

Assessing King's Lynn and West Norfolk's Housing Requirement

**Report to King's Lynn and West Norfolk
Borough Council**

Neil McDonald

October 2016



NMSS

Author

Neil McDonald

This report has been prepared by NM Strategic Solutions Ltd for King's Lynn and West Norfolk Borough Council

Neil McDonald is an independent adviser and commentator on housing demographics. He works with local authorities and others on the estimation of housing need and related issues.

He was a civil servant and policy adviser to Ministers for over 30 years, the last 10 advising on housing and planning issues within the Department of Communities and Local Government. His 7 years as a Director at DCLG included a posting as Director, Planning Policy and a period as Chief Executive of the National Housing and Planning Advice Unit until its closure in 2010. He left the Department in March 2011 and has since worked with the Cambridge Centre for Housing and Planning Research (CCHPR) as a Visiting Fellow (2012-15), collaborating in particular with its founder director, Professor Christine Whitehead.

NMSS take considerable care to ensure that the analysis presented is accurate but errors can slip in and even official data sources are not infallible, so absolute guarantees cannot be given and liability cannot be accepted. Statistics, official or otherwise, should not be used uncritically: if they appear strange they should be thoroughly investigated before being used.

ASSESSING KING'S LYNN AND WEST NORFOLK'S HOUSING REQUIREMENT

Contents

	Page No.
Executive Summary	5
Report	
1. Introduction	9
2. What population should be planned for?	11
The recent ONS population projections	11
What the 2014-based population projections say	12
2014 Mid-Year Estimates	13
Understanding how populations change	13
Taking a view on the plausibility of a projected population change	14
Births	15
Deaths	15
Flows to and from the rest of the UK	15
International flows	20
Unattributable population change (UPC)	23
Comparison with May 2015 NMSS analysis	26
Conclusions on the population to be planned for	26
3. How people are likely to group themselves into households	28
The household projections	28
Will household formation rates move towards those in the 2008-based projections?	29
2008-based household formation rates were optimistic	33
Reasons for the departure from the earlier household formation rate trends	34
Conclusion on household formation rates	35
4. Empty and second homes	37
5. The demographic OAN	41
6. Adjustments to reflect 'other factors'	43
Market signals	43

House prices	43
Affordability	45
Rents	46
Under supply	47
Concealed families	48
Overcrowding	49
Affordable housing	50
Conclusions on adjustments for other factors	51
Supporting economic growth	52
Government guidance	52
Approach to assessing whether extra homes are needed to support economic growth	52
The EEFM forecasts	53
Conclusions on homes needed to support economic growth	60
Sensitivity analysis	61
Population sensitivities	61
Household formation rate sensitivities	66
Summary and conclusions	70
Annex A: Adjusting commuter flows in the EEFM	74

ASSESSING KING'S LYNN AND WEST NORFOLK'S HOUSING REQUIREMENT

Executive Summary

Aim

- i. To present an up to date estimate of the full objectively assessed housing needs (the 'full OAN') of the King's Lynn and West Norfolk Borough. The report is based on the latest available evidence as of October 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, including, in particular:
 - market signals which suggest that the local housing market has been under particular stress; 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.
- v. NMSS have produced earlier reports on the OAN of the Borough. This report updates that work and is intended to present in a single, standalone document all of the material that is relevant to an up to date assessment of the OAN: it is not an update report that needs to be read alongside earlier reports.
- vi. The starting point for this report is the DCLG's 2014-based household projections (DCLG 2014) which were released in July 2016. These were based on the ONS's 2014-based Sub-national Population Projections (2014 SNPP) which were published in May 2016. However, more recent evidence on how the population has changed since 2014 is available from the 2015 Mid-Year Estimates (2015 MYE) which were issued in June 2016 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

- vii. It is proposed that three adjustments should be made to the ONS's 2014-based Sub-national Population Projection for King's Lynn and West Norfolk to reflect both weaknesses in those projections and the latest evidence available from the 2015 Mid-Year Estimates and the most recent international migration statistics.
- viii. The proposed adjustments are shown in Figure S1 (below):
- The ONS's 2014 Sub-national Population Projections (2014 SNPP) use 2009-14 as the trend period for projecting flows to and from the rest of the UK. Although less affected by the economic downturn than the period used for the 2012 SNPP (2007-12), adjusting the projection to reflect flows in the latest 10-year period for which data is available (2005-15) is likely to provide a better view of future flows as the impact of the atypical flows during the recession is balanced by the higher flows in earlier years and increased 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 2015 rather than the projection made for that year in the 2014 SNPP. The effect of this set of adjustments is to increase the projected population increase between 2011 and 2031 from 15,400 in the 2014 SNPP to 18,531, an increase of 3,131 or 20%. (Rows B and C)
 - Net international migration into the UK is currently about twice that assumed by those who compiled the 2014 SNPP. There is a case for adjusting those projections to reflect this. To avoid giving undue weight to the most recent years' figures whilst reflecting what has actually happened in the Borough, 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. 2005-15. This increases the projected population increase between 2011 and 2031 by 2,489 or 13%, increasing the projected increase from 18,531 to 21,020. (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 2014 SNPP. However, that assumption assumed that none of the UPC had any impact on the projections. That is an extreme view. The assumption at the other extreme is that all of UPC would have affected the projection. 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 increase the projected population increase of King's Lynn and West Norfolk by 473 or 2%, from 21,020 to 21,493. (See Rows F and G.)

Figure S1: Summary of adjustments to 2014 SNPP		
Change 2016 - 2036		Population
A	2014 SNPP	15400
B	Adjustment for 2005-15 UK flows + 2015 MYE	3131
C	2005-05 UK flows + re-basing to 2015 MYE	18531
D	Adjustment for 2005-15 international flows	2489
E	2015 UK and international flows + 2015 MYE re-base	21020
F	Adjustment for 50% UPC	473
G	05-15 trend all flows + 2015 MYE re-base + 50% UPC	21493

- ix. The overall effect of these adjustments is to increase the 2014 SNPP's projected increase over the period 2016-36 from 15,400 to 21,493, an increase of 6,093 or 40%. This is a large percentage adjustment, driven in significant part by the use of 10-year trend periods which give weight to higher net flows in the period before the economic downturn. Given the evidence of what has happened since the recession, it is far from certain that there will be a return to the flows seen in the period up to 2006-07. This adjustment may therefore overestimate the increase that is likely to occur.

How the population is likely to group itself into households

- x. 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 2014) provide the most recent official view on this. They envisage that some age groups and household types will see an improvement in their chances of setting up separate households and others will see a deterioration, with there being more 'winners' than 'losers'.
- xi. An examination of the latest projections and expert advice suggests they take a realistic view of what is likely to happen to household formations rates based on the most recent evidence. On that basis there would be a need to accommodate 10,861 households (2016-36) or 543 extra households a year. However, in King's Lynn and West Norfolk's case that would mean planning on the basis of a significant deterioration in the chances of some groups forming their own households, most notably younger couples. A more positive approach would be to plan on the basis that no one's chance of setting up a separate household is worse than it was in 2011. This would mean planning for 12,095 extra households (2016-36) or 605 households a year.
- xii. Once an allowance is made for empty and second homes based on council tax data and an assessment of the rate at which housing has been 'lost' to second homes in recent years, this implies a need for 13,449 homes 2016-36 or 672 homes a year.

Figure S2: Summary of adjustments to 2014-based DCLG projection			
Change 2016 - 2036	Population	Homes	Homes/yr
2014 SNPP/DCLG 2014	15400	9507	475
Adjusted population projection + 2014 HRRs	21493	12077	604
Demographic OAN - as above + '2011 floor'	21493	13449	672

- xiii. To avoid suggesting spurious accuracy, **the demographic OAN should be taken to be 13,400 homes 2016-36 or 670 homes a year.**

Conclusions on adjustments for 'other factors'

- xiv. The key market signals identified in the Planning Practice Guidance have been reviewed and none provides grounds for a market signals uplift to the OAN.
- xv. Whether there should be an uplift to the OAN to allow more affordable housing to be built is a policy matter for the Council and outside the scope of this report.

Conclusion on homes needed to support economic growth

- xvi. King's Lynn and West Norfolk have based their assessment of the economic prospects of the Borough on the East of England Forecasting Model (EEFM). The latest version of this (dated August 2016) suggests a much faster jobs increase than the previous version: 265 extra jobs a year 2014-31 compared with 187 jobs a year in the January 2015 version.
- xvii. The latest version of the EEFM also assumes that there will be a substantial increase in net out-commuting from the Borough from 3,800 people recorded in the 2011 census to 8,300 in 2036. Given that it is questionable how sustainable this would be and that the forecast is very different from earlier versions of the EEFM, highly erratic and bears little relation to the census estimates (which suggest no change in net commuting between 2001 and 2011), it is proposed that the number of homes needed to support job growth should be estimated on the assumption that commuting remains constant at the 2011 census level. On this basis the demographic OAN provides a larger working age population than is needed to support the forecast increase in jobs.
- xviii. This means that **no additional homes need be provided above the demographic OAN to support economic growth.**

Conclusion on the OAN

- xix. **The Full Objectively Assessed Housing Needs (FOAN) of King's Lynn and West Norfolk Borough is 13,400 homes over the period 2016-36 or an average of 670 homes a year.**
- xx. It should be acknowledged that there are substantial uncertainties which may affect this estimate of the FOAN in either direction. Examples include the impact of decision to leave the EU and the future of the Mildenhall air base. It is simply not possible to estimate what impact these might have. The only prudent course is to monitor closely the demand for homes and the growth in employment and then to review the FOAN periodically in the light of what actually happens.

ASSESSING KING'S LYNN AND WEST NORFOLK'S HOUSING REQUIREMENT

1. INTRODUCTION

Aim

- 1.1. To present an up to date estimate of the full objectively assessed housing needs (the 'full OAN') of the King's Lynn and West Norfolk Borough. The report is based on the latest available evidence as of October 2016.

Approach

- 1.2. The report follows the approach indicated by the National Planning Policy Framework¹ (NPPF) and the Planning Practice Guidance² (PPG). It takes as its starting point the latest official population and household projections. These are the Office for National Statistics's (ONS's) 2014-based Subnational Population Projections for England³ (2014 SNPP) and the Department for Local Government's (DCLG's) 2014-based Household Projections⁴. Account has also been taken of the ONS's Annual Mid-year Population Estimates, 2015⁵ (2015 MYE) and the latest estimates of international migration⁶
- 1.3. To assess the housing requirement of any area it is necessary to:
 - 1.3.1. Estimate the size and age structure of the population that will need to be housed.

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 *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>

⁴ The *2014-based Household Projections: England, 2014-2039* were published on 12 July 2016 and are available at <https://www.gov.uk/government/statistics/2012-based-household-projections-in-england-2012-to-2037>

⁵ The *Population Estimates for UK, England and Wales, Scotland and Northern Ireland: mid-2015* were published on 23 June 2016 and are available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

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>

- 1.3.2. 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.
- 1.3.3. 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'.
- 1.3.4. Finally, consideration needs to be given to whether there are any factors which will not have been reflected in this approach, including particular:
 - market signals which suggest that the local housing market has been under particular stress; and,
 - whether additional housing is needed to ensure that the area can accommodate sufficient workers to support the projected level of economic growth.
- 1.3.5. Any such adjustments are added to the demographic OAN to produce the 'full OAN'.
- 1.4. The report follows through these steps in order.
- 1.5. There are earlier NMSS reports on the OAN of the King's Lynn and West Norfolk Borough^{7, 8}. This report updates that work and is intended to present in a single, standalone document all of the material that is relevant to an up to date assessment of the OAN: it is not an update report that needs to be read alongside the earlier reports.

