

# East Devon

Demographic Scenarios  
*'Policy-on' sub-scenario*

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For the attention of:

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## Acknowledgements

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

*The authors of this report do not accept liability for any costs or consequential loss involved following the use of the data and analysis referred to here, which is entirely the responsibility of the users of the information presented in this report.*

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# 1. Introduction

## Requirements

- 1.1 In January 2015, Edge Analytics produced a report for the Exeter Housing Market Area (HMA), providing demographic analysis and forecasts for the Local Planning Authorities (LPAs) of Exeter, East Devon, Mid Devon and Teignbridge (excluding Dartmoor National Park (NP)), plus the part of Teignbridge that lies within Dartmoor NP and belongs to the Dartmoor NP LPA<sup>1</sup>.
- 1.2 East Devon District Council has requested an additional ‘jobs-led’ ‘policy-on’ scenario to be produced for the district of East Devon. In defining this scenario, the Council has provided a jobs growth trajectory for the period 2013—2033, which shows a net increase in full-time equivalent (FTE) jobs of 549 per annum.

## This Report

- 1.3 This report provides detail on the process of scenario development, summarising the data inputs and assumptions that have been used to generate the additional ‘jobs-led’ growth outcome for East Devon.
- 1.4 The additional scenario - **‘Jobs-led (Policy-on)’** - has been run for the 20-year (2013—2033) period of the Exeter HMA’s Strategic Housing Market Assessment (SHMA), with results provided in terms of population and dwelling growth.
- 1.5 Results are presented alongside outputs for the three ‘core’ scenarios included in the January 2015 report:
  - **‘DCC trend-based projection’**: Devon County Council’s own ‘trend’ scenario for East Devon, produced using POPGROUP technology.
  - **‘Jobs-led (LEFM)’**: a ‘jobs-led’ scenario underpinned by Devon County Council’s trend projection and an employment forecast from Cambridge Econometrics’ Local Economy Forecasting Model (LEFM).

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<sup>1</sup> Edge Analytics (January 2015), Exeter Housing Market Area: Demographic analysis & forecasts.

- **'Jobs-led (Experian)'**: a 'jobs-led' scenario based on Devon County Council's trend projection and an employment forecast produced by Experian.

1.6 Detail on the data inputs and assumptions used in the development of the core scenarios is included in the Appendices of the January 2015 report.

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## 2. Data inputs & assumptions

### Introduction

- 2.1 This section summarises the methodology, data inputs and assumptions that have been used to generate the 'Jobs-led (policy-on)' growth outcome for East Devon.

### POPGROUP Methodology

- 2.2 The 'Jobs-led (Policy-on)' scenario has been run using the POPGROUP suite of products.
- 2.3 POPGROUP is a family of demographic models that enables forecasts to be derived for population, households and the labour force, for areas and social groups. The main POPGROUP model is a cohort component model, which enables the development of population forecasts based on births, deaths and migration inputs and assumptions.
- 2.4 The Derived Forecast model sits alongside the population model, providing a headship rate model for household projections and an economic activity rate model for labour-force projections.

### Household & Dwelling Growth

- 2.5 The household growth implications of the 'Jobs-led (Policy-on)' scenario have been assessed using assumptions from the 2008-based and 2011-based household projection models, from the Department for Communities and Local Government (DCLG), specified by Devon County Council:
- **'CLG 11'**: Household growth using the DCLG 2011-based headship rates, fixed from 2021 onwards.
  - **'CLG 08'**: Household growth using the DCLG 2008-based headship rates, fixed from 2010 onwards.

