

**Rebuttal Proof of Evidence by Neil McDonald**

**NM Strategic Solutions Ltd**

**on behalf of Tendring District Council**

**Appeals by City & Country**

**Land to The North of Thorrington Road, Great Bentley, Essex CO7 8QD**

**&**

**Land to The West of Plough Road, Great Bentley, Essex CO7 8LG**

**&**

**Land to The South of Thorrington Road, Great Bentley, Essex CO7 8QE**

**Planning Inspectorate References:**

**APP/P1560/W/17/3183678, 3183626 & 3183695**

**Tendring District Council References:**

**17/01098/OUT and 17/00068/REFUSE**

**17/01096/OUT and 17/00066/REFUSE**

**17/01097/OUT and 17/00067/REFUSE**

**November 2017**

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## APPENDICES

1. Whither Household Projections? TCPA article by Professor Simpson, December 2014.
2. Email from ONS about Tendring's UPC dated 29 November 2017

# PROOF OF EVIDENCE

## 1. Introduction

1. This rebuttal proof of evidence responds to the proof submitted by Mr Colin Robinson (CD 10/8) on behalf of the appellant insofar as that proof deals with Tendring's OAN. It identifies the most significant points of difference between the analysis put forward by Mr Robinson and that summarised in my main proof (CD 10/16) and explains why I believe my analysis produces a better estimate of Tendring's housing needs.
2. It should not be inferred that the Council is content with points made by Mr Robinson that are not mentioned.

## 2. Common ground and points of difference

3. Mr Robinson believes that the Full OAN lies in the range 570 – 670 homes a year 2013-37 and that a figure of 620 homes a year should be adopted for this appeal. I believe that the range is 440 – 530 and that where a single figure is needed 480 homes a year should be used.
4. It is common ground that:
  - a. The starting point for estimating the OAN should be DCLG's 2014-based household projections (2014 SNHP) which suggest that an average of 625 net additional households a year will be formed in Tendring over the period 2013-37.
  - b. It should be assumed that 6.57% of homes will be empty or used as second homes. This means that the 2014 SNHP implies a need for 669 homes a year 2013-37.
  - c. Once adjustments are made for various factors to produce a demographically-based estimate of the OAN, a 15% uplift should be added (although it should be noted that Mr Robinson and I differ as to the grounds which justify this uplift.)

5. I would also note that, although Mr Robinson and I disagree as to the proportion of Unattributable Population Change (UPC) which should be attributed to errors in the historic migration flow estimates, our modelling produces very similar results for the impact which a given proportion has on the projected increase in household numbers. For example, Mr Robinson's modelling suggests that attributing 57% of UPC to migration reduces the housing needed by 226 homes a year whilst mine suggests the reduction is 230 homes a year. We are, therefore, for all practical purposes, agreed on the impact of a given attribution of UPC to migration: the point of disagreement is the proportion of UPC that is due to migration.
6. There are five significant points of difference between the two OAN calculations:
  - a. **Point 1:** Mr Robinson believes that the household projections should be re-based to reflect the 2016 Mid-Year Population Estimates (2016 MYE). This **adds 39 homes a year** to his estimate. I do not believe that this is appropriate as the 2016 MYE has been affected by some of the errors which caused UPC and is not therefore a reliable starting point.
  - b. **Point 2:** Mr Robinson believes that the DCLG's 2014-based household formation rates for 15-34 year olds should be adjusted so that they partially catch-up with the 2008-based household formation rates. This **adds 11 homes a year** to his estimate. I believe that the DCLG's 2014-based projections should be used 'as published' as they are the best available indication of how household formation rates are likely to change.
  - c. **Point 3:** I believe that the official projections should be updated to reflect the ONS's latest view on future mortality rates and international migration flows as set out in their 2016-based National Population Projections (2016 NPP) published on 26 October. This **reduces the number of homes needed by 50 a year**. It may be that Mr Robinson was unaware of the 2016 NPP or its implications when he performed the analysis on which his proof is based.

- d. **Point 4:** Mr Robinson believes that the OAN should be estimated on the basis that 47% to 57% of UPC is attributable to errors in the historic migration flow estimates. I believe that a more appropriate range is 50% to 65% and that 55% is the most likely figure. I use 55% for the purposes of this appeal. The mid-point of Mr Robinson's range implies a need for **14 more homes a year** than my figure of 55%.
- e. **Point 5:** Mr Robinson believes that the projected migration flows should be adjusted to reflect flow rates in the period 2004-14. I believe that this does not reflect the recent downward trend in inflow rates from the rest of the UK and that a smaller adjustment is appropriate. Mr Robinson's approach implies that **55 more homes are needed compared with 22 in my approach** although he gives only half weight to this in his final estimate.

7. Figure 1 below summarises the two calculations:

<b>Figure 1: Comparison of Lichfields and NMSS OAN estimates for Tendring</b>				
	Lichfields		NMSS	Differences
<b>2014 SNHP household growth 2013-37</b>	<b>625</b>		<b>625</b>	
6.57% of homes assumed to be empty or second homes	44		44	
	<b>669</b>		<b>669</b>	
Re-base to 2016 Mid-Year Estimate	39			<b>39</b>
	<b>708</b>		<b>669</b>	
Partial catch up with 2008-based headship rates	11			<b>11</b>
	<b>719</b>		<b>669</b>	
Adjustment to reflect ONS's assumptions in 2016 NPP			-50	<b>50</b>
	<b>719</b>		<b>619</b>	
UPC adjustment: Lichfields 47%/57%; NMSS 55%	47%	57%	55%	
	-190	-226	-222	<b>32 to -4</b>
	<b>529</b>	<b>493</b>	<b>397</b>	
Longer term migration trend period	55	55	22	<b>33</b>
<b>Demographic estimate</b>	<b>584</b>	<b>548</b>	<b>419</b>	<b>129 to 165</b>
15% uplift	88	82	63	19 to 25
<b>Total</b>	<b>672</b>	<b>630</b>	<b>482</b>	<b>148 to 190</b>
<b>Full OAN - rounded and averaged for Lichfields*</b>	<b>620</b>		<b>480</b>	<b>140</b>

\* Lichfields average their 57% UPC estimate without the longer trend adjustment (493 uplifted by 15% = 567) and their 47% UPC adjustment with the longer trend adjustment and the 15% uplift (672)

8. Figure 2 lists the main points of difference:

<b>Figure 2: Summary of points of difference</b>	<b>Impact: homes/year</b>
1. Re-basing to 2016 Mid-Year Estimates	39
2. Partial catch up with 2008-based headship rates	11
3. Adjustment to 2016 NPP assumptions	50
4. Difference in percentage due to UPC	32 to -4
5. Difference in longer migration trend adjustment	33
<b>Total of differences in demographic OAN estimate</b>	<b>129 - 165</b>