⁷ *Assessing King's Lynn and West Norfolk's Housing Requirement*), NMSS, May 2015. See: https://www.west-norfolk.gov.uk/download/downloads/id/601/assessing_kings_lynn_and_west_norfolks_housing_requirement.pdf

⁸ *Proof of Evidence by Neil McDonald, NMSS, in relation to an appeal by Broadland Housing Association and Townfolk Ltd against the refusal of planning permission on land south of School Road, Heacham, Norfolk*, NMSS, March 2016. This updates the NMSS May 2015 Report. See http://online.west-norfolk.gov.uk/online-applications/files/9E6DB21FDD7C78E49BFB556B536139ED/pdf/13_01541_OM-NMD_PROOF-3704150.pdf

2. WHAT POPULATION SHOULD BE PLANNED FOR?

Introduction

- 2.1. 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

- 2.2. There are now three sets of ONS population projections which post-date the 2011 census:
- 2.2.1. The Interim 2011-based subnational population projections for England⁹ (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 both the 2012-based and 2014-based population projections they are not discussed further in this report.
 - 2.2.2. The 2012 Sub-national Population Projections for England (2012 SNPP) which were published on 29 May 2014¹⁰. 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:
 - 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

⁹ 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>

¹⁰ 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>

generally depressed, although the effect varies considerably from authority to authority.

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

2.2.3. The latest ONS local authority level population projections are the 2014 Sub-national Population Projections for England (2014 SNPP) which were published on 25 May 2016³. They take as their starting point the 2014 population estimates. They cover the period 2014 to 2039. As with the 2012 SNPP, they involve a full re-working of the trends which are used to project population growth. The same issues about the use of 5-year trend periods and ignoring UPC also apply, although the impact of the economic downturn is less as the trend periods are two years later.

2.3. The ONS's Annual Mid-year Population Estimates, 2015 (2015 MYE)⁵ were published on 23 June 2016 and provide the best available estimates of the actual (as opposed to projected) population of local authorities at 30 June 2015. In some cases the population estimate is higher than that estimated in the 2014 SNPP and in other cases it is lower. This section also considers the consequences of the 2015 MYE for the Borough.

2.4. Estimates for international migration⁶ 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 2014 SNPP. The implications of this are also examined.

What the 2014-based population projections say

2.5. Figure 2.1 shows the projected growth of the Borough according to the 2014 SNPP with the 2012 SNPP projection shown for comparison. The blue line indicates the actual population estimates that are now available from the ONS. The key message is that the differences between the 2012 SNPP and the 2014 SNPP are relatively small. The 2014 SNPP suggests a slightly slower rate of increase: an average of 770 people a year over the plan period (2016-36) compared with 837 in the 2012 SNPP. The difference is 67 people year or 8%. Figure 2.2 gives the detailed numbers.

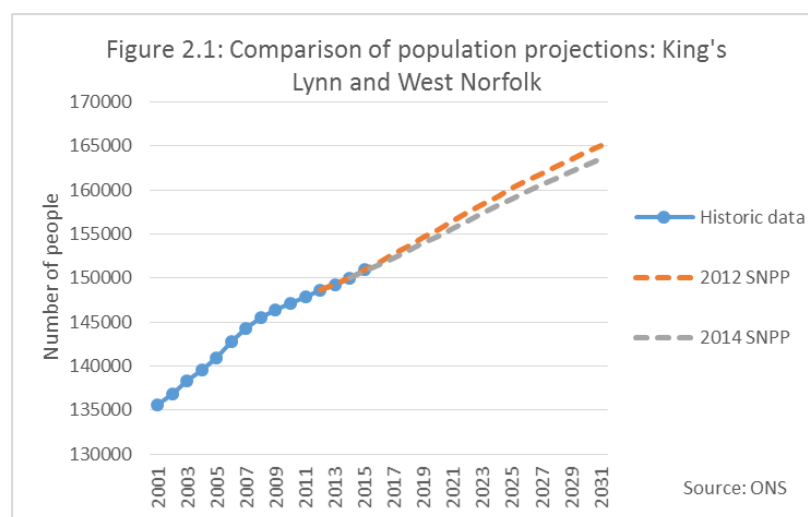


Figure 2.2: Population projection	2016	2036	Change	% change	Annual
2012 SNPP	151836	168575	16739	11.0%	837
2014 SNPP	151526	166926	15400	10.2%	770

2015 Mid-Year Estimates

2.6. The 2015 Mid-Year Estimates (2015 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 2014-15 (as well as earlier years). They therefore provide a year's actual data in the period in covered by the 2014 SNPP and so give an initial indication of how close those projections are to what is happening. In this case the figure projected in the 2014 SNPP for 2015 (150,749) is close to the 2015 MYE figure (151,013): the difference is 264 people of 0.18%. Whilst this provides a degree of reassurance that the 2014 SNPP is a reasonable projection, it should, however, be treated with some caution: what has happened in the first year 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 uncertainties¹¹.

Understanding how populations change

2.7. Although the difference between the 2012 SNPP and the 2014 SNPP is not large it does affect the estimate of the OAN so it is important to understand why the

¹¹ 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.

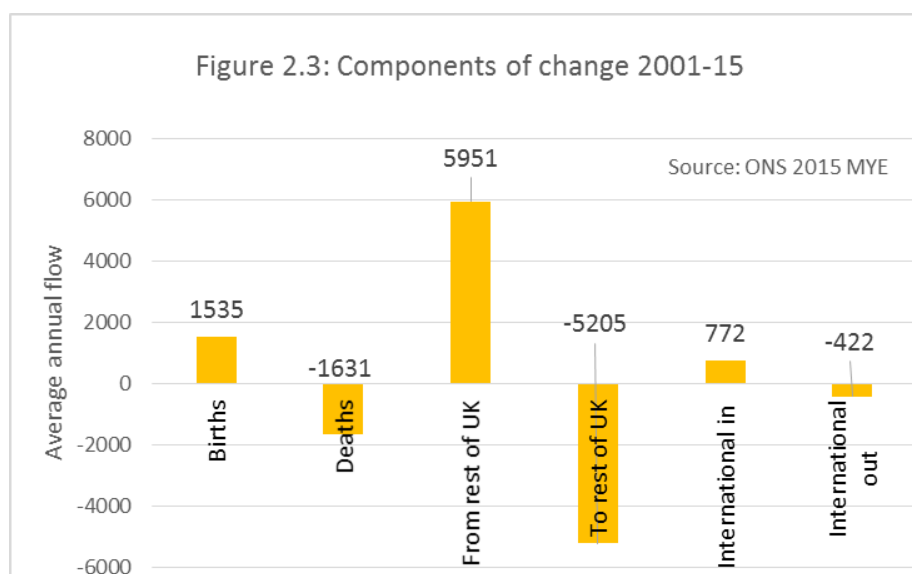
projected population increase has changed – and hence whether the new projection should be accepted as a basis for planning for housing, with or without adjustments. To do this it is necessary to understand how populations change and how the ONS projects populations.

- 2.8. 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”
- Departures abroad – “international migration out”

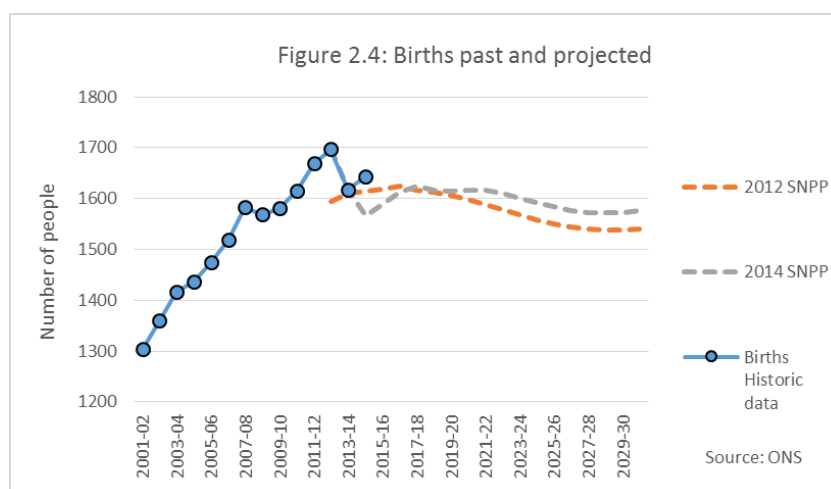
Taking a view on the plausibility of a projected population change

- 2.9. The ONS constructs its projections by making projections for each of the components of change and applying these to the base population one year at a time. After each year's births, deaths and migration flows have been taken into account a new base population is established to which the next year's births, deaths and migration flows are applied. The cycle then continues to the end of the projection period. 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.
- 2.10. Figure 2.3 shows how the six components of change have contributed to the population changes which occurred in the Borough between 2001 and 2015. This gives an indication of the relative size of the flows. The flows to and from the rest of the UK have been substantially larger than the other flows. Although the flow out to the rest of the UK has partially offset the flow in, the net flow from the rest of the UK has been by a significant margin the biggest driver of population change.



Births

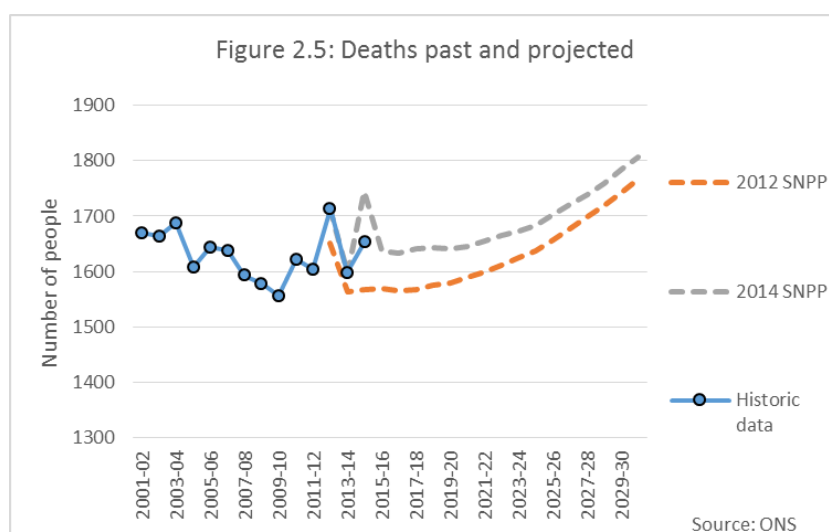
- 2.11. Figure 2.4 compares the 2012 and 2014 SNPP projections for births with the historic data up to and including the 2015 MYE. The differences are relatively small, but over the plan period the 2014 SNPP has the higher number of births. The projections fit reasonably well with the historic data so there is no case for adjusting them.



Deaths

- 2.12. Figure 2.5 compares the 2012 and 2014 SNPP projections for deaths with the historical trends. Again the difference between the two is not large but it is larger than the difference between the birth projections (as can be seen by comparing Figures 2.4 and 2.5, which have been drawn on similar scales). As the increase in deaths is greater than the increase in births, the net effect is to reduce the projected population increase. Moreover, as few of the 'extra' children projected to be born in the 2014 SNPP will set up their own households in the plan period, the

impact of the higher number of deaths on the housing requirement will be much larger.



