An Updated Estimate of the Objectively Assessed Housing Needs of Cotswold District

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NMSS

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This report has been prepared for Cotswold District Council.

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i. To present an updated estimate of the objectively assessed housing needs (OAN) of the Cotswold District. The report is based on the latest available evidence as of February 2016.

Approach

ii. This report follows the approach indicated by the National Planning Policy Framework (NPPF) and the Planning Practice Guidance (PPG). It takes as its starting point the official population and household projections.

iii. To assess the housing requirement of any area it is necessary to:

- Estimate the size and age structure of the population that will need to be housed.
- Take a view on how that population will group itself into households. This, combined with the population estimate, enables the number of extra households which will need to be housed to be estimated.
- An allowance needs then to be added for properties which will be empty or second homes to produce a preliminary estimate of the housing requirement.
- Finally, consideration needs to be given to whether there are any factors which will not have been reflected in this approach. These might include:
    - market signals which suggest that the local housing market has been under particular stress;
    - unmet housing needs or past undersupply which will 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.

iv. The report follows through these steps in order.

Findings and recommendations

v. The starting point for this Update Report is the DCLG's 2012-based household projections (DCLG 2012) which were released in February 2015. These were based on the ONS's 2012-based Sub-national Population Projections (2012 SNPP) which were published in May 2014. However, more recent evidence on how the

population has changed since 2012 is available from the 2014 Mid-Year Estimates (2014 MYE) which were issued in June 2015 and the international migration statistics for the year to March 2015 which were released in August 2015. This report also takes that additional evidence into account to provide the most up to date view possible.

Conclusions on the population to be planned for

vi. It is proposed that three adjustments should be made to the ONS's 2012-based Sub-national Population Projection for Cotswold to reflect both weaknesses in those projections and the latest evidence available from the 2014 Mid-Year Estimates and the most recent international migration statistics.

vii. The proposed adjustments are shown in Table S1 (below):

- The ONS's 2012 Sub-national Population Projections (2012 SNPP) use 2007-12 as the trend period for projecting flows to and from the rest of the UK. That period included the economic downturn during which flows into Cotswold were lower than in earlier years. This is likely to have caused an underestimation of future net flows into the district and a lower population projection than the longer term trend would suggest. Adjusting to reflect flows in the latest 10-year period for which data is available (2004-14) provides a better view of likely future flows as the impact of the atypical flows during the recession is balanced by the higher flows in earlier years and weight is given to flow levels since the downturn. At the same time it makes sense to adjust the projections (re-base them) so that they reflect the ONS's estimate of the actual population in 2014 rather than the projection made for that year in the 2012 SNPP. The effect of this set of adjustments is to increase the projected population increase between 2011 and 2031 from 7145 in the 2012 SNPP to 9667, an increase of 2522 or 35%. (Rows B and C)

- Net international migration into the UK is currently about twice that assumed by those who compiled the 2012 SNPP. There is a strong case for adjusting those projections to reflect this, not least because the ONS have themselves subsequently revised upwards their national projection for net migration into the UK. To avoid giving undue weight to only two years' figures whilst reflecting what has actually happened in Cotswold it is proposed that the international flows should be adjusted to reflect average flows over the latest 10-year period for which data exists i.e. 2004-14. This increases the projected population increase between 2011 and 2031 by 661 or 7%, lifting the projected increase from 9667 to 10,327. (Rows D and E)

- It is debatable whether the projections should make an allowance for Unattributable Population Change (UPC). The ONS made no such allowance in the 2012 SNPP. However, earlier analysis for the Stroud, Cotswold and the Forest of Dean took the view that it was appropriate to err on the side of caution to avoid any possibility of underestimating the population to be planned for. It had therefore assumed that for the authorities for which UPC was positive all of UPC would have contributed to future population increases and that where UPC was negative (as in Cotswold) no adjustment should be made. This assumption was at the other extreme of the range from the

ONS's assumption (that none of UPC would have contributed to future population increases). The likelihood is that the actual position will lie somewhere between the two extremes. As there is no way to determine where in the range is most likely, the mid-point has been used. The effect is to reduce the projected population increase of Cotswold by 489 or 5%, from 10,327 to 9,839. (See Rows F and G.) This is, therefore, a small offset to the increases caused by the other two adjustments.

Table S1: Adjustments to the ONS's 2012-based population projection		
Change 2011 - 2031		**Population**
A	**2012 SNPP**	**7145**
B	*Adjustment for 2014-14 flows + re-basing*	*2522*
C	**2004-14 UK flows + re-basing to 2014 MYE**	**9667**
D	*Adjustment for 2004-14 overseas flows*	*661*
E	**MYE + 2014-14 UK + overseas flows**	**10327**
F	*Adjustment for 50% UPC*	*-489*
G	**MYE + 2014-14 UK +overseas flows + 50% UPC**	**9839**

viii. The overall effect of these adjustments is to increase the 2012 SNPP's projection for the increase in the population of Cotswold over the plan period of 7,145 to 9839, an increase of 2694 or 38%.

How the population is likely to group itself into households

ix. To turn an estimate of a population change into an estimate of the change in the number of households a view needs to be taken on how the tendency of people to form separate households (the household formation rate) is likely to change. The latest DCLG household projections (DCLG 2012) provide the most recent official view on this and represent a significant step forward from the 2011-based interim projections (which were prepared relatively quickly following the 2011 census as a stop-gap measure). Having reviewed the latest projections, NMSS believes that they should be used as published.

x. In particular, there is no longer a need to make adjustments to the projected household formation rates for young adults (those aged 25-34) that were appropriate when using the 2011-based interim projections. Those projections envisaged a continuing sharp deterioration in the household formation rates of that age group. NMSS believe that the latest DCLG projections represent a realistic view of likely trends in household formation patterns when account is taken of the changes that have occurred since the last pre-recession projection was published (the 2008-based projections).

xi. Once an allowance is made for empty and second homes (based on council tax data), applying the 2012-based DCLG household formation rates to the adjustment 2012 SNPP population projections produces a demographically-based estimate of the OAN of the Cotswold area of 6,800 homes over the period 2011-31, as set out in Table S2. This also shows the figures that are implied by the unadjusted DCLG's 2012-based projection.

Table S2: Demographic OAN of Cotswold			
Change 2011 - 2031	Population	Homes	Homes/yr
DCLG 2012-based projection	7100	5900	290
Demographic OAN	9800	6800	340

Conclusions on adjustments for 'other factors'

xii. There is no case for an uplift to the demographic OAN for affordable housing as it should be possible to deliver the affordable housing that is needed within the demographic OAN.

xiii. As far as market signals are concerned, Cotswold is an area with high house prices and poor affordability. This, however, reflects the attractiveness of the area and is not a basis on which to apply a 'market signals adjustment'. The only potential grounds for a market signals adjustment are the rate of increase in house prices; the deterioration in the affordability ratio; and the suggestion that there may have been under supply in the years before the economic downturn. However, in each of these areas the evidence is far from conclusive: a significant proportion of South West authorities have seen a faster proportionate increase in house prices or a bigger deterioration in affordability and any undersupply in the period before the downturn has been offset by stronger delivery during and after the downturn, with housebuilding recovering sooner and faster than in other areas.

xiv. Given that this report is proposing substantial upward adjustments to the housing requirement implied by DCLG's latest household projections as result of adjustments to the ONS population projections and the addition of extra homes to support economic growth, there is no case for any further adjustment for market signals. At most the market signals provide an argument for setting the OAN at the top of the range for the number of homes needed to support economic growth.

Conclusion on homes needed to support economic growth

xv. Updated (November 2015) economic forecasts have been obtained for both Cotswold and Gloucestershire as a whole from Cambridge Econometrics (CE) and Oxford Economics (OE). These have been reviewed by Nupremis who have produced an alternative scenario which adjusts unlikely or implausible elements in both projections. Two alternative analyses of the housing implications of these projections have then been produced:

- A **'standalone analysis'** which looks at the forecasts for Cotswold in isolation. This provides two ranges:
    - 7,600 – 9,300 homes (2011-31) based on unadjusted OE and CE jobs forecasts
    - 7,700 – 8,800 homes (2011-31) based on the Nupremis alternative scenario

  The latter range is more realistic as it is based on the adjusted projections but there is little difference between the mid-points of the two ranges: 8,400 homes for the unadjusted projections and 8,300 for the alternative scenarios.

- An **HMA-wide analysis** which suggest that across Gloucestershire as a whole there is no need to increase the number of homes above the demographic OAN. This would imply the full OAN is the demographic OAN i.e. it is 6,800 homes 2011-31.

xvi. It is appropriate to be a little cautious in interpreting the HMA wide analysis for the following reasons:

- The HMA-wide analysis assumes that Gloucestershire functions seamlessly as a single housing and employment market area and that those coming to the area to live and those creating new jobs will be indifferent to where within they area they locate. That is an idealised view of a single housing and employment area. The practical reality is likely to lie somewhere between that view and the standalone view – which in effect assumes that Cotswold acts as an isolated area.
- The Gloucestershire jobs forecasts have been more volatile than those for Cotswold District. There is therefore considerable uncertainty about the robustness of any individual forecast even at the county level. That is underlined by the equivalent analysis in the NMSS October 2014 Report which suggested that 1300 homes should be added to the demographic OAN for Cotswold to produce its full OAN. Adding that number to the updated demographic OAN (6,800 homes) would produce a full OAN of 8,100 homes.

xvii. These concerns about the HMA-wide analysis suggest that it would be prudent to give more weight to the standalone analysis in setting the OAN. Moreover, the poor and deteriorating house price/earnings affordability in the district and the question mark over possible undersupply prior to the economic downturn, suggest that there is a case for erring in the direction of the higher figures. This would imply adopting the top of the range figure of 8,400 homes between 2011 and 2031. On grounds of prudence and positive planning that is what NMSS would advise.

Conclusion on the OAN

xviii. **The full OAN for Cotswold District in 8400 homes over the period 2011-31 or an average of 420 homes a year.**

xix. Given the inevitable uncertainties, the demand for homes and the growth in employment should be closely monitored and the OANs should be reviewed periodically in the light of what actually happens.

AN UPDATED ASSESSMENT OF THE OBJECTIVELY ASSESSED HOUSING NEEDS OF COTSWOLD DISTRICT

INTRODUCTION

Aim

1. To present an updated estimate of the objectively assessed housing needs (OAN) of the Cotswold District. The report is based on the latest available evidence as of February 2016.

Approach

2. The report follows the approach indicated by the National Planning Policy Framework[1] (NPPF) and the Planning Practice Guidance[2] (PPG). It takes as its starting point the latest official population and household projections. These are the Office for National Statistic's (ONS's) 2012-based Subnational Population Projections for England[3] (2012 SNPP) and the Department for Local Government's (DCLG's) 2012-based Household Projections[4]. Account has also been taken of the ONS's Annual Mid-year Population Estimates, 2014[5] (2014 MYE) and the latest estimates of international migration[6]

3. To assess the housing requirement of any area it is necessary to:

[1] The *National Planning Policy Framework* was published on 27 March 2012 and sets out the Government's planning policies for England and how these are expected to be applied. See http://www.communities.gov.uk/publications/planningandbuilding/nppf

[2] The *Planning Practice Guidance* was launched by the Department for Communities and Local Government (DCLG) on 6 March 2014 as a web-based resource and has been periodically updated since then. It is available at http://planningguidance.planningportal.gov.uk/

[3] The *2012-based Subnational Population Projections for England* were published on 29 May 2014 and are available at http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/2012-based-projections/stb-2012-based-snpp.html

[4] The *2012-based household projections in England, 2012 to 2037* were published on 27 February 2015 and are available at https://www.gov.uk/government/statistics/2012-based-household-projections-in-england-2012-to-2037

[5] The *Annual Mid-year Population Estimates, 2014* were published on 25 June 2015 and are available at http://www.ons.gov.uk/ons/dcp171778_406922.pdf

[6] See *Migration Statistics Quarterly Report, November 2015* which was released on 26 November 2015 and is available at http://www.ons.gov.uk/ons/rel/migration1/migration-statistics-quarterly-report/november-2015/index.html

a. Estimate the size and age structure of the population that will need to be housed.
b. Take a view on how that population will group itself into households. This, combined with the population estimate, enables the number of extra households which will need to be housed to be estimated.
c. An allowance needs then to be added for properties which will be empty or second homes to produce a demographically-based estimate of the housing requirement – the 'demographic OAN'.
d. Finally, consideration needs to be given to whether there are any factors which will not have been reflected in this approach. These might include:
    i. market signals which suggest that the local housing market has been under particular stress;
    ii. unmet housing needs or past undersupply which will have affected the trend-based assessment of future housing needs produced by a demographic approach;
    iii. how the assessment of the overall housing requirements relates to the need for affordable housing (i.e. social and intermediate housing); and,
    iv. whether additional housing is needed to ensure that the area can accommodate sufficient workers to support the projected level of economic growth.
e. Any such adjustments are added to the demographic OAN to produce the 'full OAN'.

4. The report follows through these steps in order. In doing so it considers both the Cotswold District Council area and the wider housing market area of Gloucestershire, updating the HMA wide assessment contained in the NMSS October 2014 Report on the OAN of Stroud, Cotswold and Forest of Dean[7].

[7] *The Objectively Assessed Housing Needs of Stroud, Forest of Dean and Cotswold (Revised)*, Neil McDonald with Christine Whitehead, October 2014

COTSWOLD AND THE GLOUCESTERSHIRE HOUSING MARKET AREA

5. Cotswold is one of six districts in Gloucestershire. It is the most easterly and has close links to Swindon, Oxfordshire and Wiltshire, with all of which it shares boundaries. In view of those linkages it is appropriate to review briefly the extent to which it is properly part of the Gloucestershire HMA rather than the HMAs of other adjacent authorities.

6. A key issue in determining whether an area is an appropriate one to consider as an HMA is the extent to which it is self-contained both in terms of house moves and employment. By the same token, one way of determining whether Cotswold fits best as part of the Gloucestershire HMA or some other HMA is to consider whether more of its house moves or in and out commuter journeys are to and from the rest of Gloucestershire or some other HMA.

7. Tables 1a and 1b below show the Census 2011 data for moves within the year before the census within and to and from Cotswold. As can be seen, moves within Cotswold itself dominate. There are more moves from Wiltshire into Cotswold than moves from Cheltenham but that is hardly a like for like comparison given the size of Wiltshire. If moves to and from the rest of Gloucestershire are compared with moves to and from both Oxfordshire and Wiltshire, the moves to and from the rest of Gloucestershire are larger by a factor of more than two. Moves to and from Swindon rank below moves to and from both Cheltenham and Stroud. It is therefore clear that on this measure Cotswold is a better fit with the rest of Gloucestershire than other counties or Swindon.

Table 1a: Moves within and into Cotswold

Address one year ago	
Cotswold	4,105
Wiltshire	412
Cheltenham	340
Stroud	277
Swindon	256
West Oxfordshire	225
Stratford-on-Avon	209
Wychavon	132
Tewkesbury	124
Gloucester	111
Rest of Gloucestershire	915
Oxfordshire	430

From ONS 2011 census table MM01CUK

Table 1b: Moves within and out of Cotswold

Address moved to in last year	
Cotswold	4,105
Cheltenham	419
Wiltshire	412
Stroud	329
Swindon	280
Stratford-on-Avon	198
West Oxfordshire	172
Wychavon	148
Gloucester	125
Tewkesbury	125
Rest of Gloucestershire	1,068
Oxfordshire	369

From ONS 2011 census table MM01CUK

8. Tables 2a and 2b present similar data from the 2011 census for in and out commuting. For inflows, the flows from Stroud are larger than those from either Wiltshire as a whole or Swindon. The flow out to Swindon is, however, larger than that to Cheltenham but less than half that to the rest of Gloucestershire. In terms of county flows, the flows in from and out to the rest of Gloucestershire are very much larger than those from and to both Wiltshire and Oxfordshire. Therefore on this

measure Cotswold is also a better fit with the rest of Gloucestershire than with any neighbouring HMA.

Table 2a: Commuter flows into Cotswold	
Stroud	2,334
Wiltshire	1,982
Swindon	1,776
Cheltenham	1,768
Wychavon	1,460
Gloucester	948
Tewkesbury	873
Stratford-on-Avon	786
West Oxfordshire	683
Forest of Dean	329
Rest of Gloucestershire	6,252
Oxfordshire	984

From ONS 2011 census table WU01CUK

Table 2b: Commuter flows out of Cotswold	
Swindon	1,915
Cheltenham	1,487
Wiltshire	1,398
West Oxfordshire	1,052
Stroud	957
Gloucester	796
Tewkesbury	687
Stratford-on-Avon	634
Westminster,City of London	418
Wychavon	382
Rest of Gloucestershire	4,074
Oxfordshire	1,911

From ONS 2011 census table WU01CUK

9. The overall conclusion is that Cotswold is appropriately considered as part of the Gloucestershire HMA rather than as part of any other HMA.

WHAT POPULATION SHOULD BE PLANNED FOR?

Introduction

10. The first step in preparing a demographic estimate of an area's objectively assessed needs (OAHN) for housing is to reach a view on the number of people to be planned for by age group and gender. This section takes as its starting point the most recent ONS population projections and considers whether they provide a prudent basis on which to plan.

The recent ONS population projections

11. There are two sets of ONS population projections which post-date the 2011 census:

    a. The *Interim 2011-based subnational population projections for England*[8] (2011 SNPP) which were published on 28 September 2012. They only cover the period 2011-21 and have a number of acknowledged weaknesses stemming from the fact that they were produced relatively quickly following the census, before the necessary data was available to update the trends on which they are based. As a result they can over-estimate births in some areas and either over- or underestimate population flows between local authorities. As they have been superseded by the 2012-based population projections they are not discussed further in this report.

    b. The latest ONS local authority level population projections are the *2012 Sub-national Population Projections for England* (2012 SNPP) which were published on 29 May 2014[4]. They take as their starting point the 2012 population estimates. They cover the period 2012 to 2037. Unlike the 2011-based interim projections, the 2012 SNPP involve a full re-working of the trends which are used to project population growth. However, there are two significant issues with these projections:

        i. The projections for flows between local authorities are estimated from data from the five years 2007-8 to 2011-12, a period which included a severe economic downturn, during which activity in the housing market and population flows between local authorities were generally depressed, although the effect varies considerably from authority to authority.

        ii. The projections ignore population changes which occurred between 2001 and 2011 which the ONS have not been able to attribute to any of the 'components of change' (births, deaths, and flows in and out, from and to the rest of the UK and abroad). For some authorities these 'unattributable population changes' (UPCs) can be large compared with the total population change between the censuses.

[8] Interim 2011-based subnational population projections for England, ONS, 28 September 2012, http://www.ons.gov.uk/ons/rel/snpp/sub-national-population-projections/Interim-2011-based/index.html

Not taking them into account may have introduced significant errors into some projections.

12. The ONS's 2014 Mid-year Estimates[6] (2014 MYE) were published on 25 June 2015 and provide the best available estimates of the population of local authorities at 30 June 2014. In some cases the population estimate is higher than that estimated in the 2012 SNPP and in other cases it is lower. This section also considers the consequences of the 2014 MYE for Cotswold.

13. The latest estimates for international migration[6] suggest that the net inflow to the UK in the year to 30 June 2015 was 336,000. This is about twice the level assumed in the 2012 SNPP. The implications of this for Cotswold also examined.

What the 2012-based population projections say

14. The 2012 SNPP suggests that the population of Cotswold will grow by 8.6% between 2011 and 2031. That is significantly below the growth rates projected for Gloucestershire as a whole (13.3%) and England (13.8%) – which seems strange for an area with a buoyant economy. See Chart 1 and Table 3 below.

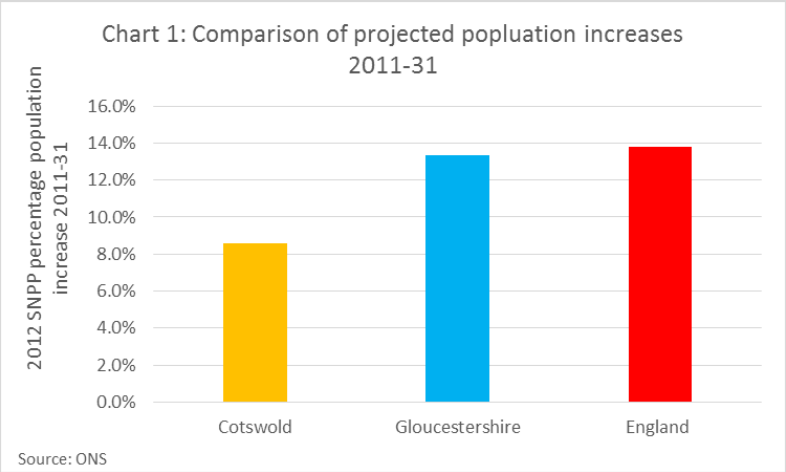


Table 3: Population increases: 2012 SNPP

	Cotswold	Gloucestershire	England
People	7100	79649	7311581
% change	8.6%	13.3%	13.8%

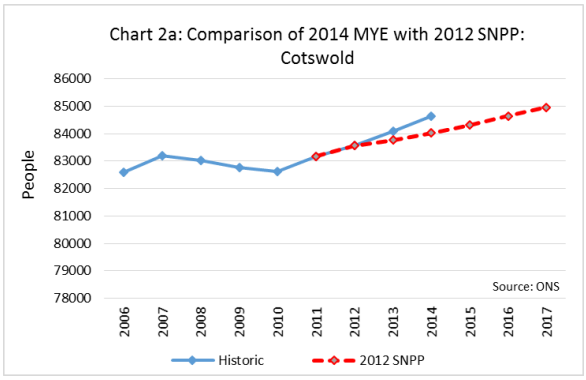
Source: ONS 2012 SNPP

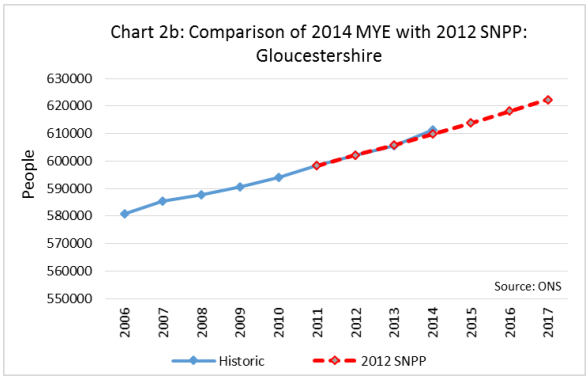
2014 Mid-Year Estimates

15. The 2014 Mid-Year Estimates (2014 MYE) provide the ONS's latest estimates of the population in each district at 30 June 2014 as well as estimates of the 'components

of change' (births, deaths and flows into and out of an area) that have caused the population changes in the year 2012-13 and 2013-14 (as well as earlier years). They therefore provide two year's data for the period covered by the 2012 SNPP and so give an initial indication of how close those projections are to what is actually happening. This should, however, be treated with some caution: what has happened in the first two years of a 25 year projection period is not necessarily a reliable indication of what is likely to happen over the period as a whole. The mid-year estimates are also subject to sampling error and other uncertainties[9].

16. The Charts 2a and 2b below show how the 2012 SNPP figures for Cotswold and Gloucestershire (dotted red lines) compare with the recent historical data including the mid-year estimates for 2013 and 2014 (solid blue lines). Note that the 2014 MYE for Cotswold is slightly higher than the 2012 SNPP projection although the difference is only 609 people or 0.72%. For Gloucestershire as a whole the MYE is closer to the 2012 SNPP projection, the difference being 0.25%.