### 3. Key points of difference

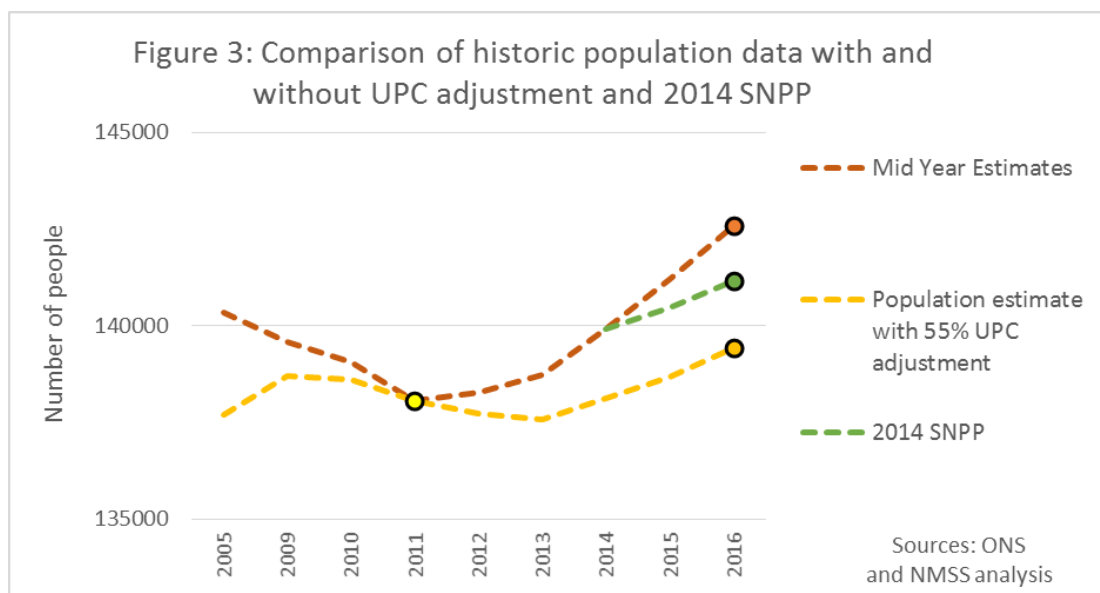
#### **Point 1: Re-basing to 2016 Mid-Year Estimate Population**

9. The 2014-based Subnational Population Projections for England<sup>1</sup> (2014 SNPP) are the most recent ONS population projection for local authorities. They were published in May 2016 and were a key input to DCLG's 2014-based household projections (2014 SNHP). Since the 2014 SNPP were published the ONS has released two sets of Mid-Year Estimates, the most recent being the 2016 set (2016 MYE). Re-basing the 2014 SNPP to the 2016 Mid-Year Estimate (2016 MYE) means taking 2016 MYE population as a more accurate view of the population in 2016 than the figure suggested by the 2014 SNPP for that year and then rolling forward the projection from that revised starting point.
10. Mr Robinson suggest this (CD 10/8 §6.2.3). That is a reasonable approach to take when there are good grounds to believe that mid-year estimate is a more accurate estimate of the population in 2016 than the 2014 SNPP figure for that year. But that is not the case for Tendring. This is because, for the years between the censuses, the mid-year estimates are created simply by taking the last census figure and adding births, subtracting deaths and then adding the estimated net migration flows. If there are errors in any of these components then there will be errors in the mid-year estimates. The ONS acknowledge this and produce estimates of the uncertainty in their mid-year estimates – see Appendix 12 to Mr Robinson's proof (CD 10/8).
11. In Tendring's case there are good reasons to believe that the 2016 MYE population estimate is too high. As explained in my main proof (CD 10/16 §67), the increase in household numbers between 2011 and 2016 implied by the population increase suggested by the 2016 MYE suggests that far more households have been accommodated than is likely given the increase in the number of homes in the district. This suggests that the 2016 MYE has over-estimated the population increase since 2011

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<sup>1</sup> The *Subnational population projections for England: 2014-based projections* were published on 25 May 2016 and are available at <http://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/subnationalpopulationprojectionsforengland/2014basedprojections>

by around 2,500. This in turn means that in order to produce a sound population projection for Tendring it is necessary not just to revise the migration flow estimates for 2001-11 but also the estimates for 2011-16. This is illustrated in Figure 3:



12. In Figure 3:

- the yellow dot is the 2011 census-based<sup>2</sup> population estimate (138,100);
- the brown dashed line is the population suggested by ONS’s mid-year estimates (142,600 in 2016); the green dashed line is the 2014 SNPP which projected a population of 141,153 in 2016 ; and
- the yellow dashed line is the adjusted population estimates produced on the basis that 55% of UPC was due to errors in the migration estimates and these errors have continued after 2011 – as the comparison between the house building figures and the population estimates suggests. It suggests a population of 139,400 in 2016.

13. Mr Robinson is content to assess Tendring’s housing need on the basis that 47% – 57% of UPC is attributable to migration (CD 10/8 § 6.3). The 57% scenario would be slightly

<sup>2</sup> The figure shown is for mid-year 2011, not the census day estimate. It is, however, derived from the census estimate.



lower between 2011 and 2016 than the yellow dashed line and the 47% scenario slightly higher, but both would be well below the brown dashed line of the mid-year estimates. It is therefore completely inappropriate to re-base the 2014 SNPP to the 2016 MYE as the assumption that a proportion of UPC is due to migration estimates being too high means that the 2016 MYE is too high. Instead, the 2014 SNPP needs to be re-based to start from the much lower population estimate for 2016 obtained by correcting the migration flow estimates for the period 2011-16. The adjustment suggested by Mr Robinson is therefore completely inappropriate.

14. I would also note that this evidence from the house completions data for 2011-16 shows (CD 10/16 §67) that it is not the case that the UPC errors were confined to the earlier part of the period between the censuses or that they did not continue after 2011, as suggested by Mr Robinson. (CD 10/8 §5.7).

### **Point 2: Partial Catch-up to 2008-based household formation rates**

15. Mr Robinson notes that household formation rates are low for 15 – 24 year olds and that they are projected to fall for that group and the 25-34s. This is often the case and the trend is much more pronounced in many other areas. However, Mr Robinson seems to regard it as self-evident that the falling rates in the 2014-based projections are wrong but he offers no evidence to support this (CD 10/8 §5.18-5.27). He argues that the Council’s analysis should have applied “a more robust approach to household formation rates” (§5.25). He then proposes that the headship rates for 15-34 year olds should be adjusted so that they move to the mid-point between the 2008-based headship rates and the 2014-based rates.
16. There are very good grounds for believing that the 2014-based projections provide the best available indication of future household formation rates and for not giving any weight to the 2008-based set. In particular:
  - a. The base date of the 2008-based projections is 9 years ago: too old to tell us anything about current conditions.

- b. The 2008-based projections pre-date the economic downturn which caused irreversible changes: it is simply not realistic to expect the world to return to how it was in 2007.
- c. The 2008-based projections are based on an estimate of the number of households in Tendring in 2008 that we now know to be 3000 households too high<sup>3</sup>.
- d. Independent analysis by Professor Simpson<sup>4</sup> has concluded 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 sustained increase among young people not leaving home” which began at the turn of the century and accelerated after 2008;*
  - *“...the introduction of student fees from 1998”*
  - *“...the increase in precarious employment, including the rapid growth of part-time work....”*
  - *“The long term increase in the number of childless women...which increased the number of smaller households, stopped and has fallen since 2000.”*
  - *“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.”*

He 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....”*

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<sup>3</sup> Live Table 406 for the 2008-based projections gives the number of households in 2008 as 66,000 see: <http://webarchive.nationalarchives.gov.uk/20121103084213/http://www.communities.gov.uk/documents/housing/xls/140987.xls>. The same Live Table for the 2014-based projections gives the number of households in 2008 as 63,000. The difference (3000 households) is due to the estimates of the number of households in the years between 2001 and 2011 being corrected in the light of the lower than expected number of households found by the 2011 census.

