

The Objectively Assessed Housing Needs of Forest of Dean

Update Report

**Report to the Forest of Dean District
Council**

Neil McDonald

July 2015



NMSS

Authors

Neil McDonald

Report

This report has been prepared by NM Strategic Solutions Ltd for
the Forest of Dean District Council

NMSS works with local authorities and others rather than just producing reports for them. We take considerable care to ensure that the analysis presented is accurate but errors can slip in and even official data sources are not infallible, so absolute guarantees cannot be given. Statistics, official or otherwise, should not be used uncritically: if they appear strange they should be thoroughly investigated before being used

THE OBJECTIVELY ASSESSED HOUSING NEEDS OF FOREST OF DEAN: UPDATE REPORT

Contents

	Page No.
Executive Summary	4
Report	
Introduction	6
What population should be planned for?	8
How people are likely to group themselves into households	8
Empty and second homes	12
Adjustments to reflect 'other factors'	13
Supporting economic growth	13
Summary and conclusions	16

THE OBJECTIVELY ASSESSED HOUSING NEEDS OF FOREST OF DEAN: UPDATE REPORT

Executive Summary

This report has reviewed the NMSS report “The Objectively Assessed Housing Needs of Stroud, Forest of Dean and Cotswold” (the ‘October 2014 NMSS Report’) step by step, updating the analysis presented there to reflect the DCLG 2012-based household projections that were published in February 2015. It has also incorporated other more recent work, most notably further analysis by Nupremis of the employment projections for Forest of Dean.

The October 2014 NMSS Report was based on the same population projections as the new DCLG household projections: i.e. ONS’s 2012 Sub National Population Projections (the ‘2012 SNPP’). The 2012 SNPP uses flow rates derived from the period 2007-12 to project future flows to and from the rest of the UK. However, flow rates in that period were significantly affected by the economic recession and the October 2014 Report concluded that an adjustment should be made to reflect flow rates for the 10-year period 2002-12 as these are more likely to be indicative of the likely longer term trend. That conclusion remains valid. The new DCLG projections should therefore be adjusted to reflect 10-year flow rates.

Household projections are produced by applying projected household formation rates to a projected population. The October 2014 NMSS Report used DCLG’s 2011-based household formation rates (extrapolated to 2031), with adjustments to the rates for those aged 25-34. Those adjustments were in response to concerns that the 2011-based projections for that age group had been affected by factors such as the deteriorating affordability of housing relative to earnings; increased international migration and the impact of the recession. As a consequence they envisaged continuing falls in the household formation rates of that age group and it was felt appropriate to assume that there would be some return towards earlier trends.

The 2012-based household projections set out revised household formation rates based on a fuller analysis of the 2011 census results. These are generally higher than those in the 2011-based projections. Moreover, a detailed analysis of the 2012-based household formation rate projections shows that they have largely eliminated the deteriorating household formation rates for certain age/sex/marital status groups that were of concern in the 2011-based projections. There is not therefore the same case for adjusting the 2012-based household formation rates that there was for the 2011-based projections: the 2012-based projections can be used without adjustment.

There is no new evidence that necessitates the re-visiting of either the allowance to be made for empty and second homes or the assessment of market signals or other factors which could potentially have suggested that that the trends incorporated in the official projection should be adjusted.

This leads to the conclusion that the updated demographic OAN should be calculated by applying the 2012 based household formation rates to the 2012 SNPP adjusted for 10-year UK flow rates with the same allowance (4.28%) for empty and second homes. **This produces an updated demographic OAN of 6200 homes over the period 2011-31, (310 homes a year), compared with 6,400 homes or (320 a year) suggested in the earlier analysis.**

The key numbers are as follows:

	October 2014 NMSS Report	Update
Population growth 2011-31 - 2012 SNPP + 10 YR UK flows	8,600	8,600
Household growth 2011-31	6,110	5,950
Proportion of second and empty homes	4.28%	4.28%
Demographic OAN: 2011-31	6,400	6,200

Nupremis have reviewed the employment projections made by Cambridge Econometrics and Oxford Economics. They note that in each case there is a sector of the economy in which the projected increase in jobs is implausibly large: 'Government Services' for Cambridge Econometrics and 'Financial and Business Services' for Oxford Economics. Variant projections have been produced in each case, substituting more moderate projections for sectors in question. Nupremis have also commented that the scale of ambition in the jobs forecasts is high and that there are significant risks in delivering them.

The housing implications of the two projections and the variants produced by Nupremis have been reassessed using the 2012-based household projections. The methodology employed is the same as that used in producing revised assessments for the Stroud EiP in response to queries raised by the Inspector. (The Inspector has subsequently concluded that the housing requirement for Stroud should be set at the mid-point of the housing need figures calculated from the two employment projections in this way.)