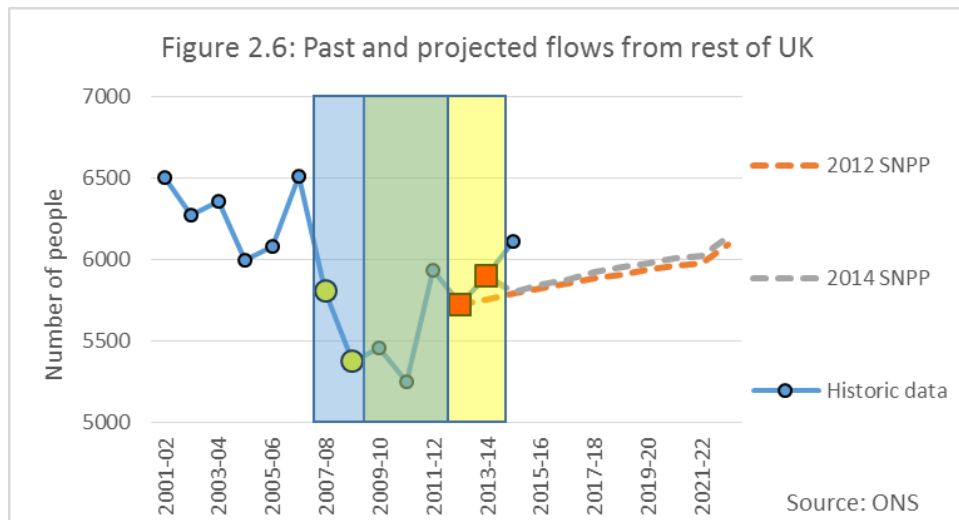
- 2.13. The ONS projects deaths at the local authority level using “age specific mortality rates” (ASMRs). These are calculated for each local authority by comparing death rates over a five year trend period and with the national rates to produce a set of differentials. Those differentials are then used with the national projections for death rates to produce projected local authority ASMRs. The 2014 National Population Projections (which underpin the 2014 SNPP) project slightly more deaths than the 2012 National Population Projections. As a consequence, a higher number of deaths will be projected at the local authority level unless there has been a change in the differential between the national and local death rates in the trend period.
- 2.14. As the 2014 SNPP death projection is not out of line with the local trend and the increase reflects the ONS’s national view of death rates, there is no case for adjusting this element.

Flows to and from the rest of the UK

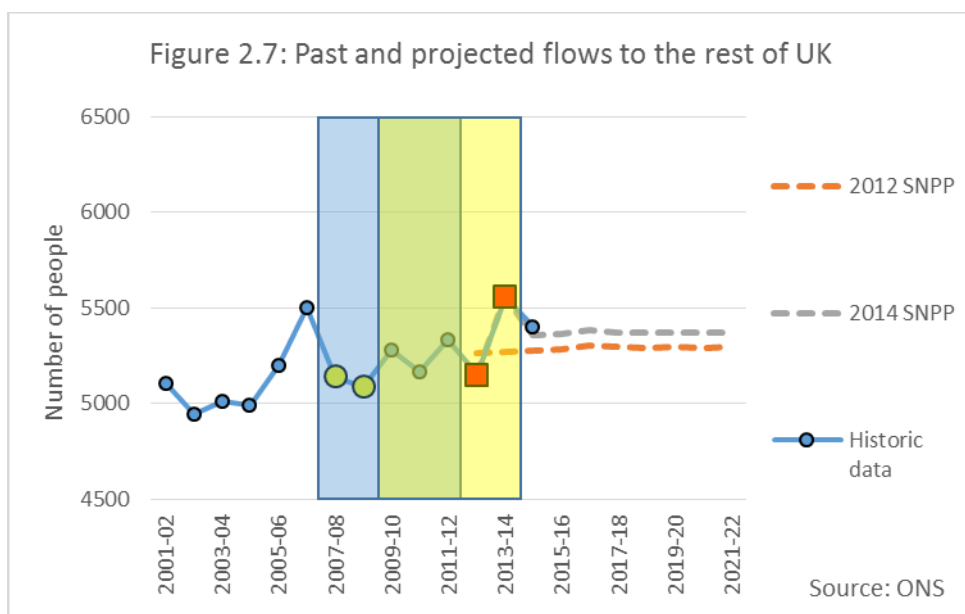
- 2.15. As already noted, the flows to and from the rest of the UK are by some way the largest of the six components of change. Unlike births, they have an immediate impact on the adult population of an area and therefore have significant implications for household numbers and housing requirements. This suggests that the projections in this area deserve careful attention.
- 2.16. 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. The 2014 SNPP used 2009-14 as its trend period, so the impact of the recession should be less.

- 2.17. 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.
- 2.18. The ONS do not, however follow this approach in the official population projections: they base their trends on the most recent five year period available at the time. This has the advantage of picking up changes in trends more quickly, but the disadvantage of potential distortions as a result of cyclical changes.
- 2.19. 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.
- 2.20. Figure 2.6 compares the 2012 and 2014 SNPP projections for inflows with the historical data. Note that the inflow into King's Lynn and West Norfolk fell after 2006-7 and has recovered since 2011-12, but not to the levels seen prior to the recession.
- 2.21. In Figure 2.6 the trend period used by the 2012 SNPP – 2007-8 to 2011-12 is highlighted in blue and that for the 2014 SNPP is yellow. An inflow projection based on the 2012 SNPP trend period would be based on the data that gave rise to the low flows in 2007-08 and 2008-09 (shown as yellow circles) as well as the flows in the overlapping area (shown as small blue circles). Moving the trend period forward two years to produce the 2014 SNPP causes the low flows in 2007-08 and 2008-09 to drop out of the period and the slightly higher flows in 2012-13 and 2013-14 (shown as red squares) to come into the period. The net result is that the average flow rates in the 2014 SNPP trend period are slightly higher than those in the 2012 SNPP trend period, resulting in slightly higher projected inflows. In percentage terms the change in the average inflows in the plan period is small (0.8%) but this amounts to an average inflow of an extra 50 people a year.



- 2.22. Figure 2.7 (below) is the equivalent chart for flows out of the Borough to the rest of the UK. The outflow fell after 2006-07 but that year was something of a local peak. The outflows during the downturn were not much different from those seen in the years before 2006-07, suggesting that the economic downturn did not have much impact on flows out. Moving the trend period from the years used for the 2012 SNPP to those used for the 2014 SNPP brings in the higher flow in the year 2013-14 (the second red square). The net result is that the average flow rates are higher and the projected outflows are also higher.

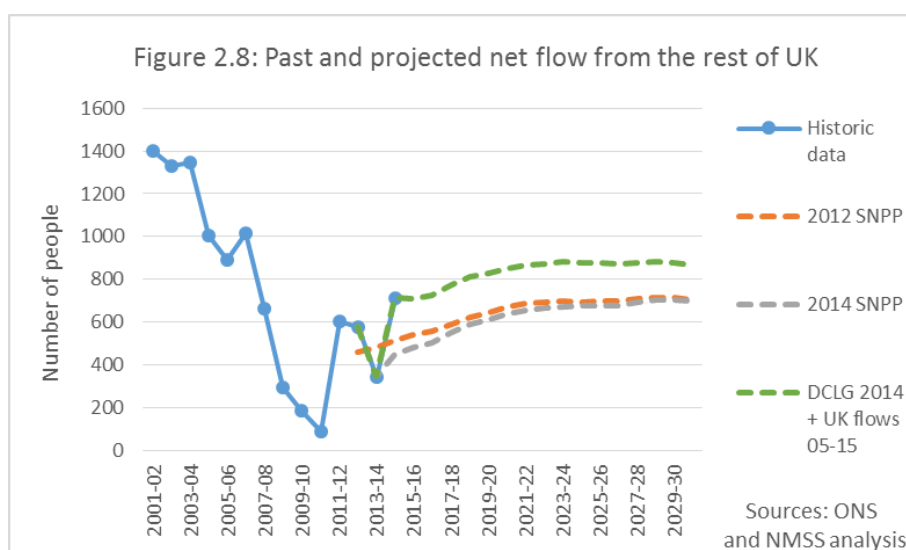


- 2.23. The projected outflows increase by 1.2% or an average of 67 people a year. This is larger than the increase in the projected inflows so this also contributes to a lower projected population increase in the 2014 SNPP.
- 2.24. From Figure 2.6 it seems fairly clear that the flows into the Borough in the years 2008-09 and 2010-11 were atypically low and that using them as part of five trend is likely to result in a population projection that is too low. This will, of course, have affected the 2012 SNPP more than the 2014 SNPP. To a lesser extent it might be

argued that the relatively high outflow in 2013-14 may have caused the 2013 SNPP outflow projection to be a little too high. Both can be addressed by adjusting the projected flows to reflect a longer trend period. Given that we now have data for the 10-year period 2005-15, that is the obvious choice.

- 2.25. At the same time it makes sense to re-base the population projections so that they start from the population in the 2015 MYE as this is the ONS's best view of what the position actually was at that date. As already noted, 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 projection for 2015 that has been produced by the ONS in the 2014 SNPP with the population estimate for that year from the 2015 MYE. The revised projection then 'steps forward' from those figures for the rest of the projection period.
- 2.26. There is a significant technical issue in adjusting the 2014 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 2005-15 as their trend period rather than 2009-14: an approximation needs to be made.
- 2.27. 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 2009-14 and 2005-15 are then calculated. The average 2005-15 rate is expressed as a percentage increase or decrease compared with the average 2009-14 rate and that increase or decrease is used to adjust the projected inflows in the 2014 SNPP for each year of age and sex. For example, if the average inflow rate for 2005-15 for females age 24 was 5% higher than the average rate for 2009-14, 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 2005-15 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.
- 2.28. Figure 2.8 shows the impact of adjusting the UK flow projections so that they are based on flows in the period 2005-15. The result is a projected net inflow which is higher than both the 2012 and 2014 SNPPs: whilst the 2014 SNPP has an average

annual net inflow over the plan period of 667 people a year, adjusting for 10 year flow rates and the 2015 MYE increases this to 858 people a year.



- 2.29. Whilst Figure 2.8 shows a clear drop in the net inflow after 2007-08 and then a recovery from 2011-12, that recover has yet to reach the levels seen in 2006-07 and before. Indeed, another interpretation of the graph is that the economic downturn accelerated a declining flow trend that dates back to the turn of the century. On that basis there may never be a return to pre-downturn flows and a 10-year trend adjustment may exaggerate the likely long term net inflow.
- 2.30. The Table at Figure 2.9 below sets out the results of adjusting flows to and from the rest of the UK to reflect the period 2005-15 and re-basing the projection to the 2015 MYE population estimates.

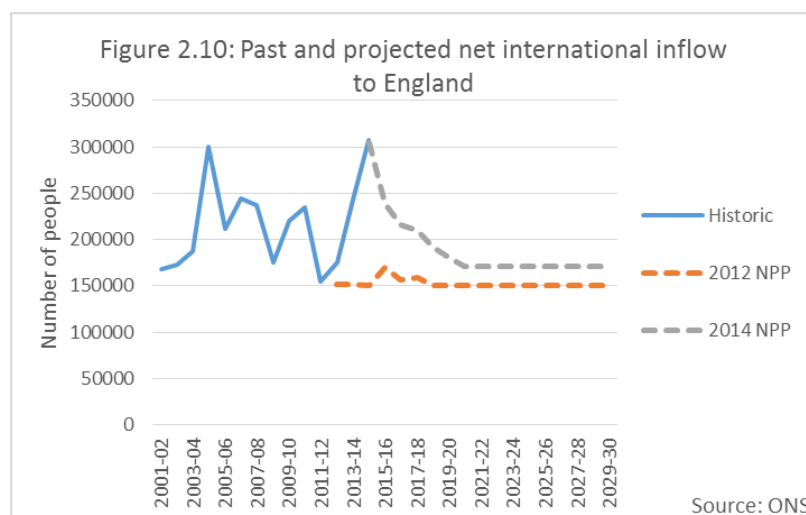
Figure 2.9: Adjusting for 10-year UK flows and 2015 MYE		
Change 2016 - 2036		Population
A	2014 SNPP	15400
B	Adjustment for 2005-15 UK flows + 2015 MYE	3131
C	2005-05 UK flows + re-basing to 2015 MYE	18531

- 2.31. As can be seen, the impact of these adjustments is very substantial. The additional population increase above that suggested by the 2014 SNPP is 3131 people over the 20 year period i.e. 157 a year or 20% of the projected population increase in the 2014 SNPP.