## 'Jobs-led' Scenarios

- 2.6 In a 'jobs-led' scenario, population growth is linked directly to the change in the number of jobs available within an area. POPGROUP evaluates the impact of a jobs growth trajectory by measuring the relationship between the number of jobs in an area, the size of the labour force and the size of the resident population.
- 2.7 Migration is used to balance the relationship between the size of the labour force and the forecast number of jobs using key assumptions on commuting, unemployment and rates of economic activity. A higher level of net in-migration will occur if there is insufficient population and resident labour force to meet the forecast number of jobs. A higher level of net out-migration will occur if the population is too high relative to the number of jobs.
- 2.8 It should be noted that jobs related net migration is a product of both people moving into an area to take up work and people that would otherwise leave the area for work purposes taking up jobs locally. The largest group of people, by age group, leaving East Devon (net out-migrants) are younger people. This group shows higher economic activity rates than older people.
- 2.9 In running the 'Jobs-led (Policy-on)' scenario, East Devon District Council has specified that a jobs growth trajectory of 549 net additional FTE jobs per year should be applied.
- 2.10 Edge Analytics recommends that FTE jobs growth is used in preference to 'total' jobs growth in the evaluation of 'jobs-led' scenarios, although both can be considered. The issue is whether both part-time and full-time jobs should be considered in the demographic evaluation of employment growth. The FTE links growth directly to a person equivalent and so would typically be lower than the 'total' jobs growth figure.

## Economic Assumptions

- 2.11 Three key data inputs are required to run a 'jobs-led' scenario: economic activity rates by age and sex for each year of the forecast period; an unemployment rate to estimate that portion of the labour force that remains out of work; and a commuting ratio, which estimates the balance between the number of jobs available and the size of the resident labour force.
- 2.12 The economic assumptions applied to the 'Jobs-led (Policy-on)' scenario are identical to those used in the development of the core scenarios.

## Economic Activity Rates

- 2.13 Economic activity rates provide the basis for calculating the size of the labour force within a population. Economic activity rates by five year age group (ages 16-74) and sex have been derived from 2011 Census statistics.
- 2.14 The 2011 Census statistics include an open-ended 65+ age categorisation, so economic activity rates for the 65–69 and 70–74 age groups have been estimated using a combination of Census 2011 tables, disaggregated using evidence from the 2001 Census.
- 2.15 A comparison of the 2001 and 2011 economic activity rates for East Devon is provided below (Figure 1). It indicates that economic activity rates have increased in the older age groups for both males and females, particularly for females.

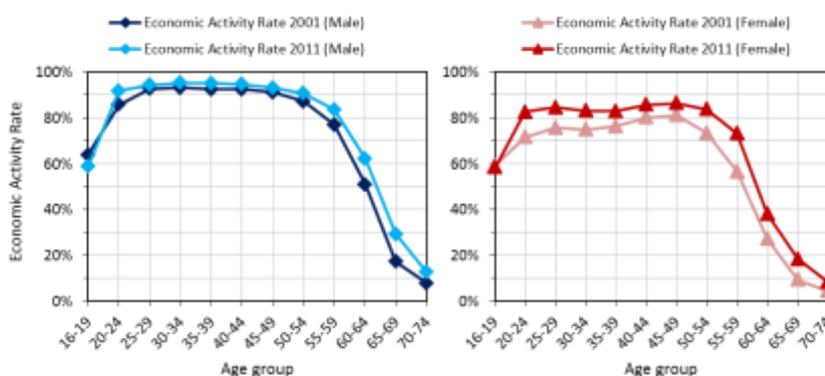


Figure 1: East Devon, Economic Activity Rates, 2001 vs. 2011

- 2.16 Using the 2011 Census statistics as a base, changes have been made to the age-sex specific economic activity rates to take account of changes to the State Pension Age (SPA) and to accommodate potential changes in economic participation that might result from an ageing but healthier population in the older labour-force age groups.
- 2.17 The SPA for women is increasing from 60 to 65 by 2018, bringing it in line with that for men. Between December 2018 and April 2020, the SPA for both men and women will then rise to 66. Under current legislation, the SPA will be increased to 67 between 2026–2028 and 68 between 2044–2046. It has been proposed that the rise in the SPA to 67 is brought forward to 2026–2028<sup>2</sup>.