The results of this analysis (with the previous figures shown for comparison) are as follows:

Extra homes needed above demographic projection with 10 YR UK flow rates	Cambridge Econometrics	Oxford Economics	Mid-point
October 2014 NMSS Report	1900	-300	800
Unadjusted forecast	1600	-400	600
Adjusted forecast	800	-800	0

The range of numbers in this table illustrates how large the uncertainties are in jobs-led housing estimates of this type. Whilst the analysis can be interpreted to suggest that the number of additional homes needed to support economic growth lies somewhere in the range 0-600 homes, given the uncertainty, a prudent strategy be to plan for sufficient flexibility to enable up to an additional 600 homes to be provided if and when the demand materialises.

This suggests an updated OAN of 6,200 homes over the period 2011-31 (i.e. 310 homes a year), with flexibility to add up to a further 600 homes (i.e. 30 homes a year)

THE OBJECTIVELY ASSESSED HOUSING NEEDS OF FOREST OF DEAN

INTRODUCTION

Aim

1. This report updates the estimate of the objectively assessed housing needs (OAN) of Forest of Dean set out in the NMSS Report, “The Objectively Assessed Housing Needs of Stroud, Forest of Dean and Cotswold”¹, principally to take account of DCLG’s 2012-based household projections.

Approach

2. The NMSS Report, “The Objectively Assessed Housing Needs of Stroud, Forest of Dean and Cotswold” (the ‘October 2014 NMSS Report’) concluded that:
 - The demographically based OAN for Forest of Dean for 2011-31 was 6,400 homes (320 homes a year). This figure included adjustments to:
 - incorporate the ONS’s 2012-based Subnational Household Projections (2012 SNPP)²;
 - adjust projected population flows to and from the rest of the UK to reflect 10-year flow rates rather than the 5-year flow rates used by the ONS; and,
 - allow for a ‘partial return to trend’ of the household formation rates of those aged 25-34.
 - 900 homes should be added to ensure a sufficiently large workforce to support economic growth, resulting in an overall OAN of 7,300 homes (360

¹ “The Objectively Assessed Housing Needs of Stroud, Forest of Dean and Cotswold”, NMSS, October 2014, as revised in December 2014. See: http://www.fdean.gov.uk/media/Assets/ForwardPlan/documents/AllocationsPlan/141215_Report_to_Stroud_Cotswold_and_Forest_of_Dean_with_appendices_Revised.pdf

² 2012-based Subnational Population Projections for England, ONS, 29 May 2014. See: <http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/2012-based-projections/stb-2012-based-snpp.html>

homes a year) although it was acknowledged that there were substantial uncertainties associated with the employment projections.

3. DCLG published their new household projections on 27 February 2015³. These are based on the ONS's 2012-based Subnational Household Projections (2012 SNPP)⁴. The new household projections are therefore known as the 2012-based household projections (DCLG 2012).
4. The October 2014 NMSS Report:
 - a) Estimated the size and age structure of the population that will need to be housed.
 - b) Took a view on how that population will group itself into households. This, combined with the population estimate, enabled the number extra households which will need to be housed to be estimated.
 - c) Made an allowance for properties which will be empty or second homes to produce a preliminary estimate of the housing requirement.
 - d) Considered whether there were any factors which will not have been reflected in the trend-based population and household projections. These included:
 - market signals which might suggest that the local housing market has been under particular stress;
 - unmet housing needs or past undersupply which could have affected the trend-based assessment of future housing needs produced by a demographic approach;
 - how the assessment of the overall housing requirements relates to the need for affordable housing (i.e. social and intermediate housing); and,
 - whether additional housing is needed to ensure that the area can accommodate sufficient workers to support the projected level of economic growth.
5. This report follows through these steps again although in some cases there is no new material to update the earlier report.

³ 2012-based Household Projections: England, 2012-2037, DCLG, 27 February 2015 See: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/407556/Household_Projections_-_2012-2037.pdf

⁴ 2012-based Subnational Population Projections for England, ONS, 29 May 2014. See: <http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/2012-based-projections/stb-2012-based-snpp.html>

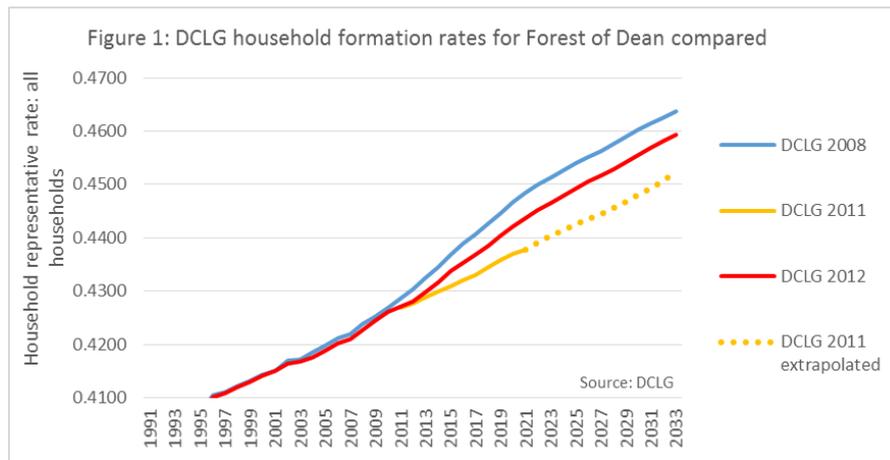
WHAT POPULATION SHOULD BE PLANNED FOR?