Understanding how populations change

17. The future population of any area is simply the current population plus those who come less those who go. Those who come are those who are born in the area plus those who move in from outside. Those who go are those who die plus those who leave the area. It is helpful to divide arrivals and departures into those who come from or go to the rest of the UK and those who come from or go to other countries. This gives six 'components of population change':

- Births
- Deaths
- Arrivals from other parts of the UK – "UK flow in"
- Departures to other parts of the UK – "UK flow out"
- Arrivals from abroad – "international migration in"

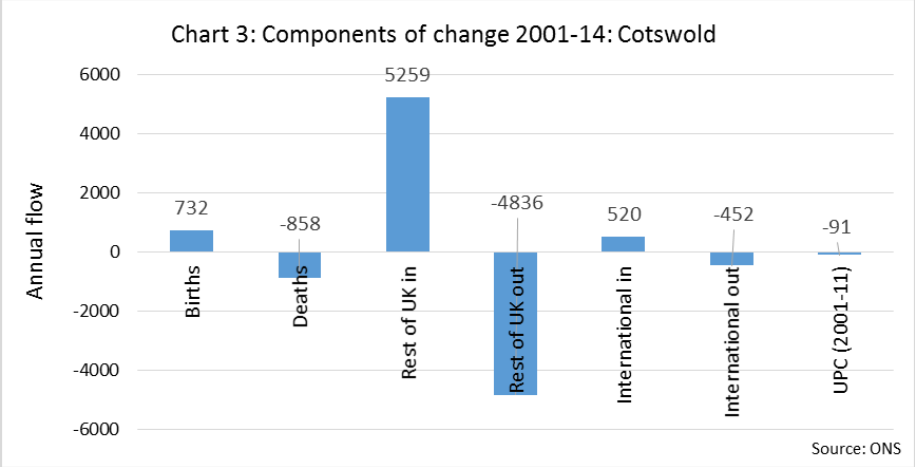
[9] In the Background notes to *Annual Mid-year Population Estimates, 2014* (paragraph 12) the ONS notes in relation to the national population estimates (which the local authority area estimates are constrained to be consistent with) that, "As the national population estimates rely on Census estimates of the population in 2011 and survey estimates of international migration since then, the population estimate will be affected by sampling error." There are also significant additional uncertainties at the local authority level due to the difficulties in determining the ultimate destinations of international in migrants; the origins of international out migrants and the estimation of flows between local authorities. Mid-year estimates become increasingly uncertain the further they are from the most recent census.

- Departures abroad – "international migration out"

Taking a view on the plausibility of a projected population change

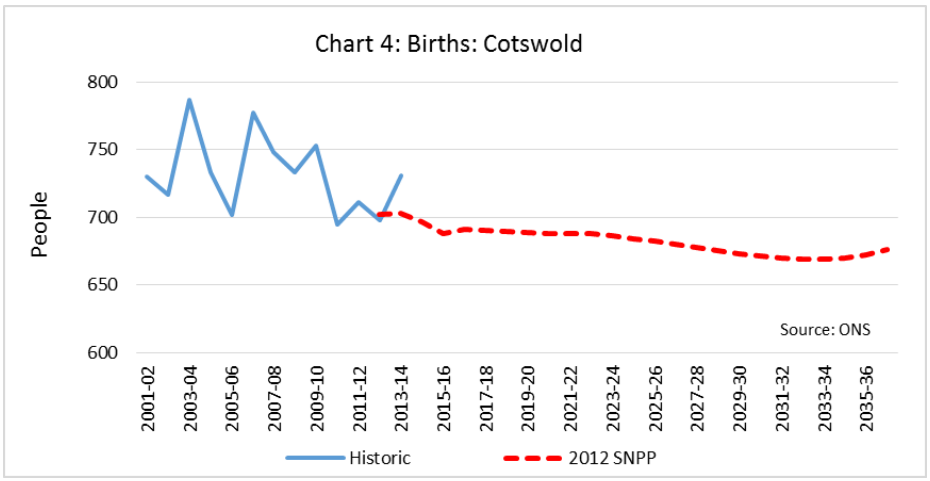
18. By examining each of the six components of change individually it is possible to take a view on how reasonable or otherwise the overall projection for the population of any local authority area might be. This can be done by comparing the projected flow with the recent past to assess how plausible it might be.

19. Chart 3 shows how the six components of change have contributed to the population changes which occurred in the district between 2001 and 2014. This gives an indication of the relative size of the flows. The flows to and from the rest of the UK are substantially larger than the other flows.



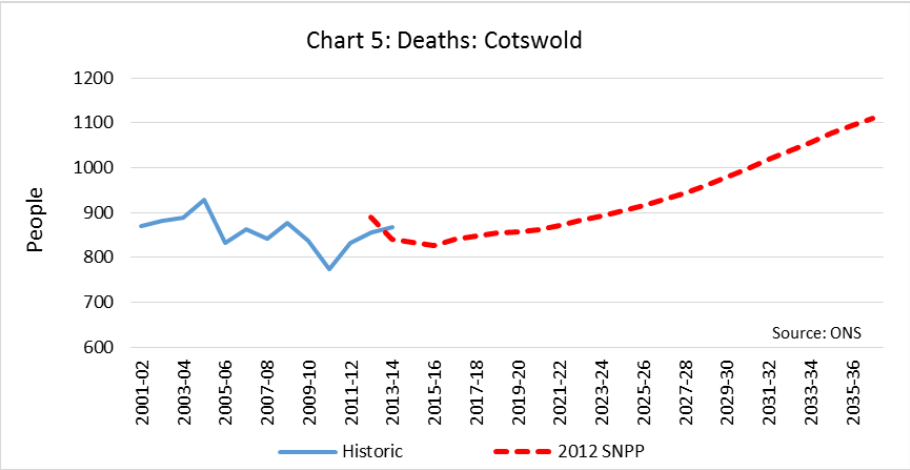
Births

20. Chart 4 compares the latest ONS projections for births with the historic data up to and including the 2014 MYE. The falling projection almost certainly reflects the ageing of the population of 2012. It fits reasonably well with the historic data so there is no case for adjusting this aspect of the projections.



Deaths

21. Chart 5 compares the latest ONS projections for deaths with the historical trends. The rising trend will again reflect the ageing of the population. There is no reason to question this aspect of the projections.



Flows to and from the rest of the UK

22. As already noted, the flows to and from the rest of the UK are by some way the largest of the six components of change. Unlike births, they have an immediate impact on the adult population of an area and therefore have significant implications for household numbers and housing requirements. This suggests that the projections in this area deserve careful attention.

23. There are two complicating factors: the data sources on which the trends are based (primarily GP registrations) are not of a high quality and, in the 2012 SNPP, the projected flows between local authorities in the UK were based on flow rates in the period 2007-12, a period which included the most severe economic downturn for more than a generation. For some authorities this latter factor will have had a significant impact on net flows, and hence the rate at which the population is projected to increase.

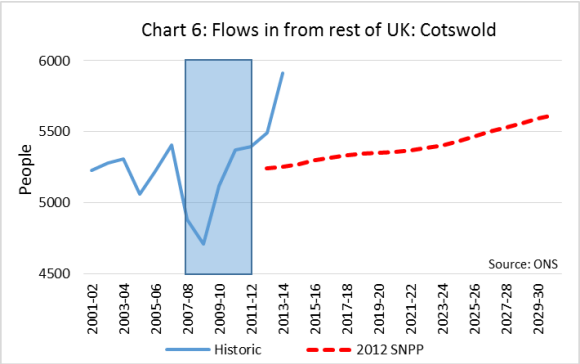
24. It can be argued that the appropriate course of action is to base the projections on either a 'typical' period or a longer period. A longer period would have the advantage of being less affected by economic or housing market cycles. This argument is particularly strong at a time such as this when the economy is recovering after a prolonged and deep recession. It is likely that flows will return to higher levels once more normal economic conditions return, although that is not to say that the years immediately before 2008 were typical or that those flow rates will necessarily occur again.

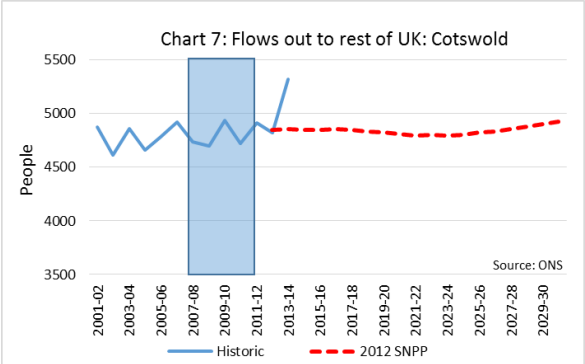
25. The ONS do not, however follow this approach in the official population projections: they base their trends on a recent five year period. This has the advantage of picking up changes in trends more quickly, but the disadvantage of potential distortions as a result of cyclical changes.

26. A key consideration is that, by definition, net internal migration flows between local authorities in the UK must sum to zero. This means that adjusting the projected net flow into an authority to reflect a longer trend period should be accompanied by compensating adjustments in the other direction for the authorities which are net exporters of people to that authority. Or, to put this another way, making this kind of adjustment would have the effect of moving a projected population increase between authorities, whilst keeping the overall UK population increase unchanged.

27. As the net UK flow is often a relatively small difference between two much larger gross 'in' and 'out' flows a small percentage change in either the projected 'in' or 'out' flow can result in a large change in the projected net flow. This in turn can have significant consequences for the projected change in population and hence the housing requirement.

28. Charts 6 and 7 compare the 2012 SNPP projections for inflows and outflows with the historical data. The trend period used by the ONS – 2007-8 to 2011-12 is highlighted in blue. Note that the inflow into Cotswold fell after 2006-7 but has recovered strongly since 2011-12. An inflow projection based on the ONS trend period would both be low compared with the ten year period to 2012 and would not reflect the increased flow since 2012. The outflows are rather different. There was no noticeable impact during the period 2007-8 to 2011-12 but a larger outflow in 2013-14.





29. The combination of reduced inflows in the trend period and little change in outflows will have resulted in projected net flows that are lower than they should be, leading to a smaller projected population increase than might have been expected. This suggests that there is a clear case for adjusting the projected flows to and from the rest of the UK to reflect a longer period than the rather unusual 5-year period used by the ONS. As the 2012 SNPP has 2012 as its base year, it could be argued that the natural choice would be the 10-year period running up to that base date i.e. 2002-12. However, using that period would be to disregard the evidence provided by the data for 2012-13 and 2013-14 which is now available from the 2014 Mid-Year Estimates (2014 MYE). It is therefore proposed to use the period 2004-14.

30. At the same time it makes sense to re-base the population projections so that they start from the population in the 2014 MYE as this is the ONS's best view of what the position actually was at that date. The population projections are produced by adding births and inflows to a base year position and subtracting deaths and

outflows to produce the next year's estimated population – and then repeating that process until the end of the projection period is reached. What re-basing does is replace the population estimate for 2014 that has been produced by the ONS by rolling forward from the 2012 SNPP's 2012 base population with the population estimate from the 2014 MYE and then rolling forward from those figures for the rest of the projection period.

31. There is a significant technical issue in adjusting the 2012 SNPP to reflect a different trend period. It is relatively straightforward to adjust the projected outflows as these are calculated by applying average flow rates from the chosen trend period to the projected future population (after adjustments for births and deaths in the year in question). The ONS does not, however, project inflows as such but instead projects the outflows from all local authorities in the country and allocates these to destination authorities in line with the historical pattern of flows. The projected inflow into a local authority is the sum of the proportions of the projected outflows from all 325 other local authorities plus Wales, Scotland and Northern Ireland that are expected to have that authority as their destination. It is therefore impractical to replicate exactly what the consequences would have been of the ONS using the period 2002-12 as their trend period rather than 2007-12: an approximation needs to be made.

32. The approach used is to express the annual historic inflows in each year of age and gender group as a percentage of the population of the rest of the UK in that year of age and gender group to produce a flow rate. The average flow rates for the periods 2007-12 and 2004-14 are then calculated. The average 2004-14 rate is expressed as a percentage increase or decrease compared with the average 2007-12 rate and that increase or decrease is used to adjust the projected inflows in the 2012 SNPP. For example, if the average inflow rate for 2004-14 was 5% higher than the average rate for 2007-12, then the inflows projected by the ONS would be uplifted by 5%, that percentage being regarded as a proxy for the higher flow rates the ONS would have calculated had it used 2004-14 as its trend period. Other approaches could be used to make this adjustment. They each have their advantages and disadvantages. The impact of some of the alternative approaches is explored in the chapter on sensitivity analysis.

33. Table 4 below sets out the results of adjusting flows to and from the rest of the UK to reflect the period 2004-14 and re-basing the projection to the 2014 MYE population estimates.

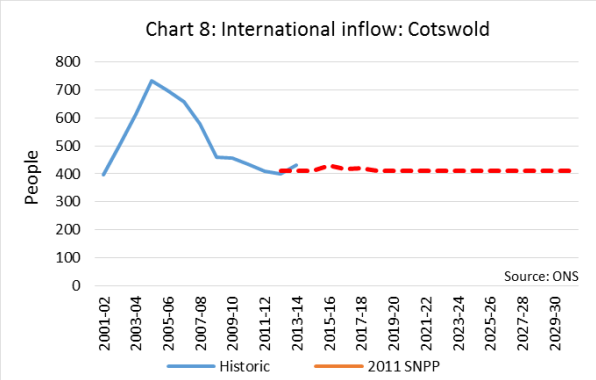
Table 4: Impact of adjusting UK flows and re-basing to 2014 MYE

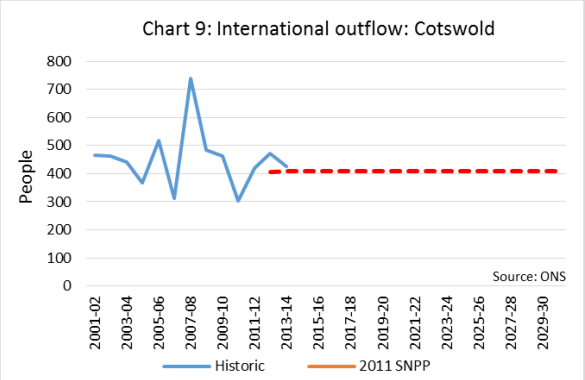
Change 2011 - 2031		**Population**
A	**2012 SNPP**	**7145**
B	*Adjustment for 2014-14 flows + re-basing*	*2522*
C	**2004-14 UK flows + re-basing to 2014 MYE**	**9667**

34. As can be seen, the impact of these adjustments is substantial. The 2012 SNPP projection for the population increase between 2011 and 2031 – 7145 – is increased by 2522, an increase of 35%.

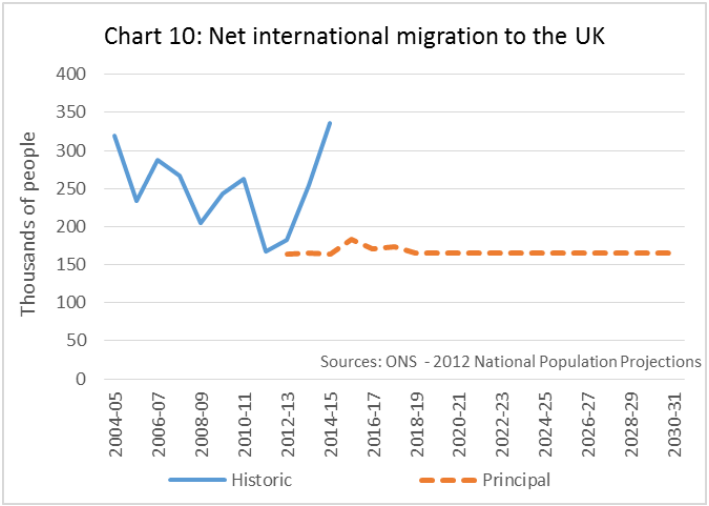
International flows

35. Charts 8 and 9 below compare the 2012 SNPP projections for international in and outflows with the historic data up to and including the 2014 MYE.





36. In both case the projections fit reasonably well with the actual flow over the last 5 years but are low compared with the flows before the economic downturn. However, the projections are not based directly on the historic local flows but on allocating the 2012-based National Population Projections[10] between all of the authorities in England. This means that the projected flows to and from each authority depend on the national projections and how they are envisaged to change over the plan period. Chart 10 compares the latest data with the 2012-based projections. As can be seen, the latest figures (for the year to June 2015) are about twice the ONS's principal projection.



37. As the chart shows, there is an increasing discrepancy between the projection and what has happened in the last two years for which data is available. Whilst two years' data is not necessarily a reliable indicator of what is likely to happen over the 20 year plan period, with the increasing size of the discrepancy the case for making

[10] See *National Population Projections, 2012-based Statistical Bulletin* published on 6 November 2013 and available at http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2012-based-projections/stb-2012-based-npp-principal-and-key-variants.html#tab-Introduction

some adjustment to the projected international flows at the local authority level has become stronger. It became unanswerable when the ONS itself adjusted its net migration assumption upwards in the 2014 National Population Projections[11]. The 2014-based projections increase the long-term annual international migration assumption for the UK from 165,000 to 185,000. The equivalent figures for England are 150,000 to 170,500.

38. One option for adjusting the international flow projections would be to scale up the in and outflows to reflect the 'high migration scenario' presented by the ONS with their 2012 National Population Projections. However, this would apply uniform adjustments to all authorities when different authorities have been affected differently.

39. A better approach would be to adjust the international flows to reflect the latest 10-year average international flows into and out of each authority i.e. the flows over the period 2004-14. Table 5 shows the impact which this has. It is much smaller than the adjustment for flows to and from the rest of the UK, the increase being 661 people over the period 2011-31 or 7%. See Rows D and E in Table 5.

Table 5: Impact of adjusting for 10-year international flows

Change 2011 - 2031		**Population**
A	**2012 SNPP**	**7145**
B	*Adjustment for 2014-14 flows + re-basing*	*2522*
C	**2004-14 UK flows + re-basing to 2014 MYE**	**9667**
D	*Adjustment for 2004-14 overseas flows*	*661*
E	**MYE + 2014-14 UK + overseas flows**	**10327**

Unattributable Population Change (UPC)

40. If all of the data were completely accurate the population in one census plus the cumulative effect of the components of change in the intervening years would equal the population counted in the next census. That is not the case: there is a discrepancy known as the 'Unattributable Population Change' (UPC). At the national level the discrepancy was 103,700 people between the 2001 and 2011 censuses. That is not a large number in the context of England's population of 53 million in 2011, only 0.2%. It is, however, 2.8% of the population change between the two censuses and that is arguably the more relevant comparison.

41. At the local authority level UPC can be much larger proportionately. There are 28 English local authorities for which the total UPC over the period 2001-11 is more that 5% of the population in 2011 and 83 for which the average UPC is more than 50% of the average population change between 2001 and 2011. A discrepancy of that size is highly significant in estimating population changes.

[11] See the Migration Assumptions section of, *National Population Projections, 2014-based projections*, ONS, 29 October 2015 available at http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2014-based-projections/rpt-5-migration-assumptions.html#tab-International-migration-assumptions

42. It is not thought likely that there are significant errors in the estimation of births and deaths as we have effective registration systems for both. That leaves three possible causes of UPC:

- International migration estimates
- Flows within the UK
- Census estimates in both 2001 and 2011

43. The ONS considered the arguments for and against taking UPC into account in its 2012 sub-national population projections and decided not to. The main reasons were that:

a. It is unclear what proportion of UPC is due to errors in the 2001 and 2011 censuses and what proportion is due to errors in the components of change. Insofar as the errors are in either the 2001 and 2011 censuses they will not affect projections based on trends in the components of change.

b. If UPC is due to international migration, the biggest impacts will have been during the earlier years of the decade as significant improvements in the migration estimates were made in the latter part of the decade.

44. For Cotswold UPC for the period 2001-11 was -908 or -33% of population change suggested by the 2001 and 2011 censuses. This means that the ONS estimates of births, deaths and flows in and out taken together exaggerate the population change the 2001 and 2011 censuses by a third. This is a substantial discrepancy.

45. The ONS publishes[12] 95% confidence intervals[13] for its census population estimates. For Cotswold these were 1.1% for the 2001 census and 1.09% for the 2011 census, implying an uncertainty of +/- 884 in the 2001 census and +/- 908 in the 2011 census. It is therefore possible that all of the UPC of 908 may have been entirely due to errors in the two census population estimates and none of it to errors in the estimates made of the components of change. If this is the case UPC would not have affected the population projections. The assumption at the other end of the spectrum is that all of UPC was due to errors in the components of change. That is equally unlikely. Given the uncertainty a prudent approach would be to make an allowance for 50% of UPC having affected the projections and then use sensitivity analysis to test the implications of the actual position being either 0% or 100%.

46. It should be acknowledged that this approach is different from that adopted in the October 2014 NMSS Report. In that report the analysis erred (doubly) on the side of over-estimating the projected population by including a 100% adjustment for UPC but only where that adjustment had the effect of increasing the projected population. It is now clear that that is an excessively cautious approach, particularly for authorities with significant negative UPCs. This revised view has been given

[12] http://www.ons.gov.uk/ons/guide-method/census/2011/census-data/2011-census-data/2011-first-release/first-release--quality-assurance-and-methodology-papers/census-confidence-intervals.xls

[13] A 95 per cent confidence interval is a range within which the true population would fall for 95 per cent of all possible samples that could have been selected.

greater weight recently by the interim findings of the Inspector examining the Swale Local Plan in which she endorses that authority's analysis which makes an allowance for negative UPC[14]. This has the effect reducing their OAN by 24 dwellings a year[15].

47. Table 6 shows effect of making a 50% UPC adjustment (see Row F and G). The impact is to reduce the projected population increase 2011-31 by 489 or 5%.

Table 6: Impact of adjusting for 50% UPC		
Change 2011 - 2031		**Population**
A	**2012 SNPP**	**7145**
B	*Adjustment for 2014-14 flows + re-basing*	*2522*
C	**2004-14 UK flows + re-basing to 2014 MYE**	**9667**
D	*Adjustment for 2004-14 overseas flows*	*661*
E	**MYE + 2014-14 UK + overseas flows**	**10327**
F	*Adjustment for 50% UPC*	*-489*
G	**MYE + 2014-14 UK +overseas flows + 50% UPC**	**9839**

Conclusions on the population to be planned for

48. It is proposed that three adjustments should be made to the ONS's 2012-based Sub-national Population Projection for Cotswold to reflect both weaknesses in those projections and the latest evidence available from the 2014 Mid-Year Estimates and the most recent international migration statistics.