<sup>2</sup>[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/310231/spa-timetable.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/310231/spa-timetable.pdf)

2.18 ONS published its last set of economic activity rate forecasts from a 2006 base<sup>3</sup>. These incorporated an increase in SPA for women to 65 by 2020 but this has since been altered to an accelerated transition by 2018 plus a further extension to 66 by 2020. Over the 2011–2020 period, the ONS forecasts suggested that male economic activity rates would rise by 5.6% and 11.9% in the 60-64 and 65-69 age groups respectively. Corresponding female rates would rise by 33.4% and 16.3% (Figure 2).

2.19 Given the accelerated pace of change in the female SPA and the clear trends for increased female labour force participation across all age groups in the last decade, these 2011–2020 rate increases would appear to be relatively conservative assumptions.

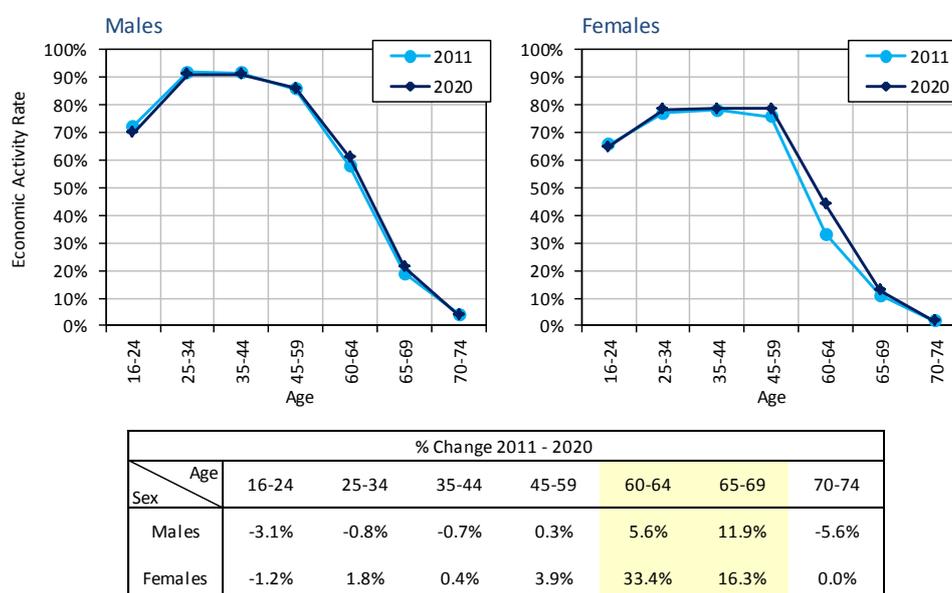


Figure 2: ONS Labour Force Projection 2006 – Economic Activity Rates 2011–2020 (Source: ONS)

2.20 To take account of planned changes to the SPA, the following modifications have been made to the economic activity rates for East Devon:

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

<sup>3</sup> ONS January 2006, Projections of the UK labour force, 2006 to 2020 <http://www.ons.gov.uk/ons/rel/lms/labour-market-trends--discontinued-/volume-114--no--1/projections-of-the-uk-labour-force--2006-to-2020.pdf>

- 2.21 Changes have been applied incrementally over the 2011–2020 forecast period. Note that the rates for women in the 60-64 and 65-69 age groups are higher than the original ONS figures, accounting for the accelerated pace of change in the SPA. No changes have been applied to other age groups. In addition, no changes have been applied to economic activity rates beyond 2020. This is an appropriately prudent approach given the uncertainty associated with forecasting future rates of economic participation.
- 2.22 Figure 3 shows the resulting 2020 economic activity rates and compares them to the 2011 figures. These alternative economic activity rates are presented as realistic and robust alternatives to the very unlikely scenario of ‘fixed’ rates over the forecast period.