6. As already noted, the analysis in the October 2014 NMSS report is based on the 2012 SNPP – as are the new DCLG household projections. The new household projections do not therefore affect his step in the calculation.
7. The case for adjusting the projected population flows to and from the rest of the UK to reflect 10-year flow rates rather than the 5-year rates (for the period 2007-12) used by the ONS in 2012 SNPP remains as discussed in paragraphs 17-29 of the October 2014 NMSS report. The key point is that in many parts of the country flows between local authorities in the period 2007-12 were significantly affected by the economic downturn and that using 10 year flow rates for 2002-12 is likely to give a better indication of the longer term trend.
8. Making the adjustment for 10-year flow rates has the effect of increasing the projected growth in the Forest of Dean’s population over the period 2011-31 from 6,400 to 8,600, an increase of 35%. The higher figure is the one which should be fed into the next stage of the calculation: the estimation of the net number of additional households that will be formed.
9. Table 1 compares the 2012-based population projections with the earlier projections:

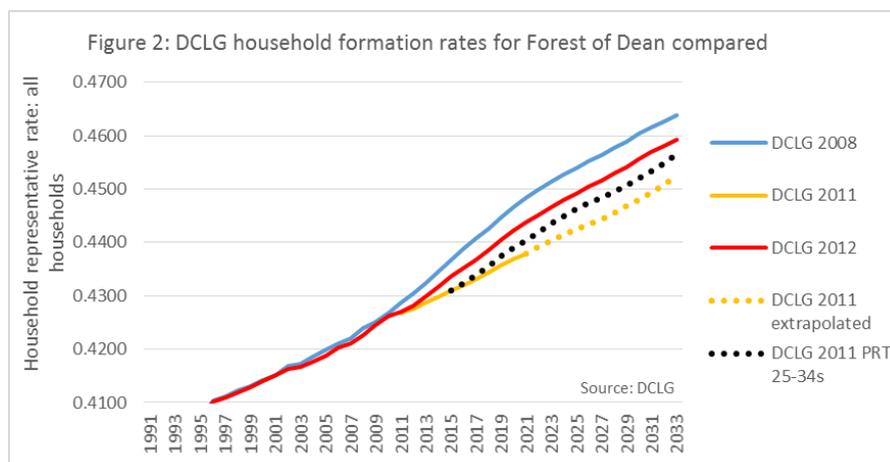
Table 1: Population projections compared	2011	2031	Change
2008 SNPP	84200	93200	9000
2011 SNPP extrapolated	82200	90200	8000
2012 SNPP	82200	88600	6400
2012 SNPP + 10 YR UK flow rates	82200	90800	8600

HOW PEOPLE ARE LIKELY TO GROUP THEMSELVES INTO HOUSEHOLDS

10. The October 2014 NMSS Report applied the DCLG 2011 household formation rates to the adjusted population projection produced in the first stage of the calculation. This suggested that a population increase of 8,600 would produce an additional 5,780 households.
11. Applying the DCLG 2012 household formation rates to the same population increase suggests that an additional 5,950 households. The increase in the number of additional households is due to the higher household formation rates in the 2012-based projections (which make fuller use of data from the 2011 census than the 2011-based DCLG projections). Figure 1 shows how the new and old household formation rate projections compare. It also includes the 2008-based formation rates for reference.