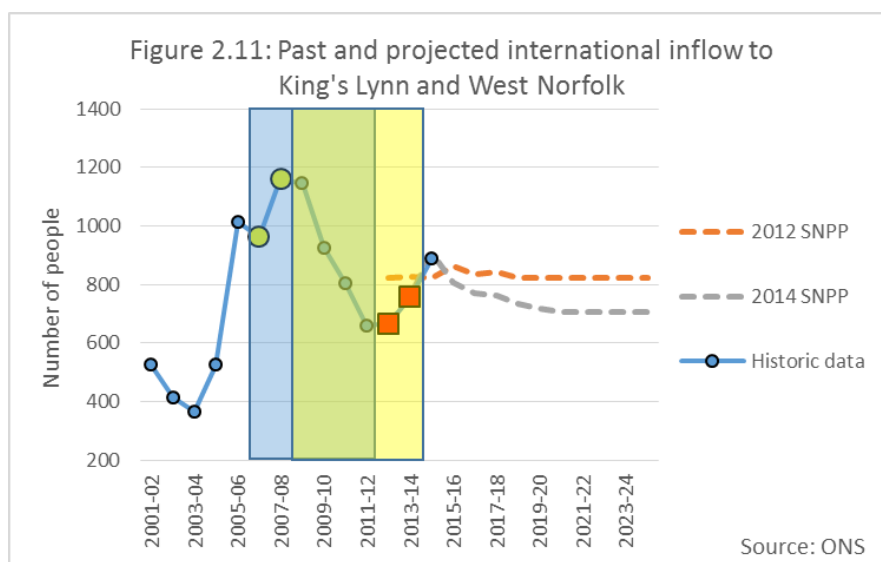
International flows

- 2.32. The ONS project international migration to and from local authorities by disaggregating their national projection for international flows. The share which is attributed to an authority is based on the flows to and from that authority over the six years up to the base year of the projection.

- 2.33. Figure 2.10 shows the 2012-based National Population Projection¹² (2012 NPP) and its 2014-based successor, the 2014 NPP¹³. The former underpins the 2012 SNPP and the latter the 2014 SNPP. As can be seen, both national projections are below the net flow seen in the previous 10 years and about half of the net flow suggested by the most recent data. The 2014 NPP settles to a slightly higher long term net flow: 170,000 people a year rather than 150,000. As result, all other things being equal, you would expect net international flows into an authority to be slightly larger in the 2014 SNPP than in the 2012 SNPP unless the authority's share of the net international flow has fallen between the 2012 and 2014 SNPP trend periods.



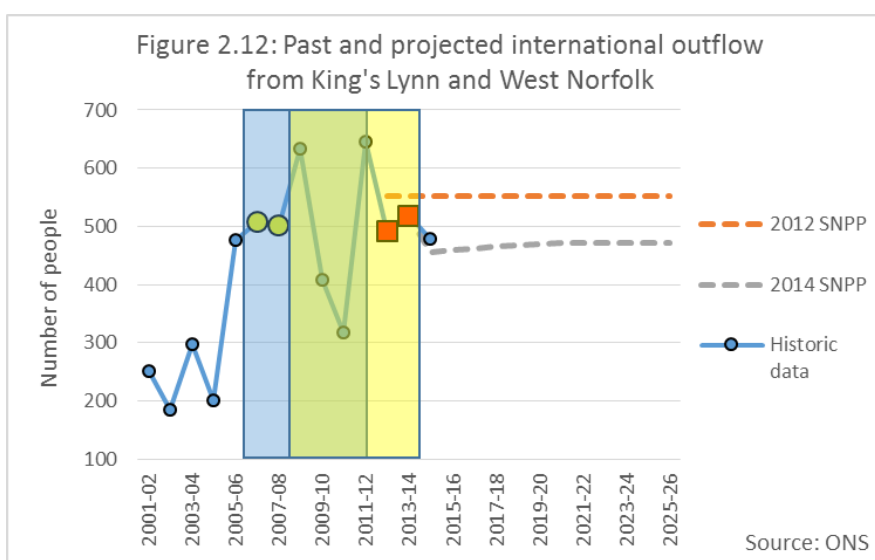
- 2.34. Figure 2.11 compares the 2012 and 2014 SNPP projections for international inflows to King's Lynn and West Norfolk, with the trend periods for each shaded in blue and yellow as before.



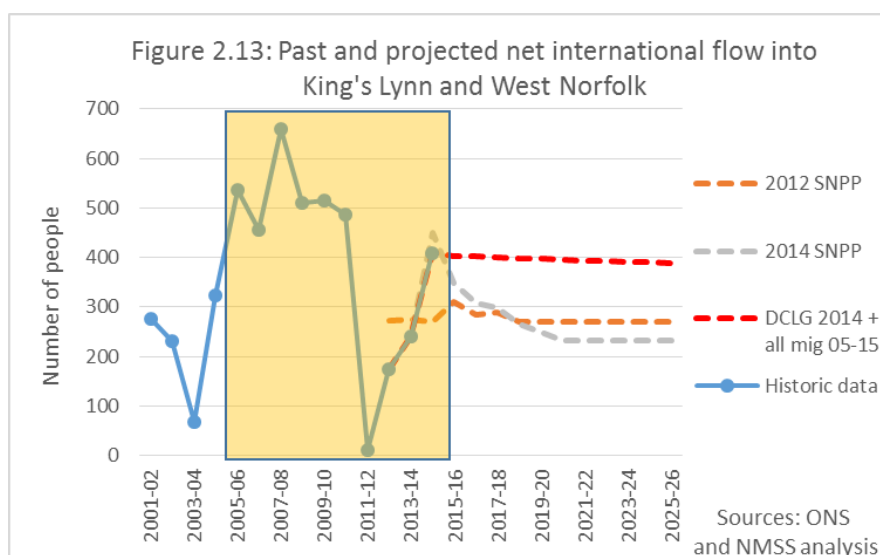
¹² See *National Population Projections, 2012-based Statistical Bulletin* published on 6 November 2013 and available at <http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2012-based-projections/stb-2012-based-npp-principal-and-key-variants.html#tab-Introduction>

¹³ See *National Population Projections, 2014-based Statistical Bulletin* published on 29 October 2015

- 2.35. The two data points which fall out of the trend period between the 2012 SNPP and the 2014 SNPP (2006-07 and 2007-08, shown as yellow circles) are both significantly higher than the two data points which enter the trend period (2012-13 and 2013-14, shown as red squares). As a result the projected inflow to the Borough settles to a lower long term level in the 2014 SNPP than in the 2012 SNPP notwithstanding that the 2014 NPP envisages a higher net England inflow.
- 2.36. Figure 2.12 is the equivalent chart for international outflows. There is little difference between the data points which leave the trend period in moving from the 2012 SNPP and those which enter it. The reduction in the projected outflow is probably due to the 2014 NPP having a lower projected outflow than the 2012 NPP. (The higher net England inflow in the 2014 NPP is due more to a lower outflow than and higher inflow.)



- 2.37. The discrepancy between the national projections which underpin both the 2012 and 2014 SNPPs and the recent flow levels has led some to suggest that there should be a substantial uplift to the projected net international flows into local authorities to reflect a more realistic view of future international migration. Whilst there may be a case for some adjustment, it would be wrong to uplift the projected international flows for individual local authorities by some standard national factor as the discrepancy between what has happened recently and what is projected varies considerably from one authority to another. A better approach would be to adjust the projected flows to and from individual authorities to reflect what has actually happened in those areas.
- 2.38. Figure 2.13 shows the impact of adjusting the net inflows to reflect the actual flows into Borough in the period 2005-15 (the red line labelled "DCLG 2014 + 05-15 all mig"). The trend period is shaded orange.



- 2.39. The 10-year trend projection balances the low flows during the economic downturn with higher flows in the period beforehand and the net result is a higher projected net inflow. The average net inflow over the plan period increases from 242 people a year in the 2014 SNPP to 389 with the 10-year trend period adjustment.
- 2.40. Figure 2.14 shows the impact of adjusting to reflect 10-year international flows. Again the impact is sizeable. The change is an increase of 2,489 over the 20 year period i.e. 124 people a year or 13% of the projected population increase.

Figure 2.14: Adjusting for 10-year international flows		
Change 2016 - 2036		Population
A	2014 SNPP	15400
B	Adjustment for 2005-15 UK flows + 2015 MYE	3131
C	2005-05 UK flows + re-basing to 2015 MYE	18531
D	Adjustment for 2005-15 international flows	2489
E	05-15 trend for all flows + 2015 MYE re-base	21020

Unattributable Population Change (UPC)

- 2.41. 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.
- 2.42. 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 than 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.

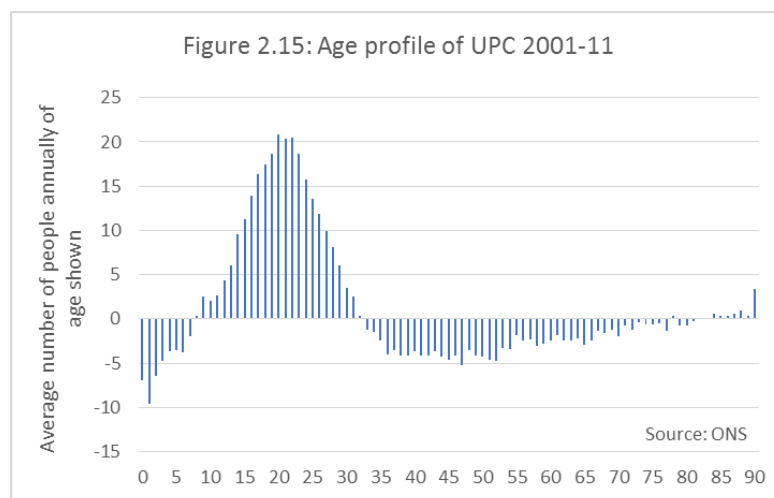
- 2.43. It is not thought likely that there are significant errors in the estimation of births and deaths as we have effective registration systems for both. That leaves three possible causes of UPC:
- International migration estimates
 - Flows within the UK
 - Census estimates in both 2001 and 2011
- 2.44. 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:
- 2.44.1. 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.
- 2.44.2. 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.
- 2.45. For King's Lynn and West Norfolk UPC for the period 2001-11 was 988 or 8% 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 underestimate the population change the 2001 and 2011 censuses. Compared with many authorities, this is not a large discrepancy.
- 2.46. The ONS publishes¹⁴ 95% confidence intervals¹⁵ for its census population estimates. For King's Lynn and West Norfolk these were 0.9% for the 2001 census and 0.87% for the 2011 census, implying an uncertainty of +/- 1220 in the 2001 census and +/- 1290 in the 2011 census. It is therefore possible that all of the UPC of 988 may have been 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

¹⁴ <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>

¹⁵ 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.

sensitivity analysis to test the implications of the actual position being either 0% or 100%.

- 2.47. In adjusting for UPC allowance needs to be made for the fact that it does not affect all age groups equally, as shown in Figure 2.15.



- 2.48. As Figure 2.15 shows, UPC is positive for ages 8 to 32. This means that in those ages the combined effect of births, deaths and migration flows underestimates the population change recorded by the two censuses. For most other age groups UPC is negative i.e. the impact of the estimated components of change overestimates the recorded population change. The positive UPCs outweigh the negative, resulting in an overall positive figure. Correcting for this increases the projected population increase. However, when it comes to adjusting the household projection, because those age groups in which UPC is positive have either zero household formation rates (in the case of children under 15) or low rates (in the case of younger adults) the overall impact of correcting the household projection for UPC is to reduce the projected household increase as the impact on household numbers of negative UPC in older age groups with higher household formation rates outweighs the impact of positive UPC on younger age groups.

