Dartmoor National Park

Additional Scenario Analysis

June 2019

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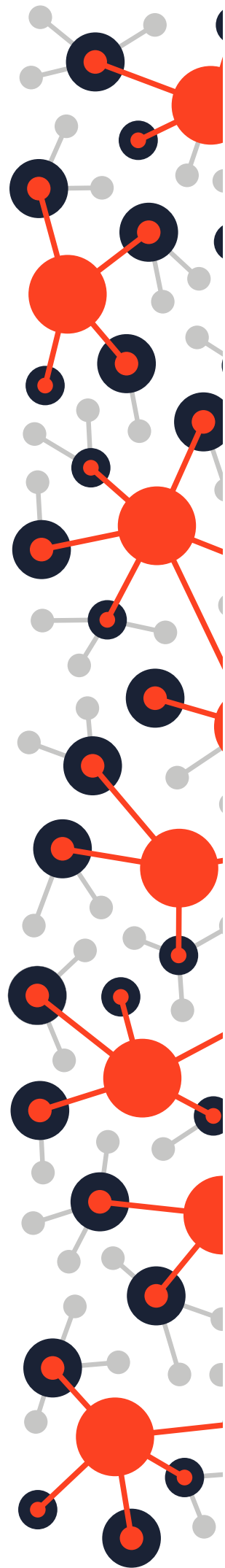
Acknowledgements

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1 Introduction

Requirements

1.1 In October 2016, Edge Analytics provided Dartmoor National Park Authority with a *Demographic Forecasts*[1] report to inform a review of its Local Plan. The report identified migration as a key driver of population growth in the National Park, with natural change (the balance between births and deaths) having a negative impact on population change.

1.2 The historical profile of the National Park informed the demographic forecasts and analysis. The report presented the 2014-based sub-national population and household projections as the starting point in assessing future housing growth, accompanied by three alternative trend scenarios based on variant migration histories. In addition, three 'dwelling-led' scenarios were developed to consider the potential population growth impact of a defined housing growth trajectory.

1.3 The demographic and dwelling-led scenarios were developed for the Dartmoor National Park area, in total, and for the individual areas that fall within the Plymouth Housing Market Area (HMA) and Exeter HMA. Population and dwelling growth outcomes were presented for the 2015–2035 plan period; ranging from -7% to +5% population change, with an associated dwelling growth range of -1 to +80 dpa. Dartmoor National Park Authority published its draft Local Plan in December 2018[2], identifying an indicative housing growth figure of +65 per annum.

1.4 To consider the potential population size and age profile associated with the identified annual housing growth figure, Dartmoor National Park Authority has requested that Edge Analytics configure a 'Dwelling-led +65' and 'Dwelling-led Blended' scenario using its POPGROUP[3] cohort component model. The two additional scenarios have been configured to extend to 2036, covering the full emerging plan period.

Scenario Definition

1.5 For consistency with the scenarios presented in the October 2016 report, the two additional dwelling-led scenarios include historical population to 2014, with the relationship between population and dwelling growth estimated using assumptions from the 2014-based household projection model and

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[1] https://www.dartmoor.gov.uk/__data/assets/pdf_file/0009/1453698/Edge-Analytics-Demographic-Forecasts-Oct2016.pdf

[2] https://www.dartmoor.gov.uk/__data/assets/pdf_file/0020/1418321/Local-Plan-Reg18-FINAL.pdf

[3] POPGROUP is a cohort component model which uses assumptions on births, deaths and migration to forecast future population.

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an 8% vacancy rate. The demographic trend (PG and SNPP) and dwelling-led (+30, +50 and +80) scenarios presented in this section are consistent with those presented in the October 2016 report[4].