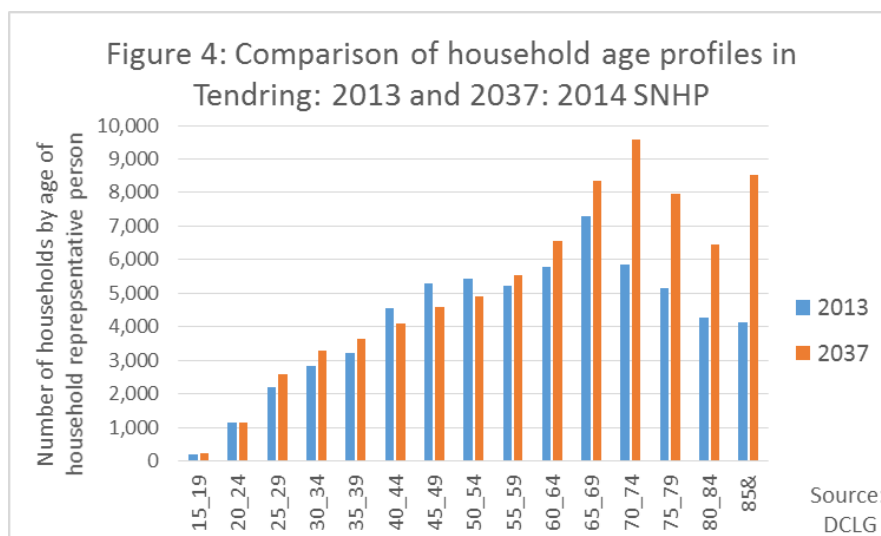
<sup>4</sup> Professor Simpson is Professor of Population Studies at the University of Manchester and is the originator and designer of Popgroup. His view are quoted from an article in the December 2014 TCPA Journal entitled, “Whither household projections”

17. Moreover, the fact that the adjustment is only 11 homes a year (1.6%) suggests that any impact that the economic downturn may have had on Tendring's household formation patterns was very small.
18. I would also note that Mr Robinson cites in support of his 'Partial Catch-up' adjustment the similar proposal by Local Plan Expert Group in March 2016 (his paragraph 5.24, page 24). This was no more than a proposal to Government that has not been endorsed in any way. The DCLG's recent proposals for simplifying the calculation of OANs make no reference to it. It is therefore reasonable to conclude that the DCLG have discounted this suggestion. The proposed adjustment should also be discounted in this appeal.

### **Point 3: Adjustments to reflect ONS's latest views on mortality rates and international migration**

19. The ONS produces its population projections on a 2-yearly cycle. In each cycle it first produces its national population projections and then some months later it produces the sub-national projections which provide the local authority level figures. The local authority figures sum to the national totals. In particular, the local authority projections for international in- and outflows add to the national total and the age-specific mortality rates used for the local authority projections move in line with the changes projected for national mortality rates.
20. The latest cycle has begun with the publication by the ONS of its 2016-based National Population Projections (2016 NPP) on 26<sup>th</sup> October 2017. The new assumptions for international migration and mortality rates announced in those projections will be reflected in the 2016-based Sub-national Population Projections (2016 SNPP) which will be published next spring/summer.
21. The most important changes for Tendring are the adjustments made to mortality rates. These are significant for Tendring as it has an age profile that is heavily weighted towards older age groups and will become more so over the next 20 years. This means that a very high proportion of the additional homes that are needed in Tendring are for people

aged over 65, as can be seen by comparing the household age profile in 2013 with that projected by the 2014 SNHP for 2037 - see Figure 4:



22. As the chart shows, there is very little growth in the younger age groups: nearly 95% of the growth is in households headed by someone aged 65 or over.
23. With such a high proportion of additional homes needed for older people it is very important that planning for housing is based on the latest assessment of future mortality rates.
24. The omission of this factor from Mr Robinson's analysis is understandable given that the 2016 NPP is so recent but is nevertheless an omission that should be corrected.

#### **Point 4: Proportion of UPC attributable to migration**

25. Mr Robinson tests scenarios in which the proportion of UPC attributable to migration is either 47% or 57%. I believe that the minimum realistic figure is 50% and that 55% is the most likely proportion.
26. Mr Robinson's 47% and 57% come from the ONS's note (Appendix 2 to CD 10/16) which suggested that at most 5,000 to 6,000 of UPC was due to migration errors. 47% equates to 5,000 being due to migration errors and 57% equates to 6,000 being due to migration. As UPC was 10,533 and the census and migration errors must add to this figure, if 5,000

was due to migration errors, 5,533 must be due to census errors i.e. the difference between the 2001 and 2011 actual populations must be 5,533 larger than suggested by the censuses.

27. As explained in my main proof (CD 10/16 §50-52), the best alternative data sources with which to cross-check the population change figures are the house building figures and the council tax base. Both are difficult to reconcile with more than half of UPC (5,267 people) being due to census errors and both indicate that the error due to the censuses is likely to have been significantly less than 50%. This can be shown as follows:

- a. According to DCLG<sup>5</sup> there were **62,164 households in Tendring in 2011.**
- b. According to the 2011 census<sup>6</sup> **7.36% of household spaces had no usual resident in 2011.**
- c. If there were 62,164 households and 7.36% of homes were not occupied by households as their main residence this implies that there were **67,100 dwellings in Tendring in 2011.** ( $62,164 \div (1 - 7.36\%) = 67,100$ .) This number compares reasonable closely with the 2011 census<sup>7</sup>; valuation list<sup>8</sup> and the DCLG dwelling stock figure<sup>9</sup> for the number of dwellings in 2011 so it can be taken as a reliable starting point.
- d. Having established the number of homes in 2011, other data sources which give figures for the change in dwelling stock between 2001 and 2011 can be used to estimate the number of homes in 2001- see Figure 5. 'Net additions' are homes completed less those demolished or otherwise removed from the stock, plus any additional homes created as result of conversions etc.

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<sup>5</sup> DCLG Live Table 406. See:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/536731/Household\\_Projections\\_Published\\_Tables.xlsx](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536731/Household_Projections_Published_Tables.xlsx)

<sup>6</sup> Census 2011 Table KS401EW - Dwellings, household spaces and accommodation type

<sup>7</sup> The census 2011 estimate of dwelling spaces in Tendring was **67,036** (From: Table KS401EW - Dwellings, household spaces and accommodation type).

<sup>8</sup> The 2011 council tax valuation list for 2001-02 had **67,354** homes on it.

