: household projection methodology

3.3. Demographic data: district and sub-district inputs

The POPGROUP model draws data from a number of sources, building an historical picture of population, households, fertility, mortality and migration on which to base its scenario forecasts. Using the historical data evidence for 2001-2010, in conjunction with information from ONS national projections, a series of assumptions have been derived which drive the scenario forecasts.

Population

- Mid-2001 to mid-2010 population by single year of age and sex at district level
- Mid-2001 to mid-2010 population by five years of age and sex at sub-district level

Births and fertility

- Mid-year counts of births by sex, 2001 – 2010 for all areas
- Local birth statistics are combined with the ONS 2010-based standard fertility schedule to produce age-specific fertility rates for each district and sub-district
- The 'trend' in fertility for each year of the forecast follows that set by ONS in its national 2010-based population projection assumptions

Deaths and mortality

- Deaths by age and sex from 2001 – 2010
- Local death statistics are combined with the ONS 2010-based standard mortality schedule to produce age-specific mortality rates for each district and sub-district
- The 'trend' in mortality for each year of the forecast follows that set by ONS in its national 2010-based population projection assumptions

Migration

- At district level, internal migration data by age and sex are drawn from patient registration statistics (incorporating ONS' improved handling of student flows). Future migration rates are derived from a five-year history (2006-2010)
- At district level, the latest release of ONS' MYE provides the estimates of international migration on immigration and emigration flows. Future migration flows are derived from a five-year history (2006-2010)
- At sub-district level, no distinction is made between internal and international migration. Historical net migration at sub-district level is derived as the 'residual' of annual population

change after taking account of births and deaths. Future migration flows are derived from a five-year history (2006-2010)

Households

The household projection methodology used by POPGROUP's Derived Forecast model is that employed by CLG, applying headship rates by household type to population forecasts by age and sex. This produces a household forecast by household type, age and sex. Household forecasts for East Herts geographical areas have been made using data drawn from the latest CLG 2008-based projections as follows:

- Households by household type
- Population not in households
- Headship rates by household type, age and sex

The household types as defined by the CLG 2008 household projections and used by the Derived Forecast Model are as follows:

1. One person households: Male
2. One person households: Female
3. One family and no others: Couple: No dependent children
4. One family and no others: Couple: 1 dependent child
5. One family and no others: Couple: 2 dependent children
6. One family and no others: Couple: 3+ dependent children
7. One family and no others: Lone parent: 1 dependent child
8. One family and no others: Lone parent: 2 dependent children
9. One family and no others: Lone parent: 3+ dependent children
10. A couple and one or more other adults: No dependent children
11. A couple and one or more other adults: 1 dependent child
12. A couple and one or more other adults: 2 dependent children
13. A couple and one or more other adults: 3+ dependent children
14. A lone parent and one or more other adults: 1 dependent child
15. A lone parent and one or more other adults: 2 dependent children
16. A lone parent and one or more other adults: 3+ dependent children
17. Other households

Dwellings

The Derived Forecast model uses a 'vacancy rate' to convert households into dwellings. These vacancy rates have been derived from 2001 Census data and are maintained at a constant level in the scenario forecasts.

4. Historical Analysis

4.1. Population change East Herts, 2001-2010

As a precursor to the presentation of the trend forecasts, this section illustrates how the population of East Herts has changed over the last decade; for the district in total and for the individual Parish Grouping and Town. The district profile of change is illustrated here (Figure 6 a&b) with subsequent Parish Grouping and Town illustrations following the same format and colour scheme. Red bars illustrate population growth (Figure 6a); green and purple bars illustrate how natural change and net migration respectively have driven this population growth (Figure 6b).

Since 2001, the population of East Herts has increased by 6.6%, from 129k in census year to 137.7k in 2010 (Figure 6a). Since 2001, natural change (births minus deaths) has made a consistent contribution to population growth (+500-650 per year). Net migration (combining internal and international flows) has been more variable, with the highest net inflows experienced since 2006 (Figure 6b). Where there has been a *negative* impact of one of the components of population change (net migration in 2002/03 and 2003/2004) this indicates that migration *out of* East Herts has exceeded migration *into* the district. In these years, natural change has compensated for the net migration loss, contributing to an overall population increase.

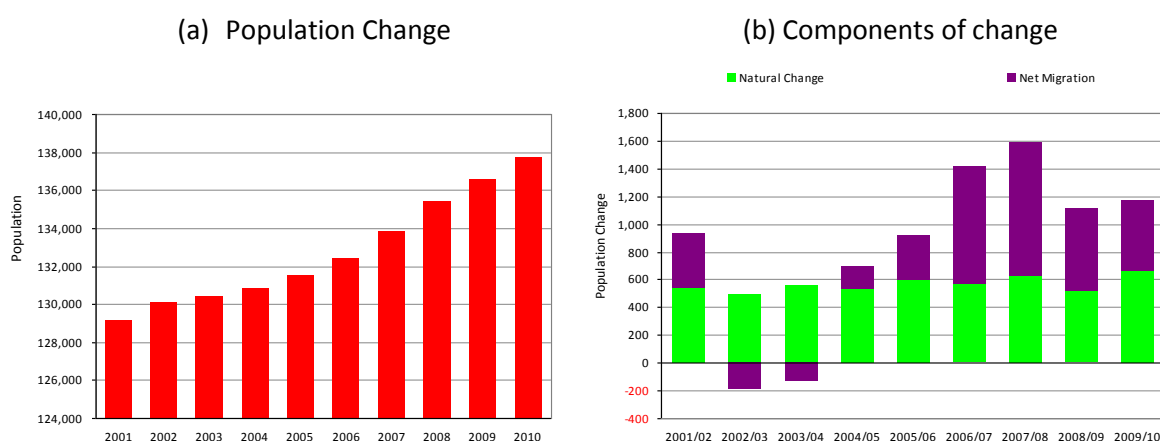


Figure 6: Population change & components of change, East Herts 2001-2010

The following sections provide similar illustrations of population change for each Parish Grouping and Town. These historical patterns and trends are the basis from which the 'trend' scenarios have been defined in section 5 of this analysis.

4.2. Population change by Parish Grouping, 2001-2010

The historical analysis of population change by Parish Grouping, for the years 2001-2010, is presented as follows:

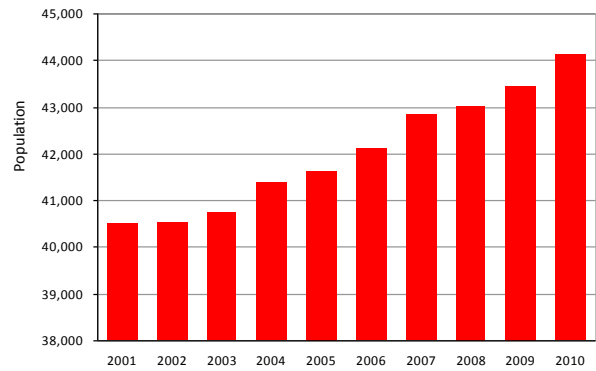
For each Parish Grouping, individual charts provide an illustration of:

- Total Population Change, 2001-2010 (Figure 7)
- The 'components' of Population Change, 2001-2010 (Figure 8)

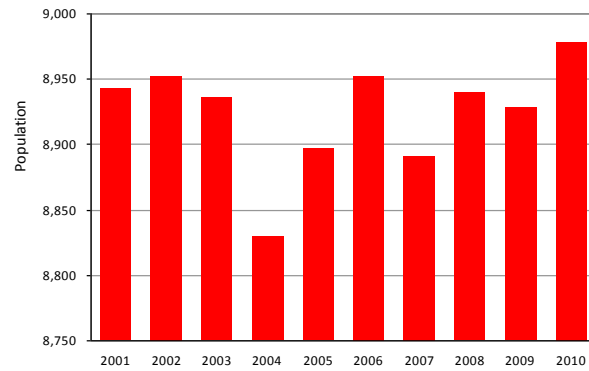
Differences between Parish Grouping areas are displayed through comparison of:

- Total Population Change, 2001-2010 (Figure 9)
- Net Migration (immigration less outmigration), 2001-2010 (Figure 10)
- Natural Change (births less deaths), 2001-2010 (Figure 11)

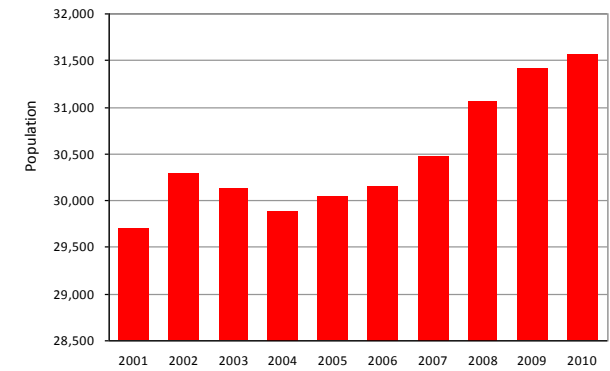
Bishop's Stortford and Northeastern



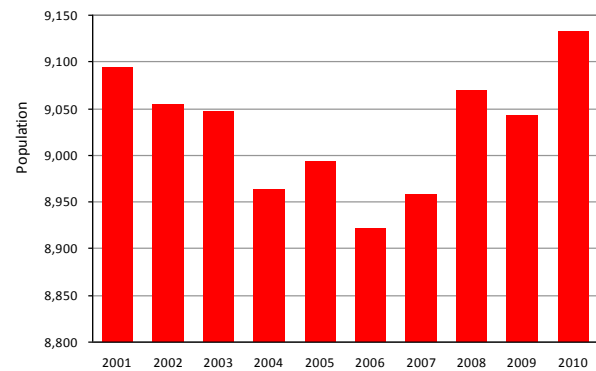
Buntingford and Central Northern



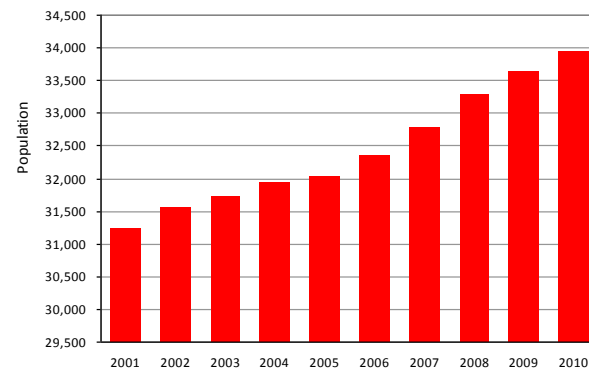
Hertford and Central Southwestern



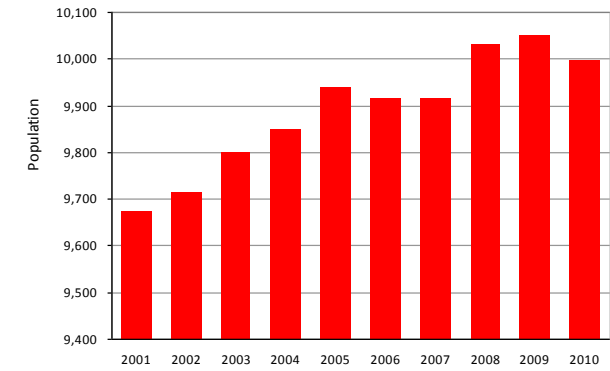
Sawbridgeworth and Southeastern



Ware and Central Southern



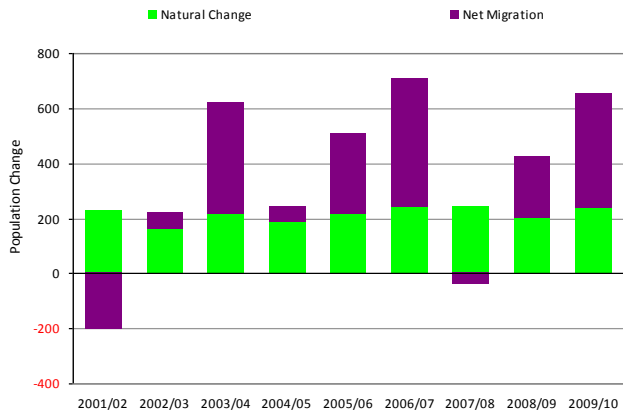
Western



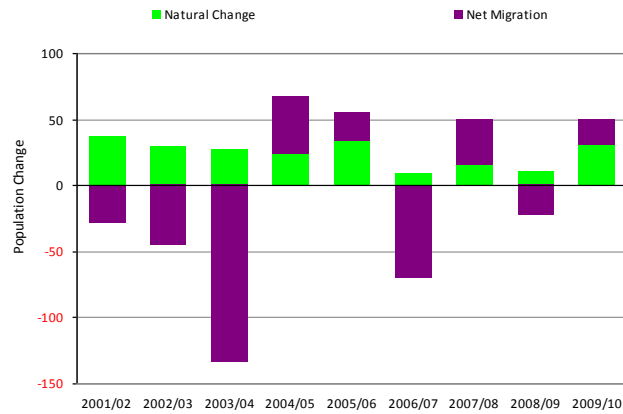
Note: The values on the vertical axis change for each area, to emphasise change over time

Figure 7: Population change by Parish grouping, 2001-2010

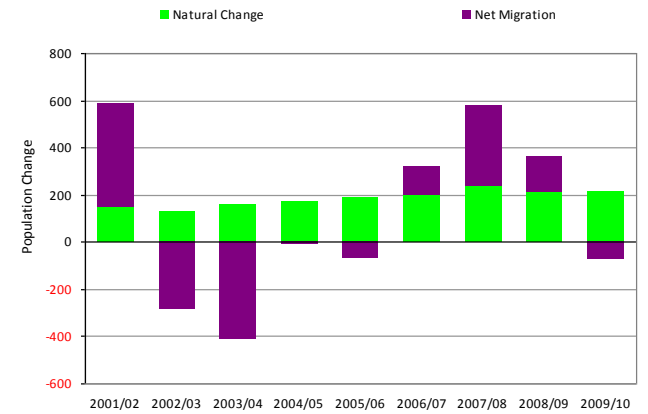
Bishop's Stortford and Northeastern



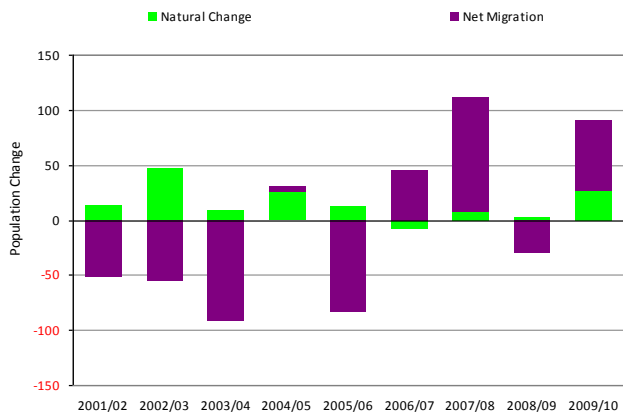
Buntingford and Central Northern



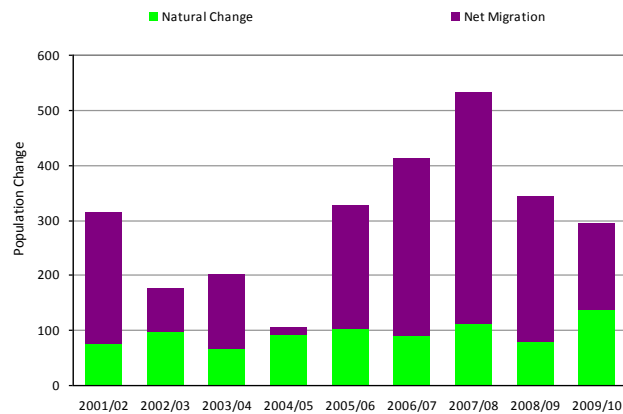
Hertford and Central Southwestern



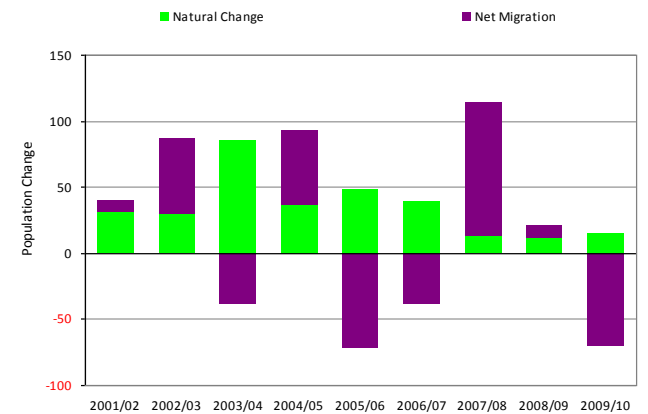
Sawbridgeworth and Southeastern



Ware and Central Southern



Western



Note: The values on the vertical axis change for each area, to emphasise change over time