1.6 Under the dwelling-led scenarios, population change is driven by the annual change in dwellings over the forecast period. Higher net in-migration is estimated if there is insufficient resident population to meet the dwelling growth target. Under the 'Dwelling-led +65' scenario, annual dwelling growth of +65 dpa is applied from 2014/15 onward. Under the 'Dwelling-led Blended' scenario, annual dwelling growth of +50 dpa is applied to 2020, increasing to +65 dpa thereafter (i.e. from 2021 onward). This scenario reflects that the plan will likely be adopted in 2021, using the existing Local Plan indicative housing figure of +50 dpa until the emerging plan is adopted.

1.7 Table 1 summarises the demographic and dwelling-led scenarios presented in the October 2016 report, together with the new 'Dwelling-led +65' and 'Dwelling-led Blended' scenarios.

Table 1: Scenario Definition

	Scenario	Scenario Definition
Additional Scenarios	**Dwelling-led +65**	Considers the population impact of the Authority's draft Local Plan housing growth target of +65 dwellings per year.
	Dwelling-led Blended	Considers the population impact of +50 dwellings per year to 2020 (i.e. existing adopted Plan target), increasing to +65 thereafter (i.e. anticipated emerging Local Plan adoption date).
Dwelling-led Scenarios (October 2016 Report)	**Dwelling-led +50**	Presented in the October 2016 report. This scenario was developed to evaluate the population impact of the Park's existing dwelling target (at the time of the analysis) of +50 dwellings per year.
	Dwelling-led +30	Presented in the October 2016 report. This scenario was developed to evaluate the population impact of lower housing growth, at +30 per year.
	Dwelling-led +80	Presented in the October 2016 report. This scenario was developed to evaluate the population impact of higher housing growth, at +80 per year.
Demographic Scenarios (October 2016 Report)	**SNPP-2014**	Presented in the October 2016 report. 2014-based sub-national population projection for the National Park.
	PG Short Term	Presented in the October 2016 report. Migration assumptions were derived from a six-year period prior to 2014 (i.e. 2008/09–2013/14).
	PG Long Term	Presented in the October 2016 report. Migration assumptions were derived from a thirteen-year period prior to 2014 (i.e. 2001/02–2013/14).
	PG 10yr	Presented in the October 2016 report. Migration assumptions were derived from a ten-year period prior to 2014 (i.e. 2004/05–2013/14).

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[4] Refer to Section 3 and Appendix A of the October 2016 report for more detail on each of these and an overview of the POPGROUP methodology.

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2 Scenario Outcomes

2.1   The full suite of population growth trajectories is presented in Figure 1 for the 2001–2035 period.
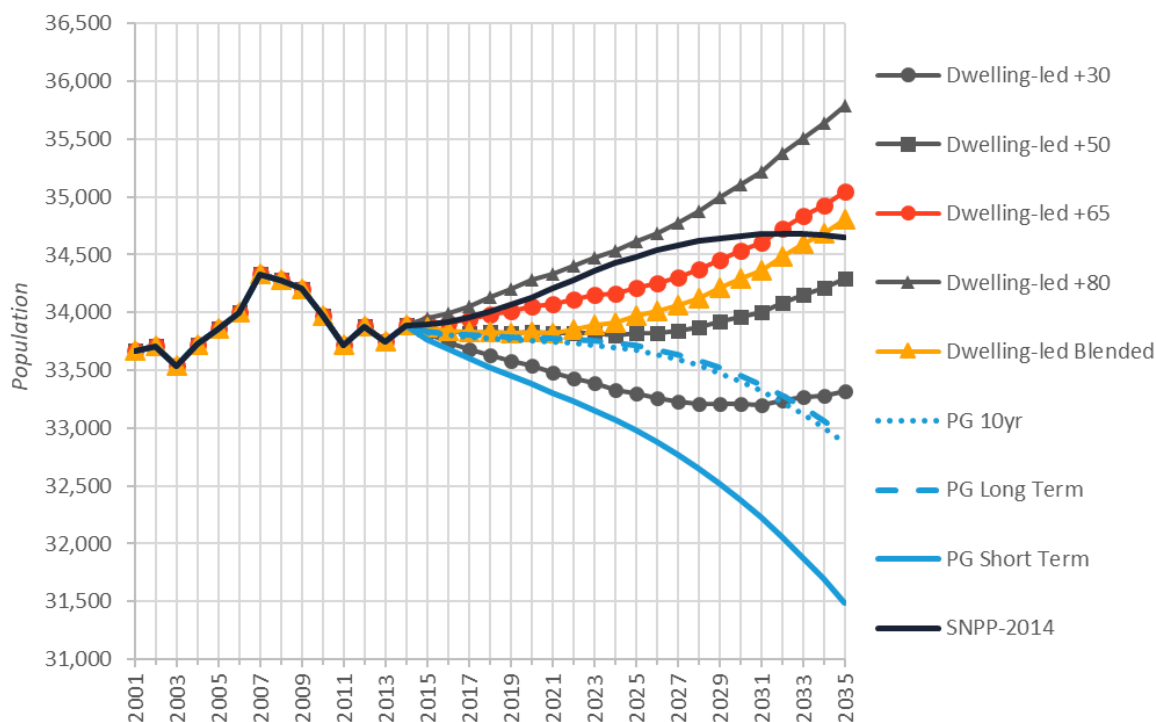