<sup>9</sup> DCLG's Live Table 100 gives **66,930** as the dwelling stock in 2011. See:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/609285/LT\\_100.xls](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/609285/LT_100.xls)

Figure 5: Estimates of dwelling numbers in 2001			
	House completions	Valuation List	Net additions
Homes in 2011	67100	67100	67100
<b>Less</b> homes added 2001-11	4059	3732	2220
Homes in 2001	63041	63368	64880

- e. These three estimates for the number of homes in 2001 can be compared with the 2001 census figure<sup>10</sup> of 64,907. Note that the figures estimated from the completions data and the valuation list are respectively 1866 and 1539 lower than the census figure. This suggests that the 2001 census miscounted dwellings as well as people, the discrepancy being nearly 3%, implying that census counted one home that was not there for every 34 that were. This seems very strange but it is consistent with the census having over-estimated the population in 2001.
- f. The net additions figure<sup>11</sup> was discounted in preparing my main proof although, as it comes from official statistics, it perhaps should not be completely ignored.
- g. By applying the 2001 census percentage for homes with no usual resident it is possible to calculate how many households these estimates are consistent with in 2001. Those estimates can then be compared with the DCLG estimate<sup>12</sup> of the number of households in 2001 (which is based on the census population estimate for 2001). The difference between those two household figures can be converted into an estimate of the error in the population estimate in 2001, as shown in Figure 6:

<sup>10</sup> 2001 census Table ST048 - Dwelling type and accommodation type by household space type

<sup>11</sup> From DCLG Live Table 122 Housing Supply; net additional dwellings,1 by local authority district, England: 2001-02 to 2015-16 See:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/660228/Live\\_Table\\_122.xls](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/660228/Live_Table_122.xls)

<sup>12</sup> From Live Table 406

**Figure 6: Estimates of dwelling numbers in 2001**

	House completions	Valuation List	Net additions
Homes in 2011	67100	67100	67100
Less homes added 2001-11	4059	3732	2220
Homes in 2001	63041	63368	64880
2001 homes with no usual resident	5.39%	5.39%	5.39%
Number of households in 2001	59646	59955	61385
DCLG homes in 2001	61607	61607	61607
Difference in hhld estimates	1961	1652	222
Population/hhlds in 2001	2.253	2.253	2.253
Population overestimate in 2001	4419	3722	499
Overestimate as % of UPC	42%	35%	5%

- h. Note that the ‘net additions’ calculation produces a very low figure for the over-estimate in 2001 and that is why it was discounted in my main proof. It is, of course, the case that, if the error in the 2001 census was a small proportion of UPC, the error in the migration flows was a large proportion of UPC.
- i. The house completions data is likely to overestimate the number of dwellings added to the stock as in some cases homes will have been demolished to make way for new houses. Given that the completions and valuation list numbers are relatively close (4059 and 3732), this would suggest that the estimate based on the valuation list number is probably the best available. That suggests that the error in the 2001 census was only 35% of UPC – implying that the error in the migration flows was 65%. **This is a key reason why I believe that 65% of UPC being attributable to UPC is one end of the range that should be tested** even though it sits beyond the range suggested by the ONS.
- j. In order to consider how realistic it is that the proportion of UPC due to census errors exceeds 50% it is helpful to consider how the calculations set out here would need to change to produce a result larger than 50%.
- I would suggest that it is improbable that the number of dwellings added to the stock is higher than the completions figure as some homes will have been demolished to build new ones and the valuation list number is a little lower than

the completions number. The other two parameters in the calculation are the population/household figure and the proportion of homes with no usual resident.

- The figure for the total population divided by the number of households was 2.253 in 2001. It did not change significantly between the censuses and was 2.221 in 2011. Using 2.221 in the calculations above simply changes the overestimate in the 2001 census from 35.3% to 34.8%, hardly a significant change.
- The two censuses suggest that the proportion of homes with no usual resident increased from 5.39% in 2001 to 7.36% in 2011. That is hardly surprising in an area which is an attractive for second and holiday homes. However, if the increase was only to 6.51% (as suggested by 2011-12 council tax base) the valuation list calculation would suggest that the overestimate in 2001 was equivalent to 48% of UPC.

28. This calculation shows that, based on the available data on the increase in the number of homes between 2001 and 2011, the most plausible figure for the overestimate in the 2001 census population number is equivalent to 35% of UPC. Assumptions need to be changed significantly to make the calculation produce a number of more than 50%. Indeed, it is only because of the other evidence on population in 2001 described in my main proof and, in particular, out of deference to the ONS's view, that I have concluded that the range to be tested should stretch from a census error of 35% of UPC to 50%.

29. This implies that the proportion due to the migration flows is 50% to 65%. I have concluded that 55% should be taken as the most likely figure partly because of the other evidence and partly to err on the side of caution so as not to underestimate the housing need.

30. Mr Robinson refers in a number of places (CD 10/8 § 5.9, 5.11 and 5.41) to much older analysis by Edge Analytics that attributed 100% of UPC to international migration. For



the avoidance of any doubt, I would like to make it clear that that analysis has been superseded and is no longer relevant.

31. Mr Robinson also refers to the Sladbury's Lane Inspector's view of the OAN (CD 10/8 §5.13.5). However, because he was not involved in that appeal he does not realise that the Inspector has made a simple yet fundamental error. The Inspector is under the impression that the figures he quotes for the '47% of UPC due to migration' scenario (i.e. 483-510 dpa) give, "the minimum figure to be derived from the ONS's margin of error". He is wrong: that is in fact the maximum figure. The minimum figures come from the range associated with the "57% due to migration scenario" i.e. 435 – 479. Had he taken the correct range and used the mid-point of (in the absence of any reason to favour either end) he would have concluded that the demographic OAN was 457 dpa, consistent with my own conclusion that the correct figure lay in the range 420-500 dpa and not far from the earlier analysis for the Council which concluded that 480 dpa was the appropriate figure. This means that, when the Inspector's mathematical error is corrected, his analysis supports the view I have taken.
32. I would note here that the ONS had referred to the discrepancy due to migration being "at most" 5,000-6000 people. I queried "at most" with the ONS as a migration error of less than 5,000 implies a census error of more than 5,500, which seemed unlikely. I received a reply on 29 November (Copy at Appendix 2) which said:
- I don't think you would be over-simplifying to say that the migration error is likely to be in the range 5-6,000. This is partly because it is difficult to conceive how there could be any more than 4,500-5,000 error due to the 2001 and 2011 censuses and practically no other areas of the process that could cause error.*
33. We can therefore take 47% - 57% as the range within which the ONS believe the proportion of UPC attributable to migration lies. Moreover, the comment that it is difficult to conceive how there more than 4,500-5,000 error due to the 2001 and 2011 censuses implies that the top end of the 47% - 57% range is more likely. This is because if the census error is not more than 5,000 the migration error must be not less than

5,500 (as the two errors must add up to the total UPC of 10,500). 5,500 is 52% of UPC. This would mean that the migration error was in the range 52% to 57%. I have suggested that 55% is the most likely proportion and this is (to the nearest whole number) the mid-point of this narrower range.

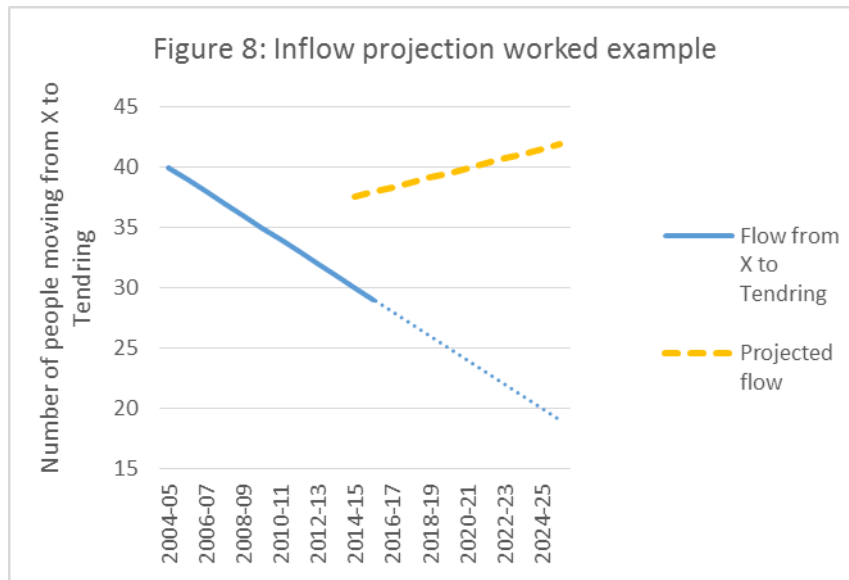
### **Point 5: Longer trend periods for internal migration flow projections**