Figure 8: Components of population change by Parish Grouping, 2001-2010

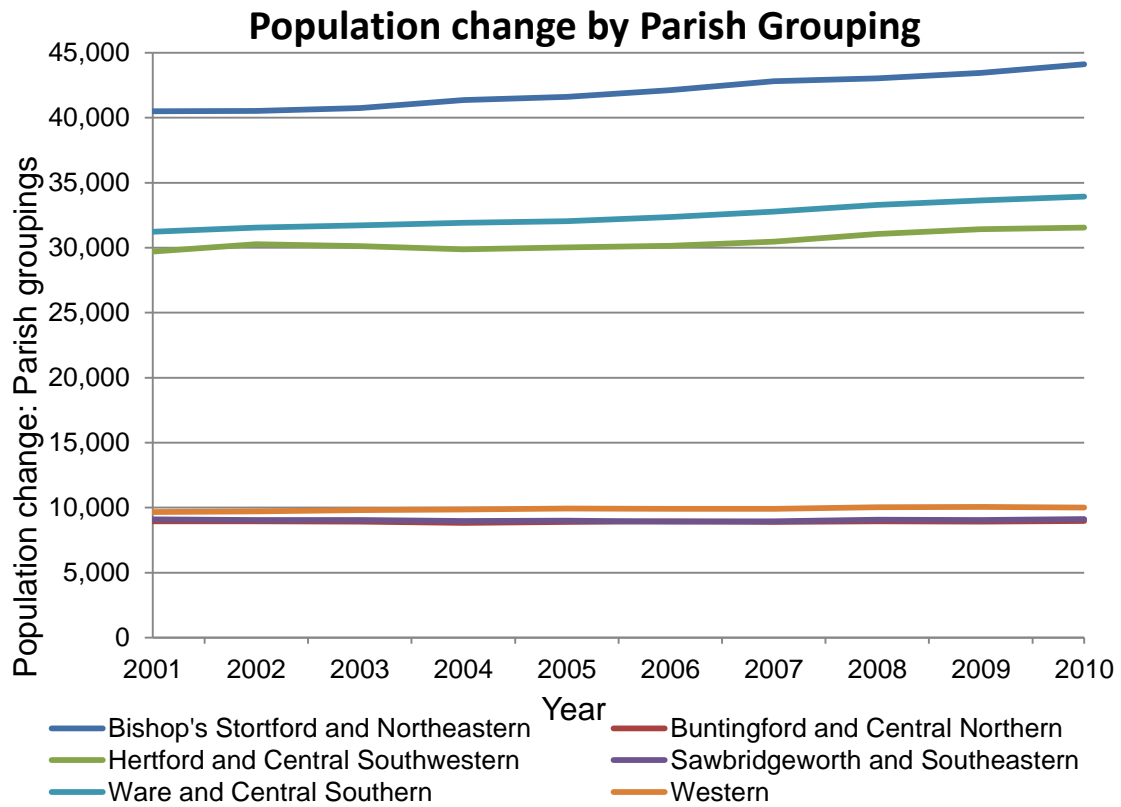


Figure 9: Population change by Parish Grouping, 2001-2010

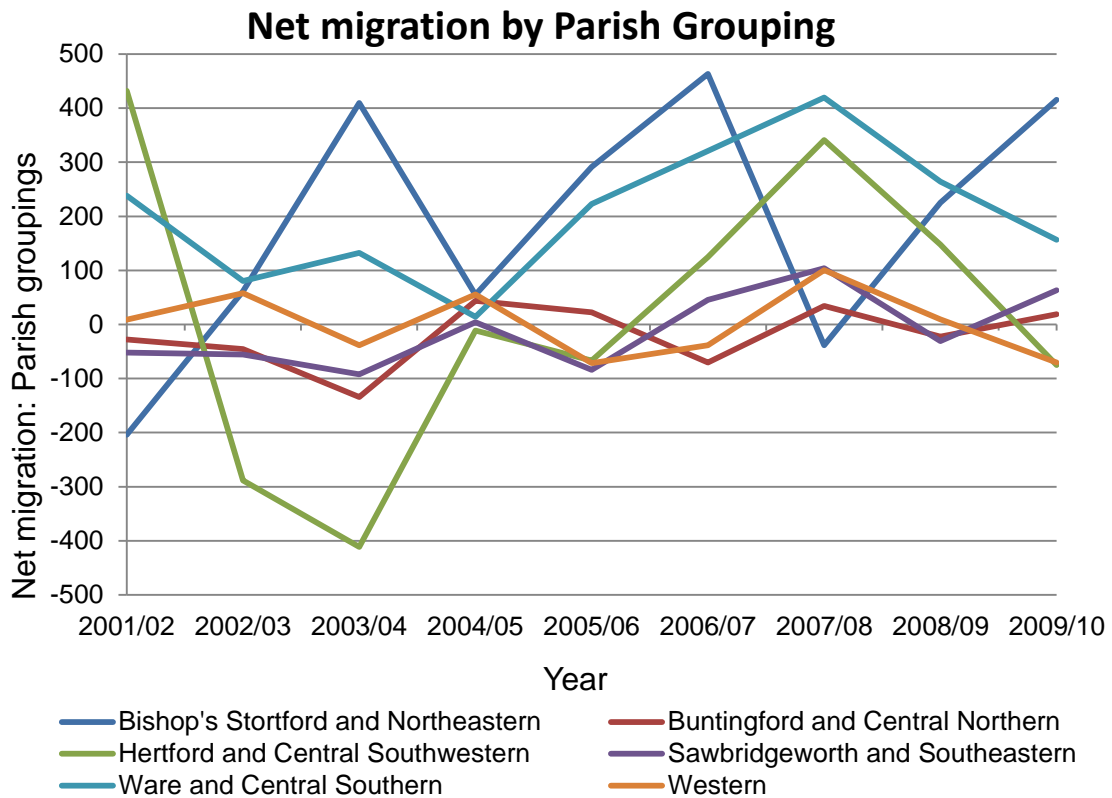


Figure 10: Net migration by Parish Grouping, 2001/2-2009/10

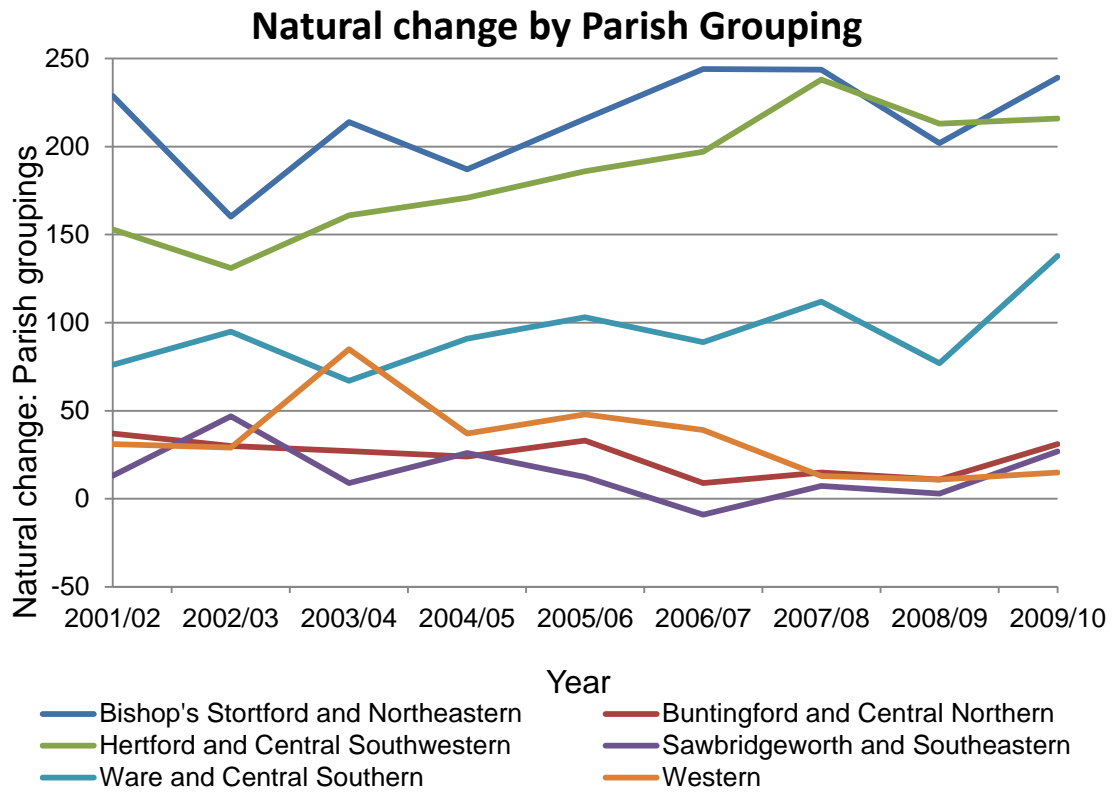


Figure 11: Natural change by Parish Grouping, 2001/2-2009/10

4.3. Population change by Town, 2001-2010

The historical analysis of population change by Town, for the years 2001-2010, is presented as follows:

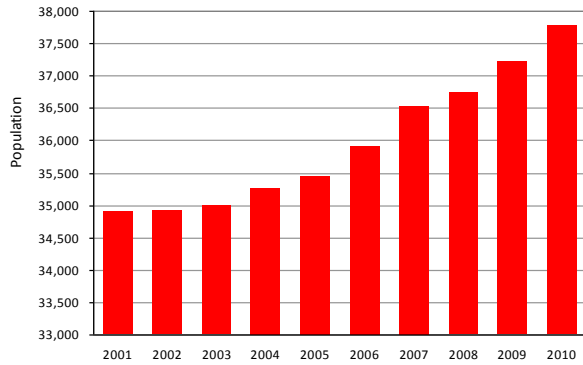
For each Town, individual charts provide an illustration of:

- Total Population Change, 2001-2010 (Figure 12)
- The 'components' of Population Change, 2001-2010 (Figure 13)

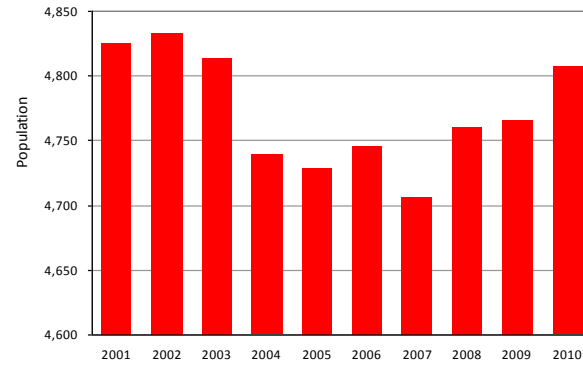
Differences between Towns are displayed through comparison of:

- Total Population Change, 2001-2010 (Figure 14)
- Net Migration (immigration less outmigration), 2001-2010 (Figure 15)
- Natural Change (births less deaths), 2001-2010 (Figure 16)

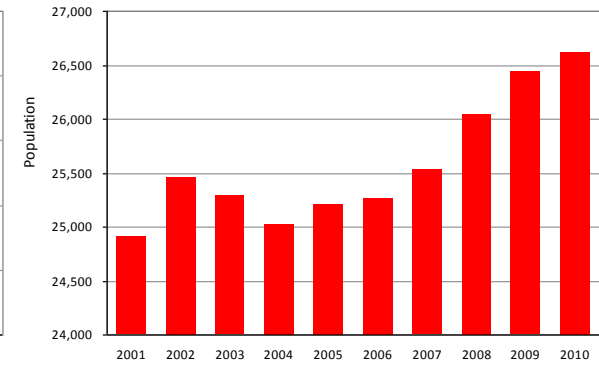
Bishop's Stortford



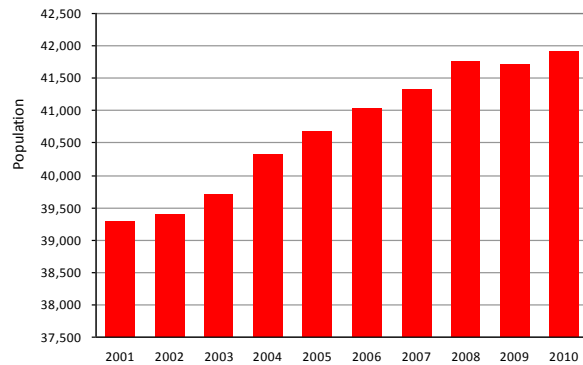
Buntingford



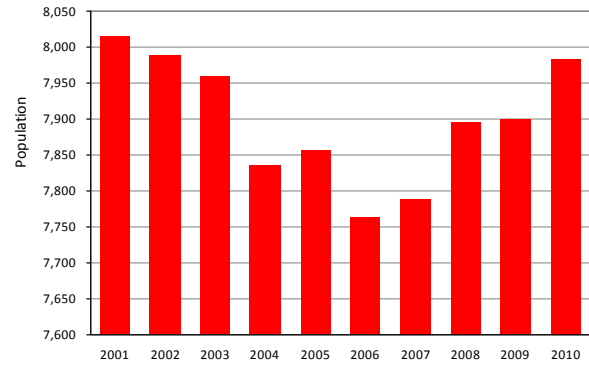
Hertford



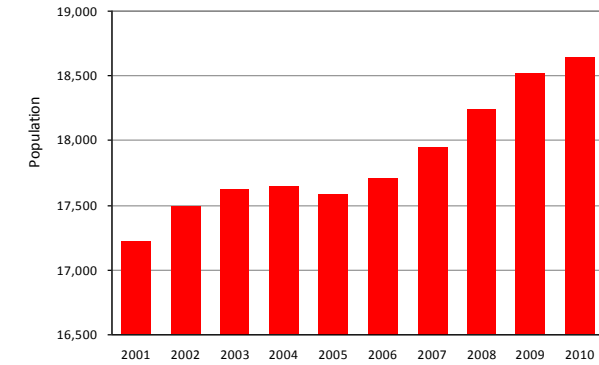
Rural



Sawbridgeworth



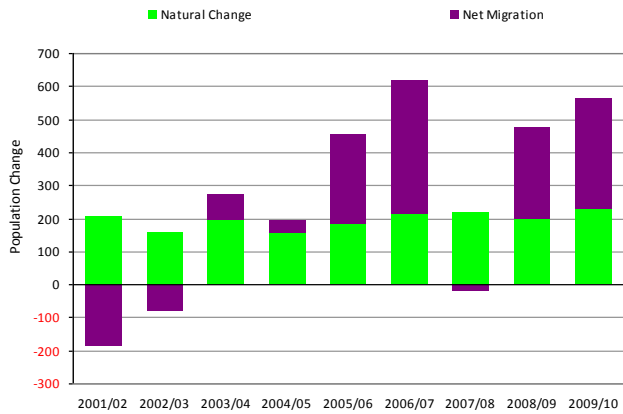
Ware



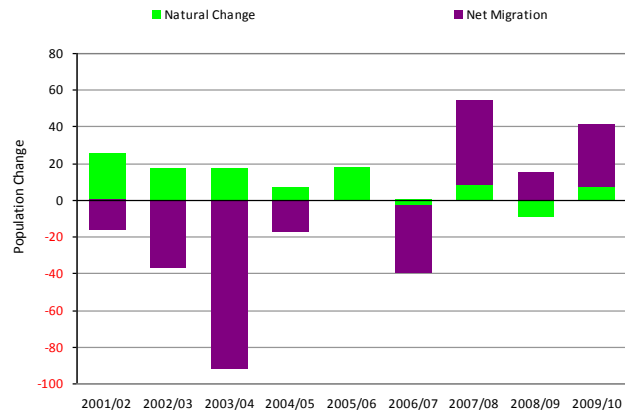
Note: The values on the vertical axis change for each area, to emphasise change over time

Figure 12: Population change by Town, 2001-2010

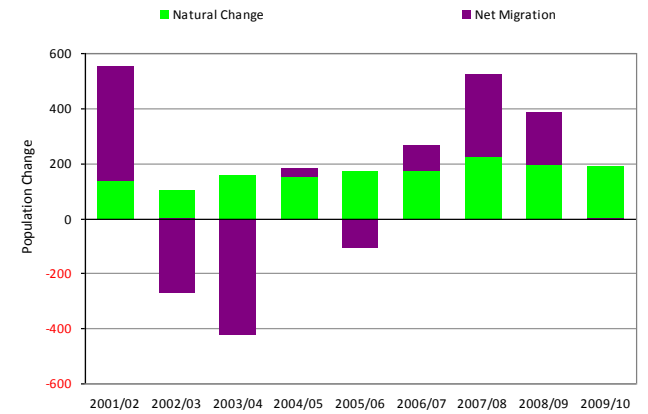
Bishop's Stortford



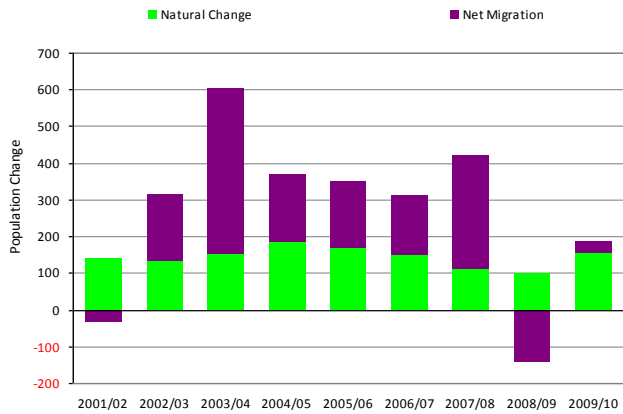
Buntingford



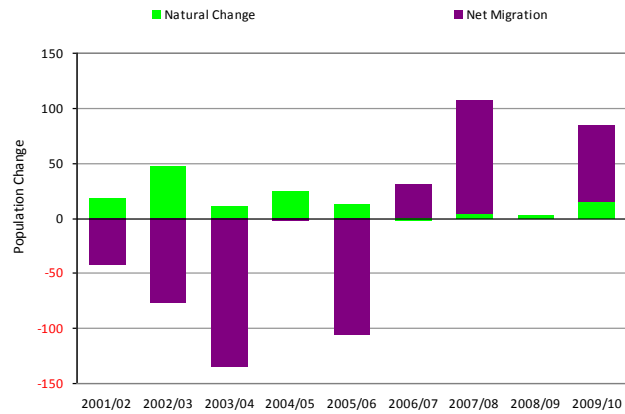
Hertford



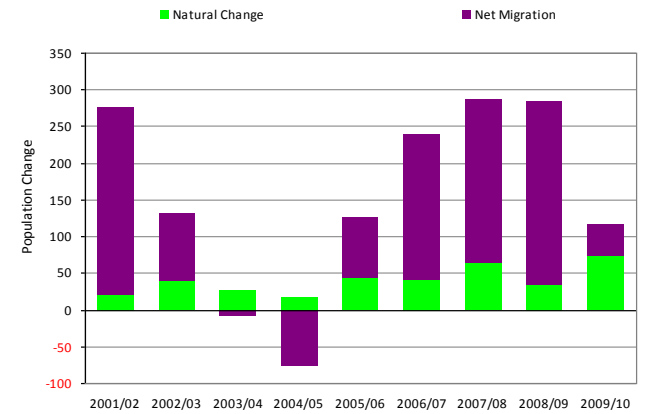
Rural



Sawbridgeworth



Ware



Note: The values on the vertical axis change for each area, to emphasise change over time