49. The proposed adjustments are shown in Table 6 (above):

    a. The ONS's 2012 Sub-national Population Projections (2012 SNPP) use 2007-12 as the trend period for projecting flows to and from the rest of the UK. That period encompassed the economic downturn during which flows into Cotswold were lower than in earlier years. This is likely to have caused an underestimation of future net flows into the district and a lower population projection than the longer term trend would suggest. Adjusting to reflect flows in the latest 10-year period for which data is available (2004-14) provides a better view of likely future flows as the impact of the atypical flows during the recession is balanced by the higher flows in earlier years and weight is given to the flows that have been seen since the downturn. At the same time it makes sense to adjust the projections (re-base them) so that they reflect the ONS's estimate of the actual population in 2014 rather than the projection made for that year in the 2012 SNPP. The effect of this set of adjustments is to increase the projected population increase between 2011

[14] *Inspector's Interim Findings – Part 2,* 4 February 2016, see http://archive.swale.gov.uk/assets/Planning-General/Planning-Policy/Evidence-Base/Interim-Findings-2016/ID9c-Final-04022016.pdf

[15] *Note on Unattributable Population Change*, 18 November 2015, see http://archive.swale.gov.uk/assets/Planning-General/Planning-Policy/Evidence-Base/Local-Plan-2014/Examination-documents/SBCEX04-Note-on-Swale-UPC.pdf

and 2031 from 7145 in the 2012 SNPP to 9667, an increase of 2522 or 35%. (Rows B and C)

b. Net international migration into the UK is currently about twice that assumed by those who compiled the 2012 SNPP. There is a strong case for adjusting those projections to reflect this, not least because the ONS have themselves subsequently revised upwards their national projection for net migration into the UK. To avoid giving undue weight to only two years' figures whilst reflecting what has actually happened in Cotswold it is proposed that the international flows should be adjusted to reflect average flows over the latest 10-year period for which data exists i.e. 2004-14. This increases the projected population increase between 2011 and 2031 by 661 or 7%, lifting the projected increase from 9667 to 10,327. (Rows D and E)

c. It is debatable whether the projections should make an allowance for Unattributable Population Change (UPC). The ONS made no such allowance in the 2012 SNPP. However, earlier analysis for the Stroud, Cotswold and the Forest of Dean took the view that it was appropriate to err on the side of caution to avoid any possibility of underestimating the population to be planned for. It had therefore assumed that for the authorities for which UPC was positive all of UPC would have contributed to future population increases and that where UPC was negative (as in Cotswold) no adjustment should be made. This assumption was at the other extreme of the range from the ONS's assumption (that none of UPC would have contributed to future population increases). The likelihood is that the actual position will lie somewhere between the two extremes. As there is no way to determine where in the range is most likely, the mid-point has been used. This revised view has been given greater weight recently by the interim findings of the Inspector examining the Swale Local Plan in which she endorses that authority's analysis which makes an allowance for negative UPC. The effect is to reduce the projected population increase of Cotswold by 489 or 5%, from 10,327 to 9,839. This is, therefore, a small offset to the increases caused by the other two adjustments.

50. The overall effect of these adjustments is to increase the 2012 SNPP's projection for the increase in the population of Cotswold over the plan period of 7,145 to 9839, an increase of 2694 or 38%.

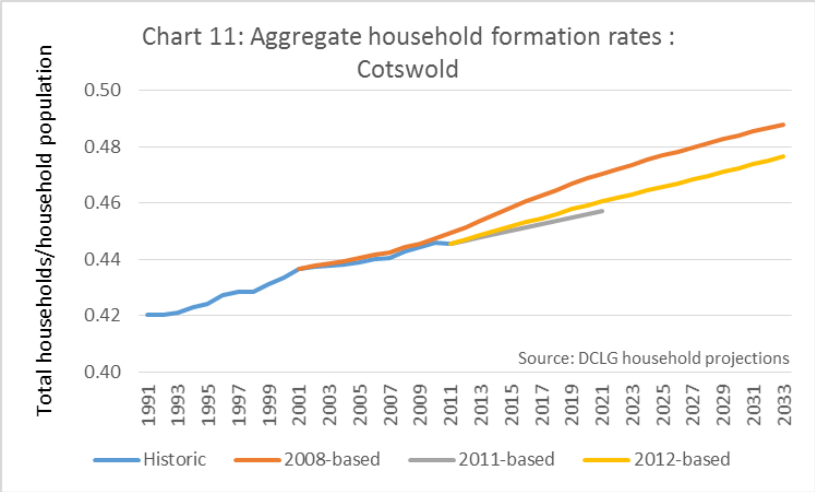
HOW PEOPLE ARE LIKELY TO GROUP THEMSELVES INTO HOUSEHOLDS

The household projections

51. The assumptions made about how people will group themselves together into households are crucial in estimating the number of homes needed. The key issue is whether household formation patterns will revert to the earlier trend towards smaller average household sizes or will the economic downturn, a long period of deteriorating housing affordability and other factors have caused a permanent change?

52. There are three recent DCLG household projections that are of some relevance: those with base dates of 2008, 2011 and 2012. The 2008-based projections, in effect, predate the economic downturn and are taken by some as broadly indicative of the previous longer term trend, although there are good reasons to believe that they were optimistic even from the standpoint of the time when they were formulated. The 2011-based projections were produced following the 2011 census and take some account of census data which generally found fewer households than had been envisaged in the 2008-based projections, suggesting that household formation patterns had departed from the previous long term trends. The 2012-based projection are the first full set of projections following the 2011 census and take much fuller account of that census.

53. Chart 11 summarise the view these projections take of the likely direction of travel of household formation rates in the Cotswold area.



54. Note that:

a. Unlike many other areas, household formation rates continued to rise between 2001 and 2011, albeit at a slower rate than previously.

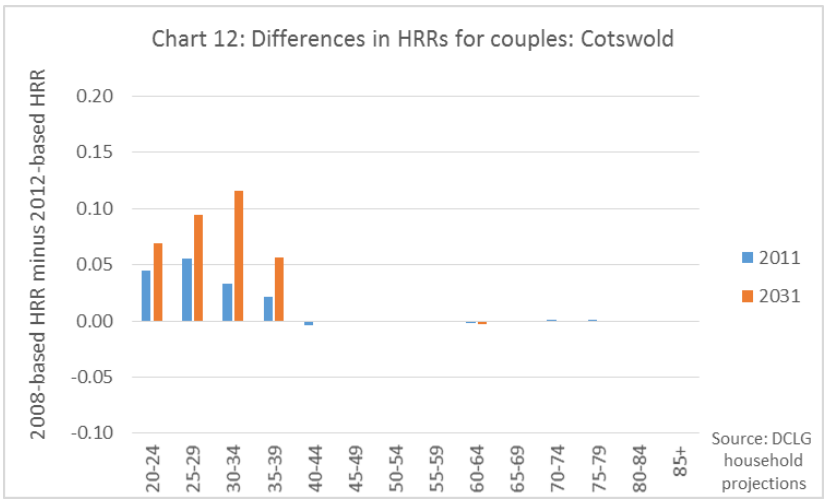
b. The difference between the 2008-based projection for the years between the censuses and what we now believe to have happened is relatively small – again unlike many other areas.

c. The most recent projections, the 2012-based set, envisage faster increases in household formation rates than the 2011-based projections.

d. The 2012-based projections envisage that aggregate household formation rates will return to rates of growth which are broadly comparable to those envisaged in the 2008-based projections (as can be seen from the way in which the yellow line for the 2012-based projections moves to become roughly parallel to the brown line for the 2008-based projections).

Will household formation rates move towards those in the 2008-based projections?

55. The key issue is whether or not it should be assumed that household formation rates will not just return to rates of growth similar to those envisaged in the 2008-based projections but will also catch up some or all of the lost ground relative to those earlier projections. As Cotswold is a little different from the typical authority in terms how the 2012-based projections compare with the 2008-based projections it is necessary to examine those differences in some detail in order to understand what is happening and give an informed answer to this question. This means looking at the projections for the individual 5-year age groups for each of the 5 marital status groups used by DCLG in its Stage 1 projections[16]. As there are 75 of these, the challenge is to find a way to see the whole picture. Charts 12-16 attempt to do this. They show for each group the difference between the 2008-based household formation rate and the 2012-based rate in both 2011 and 2031. A positive number implies that the 2008-based rate is higher than the 2012-based rate.



[16] It is necessary to use the Stage 1 projections for the 5 marital status groups as the alternatives – using the Stage 2 headship rates or the 'all marital status' HRRs for the 5-year age groups combine changes due to differences in the assumptions made about marital status splits and the projections made for the future tendency of each group to set up separate households. So, for example, if the 2012-based Stage 1 HRR for those aged 60-64 is lower than the HRR for the same group in the 2008-based projection this might be because there are assumed to be a higher proportion of couples in the 2012-based projection or it might be because the 2012-based HRRs for some or all of the marital status groups are lower – or both. Only by separating out the individual marital status groups is it possible to see what is happening.

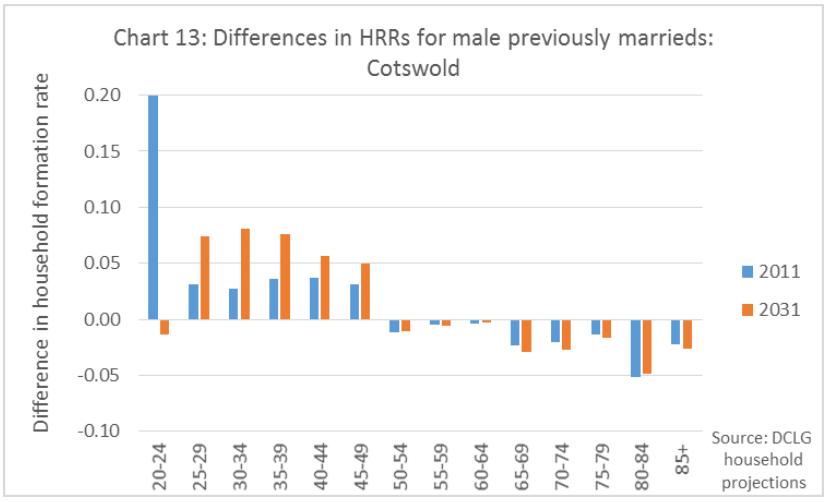


Chart 13: Differences in HRRs for male previously marrieds: Cotswold
Difference in household formation rate
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
85+
2011
2031
Source: DCLG household projections

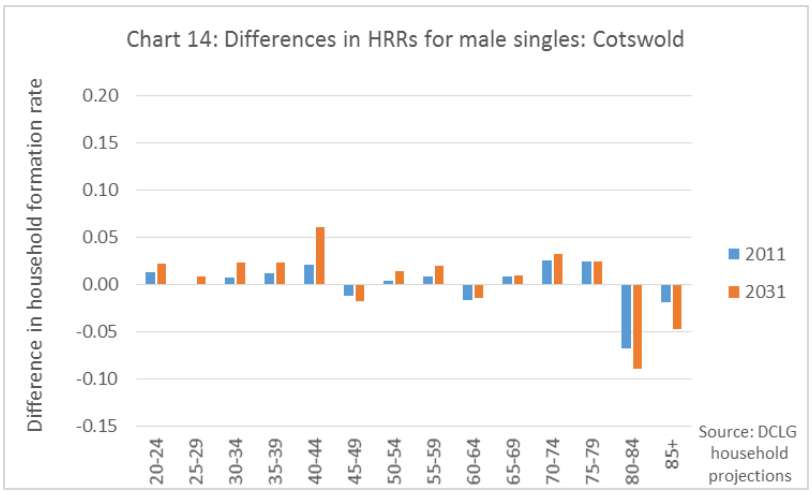


Chart 14: Differences in HRRs for male singles: Cotswold
Difference in household formation rate
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
85+
2011
2031
Source: DCLG household projections

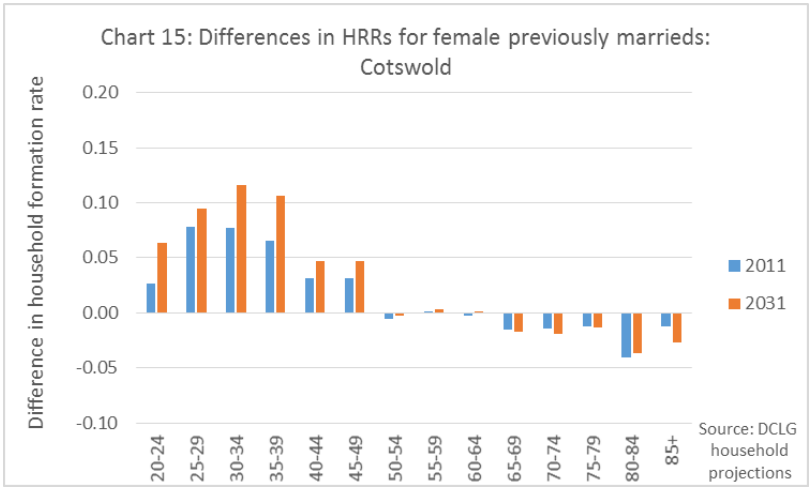
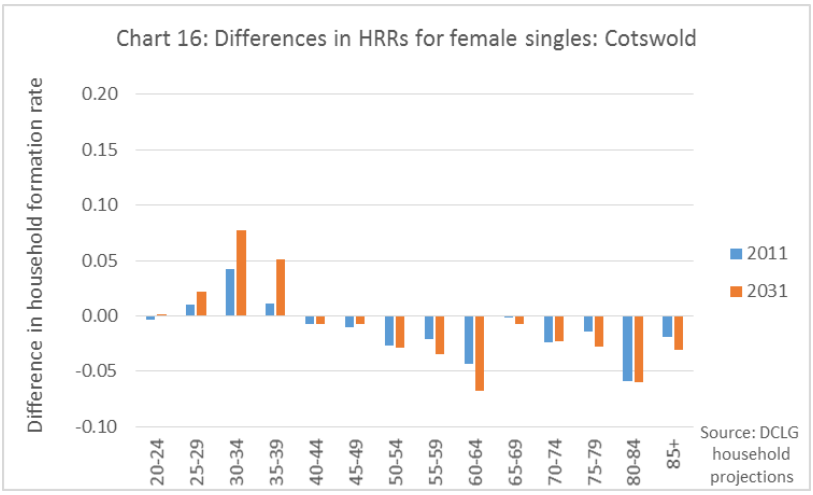


Chart 15: Differences in HRRs for female previously marrieds: Cotswold
Difference in household formation rate
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65-69
70-74
75-79
80-84
85+
2011
2031
Source: DCLG household projections



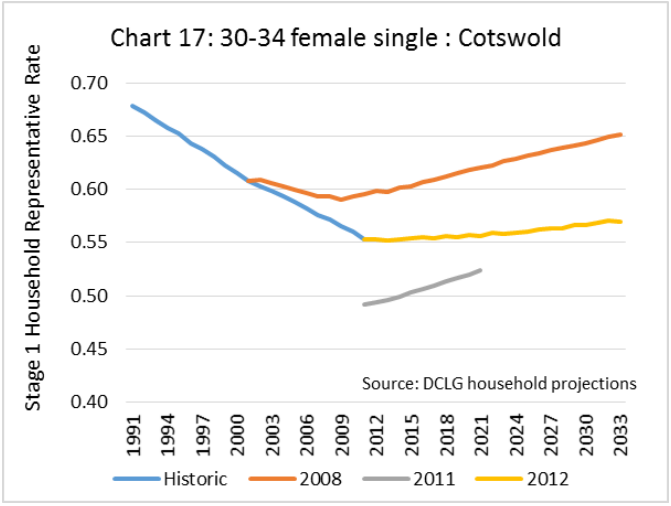
56. In the above charts there are both elements that follow the 'standard' pattern and some significant differences:

    a. For younger age groups the 2012-based HRRs are lower than the 2008 ones. The age up to which this applies varies between marital status groups and the differences are small for single men.

    b. For couples there are no significant differences for those aged over 40. This is because for these age groups the HRR is for all practical purposes 1 in both the 2008 and 2012-based projections i.e. all couples over 40 are assumed to have their own, separate household.

    c. For both single women and previously married men and women, older age groups have **higher** HRRs in the 2012-based projection than in the 2008-based projections. This is a very significant aspect of the Cotswold projections.

57. It may help to illustrate this with some examples of particular groups. Chart 17 shows the projections for 30-34 year old single women.

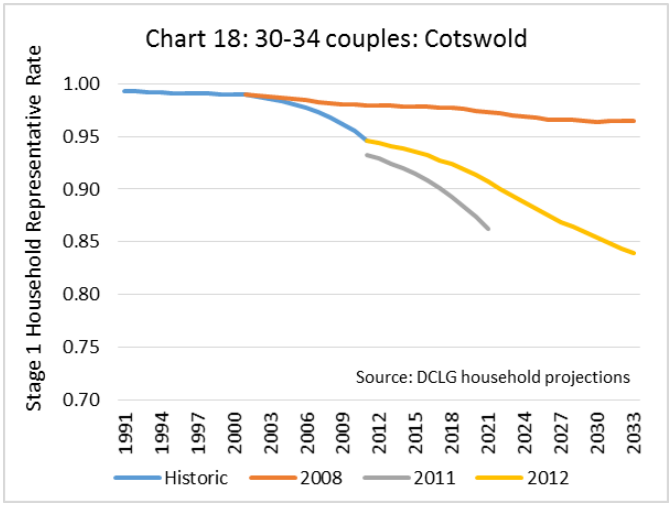


58. This is a fairly typical pattern with the historic data suggesting that there has been a steady decline in the household formation rates of this group since at least 1991. Note also that:

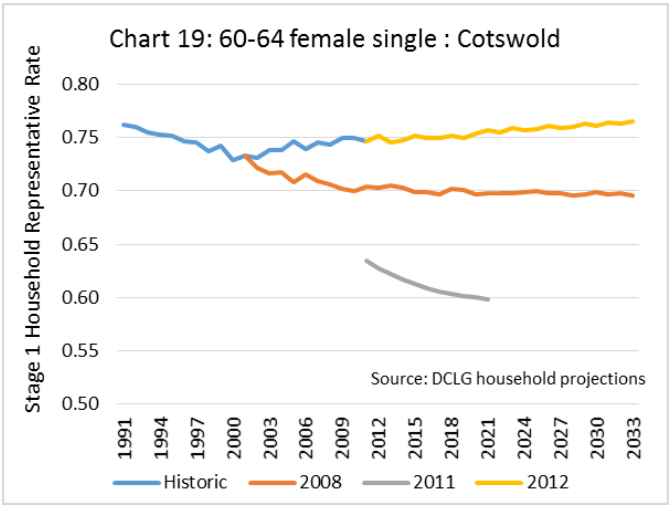
a. The actual HRR in 2008 was lower than assumed in the 2008-based projection i.e. the 2008-based projection started from too a high a point.

b. The 2011-based projection seems to bear little relation to the historic data – a further indication that it is no longer a useful indicator.

59. Chart 18 shows the HRRs for couples aged 30-34. Again the pattern is a fairly standard one. Note that even the 2008-based projection envisaged a falling HRR. The 2012-based projections suggest that the fall will be faster, albeit not as fast as that in the 2011-based projection. This may not be what one would hope to see as it implies that more and more couples in this age group will not be setting up a home of their own but living in someone else's household. That, however, does not mean that it is not what is likely to happen.



60. Chart 19 is for single women aged 60-64. This is a reversal of the 'standard pattern'. The 2012-based HRR was higher than the 2008-based HRR in 2011 and is projected to grow faster than the 2008-based rate.



61. It should be noted that, owing to the number of older age groups for which the 2012-based projections envisage higher household formation rates, a scenario that assumes that the household formation rates for all age groups move to the 2008-based rates produces a **lower** household growth and housing need estimate than a scenario that assumes that this happens just for households aged 25-44.

62. The overall conclusion from this analysis is that there is a significant distinction between younger and older households. For many older age groups a move towards the 2008-based household formation rates would mean lower rates than envisaged in the 2012-based projection. This is hardly consistent with the hypothesis that the household formation rates in the 2012-based projections are suppressed. It therefore seems reasonable to conclude that such a move is unlikely. For younger age groups the 2012-based HRRs are lower than the 2008-based rates and whether a move towards the 2008-based rates is likely depends on understanding what has been happening in these age groups.

63. There are two reason for believing that a return towards the 2008-based household formation rates is unlikely in these younger age groups:

a. The 2008-based household formation rates were optimistic even when they were first issued.

b. The departure from the earlier trend in household formation rates which occurred between 2001 and 2011 was not primarily due to the economic downturn but to other factors, most of which are unlikely to reverse.

2008-based household formation rates optimistic

64. There are a number of reasons for believing that the 2008-based household formation rates were optimistic for the younger adult age groups.

a. As already noted, their starting point was a pattern of household formation rates in 2008 that we now believe to have been too high. (See Charts 17 and 18 above).

b. The DCLG at the time discounted some evidence which suggested that their projections were too high. This included evidence from the Labour Force Survey and on cohort effects (which were ignored by the methodology used).

c. The projections did not take into account the significantly higher numbers of new international migrants in the first decade of this century. This impacts on headship rates as recent international migrants tend to live in larger households (i.e. they have a lower propensity to form separate households) than the rest of the population of a similar age.

Reasons for the departure from the earlier household formation rate trends

65. There are a number of reason for believing that the departure from the earlier household formation rate trends began well before the economic downturn and as

such is unlikely to be reversed as a result of the economy emerging from recession. These have been summarised by Professor Simpson writing in the TCPA Journal in December 2014[17]. In that article he argues that, "The causes of reduced household formation are varied, began before the recession, and mostly are likely to continue with or without recession". He refers to:

a. "…a sustained increase among young people not leaving home" which began at the turn of the century and accelerated after 2008;

b. " …the introduction of student fees from 1998"

c. "…the increase in precarious employment, including the rapid growth of part-time work…."

d. "The long term increase in the number of childless women…which increased the number of smaller households, stopped and has fallen since 2000."

e. "Increasingly older formation of couples or families, which had increased the number of single person households in the 1980s and 1990s, has levelled out since 2001."

66. Whilst it is possible that some of these factors may change, that does not seem very likely. Professor Simpson suggests that the first three, "…appear at the moment as fixed circumstances of the policy and economic environment."

67. Professor Simpson concludes that, "…we are not in a position to expect further increases in household formation rates of the same kind [as suggested in the 2008-based projections]…..The future in the UK is likely to be a continuation of precarious household formation. It will probably be lower than once projected and carry more uncertainty…."

68. It might also be noted here that there are a number of factors such as increasing levels of student debt and welfare reform that are likely to serve to reduce further household formation rates. These will not have been reflected in the 2011 census or the 2012-based household projections.

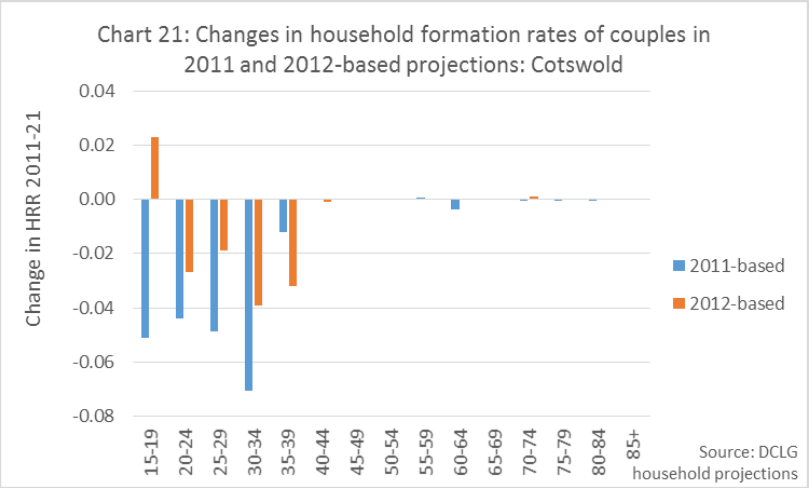
Why not assume a partial return to 2008-based rates for at least the 25-34 year olds as in the October 2014 NMSS Report?

69. The short answer to this question is, "because the 2012-based projections are very different from the 2011-based projections".

70. It should be noted that the 2011- based were labelled in their title as "interim" projections. DCLG were fully aware that they were a stop-gap measure and for that reason they only extend to 2021 and not the 25 years of a full set of projections such as the 2012-based set.