34. Mr Robinson advocates using a 10-year trend period for projecting migration flows (CD 10/8 §6.2.6d). This adds 55 homes a year to his estimate of the OAN. I have taken an alternative approach based on a closer examination of the recent data on inflows and this suggests an increase of 22 homes a year. I should, however, acknowledge that Mr Robinson that he has been cautious about putting too much weight on his adjustment. The range he recommends for the OAN (567 dpa to 672 dpa –CD 10/8 §6.23.5) stretches from his estimate of the impact of assuming 57% of UPC is due to migration without a 10-year migration trend adjustment to the figure he produces by assuming 47% of UPC is due to migration with a 10-year migration trend adjustment. Thus the 10-year trend adjustment is only given half weight in the mid-point of his range (620 dpa) which he suggests should be adopted for this appeal. He is right to be cautious about this for reasons I shall explain.
35. It is fairly standard practice to use a longer migration trend period in estimating housing needs but Tendring is recognised as being a wholly exceptional case in which standard methods produce misleading results. The standard method for projecting inflows is to estimate the proportion of people in each age and sex group in all other authorities that have moved to Tendring in each year in the trend period; calculate the flow rate for each year (i.e. number of people per thousand who move to Tendring); calculate the average of those annual flow rates over the trend period; and then assume that that average annual flow applies and remain constant through the projection period.

36. A hypothetical worked example might help to explain how this works and what its implications are. Figure 7 shows the flows from authority X to Tendring. These have been falling steadily whilst the population of X has been rising:

Figure 7: Inflow projection worked example	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Flow from X to Tendring	40	39	38	37	36	35	34	33	32	31	30	29
Population in X	2000	2014	2034	2054	2075	2096	2117	2138	2159	2181	2203	2225
Flow rate: people per thousand population	20.00	19.36	18.68	18.01	17.35	16.70	16.06	15.44	14.82	14.21	13.62	13.04

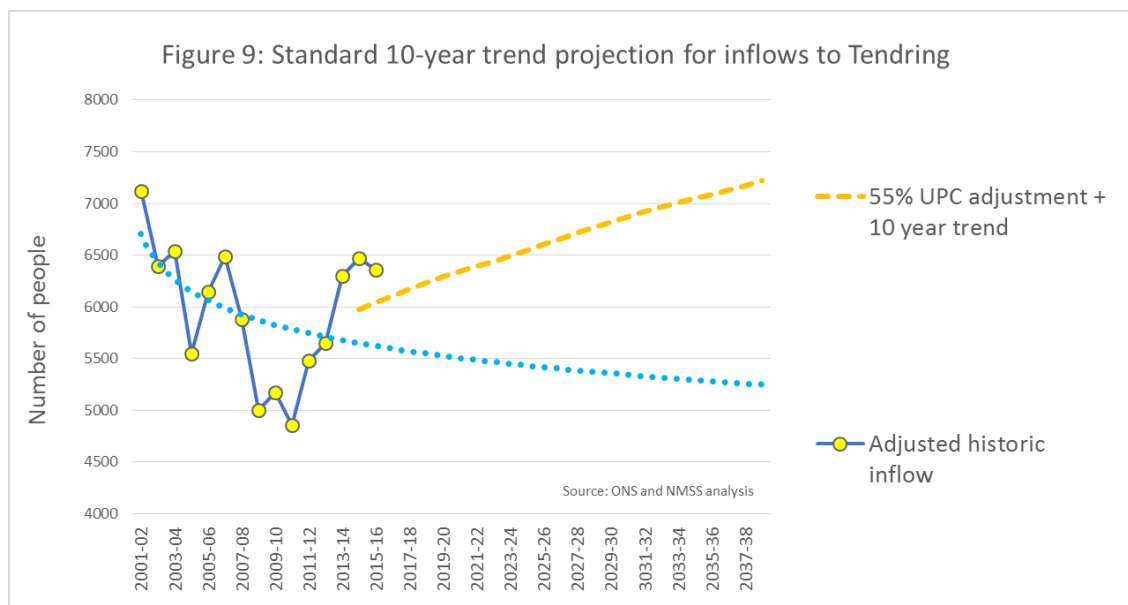
37. The standard method expresses these flow as rates by dividing the flow by the population in the group concerned. In this case the flow rate falls from 20 people per thousand in 2004-05 to 14.21 people per thousand in 2013-14. The standard method ignores the falling flow rate and simply calculates the average flow rate over the trend period. If this is taken to be 2004-05 to 2013-14 this would be 17.06 people per thousand. That flow rate is then assumed to apply throughout the trend period. One of the implications of this is that the projected flow increases at the same rate as the population in the area of origin – authority X. In this case the implications are quite stark as the chart in Figure 8 shows:



38. As can be seen, the projected flow bears no relation to what has actually been happening. This is because the standard method pays no regard to what has been

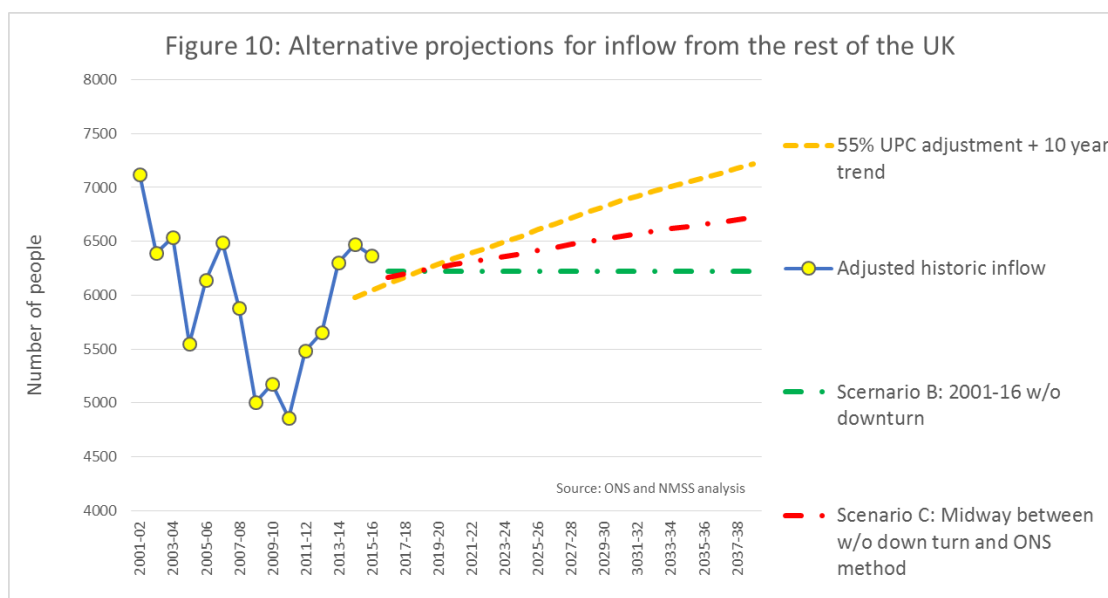
happening to flow rate during the trend period: it assumes that taking the average flow rate will adequately represent what has been happening. In this case it plainly will not.