Figure 13: Components of population change by Town, 2001/2-2009/10

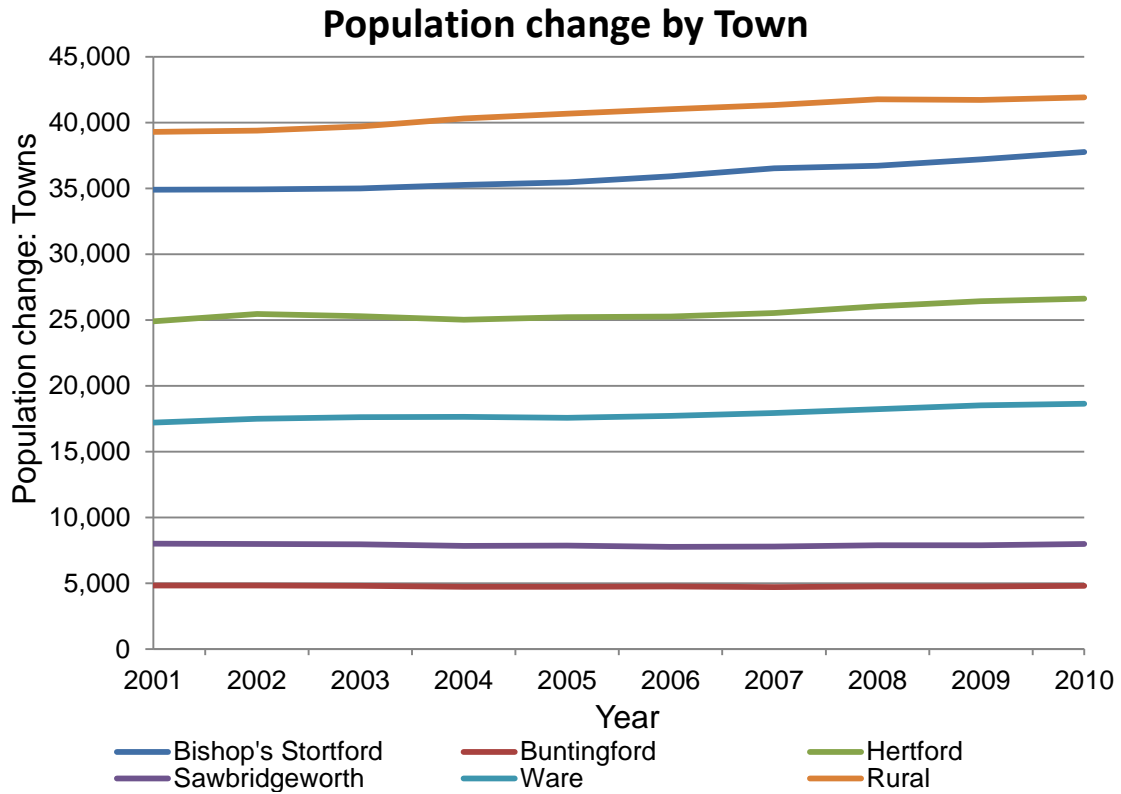


Figure 14: Population change by Town, 2001-2010

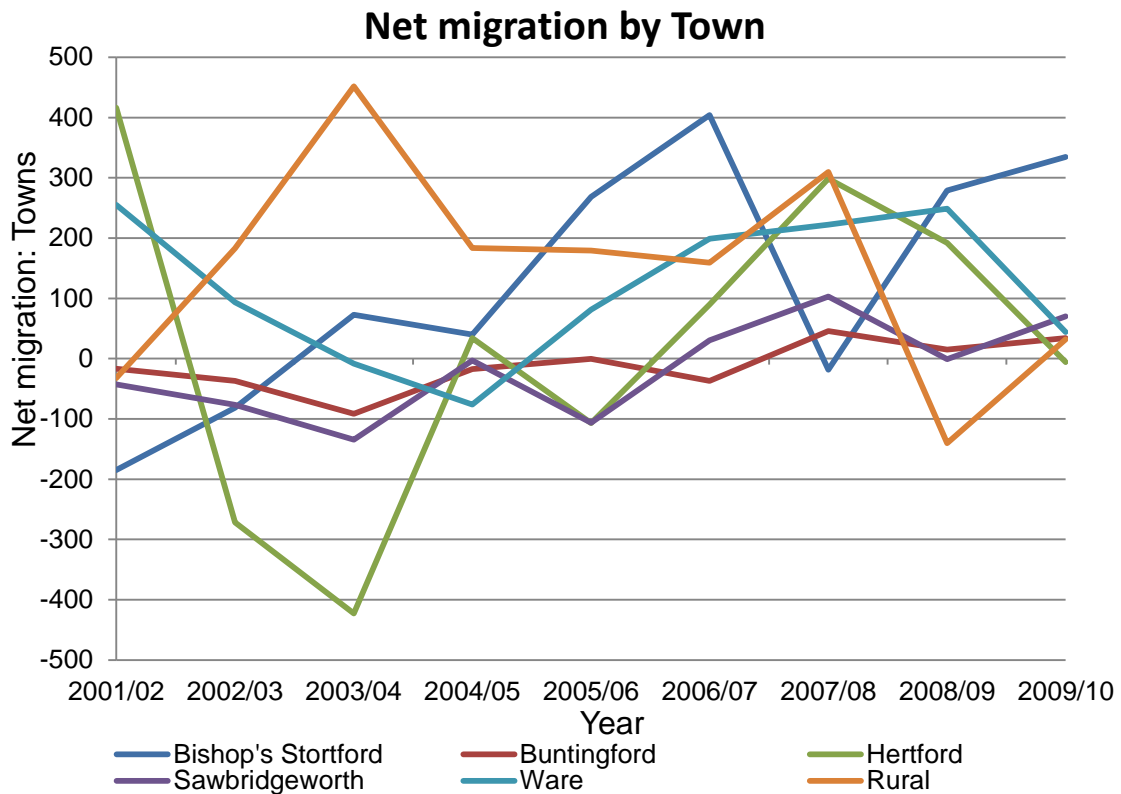


Figure 15: Net migration by Town, 2001/2-2009/10

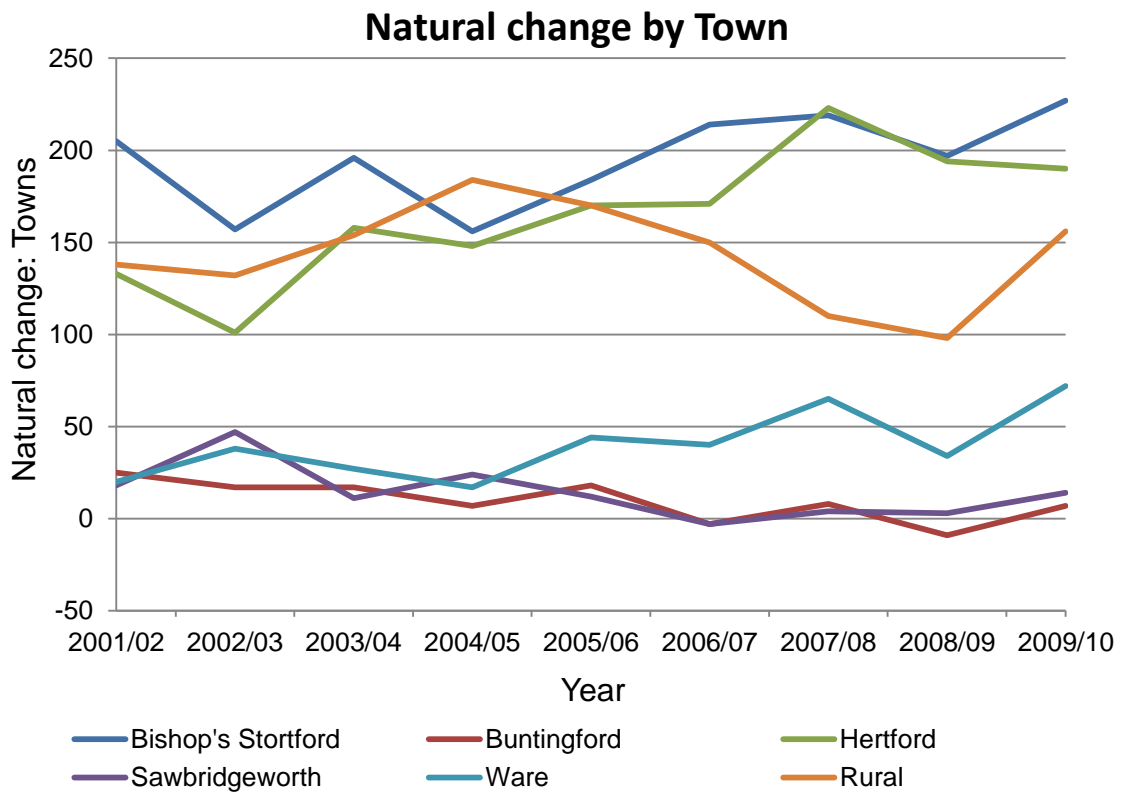
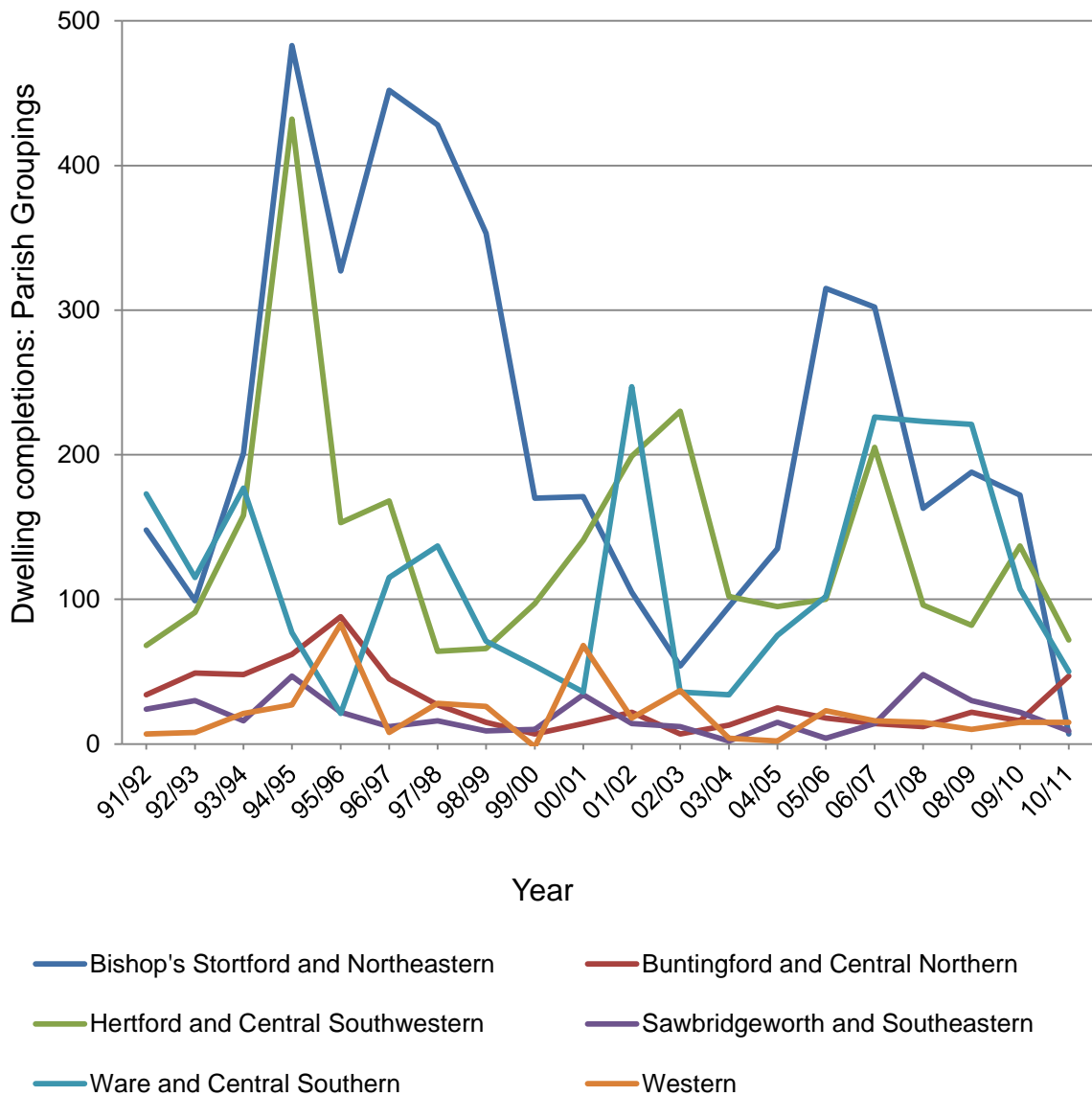


Figure 16: Natural change by Town, 2001/2-2009/10

4.4. Dwelling completions

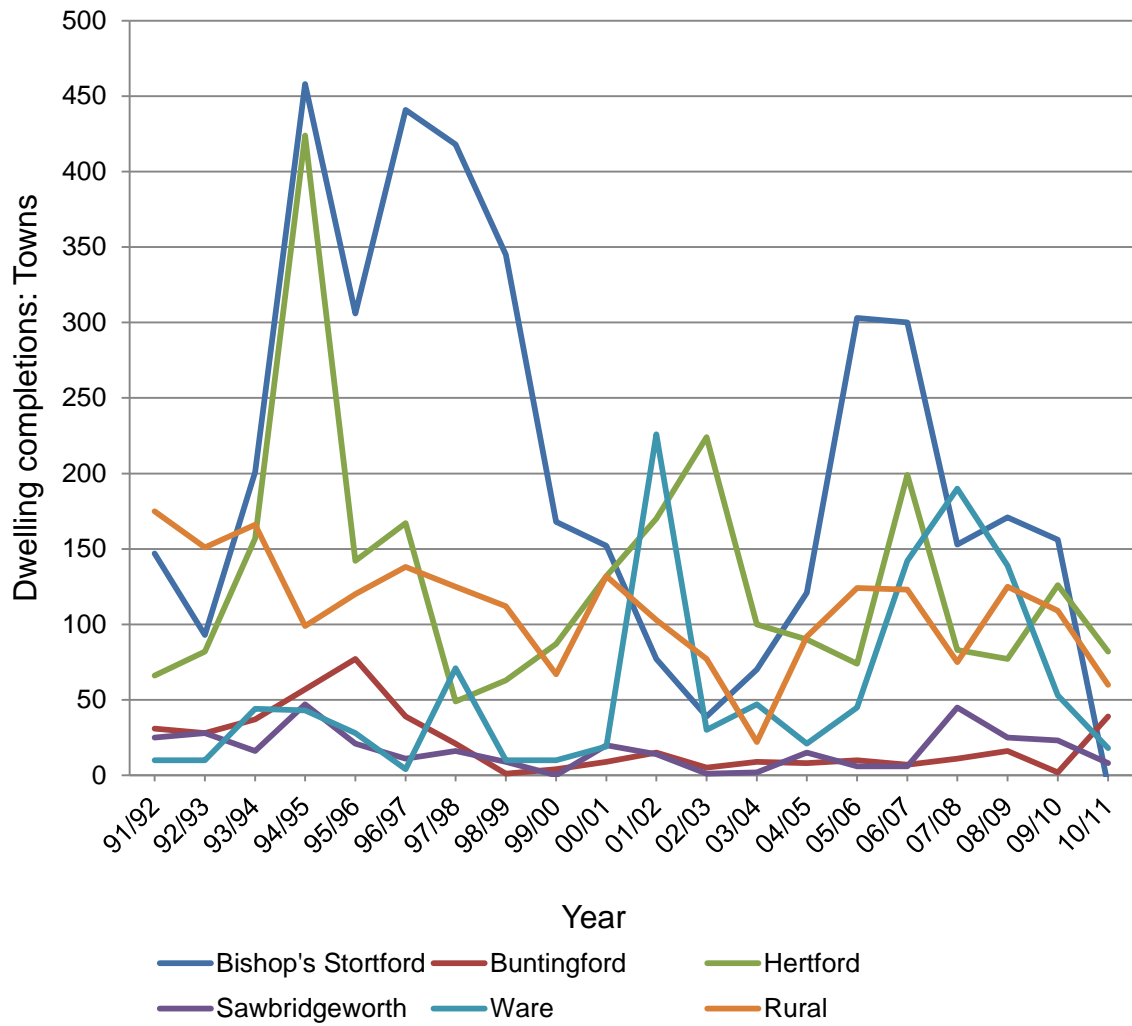
Completion rate histories were provided for each of the defined Parish Groupings and Towns. This data relates to an extended period, 1991/2 to 2010/11. The charts and tables below (Figures 17 & 18) illustrate how these completion rates have varied year-on-year, indicating a 20-year average, a 10-year average and the 'maximum' completion rate achieved over the full time-series.

The 10-year average (2002-2011) has been used to derive a dwelling-led scenario which constrains population and household growth to this annual total of new housing growth. So, for example, the 'Bishop's Stortford and Northeastern' area has been constrained to an annual average dwelling growth of 154 units over the 2010-2033 projection period. Results from this scenario (CR 10 Yr) are compared against the alternative trend scenarios in section 5.



Parish grouping	Completions 1992-2001	Completions 2002-2011	Total completions	Annual average 1992-2011	Annual average 2002-2011	Maximum
Bishop's Stortford and Northeastern	2,832	1,536	4,368	218	154	483
Buntingford and Central Northern	389	196	585	29	20	88
Hertford and Central Southwestern	1,438	1,318	2,756	138	132	432
Sawbridgeworth and Southeastern	220	170	390	20	17	48
Ware and Central Southern	976	1,321	2,297	115	132	247
Western	274	155	429	21	16	83

Figure 17: Completion Rate histories for Parish Groupings in East Herts



Town	Completions 1992-2001	Completions 2002-2011	Total completions	Annual average 1992-2011	Annual average 2002-2011	Maximum
Bishop's Stortford	2,729	1,383	4,112	206	138	458
Buntingford	304	122	426	21	12	77
Hertford	1,369	1,225	2,594	130	123	424
Rural	1,285	910	2,195	110	91	175
Sawbridgeworth	193	145	338	17	15	47
Ware	249	911	1,160	58	91	226

Figure 18: Completion Rate histories for Towns in East Herts

5. Trend forecasts and completion-rate forecasts – Phase 1

5.1. Scenario definition

This first phase of scenario development presents a number of ‘trend’ scenarios, using historical evidence to calibrate long-term forecasts of demographic change. These trend scenarios are compared against an initial ‘dwelling-led’ scenario, which uses information on historical completion rates to evaluate an alternative trajectory of growth. These scenarios are designed to provide a basis from which alternative dwelling-led scenarios can be developed using information on local housing targets.

The following scenarios are presented for each of the defined Parish Grouping and Town geographies, in each case using a 2010-2033 forecast period.

Migration-led

This scenario uses a 5-year historical average (2006-2010) as the basis for the derivation of its long-term migration assumptions. These data are taken from the components-of-change evident in ONS’ latest revisions to mid-year estimates (November 2011). Mortality and fertility differentials are defined for each area and the long-term trend in mortality and fertility are consistent with the ONS trend.

SNPP 2010

The SNPP 2010 scenario uses the latest 2010-based ONS sub-national population projection for East Herts as a ‘constraint’, using the assumptions defined in the Migration-led scenario but replicating the ONS ‘district’ total in each year of the forecast period.

Natural Change

The Natural Change scenario is constrained by zero net migration, with only births and deaths driving population change over the 2010-2033 forecast period. Mortality and fertility differentials are defined for each area and the long-term trend in mortality and fertility are consistent with the ONS trend.

Net-Nil Migration

This scenario assumes that the ‘net’ impact of migration is zero throughout the projection period (this does not necessarily mean zero migration). The scenario assumes that in and out-migration continues but the overall balance between the figures is zero. Fertility and mortality assumptions for this scenario remain consistent with the Migration-led scenario.

CR-10 yr

This initial dwelling-led scenario is based on a 10-year average of completion rates (CR) over the period 2002-11. These average completion rates are added as a 'constraint' to the trend forecast, with annual population and household growth in each area determined by the number of new dwellings added each year. In and out migration is used to balance population totals against available dwellings.

5.2. Scenario notes

i. Consistency with wider EPOA study

This East Herts study has been completed within the context of a wider study commissioned by the Essex Planning Officers Association (EPOA). The latest demographic information has been used; consistent with Phase 3 of the EPOA study completed in July 2012. This includes updated fertility and mortality assumptions from ONS and updated mid-year population estimates 2006-2010 that were released by ONS at the end of 2011. The East Herts study is one step ahead of the Phase 2 EPOA study at this stage (end of April 2012).

A Phase 4 EPOA study is planned for October-December 2012, to include an assessment of new evidence from the 2011 Census, 2011 mid-year population estimates and 'interim' 2011-based population projections for 2011-20.

ii. Consistency between Parish Grouping and Town Forecasts

Although identical scenarios have been run for the Parish Grouping and Town sub-district areas, there may be differences in the aggregate, district-level impacts that result from each. These differences are not significant and are a result of the POPGROUP model's handling of migration within the individual areas, which may sum to slightly different district totals.

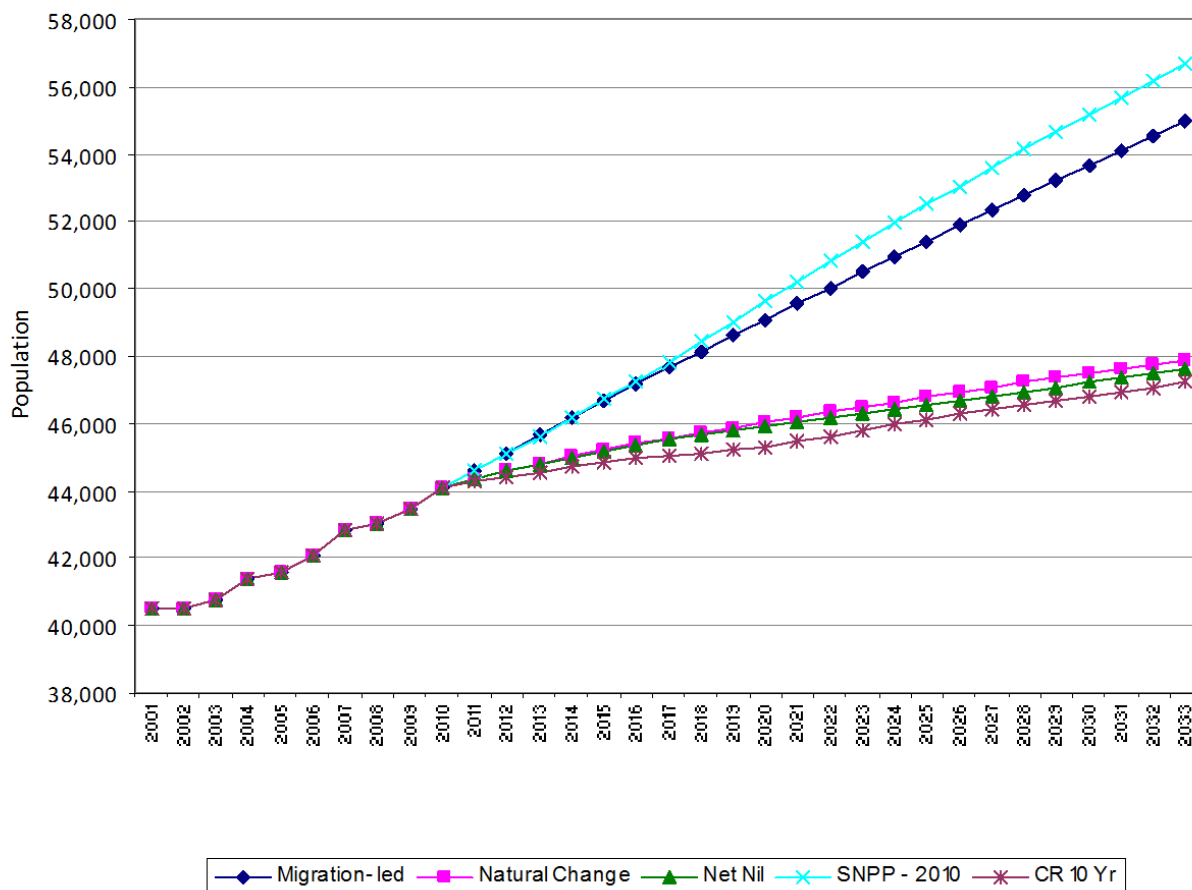
iii. Economic scenario

In the wider Phase 2/3 EPOA study, the 'jobs' impact of different scenarios has been evaluated using a combination of district-level economic activity rates, unemployment rates and commuting ratios. At sub-district level these 'jobs' impacts are not reproduced as the key 'commuting' ratios are only defined at the more aggregate, district level.