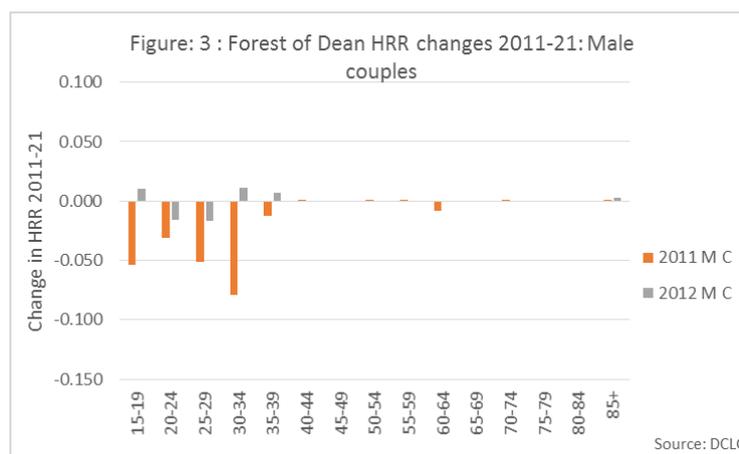
12. The October 2014 NMSS Report discussed the differences between the 2011-based projections and the 2008-based projections. It noted that, whilst there were reasons to believe that the 2008-based projections were too high, it appeared that the 2011-based projections had been affected by factors such as the deteriorating affordability of housing relative to earnings; increased international migration and the impact of the recession. The net effect was that for some age groups – most notably the 25-34 year olds – the 2011-based projections envisaged a continuing fall in the household formation rates, in marked contrast with earlier trends. This implied that the chances of people in the 25-34 age group setting up their own household would fall. The NMSS report proposed that, rather than plan on that basis, it should be assumed that for the 25-34 year olds (the worse affected group) there would be a partial return to the trend suggested by the 2008-based projections. This had the effect of increasing the number of households projected to form between 2011 and 2031 from 5,780 to 6,110.
13. As can be seen from Figure 1, the 2012-based household formation rates for Forest of Dean are closer to the 2008-based projections than the 2011-based set. Figure 2 adds the formation rates for the ‘partial return to trend for 25-34s’ scenario. This shows that the 2012-based projections provide a fuller move towards the 2008-based projections than that scenario.



14. Despite the 2012-based projections suggesting aggregate household formation rates that are higher than the ‘partial return to trend for 25-34s’ scenario, the question

remains as to whether there is a case for going further in the direction of the household formation rates envisaged in the 2008-based projections.

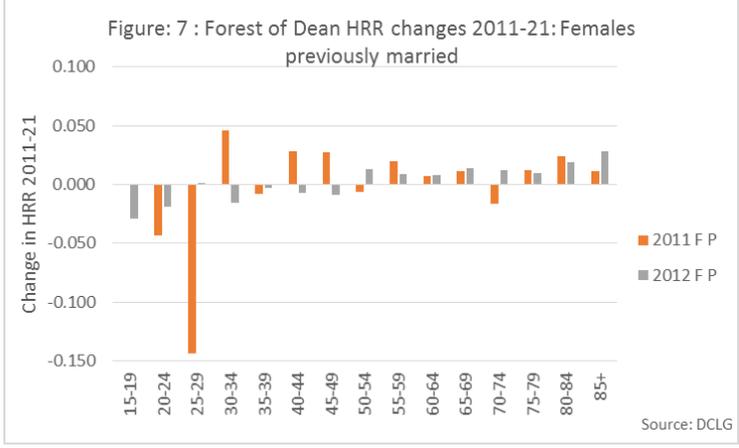
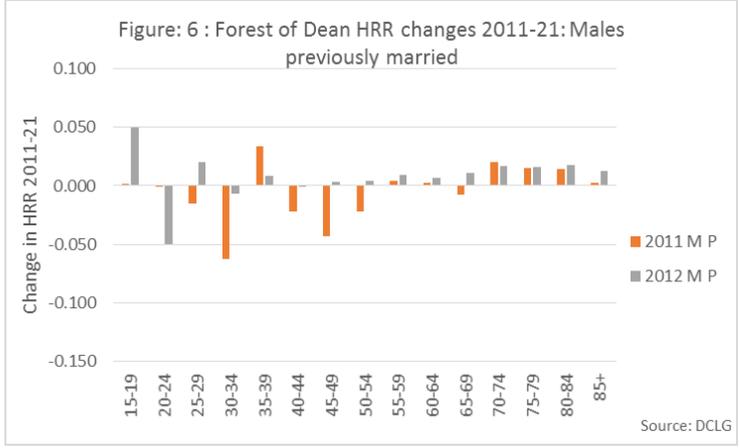
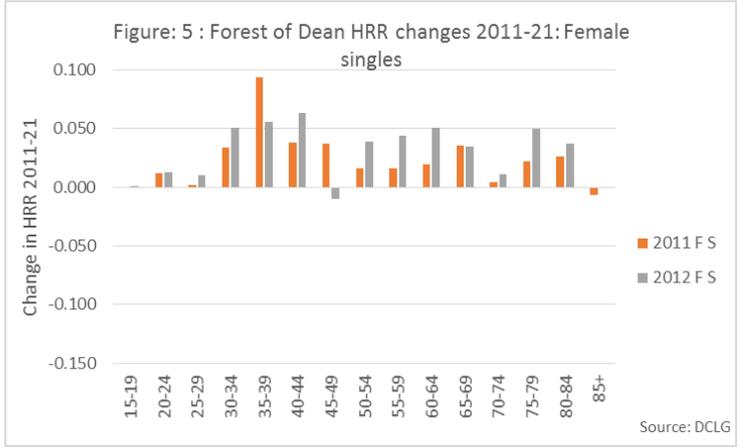
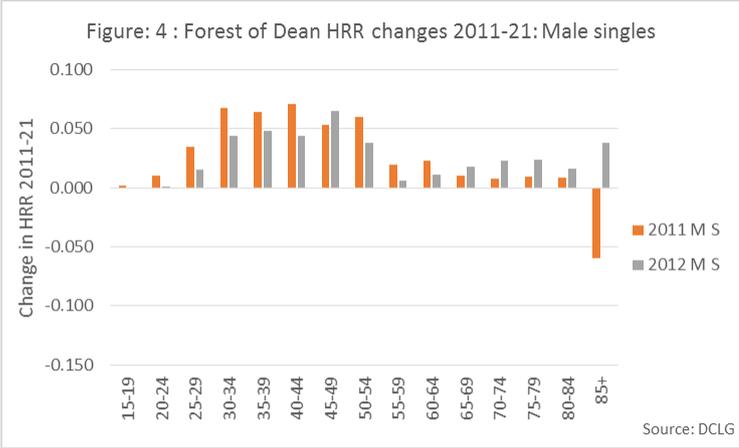
15. The first point to consider here is the extent to which the 2008-based projection represents a reliable indication of the long term trend. The NMSS October 2014 Report⁵ noted that the departure from the earlier long term trend started well before the recession and that there are reasons for regarding the 2008-based projections as being too high. Professor Simpson⁶ went further in his article in the December 2014 edition of Town and Country Planning. He noted that the DCLG had said at the time that Labour Force Survey data had suggested that there had been some steep falls in household representative rates for some age groups since the 2011 census and that, if those shifts were sustained in the longer term, the household projections would turn out to be too high. DCLG had also warned that their method took no account of ‘cohort effects’ including the possibility that falls in household representative rates for younger age groups might be carried forward to older age groups as those cohorts aged – something which has since happened. This led Professor Simpson to conclude that “The 2008-based projections were presented at the time not as a solid trend, but as insecure, because the past steady trends had already been broken prior to the recession”. The implication is that they should not be thought of as a benchmark.
16. An alternative approach is to consider on an authority by authority basis the plausibility of the projected changes in HRRs and, in particular, the extent to which basing plans on the new projections would amount to ‘planning in’ a deterioration in HRRs for some age groups.
17. DCLG projects household formation rates for 5 household types and 15 5-year age groups. Figures 3-7 show how the new projections envisage HRRs changing between 2011 and 2021 for each of these groups and compare those changes with the changes envisaged in the 2011-based projections⁷.