- 2.49. Figure 2.15 shows the effect on the population projection of making a 50% UPC adjustment (see Row F and G). The impact is to increase the projected population increase 2016-36 by 473 or 2% of the projected population increase.

Figure 2.16: Adjusting for 50% UPC		
Change 2016 - 2036		Population
A	2014 SNPP	15400
B	Adjustment for 2005-15 UK flows + 2015 MYE	3131
C	2005-05 UK flows + re-basing to 2015 MYE	18531
D	Adjustment for 2005-15 international flows	2489
E	2015 UK and international flows + 2015 MYE re-base	21020
F	Adjustment for 50% UPC	473
G	05-15 trend all flows + 2015 MYE re-base + 50% UPC	21493

- 2.50. The combined impact of the three adjustments is to increase the population increase projected in the 2014 SNPP by 6093 people over the 20 year period i.e. 305 a year or 40% of the 2014 SNPP increase.

Comparison with the May 2015 NMSS analysis

- 2.51. The May 2015 NMSS report proposed that the population to be planned for should be based on the 2012 SNPP, adjusted to reflect flows during 2002-12. Depending on whether or not a 100% UPC adjustment was made, this produced an annual increase over the period 2013-28 (rather than 2016-36) of 1190 to 1260 people a year, an average of 1225 a year.
- 2.52. The NMSS analysis presented in Neil McDonald's Proof of Evidence for a planning appeal in April 2016¹⁶ was also based on the 2012 SNPP and the period 2013-28 but flows to and from the rest of the UK and abroad were adjusted to reflect flows in the period 2004-14 and a 50% UPC adjustment was made. This produced a projected population increase of 1180 a year over the period 2013-28.
- 2.53. The above analysis is based on the 2014 SNPP; UK and international flows adjusted to reflect the period 2005-15 and a 50% UPC adjustment. This suggests that the population increase that should be planned for is 1075 people a year over the period 2016-36. That is 12% less than the NMSS May 2015 figure and 9% less than the updated figure presented in the April 2014 Proof of Evidence. Bearing in mind that most projections suggest that the rate of increase in the population will reduce as the age profile becomes older and the number of deaths increase, it is to be expected that the later plan period used in this analysis will result in a lower average annual population increase. However, the difference is not large although the new projection is somewhat lower. (As a point of reference, the unadjusted 2014 SNPP suggests that the annual population increase for King's Lynn and West Norfolk over the period 2013-28 will be 804 people a year whilst the figure for 2016-36 will be 770 a year i.e. replacing 2013-28 as the plan period with 2016-36 reduces the average annual population increase by 4%.)

Conclusions on the population to be planned for

- 2.54. It is proposed that three adjustments should be made to the ONS's 2014-based Sub-national Population Projection for King's Lynn and West Norfolk to reflect both weaknesses in those projections and the latest evidence available from the 2015 Mid-Year Estimates and recent international migration statistics.
- 2.55. The proposed adjustments are shown in Figure 2.16 (above):

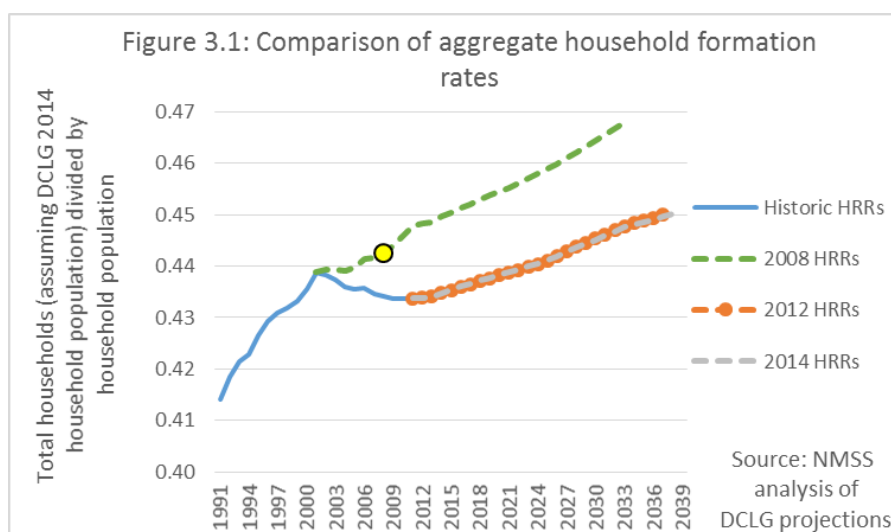
¹⁶ *Proof of Evidence by Neil McDonald, NMSS, in relation to an appeal by Broadland Housing Association and Townfolk Ltd against the refusal of planning permission on land south of School Road, Heacham, Norfolk*, NMSS, March 2016. This updates the NMSS May 2015 Report. See http://online.west-norfolk.gov.uk/online-applications/files/9E6DB21FDD7C78E49BFB556B536139ED/pdf/13_01541_OM-NMD_PROOF-3704150.pdf

- 2.55.1. The ONS's 2014 Sub-national Population Projections (2014 SNPP) use 2009-14 as the trend period for projecting flows to and from the rest of the UK. That period was much less affected by the economic downturn than the trend period used in the previous set of official population projections (the 2012 SNPP, which used 2007-12). However, adjusting to reflect flows in the latest 10-year period for which data is available (2005-15) is likely to provide 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 more 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 2015 rather than the projection made for that year in the 2014 SNPP. The effect of this set of adjustments is to increase the projected population increase between 2016 and 2036 from 15,400 in the 2014 SNPP to 18,531, an increase of 3,131 or 20%. (Rows B and C)
- 2.55.2. Net international migration into the UK is currently about twice that assumed by those who compiled the 2014 SNPP. As a general rule there is a strong case for adjusting those projections to reflect this. To avoid giving undue weight to flows over a short period whilst reflecting what has actually happened in the Borough, 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. 2005-15. This increases the projected population increase between 2016 and 2036 by 2,489 or 13%, increasing the projected increase from 18,531 to 21,020. (Rows D and E).
- 2.55.3. There is no way of knowing how much Unattributable Population Change (UPC) will have affected the population projections. It is as unlikely that UPC will have had no impact on the projections as it is that all of it will have affected them. That being so the prudent assumption is to make a 50% adjustment. The effect of this is to increase the projected population increase during the plan period from 21,020 to 21,493, an increase of 473 or 2%.
- 2.56. The overall effect of these adjustments is to increase the 2014 SNPP's projection for 2016-36 from 15,400 to 21,493, an increase of 6,093 or 40%. This is a large percentage adjustment, driven in significant part by the use of 10-year trend periods which give weight to higher net flows in the period before the economic downturn. Given the evidence of what has happened since the recession, it is far from certain that there will be a return to the flows seen in the period up to 2006-07. This adjustment may therefore overestimate the increase that is likely to occur.

3. HOW PEOPLE ARE LIKELY TO GROUP THEMSELVES INTO HOUSEHOLDS

The household projections

- 3.1. 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 and, if so, whether the reduction will be at the rate projected before the recession. Alternatively, will the economic downturn, a long period of deteriorating housing affordability and other factors have caused a permanent change?
- 3.2. There are four recent DCLG household projections: those with base dates of 2008, 2011, 2012 and 2014. The 2008-based projections 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. However, they were something of a temporary measure and were not based on a full update of the earlier projections. Now that they have been superseded by more recent, full projections they are of little relevance and are not discussed in any depth in what follows. The 2012-based projections were the first full set of projections following the 2011 census and take much fuller account of that census. They have subsequently been superseded by the 2014-based projections which were published in July 2016.
- 3.3. Figure 3.1 summarises the view the 2008, 2012 and 2014-based projections take of the likely direction of travel of household formation rates in the Borough.



3.4. Note that:

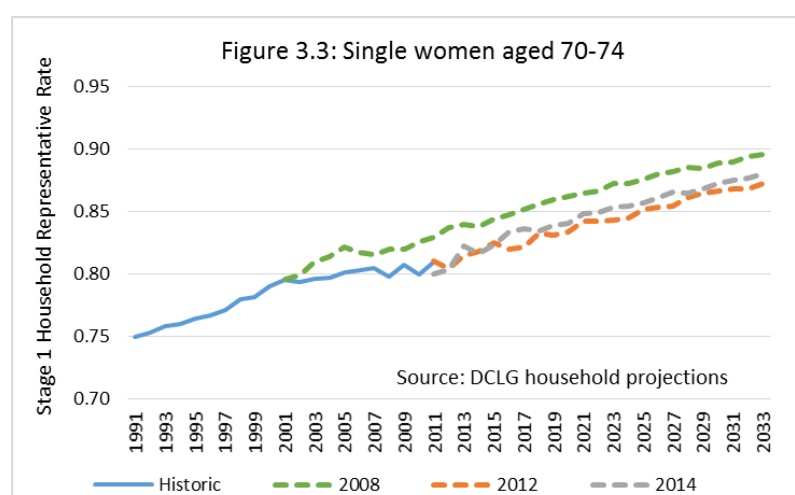
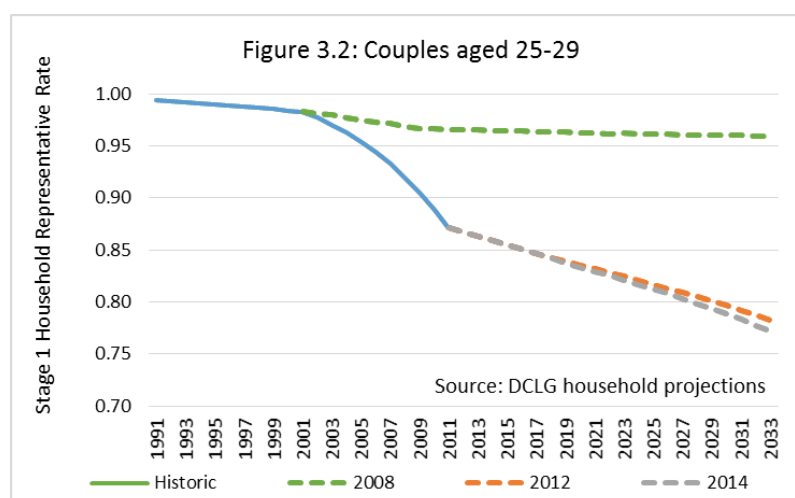
- 3.4.1. The blue line is the historic data on household formation rates (or, more technically, household representative rates (HRRs)). Like many other areas, overall household formation rates fell in King's Lynn and West Norfolk between 2001 and 2011.
- 3.4.2. The dotted green line is the 2008-based household formation rates. The yellow dot indicates the rate which those compiling the 2008-based projections assumed to be the current position in 2008. The distance between it and the solid blue line indicates how far above the actual position the starting point assumed for the 2008-based projections was. As the chart indicates, the assumption then was that household formation rates had continued to rise since 2001, whereas they had in fact fallen.
- 3.4.3. The aggregate household formation rates in the 2012 and 2014-based projections are very similar – so much so that in Figure 3.1 the two lines are indistinguishable¹⁷. As a consequence of this, replacing the 2012-based household formation rates with the 2014-based set only changes an estimate of the OAN by 3-4 homes a year.
- 3.4.4. The 2012 and 2014-based projections envisage that aggregate household formation rates will resume a rising trend, albeit one that is not quite as fast as that envisaged in the 2008-based projections.