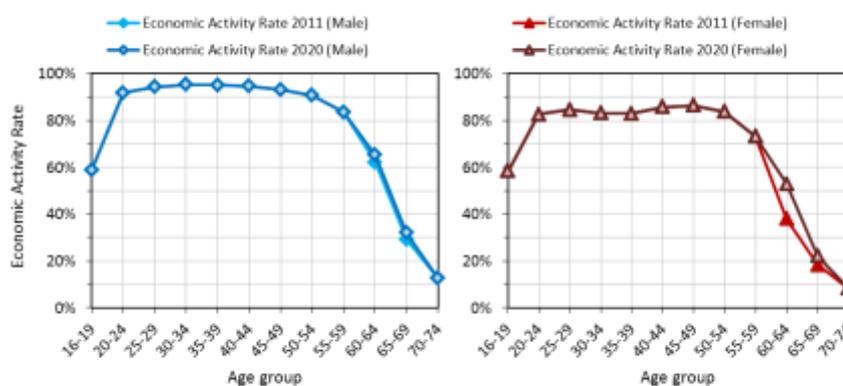


Figure 3: East Devon, Economic Activity Rates, 2011 vs. 2020

## Unemployment

- 2.23 Unemployment rates provide the basis for calculating the proportion of the labour force that remains out of work. Unemployment rate statistics have been derived from the time-series of data provided by the Annual Population Survey (APS), accessed via the NOMIS data repository.
- 2.24 Using the APS statistics, a base year unemployment rate of 4.8% has been derived for East Devon, based upon a ‘recession-years’ average (2008–2012). Over the 2013–2020 forecast period this base unemployment rate is allowed to reduce to a ‘pre-recession’ average (2004–2007) of 2.8%, remaining fixed throughout the remainder of the forecast period.

## Commuting Ratios

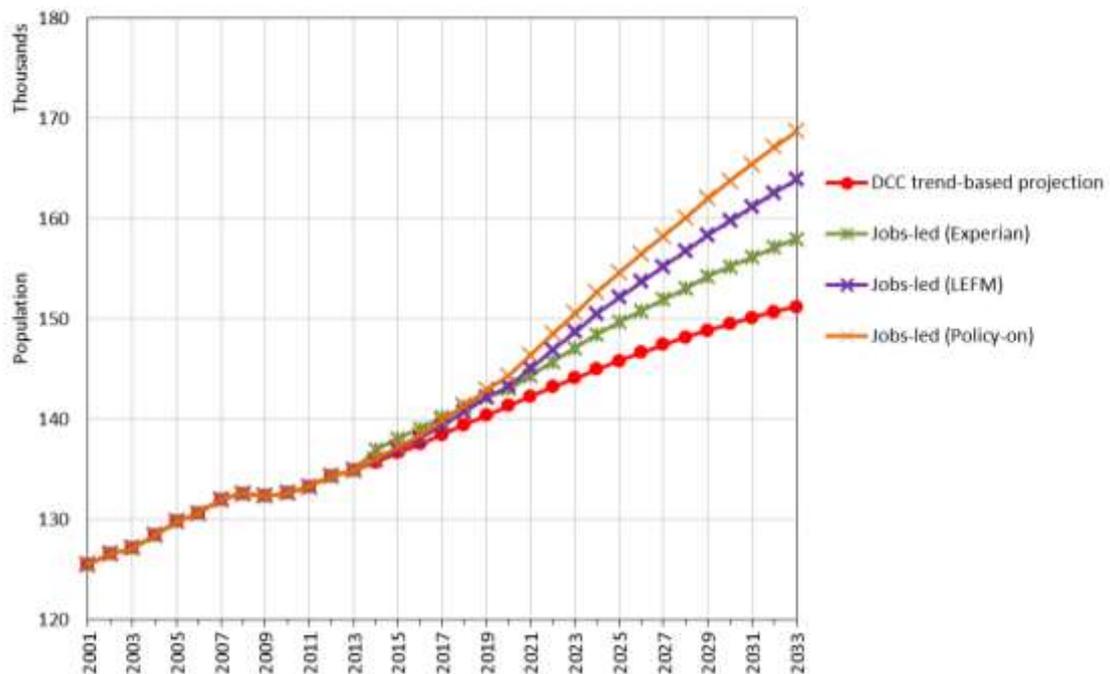
- 2.25 Commuting ratios measure the number of workers living in a district (i.e. the resident labour force) and the number of jobs available in the district.