5.3. Parish Grouping forecasts

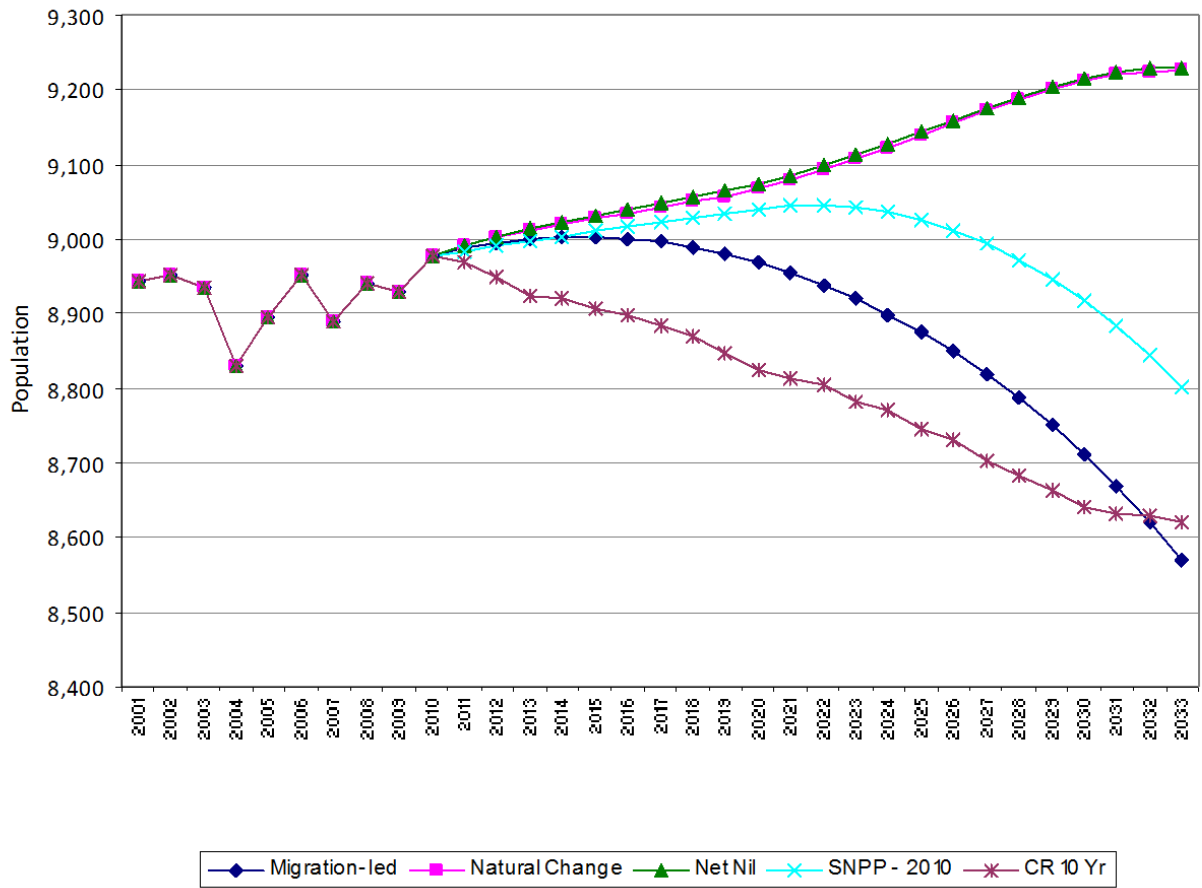
In the following illustrations, scenarios are 'ranked' in descending order of estimated population growth.

Bishop's Stortford and Northeastern



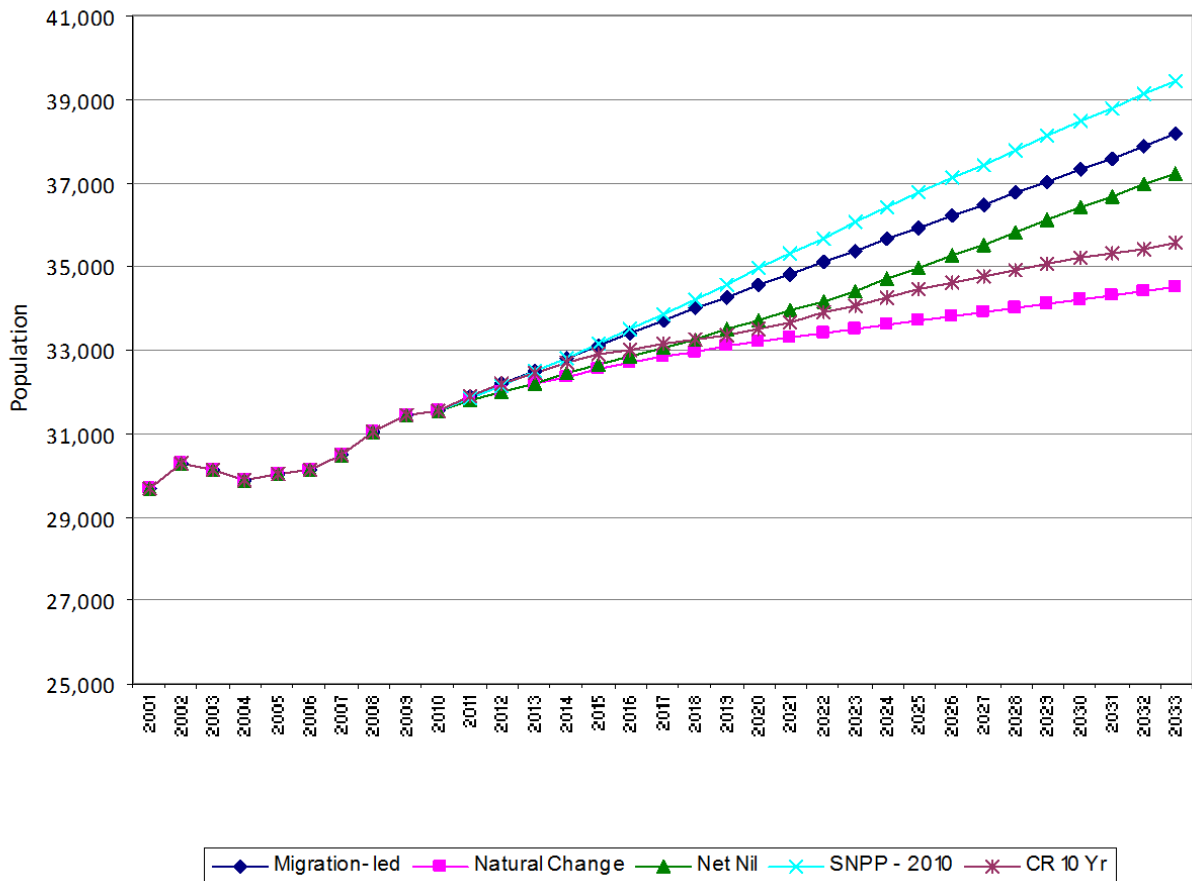
Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	12,585	28.5%	7,505	40.6%	334	334
Migration-led	10,897	24.7%	6,784	36.7%	272	302
Natural Change	3,735	8.5%	3,973	21.5%	0	177
Net Nil	3,493	7.9%	2,692	14.6%	0	120
CR 10 Yr	3,129	7.1%	3,447	18.7%	-11	154

Buntingford and Central Northern



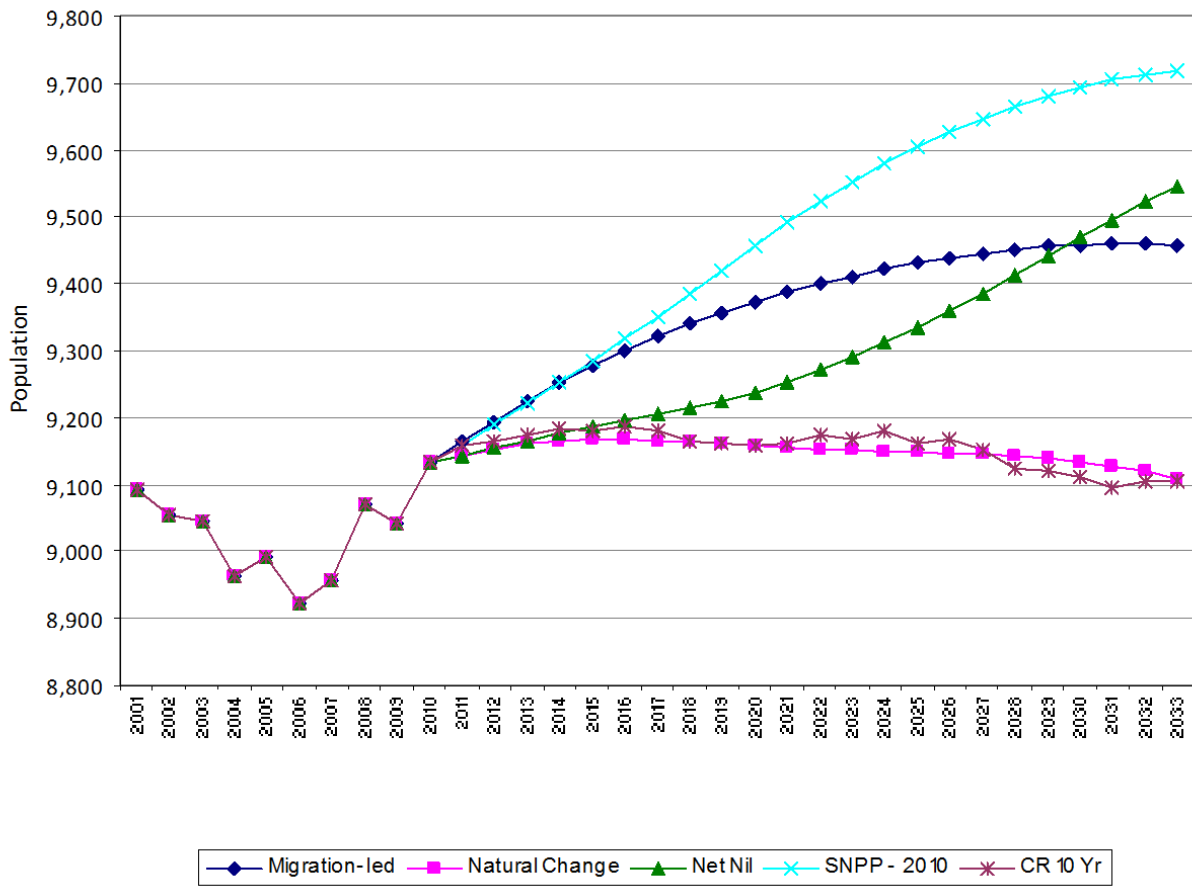
Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
Net Nil	250	2.8%	463	12.4%	0	20
Natural Change	248	2.8%	457	12.2%	0	20
SNPP - 2010	-176	-2.0%	516	13.8%	5	23
CR 10 Yr	-357	-4.0%	444	11.9%	0	20
Migration-led	-407	-4.5%	423	11.3%	-3	19

Hertford and Central Southwestern



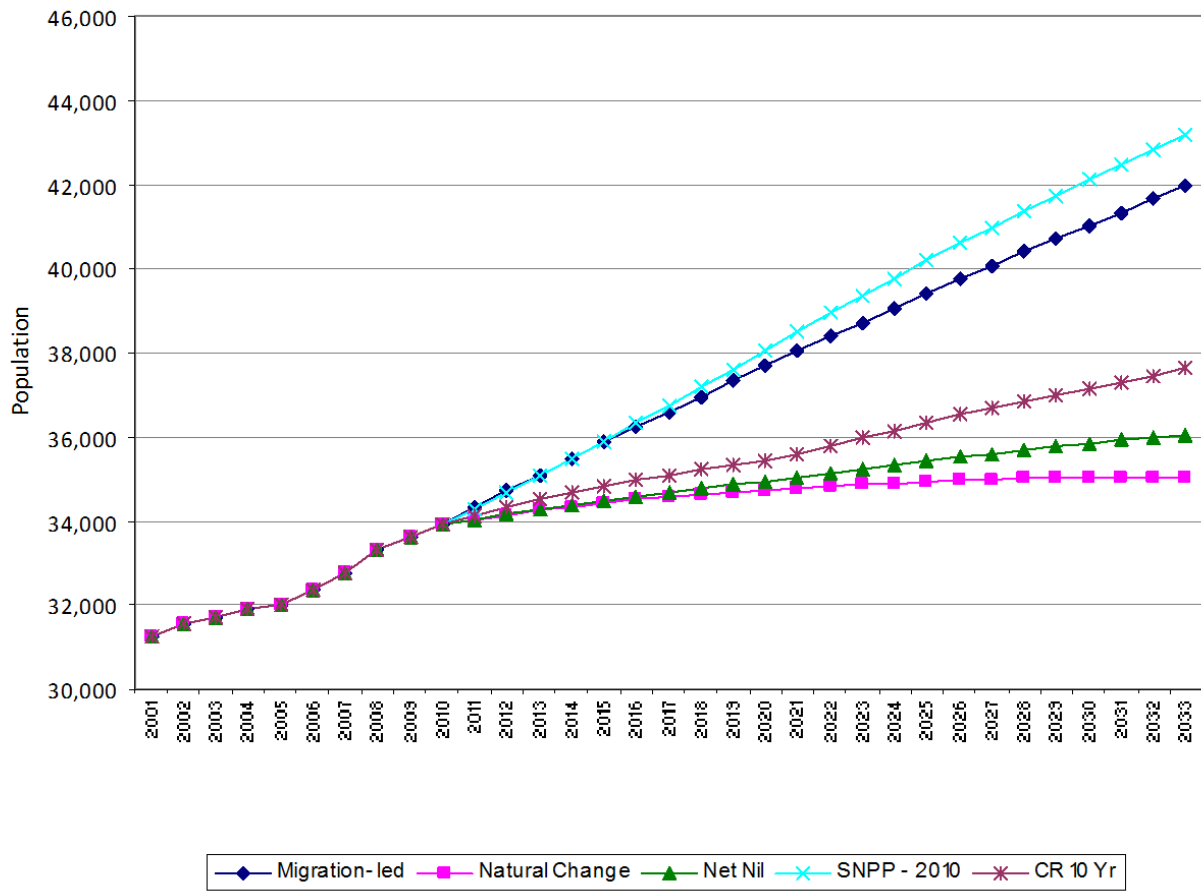
Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	7,895	25.0%	4,607	33.4%	140	205
Migration-led	6,605	20.9%	4,060	29.4%	94	181
Net Nil	5,692	18.0%	2,682	19.4%	0	119
CR 10 Yr	4,005	12.7%	2,959	21.5%	1	132
Natural Change	2,952	9.4%	2,683	19.5%	0	119

Sawbridgeworth and Southeastern



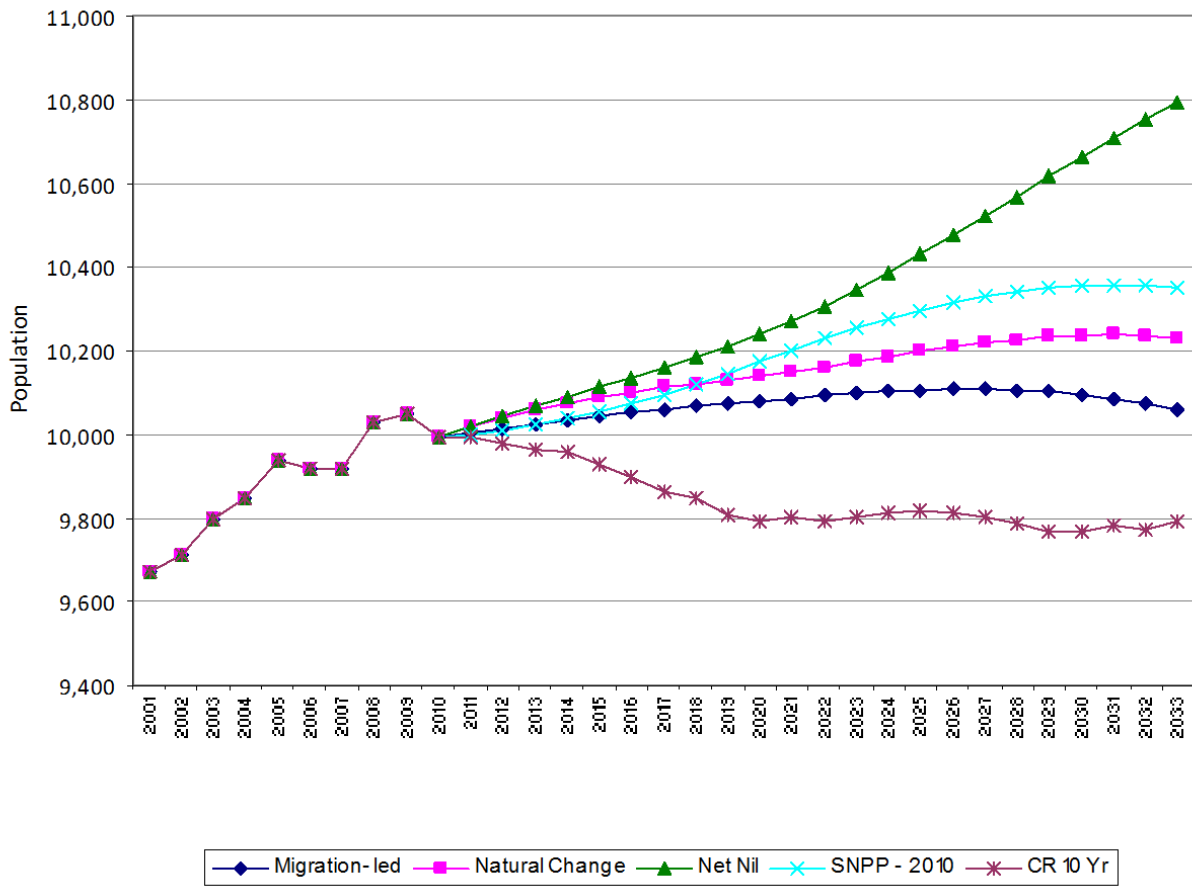
Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	587	6.4%	649	16.0%	30	29
Net Nil	413	4.5%	325	8.0%	0	14
Migration-led	325	3.6%	536	13.2%	20	24
Natural Change	-25	-0.3%	341	8.4%	0	15
CR 10 Yr	-28	-0.3%	381	9.4%	7	17

Ware and Central Southern



Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	9,227	27.2%	5,342	36.7%	321	237
Migration-led	8,018	23.6%	4,824	33.1%	277	214
CR 10 Yr	3,711	10.9%	2,973	20.4%	121	132
Net Nil	2,086	6.1%	1,955	13.4%	0	87
Natural Change	1,107	3.3%	1,606	11.0%	0	71

Western

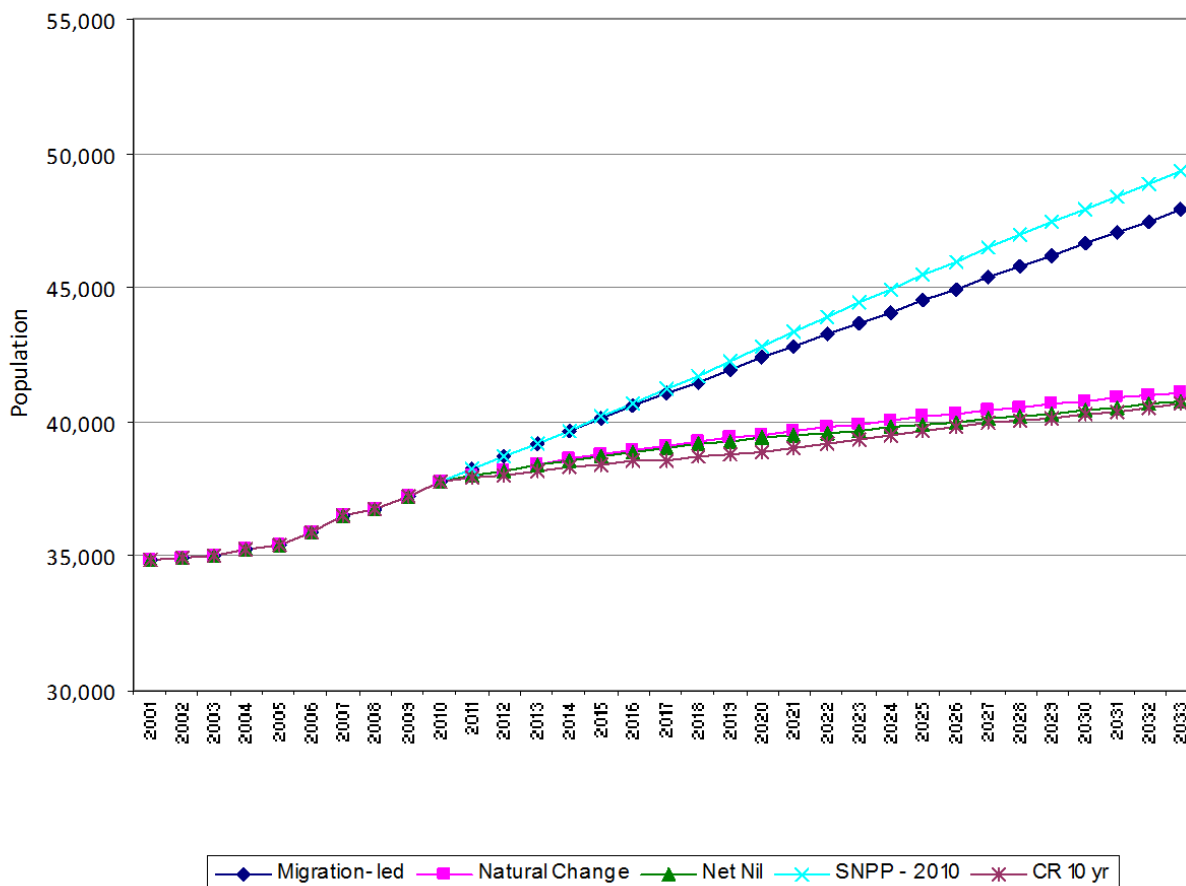


Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
Net Nil	799	8.0%	610	14.6%	0	27
SNPP - 2010	354	3.5%	579	13.9%	-3	26
Natural Change	234	2.3%	495	11.8%	0	22
Migration-led	62	0.6%	458	11.0%	-14	20
CR 10 Yr	-201	-2.0%	348	8.3%	-23	16