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

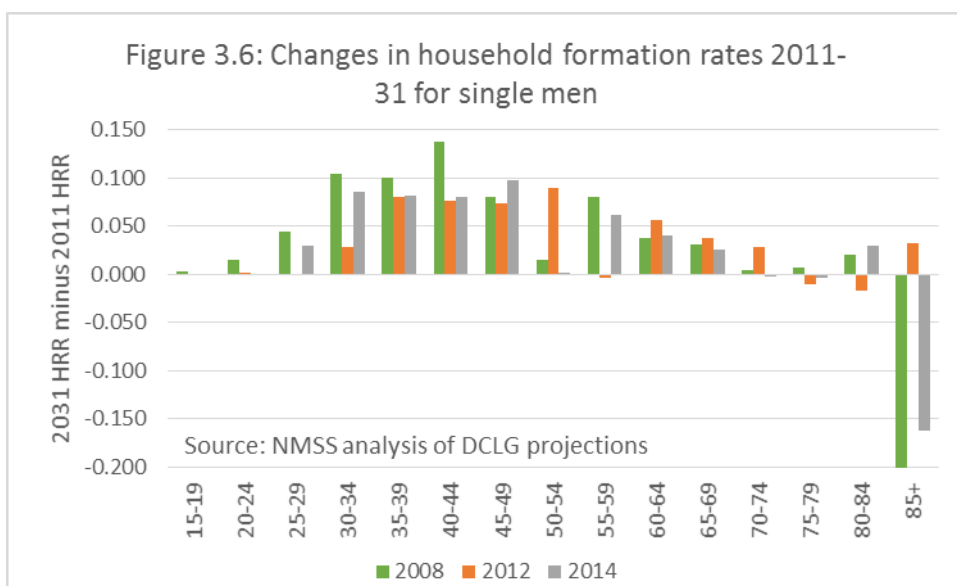
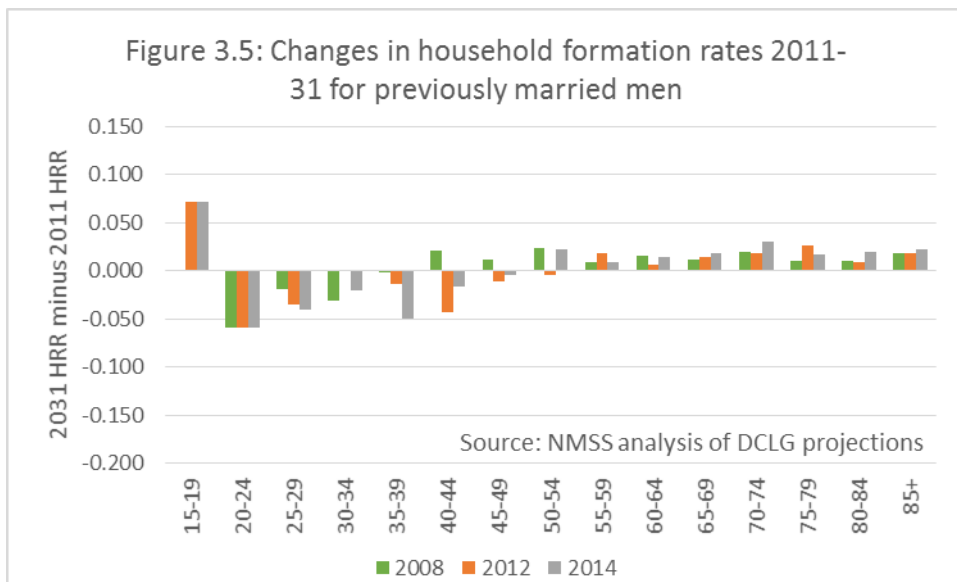
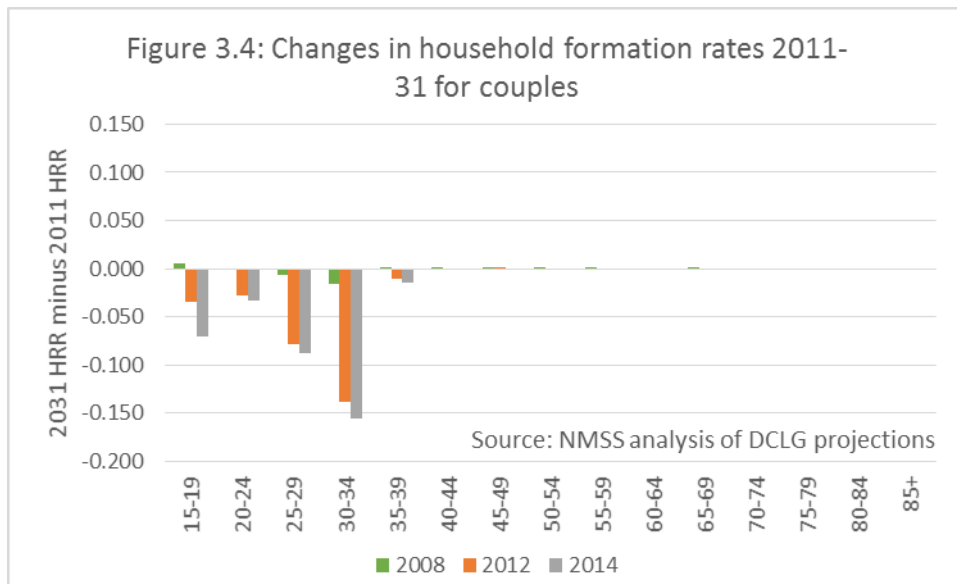
- 3.5. The key issue is whether or not it should be assumed that household formation rates will not just return to rates of growth close to those envisaged in the 2008-based projections but will also catch up some or all of the lost ground relative to those earlier projections. To reach an informed view on this it is necessary to look in greater detail at what the DCLG projections are envisaging and not just at the overall or aggregate picture.
- 3.6. DCLG project household formation rates for 5 different 'relationship types': couples, single men, previously married men, single women and previously married men. For each relationship type they project rates for fifteen 5-year age groups ranging from '15-19' to '85 and over'. Altogether there are 75 groups. DCLG disaggregate households in this way this because the pattern of household formation is different for different relationship types and for different age groups, with for example, older age groups generally having higher household formation rates.

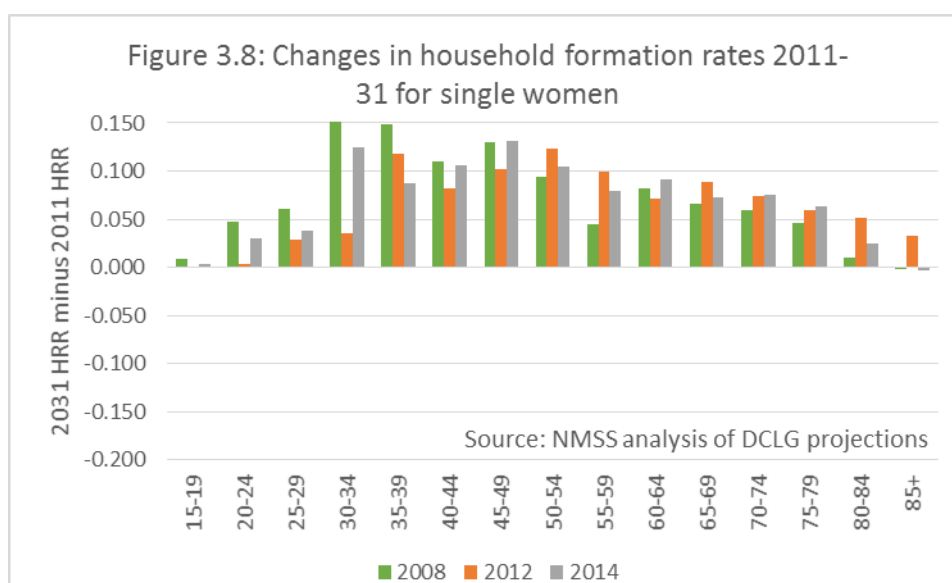
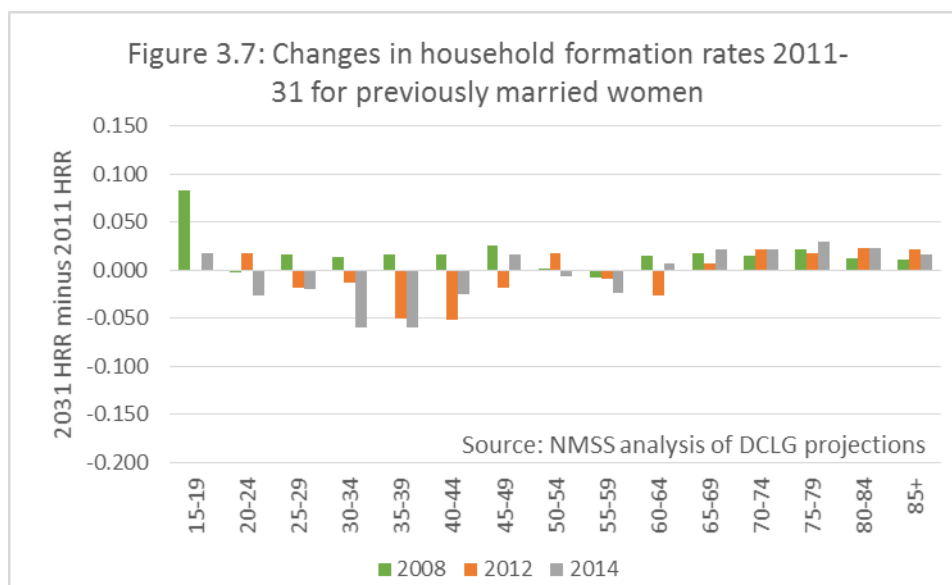
¹⁷ Note that the aggregate household formation rate has been defined to mean the total number of households divided by the total household population. As the total number of households projected depends not just on the total household population but also the age distribution within the population (as different age groups have different household formation rates), the aggregate household formation rates shown in Figure 4.1 have all been calculated using the DCLG 2014-based household population projection.

- 3.7. Figures 3.2 and 3.3 show how the 2008, 2012 and 2014-based household formation rates compared for two very different groups: couples aged 25-29 and single women aged 70-74.



- 3.8. Figure 3.2 shows that the 2008-based projections envisaged a small decline in the household formation rates of couples aged 25-29 but that the 2012 and 2014-based projections envisage a much faster decline, with the 2014-based rates declining slightly faster than the 2012-based set.
- 3.9. In contrast, Figure 3.3 shows that all three projections envisage continuing growth in household formation rates for single women aged 70-74. The 2014-based rates are slightly higher than the 2012-based set in this instance.
- 3.10. To get a comprehensive picture using this approach one would need to examine 75 such charts. To avoid this Figures 3.4 to 3.8 plot the changes in household formation rates envisaged by the three projections between 2011 and 2031 for the age groups in each of the 5 relationship types used by DCLG. The charts are plotted on similar scales to facilitate comparison.





3.11. From these charts the following points are evident:

- 3.11.1. For most older age groups and for almost all age groups of single men and women, household formation rates are envisaged as rising in all three projections. In some case the increase is larger in the 2014-based projections, although this is likely to be from a lower starting point. The new projections do not envisaged deteriorating housing conditions for all households.
- 3.11.2. The groups with the largest falls in household formation rates (other than single men aged 85+) are couples aged under 35.
- 3.11.3. For couples aged 40 and over Figure 3.4 indicates that no change is envisaged between 2011 and 2031. This is because in all three projections couples over 40 are expected to have household formation rates that are for all practical purposes equal to 1, i.e. all couples in these age groups are

expected to have their own household. This means that, whilst the 2014-based projection suggest that couples under 35 will have a deteriorating chance of having their own household, by the time those couples reach 40 it is anticipated that they will have caught up and established separate households.