⁵ See paragraphs 52-55

⁶ Ludi Simpson is Professor of Population Studies at the University of Manchester. He works to support demographic modelling in local authorities and nationally and is the originator and designer of the POPGROUP demographic modelling software

⁷ These charts are based on the worksheets “household representative rates” included in the detailed tables for modelling purposes that were published with both the 2011 and 2012-based projections.



18. The key point to note from the charts is that the 2012-based projections have fewer groups for which the household formation rates are projected to fall and that where there are falls these are generally smaller than envisaged in the 2011-based projections. This means that the new household projections have largely eliminated the ‘planning in’ of deteriorating household formation rates that would be implied if the 2011-based projections were used unadjusted. Indeed, if the 2012-based projections were to be adjusted to so that the household formation rate of no group fell below its level in 2011 the impact would only be to increase the number of household projected to form between 2011 and 2031 by 1.3%.
19. This leads to the conclusion that the reason for adjusting the 2011-based household formation rates does not exist for the 2012-based projections for Forest of Dean: those household formation rate projections can prudently be used without adjustment.
20. Table 2 summarises the household projections and includes the key earlier projections. Note that:
- “DCLG 2011 25-34 PRT + 2012 SNPP + 10 YR” is the projection based on DCLG’s 2011-based projection, updated by the 2012 SNPP with both the 10 year UK flow rate adjustment and the partial return to trend for 25-34 year olds. This was the basis of the demographic estimate of the OAN in the NMSS October 2014 report.
 - “DCLG 2012 + 10 YR + 2011 HRR floor” is the scenario which adjusts the DCLG 2012 household formation rates so that no rate falls below its value in 2011.

Table 2: Household projections compared	2011	2031	Change
DCLG 2008	35400	42100	6700
DCLG 2011 25-34 PRT + 2012 SNPP + 10 YR	34300	40400	6100
DCLG 2012	34300	39400	5100
DCLG 2012 + 10 YR	34300	40200	6000
DCLG 2012 + 10 YR + 2011 HRR floor	34300	40300	6000

EMPTY AND SECOND HOMES

21. The new projections do not affect the allowance that needs to be made for empty and second homes. The figure of 4.28% from the October 2014 NMSS Report can therefore continue to be used⁸. Applying that allowance for empty and second homes to the figures in Table 2 gives the following projections for the number of homes needed between 2011 and 2031 (Table 3).