5.4. Town forecasts

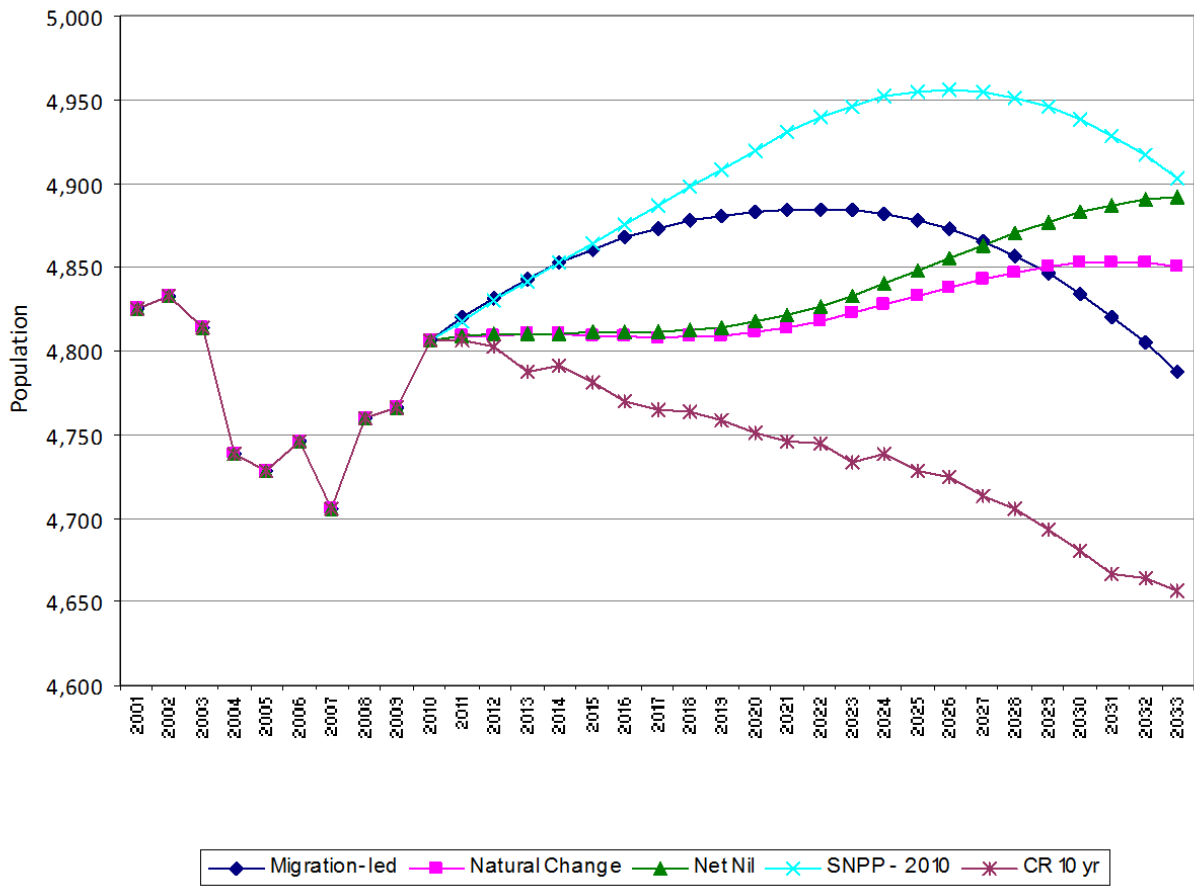
In the following illustrations, scenarios are 'ranked' in descending order of estimated population growth.

Bishop's Stortford



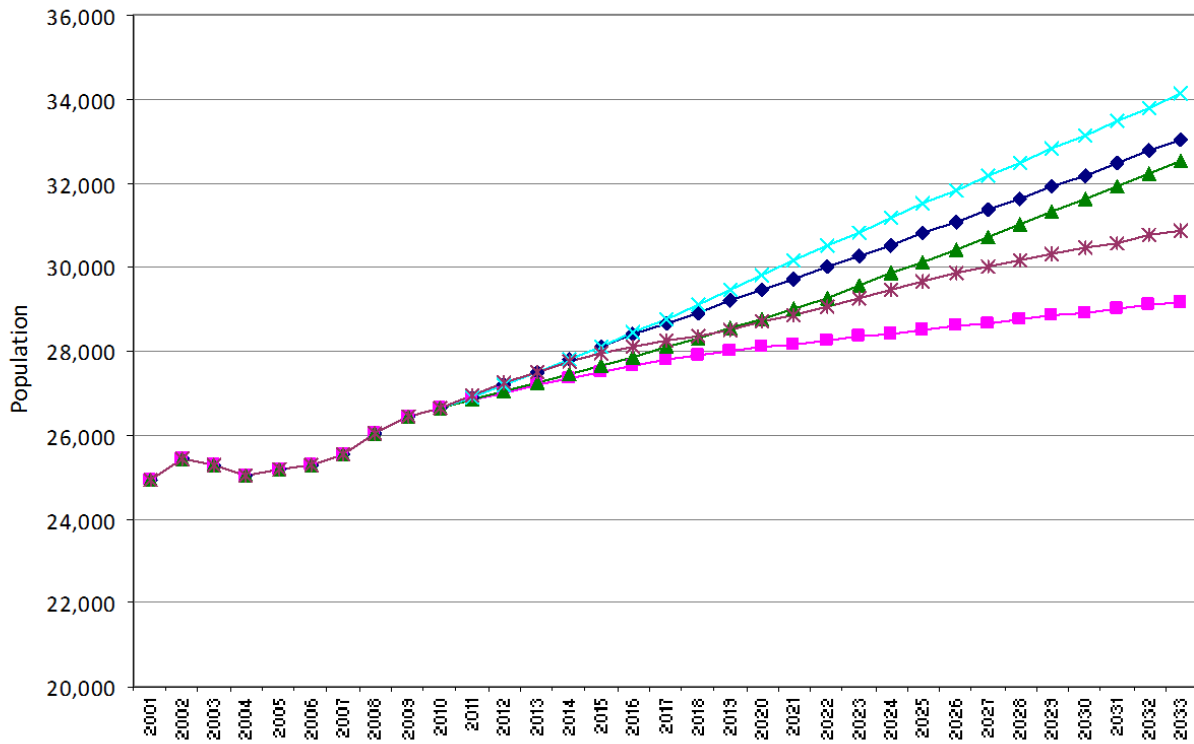
Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	11,558	30.6%	6,894	43.1%	307	307
Migration-led	10,120	26.8%	6,268	39.1%	253	279
Natural Change	3,336	8.8%	3,570	22.3%	0	159
Net Nil	2,993	7.9%	2,314	14.5%	0	103
CR 10 yr	2,910	7.7%	3,110	19.4%	-8	138

Buntingford



Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	96	2.0%	382	18.9%	16	17
Net Nil	86	1.8%	244	12.1%	0	11
Natural Change	44	0.9%	249	12.3%	0	11
Migration-led	-20	-0.4%	333	16.5%	11	15
CR 10 yr	-150	-3.1%	278	13.8%	7	12

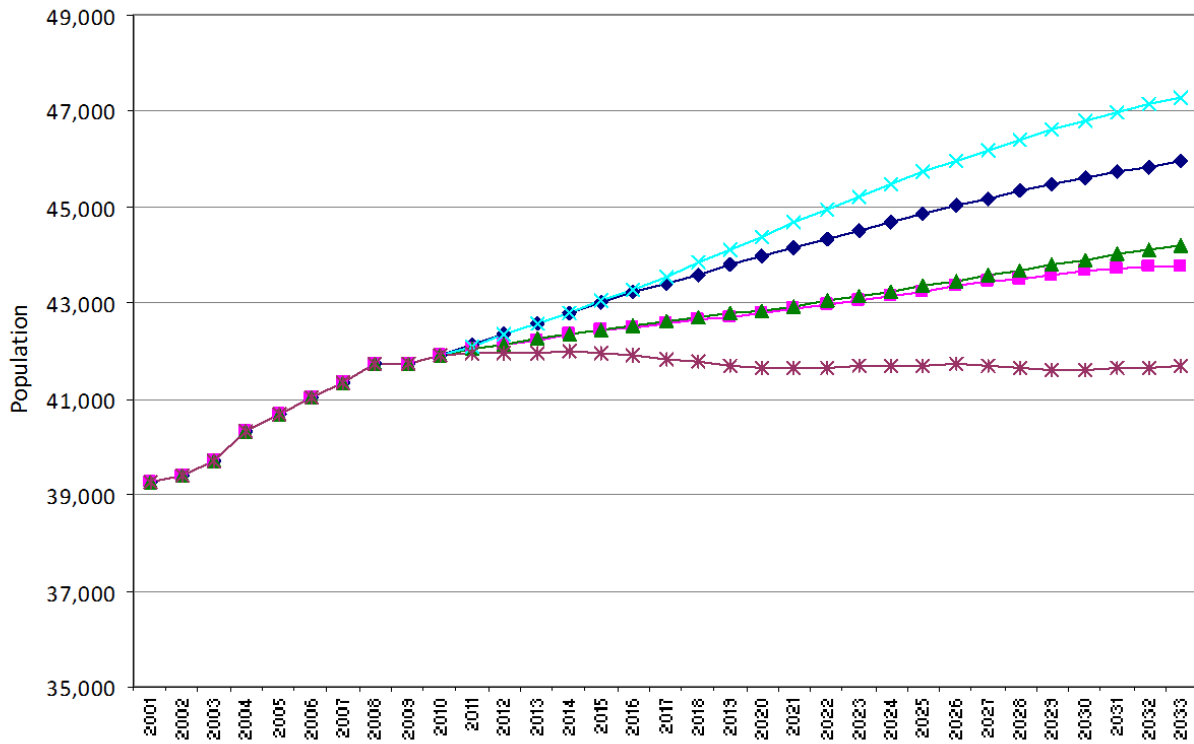
Hertford



◆ Migration-led
 ■ Natural Change
 ▲ Net Nil
 × SNPP - 2010
 * CR 10 yr

Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	7,509	28.2%	4,151	35.2%	133	185
Migration-led	6,420	24.1%	3,679	31.2%	94	164
Net Nil	5,897	22.2%	3,137	26.6%	0	140
CR 10 yr	4,266	16.0%	2,747	23.3%	16	123
Natural Change	2,559	9.6%	2,199	18.6%	0	98

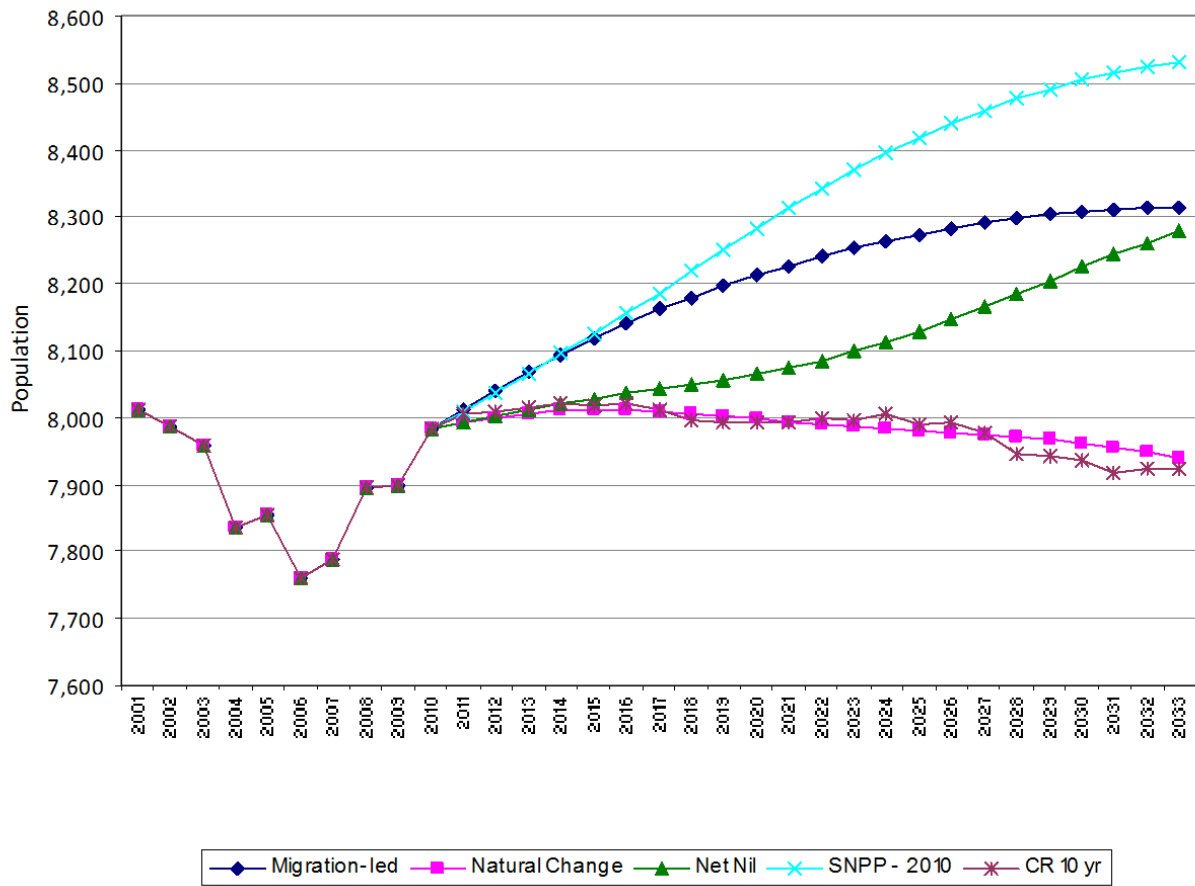
Rural



◆ Migration-led
 ■ Natural Change
 ▲ Net Nil
 ✕ SNPP - 2010
 ✱ CR 10 yr

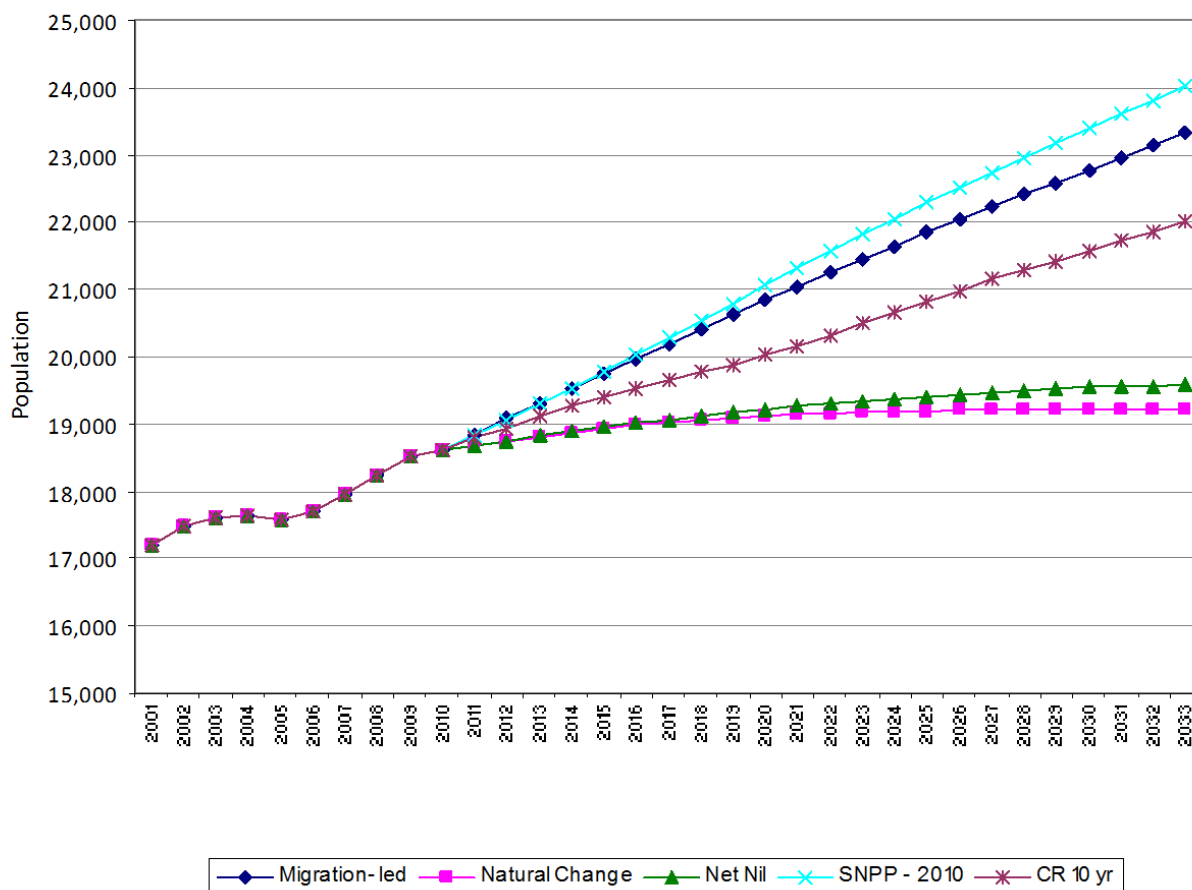
Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	5,375	12.8%	4,304	25.0%	158	192
Migration-led	4,037	9.6%	3,765	21.9%	108	168
Net Nil	2,287	5.5%	1,924	11.2%	0	86
Natural Change	1,858	4.4%	2,739	15.9%	0	122
CR 10 yr	-198	-0.5%	2,038	11.9%	-45	91

Sawbridgeworth



Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	550	6.9%	591	16.6%	28	26
Migration-led	331	4.1%	497	13.9%	19	22
Net Nil	296	3.7%	266	7.5%	0	12
Natural Change	-44	-0.6%	270	7.6%	0	12
CR 10 yr	-57	-0.7%	325	9.1%	5	15

Ware



Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	5,384	28.9%	2,922	35.5%	184	129
Migration-led	4,686	25.2%	2,619	31.8%	159	116
CR 10 yr	3,394	18.2%	2,059	25.0%	114	91
Net Nil	953	5.1%	924	11.2%	0	41
Natural Change	576	3.1%	602	7.3%	0	27

6. Dwelling-led forecasts – Phase 2

6.1. Scenario definition

The second phase of scenario development presented here contains a number of ‘Dwelling-led’ scenarios, using proposed additions to the housing stock in order to calibrate long-term forecasts of demographic change. The scenarios are referred to as 1A, 1B, 1C, 2A, 2B, 2C and 2D as specified by East Herts Council.

Under the dwelling-led forecasts, a housing target is applied to the population and household growth generated by natural change. Any shortfall in population and households against the target is then assumed to be met by migration. The use of ‘dwelling-led’ forecasts enables comparisons to be made (see Section 7) with the ‘trend-based’ forecasts in Section 5 in respect of the future demography of an area.

The seven scenarios represent the range of combinations of potential development locations that have been generated by East Herts Council for their District Plan testing process. The potential development locations have been included within the relevant parish grouping and an indicative housing total derived. It is not appropriate to run dwelling-led scenarios at the ‘town’ small area geographies as the majority of the potential development locations would fall within the residual rural area.

6.2. Scenario notes

Figure 19 shows the dwelling completion targets for each of the seven scenarios, 2011-2031. In each scenario the total dwelling target has been averaged over the twenty year period and the annualised rates are displayed in Figure 20. For example, in Scenario 1A for the Bishop’s Stortford and Northeastern Parish Grouping, the 3,047 proposed additions to the housing stock have been factored into the projection model at 152 additional dwellings per year. The population projection is constrained to meet the housing requirements set by each scenario.