Figure 1: Dartmoor National Park population growth trajectory 2001–2035

2.2   In Table 2, each of the scenarios is summarised in terms of population and household growth for the 2018–2035 period, together with the average annual net migration and dwelling growth outcomes. The **Dwelling-led +65** dpa scenario results in population growth of 3.1% over the 2018–2035 period, driven by an average annual net in-migration flow of +240. Lower average annual dwelling growth under the **Dwelling-led Blended** scenario (62 dpa), results in slightly lower population change of 2.9% over the 2018–2035 period. Population change estimated under the **Dwelling-led +65** and **Blended** scenarios remains lower than that estimated under the **Dwelling-led +80** scenario (driven by lower net in-migration required to support the dwelling growth target), but higher than the **SNPP-2014** scenario.

2.3   Table 3 presents outcomes for the previous *2015–2035* plan period to enable direct comparisons to be made with the analysis presented in the October 2016 report.

Table 2: Dartmoor National Park Scenario Outcomes 2018–2035

Scenario	Change 2018–2035				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
Dwelling-led +80	1,658	4.9%	1,248	8.4%	271	80
Dwelling-led +65	**1,063**	**3.1%**	**1,013**	**6.8%**	**240**	**65**
Dwelling-led Blended	**974**	**2.9%**	**972**	**6.6%**	**237**	**62**
SNPP-2014	639	1.9%	1,081	7.2%	238	69
Dwelling-led +50	468	1.4%	778	5.3%	209	50
Dwelling-led +30	-313	-0.9%	470	3.2%	169	30
PG Long Term	-851	-2.5%	280	1.9%	133	18
PG 10yr	-900	-2.7%	264	1.8%	127	17
PG Short Term	-2,034	-6.1%	-105	-0.7%	68	-7

Scenarios ranked in order of population change. Additional dwelling-led scenarios are highlighted in orange.

Table 3: Dartmoor National Park Scenario Outcomes *2015–2035*

Scenario	Change 2015–2035				Average per year	
	Population Change	Population Change %	Households Change	Households Change %	Net Migration	Dwellings
Dwelling-led +80	1,838	5.4%	1,468	10.0%	261	80
Dwelling-led +65	**1,129**	**3.3%**	**1,191**	**8.1%**	**229**	**65**
Dwelling-led Blended	**928**	**2.7%**	**1,109**	**7.6%**	**221**	**61**
SNPP-2014	756	2.2%	1,335	9.1%	232	73
Dwelling-led +50	422	1.2%	915	6.2%	197	50
Dwelling-led +30	-507	-1.5%	553	3.8%	156	30
PG Long Term	-894	-2.6%	417	2.9%	133	23
PG 10yr	-957	-2.8%	398	2.7%	127	22
PG Short Term	-2,277	-6.7%	-19	-0.1%	68	-1

Scenarios ranked in order of population change. This table replicates Table 5 (page 14) of the October 2016 report but includes the two additional dwelling-led scenarios (highlighted in orange).