- 3.11.4. Whilst there are falls for some other groups, these are generally significantly smaller
- 3.12. The overall conclusion from this analysis is that the picture painted by the 2014-based projections is by no means universally negative: there will be winners (i.e. groups that see rising household formation rate) as well as losers (with falling household formation rates). There is a significant distinction between younger and older households.
- 3.13. There are two reasons for believing that a return towards the 2008-based household formation rates is unlikely in these younger age groups:
 - 3.13.1. The 2008-based household formation rates were optimistic even when they were first issued.
 - 3.13.2. 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

- 3.14. There are a number of reasons for believing that the 2008-based household formation rates were optimistic for the younger adult age groups.
 - 3.14.1. 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 Figure 3.1 above).
 - 3.14.2. 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).
 - 3.14.3. 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.

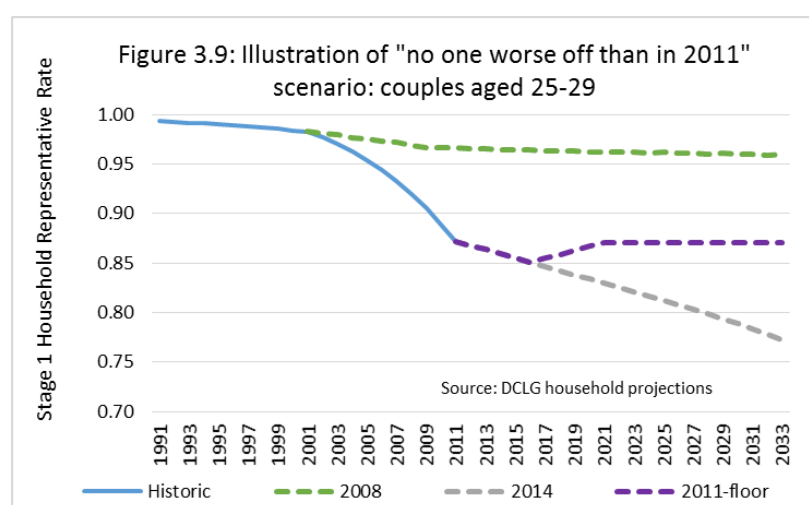
Reasons for the departure from the earlier household formation rate trends

- 3.15. There are a number of reasons for believing that the departure from the earlier household formation rate trends, which began well before the economic downturn, 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 2014¹⁸. 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:
- 3.15.1. “...a sustained increase among young people not leaving home” which began at the turn of the century and accelerated after 2008;
 - 3.15.2. “...the introduction of student fees from 1998”
 - 3.15.3. “...the increase in precarious employment, including the rapid growth of part-time work....”
 - 3.15.4. “The long term increase in the number of childless women...which increased the number of smaller households, stopped and has fallen since 2000.”
 - 3.15.5. “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.”
- 3.16. 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.”
- 3.17. 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....”
- 3.18. 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 2014-based household projections.
- 3.19. In view of this analysis it would be entirely reasonable to apply DCLG’s 2014-based household formation rates ‘as published’. However, whilst it can be argued that the declining household formation rates which those projections envisage are simply an evidenced-based view of what is likely to happen, it can be questioned whether it is appropriate to plan on the basis of continuing such sharp declines in the household

¹⁸ 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 was entitled, “Whither household projections”.

formation rates of younger couples such as those shown for King's Lynn and West Norfolk in Figures 3.2 and 3.4. An alternative approach would be to plan on the basis that no group sees their household formation rate fall below their level in 2011 and the household formation rates of those groups projected to see increases increase as projected. This can be described as a 'no one worse off than in 2011' scenario.

- 3.20. Figure 3.9 shows what the 'no one worse off than in 2011' scenario would mean for the household formation rates of couples aged 25-29, the scenario being labelled '2011 floor'. This assumes that the '2011 floor' is reached by 2021 and held constant thereafter.



- 3.21. Figure 3.10 shows the impact which the 'no one worse off than in 2011' scenario has on the number of additional households that are projected to form during the plan period.

Figure 3.10: Implications of "no one worse off than in 2011" scenario	
	Households formed 2016-36
DCLG 2014 HRRs 'as published'	10861
"No one worse off than in 2011"	12095

- 3.22. As the above table shows the increase in number of additional households is significant: the number of additional households a year increases from 543 to 605, an increase of 62 or 11%.
- 3.23. That the increase is this large is of itself significant as it indicates that, without applying a '2011 floor', some groups would see a sizeable reduction in their chances of setting up a separate household. This strengthens the case for making this assumption.

Conclusion on household formation rates

- 3.24. The expert opinions of Professor Simpson and others suggest that the 2014-based projections are likely to prove to be reasonable view of what is likely to

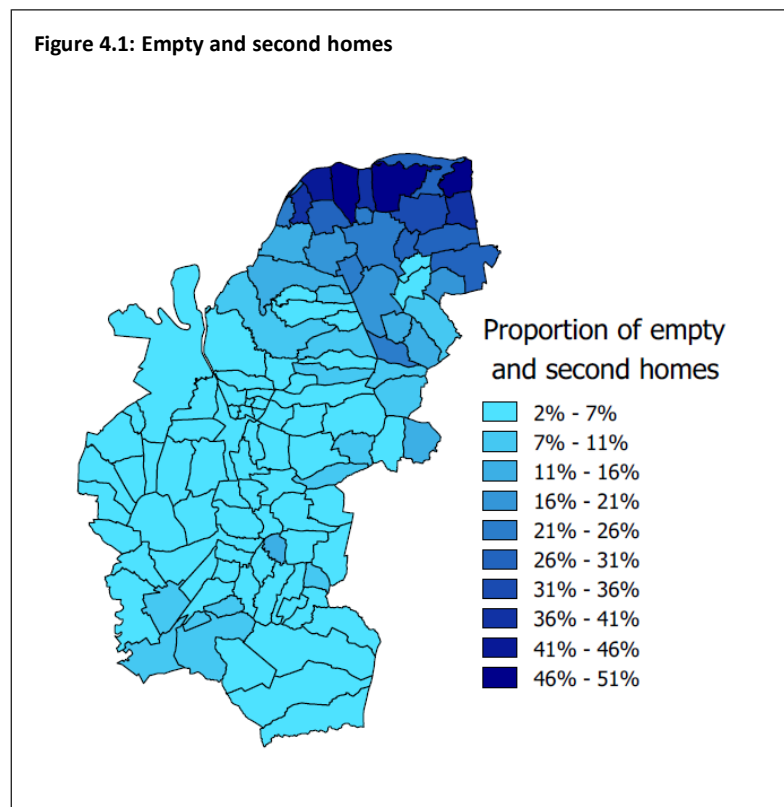
happen to household formation rates. It would therefore be entirely reasonable to use those rates 'as published'. On that basis there would be a need to accommodate 10,861 households (2016-36) or 543 extra households a year. However, in King's Lynn and West Norfolk's case that would mean planning on the basis of a significant deterioration in the chances of some groups forming their own households, most notably younger couples. A more positive approach would be to plan on the basis that no one's chance of setting up a separate household is worse than it was in 2011. **This would mean planning for 12,095 extra households (2016-36) or 605 households a year.**

4. EMPTY AND SECOND HOMES

- 4.1. In estimating the number of homes that need to be built to accommodate the projected increase in households an allowance needs to be made for the number of dwellings that will not be used as a household's main home. That includes properties that will be empty (perhaps between tenants, pending sale after a death or undergoing refurbishment) or used as a second home. King's Lynn and West Norfolk poses particular problems in determining what an appropriate proportion might be as it has an exceptionally high proportion of second homes and properties that are let as holiday homes.
- 4.2. There are three particular factors which need to be taken into account in assessing the allowance to be made for second and empty homes.

(a) The proportion of second and empty homes varies greatly across the Borough

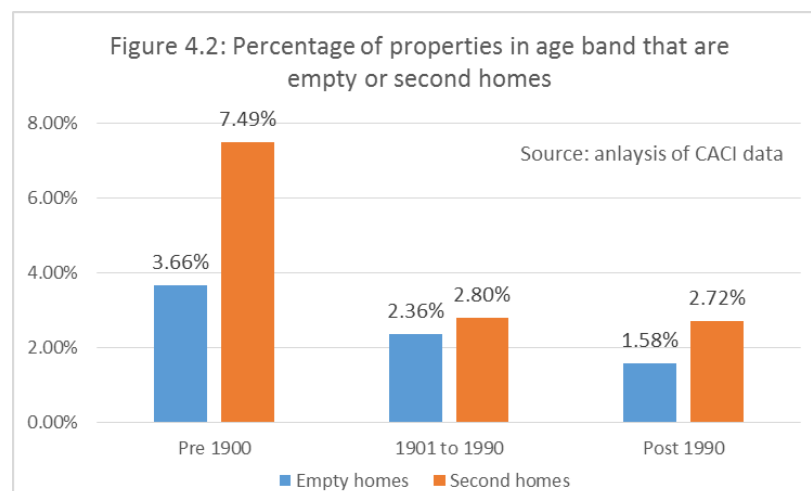
- 4.3. Figure 4.1 illustrates how the concentration of empty and second homes varies. Unsurprisingly, second homes are heavily concentrated in the northern part of the Borough in the 'holiday areas' by the coast, with some northern wards or parishes having very proportions.



- 4.4. Any estimate of the allowance that should be made for second homes that is based on the proportions in the existing stock would need to take account of the widely varying proportions in different parts of the Borough.

(b) The proportion of empty and second homes varies with the age of the property

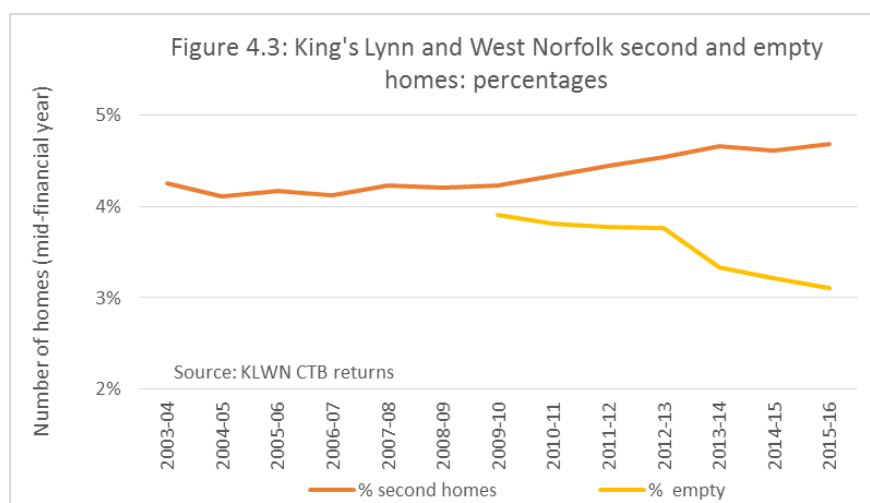
- 4.5. Figure 4.2 shows how the proportion of empty and second homes varies considerably according to the age of the property.



- 4.6. Older properties are clearly much more attractive as second homes. As far as empty homes are concerned, there is also a considerable difference, with post-1990 properties being less than half as likely to be empty as pre-1900 properties. Again this is not surprising as newer properties are likely to be in better condition and to be located where there is currently demand.

(c) The proportion of second homes is rising

- 4.7. Figure 4.3 shows how the percentage of homes that are used as second homes has been rising in recent years whilst the proportion of empty homes has fallen.



- 4.8. The increase in the percentage of second homes suggest that a growing number of homes in the existing stock are being 'lost' in the sense that they are no longer available to be a household's main home. This suggests that if adequate homes are to be provided for the new households that are expected to form it will be

necessary not just to provide for the same proportion of new homes being used as second homes but to allow also for the continuing loss from the existing stock. The size of that loss has fluctuated from year to year (as Figure 4.3 indicates). Over the period 2003-04 to 2015-16 the average increase in second homes was 51 homes a year; over the period 2004-05 to 2012-13 the rate was 65 homes a year.