Parish Grouping	1A	1B	1C	2A	2B	2C	2D
Bishop's Stortford and Northeastern	3,047	3,047	3,047	3,847	3,197	3,847	3,047
Buntingford and Central Northern	136	136	136	1,636	636	2,136	136
Hertford and Central Southwestern	1,682	1,682	1,682	1,682	1,682	1,682	1,682
Sawbridgeworth and Southeastern	8,391	5,391	3,391	2,391	3,661	391	2,391
Ware and Central Southern	745	3,745	3,745	2,445	745	2,045	745
Western	219	219	2,219	219	2,219	2,219	4,219
East Herts Total	14,220	14,220	14,220	12,220	12,140	12,320	12,220

Figure 19: Total dwelling completion targets by scenario, 2011-2031

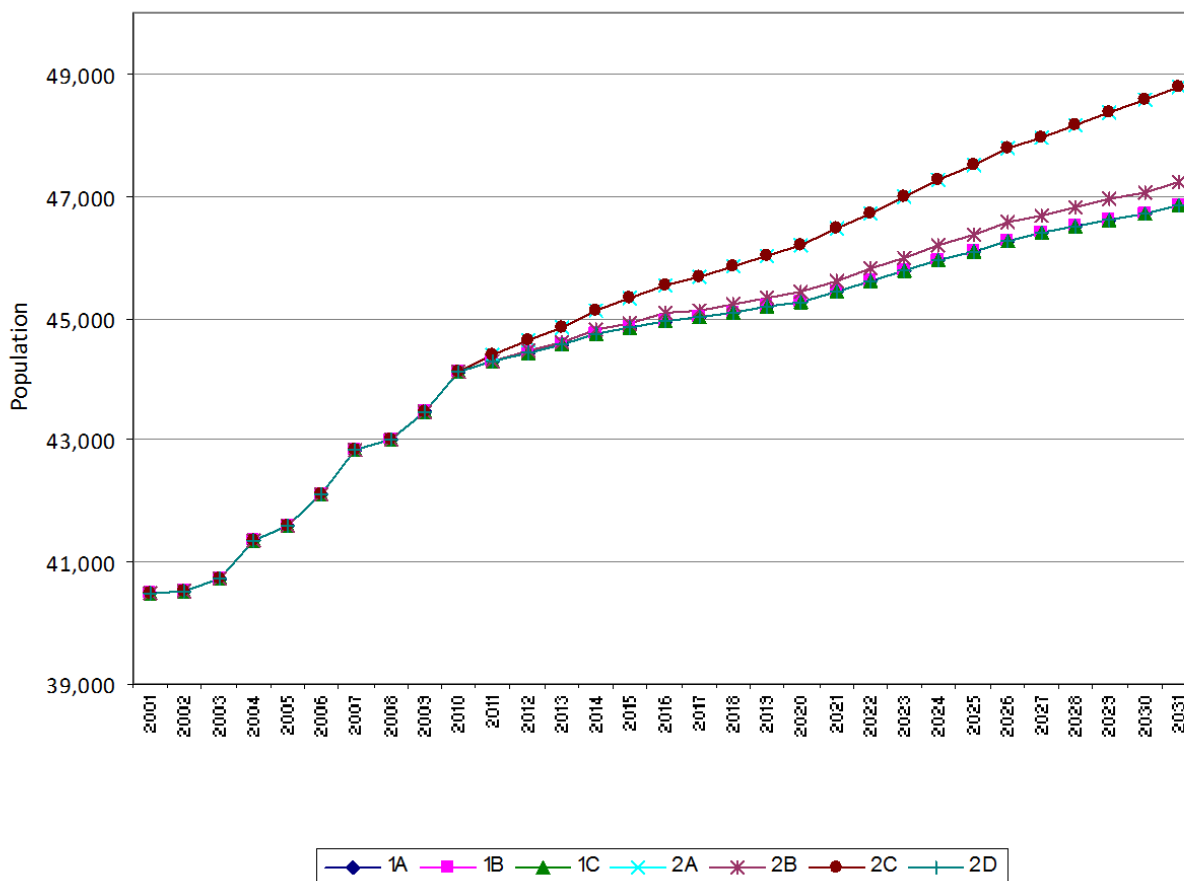
Parish Grouping	1A	1B	1C	2A	2B	2C	2D
Bishop's Stortford and Northeastern	152	152	152	192	160	192	152
Buntingford and Central Northern	7	7	7	82	32	107	7
Hertford and Central Southwestern	84	84	84	84	84	84	84
Sawbridgeworth and Southeastern	420	270	170	120	183	20	120
Ware and Central Southern	37	187	187	122	37	102	37
Western	11	11	111	11	111	111	211
East Herts Total	711	711	711	611	607	616	611

Figure 20: Annualised dwelling completion targets by scenario, 2011-2031

6.3. Parish Grouping forecasts

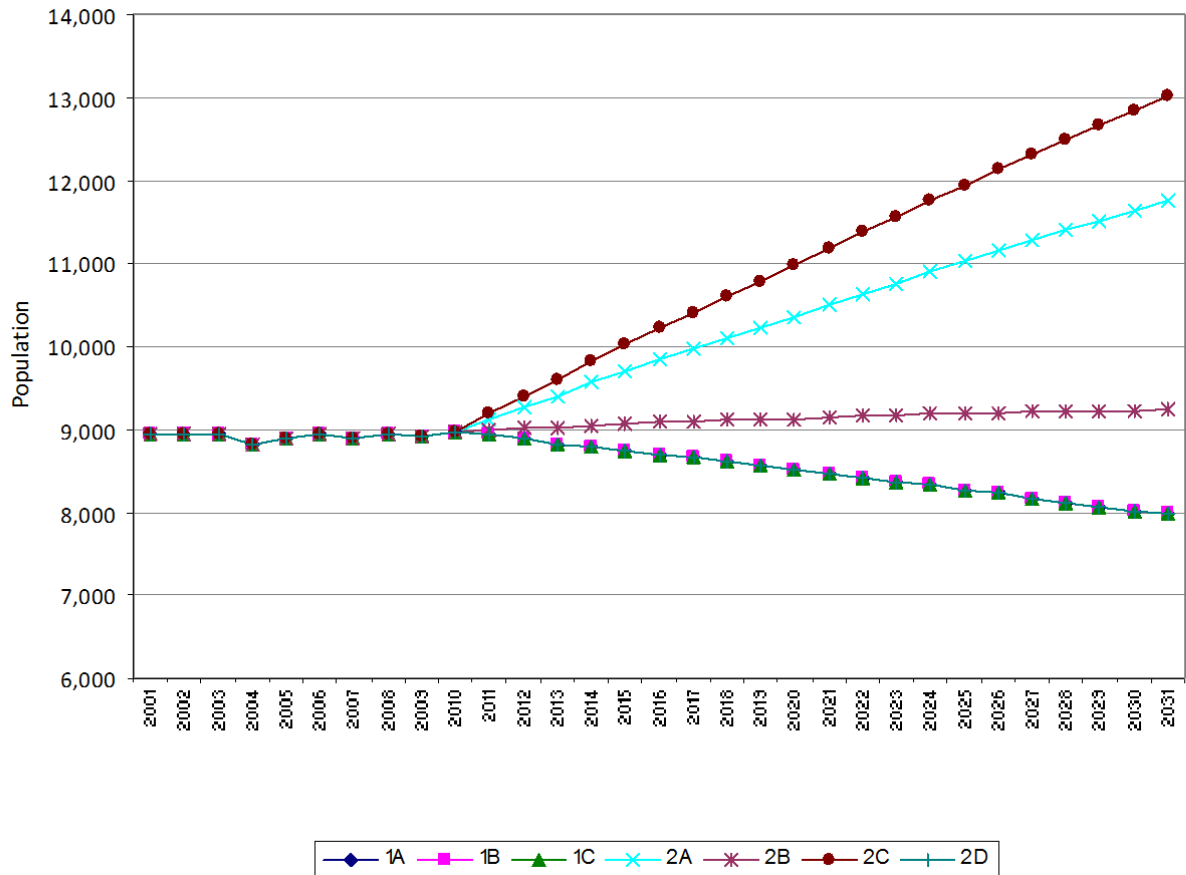
In the following illustrations, scenarios are 'ranked' in descending order of estimated household growth.

Bishop's Stortford and Northeastern



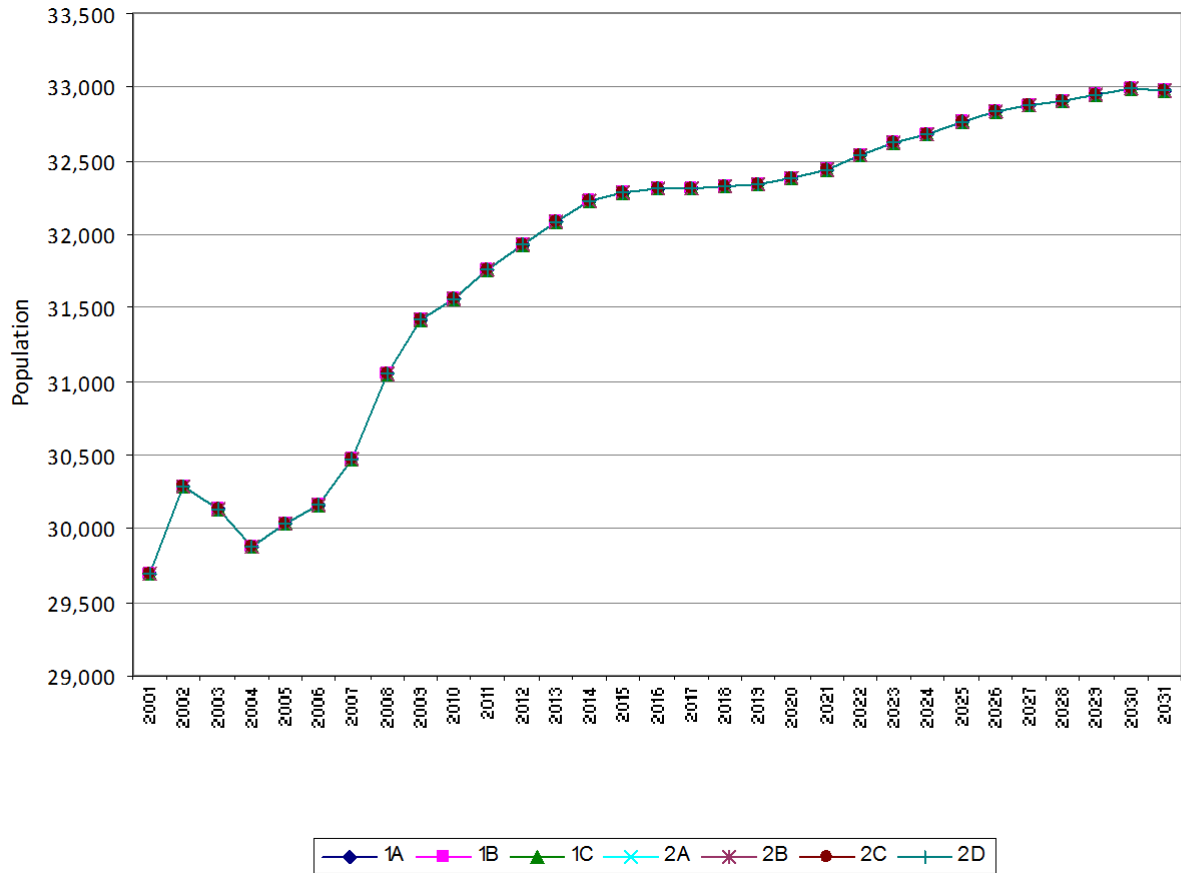
Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
2A	4,681	10.6%	3,941	21.3%	56	192
2C	4,681	10.6%	3,941	21.3%	56	192
2B	3,119	7.1%	3,275	17.7%	-7	160
1A	2,759	6.3%	3,122	16.9%	-21	152
1B	2,759	6.3%	3,122	16.9%	-21	152
1C	2,759	6.3%	3,122	16.9%	-21	152
2D	2,759	6.3%	3,122	16.9%	-21	152

Buntingford and Central Northern



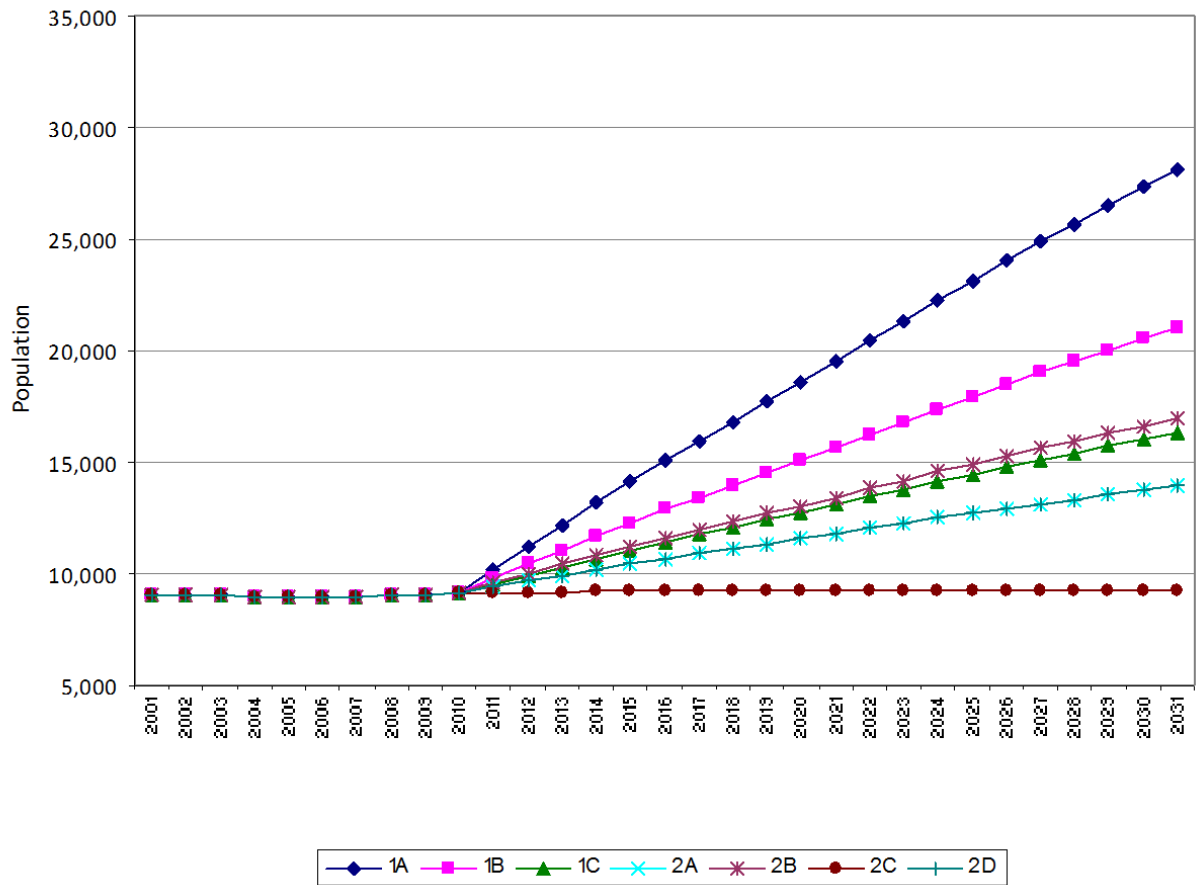
Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
2C	4,048	45.1%	2,208	59.1%	179	107
2A	2,788	31.0%	1,691	45.3%	127	82
2B	267	3.0%	657	17.6%	21	32
1A	-993	-11.1%	141	3.8%	-31	7
1B	-993	-11.1%	141	3.8%	-31	7
1C	-993	-11.1%	141	3.8%	-31	7
2D	-993	-11.1%	141	3.8%	-31	7

Hertford and Central Southwestern



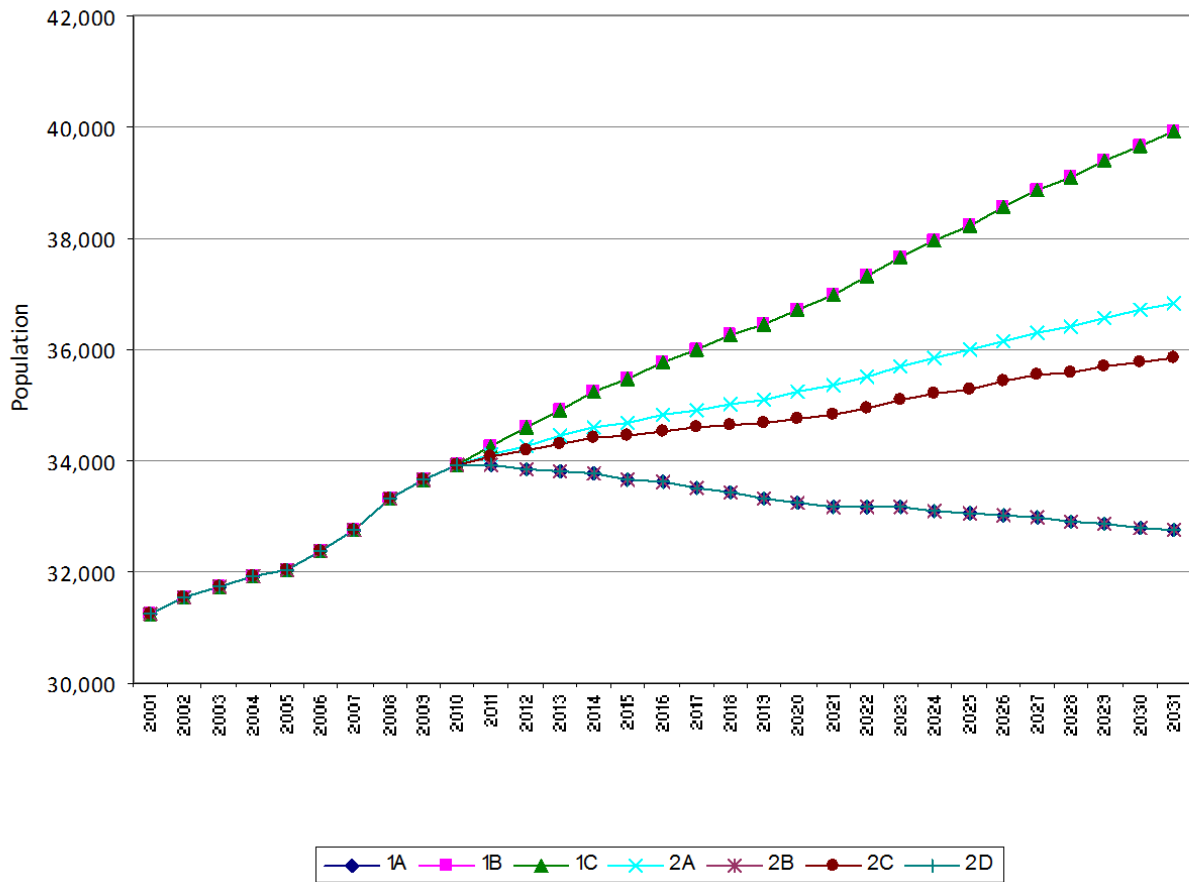
Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
1A	1,425	4.5%	1,724	12.5%	-87	84
1B	1,425	4.5%	1,724	12.5%	-87	84
1C	1,425	4.5%	1,724	12.5%	-87	84
2A	1,425	4.5%	1,724	12.5%	-87	84
2B	1,425	4.5%	1,724	12.5%	-87	84
2C	1,425	4.5%	1,724	12.5%	-87	84
2D	1,425	4.5%	1,724	12.5%	-87	84

Sawbridgeworth and Southeastern



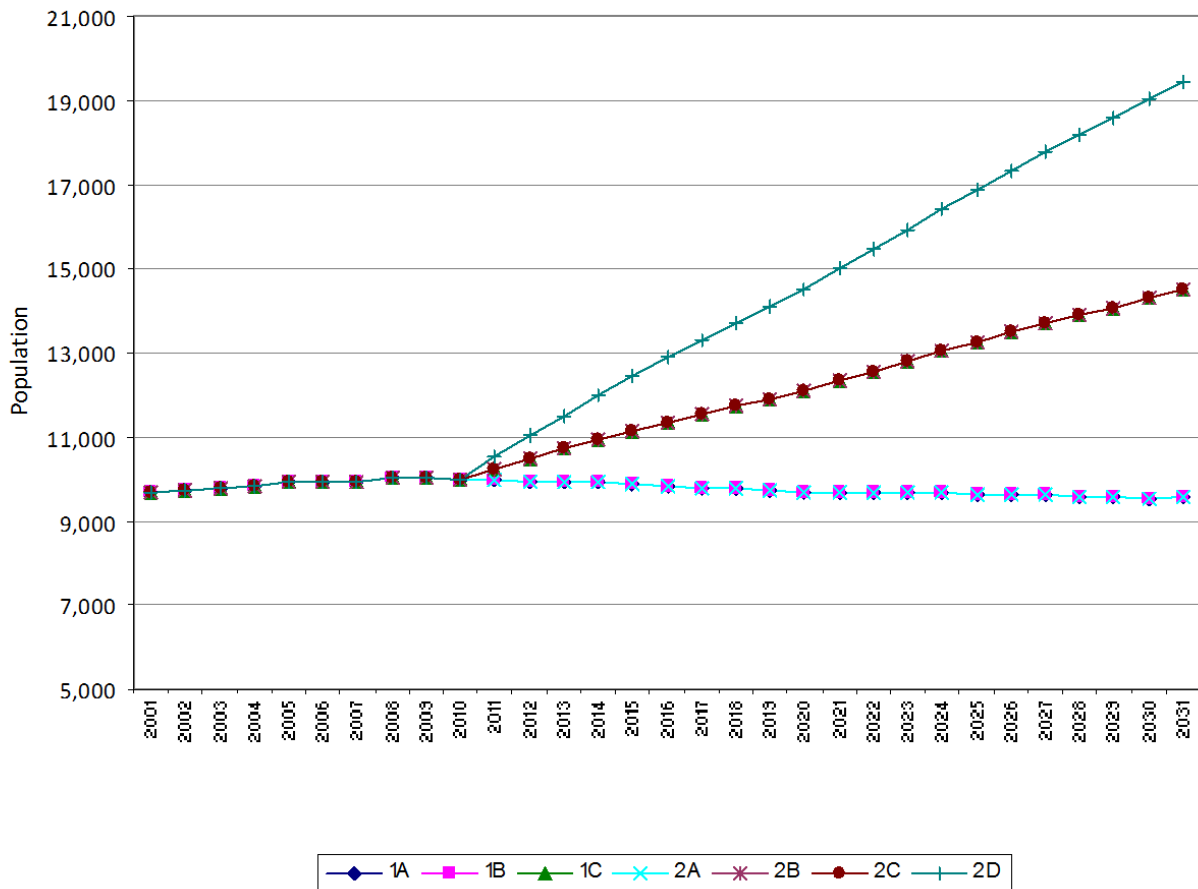
Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
1A	18,988	207.9%	8,591	212.4%	800	420
1B	11,899	130.3%	5,519	136.5%	504	270
2B	7,811	85.5%	3,748	92.7%	333	183
1C	7,173	78.5%	3,472	85.8%	306	170
2A	4,810	52.7%	2,448	60.5%	207	120
2D	4,810	52.7%	2,448	60.5%	207	120
2C	82	0.9%	400	9.9%	10	20

Ware and Central Southern



Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
1B	5,992	17.7%	3,848	26.4%	221	187
1C	5,992	17.7%	3,848	26.4%	221	187
2A	2,879	8.5%	2,512	17.2%	95	122
2C	1,921	5.7%	2,101	14.4%	57	102
1A	-1,193	-3.5%	765	5.3%	-69	37
2B	-1,193	-3.5%	765	5.3%	-69	37
2D	-1,193	-3.5%	765	5.3%	-69	37

Western



Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
2D	9,469	94.7%	4,320	103.3%	370	211
2B	4,516	45.2%	2,272	54.3%	168	111
1C	4,516	45.2%	2,272	54.3%	168	111
2C	4,516	45.2%	2,272	54.3%	168	111
1A	-439	-4.4%	224	5.4%	-35	11
1B	-439	-4.4%	224	5.4%	-35	11
2A	-439	-4.4%	224	5.4%	-35	11

7. Forecast comparisons

7.1. Scenario comparison

In the illustrations that follow, scenarios are 'ranked' in descending order of estimated household growth. All scenarios are presented, enabling direct comparison between the 'trend-based' forecasts and the various potential policy-driven 'dwelling-led' scenarios which reflect the Council's initial thoughts on the ability of the parish groupings to accommodate development to 2031.