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2.4   A continuation of historical migration trends under the 'PG' scenarios point to population *decline* over the plan period, driven by smaller net migration inflows to the National Park, and an annual negative impact of natural change (i.e. the number of deaths exceeding the number of births in all years).

2.5   The **Dwelling-led +65** and **Dwelling-led Blended** scenarios seek to counteract population decline, through a larger net in-migration to the National Park to support the annual dwelling growth targets. The impact of migration is twofold; (i) larger resident population and (ii) slowing of population ageing, thus resulting in a smaller annual decline through natural change.
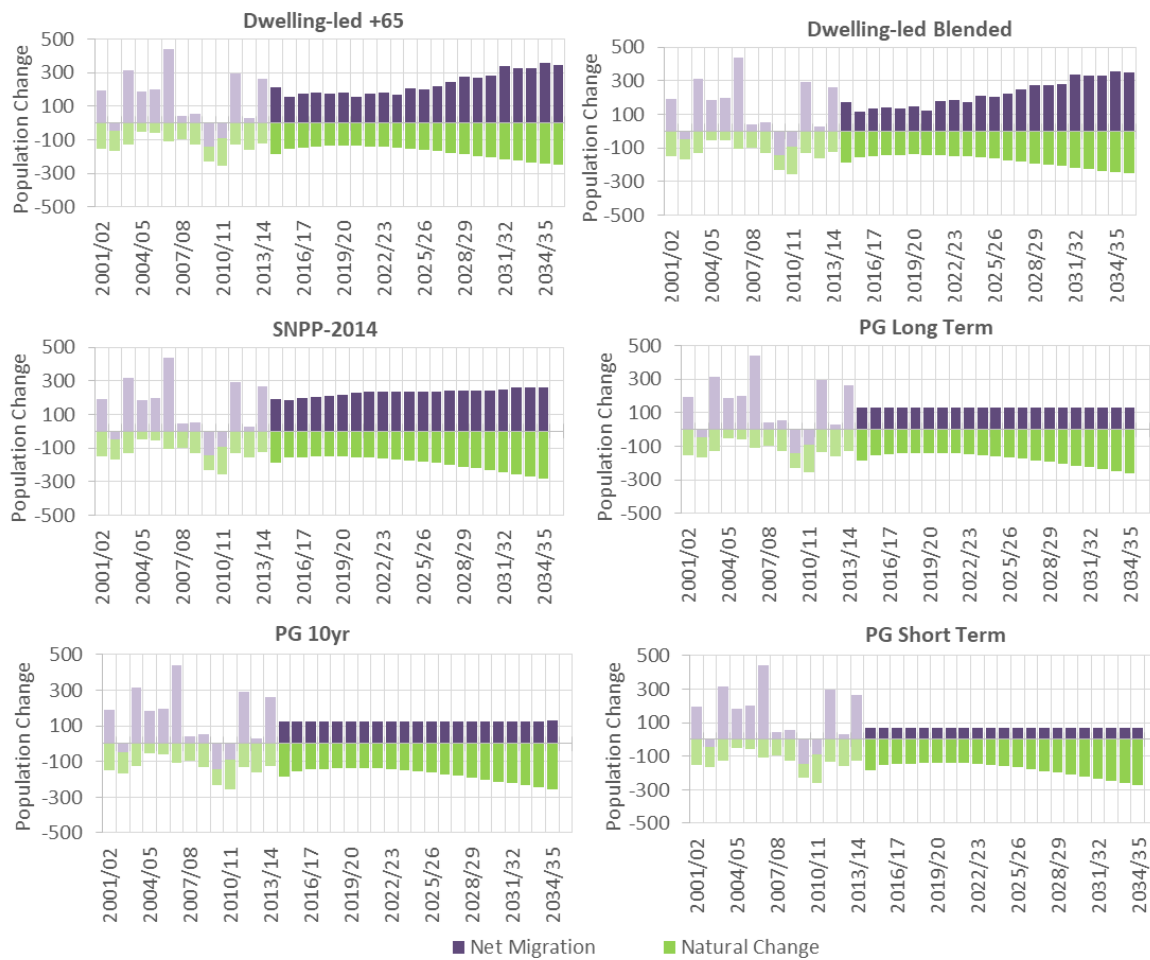