Table 3: Homes needed: 2011-31	Homes needed	Average per year
DCLG 2008	7000	350
DCLG 2011 25-34 PRT + 2012 SNPP + 10 YR	6400	320
DCLG 2012	5300	270
DCLG 2012 + 10 YR	6200	310
DCLG 2012 + 10 YR + 2011 HRR floor	6300	320

⁸ See Figure 17 and paragraph 66 in the October 2014 NMSS Report

ADJUSTMENTS TO REFLECT ‘OTHER FACTORS’

22. Updating to reflect the 2012-based DCLG household projections does not affect the analysis in the October 2014 NMSS report of whether there are market signals or other factors which might suggest a need to adjust the trends incorporated into the official projections. The same conclusion therefore continues to apply: there is no need for any such adjustment.

SUPPORTING ECONOMIC GROWTH

23. This section supplements the analysis of the housing implications of the projected growth in jobs in Forest of Dean set out in the October 2014 NMSS report by providing a revised, stand-alone analysis for the District based on the 2012 DCLG household projections and further analysis carried out by Nupremis. The methodology used is exactly comparable to that used in the supplementary work done by NMSS in response to questions raised by the Inspector examining the Stroud District Plan⁹. The Inspector has since concluded that Stroud’s housing requirement should be set at the mid-point of the range indicated by that analysis.
24. As discussed in the October 2014 NMSS report, economic projections for the Forest of Dean have been obtained from Cambridge Econometrics (CE) and Oxford Economics (OE). The CE projection suggests 2526 extra jobs will be created between 2011 and 2031 whereas the OE projection suggest a growth of 2494 jobs over the same period.
25. The two projections have very different views as to how the economy in the District will emerge from the economic downturn. In particular, they have significantly different views on the number of jobs in 2011, with CE suggesting 32,212 and OE 30,130, a difference of over 2000 or 7%. Potentially more significant is the difference in view on the number of jobs created between 2011 and 2014: CE suggest that 265 jobs were created in this period against OE’s 1,273. These differences illustrate the considerable uncertainties surrounding employment data and forecasts for this period. To avoid these uncertainties potentially distorting the analysis, the October NMSS Report concentrated on the views presented by the two forecasters for the period 2014-31. That approach is continued in this update report. (The reasons for choosing this period are discussed more fully in paragraphs 124 and 125 of the October 2014 Report and are supported and, indeed, reinforced in the Nupremis report.)
26. In line with the Planning Practice Guidance (PPG), the analysis of the housing implications of the jobs forecasts is based on an assessment of whether the demographically projected population for the District will be large enough to provide the workforce needed to support the projected increase in jobs without changes to

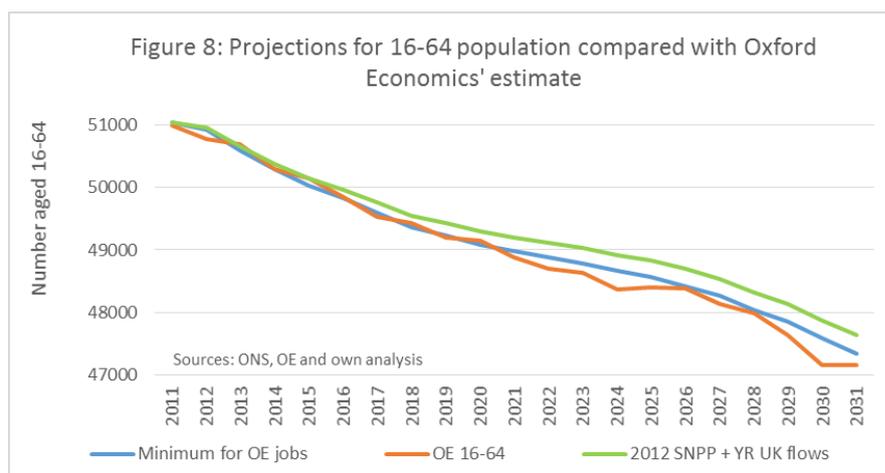
⁹ See: Section 6 in “Response to the Inspector’s initial views on the work undertaken by the Council during the suspension of the examination” at http://www.stroud.gov.uk/info/plan_strat/REXB17.pdf

commuting patterns. Owing to the differences in the way in which CE and OE present their findings different approaches have to be adopted for the two forecasts.