39. I would note that this problem is only likely to be significant where there is a reasonably steep decline in the flow rate during the trend period and there is a sizeable imbalance between inflows and outflows with the populations in the ‘sending’ areas growing quickly – all conditions that are satisfied in Tendring’s case. The ONS method works reasonably well for most authorities.
40. Figure 9 is a simplified version of Figure 12 from my main proof. It shows how a 10-year trend projection compares with the historic trend. As the dotted trend-line shows, the historic trend is downwards. As far as flow rates are concerned the trend is more markedly down than the chart shows as, during the period shown, the population of the rest of the UK has been growing. In fact the inflow fell from 13 people per 100,000 in the rest of the UK population in 2001-02 to just under 11 in 20015-16, despite the apparent recovery in inflows after the economic downturn.



41. To address this problem, as I explained in my main proof, I have developed a range of alternative scenarios. The two that appear most plausible are shown in Figure 10:

- a. **Scenario B** assumes inflow remains constant at the average level seen over the years 2001-16 if the years affected by the economic downturn are excluded.
- b. **Scenario C** is midway between Scenario B and the standard 10-year trend projection (ignoring the declining flow rates during the trend period).



- 42. By taking the average flow over the last 15 years after excluding the years affected by the downturn, Scenario B takes a fairly bullish view of future inflows given the historic downward trend. Scenario C goes further by incorporating half the rising flows produced by the standard 10-year projection method. They imply (after allowing for a 55% of UPC adjustment to internal migration and the ONS’s new mortality and international migration assumptions) that the demographically-based housing need is 381 homes a year in Scenario B and 458 in Scenario C. I take these as representing a reasonable range, with 420 homes a year as the mid-point to be used where a single number is required.
- 43. I would note that, whilst Figure 1 shows that Mr Robinson’s 10-year trend adjustment as adding 55 homes a year to his estimate, as this carries only half weight (as it is applied only to his top of range estimate): the effect on his final estimate is only half of this i.e. 27.5 homes a year. The practical difference from my method (which adds 22 homes a year) is therefore small.

44. Figure 11 summarises the steps in the NMSS analysis and shows how Scenarios B and C fit in. This presents the adjustment made in the same order as Figure 1. I would suggest that it is used in preference to Table 3 in my main proof as it can be related more easily to the list of points of difference.

<b>Figure 11: Summary of NMSS estimate of Tendring's OAN</b>		<b>Homes needed 2013-37</b>	
2014 SNHP household growth 2013-13			<b>625</b>
6.57% empty and second homes			44
			<b>669</b>
ONS's new mortality and international migration assumptions			-50
			<b>619</b>
55% of UPC attributed to internal migration			-222
			<b>397</b>
	Scenario B	Scenario C	
Longer term trend period for inflows	-16	61	
	<b>381</b>	<b>458</b>	
Average of Scenarios A and B			<b>420</b>
15% uplift			63
Updated OAN estimate			<b>483</b>

45. Mr Robinson refers to the Sladbury's Lane appeal. In this context I would note that
- As noted above, my evidence was accepted by the Inspector apart from his mathematical error.
  - My evidence for that appeal was produced in July, before the ONS published their revised assumptions on mortality rates and international migration in October. Without the adjustments to reflect those new assumptions, the analysis I have presented here would suggest a housing need of 470 homes a year. Apart from the new ONS assumptions, it is therefore, consistent with the analysis carried out by John Hollis for the Council. (The difference between his estimate of 480 homes a year and my figure of 470 is well within the error margins for this kind of analysis.)
  - My advice for the Sladbury's Lane appeal was that the demographic OAN lay in the range 420 to 500 homes a year. My updated view is within that range, albeit at the bottom.

## **Summary and conclusions**

46. There are 5 substantive points of difference between Mr Robinson's analysis and mine:
47. **Point 1:** Mr Robinson suggests that the latest official population projections (the 2014 SNPP) should be re-based to start from the ONS population estimates for 2016 (the 2016 MYE). This ignores the fact that, if there is significant error in the migration flow estimates (which he accepts as the basis for his calculation), then the 2016 MYE population estimates will be too high as they are produced from the 2011 census estimate by adding the ONS's estimates for births, less deaths, plus net migration flows. The starting point of the 2014 SNPP should instead be re-based to reflect what the population estimate would have been had the migration flow not been overestimated. This error adds 39 homes a year to Mr Robinson's calculation.
48. **Point 2:** Mr Robinson argues that the household formation rates for those aged 15-34 in the latest official projections (the 2014 SNHP) should be adjusted so that they partially catch up with the household formation rates in the 2008-based project. The 2008-based projections are now so old as to be of no relevance and there is independent evidence that a return towards the formation rates they envisaged is not likely in the post-recession world. That being so, the latest official projections (2014 SNHP) provide the most reliable guide as to how household formation rates are likely to change. This adjustment (which add 11 homes year to Mr Robinson's analysis) should be removed.
49. **Point 3:** In their 2016 National Population Projections the ONS has revised its view on future international migration flows and mortality rates. Mr Robinson makes no reference this. Given that Tendring has a relatively old population the new assumptions about mortality rates have a significant impact. It is therefore important that planning for housing reflects the most recent expert advice in this area. Incorporating the new assumptions (which will be reflected in next year's local authority population projections) reduces the housing need by 50 homes a year.

**Point 4:** Mr Robinson has based his analysis on the assumption that the proportion of UPC attributable to migration flows is between 47% and 57%, based on advice from the ONS. My analysis of a range of other datasets suggests that the range is between 50% and 65%, with 55% being the most likely figure. Very recent further advice from the ONS suggest that the upper half of the range between 47% and 57% is more likely, further supporting the view that 55% is the most likely figure. I would therefore suggest that 55% should be taken as the appropriate proportion for this appeal. This would reduce Mr Robinson's estimate of the demographically-based OAN by 14 homes year.

50. **Point 5:** Mr Robinson assesses the impact of using a 10-year trend period for migration flows rather than the 5-year period used by the ONS. This adds 55 homes a year to his housing need estimate. However, that adjustment ignores the downward trend in inflow rates since the turn of the century and thereby produces a migration flow projection that is inconsistent with what has actually happened over the last 15 years. I have developed alternative ways of taking account of longer term trends which reflect more accurately what has happened recently. These suggest that 22 homes year should be added to the Tendring's housing need, not 55. It should be acknowledged, however, Mr Robinson's final conclusion only gives half weight to his 10-year migration adjustment, so the practical difference is between 27½ homes a year and 22.

51. **On this basis the demographically-based OAN is 420 homes a year. Applying a 15% uplift as recommended by PBA produces a Full OAN of 480 homes a year over the period 2013-37.**

Neil McDonald

30 November 2017



# whither household projections?

With household projections based on full 2011 Census data due to be published early in 2015, **Ludi Simpson** considers the weight that we should place upon them in the light of assumptions made in the interim projections about the effects of the economic downturn



## Left

The household projections based on full 2011 Census data will be the basis of local assessments of housing need

The Government's 2011 interim household projections are shortly to be replaced with final projections which, using full Census information on household formation and revised population projections, will run up to 2037. How interested should we be in them? Despite claims that the recession invalidates the projections, there are reasons to doubt this, and to treat the new projections with more authority than ones made in the previous decade.