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- 2.26 A commuting ratio greater than 1.00 indicates that the size of the resident workforce exceeds the number of jobs available in the district, resulting in a net out-commute. A commuting ratio that is less than 1.00 indicates a net in-commute.
- 2.27 Using 'Travel-to-Work' statistics from the 2011 Census, a commuting ratio of 1.11 has been derived for East Devon, held constant for the duration of the scenario forecast.
- 2.28 The application of a fixed commuting ratio complies with the assumptions used in the January 2015 report. With no additional intelligence on the commuting balances implied by the Cambridge Econometrics and Experian forecasts, the 'fixed' approach was deemed appropriate to enable the evaluation of each jobs-growth forecast over the plan period.

## 3. Scenario Summaries

- 3.1 The outcomes of the East Devon's 'Jobs-led (Policy-on)' scenario are presented below, alongside results for the three 'core' scenarios (Figure 4).
- 3.2 Scenario results are provided in the form of a chart and accompanying tables of statistics. The chart illustrates the trajectory of population change resulting from each scenario. The tables summarise the change in population and household numbers that result from each scenario from the forecast base year (mid-year 2013) to the end of the 20-year forecast period (mid-year 2033).
- 3.3 In addition, each table illustrates the average annual net migration associated with the population change, plus the expected average annual dwelling and jobs growth based on the assumptions used in each scenario.
- 3.4 Scenario results are presented in two separate tables, each relating to the application of different household headship rates, specified by Devon County Council:
  - **'CLG 11'**: Household growth using the DCLG 2011-based headship rates (fixed from 2021 onwards).
  - **'CLG 08'**: Household growth using the DCLG 2008-based headship rates, but fixed at the 2010 values from 2010 onwards.
- 3.5 Note that under the two headship rate alternatives, population growth, net migration and the average annual increase in the number of jobs are the same. Only the household and dwelling numbers are different, reflecting the two alternative approaches to assessing household growth.
- 3.6 Note also that in the 'jobs-led' scenarios, population growth (and therefore household and dwelling growth) is determined by the specified jobs growth numbers. However, in the case of 'DCC trend-based projection', it is population and the underlying age-sex structure that determine the forecast number of jobs (and households and dwellings).

## East Devon



### 2011-based household model assumption

| Scenario                         | Change 2013 - 2033 |                     |                   |                     | Average per year |           |      |
|----------------------------------|--------------------|---------------------|-------------------|---------------------|------------------|-----------|------|
|                                  | Population Change  | Population Change % | Households Change | Households Change % | Net Migration    | Dwellings | Jobs |
| DCC trend-based projection CLG11 | 16,358             | 12.1%               | 10,324            | 17.2%               | 1,691            | 559       | 146  |
| Jobs-led (Experian) CLG11        | 23,123             | 17.1%               | 12,895            | 21.4%               | 1,998            | 698       | 302  |
| Jobs-led (LEFM) CLG11            | 29,013             | 21.5%               | 15,154            | 25.2%               | 2,274            | 820       | 437  |
| Jobs-led (Policy-on) CLG11       | 33,857             | 25.1%               | 16,981            | 28.2%               | 2,495            | 919       | 549  |