[17] Professor Simpson is Professor of Population Studies at the University of Manchester and is the originator and designer of Popgroup. His article in the December 2014 TCPA Journal, "Whither household projections", was referred to in paragraph 15 of the NMSS Update Report of July 2015.

71. One aspect of particular concern with the 2011-based projections was the way in which they envisaged sharp and continuing fall in household formation rates for some young adults. Such falls have been much reduced in the 2012-based projections. See Chart 21 which compares the projected changes in household formation rates between 2011 and 2021 in the 2011 and 2012-based projections.



72. Faced with such large projected declines in household formation rates for young adults in the 2011-based projections it was reasonable to conclude that this aspect of the projections had been influenced by something that was unlikely to continue (although it was not, and is not, possible to link the projected falls to any particular cause).

73. The falls in the household formation rates of some younger age groups are part of an overall projection that envisages average household formation rates rising (and average household sizes falling). The issue is not that setting the OAN in line with the 2012-based household projection would necessarily lead to falling household formation rates: on the contrary more homes would be provided than would be needed to allow household formation rates to be maintained for all groups. The issue is that the projections suggest a combination of behavioural factors, external influences (such as welfare reform and student debt) and differences in purchasing power are likely to mean that that older groups will acquire a disproportionate proportion of the additional homes, with the result that younger age groups have lower household formation rates. Although this may not be a particularly desirable outcome, it is the likely outcome, without a significant policy intervention (which would takes us into the realms of 'policy on' scenarios which should not be considered when estimating an OAN).

Conclusion on household formation rates

74. The conclusion from the above analysis is that there is no case for adjusting the household formation rates in the 2012-based household projections.

Empty and second homes

75. To turn an estimate of the net number of additional households into an OAHN assumptions need to be made about the proportion of the housing stock that will either be empty or used as second homes. The assumptions used have been based on 2011 data[18] as set out in Table 7.

Table 7: Vacant and second homes				
	A	B	C	D = (A+B)/C
	Second homes[1]	Vacant homes[2]	Number of homes[3]	Percentage vacant or second homes
Cotswold	1540	1076	39940	6.55%

1. Second homes data from 2011 Council Tax data base

2. Vacant homes from DCLG Live Table 615

3. Number of homes in from DCLG Live Table 125

The demographic OAN

76. Applying these empty and second homes rates and the DCLG 2012 household formation rates to the proposed planning assumptions for population growth in estimated in the previous section produces the following estimates of demographic OAN. Note that the numbers have been rounded to avoid suggesting spurious accuracy.

Table 8: Demographic OAN of Cotswold			
Change 2011 - 2031	**Population**	**Homes**	**Homes/yr**
Population based on 2012 SNPP	**7100**	**5900**	**290**
Demographic OAN	**9800**	**6800**	**340**

[18] 2011 data has been retained as it has been suggested that with the reduction in discounts for second homes and empty properties fewer owners are notifying authorities that their properties are empty or used as second homes. The sources used are:

- Vacant homes from DCLG Live Table 615 available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/423184/LT_615.xls
- Dwelling Stock numbers from DCLG Live Table 125 available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/423183/LT_125.xls
- Second homes from: Council Taxbase local authority-level data 2011 available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69898/2011_Local_Authority_level_data.xls

ADJUSTMENTS TO REFLECT 'OTHER FACTORS'

77. The PPG advises:

> *"The household projection-based estimate of housing need may require adjustment to reflect factors affecting local demography and household formation rates which are not captured in past trends. For example, formation rates may have been suppressed historically by under-supply and worsening affordability of housing. The assessment will therefore need to reflect the consequences of past under delivery of housing. As household projections do not reflect unmet housing need, local planning authorities should take a view based on available evidence of the extent to which household formation rates are or have been constrained by supply."*[19]

Market signals

78. More specifically those planning for housing are expected to take account of 'market signals':

> *"The housing need number suggested by household projections (the starting point) should be adjusted to reflect appropriate market signals, as well as other market indicators of the balance between the demand for and supply of dwellings. Prices or rents rising faster than the national/local average may well indicate particular market undersupply relative to demand."*[20]

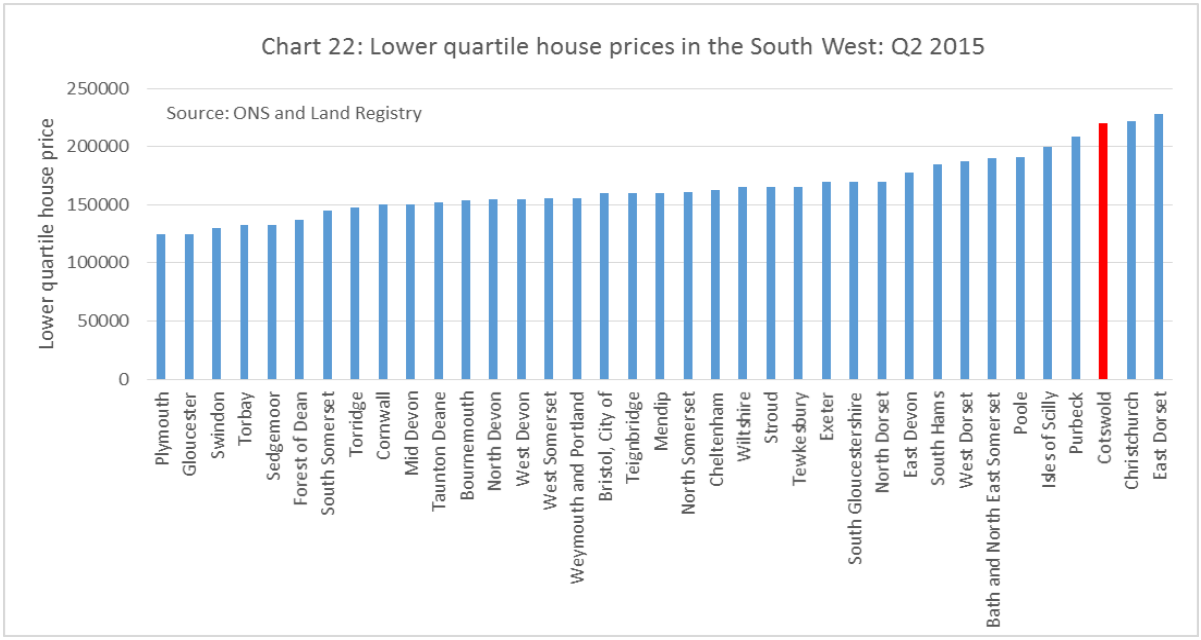
79. The reference to 'prices or rents rising faster than the national/local average' is important. Higher prices than in other areas may not necessarily indicate a particular problem but may simply reflect the mix of housing in an area or particular features which are thought desirable such as proximity to transport links, city centres, attractive countryside etc. For example, prices in central London are always going to be higher than elsewhere given the value those renting or buying homes attach to a central location – advantages that are inevitably limited to a finite number of properties no matter how adequate the supply of homes is in London as a whole. On the other hand, prices rising faster than other areas may indicate a supply problem. This is reinforced by the Planning Advisory Service's (PAS) recent technical advice note on Objectively Assessed Needs and Housing Targets[21] which advises at paragraph 7.13 that, "Proportional price change is generally a better indicator than absolute price, because a comparatively high price may indicate either comparatively high demand (an attractive area, better housing stock) or low supply (possibly due to planning). But if prices in an area are rising faster than elsewhere, this suggests that

[19] Planning Practice Guidance, Paragraph: 015 Reference ID: 2a-015-20140306
[20] Planning Practice Guidance, Paragraph: 019 Reference ID: 2a-019-20140306
[21] Objectively Assessed Need and Housing Targets: Technical advice note, Second edition, July 2015, Planning Advisory Service http://www.pas.gov.uk/documents/332612/6549918/OANupdatedadvicenote/f1bfb748-11fc-4d93-834c-a32c0d2c984d

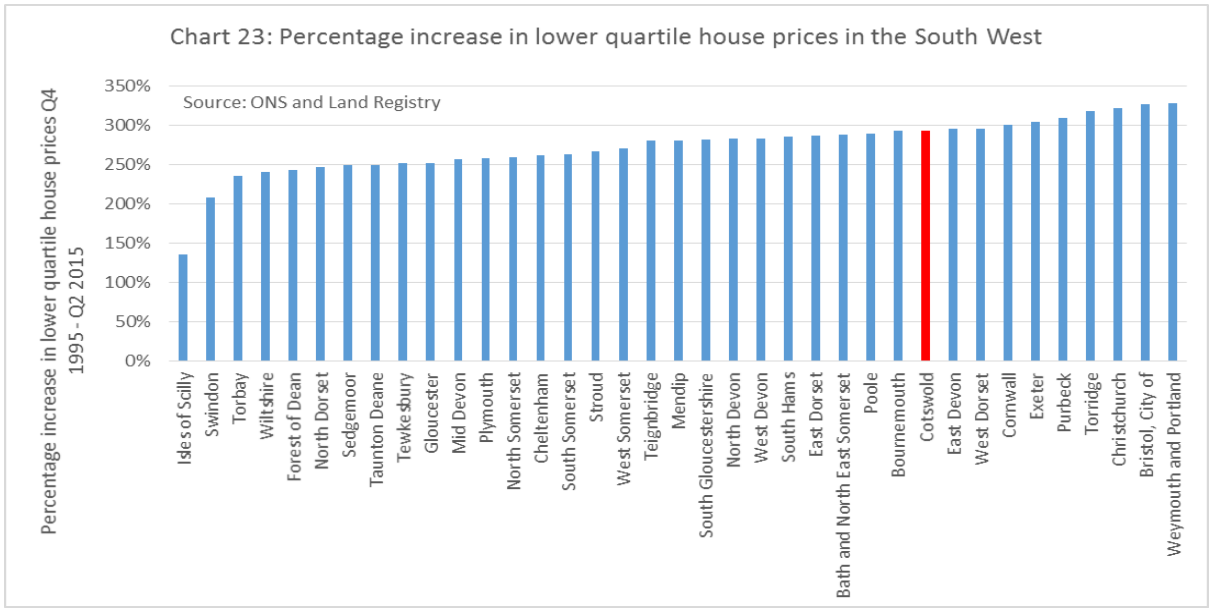
supply is tightening compared to other places – unless for some reason the area is becoming more desirable over time."

House prices

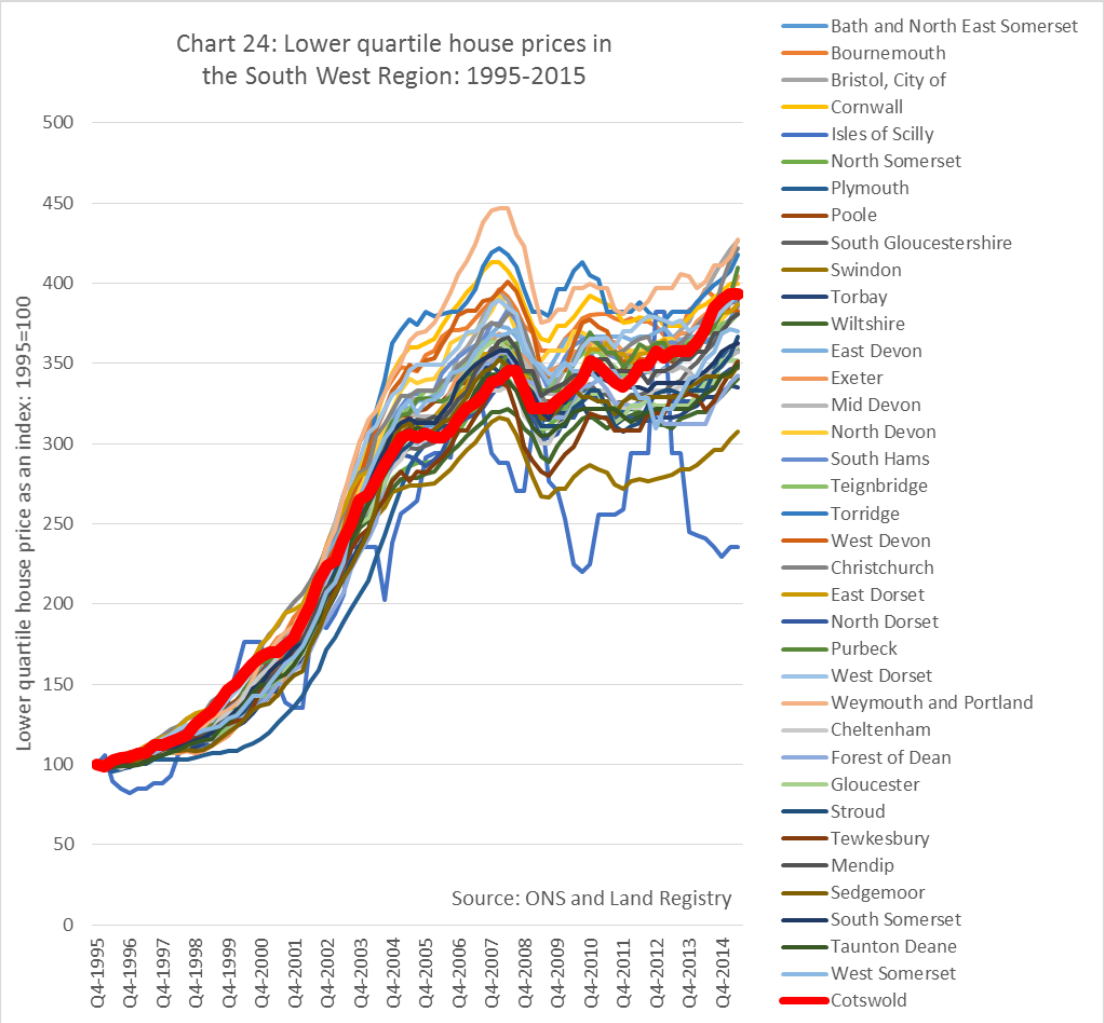
80. :Chart 22 compares lower quartile house prices in the South West in Q2 2015. On this measure Cotswold is the third most expensive district in the South West. This, however, is to be expected as it is a highly attractive area. It does not indicate particular market stress.



81. Of greater relevance is the data showing how house prices have changed over the last 20 years. On this measure Cotswold is by no means the worst performing authority: about a quarter of South West authorities have seen their lower quartile house prices rise more quickly than Cotswold. See Chart 23 below:

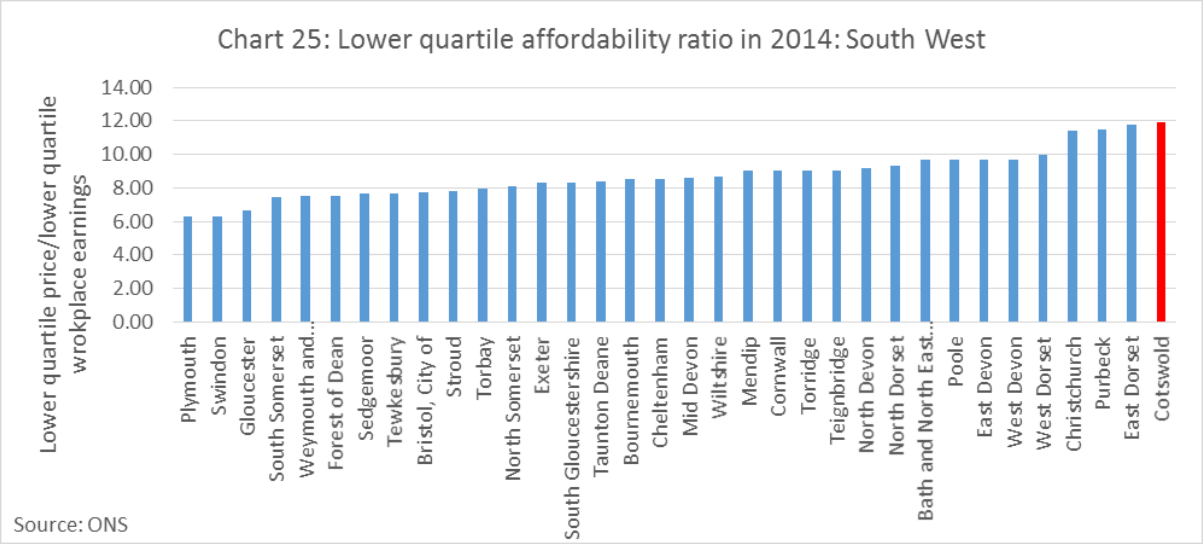


82. Chart 24 shows lower quartile house prices changes in the South West districts since 1995. This demonstrates that house price changes are by no means smooth: indeed they can be quite erratic. Some areas see their house prices move ahead more quickly at some times and slower at other times. For example, had the chart above shown lower quartile house prices changes for the period 1995 – 2011 Cotswold would have appeared just below the middle of the rank order. Part of the reason that it appears as high up as it does in Chart 23 is that house prices in Cotswold have increased more quickly since the economic downturn than many areas. This may not necessarily continue: other areas may well catch up.

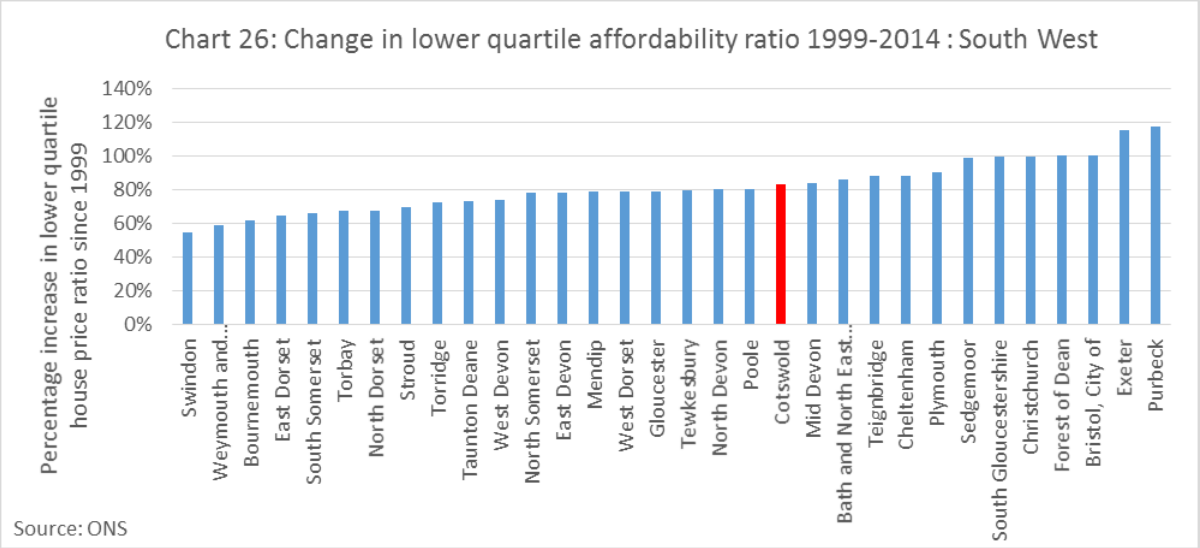


Affordability

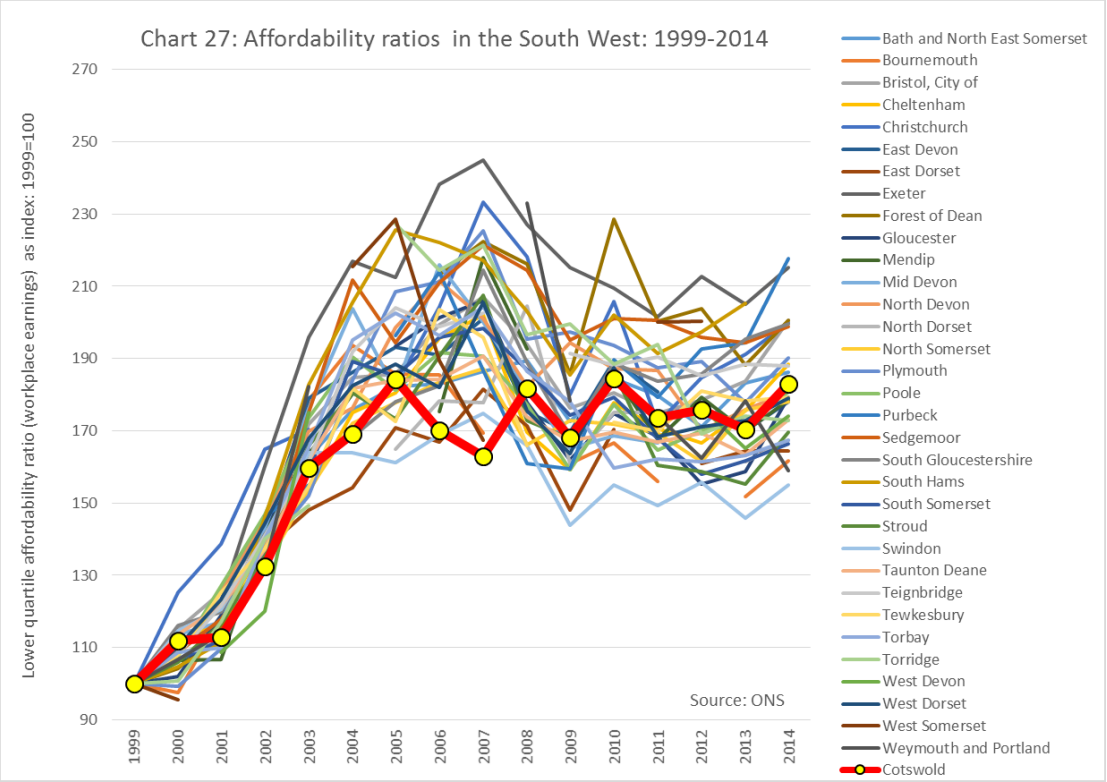
83. Arguably of greater relevance than either the absolute price or the change in price is the affordability of homes relative to earnings. The key indicator here is the lower quartile affordability ratio i.e. the price of a lower quartile home divided by the lower quartile workplace earnings for the area. Chart 25 below shows the affordability ratio for all South West authorities. As can be seen, Cotswold is the least affordable area in the South West. This reflects the high house prices in the area, which in turn reflects the attractiveness of the district.



84. More significant than the value of the affordability ratio in 2014 is the rate at which it has changed. In this respect Cotswold is by no means the worst offender in the region: around a third of authorities have seen bigger percentage deteriorations in their affordability ratios since 1999, as Chart 26 shows.



85. Chart 26 shows the change between two dates – the dates that happen to be at either end of the range of data that is immediately available from the ONS data sets. However, there is a danger in focussing too closely on any two dates as the change can vary significantly depending on the choice made of start and end dates. To avoid this Chart 27 (below) plots the changes between 1999 and 2014. The picture is complicated one but the message is clear: Cotswold has not by any means seen the worst deterioration in affordability in the region.