### **Lower household formation – a new trend or a temporary aberration?**

In the 18 months since the interim projections were published by the Department for Communities

and Local Government (DCLG), their ingredient of a slower rate of household growth than in past projections has been rather dismissed. The House of Commons Library suggests that the 2011-based projections are 'a reflection of the severity and extent of the post-2008 economic downturn. The 2008-based projections are still regarded as a solid indicator of potential levels of housing demand over coming years.'<sup>1</sup>

The Planning Advisory Service's technical advice on assessing objective need for housing states that 'The evidence suggests that the higher-than expected household sizes are partly a demand-side effect of the last recession – so that due to falling incomes and the credit crunch fewer people could

afford to form or maintain separate households'. It recommends that the long-term development of household formation should be assumed to be in line with the 2008-based household projections.<sup>2</sup>

An RTPI Research Briefing reports that 'A detailed analysis of the census and other data points to two main reasons for the census finding fewer households than expected: increased international migration; and changes in the types of households in which younger adults are living', both of which are judged to be temporary phenomena.<sup>3</sup>

These views, which have also been reflected in Planning Inspectors' views of appropriate forecasts of housing need, rely heavily on a major research paper from Alan Holmans, published in *Town & Country Planning*.<sup>4</sup> That research was an excellent response to the interim projections, but has not been subject to the update and review that it called for.

The research included long-term projections of housing need for England, based on an assumed return to housing formation closer to the 2008-based projections. Holmans stressed that this was only one among significantly different assumptions that *could* be made.

### Room for doubt

The forthcoming 2012-based DCLG projections will rely on the same 2011 Census as the interim projections – so how should we use them? My

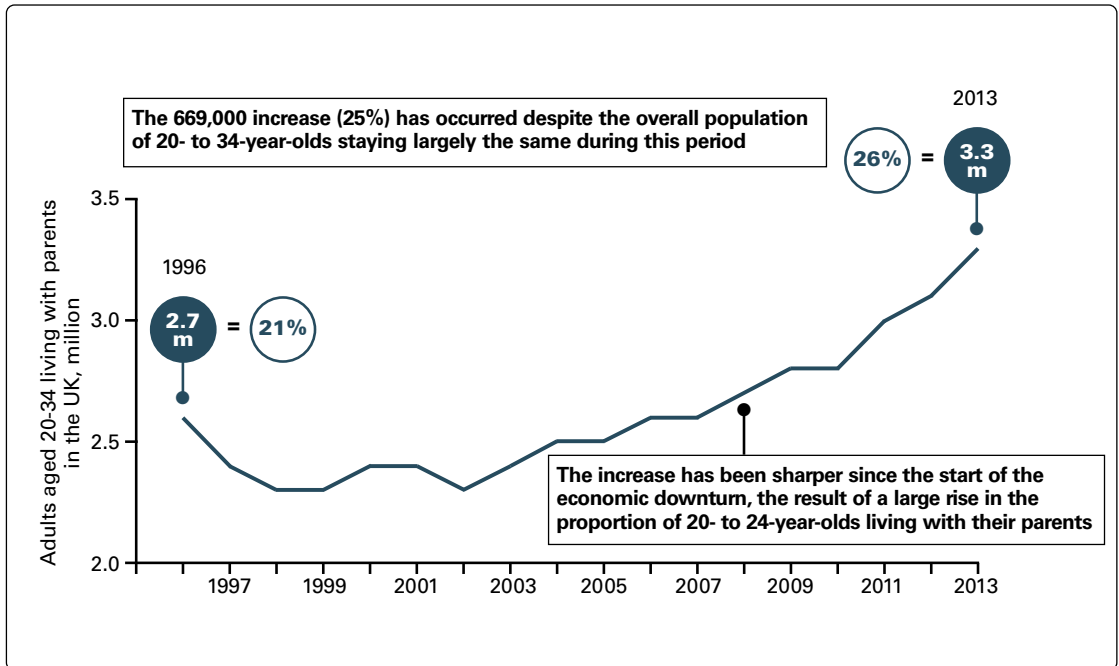
review of the evidence on which the interim projections were assessed suggests that we should not after all discount the new projections, for the following reasons.

### **The causes of reduced household formation are varied, began before the recession, and mostly are likely to continue with or without recession**

Much attention has been focused on reduced household formation among those aged 25-34, the fall in numbers of single and couple households of those ages, and the rise in the number of adults living with older couples and in other multi-adult households. But as Alan Holmans pointed out, of the 1 million fewer one-person households in 2011 compared with what had been projected by the 2008-based projections, only 200,000 of the shortfall were among those aged 25-34.

In the 2000s there was a sustained increase among young people not leaving home, and in those returning home (see Fig.1). The increased number living with their parents began at the turn of the millennium; the increase did accelerate after 2008.

The introduction of student fees from 1998, and the increase in precarious employment, including the rapid growth of part-time work, could both change in the future. But they appear at the moment as fixed circumstances of the policy and economic environment.



Above

Fig. 1 Since 1996 there has been a large increase in young adults living with their parents

Source: 'Large increase in 20- to 34-year-olds living with parents since 1996'<sup>5</sup>

The long-term increase in the number of childless women, both through delayed child-bearing and through not having children at all, which increased the number of smaller households, stopped and has fallen since 2000.

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.

Whether young adults aged 25-34 will recover to their previous levels of household formation when the economic situation improves is arguable, and is dependent on the success of 'Help to Buy' schemes and the impact of high affordability ratios, high rental prices, welfare retrenchment, and increased student fees and debts. The housing market and government policies to provide or stimulate affordable housing will affect future household formation.

***The 2008-based projections were presented at the time not as a solid trend, but as insecure, because the past steady trends had already been broken prior to the recession***

In preparing the 2008-based household projections, DCLG was faced with a dilemma: its own report on the methodology used noted that 'Labour Force Survey (LFS) data suggests that there have been some steep falls in household representative rates for some age groups since the 2001 Census. If these shifts in household formation behaviour are sustained in the longer term, and this can only be truly assessed once the 2011 Census results are available, the household projections using the method as in the 2006-based and previous projection rounds would turn out to be too high.'<sup>6</sup>

There had already been 'observed deceleration between 1991 and 2001' in household formation rates, although there is some doubt about that decade because of unusual difficulties with the 1991 Census enumeration. The 2008-based household projections opted, as worded in the same report, to 'revert to the trend' of increasing formation rates. We know that this trend was observed only prior to 2001, and perhaps not even to that year.

The report on the methodology of the 2008-based projections also warned that 'There are cohort effects that are ignored by the methodology... [This is] of particular concern if recent falls in household representative rates for younger age groups are carried forwards through a cohort process into older age groups in future years.' There has, in fact, been such a carrying through: the drop in formation rates for those aged 20-24 and 25-29 apparent already for 1991-2001 has emerged for those aged 30-34 and 35-39 in the period 2001-2011. Thus the 2008-based projection was itself considered as precarious rather than a 'solid trend', and was to be judged against the 2011 Census.

***Immigration, said to have caused half the slowing of the household formation rate between 2001 and 2011, did not, after all, have such an influence***

Holmans' calculations on immigration are probably the only point at which his analysis may be faulty. He notes much lower household representative rates for immigrants who have entered the UK in the past year than for the general population, and applies the large difference to the total number of extra immigrants during the period 2001-2011. However, his own evidence shows that immigrants with 0-5 years in the UK come much closer to the general household representative rates, and the difference is not visible for those with 5-10 years in the UK. Thus in 2011 the extra immigrants of 2001-2011 will have on average an experience very close to the general population rather than those of migrants in the past year used in Holmans' calculations.

