

Mid Devon

Demographic Scenarios

J27/Westwood - 'Policy-on' sub-scenario

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For the attention of:

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Acknowledgements

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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 LPA¹.
- 1.2 Mid Devon District Council has requested an additional ‘jobs-led’ ‘policy-on’ scenario to be produced for the district of Mid Devon. This ‘policy-on’ scenario considers the relationship between jobs, population and housing of allocating a site for commercial development, known as ‘Westwood’, at Junction 27 of the M5. In defining this scenario, the promoters of Westwood have indicated the number of jobs created by the development to be approximately 3,500. This number has been converted to an annual figure and applied across a trajectory for the period 2013—2033. A lead in time has been allowed, with the additional ‘policy-on’ jobs applying only from 2018-19 onwards. This start date reflects an assumption about the time needed to undertake site masterplanning, the gaining of planning consents and delivery of infrastructure which would need to precede development of the scheme (Figure 1).

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33
Jobs-led (Policy-on)	186	186	186	186	186	421	368	368	368	368	368	368	368	368	368	368	368	368	368	368

Figure 1: Mid Devon, Annual Net Increase in Jobs Underpinning the ‘Jobs-led (Policy-on)’ Scenario

- 1.3 The jobs growth trajectory underpinning the additional jobs-led scenario represents a ‘policy-on adjustment’ to the employment projections from the Cambridge Econometrics ‘Local Economy Forecasting Model’ (LEFM), which formed the basis of the ‘Jobs-led (LEFM)’ scenario in Edge Analytics’ January 2015 report. The LEFM forecast for Mid Devon includes full-time, part-time and self-employment².

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

² Serio/Ekosgen (January 2014), Baseline Economic Projections for Devon and its Districts.

- 1.4 This contrasts to the Experian jobs growth trajectory underpinning the ‘Jobs-led (Experian)’ scenario in Edge Analytics’ January 2015 report, which considers ‘jobs growth’ in terms of full-time equivalent (FTE) employment (Figure 2).

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33
Jobs-led (Experian)	540	270	220	190	170	100	90	90	80	80	90	100	90	100	90	100	90	100	100	100

Figure 2: Mid Devon, Annual Net Increase in Jobs Underpinning the ‘Jobs-led (Experian)’ Scenario

This Report

- 1.5 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 Mid Devon.
- 1.6 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.
- 1.7 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 Mid 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), which suggests average annual jobs growth of 149 per year, including part-time jobs and self-employment in addition to full-time jobs.
 - ‘**Jobs-led (Experian)**’: a ‘jobs-led’ scenario underpinned by Devon County Council’s trend projection and an employment forecast produced by Experian, which suggests average annual jobs growth of 140 per year, representing FTE jobs.
- 1.8 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.

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 Mid 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 In its 'Jobs-led (Policy-on)' scenario, Mid Devon District Council has specified an average annual net jobs growth trajectory of 325 per year (Figure 1).

Economic Assumptions

- 2.9 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.
- 2.10 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

- 2.11 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.
- 2.12 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.

2.13 A comparison of the 2001 and 2011 economic activity rates for Mid Devon is provided below (Figure 3). It indicates that economic activity rates have increased in the older age groups for both males and females, particularly for females.

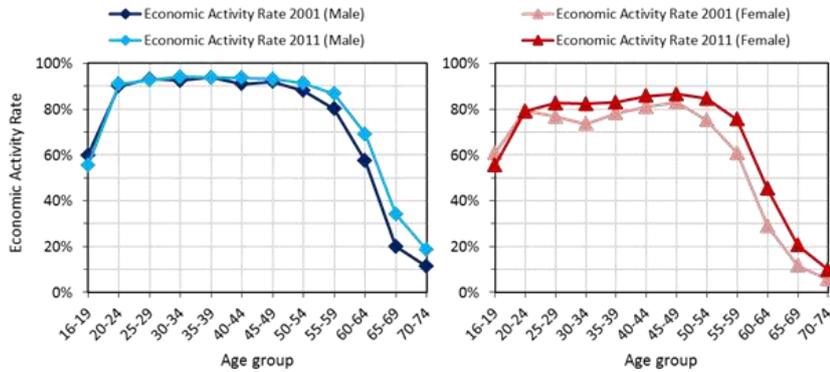


Figure 3: Mid Devon, Economic Activity Rates, 2001 vs. 2011

2.14 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.

2.15 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—2028³.

2.16 ONS published its last set of economic activity rate forecasts from a 2006 base⁴. 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 4).

³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/310231/spa-timetable.pdf

⁴ 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>

2.17 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.