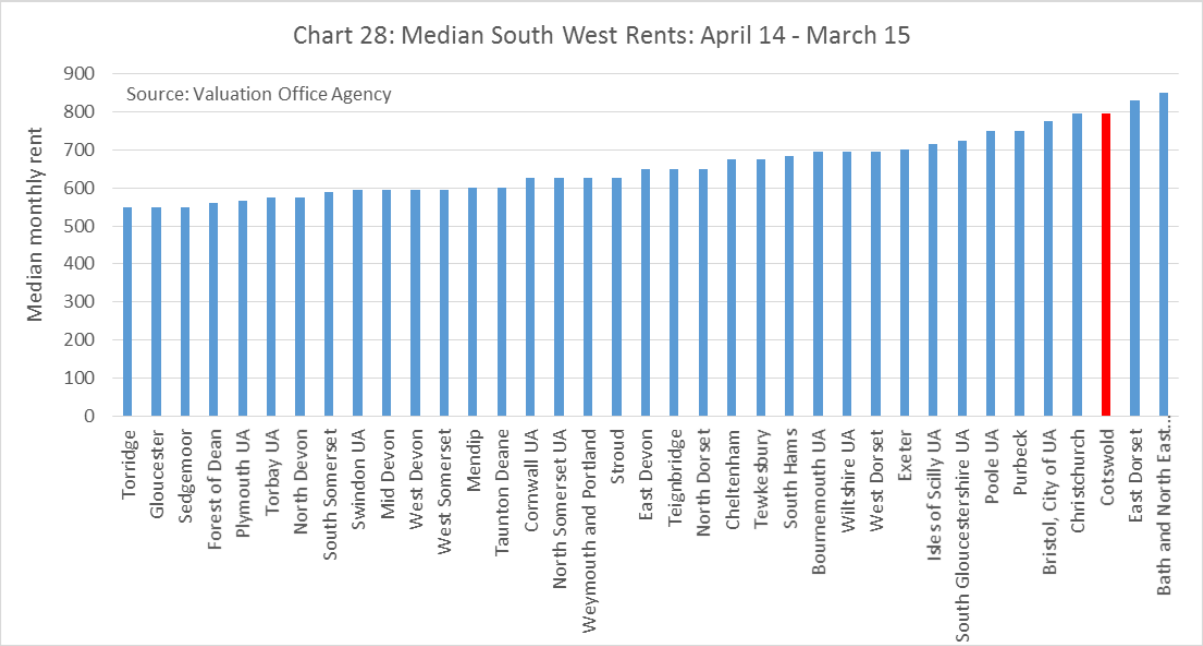
86. There can be no doubt that high house prices and poor affordability are issues in Cotswold District but that does not necessarily imply that a market signals adjustment is warranted. The discussion of this issue in the decision letter on a recent S78 appeal in the district (relating to a site in Mickleton – APP/R3650/A/14/2223115) is highly relevant here:

> *"A house in the Cotswolds costs more than other places at least partly because it offers attractions that do not exist elsewhere. The same applies to the Chilterns (also offering swathes of ANOB landscape and where similar differentials exist) and to Kensington and Chelsea (currently the place where the ratio of lower quartile prices to incomes is the highest in the land). Because location is an integral characteristic of any dwelling, there are numerous geographical discontinuities in housing markets…….It follows that a significant increase in the stock of houses in Cotswold would be likely to result, not in a noticeable decrease in house prices or improvement in affordability, but in new residents with the wherewithal to pay the prices sought……In my view the evidence adduced does not demonstrate that market signals warrant an increase in the objectively assessed need for housing in the District of Cotswold."*

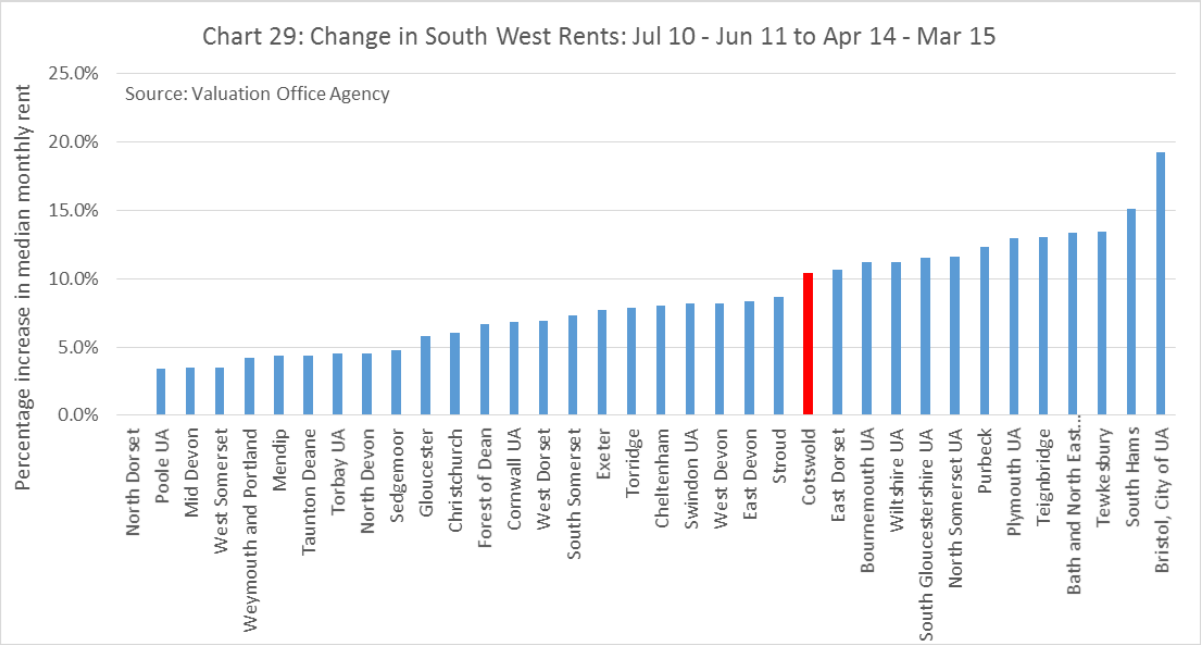
Rents

87. Rents are a further indicator. However, the available Valuation Office Agency data at the local authority level does not extend back beyond the year to June 2011 and so is of limited value in enabling trends to be identified. The data does suggest that rents in Cotswold are amongst the highest in the South West (see Chart 28 below), but that is to be expected as house price are amongst the highest in the South West and

rents need to be set accordingly to allow those letting property to make a proportionate return on their investment.



88. However, the data on the change in rents, shows are rather different picture. As Chart 29 below shows, rents in Cotswold have not increased faster than in some other districts: around a third of districts have seen percentage increases larger than those seen in Cotswold.



Under supply

89. The PAS technical advice note offers some useful advice on what is meant by the references in the PPG to past under supply:

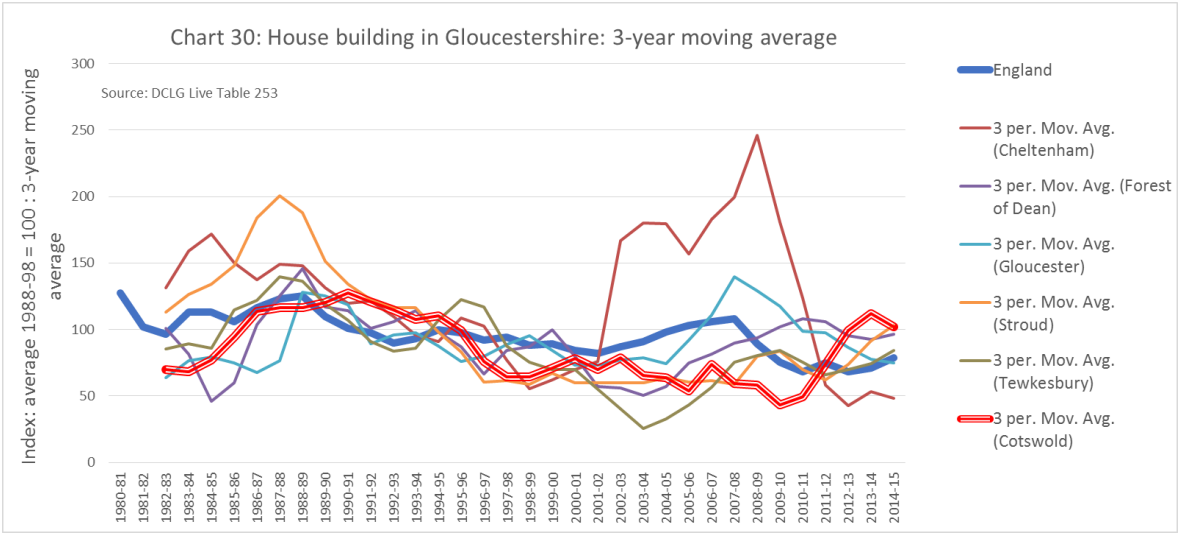
"7.3 The logic of the PPG is clear. As mentioned earlier, demographic projections roll forward trends from a past period known as the base period or reference period. If in that period planning underprovided land against demand or need, actual housing development – and hence household growth – will also have fallen short of that demand or need. By the same token, since projections roll forward past growth into the future, they will understate future demand or need, and therefore should be adjusted upwards.

7.4 That logic is sometimes misunderstood, in that 'under-supply' and 'under-delivery' are taken to mean that house building was below policy targets. But in the present context these words mean something quite different - that house building was less than demand or need; in other words planning constrains the amount of housing development. This constitutes under-supply within the meaning of the PPG. Evidence that past delivery was in line with targets does not demonstrate that in that past period planning was not a constraint or that demand or need was met.

90. The PAS technical note goes on to advocate that "The past trajectory of housing completions is a good indicator of the severity of planning constraints…" The note also emphasises the importance of focussing on relative not absolute under supply, recognising that is has not been unusual for planning to under-supply the market in much of the post-war period. The guidance therefore concludes that, "…demographic projections should be adjusted upwards only if in the base period the constraint was unusually tight compared with other times, to other places, or both.".

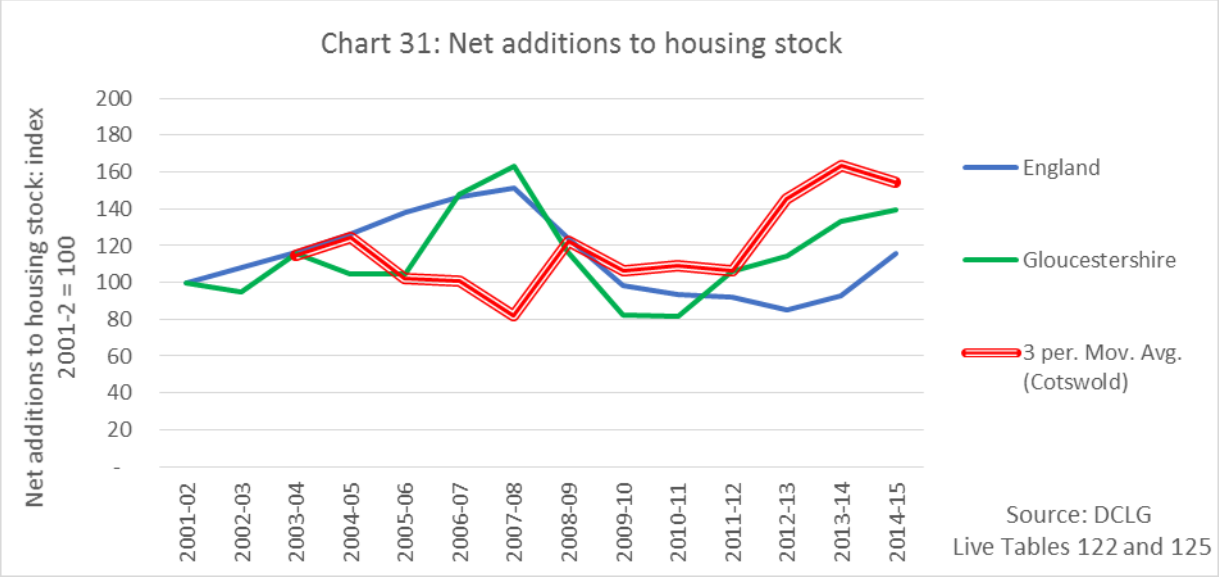
91. In this report we follow that approach and consider how house building in Cotswold has compared with other areas in order to take a view on whether there is evidence of particularly tight planning constraints in the base period.

92. Chart 30 below compares house building in Cotswold with both the other Gloucestershire authorities and England. The Gloucestershire authorities are presented as 3-year moving averages in an attempt to smooth out the large year to year fluctuations to enable the pattern to be seen more clearly.



93. Even with the smoothing provided by the use of 3-year moving averages the trends are not easy to see. However, house building in Cotswold does not appear to have risen as it did in England as a whole and other parts of Gloucestershire in the years running up to 2007-08. On the other hand, it recovered sooner and more strongly in Cotswold than in other areas.

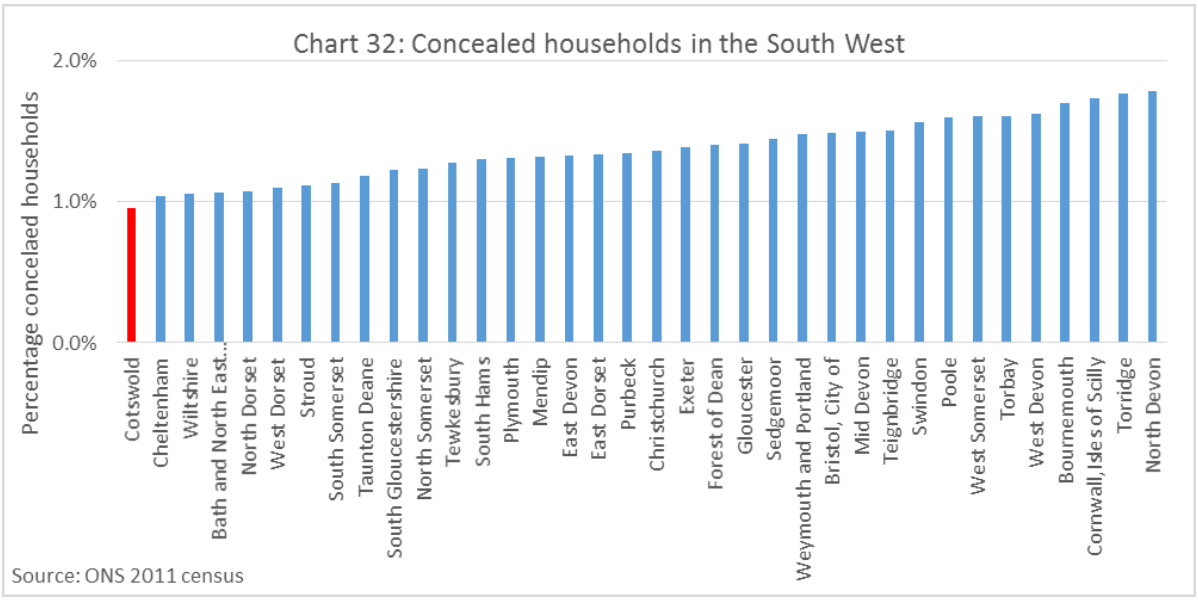
94. Chart 31 shows net additions to the housing stock rather than new house building. This includes the impact of conversions, changes of use and demolitions and is arguably the more relevant measure as it shows how the number of homes has changed irrespective of what has caused the changes. This presents a slightly different picture. Net additions in the period up to 2007-08 were still below the trend seen in the rest of Gloucestershire and England as a whole but they held up better through the downturn and grew more strongly afterwards



95. Whilst there is a question mark about whether there was a degree of undersupply in the years before the economic downturn, given that the base period used for the updated demographic analysis earlier in this report is 2004-14, it is doubtful whether the differences compared with both England as a whole and Gloucestershire have distorted the population projections significantly.

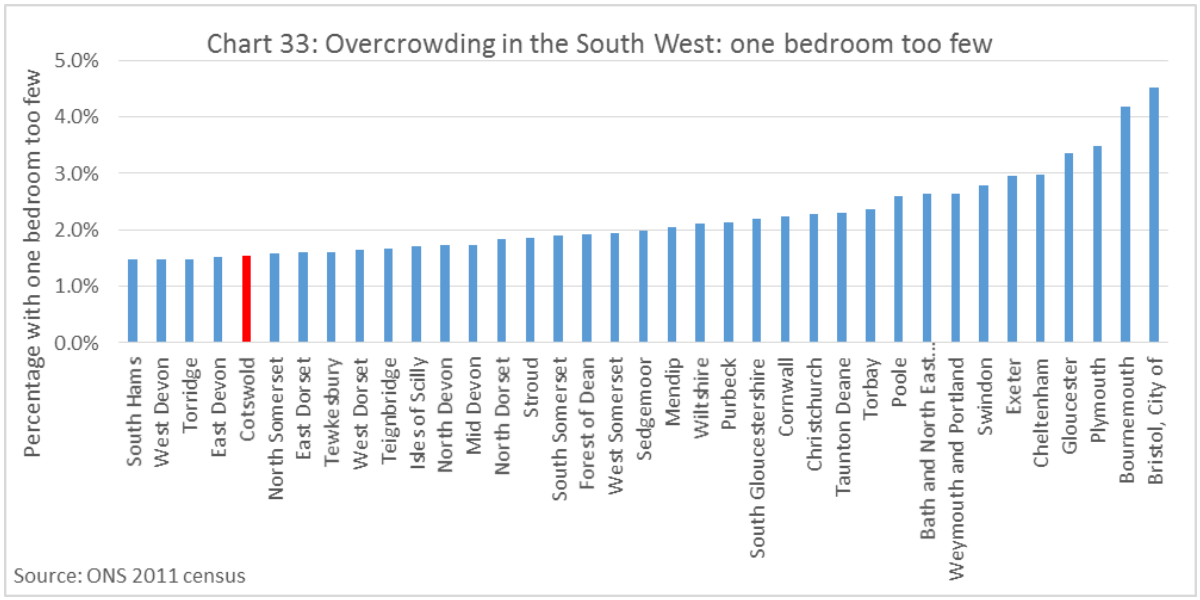
Concealed families

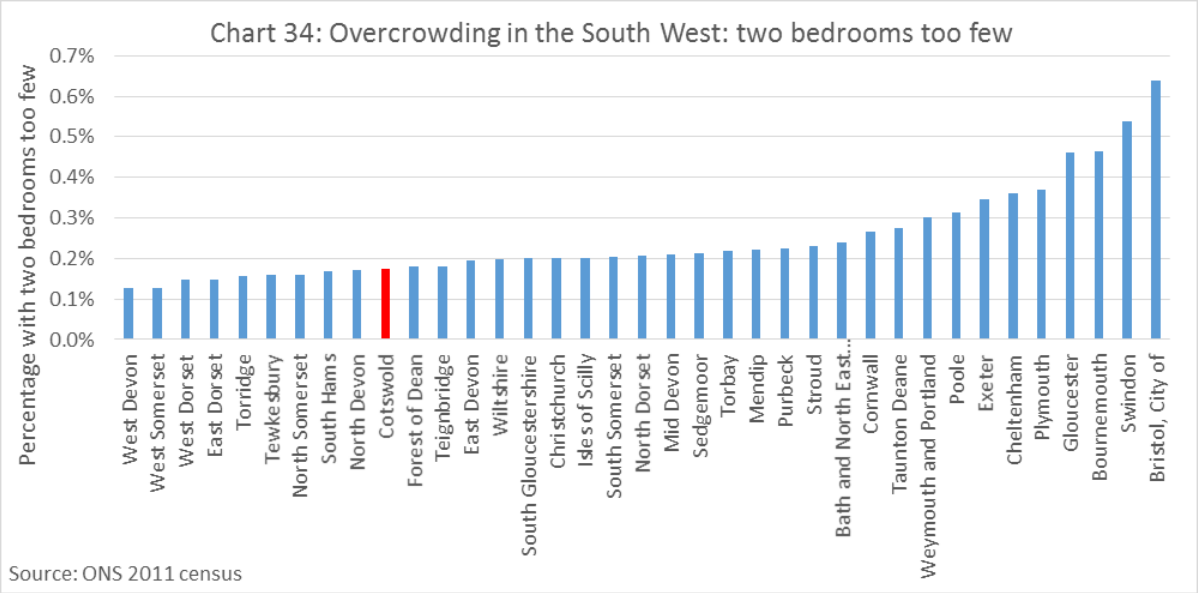
96. The proportion of concealed families (i.e. families living within another household) is another measure of the degree of stress in a housing market. Chart 32 below shows the data from the 2011 census for the South West authorities. Cotswold had the lowest percentage of concealed households in the region, so there is clearly no issue here.



Overcrowding

97. Overcrowding provides a further indicator of potential stress in housing markets. Charts 33 and 34 present the census 2011 data for households which have either one bedroom too few or two or more too few – again for all south west authorities. Again the message is clear: there is no cause for concern in this area.





Affordable housing

98. The affordable housing need in Cotswold has been calculated by HDH Planning in the *Cotswold District Council SHMA, Further Update, Affordable Housing, March 2016* as 59 households a year. The demographic OAN is 6800 homes over the 20-year plan period i.e. an average of 340 homes a year. The delivery of the requirement for affordable should therefore be achievable within the demographic OAN, let alone any uplift that might be appropriate to support economic growth.

Conclusions on adjustments for 'other factors'

99. There is no case for an uplift to the demographic OAN for affordable housing.

100. As far as market signals are concerned, Cotswold is an area with high house prices and poor affordability. This, however, reflects the attractiveness of the area and is not a basis on which to apply a 'market signals adjustment'. The only potential grounds for a market signals adjustment are the rate of increase in house prices; the deterioration in the affordability ratio; and the suggestion that there may have been under supply in the years before the economic downturn. However, in each of these areas the evidence is far from conclusive: a significant proportion of South West authorities have seen a faster proportionate increase in house prices or a bigger deterioration in affordability and any under supply in the period before the downturn has been offset by stronger delivery during and after the downturn, with housebuilding recovering sooner and faster than in other areas. Given that this report is proposing substantial upward adjustments to the housing requirement implied by DCLG's latest household projections as result of adjustments to the ONS population projections and the addition of extra homes to support economic growth, there is no case for any further adjustment for market signals. At most the market signals provide an argument for setting the OAN at the top of the range for the number of homes needed to support economic growth.

SUPPORTING ECONOMIC GROWTH

The Government guidance

101. The PPG advises:

> *"Plan makers should make an assessment of the likely change in job numbers based on past trends and/or economic forecasts as appropriate and also having regard to the growth of the working age population in the housing market area. …..*
>
> *Where the supply of working age population that is economically active (labour force supply) is less than the projected job growth, this could result in unsustainable commuting patterns (depending on public transport accessibility or other sustainable options such as walking or cycling) and could reduce the resilience of local businesses. In such circumstances, plan makers will need to consider how the location of new housing or infrastructure development could help address these problems."*[22]

102. This makes it clear that Local Plans should be consistent with the economic prospects of an area and, in effect, directs those estimating an OAN to consider whether a demographically based OAN would accommodate a sufficiently large working age population to support the likely jobs growth. It is not acceptable simply to assume that commuting patterns will change to cover any shortfall between the resident labour force and what is needed to support the economic growth of the area.