7.2. Population versus household

When interpreting population and household forecasts, it is important to recognise the importance of the changing age-structure upon household numbers. An older age profile will typically result in a larger number of households due to the proliferation of one and two-person households. All areas will experience a degree of ageing but the trend will be accentuated in those areas which historically have a high proportion of retired and a relatively low level of net in-migration. It is net in-migration that would typically help to maintain a more 'youthful' population profile and thus result in a higher average household size (fewer households per head of population).

To illustrate how this might affect the six Parish Groupings, using the 'Migration-led' scenario, the percentage of the resident population that is 'retired' (females 60+ and males 65+) is compared for each area and for 2010 and 2031 (Figure 21).

Migration-led Scenario	% Retired	
	2010	2031
Bishop's Stortford and Northeastern	16.6	25.2
Buntingford and Central Northern	21.6	37.1
Hertford and Central Southwestern	17.2	24.1
Sawbridgeworth and Southeastern	22.3	33.1
Ware and Central Southern	18.7	26.4
Western	21.3	33.5

'Retired' refers to age 60 for females and age 65 for males

Figure 21: Population % retired, 2010 & 2031, Migration-led scenario

In 2010, there is a clear split between the more-urban areas (Bishop's Stortford & Northeastern, Hertford & Central Southwestern and Ware & Central Southern) and the more-rural areas (Buntingford & Central Northern, Sawbridgeworth & Southeastern and Western). The urban areas

have a retired population of 16-19%, compared to the 21-22% in the more rural areas. Over the course of the projection period all areas experience a growth in the relative size of the retired population but the trend is accentuated in the more rural Parish Groupings. In-migration and higher fertility will maintain the more youthful profile in urban areas; not so in the rural areas, where the impact of migration will be lower, or negative.

The rates of household formation in these predominantly urban and rural areas will differ, with the younger age profile associated with a larger average household size, the older age profile associated with a smaller average household size. A rural and an urban population may be similar in size but if one has a much higher retired population, its household total would be greater.

Housing development can alter the profile of an area, attracting new migrants with a younger age profile, thus reducing the retired percentage relative to the younger age-groups, with a higher average household size as a result.

These population and household issues form part of the short scenario commentary that follows.

7.3. Scenario Commentary

Bishop's Stortford and Northeastern

Figure 7 revealed that, between 2001 and 2010, Bishop's Stortford and Northeastern has displayed the highest level of population growth amongst the Parish Groupings of East Herts. Its historical population change, driven by both natural change and net-migration has resulted in the trend scenarios (SNPP-2010 and Migration-led) having the highest population and household growth over the projection period, with a housing requirement of +300 units per year.

In contrast to the higher population growth displayed in the trend projections, the variety of dwelling-led scenarios suggest that lower housing growth would be required in this Parish Grouping; 152-192 units per year to 2031. If planned housing growth is insufficient to meet the needs of the population growth assumed by the trend projection, out-migration results. Conversely, if housing growth exceeds the trend projection, in-migration will result.

The lower housing growth alternatives (152-160 units per year) result in relatively modest population growth and a small net loss through migration over the projection period. The higher housing growth scenarios (192 units per year) result in more substantial population growth and a small net in-migration of +56 per year over the projection period. These higher housing growth scenarios are not dissimilar to the Natural Change scenario for Bishop's Stortford and Northeastern, which assumes zero migration over the projection period and a housing requirement of 177 per

year. The different age-structures that evolve from the Natural Change and the 2A and 2C dwelling-led scenarios are responsible for the differences in the household, migration and dwelling outcomes that result from each scenario.

Buntingford and Central Northern

In this more rural Parish Grouping the trend scenarios (SNPP-2010 and Migration-led) suggest little growth over the projection period; with a housing requirement of approximately 20 units per year associated with the changing (ageing) age profile. A number of lower and higher-growth housing scenarios have been tested. The lower-growth alternatives result in population decline; insufficient housing to match the population size and composition, resulting in net out-migration from the area. In the absence of any net in-migration, the % retired population will increase substantially under this scenario.

In contrast, the higher housing growth scenarios result in substantial population growth through net in-migration; new housing generating a net inflow of a relatively youthful population whilst satisfying the requirements of the resident but ageing population.

Hertford and Central Southwestern

The trend projections (SNPP-2010 and Migration-led) result in the highest population and household growth over the projection period, with a housing requirement of 181-205 units per year.

There is an interesting contrast between the Natural-Change and Net-Nil scenarios. The first, models change in the absence of any migration; the second, models change with migration that has a 'net' balance of zero. These produce two very different population outcomes but similar household outcomes. This is due to the continued influence of migration (in the Net-Nil scenario) which maintains a more youthful age profile and generates a higher number of births. The Natural Change scenario results in a decline in the number of births, relative to deaths, and a more significant ageing of the population due to the lack of migration. Household change over the projection period is similar in each case but the Net-Nil scenario results in a larger number of 'family' households with higher occupancy; the Natural Change scenario results in a larger number of one and two-person households linked to the ageing population.

All dwelling-led scenarios are similarly configured for this area, with 84 housing units per year suggested. This results in more modest growth in population over the projection period, primarily from natural change in combination with a small net outflow due to migration.

Sawbridgeworth and Southeastern

In this more rural Parish Grouping the trend scenarios (SNPP-2010 and Migration-led) suggest limited population growth over the projection period; with a housing requirement of approximately 24-29 units per year associated with the changing (ageing) age profile.

A range of housing growth scenarios have been tested, most of which result in population growth that is significantly higher than the trend projections would suggest. Housing development will stimulate migration; a net inflow of migrants with a youthful age-profile, resulting in a lower retired proportion and a more balanced mix of one, two and 3+ person households.

Ware and Central Southern

The trend projections (SNPP-2010 and Migration-led) result in the highest population and household growth over the projection period, with a housing requirement of 214-237 units per year.

The Natural-Change and Net-Nil scenarios again provide an interesting contrast with a significant difference in the projected population growth but less variation in the household growth. The impact of the different age structures upon household composition is the driver behind these differences.

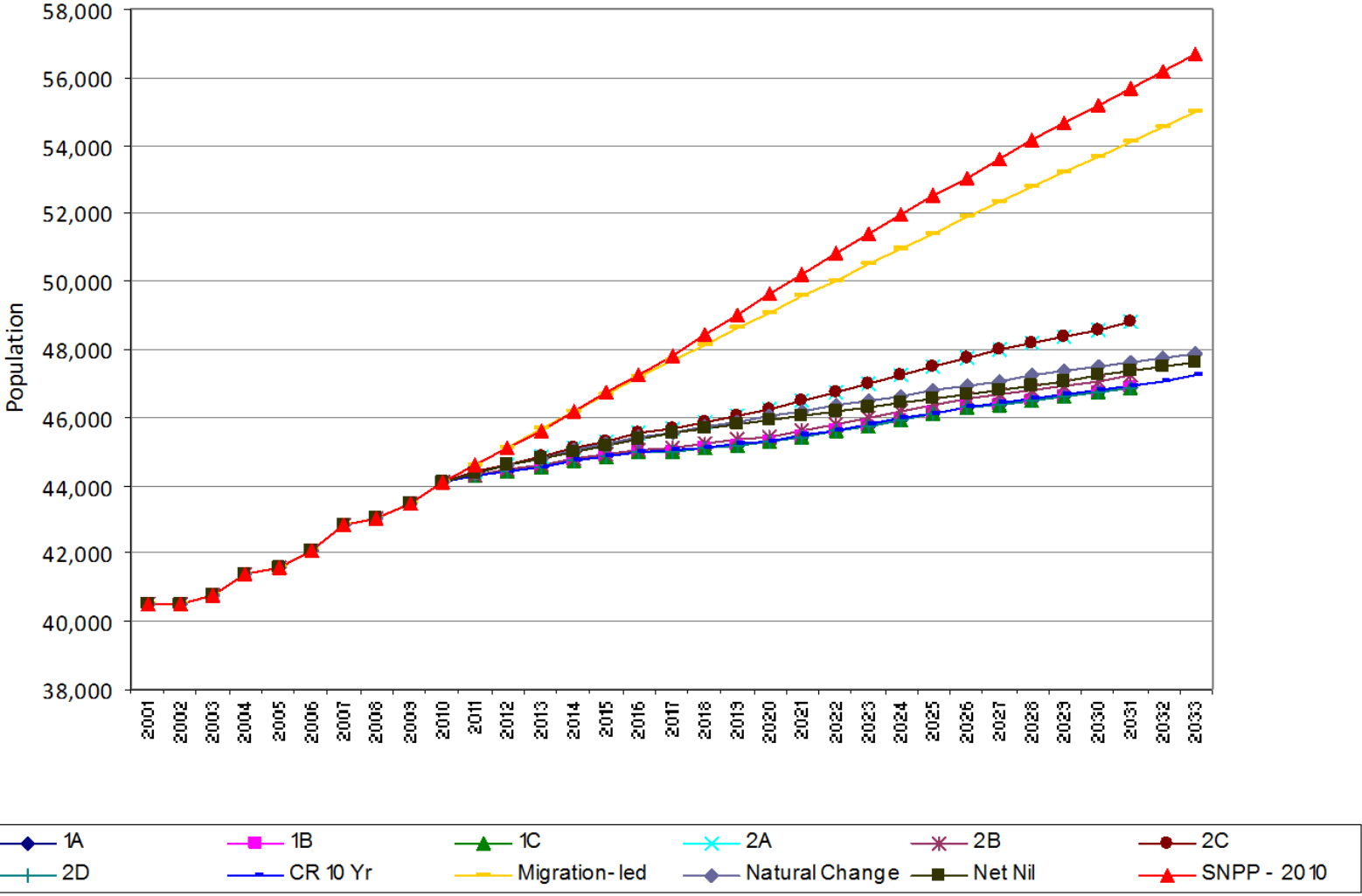
A range of lower and higher-growth housing growth scenarios are tested. The higher-growth alternatives result in population and household growth that is below the trend forecasts; 102-187 housing units per year. The lower-growth scenarios suggest only 37 housing units per year, resulting in population decline over the forecast period, with net out-migration resulting.

Western

In this more rural Parish Grouping the trend scenarios (SNPP-2010 and Migration-led) suggest limited population growth over the projection period; with a housing requirement of approximately 20-26 units per year associated with the changing age profile. The Net-Nil migration scenario results in higher growth than the trend scenarios, reflecting the fact that the area has experienced a net outflow through migration in recent years.

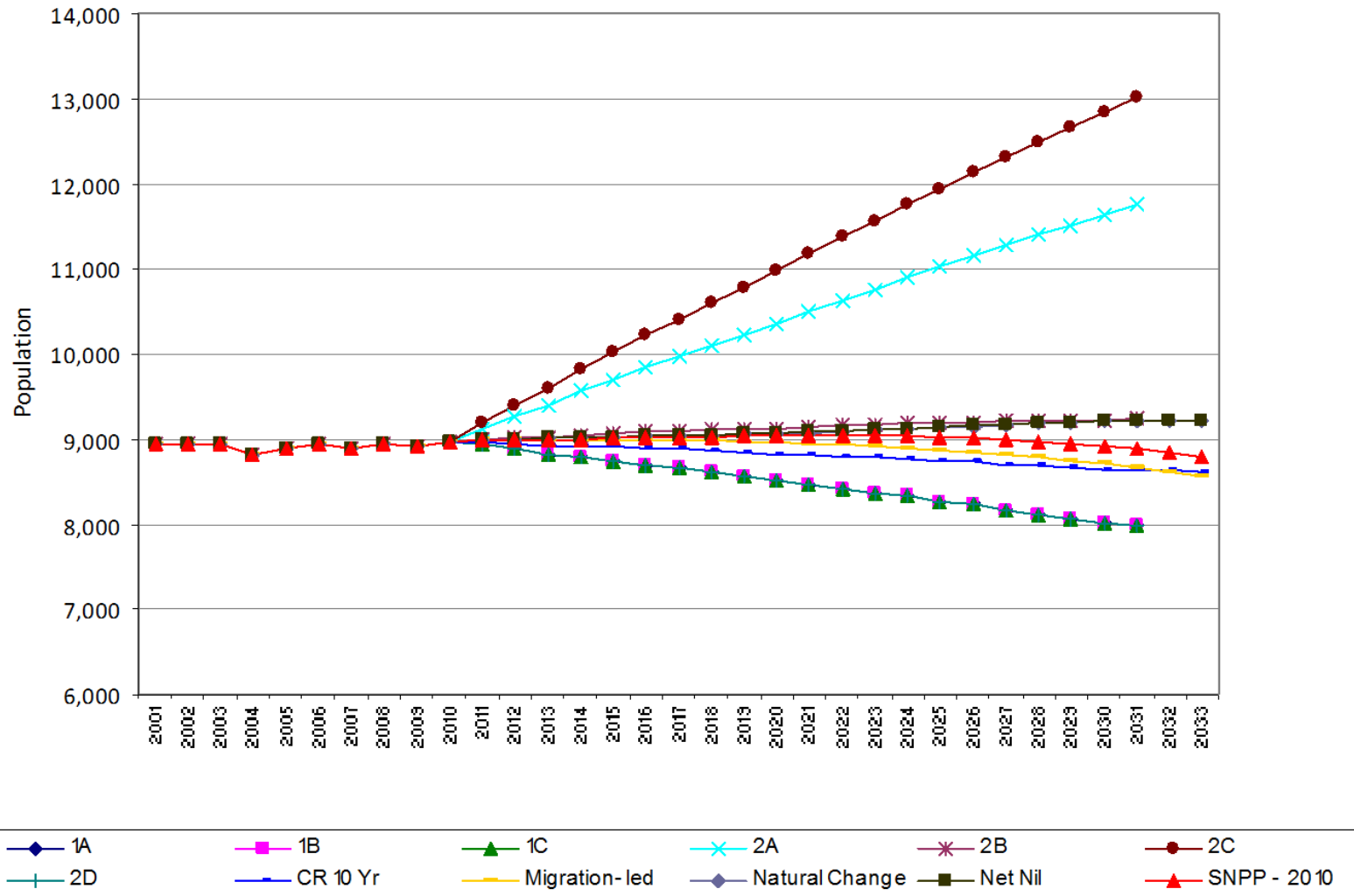
Three housing growth scenarios have been tested; 211, 111 and 11 housing units per year. The high-growth alternative results in a two-fold increase in population and households over the forecast period, with net migration of +370 per year estimated. The low growth scenario, with just 11 housing units per year, results in population decline and a net outflow due to migration each year.

Bishop's Stortford and Northeastern



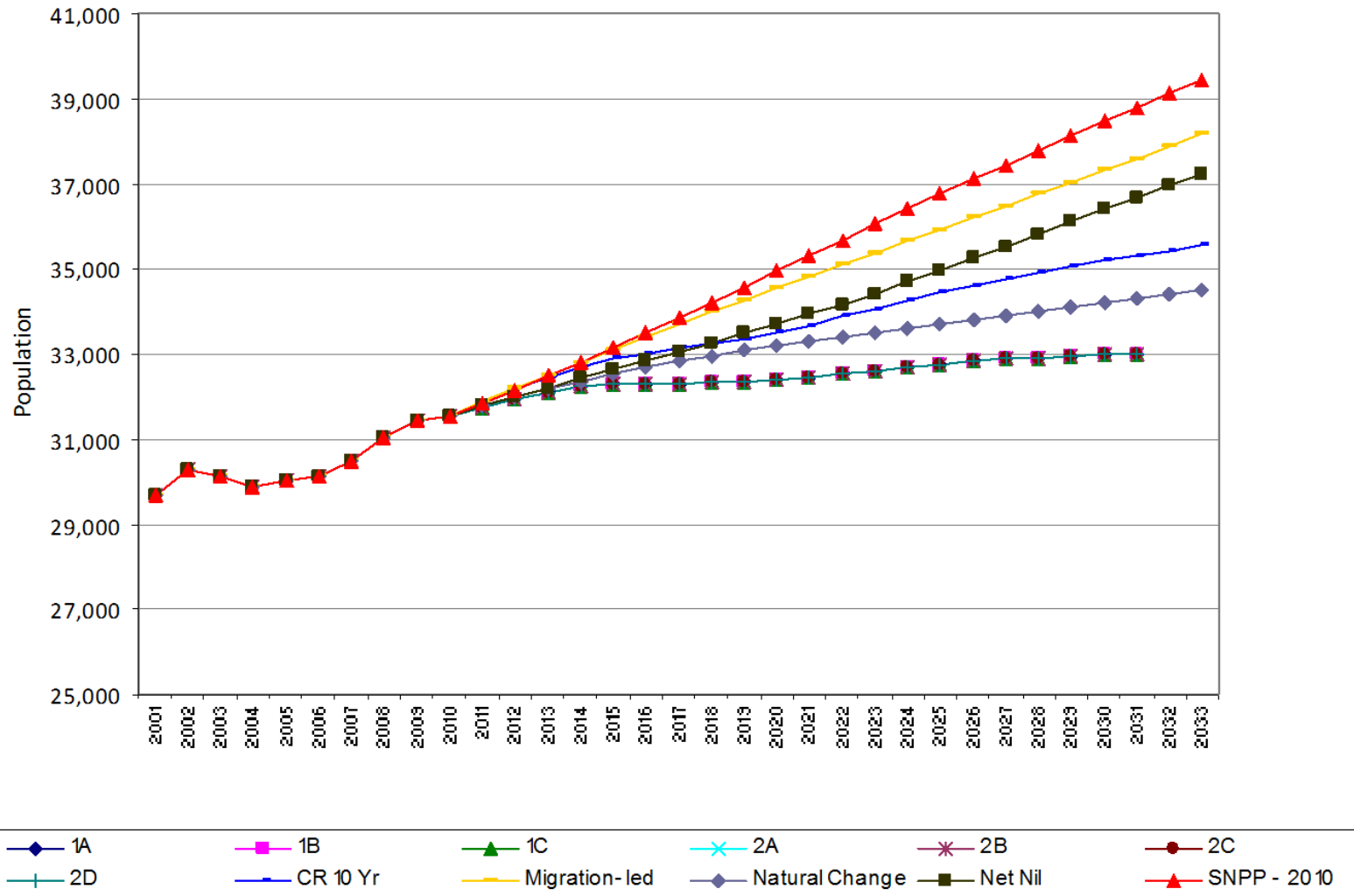
Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	12,585	28.5%	7,505	40.6%	334	334
Migration-led	10,897	24.7%	6,784	36.7%	272	302
Natural Change	3,735	8.5%	3,973	21.5%	0	177
2C	4,681	10.6%	3,941	21.3%	56	192
2A	4,681	10.6%	3,941	21.3%	56	192
CR 10 Yr	3,129	7.1%	3,447	18.7%	-11	154
2B	3,119	7.1%	3,275	17.7%	-7	160
1B	2,759	6.3%	3,122	16.9%	-21	152
1C	2,759	6.3%	3,122	16.9%	-21	152
1A	2,759	6.3%	3,122	16.9%	-21	152
2D	2,759	6.3%	3,122	16.9%	-21	152
Net Nil	3,493	7.9%	2,692	14.6%	0	120