27. CE does not provide estimates of the population they assume will be present in each local authority area. Therefore, in order to assess whether the demographically projected increase in population will be large enough to support the projected increase in jobs, a view needs to be taken on what proportion of the population will be economically active (i.e. in work or available for work, as measured by economic activity rates) and how that will change over time. As discussed in paragraphs 121 to 123 of the October 2012 NMSS Report, it is important the assumptions made are consistent with those in the model being interpreted as the model would have forecast different job numbers had it made different assumptions about economic activity rates.
28. CE provides regional economic activity rates, but not rates at the local authority level. The analysis presented in this report therefore uses census 2011 economic activity rates to estimate economic activity rates by age and gender for Forest of Dean that are consistent with the CE rates for the South West Region. Those economic activity rates are then used to estimate the number of jobs which the demographically projected population would be capable of supporting. That shows that the projected population would be too small to support the projected job increase so the analysis increases migration into Forest of Dean until the population is large enough to support the projected increase in jobs. It is assumed that the extra people who move into the area have the same age profile as those who have moved into the area in the past except that, as the reason for more people moving into the area is the availability of jobs, it is assumed that the additional migrants are not over or near state retirement age.
29. The final step is to apply DCLG's 2012-based household formation rate projections to the population needed to support the jobs forecast by CE to estimate the number of households. This leads to the conclusion that 1,600 extra homes would be needed above and beyond those suggested by the demographic analysis (including an adjustment for 10 year UK flow rates).
30. Nupremis have reviewed the CE projection sector by sector using the latest available employment data. They note that a very high proportion of the projected job growth is attributable to the projected growth in Government Services (68% of the total growth over the period 2014-31). This seems implausibly high both in relation to other sectors and CE's own view of national growth rates in this sector. Nupremis have therefore produced a variant projection in which the growth in this sector is reduced to make it comparable with CE view of the national growth rate in Government Services. This reduces the projected jobs growth between 2014 and 2031 from 2,261 to 1,205. Applying the same methodology to this variant projection suggests a need for 800 more homes than the demographic analysis (with 10 year UK flow rates).
31. It should be noted here that Nupremis have commented that the forecasts for jobs growth represent distinct and challenging aspirations which would require clear and transformational economic interventions to secure the scale of growth and the

ambitions detailed in current local policy. They describe the scale of ambition as 'high' and there are significant risks in delivering the economic forecasts and indeed the Local Plan policies associated with implementation of a large scale site within the Forest of Dean. There is a need to consider how any competitive position can be maintained and secured as strategic employment sites on the M5 corridor are also delivered.

32. The interpretation of the OE projection is more straightforward. OE provide estimates of the population aged 16-64. These can be compared with those projected by the analysis described in this report – see Figure 8 below.



33. As can be seen from Figure 8, the 16-64 population contained within the 2012 SNPP projection adjusted for 10 year UK flow rates is larger than that suggested by the OE projection. The number of people aged 16-64 in Forest of Dean needed to support the OE forecast can be estimated by reducing flow rates into Forest of Dean from the rest of the UK until the 16-64 population is just larger than the OE projection – as shown in the blue line. (Again it is assumed that the changes to migration patterns do not affect those who are over or near retirement age.) Finally, DCLG's 2012-based household formation rate projections are used to estimate how many households the revised projection for the population in 2031 would form. This leads to the conclusion that for 400 fewer homes are needed than suggested by the demographic analysis (with 10 year UK flow rates).
34. Nupremis have also reviewed the OE projection. The sector that stands out is Financial and Business Services – which accounts for over 75% of the OE projected job growth between 2014 and 2031. OE have produced a variant projection which assumes that this sector grows at the same rate as envisaged by CE. This has the effect of reducing the OE jobs forecast for 2014-31 from 1,220 to 573.
35. Applying a similar analysis to the variant OE jobs forecast leads to the conclusion that 800 fewer homes are needed than suggested by the demographic analysis (with 10 year UK flow rates).
36. Table 4 summarises the conclusions from this analysis, with the comparable figures from the earlier analysis shown for comparison:

Table 4: extra homes needed above demographic projection with 10 YR flows	Cambridge Econometrics	Oxford Economics	Mid-point
October 2014 NMSS Report	1900	-300	800
Unadjusted forecast	1600	-400	600
Adjusted forecast	800	-800	0

37. It should be noted that the October 2014 NMSS Report estimated the number of additional homes needed in the District by estimating the requirement for Gloucestershire as a whole and allocating an appropriate proportion of that figure to Forest of Dean. That resulted in a very similar requirement for 900 additional homes, rather than the mid-point figure of 800 shown in Table 4.
38. In interpreting the employment forecasts it should be noted that:
- the differences both between the CE and OE figures and the between the adjusted and unadjusted projections show that there is a high degree of uncertainty in the jobs-led housing projections;
 - the Nupremis assessment has described the scale of ambition in the forecasts as ‘high’ and noted that there are significant risks involved in delivering them;
 - the adjustments made by Nupremis in both cases relate to a single sector forecast that is clearly too large to be plausible, suggesting that the adjusted forecasts are probably a more reliable guide;
39. When these points are taken into account the case for adding to the demographic housing requirement is, at best, uncertain. This suggest that the prudent strategy would be to plan on the basis of the demographic OAN but allow for sufficient flexibility to enable up to an additional 600 homes to be provided if and when the demand materialises.