### 2008-based household model assumption

| Scenario                         | Change 2013 - 2033 |                     |                   |                     | Average per year |           |      |
|----------------------------------|--------------------|---------------------|-------------------|---------------------|------------------|-----------|------|
|                                  | Population Change  | Population Change % | Households Change | Households Change % | Net Migration    | Dwellings | Jobs |
| DCC trend-based projection CLG08 | 16,358             | 12.1%               | 11,247            | 18.4%               | 1,691            | 609       | 146  |
| Jobs-led (Experian) CLG08        | 23,123             | 17.1%               | 13,899            | 22.8%               | 1,998            | 752       | 302  |
| Jobs-led (LEFM) CLG08            | 29,013             | 21.5%               | 16,235            | 26.6%               | 2,274            | 879       | 437  |
| Jobs-led (Policy-on) CLG08       | 33,857             | 25.1%               | 18,123            | 29.7%               | 2,495            | 981       | 549  |

Figure 4: East Devon, Outputs for the 'Jobs-led (Policy-on)' Scenario

## 4. Summary

- 4.1 Using Devon County Council’s own trend-based projections for population and dwellings as the basis for scenario development, this report has presented a ‘Jobs-led (Policy-on)’ forecast for the East Devon LPA, underpinned by an employment forecast of 549 net additional FTE jobs per annum for the period 2013—2033.
- 4.2 Compared to the core scenarios, the ‘Jobs-led (Policy-on)’ scenario suggests a higher level of dwelling growth. The application of the 2008-based headship rates suggests higher dwelling growth than that associated with the application of the 2011-based headship rates: 981 dwellings per annum (‘CLG08’) compared to 919 dwellings per annum (‘CLG11’).
- 4.3 Considering the average of the core and ‘Jobs-led (Policy-on)’ scenarios results in a range of 584—950 dwellings per annum (Figure 5).

| Scenario                   | Average dwellings per year |       | Average |
|----------------------------|----------------------------|-------|---------|
|                            | CLG11                      | CLG08 |         |
| Jobs-led (Policy-on)       | 919                        | 981   | 950     |
| Jobs-led (LEFM)            | 820                        | 879   | 849     |
| Jobs-led (Experian)        | 698                        | 752   | 725     |
| DCC trend-based projection | 559                        | 609   | 584     |

Figure 5: East Devon, Outputs for the ‘Jobs-led (Policy-on)’ Scenario

### Issues for consideration

- 4.4 The economic assumptions applied to the ‘Jobs-led (Policy-on)’ scenario are identical to those used in the development of the core scenarios:
- 2011 Census economic activity rates have been applied (adjusted to account for changes to the State Pension Age).
  - The unemployment rate has been incrementally reduced from 2013—2020 to account for recovery following the recession.
  - A fixed 2011 commuting ratio has been applied throughout the forecast period.

- 4.5 Whilst the jobs growth trajectories used in the development of the core 'jobs-led' scenarios were drawn directly from the Cambridge Econometrics LEFM and Experian forecasts, associated assumptions on economic activity, unemployment and commuting were not readily available to inform this analysis. Edge Analytics has made an appropriate judgment on each of these assumptions to enable a demographic evaluation of the implied jobs growth forecasts to be made.
- 4.6 The rates of economic activity associated with the local population are a key consideration when evaluating the future relationship between jobs growth and dwelling growth requirements. Increasing the economic activity rates associated with the 'Jobs-led (Policy-on)' scenario would result in a reduction in the level of population growth over the forecast period, with the underlying economic activity rates maintaining a larger local labour force. A lower level of net in-migration would be required, meaning the associated dwelling growth requirement would also be reduced.
- 4.7 East Devon District Council might consider how the 549 per annum jobs growth could result in a change to the district's existing commuting balance - a ratio of 1.11, which suggests a net outflow. Reducing the commuting balance would imply that more workers are commuting into East Devon and/or that more of the resident labour force are taking up jobs in their local district. A reduction in the commuting ratio balance would imply a lower dwelling growth outcome, due to a reduced net inward migration requirement.