Buntingford and Central Northern



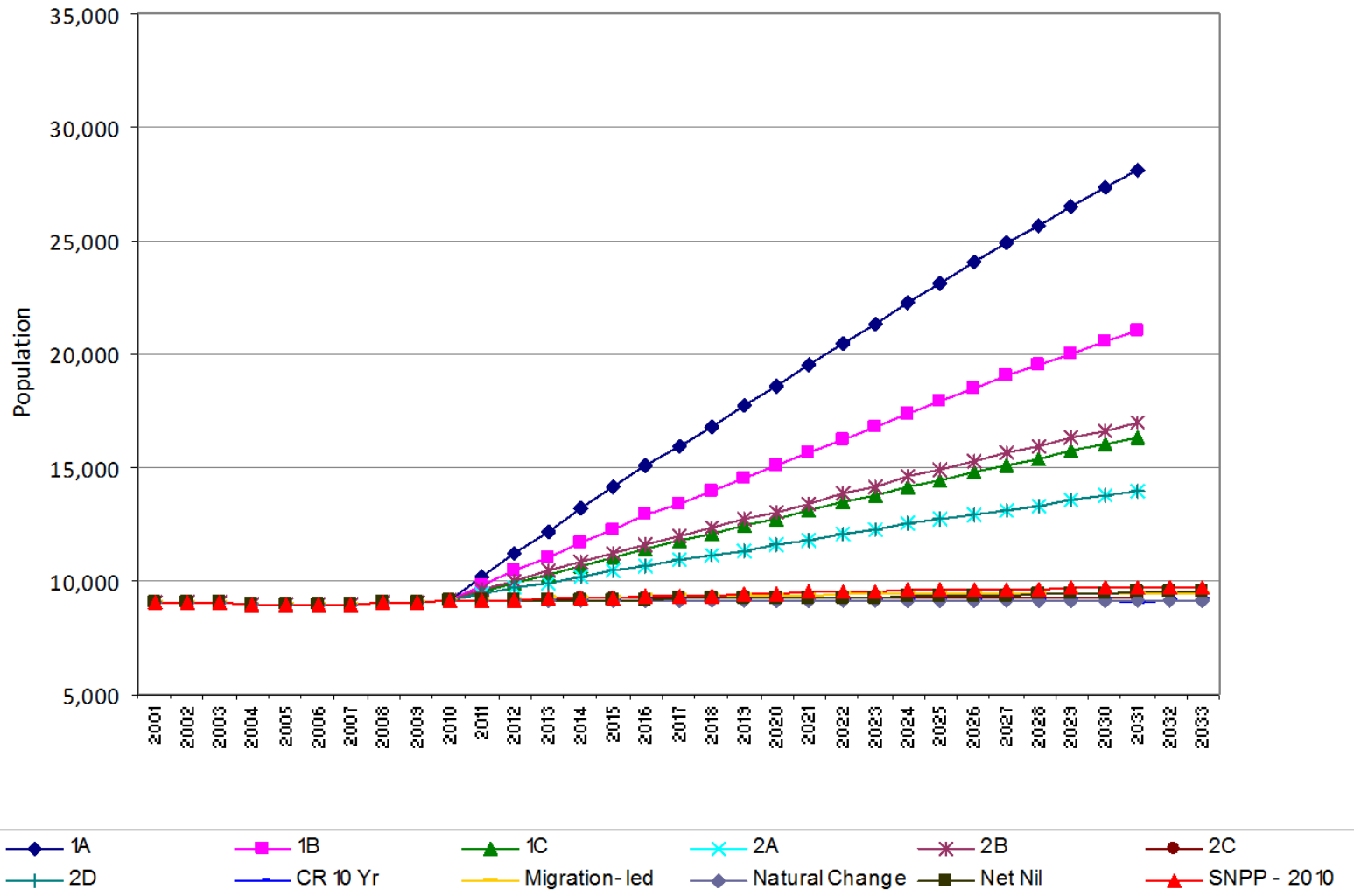
Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
2C	4,048	45.1%	2,208	59.1%	179	107
2A	2,788	31.0%	1,691	45.3%	127	82
2B	267	3.0%	657	17.6%	21	32
SNPP - 2010	-176	-2.0%	516	13.8%	5	23
Net Nil	250	2.8%	463	12.4%	0	20
Natural Change	248	2.8%	457	12.2%	0	20
CR 10 Yr	-357	-4.0%	444	11.9%	0	20
Migration-led	-407	-4.5%	423	11.3%	-3	19
1B	-993	-11.1%	141	3.8%	-31	7
1C	-993	-11.1%	141	3.8%	-31	7
1A	-993	-11.1%	141	3.8%	-31	7
2D	-993	-11.1%	141	3.8%	-31	7

Hertford and Central Southwestern



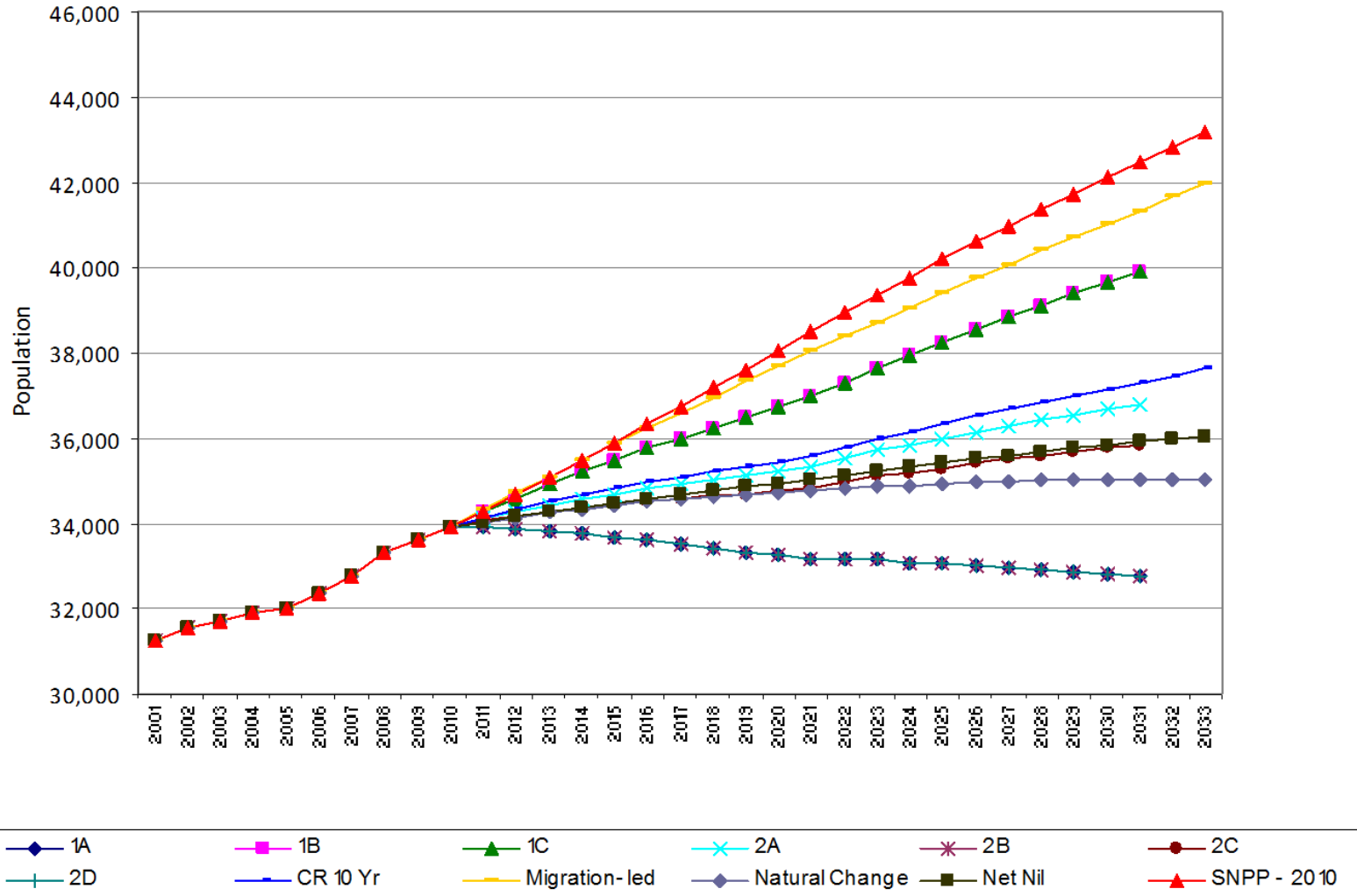
Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	7,895	25.0%	4,607	33.4%	140	205
Migration-led	6,605	20.9%	4,060	29.4%	94	181
CR 10 Yr	4,005	12.7%	2,959	21.5%	1	132
Natural Change	2,952	9.4%	2,683	19.5%	0	119
Net Nil	5,692	18.0%	2,682	19.4%	0	119
1A	1,425	4.5%	1,724	12.5%	-87	84
1B	1,425	4.5%	1,724	12.5%	-87	84
1C	1,425	4.5%	1,724	12.5%	-87	84
2A	1,425	4.5%	1,724	12.5%	-87	84
2B	1,425	4.5%	1,724	12.5%	-87	84
2C	1,425	4.5%	1,724	12.5%	-87	84
2D	1,425	4.5%	1,724	12.5%	-87	84

Sawbridgeworth and Southeastern



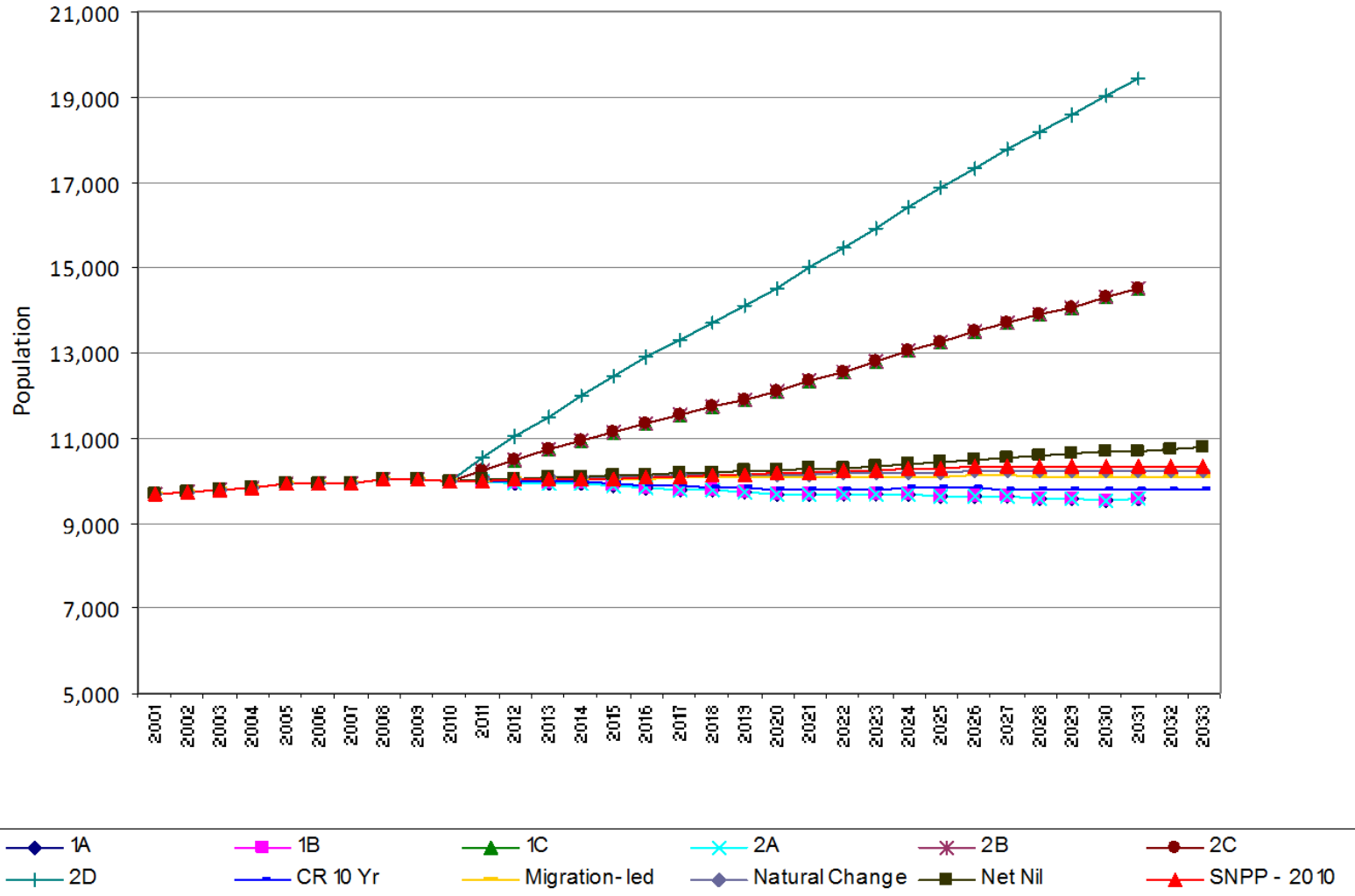
Scenario	Change 2010 - 2033				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
1A	18,988	207.9%	8,591	212.4%	800	420
1B	11,899	130.3%	5,519	136.5%	504	270
2B	7,811	85.5%	3,748	92.7%	333	183
1C	7,173	78.5%	3,472	85.8%	306	170
2A	4,810	52.7%	2,448	60.5%	207	120
2D	4,810	52.7%	2,448	60.5%	207	120
SNPP - 2010	587	6.4%	649	16.0%	30	29
Migration-led	325	3.6%	536	13.2%	20	24
2C	82	0.9%	400	9.9%	10	20
CR 10 Yr	-28	-0.3%	381	9.4%	7	17
Natural Change	-25	-0.3%	341	8.4%	0	15
Net Nil	413	4.5%	325	8.0%	0	14

Ware and Central Southern



Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
SNPP - 2010	9,227	27.2%	5,342	36.7%	321	237
Migration-led	8,018	23.6%	4,824	33.1%	277	214
1C	5,992	17.7%	3,848	26.4%	221	187
1B	5,992	17.7%	3,848	26.4%	221	187
CR 10 Yr	3,711	10.9%	2,973	20.4%	121	132
2A	2,879	8.5%	2,512	17.2%	95	122
2C	1,921	5.7%	2,101	14.4%	57	102
Net Nil	2,086	6.1%	1,955	13.4%	0	87
Natural Change	1,107	3.3%	1,606	11.0%	0	71
2B	-1,193	-3.5%	765	5.3%	-69	37
1A	-1,193	-3.5%	765	5.3%	-69	37
2D	-1,193	-3.5%	765	5.3%	-69	37

Western



Scenario	Change 2010 - 2031				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
2D	9,469	94.7%	4,320	103.3%	370	211
2C	4,516	45.2%	2,272	54.3%	168	111
1C	4,516	45.2%	2,272	54.3%	168	111
2B	4,516	45.2%	2,272	54.3%	168	111
Net Nil	799	8.0%	610	14.6%	0	27
SNPP - 2010	354	3.5%	579	13.9%	-3	26
Natural Change	234	2.3%	495	11.8%	0	22
Migration-led	62	0.6%	458	11.0%	-14	20
CR 10 Yr	-201	-2.0%	348	8.3%	-23	16
2A	-439	-4.4%	224	5.4%	-35	11
1A	-439	-4.4%	224	5.4%	-35	11
1B	-439	-4.4%	224	5.4%	-35	11

8. Conclusions

Investigating a range of 'trend' and policy driven scenarios is a key requirement of evidence-based planning. Trend scenarios provide an indication of likely trajectories of growth if recent demographic conditions continue. Policy driven scenarios provide an alternative view, based on local perspectives on the capacity of an area to accommodate development and the appropriateness of this development given the local conditions.

In evaluating the policy scenarios, the forecasting model uses its 'migration' element to balance population growth against proposed housing development. If housing growth exceeds the expected 'trend' projection of population, then net in-migration will result. Conversely, if the population growth trend exceeds planned housing growth, net out-migration will result. Trend projections may exceed policy scenarios but it may therefore be concluded that in planning terms, a particular area does not necessarily have the physical ability to accommodate the development.

The scenarios presented in this report provide a range of evidence from which to base local planning decisions on future housing development. Whilst these decisions are a necessity to enable short-medium term trajectories to be agreed, it is recommended that evidence and decisions are regularly reviewed as new demographic information becomes available (from the last Census) and as economic conditions begin to improve.

Appendix

Average household size: Parish Grouping forecasts (trend-led)

Parish Grouping	Migration-led		SNPP 2010		Natural Change		Net-Nil Migration		CR 10 Yr	
	2010	2033	2010	2033	2010	2033	2010	2033	2010	2033
Bishop's Stortford and Northeastern	2.37	2.15	2.37	2.16	2.37	2.10	2.37	2.22	2.37	2.13
Buntingford and Central Northern	2.40	2.05	2.40	2.06	2.40	2.19	2.40	2.19	2.40	2.05
Hertford and Central Southwestern	2.27	2.11	2.27	2.12	2.27	2.07	2.27	2.24	2.27	2.10
Sawbridgeworth and Southeastern	2.24	2.05	2.24	2.06	2.24	2.06	2.24	2.17	2.24	2.04
Ware and Central Southern	2.30	2.13	2.30	2.14	2.30	2.13	2.30	2.14	2.30	2.11
Western	2.38	2.16	2.38	2.17	2.38	2.18	2.38	2.25	2.38	2.16

Average household size: Town forecasts (trend-led)

Town	Migration-led		SNPP 2010		Natural Change		Net-Nil Migration		CR 10 Yr	
	2010	2033	2010	2033	2010	2033	2010	2033	2010	2033
Bishop's Stortford	2.34	2.13	2.34	2.13	2.34	2.07	2.34	2.20	2.34	2.10
Buntingford	2.37	2.02	2.37	2.03	2.37	2.12	2.37	2.15	2.37	2.01
Hertford	2.23	2.11	2.23	2.12	2.23	2.06	2.23	2.15	2.23	2.10
Rural	2.42	2.17	2.42	2.18	2.42	2.17	2.42	2.29	2.42	2.15
Sawbridgeworth	2.22	2.03	2.22	2.03	2.22	2.05	2.22	2.14	2.22	2.02
Ware	2.24	2.12	2.24	2.12	2.24	2.13	2.24	2.10	2.24	2.11

Average household size: Parish grouping forecasts (dwelling-led)

Parish Grouping	1A		1B		1C		2A		2B		2C		2D	
	2010	2031	2010	2031	2010	2031	2010	2031	2010	2031	2010	2031	2010	2031
Bishop's Stortford and Northeastern	2.37	2.14	2.37	2.14	2.37	2.14	2.37	2.15	2.37	2.14	2.37	2.15	2.37	2.14
Buntingford and Central Northern	2.40	2.05	2.40	2.05	2.40	2.05	2.40	2.16	2.40	2.10	2.40	2.19	2.40	2.05
Hertford and Central Southwestern	2.27	2.10	2.27	2.10	2.27	2.10	2.27	2.10	2.27	2.10	2.27	2.10	2.27	2.10
Sawbridgeworth and Southeastern	2.24	2.22	2.24	2.19	2.24	2.16	2.24	2.14	2.24	2.17	2.24	2.06	2.24	2.14
Ware and Central Southern	2.30	2.10	2.30	2.14	2.30	2.14	2.30	2.12	2.30	2.10	2.30	2.12	2.30	2.10
Western	2.38	2.16	2.38	2.16	2.38	2.24	2.38	2.16	2.38	2.24	2.38	2.24	2.38	2.29