Approach to assessing whether extra homes are needed to support economic growth

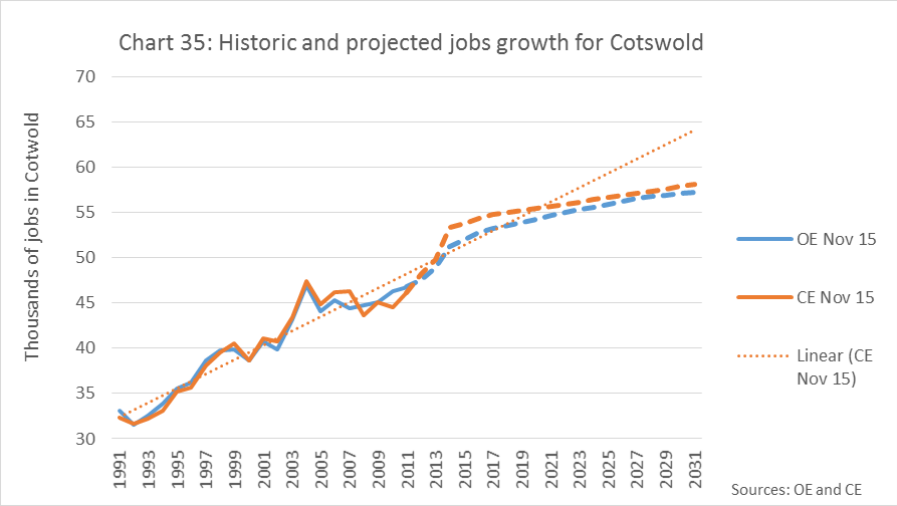
103. The PPG suggests two possible approaches to assessing the likely change in jobs numbers:

    a. Past trends

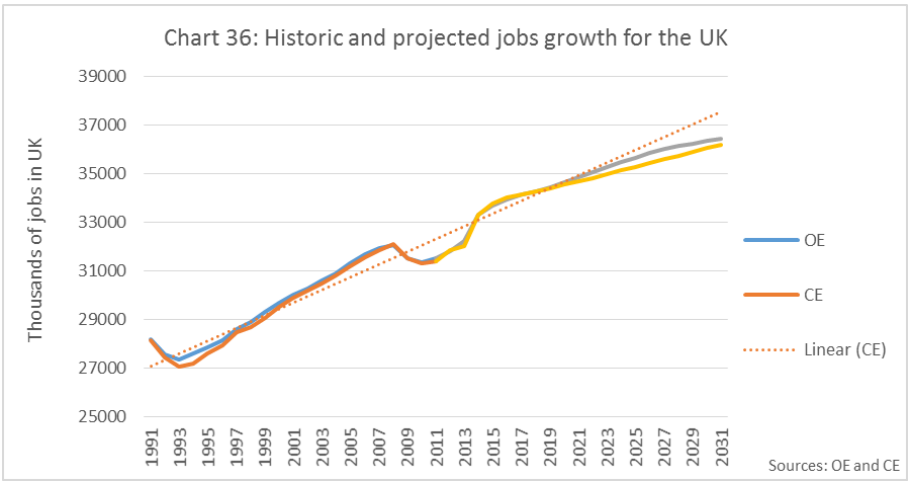
    b. Economic forecasts

104. Economic forecasts have been obtained from Cambridge Econometrics (CE) and Oxford Economics (OE) dated November 2015. Chart 35 (below) shows how these forecasts compare with past job growth, and include a linear trend line based on jobs increases between 1991 and 2011.

[22] Planning Practice Guidance, Paragraph: 018 Reference ID: 2a-018-20140306 http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/



105. As can be seen, the trend line indicates that both CE and OE envisage jobs growth at a slower rate than the trend between 1991 and 2011. The trend growth rate was 690 jobs a year in that period whilst OE envisages an average of 350 jobs a year between 2014 and 2031 and CE 280 jobs a year. However, it is unrealistic both nationally and locally to expect jobs growth to continue at historic rates as the working age population (which for these purposes we might take as those aged 16-65) is not projected to grow at the same rate in the past [Insert chart showing projected change in 16-64 age group]. It is for this reason that the projections for jobs growth at the UK level made by both OE and CE are below the historic trend rate, as Chart 36 below shows:



106. Given that a continuation of past jobs growth rates is not to be expected as the working age population is unlikely to continue to grow at past rates, a consideration of historic jobs growth trends is not particularly informative. What follows therefore considers the econometric forecasts for jobs growth from OE and CE as the best available indications of likely job growth, notwithstanding their evident limitations.

107. Using the econometric projections there are two possible approaches to assessing the housing implications of the forecast increase in jobs:

a. Considering Cotswold on a 'standalone' basis

b. Analysing the housing market as a whole.

108. The October 2014 NMSS Report set out an analysis based on the Gloucestershire HMA. That approach inevitably requires any additional homes that might be needed above the demographic OAN to be allocated between the six districts in Gloucestershire. The Inspector examining the Stroud District Local Plan found the proposed allocation somewhat arbitrary and, in response to his comments, a standalone analysis was also prepared. However, others have since suggested that an HMA-wide analysis should be produced given the encouragement that the PPG gives to analysis at the HMA-level. [Insert reference.] This Update Report therefore offers both an HMA-wide analysis and a standalone analysis.

The new jobs increase forecasts

109. Chart 37 and Table 9 below compare the latest jobs increase forecasts (November 2015) with those obtained in 2014 and similar forecasts obtained earlier in 2015 by Barton Willmore and presented in evidence to support an appeal relating to a site in the Forest of Dean[23].

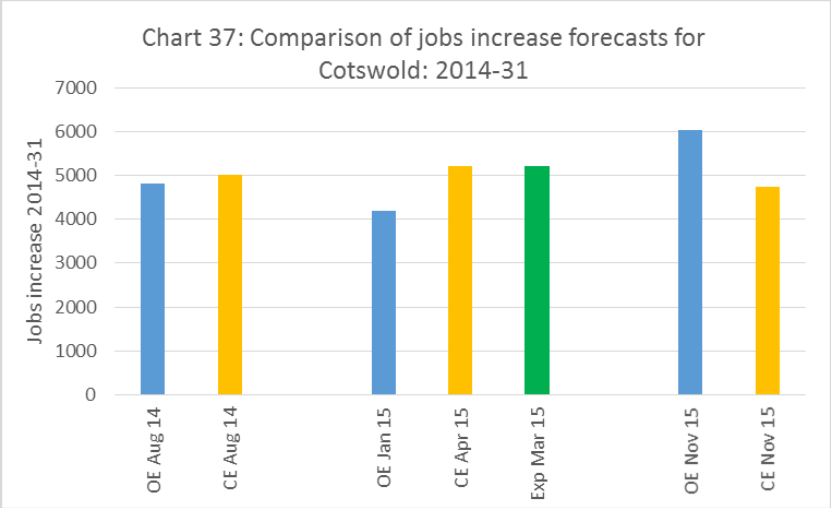


Table 9: Comparison of jobs increase forecasts for Cotswold: 2014-31

OE Aug 14	CE Aug 14		OE Jan 15	CE Apr 15	Exp Mar 15		OE Nov 15	CE Nov 15
4800	5000		4200	5200	5200		6000	4700

110. The employment forecasts for Cotswold have changed less than for other parts of Gloucestershire. Nevertheless, the OE forecast has increased by 25% (from 4,800 to 6,000 jobs) between August 2014 and November 2015, a period of only 15 months and the CE forecast has fallen by 5% over the same period (from 5,000 to 4,700 jobs)

111. Note that the forecasts presented are for the period 2014-31 as the estimates for jobs, unemployment and other key parameters during the economic downturn and its immediate aftermath are subject to significant uncertainty. Attempting to incorporate the data for 2011-14 would add substantial further uncertainty to forecasts that are subject to considerable volatility as well as variation from one

23 From: [Data and charts for jobs-led section of Cotswold OAN Update.xlsx]Sheet1'!O59

forecaster to another, as can be seen from Chart 37 above. This is discussed more fully in Section 2 of the Nupremis report, *"Review of Economic Forecasts Cotswold, 29th February 2016"* which confirms that this is a better approach than using the forecasts for the period 2011-31.

112. There is no necessary inconsistency with using the period 2014-31 for estimating the housing implications of job growth and the overall objective of this report of estimating the housing needed over the period 2011-31, although the way in which consistency is achieved is different for the two forecasts:

    a. For the CE forecast the analysis considers what additional population would need to be accommodated between 2014 and 2031 to provide the work force needed to support the projected job growth between those dates. Adding that population growth to the population growth which occurred between 2011 and 2014 (from the 2014 Mid-Year Estimates) enables the population in 2031 to be estimated. That allows the number of households that would be needed in 2031 to be calculated by applying the DCLG household formation rates – and hence the increase in households between 2011 and 2031. The number of homes needed between 2011 and 2031 can then be estimated by adding an allowance for empty and second homes.

    b. For the OE forecast the analysis is based on OE's estimate of the 16-64 population in 2031 that would be consistent with their projection. This is compared with the 16-64 population in the demographic OAN scenario. The project inflow to Cotswold from the rest of the UK is then adjusted up or down until projected 16-64 population in 2031 matches that envisaged by OE in 2031. The model used to adjust the inflows to Cotswold also calculates the total population in 2031 that would be associated with the adjusted 16-64 population. DCLG household formation rates are then applied to this total population estimate, split into 5-year age groups, to estimate the number of households that would be present in 2031. It is then straightforward to calculate the increase in households and the number of homes needed.

113. Chart 38 and Table 10 below show the comparable employment forecasts for Gloucestershire as a whole. Somewhat surprisingly given that these relate to a larger area, these have been more volatile than the Cotswold forecasts. OE forecast has increased by 50% (from 16,900 to 25,500 jobs) between 2014 and November 2015 whilst the CE forecast has fallen by 38% (from 31,600 to 19,700 jobs over the same period.

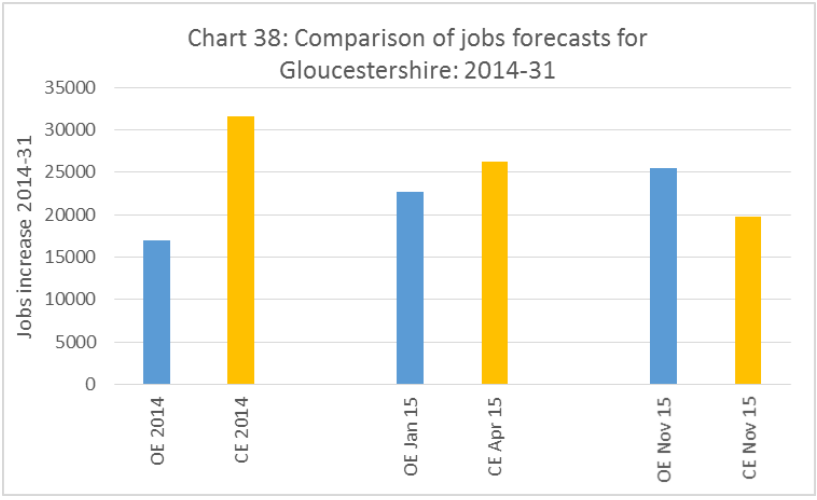


Table 10: Jobs increase forecasts for Gloucestershire: 2014-31							
OE 2014	CE 2014		OE Jan 15	CE Apr 15		OE Nov 15	CE Nov 15
16900	31600		22700	26200		25500	19700

Allowing for the uncertainty in the forecasts

114. As already noted, the volatility of the individual forecasts and the variability between the forecasters is self-evident from Charts 37 and 38 above. This is not a criticism of the forecasters but a reflection of the inevitable uncertainties inherent in forecasting economic performance at the local authority level. The forecasters themselves acknowledge that their results become less reliable the smaller the area to which they are disaggregated. This uncertainty needs to be both recognised and taken into account in interpreting the forecasts.

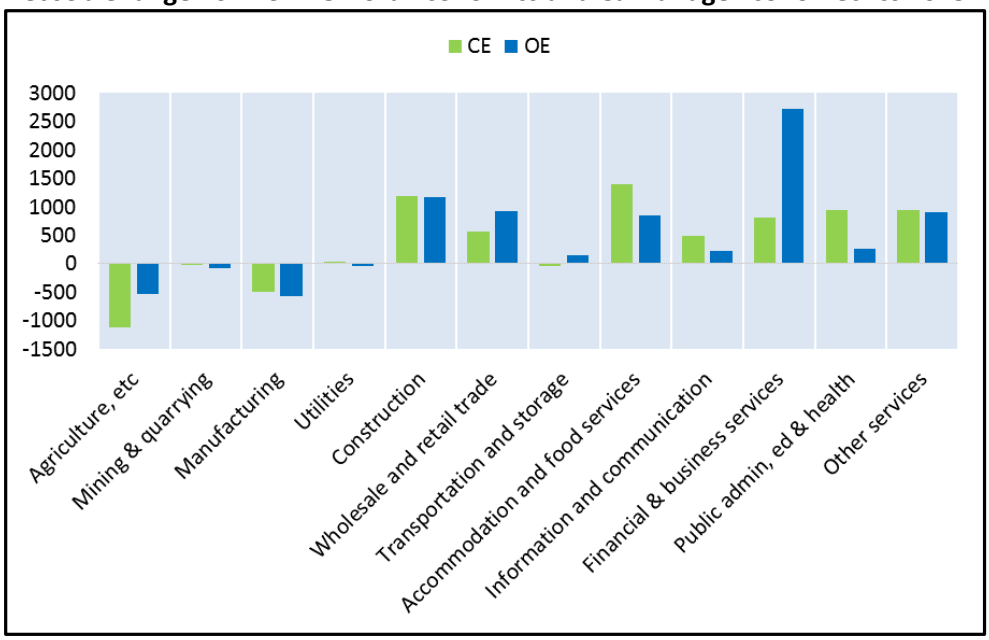
115. There are a number of ways in which the uncertainties in the jobs forecasts might be taken into account.

a. **Expert review of the local forecasts.** The local authority level forecasts are made up of forecasts for job and output growth in each sector of the local economy. As the chart[24] below for the most recent forecasts for Cotswold shows, the sector forecasts can vary significantly between forecasters. Note in particular that OE and CE take significantly different views on the job growth prospects in financial and business services, accommodation and food services and wholesale and retail trade. There is also a sizeable difference in the extent to which employment in agriculture is forecast to fall. Such differences are to be expected as the local forecasts are produced by a fairly mechanical disaggregation of national forecasts. Expert review of the individual sector forecasts taking account of the latest local data can assess the plausibility of each element of the forecast in the local circumstances and produce alternative, more probable scenarios. Nupremis have done this for

[24] From Nupremis report, *"Review of Economic Forecasts Cotswold, 29th February 2016".*

the latest forecasts in their report "Review of Economic Forecasts Cotswold, 29th February 2016".

Net Job Change 2014-31 - Oxford Economics and Cambridge Econometrics 2015



b. **Averaging two or three forecasts.** Obtaining two or three forecasts and then taking the average of the jobs increases forecast in each is clearly better than relying on a single forecast. However, there are two major drawbacks with this approach:

   i. If there are anomalous sector forecasts in any of the individual forecasts then an averaging approach still gives weight to those anomalies, albeit less weight than would be given if only one forecast were used.

   ii. The averaging approach produces an average figure for the increase in jobs which then has to be converted into an estimate of the population that would be needed to provide the necessary increase in the work force. That conversion requires a view to be taken on how the economic activity rates of the population will change. As discussed below, in calculating the housing implications of a jobs forecast it is important to use economic activity rates consistent with the projections being interpreted; to do otherwise risks making nonsense of the projections. However, unless the forecasts being averaged happen to use exactly the same economic activity rate assumptions, that is not possible if the forecasts have been averaged before the housing implications have been estimated.

c. **Using a larger area to estimate the housing implications of economic growth.** As jobs forecasts become less reliable the smaller the area to which they are disaggregated, a potential approach to reducing the impact of uncertainty is to use a larger area than an individual local authority district,

the housing market area (HMA) being the obvious choice. However, in the case of Cotswold and Gloucestershire the jobs forecasts appear to be more volatile at the HMA level (Gloucestershire) than at the local authority district. As already noted, another issue with this approach is that, having reached a view on how many (if any) additional homes are needed at the HMA level to support economic growth, a view then needs to be taken as to how those additional homes are to be allocated to the individual districts. That process can appear somewhat arbitrary.

116. In this analysis two approaches have been used:

a. **A standalone analysis for Cotswold using the findings of an expert review of the two forecasts.** The housing implications of the OE and CE forecasts have been estimated separately using methods which are consistent with the economic activity rates built into those forecasts. This has been done for both the unadjusted forecasts and the alternative scenarios produced by Nupremis. This produces a range for the number of homes needed to support economic growth, the mid-point of which can be taken as an estimate of the homes needed.

b. **A Gloucestershire-wide analysis.** This uses the latest jobs projections for the county as a whole from OE and CE. The number of homes needed are estimated separately using methods which are consistent with the economic activity rates built into the two forecasts. The results are then compared with the updated demographic OAN for the county as a whole to determine whether additional homes are needed to support economic growth. Again this produces two figures which provide a range, the mid-point of which can be taken as an estimate of the homes needed.

A standalone analysis of the homes needed to support economic growth in Cotswold.

117. As shown in Chart 38 and Table 10 above, the OE and CE jobs forecasts have moved in different directions between August 2014 and November 2015 and there is a substantial difference between the latest forecasts:

a. The OE forecast for 2014-31 has increased from 4,800 jobs to 6,000, an increase of 25%

b. The CE forecast for the same period has fallen from 5,000 jobs to 4,700, a fall of 5%[25].

c. The OE jobs increase forecast for 2014-31 is 27% higher than the CE forecast.

118. The Nupremis report, "Review of Economic Forecasts Cotswold, 29th February 2016" examines the forecasts in detail. Key conclusions include:

a. **There has been a very large growth in self-employment in Cotswold, particularly amongst the over 64s.** Between 2009 and 2014 the number of

[25] Note that percentages have been calculated using the unrounded OE and CE figures. Those jobs increase figures have been rounded to avoid suggesting spurious accuracy.

employee jobs in Cotswold increased by 2,800 or 7.7% whilst the number of self-employed people increased by 4,500 or 45%. Self-employment amongst those over 64 increased from 900 in 2010 to 3,200 in 2013 i.e. it more than trebled. 25% of those who are self-employed are over 64.

b. Whilst CE projects jobs growth in Cotswold over the period 2014-31 at the same rate as it projects for the UK (9%), OE projects that Cotswold job growth (12%) will be much faster than it projects for the UK (also 9%).

c. The main differences between the forecasts for 2014-31 are:

   i. **CE envisage a much larger loss of jobs in agriculture than OE** (CE -1,100 as opposed to OE -520). However the two forecasts envisage very similar numbers of jobs in agriculture in 2031. The difference in the change in jobs between 2014 and 2031 appears to be due a very high increase in jobs in agriculture assumed by CE in 2013-14 – 1200 jobs.

   ii. **OE envisage a faster growth in wholesale and retail jobs than CE** (OE +930 jobs; CE +560 jobs). The OE increase in higher than both their Gloucestershire and South West projections.

   iii. **CE envisage faster growth in accommodation and food than OE** (CE 1,390 jobs; OE 850 jobs). This is seen as a growth sector. There is no clear basis for adjusting either forecast but Nupremis recommends that the sector is monitored closely.

   iv. **OE projects growth in financial and business services which is more than three times that envisaged by CE** (OE 2,710jobs; CE 810). The CE projection for 8% growth is below its forecasts for Gloucestershire (12%) and the South West (14%) which seems anomalous. In contrast the OE projections are for faster growth than it envisages for Gloucestershire, despite performance in the property sector and business administration in Cotswold having been below Gloucestershire levels.

   v. **CE forecasts a much faster increase in Government services jobs than OE.** (CE 950 jobs; OE 260 jobs) The CE forecast increase (10%) is significantly faster than its national increase (6%)

d. In producing their alternative scenario Nupremis have suggested adjustments in each of the sectors listed above with the exception of accommodation and food. The net result is to reduce the OE forecast from 6000 jobs to 5,300 and increase the CE forecast from 4,700 jobs to 5,000, bringing the two forecasts much closer together.

Estimating the housing implications of the employment projections

119. The housing implications of the new projections have been estimated using the NMSS model. In each case the inflow from the rest of the UK projected in the 2012 SNPP has been adjusted up or down until the population matches that necessary to

support projected increase in jobs. In adjusting those inflows it has been assumed that, as the driving force for a change in migration patterns would be the availability or otherwise of jobs, those who move are not near or over retirement age.

120. The matching of the population projections with the jobs forecast has been performed in a different way for the two projections due to the differences between the forms in which the outputs are provided.

a. In the case of CE, economic activity rates for Cotswold have been estimated from economic activity rates for the South West region supplied by CE. Those economic activity rates have then been used to calculate the labour force which the population projected in the 2012 SNPP will provide in 2031. The population in 2031 has then been adjusted up or down until the increase in labour force between 2014 and 2031 matches that needed for the CE forecast for the jobs increase over this period.

b. For OE the inflow from the rest of the UK has been adjusted until the 16-64 population in 2031 matches that envisaged in the OE projections.

121. Having estimated the population needed in 2031 to provide the labour force implied by a jobs forecast, the number of homes needed to accommodate that population in 2031 has been calculated using the household formation rates from DCLG's 2012-based household projections.

122. The results of this analysis are as follows:

Table 11: November 2015 jobs forecasts for Cotswold

	OE		CE	
	Jobs	**Homes**	Jobs	**Homes**
	2014-31	**2011-31**	2014-31	**2011-31**
Unadjusted forecast	6000	**9300**	4700	**7600**
Alternative scenario	5300	**8800**	5000	**7700**

123. As the table shows, there is a significant difference between the numbers of homes indicated by the two projections and between the unadjusted and alternative scenarios. However, if the average between the two projections is taken, the figure (rounded to the nearest hundred homes) is 8,400 homes for the unadjusted forecasts and 8,300 homes for the alternative scenario.

Issues with the standalone jobs-led OAN estimates

124. A number of issues have been identified relating to the jobs-led OAN estimates derived from the OE and CE forecasts.

(a) Plausibility of implied population growth

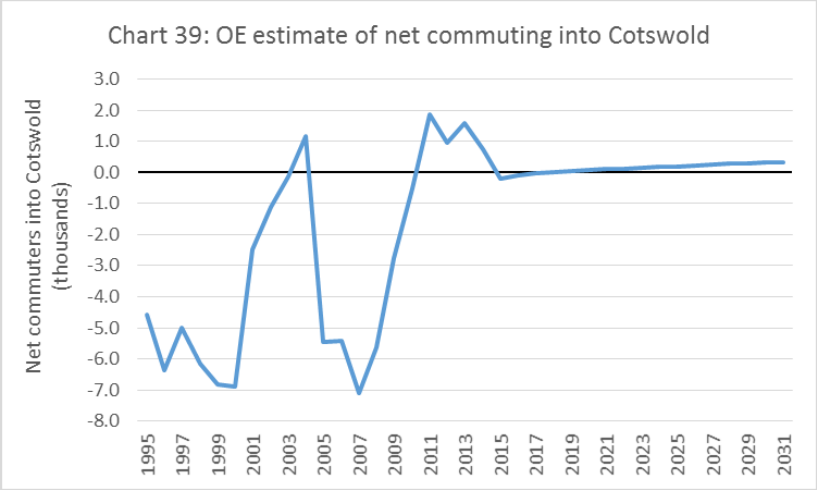
125. The NMSS model suggests that to produce the increase in the 16-64 population of Cotswold suggested by the OE projections would necessitate the total population of the district to increase from 84,600 in 2014 to 100,500 in 2031, an average annual increase of 931 people a year. That is almost twice the average annual increase seen between 1991 and 2008 (481 a year). In comparison the demographic OAN implies a

population increase over the same period that is only 2% faster than that between 1991 and 2008 and the CE projection implies an increase that is 37% faster. It is questionable how plausible a population increase of the size implied by the OE projection might be.