Figure 2: Components of population change under Dwelling-led +65, Dwelling-led Blended and demographic trend scenarios (2001/02–2035/36)[5]

2.6   As it is anticipated that the emerging local plan will be adopted in 2021, covering the 2018–2036 period (i.e. extending the forecast period by an additional year to the previous analysis). Figure 3 presents population change and associated age profile under the **Dwelling-led +65** and **Dwelling-led Blended** scenarios for the 2018–2036 emerging plan period.

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[5] Note that the Dwelling-led +65 and Blended scenarios extend to 2036, the demographic trend scenarios extend to 2035.

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2.7 Over the full 2018–2036 emerging plan period, population growth is estimated under both the dwelling-led scenarios. An increase is estimated in the 65+ and 80+ age groups; from 28% to 36% (65+ age group) and 7% to 13% (80+ age group).

2.8 Population ageing in the National Park is inevitable given the existing age profile of the population. However, housing growth and its effect on the net migration profile, would moderate the future imbalance between the younger 'working age' groups and older age population.

2.9 The Old Age Dependency (OAD)[6] ratio presents the balance between the 15–64 and 65+ population. Whilst the OAD is estimated to increase to 73 by 2036, this remains lower than that estimated under the demographic scenarios (presented in the October 2016 report).
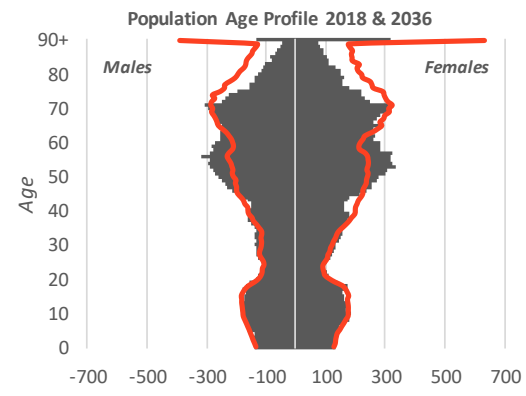
Dwelling-led +65

	2018	2036	Change
Total Population	33,979	35,140	1,161
% 65+	28%	36%	8%
% 80+	7%	13%	6%
OAD	48	73	25
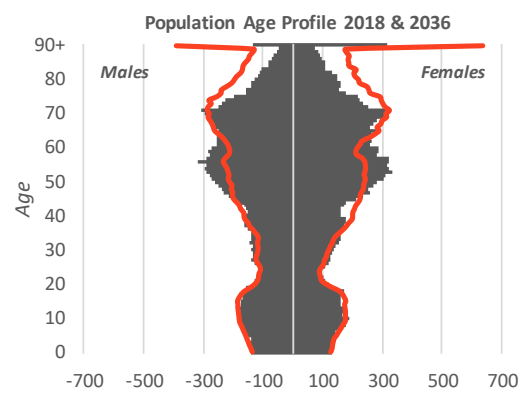
Dwelling-led Blended

	2018	2036	Change
Total Population	33,829	34,902	1,073
% 65+	28%	37%	8%
% 80+	7%	13%	6%
OAD	48	73	25

Figure 3: Dwelling-led +65 and Dwelling-led Blended population age profile, 2018 & 2036

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[6] Old Age Dependency Ratio = Population aged 65+ / Population aged 15–64

3 Summary

3.1 Two additional dwelling-led scenarios have been configured and presented alongside the suite of demographic and dwelling-led scenarios provided in the October 2016 report. The **Dwelling-led +65** and **Dwelling-led Blended** scenarios have been developed using an annual dwelling growth target of +65 dpa, and +50 dpa increasing to +65 dpa post 2021 (respectively).