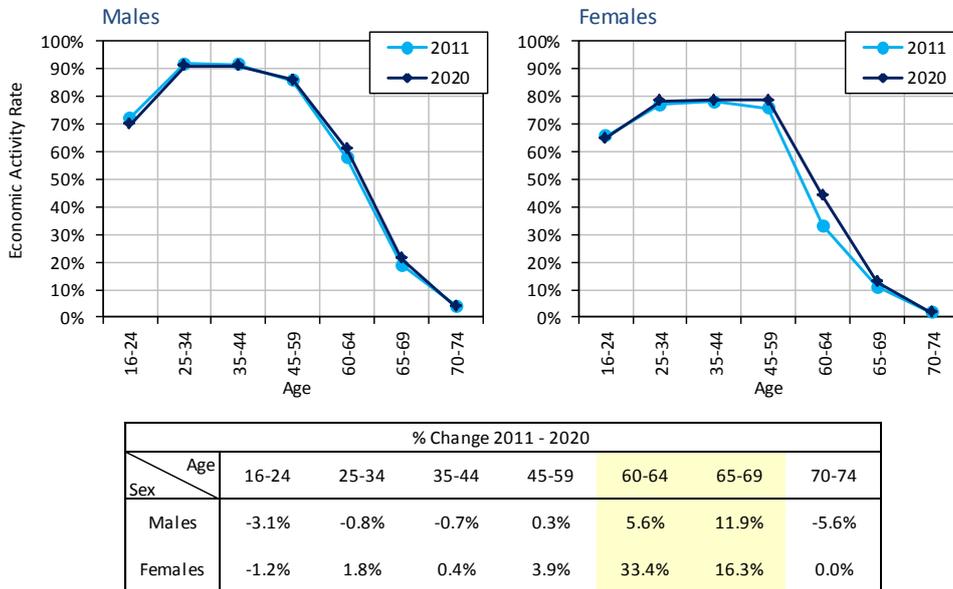


Figure 4: ONS Labour Force Projection 2006 – Economic Activity Rates 2011–2020 (Source: ONS)

2.18 To take account of planned changes to the SPA, the following modifications have been made to the economic activity rates for Mid 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.

2.19 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.

2.20 Figure 5 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.

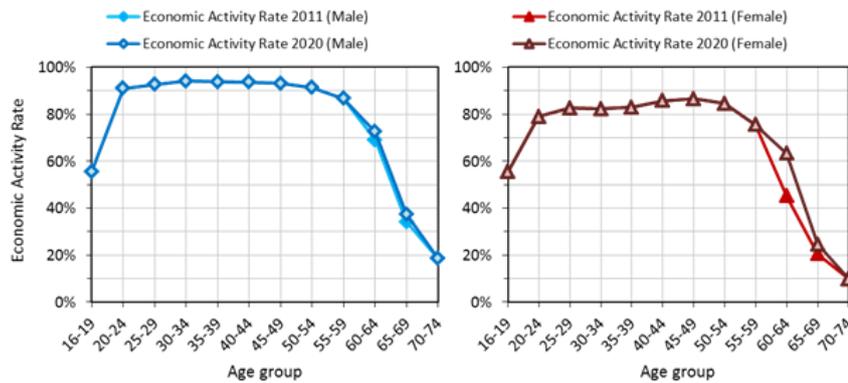


Figure 5: Mid Devon, Economic Activity Rates, 2011 vs. 2020

Unemployment

- 2.21 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.
- 2.22 A base year unemployment rate of 6.7% has been derived for Mid Devon from APS statistics. Over the 2013—2020 forecast period this base unemployment rate is allowed to reduce to a ‘pre-recession’ average of 2.8%, remaining fixed throughout the remainder of the forecast period.