(b) OE assumptions on net commuting and unemployment

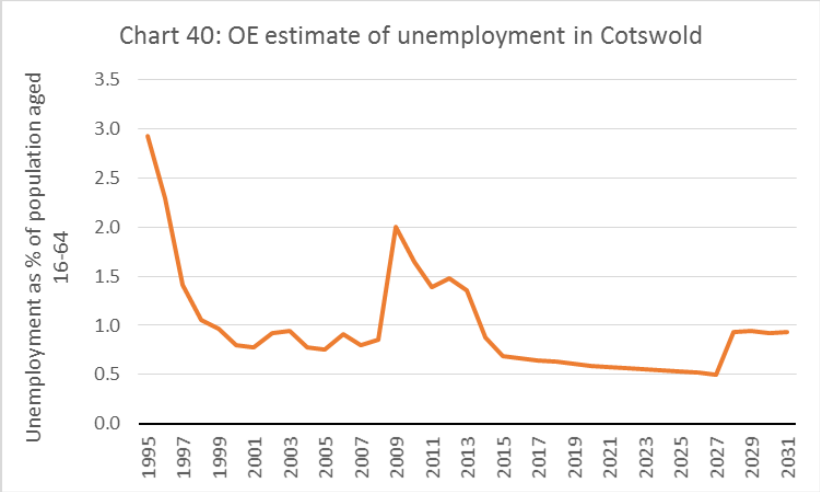
126. It has been suggested that it is possible that, in seeking to ensure a sufficiently large work force to support its jobs projection, the OE projection may adjust commuting flows and unemployment rates unrealistically. Moreover it is possible that the OE model might adjust net commuting in a way that is inconsistent with the PPG, which implies that it should not be assumed that commuting flows will change to make good any labour force shortfall. An examination of the OE projection shows that neither is the case.

127. Chart 39 below plots the OE estimate for net commuting into Cotswold.



128. The OE figures reflect the census data which suggests that Cotswold changed from being a net exporter of commuters in 2001 to being a net importer in 2011. The projection assumes that net commuting fell between 2013 and 2015 despite continuing strong employment growth. It also envisages that the net inflow in 2031 will be some 400 people fewer than in 2014. Thus, far from assuming that a labour force shortfall is met by increased net in-commuting, the projection errs slightly in the other direction. Indeed had, the projection been constrained to ensure no change in net commuting, the increase in the resident population of 16-64 year olds would have been lower – significantly lower had the commuter flow been constrained to the 2011 net inflow.

129. Chart 40 below shows the OE output for the unemployment rate in Cotswold. Note that the measure used by OE is 'unemployment as a percentage of the 16-64 population'. This measure produces lower percentages that other measures such as the unemployment as a percentage of those economically active.

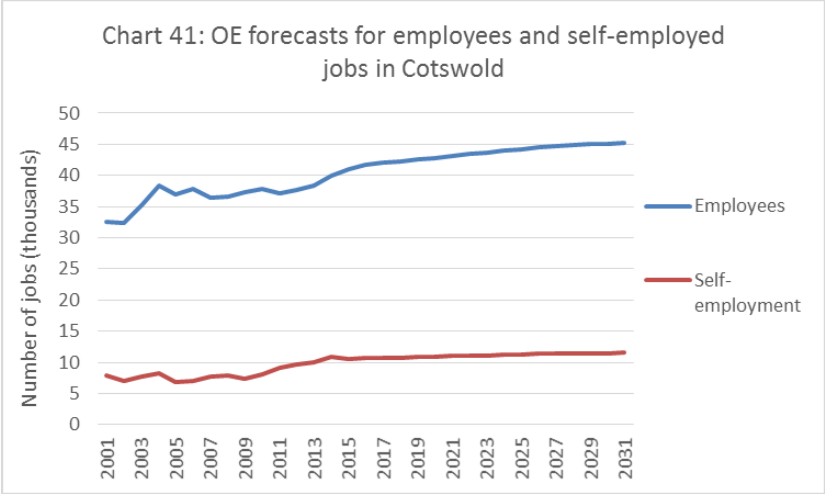


130. As can be seen from the chart, OE envisage that the unemployment rate continues to fall after 2015, albeit at a slower rate, until 2027 when there is a strange increase of 0.4%. The reasons for that late change are not clear. However, the unemployment rate assumed in 2031 is comparable to that in the period 1999 to 2008, before the economic downturn. It is therefore not unreasonable.

(c) Recent increases in self-employed older people

131. As noted above, there has been a substantial increase in self-employment in Cotswold in recent years and a large proportion of this has been amongst those over 64. A comparison of the increases in the self-employment amongst older people with the latest data on migration from the rest of the UK suggests that most of the additional self-employed people over 64 are likely to have been previously resident in the district and not new arrivals. They could have been existing self-employed people who have continued in work longer than their equivalents in earlier years or people who have entered the labour force on a self-employed basis, perhaps after leaving an employed role. However, the key point relating to the estimation of the number of homes needed to support economic growth is that, insofar as the additional self-employed workers were already resident in the area, they will not have given rise to demand for additional homes. This could suggest that conventional approaches to assessing the housing need to support economic growth might over-estimate the homes needed where there are high levels of self-employment amongst older people.

132. OE separate their jobs forecasts into employee and self-employed jobs. Whilst their figures for self-employed jobs reflect the increase that was seen between 2009 and 2014, thereafter they suggest that the bulk of jobs growth will be in employee jobs, as shown by Chart 41 below:



A Gloucestershire-wide assessment of the jobs-led OAN

133. The October 2014 NMSS Report concluded that full OAN of Cotswold of Dean was the demographically based OAN (6,300 homes 2011-31) plus the district's share of the additional homes needed across the county to support forecast jobs growth (i.e. 1,300 homes), producing a full OAN of 7,600 homes. Using the Gloucestershire-wide jobs projections obtained from OE and CE alongside the latest Cotswold projections it is possible to update this calculation.

134. The headlines from the new Gloucestershire-wide projections are:

    a. The OE jobs forecast for Gloucestershire for 2014-31 has increased from 16,900 jobs to 25,500 jobs, an increase of 50%.

    b. The CE jobs forecast for Gloucestershire has reduced from 31,600 to 19,722, a fall of 38%.

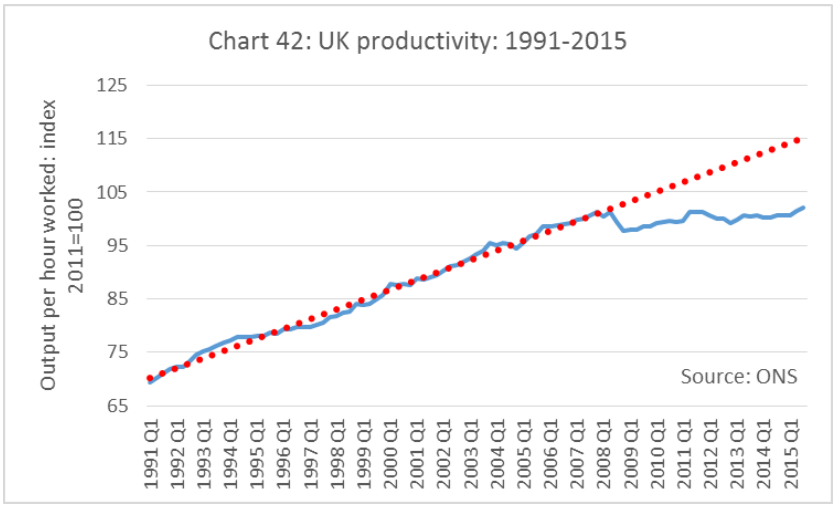
135. That reduction in the CE projection is particularly significant as it was the CE projection in the October 2014 NMSS Report that suggested that an additional 6,100 homes were needed above those envisaged by the demographically-based OAN. The revised projection suggests that the jobs forecast by CE can be supported by 9,500 fewer homes across Gloucestershire than the demographically-based OAN suggests.

136. A similar analysis of the new OE projection indicates that 6,600 fewer homes than suggested by the demographically-based OAN for Gloucestershire would support the OE forecast increase in jobs. That compares with the 2014 analysis which suggested that OE jobs forecast could be supported with 7,100 fewer homes than suggested by the then demographic OAN.

137. The overall conclusion is that the revised jobs forecasts from both agencies can be comfortably accommodated within the population envisaged in the revised demographically-based OAN for Gloucestershire. Updating the Gloucestershire-wide assessment of the Cotswold jobs-led OAN in the October 2014 Report would lead to the conclusion that the full OAN is the demographically-based OAN i.e. 6,800 homes a year.

Productivity assumptions

138. In "Fixing the Foundations: Creating a more Prosperous Nation"[26] the Chancellor of the Exchequer described productivity as "the challenge of our time". He noted that the UK has a long-term productivity problem and that we perform poorly compared with many Western economies. He sets out a strategy to raise productivity by encouraging long term investment and promoting innovation. The essential message is that rising employment has been a major source of growth, but over the longer term, productivity is the more essential ingredient. Chart 42 below illustrates the grounds for the Chancellor's concern: the recession has had an adverse impact on productivity growth and the economy has yet to return to the pre-recession trend in productivity improvements let alone achieve anything better.



139. Whilst both CE and OE assume some improvements in productivity, it is questionable whether they have made sufficient allowance for the likely improvements. In the last recession the fall in productivity was greater than in the previous two but so far there has been surprising little improvement in productivity as the economy has recovered from the downturn.

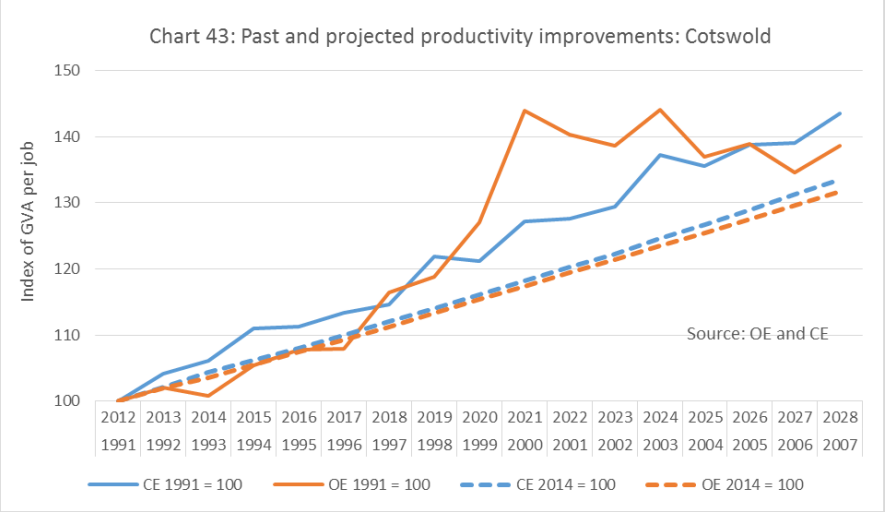
140. As the economy recovers from the downturn demand for goods and services will grow. That increased demand will not necessarily mean more jobs will be created. The last upturn in the economy showed what is called 'smart growth' with few extra jobs as output expanded. There are reasons to expect this will be more prevalent in this upturn because productivity has fallen so heavily – and unexpectedly.

141. The Nupremis report identifies that GVA growth is not dependent upon jobs growth alone and indeed in economic terms, there are several basic factors and processes which can lead to economic growth. Para 5.12 of that report sets out factors which can increase productivity. The processes which can generate growth without additional jobs include:

[26] "Fixing the Foundations: Creating a more Prosperous Nation" HM Treasury, July 2015 Cm 9098 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/443898/Productivity_Plan_web.pdf

a. Existing staff may be more fully utilised with the result that the same number of people produce more output;
b. Many of the jobs that have been created over the last few years have been part-time. As the economy improves it is likely that people will be enabled to work longer hours or that jobs will be restructured to reduce the numbers of workers employed;
c. More overtime working;
d. Improvements in productivity arising from new technology. It is difficult to assess how much further these will go but, given the likely continuing cutbacks in public service jobs, such changes could well accelerate over the period to 2031.

142. One way of gauging how realistic the assumptions made about future productivity improvements are is to compare what is projected with what happened following the recession in the early 1990s. Chart 43 compares the productivity improvements achieved then with what is now projected.



143. If it is the case that as the economy continues to recover productivity improves at or above the rates seen in the 1990s then the same output could be achieved with fewer additional jobs. Whilst it is possible that output could also be higher than forecast, it is perhaps more likely that job growth will be lower than forecast.

Conclusion on homes needed to support economic growth

144. The above analysis provides two contrasting views on the number of homes needed in Cotswold to support economic growth:

a. The **standalone analysis** provides two ranges:

i. 7,600 – 9,300 homes (2011-31) based on unadjusted OE and CE jobs forecasts

ii. 7,700 – 8,800 homes (2011-31) based on the Nupremis alternative scenario

The latter range is more realistic as it is based on adjustments to unlikely or implausible elements in both projections. However, there is little difference between the mid-points of the two ranges: 8,400 homes for the unadjusted projections and 8,300 for the alternative scenarios.

b. The **HMA-wide analysis** suggest that across Gloucestershire as a whole there is no need to increase the number of homes above the demographic OAN. This would imply the full OAN is the demographic OAN i.e. it is 6,800 homes 2011-31.

145. It is appropriate to be a little cautious in interpreting the HMA wide analysis for the following reasons:

a. The HMA-wide analysis assumes that Gloucestershire functions seamlessly as a single housing and employment market area and that those coming to the area to live and those creating new jobs will be indifferent to where within the area they locate. That is an idealised view of a single housing and employment area. The practical reality is likely to lie somewhere between that view and the standalone view – which in effect assumes that Cotswold acts as an isolated area.

b. As Chart X above shows, the Gloucestershire jobs forecasts have been more volatile than those for Cotswold District. There is therefore considerable uncertainty forecast about the robustness of any individual forecast even at the county level. That is underlined by the equivalent analysis in the NMSS October 2014 Report which suggested that 1300 homes should be added to the demographic OAN for Cotswold to produce its full OAN. Adding that number to the updated demographic OAN (6,800 homes) would produce a full OAN of 8,100 homes.

146. These concerns about the HMA-wide analysis suggest that it would be prudent to give more weight to the standalone analysis in setting the OAN.

147. There are a number of other factors that are also relevant to the judgment call about where within the range of homes estimates the OAN should be set. In particular,

a. The role which older self-employed people have played in recent job growth may suggest that the estimate of homes needed to support economic growth is too high.

b. The likelihood that there will be increasing pressure to increase productivity rather than the number of jobs may mean that actual job growth will be lower than forecast.

148. On the other hand, the poor and deteriorating house price/earnings affordability in the district suggests that there is a case for erring in the direction of higher figures and adopting the top of the range figure of 8,400 homes between 2011 and 2031 would be appropriate. On grounds of prudence and positive planning that is what NMSS would advise.

SENSITIVITY ANALYSIS

149. Any analysis of this kind depends on the assumptions made. This section reports the results of sensitivity analysis carried out to explore what the implications would have been had different assumptions been made.

150. The two main components in a household projection and OAN calculation are the estimation of the number of people to be accommodated and the assumptions made about how those people will group themselves into households i.e. the assumptions on household formation rates. This section therefore looks at the impact which alternative assumptions might have in both of areas. In each sensitivity test, only one parameter is changed from the assumptions made in the chosen OAN scenario.

Population sensitivities

151. There are three main areas in which adjustments have been made to the 2012 SNPP:

a. Flows to and from the rest of the UK

b. Overseas flows

c. UPC

152. This sub-section looks at each in turn

(a) Flows to and from the rest of the UK

153. As noted in paragraph 31 above, there are significant technical issues in adjusting the ONS projections for flows to and from the rest of the UK to reflect a 10-year trend period. This is because the ONS does not project inflows as such but instead projects the outflows from all local authorities in the country and allocates these to destination authorities in line with the historical pattern of flows. The projected inflow into a local authority is therefore the sum of the proportions of the projected outflows from all 325 other local authorities plus flows from Wales, Scotland and Northern Ireland that are expected to have that authority as their destination. It is therefore impractical to replicate exactly what the consequences would have been of the ONS using a 10-year period: an approximation needs to be made.

154. There are a number of possible approaches:

i. **Ratio of total flows:** Adjusting the projected flows in 2012 SNPP by the ratio of the average total flows in the period 2002-12 to the average in the period 2007-12.

ii. **Ratio of flows:** As (i) but adjusting the flows for each age and gender group by the ratio of the average flows in each age and gender group.

iii. **Ratio of rest of UK flows:** Calculating average flow rates for inflows by dividing the flows in each age and gender group by the population in that age

and gender group in the rest of the UK. Ratios of average flow rates for the periods 2002-12 and 2007-12 can then be calculated and used to adjust the flows in the 2012 SNPP.

iv. **Ratio of LA flow rates:** As (ii) but dividing the inflows by the population in the local authority in the age and gender group rather than the population in the rest of the UK.

v. **Average UK flow rates:** The average flow rates calculated in methods (iii) and (iv) can be used directly by multiplying the flow rates by either the projected population in the rest of the UK or the authority itself as appropriate.

155. Each of these methods has its advantages and disadvantages.

156. Method (i) has the benefit of simplicity and was used in the October 2014 NMSS Report. It does not, however, take into account how the population in the originating authorities may have changed over the trend period and may not therefore fully reflect the changes in flow rates that may have occurred.

157. Method (ii) is rather more sophisticated but may also not fully reflect changes in flow rates that have occurred.

158. Methods (iii) and (iv) calculate flow rates but those flow rates are not the rates from the areas from which people will have moved to the authority in question. As noted, this is unavoidable as it is impracticable to create a suitably weighted set of flow rates that reflect the actual mix of originating authorities: some proxy has to be used. The accuracy of these methods depends on how good a proxy either the rest of the UK or the authority itself is for the sending authorities. The difference between the results obtained using the rest of the UK as the proxy population (Method (iii)) and the authority's own population as the proxy (Method (iv)) is some indication of how sensitive a particular authority is to the choice of proxy population.

159. Method (v) has the additional issue that the rate at which the projected inflow increases will depend on the rate at which the population in the proxy population grows, which could be faster or slower than in the actual originating authorities. For the three JCS authorities Method (v) produces surprisingly low net flows[27].

160. The proposed demographic population projection assumes that the 2012 SNPP flows are adjusted by the ratio of the average UK flow rates for 2004-14 to the average UK flow rates for 2007-12. To test how sensitive this assumption is to plausible alternatives the following alternative scenarios have been modelled:

a. **Ratio of LA flow rates 2004-14.** This scenario tests how sensitive the flow rate projections are to the choice of the proxy source population.

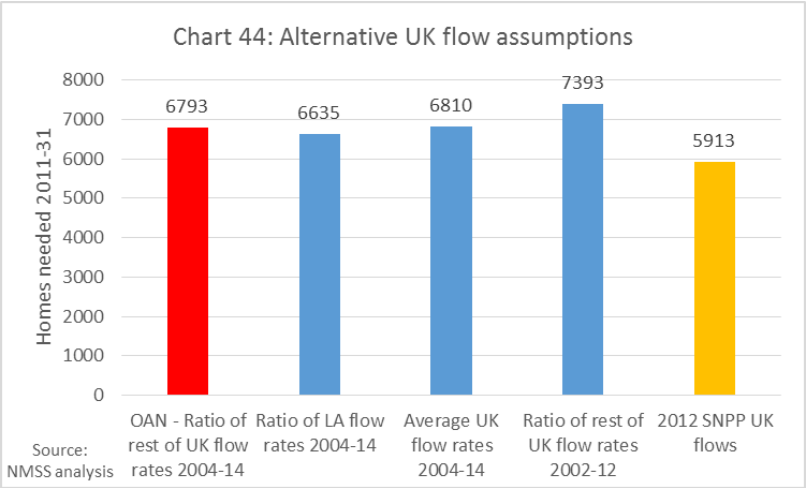
[27] See "*An Updated Estimate of the Objectively Assessed Housing Needs of Cheltenham, Gloucester and Tewkesbury",* NMSS, September 2015, paragraph 30 and Charts 8a-c on page 21 at http://www.gct-jcs.org/Documents/Examination-Document-Library-2/EXAM-119---JCS-OAN-Update-September-2015.pdf

b. Average UK flow rates 2004-14. This method replaces the projected flows in the 2012 SNPP by average rest of UK flow rates for 2004-14. It is another way of modelling the impact of replacing the ONS trend period with the latest 10-year period for which data is available.

c. Ratio of rest of UK flow rates 2002-12. This uses the method used to calculate the OAN to explore the implications of using 2002-12 as the 10-year trend period rather than 2004-14.

d. **2012 SNPP flows:** This is the official baseline/starting point.

161. Chart 44 compares these scenarios with the chosen OAN scenario.



162. As can be seen from the chart:

a. The two alternative methods of estimating the effect of using 2004-14 as the trend period rather than 2007-12 produce very similar results to the method selected for the OAN. The OAN method (ratio of UK flows 2004-14) suggests a housing need of 6793 homes 2011-31 whilst the ratio of LA flow rates method gives 6635 homes (2.3% fewer) and the average UK flow rates 2004-14 gives 6810 homes (0.3% more). It would appear that the result for Cotswold is not very sensitive to the choice of method for making the 10-year flow adjustment.

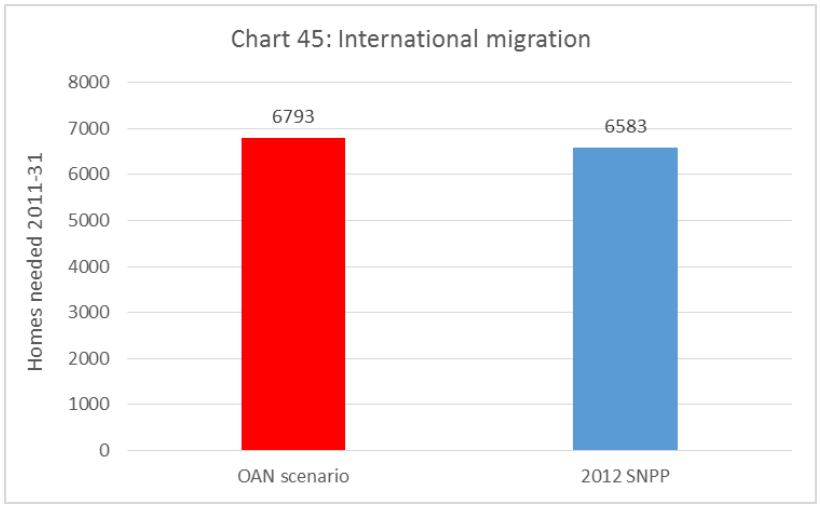
b. If the ratio of the rest of UK flow rate method is used but 2002-12 is taken as the trend period rather than 2004-14 the estimate of the homes needed is 7393 - 8.8% higher than the OAN figure. It is, however, appropriate to base the adjusted projection on the latest data available.

c. The OAN projection is significantly higher (15%) than the figure that would be obtained by using the unadjusted 2012 SNPP UK flow rates.

(b) Overseas flows

163. The proposed demographic projection assumes that flows to and from abroad reflect the average flow rates seen over the most recent 10 year period for which data is

available i.e. 2004-14. Chart 45 shows the impact of leaving the international flows at the lower rate envisaged by the 2012 SNPP.