3.2 The relationship between dwelling growth and population change has been estimated using assumptions from the MHCLG 2014-based household projection model, together with a 2011 Census vacancy rate for the National Park. All other assumptions remain consistent with those applied in the October 2016 modelling.

3.3 The **Dwelling-led +65** and **Dwelling-led Blended** scenarios estimate population growth of 3% over the 2018–2035 plan period, resulting in higher population change than forecast under the demographic trend scenarios, but lower than that estimated under the **Dwelling-led +80** scenario.
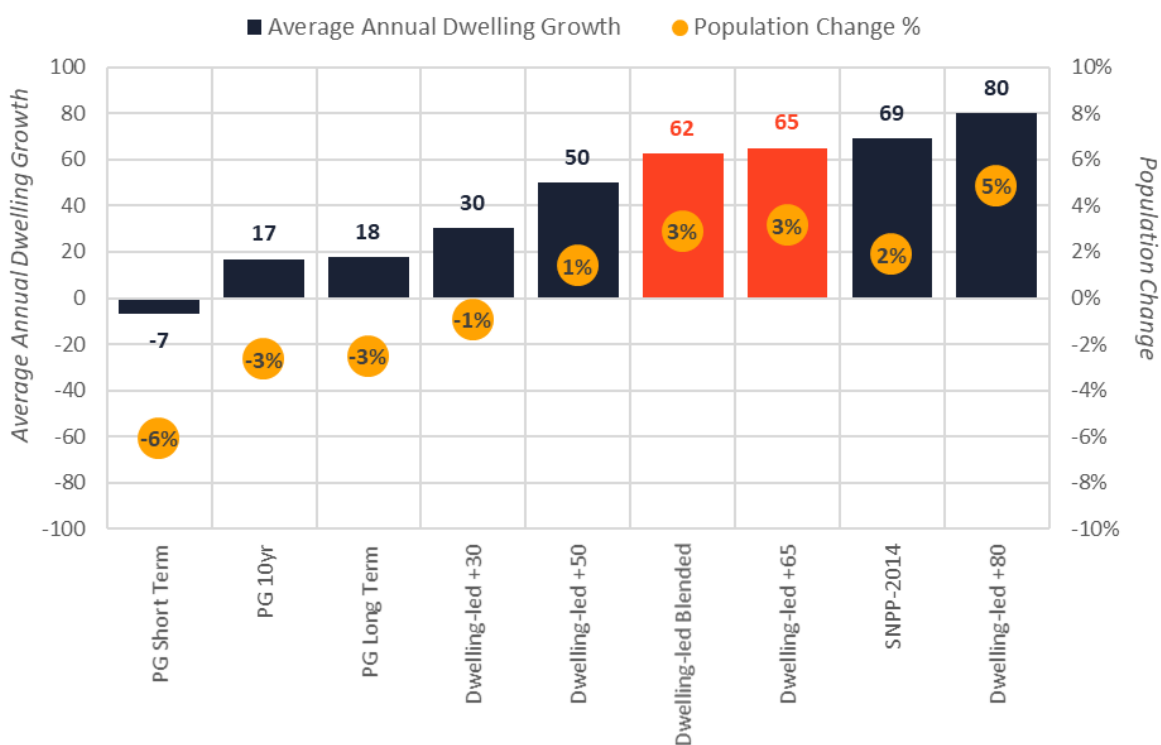

Figure 4: Average annual dwelling growth and population change (%) 2018–2035

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