SUMMARY AND CONCLUSIONS

40. This report has reviewed the “The Objectively Assessed Housing Needs of Stroud, Forest of Dean and Cotswold” (the ‘October 2014 NMSS Report’) step by step, updating the analysis for Forest of Dean presented there to reflect the DCLG 2012-based household projections that were published in February 2015. It has also incorporated other more recent work, most notably further analysis by Nupremis of the employment projections for Forest of Dean.
41. The October 2014 NMSS Report was based on the same population projections as the new DCLG household projection: i.e. ONS’s 2012 Sub National Population Projections (2012 SNPP). The 2012 SNPP uses flow rates derived from the period 2007-12 to project future flows to and from the rest of the UK. However, flow rates in that period were significantly affected by the economic recession and the October 2014 Report concluded that an adjustment should be made to reflect flow rates for the 10-year period 2002-12 as these are more likely to be indicative of the likely

longer term trend. That conclusion remains valid. The new DCLG projections should therefore be adjusted to reflect 10-year flow rates.

42. Household projections are produced by applying projected household formation rates to a projected population. The October 2014 NMSS Report used DCLG's 2011-based household formation rates (extrapolated to 2031), with adjustments to the rates for those aged 25-34. Those adjustments were in response to concerns that the 2011-based projections for that age group had been affected by factors such as the deteriorating affordability of housing relative to earnings; increased international migration and the impact of the recession. As a consequence they envisaged continuing falls in the household formation rates of that age group and it was felt appropriate to assume that there would be some return towards earlier trends.
43. The 2012-based household projections set out revised household formation rates based on a fuller analysis of the 2011 census results. These are generally higher than those in the 2011-based projections. Moreover, a detailed analysis of the 2012-based household formation rate projections shows that they have largely eliminated the deteriorating household formation rates for certain age/sex/marital status groups that were of concern in the 2011-based projections. There is not therefore the same case for adjusting the 2012-based household formation rates that there was for the 2011-based projections: the 2012-based projections can be used without adjustment.
44. There is no new evidence that necessitates the re-visiting of either the allowance to be made for empty and second homes or the assessment of market signals or other factors which could potentially have suggested that that the trends incorporated in the official projection should be adjusted.
45. This leads to the conclusion that the updated demographic OAN should be calculated by applying the 2012 based household formation rates to the 2012 SNPP adjusted for 10-year UK flow rates with the same allowance (4.28%) for empty and second homes. This produces an updated demographic OAN of 6200 homes over the period 2011-31, (310 homes a year), compared with 6,400 homes or (320 a year) suggested in the earlier analysis.
46. The key numbers are as follows:

	October 2014 NMSS Report	Update
Population growth 2011-31 - 2012 SNPP + 10 YR UK flows	8,600	8,600
Household growth 2011-31	6,110	5,950
Proportion of second and empty homes	4.28%	4.28%
Demographic OAN: 2011-31	6,400	6,200

47. Nupremis have reviewed the employment projections made by Cambridge Econometrics and Oxford Economics. They note that in each case there is a sector of the economy in which the projected increase in jobs is implausibly large: 'Government Services' for Cambridge Econometrics and 'Financial and Business Services' for Oxford Economics. Variant projections have been produced in each case, substituting more moderate projections for sectors in question. Nupremis

have also commented that the scale of ambition in the jobs forecasts is high and that there are significant risks in delivering them.

48. The housing implications of the two projections and the variants produced by Nupremis have been reassessed using the 2012-based household projections. The methodology employed is the same as that used in producing revised assessments for the Stroud EiP in response to queries raised by the Inspector. (The Inspector has subsequently concluded that the housing requirement for Stroud should be set at the mid-point of the housing need figures calculated from the two employment projections in this way.)
49. The results of this analysis (with the previous figures shown for comparison) are as follows:

Extra homes needed above demographic projection with 10 YR UK flow rates	Cambridge Econometrics	Oxford Economics	Mid-point
October 2014 NMSS Report	1900	-300	800
Unadjusted forecast	1600	-400	600
Adjusted forecast	800	-800	0

50. The range of numbers in this table illustrates how large the uncertainties are in jobs-led housing estimates of this type. Whilst the analysis can be interpreted to suggest that the number of additional homes needed to support economic growth lies somewhere in the range 0-600 homes, given the uncertainty, a prudent strategy would be to plan for sufficient flexibility to enable up to an additional 600 homes to be provided if and when the demand materialises.

CONCLUSION

51. **This suggests an updated OAN of 6,200 homes over the period 2011-31 (i.e. 310 homes a year), with flexibility to add up to a further 600 homes (i.e. 30 homes a year)**