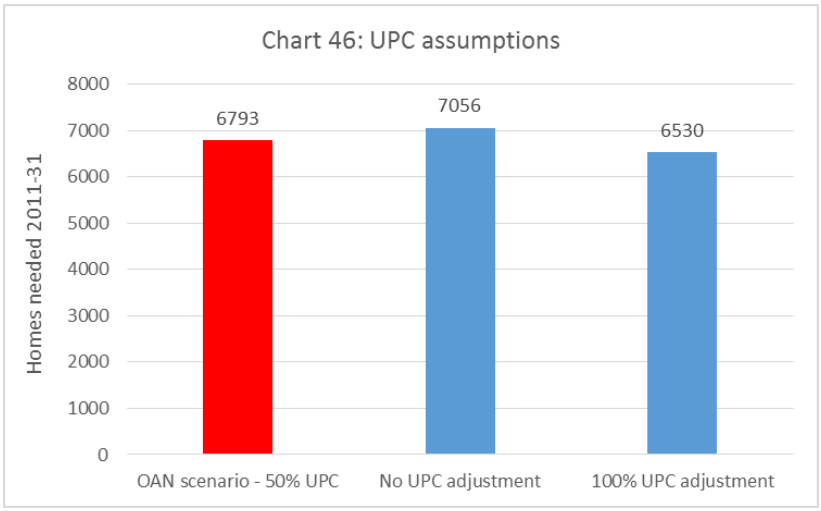
164. As can be seen, the impact is to reduce the number of homes needed by 209 over the period 2011-31, a reduction of 3%.

(c) Unattributable population change

165. Whether or not an adjustment should be made for UPC is debatable. The OAN scenario assumes that 50% of UPC would have contributed to population increases. That is a mid-range scenario. The extremes of the range are the obvious alternative scenarios to sensitivity test, i.e.:

- None of UPC contributes to future population change – the ONS assumption; and,
- 100% of UPC contributes to future population change.

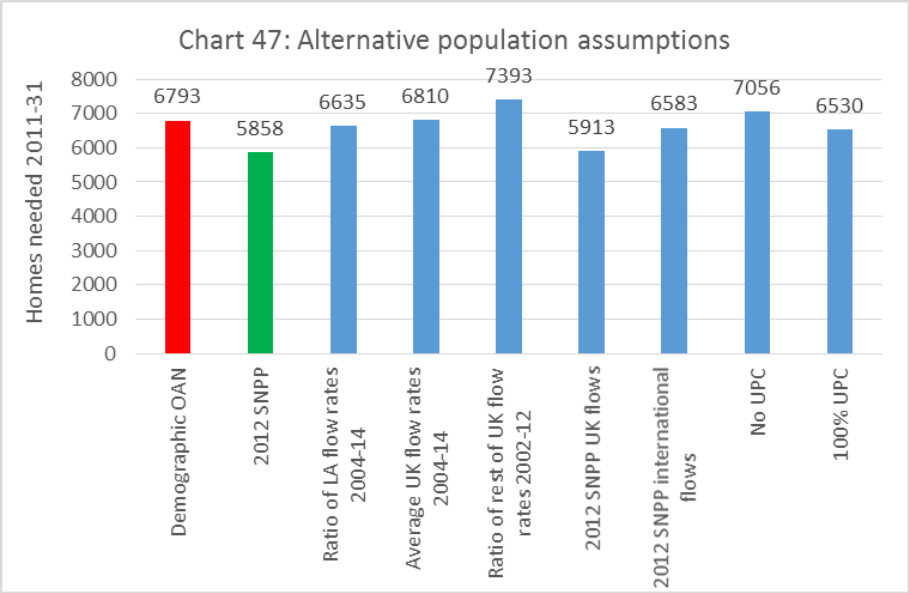
166. Chart 46 shows the results for these two scenarios compared with the OAN scenario.



167. As is to be expected these sensitivities are symmetrical, changing the projected homes needed by +/-263 homes or 4%.

Summary of population sensitivities

168. Chart 47 illustrates all of the population sensitivities discussed above. It includes the unadjusted 2012 SNPP projection (green) to give a comparison with the starting point suggested by the PPG.



169. As can be seen, the range suggested by the sensitivities is not particularly wide: the highest figure is only 9% above the figure suggested for the demographic OAN. Note that all of the figures are below the employment-led-estimate of the OAN. This means that it is the assumptions made about employment that determine the full OAN for Cotswold, not the demographic analysis.

Household formation rate sensitivities

(a) Tests relative to the DCLG 2012 household formation rates

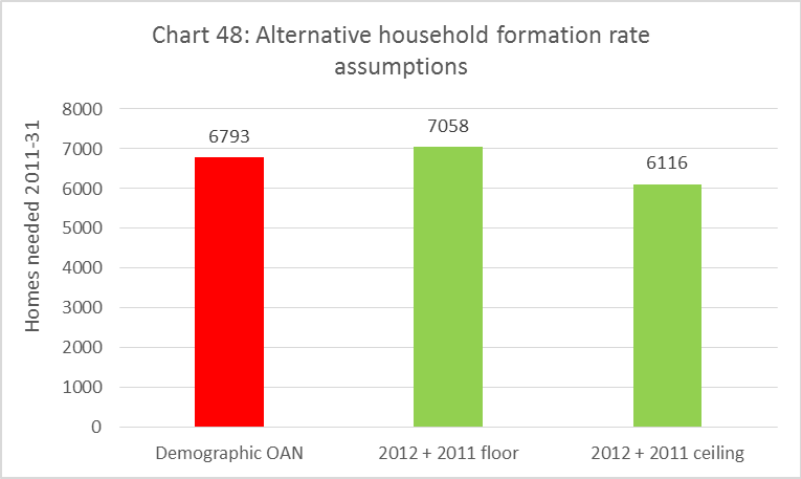
170. The discussion in paragraphs 63-73 above suggests that the 2008-based household formation rate projections are now of very limited relevance: those projections were optimistic even at the time they were formulated and the world has changed irreversibly since then. In this context the most relevant alternative scenarios to test are those which address aspects of the new projections themselves. Two are suggested as being particularly worth investigating:

a. Although the household formation rates in the 2012-based projections are generally higher than those in the 2011-based interim projections and eliminate or reduce most of the instances in which the household formation rates of specific groups are projected to fall, there are still some groups for which a fall is still projected. Whilst this may well be a realistic prospect for those groups, a useful sensitivity test is the scenario in which the household formation rate of no group falls below the level it was at in 2011 and the

rates for other groups rise as projected. This might be described as the '**2011 HFR floor'** scenario.

b. The above scenario is an 'upside' test. A balancing 'downside' test would be the scenario in which the household formation rate of no group rises above its level in 2011. This could be described as the '**2011 HFR ceiling'** scenario. This may sound excessively pessimistic, but with recent shocks to the world economy and the likelihood that emerging economies will catch up on the West, possibly growing at its expense, it is far from obvious that housing conditions will inevitably always move in the upwards direction. This test has the added advantage of providing a measure of the 'upside' included in the 2012-based projections for some groups.

171. Chart 48 gives the results for these two tests compared with OAN scenario.



172. The 2011 floor scenario increases the number of homes needed over the plan period by 266 or 4%. This is a relatively small adjustment and indicates that the deterioration in housing conditions for some groups implicit in the new projections is relatively small.

173. The 2011 ceiling scenario reduces the number of homes needed by 677 or 10%. This is a much larger margin and indicates that the improvements in housing conditions which some groups are projected to enjoy are reasonably significant.

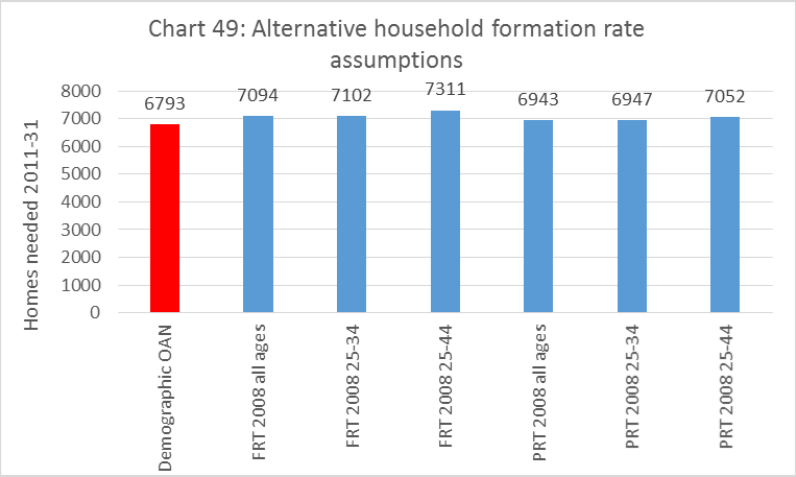
Test based on the 2008-based household formation rates

174. Although there is growing evidence that the 2008-based household projections have very little relevance some still use them as the basis for constructing sensitivity tests, perhaps in the absence of any other benchmark. Six such tests have been carried out involving either a full return to the 2008-based household formation rates by 2031 for some or all age groups or a partial return, which is interpreted as a move to the mid-point between the 2008 and 2012-based rates by 2031. These tests are:

a. Full return to 2008-based rates for all age groups for all ages 'FRT 2008 all ages'.
b. Full return to 2008-based rates for 25-34 year olds 'FRT 2008 25-34s'

c. Full return to 2008-based rates for 25-44 year olds 'FRT 2008 25-44s'
d. Partial return to 2008-based rates for all age groups 'PRT 2008 all ages'
e. Partial return to 2008-based rates for 25-34 year olds 'PRT 2008 25-34s'
f. Partial return to 2008-based rates for 25-44 year olds 'PRT 2008 25-44s'

175. Chart 49 shows the results of these tests, the OAN figure shown being the demographic OAN.



176. As expected all of these scenarios increase the number of homes needed. However, the biggest increase is not the full return to trend for all age groups: that distinction goes to the full return to trend of 25-44 year olds. The reason why the full return to trend of 25-44 year olds has a higher homes requirement is, as mentioned earlier, because the 2012-based projection has higher household formation rates than the 2008-based projection for a sizeable proportion of older age groups.

177. It might be noted that the impact of these scenarios, whilst not insignificant, is not that large. Even the full return to trend for 25-44 year olds only increases the number of homes needed by 518 homes or 7.6%.

Summary of the household formation rate scenarios

178. Chart 50 (below) summarises all of the household formation rate sensitivity tests relative to the demographic OAN. Note that there is relatively little difference between the '2001 floor' scenario (7058 homes 2011-31) and the full return to 2008 trend (7094). The difference is only 41 homes or 2 a year.

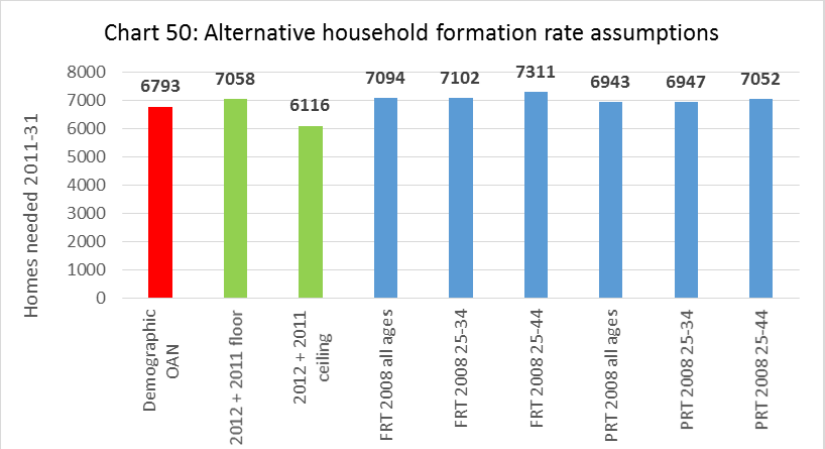


Chart 50: Alternative household formation rate assumptions
Homes needed 2011-31
8000
7000
6000
5000
4000
3000
2000
1000
0
6793
7058
6116
7094
7102
7311
6943
6947
7052
Demographic OAN
2012 + 2011 floor
2012 + 2011 ceiling
FRT 2008 all ages
FRT 2008 25-34
FRT 2008 25-44
PRT 2008 all ages
PRT 2008 25-34
PRT 2008 25-44

THE HOUSING MARKET AREA (HMA) PERSPECTIVE

179. A picture of the housing need of the wider housing market area – Gloucestershire – can be obtained by repeating the above analysis for all six Gloucestershire districts. For each authority the same assumptions have made as for Cotswold i.e. the ONS/DCLG projections have been adjusted as follows:

a. Flows to and from the rest of the UK have been adjusted to reflect flow rate in the period 2004-14

b. The projections have been re-based to the population estimates contained in the 2014 MYE

c. International migration flows have been based on the average flows over the period 2004-14

d. A 50% adjustment has been made for UPC irrespective of whether UPC is positive or negative.

e. The DCLG 2012-based household formation have been used 'as published'.

180. Table 12 shows the population projections made in calculating the demographic OANs for Cotswold, the JCS area and Gloucestershire as whole in October 2014 and in this report. Note that for all three areas the planning assumption was significantly higher than the 2012 SNPP figure and that the effect of updating the analysis to reflect more recent data has been to increase the differential. Note also that the percentage uplift for Cotswold is very much higher than for the JCS area or the housing market area as a whole.

Table 12: Comparison of demographic population projections

Population change 2011-31	Cotswold	JCS area	Gloucestershire
2012 SNPP	7100	52600	79600
October 2014 planning assumption	8300	56400	87300
- above as percentage increase on 2012 SNPP	16%	7%	10%
Current planning assumption	9800	57600	92200
- above as percentage increase on 2012 SNPP	38%	10%	16%

Note: figures for Forest of Dean and Stroud are not given as they have not been party to this analysis

181. Table 13 compares the October 2014 demographic OAN estimates for these areas with the latest estimates. Note again that in all cases the OAN has increased.

Table 13: Comparison of demographic OANs

Population change 2011-31	Cotswold	JCS area	Gloucestershire
October 2014 demographic OAN	6300	30400	51800
Current demographic OAN	6800	31800	55300
Percentage increase on October 2014 OAN	8%	5%	7%

Note: figures for Forest of Dean and Stroud are not given as they have not been party to this analysis

182. Whilst this HMA-wide analysis provides useful context its direct relevance to the Cotswold OAN is limited as the other parts of Gloucestershire – the JCS area, Stroud and Forest of Dean – are proposing to meet their objectively assessed needs for housing within their own boundaries.

183. Of far greater relevance is the HMA-wide analysis of the implications of the jobs increases forecast by OE and CE. This is discussed in the section on 'Supporting Economic Growth' above but the key figures are set out in the table below for completeness.

Table 14: Comparison of demographic and jobs-led OANs			
Population change 2011-31	Cotswold	JCS area	Gloucestershire
Current demographic OAN	6793	31830	55341
Homes needed for OE projection	9300	23981	48730
Extra homes above OAN - OE	2507	-7849	-6611
Homes needed for CE projection	7600	27044	45858
Extra homes above OAN - CE	807	-4786	-9483

SUMMARY AND CONCLUSIONS

184. The starting point for this Update Report is the DCLG's 2012-based household projections (DCLG 2012) which were released in February 2015. These were based on the ONS's 2012-based Sub-national Population Projections (2012 SNPP) which were published in May 2014. However, more recent evidence on how the population has changed since 2012 is available from the 2014 Mid-Year Estimates (2014 MYE) which were issued in June 2015 and the international migration statistics for the year to March 2015 which were released in August 2015. This report also takes that additional evidence into account to provide the most up to date view possible.

Conclusions on the population to be planned for

185. It is proposed that three adjustments should be made to the ONS's 2012-based Sub-national Population Projection for Cotswold to reflect both weaknesses in those projections and the latest evidence available from the 2014 Mid-Year Estimates and the most recent international migration statistics.

186. The proposed adjustments are shown in Table S1 (below):

a. The ONS's 2012 Sub-national Population Projections (2012 SNPP) use 2007-12 as the trend period for projecting flows to and from the rest of the UK. That period included the economic downturn during which flows into Cotswold were lower than in earlier years. This is likely to have caused an underestimation of future net flows into the district and a lower population projection than the longer term trend would suggest. Adjusting to reflect flows in the latest 10-year period for which data is available (2004-14) provides a better view of likely future flows as the impact of the atypical flows during the recession is balanced by the higher flows in earlier years and weight is given to flow levels since the downturn. At the same time it makes sense to adjust the projections (re-base them) so that they reflect the ONS's estimate of the actual population in 2014 rather than the projection made for that year in the 2012 SNPP. The effect of this set of adjustments is to increase the projected population increase between 2011 and 2031 from 7145 in the 2012 SNPP to 9667, an increase of 2522 or 35%. (Rows B and C)

b. Net international migration into the UK is currently about twice that assumed by those who compiled the 2012 SNPP. There is a strong case for adjusting those projections to reflect this, not least because the ONS have themselves subsequently revised upwards their national projection for net migration into the UK. To avoid giving undue weight to only two years' figures whilst reflecting what has actually happened in Cotswold it is proposed that the international flows should be adjusted to reflect average flows over the latest 10-year period for which data exists i.e. 2004-14. This increases the projected population increase between 2011 and 2031 by 661 or 7%, lifting the projected increase from 9667 to 10,327. (Rows D and E)

c. It is debatable whether the projections should make an allowance for Unattributable Population Change (UPC). The ONS made no such allowance in the 2012 SNPP. However, earlier analysis for the Stroud, Cotswold and the Forest of Dean took the view that it was appropriate to err on the side of caution to avoid any possibility of underestimating the population to be planned for. It had therefore assumed that for the authorities for which UPC was positive all of UPC would have contributed to future population increases and that where UPC was negative (as in Cotswold) no adjustment should be made. This assumption was at the other extreme of the range from the ONS's assumption (that none of UPC would have contributed to future population increases). The likelihood is that the actual position will lie somewhere between the two extremes. As there is no way to determine where in the range is most likely, the mid-point has been used. The effect is to reduce the projected population increase of Cotswold by 489 or 5%, from 10,327 to 9,839. (See Rows F and G.) This is, therefore, a small offset to the increases caused by the other two adjustments.

Table S1: Adjustments to the ONS's 2012-based population projection		
Change 2011 - 2031		**Population**
A	**2012 SNPP**	**7145**
B	*Adjustment for 2014-14 flows + re-basing*	*2522*
C	**2004-14 UK flows + re-basing to 2014 MYE**	**9667**
D	*Adjustment for 2004-14 overseas flows*	*661*
E	**MYE + 2014-14 UK + overseas flows**	**10327**
F	*Adjustment for 50% UPC*	*-489*
G	**MYE + 2014-14 UK +overseas flows + 50% UPC**	**9839**

187. The overall effect of these adjustments is to increase the 2012 SNPP's projection for the increase in the population of Cotswold over the plan period from 7,145 to 9839, an increase of 2694 or 38%.

How the population is likely to group itself into households

188. To turn an estimate of a population change into an estimate of the change in the number of households a view needs to be taken on how the tendency of people to form separate households (the household formation rate) is likely to change. The latest DCLG household projections (DCLG 2012) provide the most recent official view on this and represent a significant step forward from the 2011-based interim projections (which were prepared relatively quickly following the 2011 census as a stop-gap measure). Having reviewed the latest projections, NMSS believes that they should be used as published.

189. In particular, there is no longer a need to make adjustments to the projected household formation rates for young adults (those aged 25-34) that were appropriate when using the 2011-based interim projections. Those projections envisaged a continuing sharp deterioration in the household formation rates of that age group. NMSS believe that the latest DCLG projections represent a realistic view of likely trends in household formation patterns when account is taken of the

changes that have occurred since the last pre-recession projection were published (the 2008-based projections).

190. Once an allowance is made for empty and second homes (based on council tax data), applying the 2012-based DCLG household formation rates to the adjustment 2012 SNPP population projections produces a demographically-based estimate of the OAN of the Cotswold area of 6,800 homes over the period 2011-31, as set out in Table S2. This also shows the figures that are implied by the unadjusted DCLG's 2012-based projection.

Table S2: Demographic OAN of Cotswold			
Change 2011 - 2031	Population	Homes	Homes/yr
DCLG 2012-based projection	7100	5900	290
Demographic OAN	9800	6800	340

Conclusions on adjustments for 'other factors'

191. There is no case for an uplift to the demographic OAN for affordable housing as it should be possible to deliver the affordable housing that is needed within the demographic OAN.

192. As far as market signals are concerned, Cotswold is an area with high house prices and poor affordability. This, however, reflects the attractiveness of the area and is not a basis on which to apply a 'market signals adjustment'. The only potential grounds for a market signals adjustment are the rate of increase in house prices; the deterioration in the affordability ratio; and the suggestion that there may have been under supply in the years before the economic downturn. However, in each of these areas the evidence is far from conclusive: a significant proportion of South West authorities have seen a faster proportionate increase in house prices or a bigger deterioration in affordability and any undersupply in the period before the downturn has been offset by stronger delivery during and after the downturn, with housebuilding recovering sooner and faster than in other areas.

193. Given that this report is proposing substantial upward adjustments to the housing requirement implied by DCLG's latest household projections as result of adjustments to the ONS population projections and the addition of extra homes to support economic growth, there is no case for any further adjustment for market signals. At most the market signals provide an argument for setting the OAN at the top of the range for the number of homes needed to support economic growth.

Conclusion on homes needed to support economic growth

194. Updated (November 2015) economic forecasts have been obtained for both Cotswold and Gloucestershire as a whole from Cambridge Econometrics (CE) and Oxford Economics (OE). These have been reviewed by Nupremis who have produced an alternative scenario which adjusts unlikely or implausible elements in both projections. Two alternative analyses of the housing implications of these projections have then been produced:

a. A **'standalone analysis'** which looks at the forecasts for Cotswold in isolation. This provides two ranges:

i. 7,600 – 9,300 homes (2011-31) based on unadjusted OE and CE jobs forecasts

ii. 7,700 – 8,800 homes (2011-31) based on the Nupremis alternative scenario

The latter range is more realistic as it is based on the adjusted projections but there is little difference between the mid-points of the two ranges: 8,400 homes for the unadjusted projections and 8,300 for the alternative scenarios.

b. An **HMA-wide analysis** which suggest that across Gloucestershire as a whole there is no need to increase the number of homes above the demographic OAN. This would imply the full OAN is the demographic OAN i.e. it is 6,800 homes 2011-31.

195. It is appropriate to be a little cautious in interpreting the HMA wide analysis for the following reasons:

a. The HMA-wide analysis assumes that Gloucestershire functions seamlessly as a single housing and employment market area and that those coming to the area to live and those creating new jobs will be indifferent to where within they area they locate. That is an idealised view of a single housing and employment area. The practical reality is likely to lie somewhere between that view and the standalone view – which in effect assumes that Cotswold acts as an isolated area.

b. The Gloucestershire jobs forecasts have been more volatile than those for Cotswold District. There is therefore considerable uncertainty about the robustness of any individual forecast even at the county level. That is underlined by the equivalent analysis in the NMSS October 2014 Report which suggested that 1300 homes should be added to the demographic OAN for Cotswold to produce its full OAN. Adding that number to the updated demographic OAN (6,800 homes) would produce a full OAN of 8,100 homes.

196. These concerns about the HMA-wide analysis suggest that it would be prudent to give more weight to the standalone analysis in setting the OAN. Moreover, the poor and deteriorating house price/earnings affordability in the district and the question mark over possible undersupply prior to the economic downturn, suggest that there is a case for erring in the direction of the higher figures. This would imply adopting the top of the range figure of 8,400 homes between 2011 and 2031. On grounds of prudence and positive planning that is what NMSS would advise.

Conclusion on the OAN

197. **The full OAN for Cotswold District in 8400 homes over the period 2011-31 or an average of 420 homes a year.**

198. Given the inevitable uncertainties, the demand for homes and the growth in employment should be closely monitored and the OANs should be reviewed periodically in the light of what actually happens.