The importance of this observation is only to suggest that very little of the decrease in household formation can be laid at the door of a temporary increase in immigration during the 2000s.

***The interim and final projections since the 2011 Census are based not on short-term trends, but on trends since 1971***

Although it is sometimes claimed that the current household projections are based on the experience of changes between 2001 and 2011, this is true only of the allocation of households to household types in the second stage of the projections. The total numbers of households in England and in each local authority are projected on the basis of 40 years of trends in household formation, from 1971 to 2011.

***The quality, methods and purpose of household projections***

The forthcoming household projections due early in 2015 are to an extent predictable. They will adopt the 2012-based population projections for local authority areas of England which are already in the public domain. They will repeat the approach of the interim projections but use the full range of 2011 Census outputs, as demanded by the methods established for household projections in England in the last decade. But the interim projections already used the major ingredient from the 2011 Census – the total number of households in each district. The projected change in household formation rates was so small that projected population change accounted for 98% of the household change, at least when averaged over England. And finally, since the projection is based on 40 years of data, the changes coming from using the full 2011 Census data are not likely to make major revisions to the interim projection of household formation rates, although of course there will be some districts that change more than others.

Looking further ahead, one can expect improvements in the projection methods. They currently employ a mixture of two sets of Census data and are more complex than methods used in Scotland and Wales. They do not identify the 'concealed families' which used to be a useful marker of suppressed need. Perhaps they could be developed to include 'concealed single-person households'. The projection of migration could take into account a longer period than the past five years' experience as at present.

In addition, demand for scenarios of household need and housing provision could be satisfied by an authoritative producer inside government or supported by government. Alternative scenarios can assess the impact of uncertainty in the factors not under local planners' control, such as fertility, mortality and international migration, and also assess the demographic consequences of planning investments that are under planners' control.

## **'Some honest thinking is needed to resolve a mismatch between the need for affordable housing and the mechanisms to supply it. At present the lack of affordable housing undermines the assessment of housing need which demographic projections support'**

Some honest thinking is needed to resolve a mismatch between the need for affordable housing and the mechanisms to supply it. At present the lack of affordable housing undermines the assessment of housing need which demographic projections support.

### **Conclusions**

The imminent household projections based on full 2011 Census data will be the basis for the determination of locally assessed housing need for the following two years. The previous 2008-based projections provide neither a substitute nor a benchmark.

The societal changes that created smaller households in Britain since the 1960s have now affected 50 years of those reaching adulthood. However, the experience of the past two decades, and not just the economic crisis of the late 2000s, does suggest that we are not in a position to expect further increases in household formation rates of

the same kind. Household size in England cannot continue to reduce indefinitely, although it has not reached a limit and is not as low as elsewhere in Northern Europe. 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, until further structural shifts occur.

● **Ludi Simpson** is Professor of Population Studies at the University of Manchester. He works to support demographic modelling in local authorities and nationally and is the originator and designer of the POPGROUP demographic modelling software. The views expressed are personal.

### **Notes**

- 1 W. Wilson: *Stimulating Housing Supply – Government Initiatives (England)*. Standard Note SN/SP/6416. House of Commons Library, Dec. 2014. [www.parliament.uk/briefing-papers/SN06416.pdf](http://www.parliament.uk/briefing-papers/SN06416.pdf). See also S. Heath: *Housing Demand and Need (England)*. Standard Note SN06921. House of Commons Library, Jun. 2014. [www.parliament.uk/briefing-papers/SN06921.pdf](http://www.parliament.uk/briefing-papers/SN06921.pdf)
- 2 *Objectively Assessed Needs and Housing Targets*. Technical Advice Note. Planning Advisory Service, Jun. 2014. [www.pas.gov.uk/local-planning/-/journal\\_content/56/332612/6363116/ARTICLE](http://www.pas.gov.uk/local-planning/-/journal_content/56/332612/6363116/ARTICLE)
- 3 *Planning for Housing in England*. Research Briefing 3. Royal Town Planning Institute, Jan. 2014. [www.rtpi.org.uk/media/819063/planning\\_for\\_housing\\_in\\_england\\_-\\_rtpi\\_research\\_briefing\\_3\\_january\\_2014.pdf](http://www.rtpi.org.uk/media/819063/planning_for_housing_in_england_-_rtpi_research_briefing_3_january_2014.pdf). See also the Research Report upon which the Briefing is based: N. McDonald and P. Williams: *Planning for Housing in England: Understanding Recent Changes in Household Formation Rates and their Implications for Planning for Housing in England*. Research Report 1. Royal Town Planning Institute, Jan. 2014. [www.rtpi.org.uk/media/819060/rtpi\\_research\\_report\\_-\\_planning\\_for\\_housing\\_in\\_england\\_-\\_january\\_2014.pdf](http://www.rtpi.org.uk/media/819060/rtpi_research_report_-_planning_for_housing_in_england_-_january_2014.pdf)
- 4 A. Holmans: *New Estimates of Housing Demand and Need in England, 2011 to 2031*. Town & Country Planning Tomorrow Series Paper 16. TCPA, Sept. 2013. [www.tcpa.org.uk/pages/new-estimates-of-housing-demand-and-need-in-england-2011-to-2031.html](http://www.tcpa.org.uk/pages/new-estimates-of-housing-demand-and-need-in-england-2011-to-2031.html). Also available as an insert in *Town & Country Planning*, 2013, Vol. 82, Sept.
- 5 'Large increase in 20 to 34-year-olds living with parents since 1996'. Webpage. Office for National Statistics, Jan. 2014. [www.ons.gov.uk/ons/rel/family-demography/young-adults-living-with-parents/2013/sty-young-adults.html](http://www.ons.gov.uk/ons/rel/family-demography/young-adults-living-with-parents/2013/sty-young-adults.html)
- 6 *Updating the Department for Communities and Local Government's Household Projections to a 2008 Base. Methodology*. Department for Communities and Local Government, Nov. 2010, p.8. [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/7484/1780350.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7484/1780350.pdf)

## APPENDIX 2

### EMAIL FROM ONS ABOUT TENDRING UPC: 29 NOVEMBER 2017

**From:** Park, Neil [mailto:neil.park@ons.gov.uk]  
**Sent:** 29 November 2017 13:43  
**To:** Neil McDonald <neilmcdonald@googlemail.com>  
**Subject:** RE: Tendring's UPC

Hi Neil,

Apologies for not replying sooner and thank you being part of the Household Projections Collaborative group meeting last week.

Attached is data for Tendring's GP list inflation in 2001 (this is from the [One number Census QA pack for Tendring](#)) and a link to the [2011 Census QA pack](#). Apologies for doing this in 'kit-form' but it makes the process of getting data to you a bit more simple for me.



In working out the potential error attributable to each component of the MYEs in the previous decade we have had to be quite speculative - we do not have any way of calculating the actual amounts attributable to each component, all we've got is an understanding of how the methods work and some logical deductive reasoning. I don't think you would be over-simplifying to say that the migration error is likely to be in the range 5-6,000. This is partly because it is difficult to conceive how there could be any more than 4,500-5,000 error due to the 2001 and 2011 censuses and practically no other areas of the process that could cause error.

regards,  
Neil