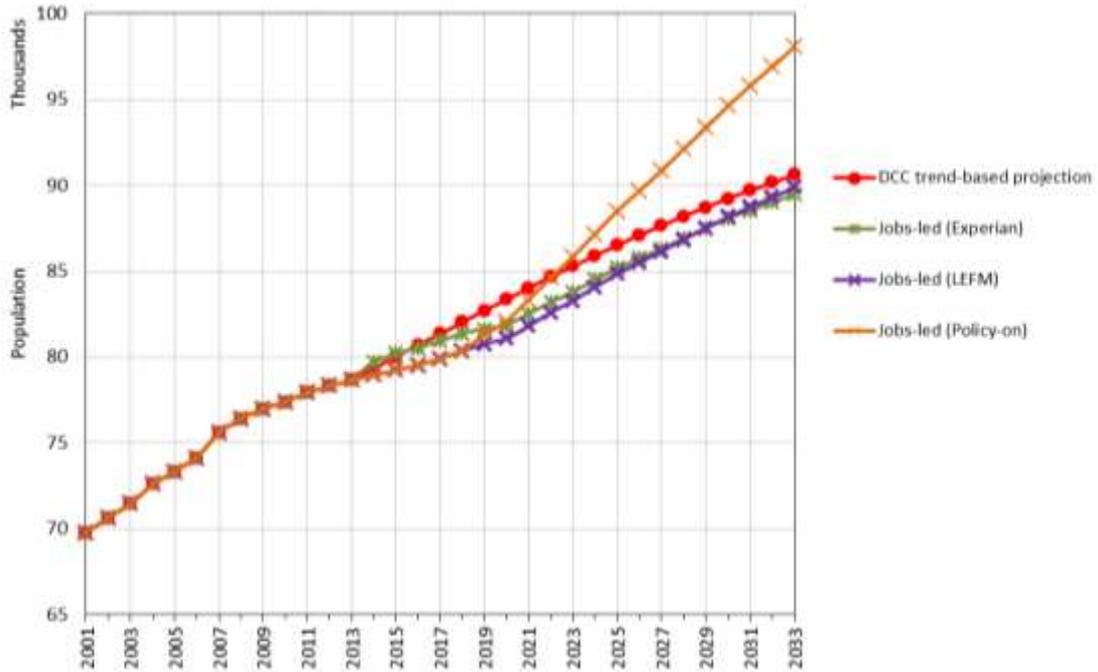
Commuting Ratios

- 2.23 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.
- 2.24 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.
- 2.25 Using ‘Travel-to-Work’ statistics from the 2011 Census, a commuting ratio of 1.27 has been derived for Mid Devon, held constant for the duration of the scenario forecast.
- 2.26 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 has been used to enable the evaluation of each jobs-growth forecast over the plan period.

3. Scenario Summaries

- 3.1 The outcomes of the Mid Devon 'Jobs-led (Policy-on)' scenario are presented below, alongside results for the three 'core' scenarios (Figure 6).
- 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).

Mid 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	11,941	15.2%	6,967	20.9%	589	361	161
Jobs-led (Experian) CLG11	10,812	13.7%	6,542	19.7%	546	339	140
Jobs-led (LEFM) CLG11	11,198	14.2%	6,686	20.1%	570	347	149
Jobs-led (Policy-on) CLG11	19,385	24.6%	9,753	29.3%	938	506	325

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	11,941	15.2%	7,713	22.8%	589	400	161
Jobs-led (Experian) CLG08	10,812	13.7%	7,279	21.5%	546	378	140
Jobs-led (LEFM) CLG08	11,198	14.2%	7,441	22.0%	570	386	149
Jobs-led (Policy-on) CLG08	19,385	24.6%	10,673	31.6%	938	554	325

Figure 6: Mid Devon, Scenario Summary

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 Mid Devon LPA, underpinned by an average annual employment forecast of 325 net additional jobs per annum for the period 2013—2033.
- 4.2 Compared to the core scenarios, the ‘Jobs-led (Policy-on)’ scenario suggests a significantly 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: 554 dwellings per annum (‘CLG08’) compared to 506 dwellings per annum (‘CLG11’).
- 4.3 Considering the average of the core and ‘Jobs-led (Policy-on)’ scenarios results in a range of 358—530 dwellings per annum (Figure 7).

Scenario	Average dwellings per year		Average
	CLG11	CLG08	
Jobs-led (Policy-on)	506	554	530
DCC trend-based projection	361	400	381
Jobs-led (LEFM)	347	386	366
Jobs-led (Experian)	339	378	358

Figure 7: Mid Devon, Outputs for the ‘Jobs-led (Policy-on)’ Scenario

Issues for consideration

- 4.4 The LEFM-based scenarios consider ‘total jobs’ in the forecast, whereas the Experian forecast presents FTE jobs numbers. Edge Analytics would typically recommend that FTE jobs growth is used in preference to ‘total’ jobs growth in the evaluation of ‘jobs-led’ scenarios, although both can be considered, providing a ‘range’ of outcomes. The key 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 result in lower growth than the ‘total’ jobs growth figure.

- 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 from these models 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. But variation in each of these key assumptions would influence dwelling growth outcomes.
- 4.6 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.
- 4.7 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. Further increases in 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 over the plan period. With higher economic activity rates, a lower level of net in-migration would be required, reducing the dwelling growth requirement.
- 4.8 Mid Devon District Council might also consider how the 'policy on' jobs growth trajectory might result in a change to the district's existing commuting balance. The current commuting ratio of 1.27 suggests a net outflow of commuters. Reducing the commuting balance would imply that more workers commute into Mid Devon and/or that more of the resident labour force are taking up jobs in their local district. This may be a more appropriate future for the district's commuting balance given the scale of jobs growth implied by the 'policy-on' scenario. A reduction in the commuting ratio balance would imply a lower dwelling growth outcome, due to a reduced net inward migration requirement.