- 4.9. In view of this analysis it is proposed to adopt different approaches for empty and second homes as follows:
 - 4.9.1. For empty homes the allowance should be based on the percentage of empty homes in the post-1990 housing stock (1.58%) as the new housing built will be more like this stock than older housing.
 - 4.9.2. For second homes it should be assumed that the number of homes lost to the stock available for use as a main home continues at the same rate as in the recent past i.e. between 51 and 65 homes a year.
- 4.10. On this basis, to accommodate 12,095 extra households (2016-36) would require 13,309 – 13589 homes (2016-36)¹⁹. Taking the mid points of these ranges and rounding to avoid suggesting spurious accuracy, gives a **demographic OAN of 13,400 homes 2016-36 or 670 homes a year**.
- 4.11. Expressed in terms of the more conventional proportion of the stock that is empty or used as a second home, this calculation equates to 10.07% of the additional homes.

Footnote on census estimates of “homes with no usual resident”

- 4.12. It should be noted that this figure for the number of homes that are empty or used as second homes differs significantly from the 2011 census estimate that 14.9% of homes that had “no usual resident”. This is because:
 - 4.12.1. Dwellings with no usual residents are not necessarily truly empty or vacant on census day. They may have been occupied by people who do not qualify as ‘usual residents’ such as non-UK born short-term residents, one or more visitors, or a combination of short-term residents and visitors.
 - 4.12.2. Dwellings which are used commercial holiday properties (and as such are not part of the normal residential housing stock) will also have been classified as dwellings without a usual resident.
 - 4.12.3. In areas with significant numbers of holiday homes it can be particularly challenging for census enumerators to determine what the status is of an address from which a census form was not returned. Dwellings may be categorised as having no usual resident when there is some other explanation for the non-return of the census form.

¹⁹ The calculations are: $(605/(1-1.58\%)) + 51 = 666$ and $(605/(1-1.58\%)) + 65 = 680$

- 4.12.4. Other areas with large numbers of second homes (such as Cotswold) also have similar issues with the census estimate for homes with no usual resident being significantly larger than estimates for empty and second homes derived from the council tax base.

5. THE DEMOGRAPHIC OAN

- 5.1. Applying these empty and second homes rates and the DCLG 2014 household formation rates to the proposed planning assumptions for population growth in estimated in the previous section produces the following estimates of demographic OAN (Figure 6.1).

Figure 6.1: Summary of adjustments to 2014-based DCLG projection				
Change 2016 - 2036		Population	Homes	Homes/yr
A	2014 SNPP	15400	9507	475
B	Adjustment for 2005-15 UK flows + 2015 MYE	3131	1710	85
C	2005-05 UK flows + re-basing to 2015 MYE	18531	11217	561
D	Adjustment for 2005-15 international flows	2489	1052	53
E	2015 UK and international flows + 2015 MYE re-base	21020	12269	613
F	Adjustment for 50% UPC	473	-192	-10
G	05-15 trend all flows + 2015 MYE re-base + 50% UPC	21493	12077	604
H	Adjustment for 2011 HRR floor	0	1372	69
I	Demographic OAN	21493	13449	672

Note: calculations have been made using unrounded numbers; rounded numbers may not add exactly

- 5.2. As can be seen from Figure 6.1:
- 5.2.1. If DCLG's 2014-based household projection were used 'as published' 475 homes a year would be needed over the period 2016-36.
 - 5.2.2. Adjusting the 2014 SNPP projection to reflect flows to and from the rest of the UK in the period 2005-15 rather than 2009-14 and re-basing to start the projection from the ONS's latest estimate for the 2015 population increases the number of homes needed by 85 homes a year to 561, an increase of 18%.
 - 5.2.3. Adjusting the projected net flow from abroad to reflect the flows in the period 2005-15 increases the number of homes needed by 53 homes a year to 613, an increase of 9%.
 - 5.2.4. Making a 50% adjustment for the negative UPC reduces the number of homes need by 10 a year to 604, a reduction of 2%. This is despite the UPC adjustment increasing the population projection. This because the UPC adjustment increases the projected population in younger age groups with low or zero household formation rates whilst reducing it in older age groups with higher household formation rates.
 - 5.2.5. Adjusting the 2014-based household formation rates so that no one is worse off than in 2011 (in terms of the probability that they will be able to set up a separate household) increases the number of homes needed by 69 homes a year to 672 homes, an increase of 69 or 11%.
- 5.3. The overall impact of the changes made to the 2014 SNPP and DCLG 2014 is to:

- Increase the projected population increase by 6,093 people over the plan period of 2016-36. This is an increase of 40%
- Increase number of homes needed from 475 a year to 672 a year, an increase of 197 or 41%

5.4. These are very substantial uplifts to the official projections. They depend on

- adjusting the projections to reflect 10-year flows, thus bringing into the trend period higher flows in the period before the economic downturn.
- Assuming 2011 household formation rates where the DCLG projections suggest lower rates

Both of these assumptions may be over optimistic. However, they have been made in the interests of positive planning to avoid underestimating the number of households which will need to be accommodated.

5.5. To avoid suggesting spurious accuracy the demographic OAN should be taken to be 670 homes a year over the period 2016-36.

6. ADJUSTMENTS TO REFLECT ‘OTHER FACTORS’

Market signals

- 6.1. The PPG makes it clear that 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

- 6.2. 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 Targets²¹ 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 supply is tightening compared to other places – unless for some reason the area is becoming more desirable over time.”*

House prices

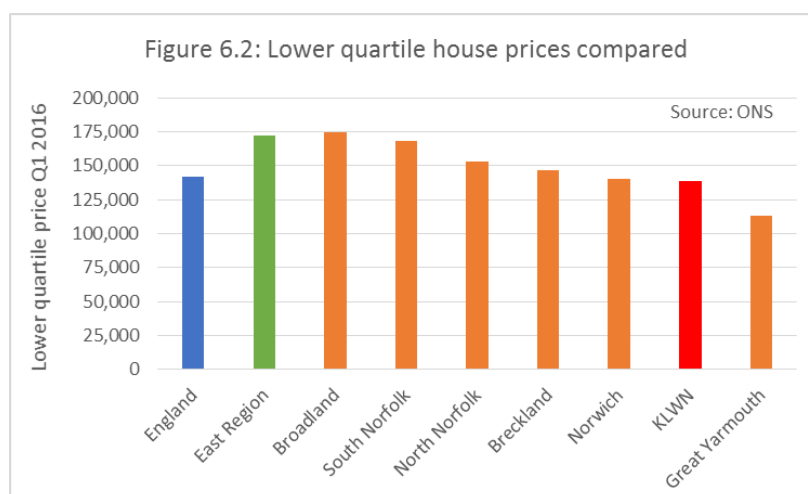
- 6.3. Figure 6.1 compares lower quartile house prices in King’s Lynn and West Norfolk with other Norfolk authorities and with the East Region and England. Figure 6.2 presents Q1 2016 house price data graphically.

²⁰ Planning Practice Guidance, Paragraph: 019 Reference ID: 2a-019-20140306

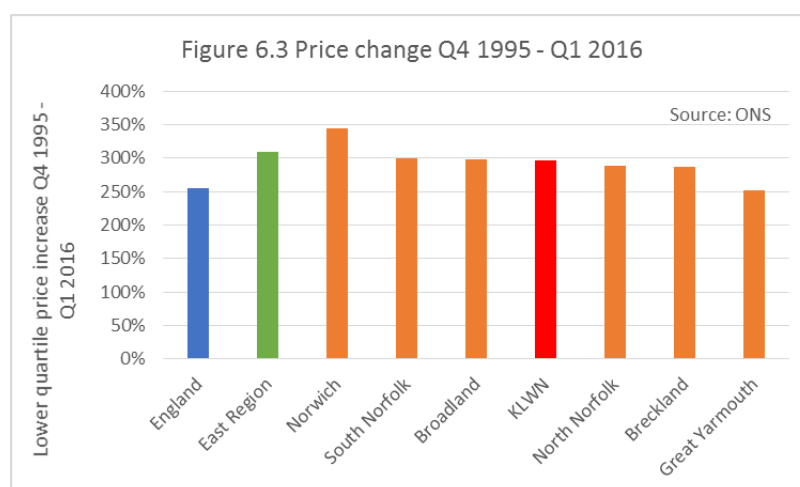
²¹ Objectively Assessed Need and Housing Targets: Technical advice note, Second edition, July 2015, Planning Advisory Service <http://www.pas.gov.uk/documents/332612/6549918/OANupdatedadvisenote/f1bfb748-11fc-4d93-834c-a32c0d2c984d>

Figure 6.1: Lower quartile house prices compared		
	Lower quartile price Q1 2016	Change Q4 1995 - Q1 2016
England	142,000	255%
East Region	172,500	309%
Breckland	147,000	287%
Broadland	175,000	298%
Great Yarmouth	113,500	251%
KLWN	139,000	297%
North Norfolk	153,000	288%
Norwich	140,000	344%
South Norfolk	168,500	300%

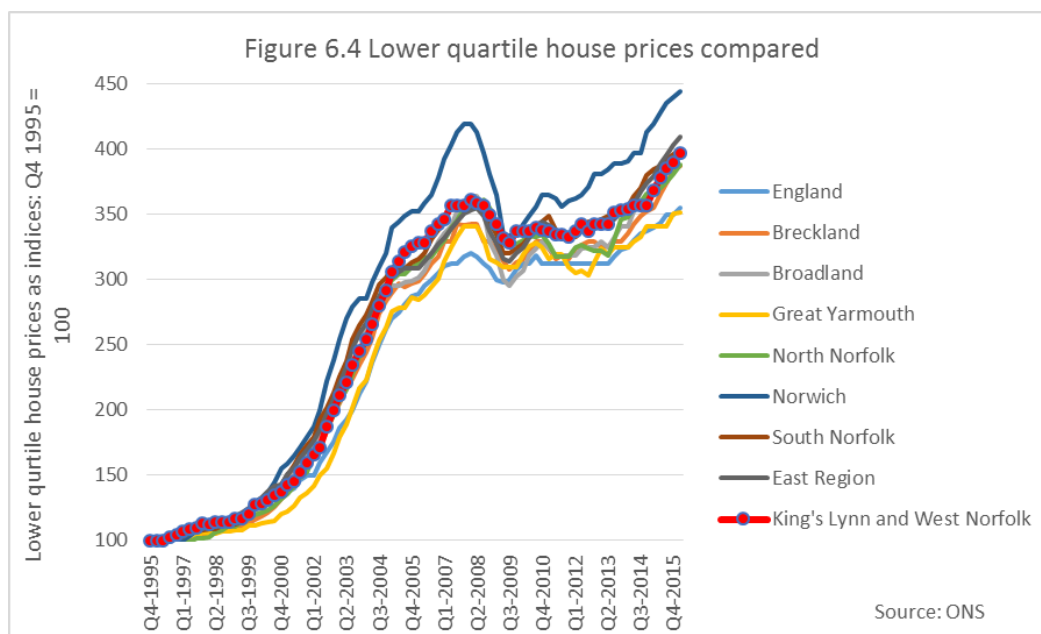
Source: ONS



- 6.4. As can be seen from the table and chart, King's Lynn and West Norfolk has lower lower quartile house prices than all of the Norfolk authorities except Great Yarmouth. Its house prices are also below the average for East Region and England as a whole.
- 6.5. Of greater relevance is the data showing how house prices have changed over the last 20 years. Figure 6.3 presents the data on the prices change from Q2 1995 to Q1 2016 graphically.



- 6.6. Care does, however, need to be exercised in interpreting price change data between two dates as the ranking of an authority can depend on the choice of start and end dates. Figure 6.4 therefore present the lower quartile price data as an index, allowing the relative movements in price to be seen over the whole period from 1995 to 2016.



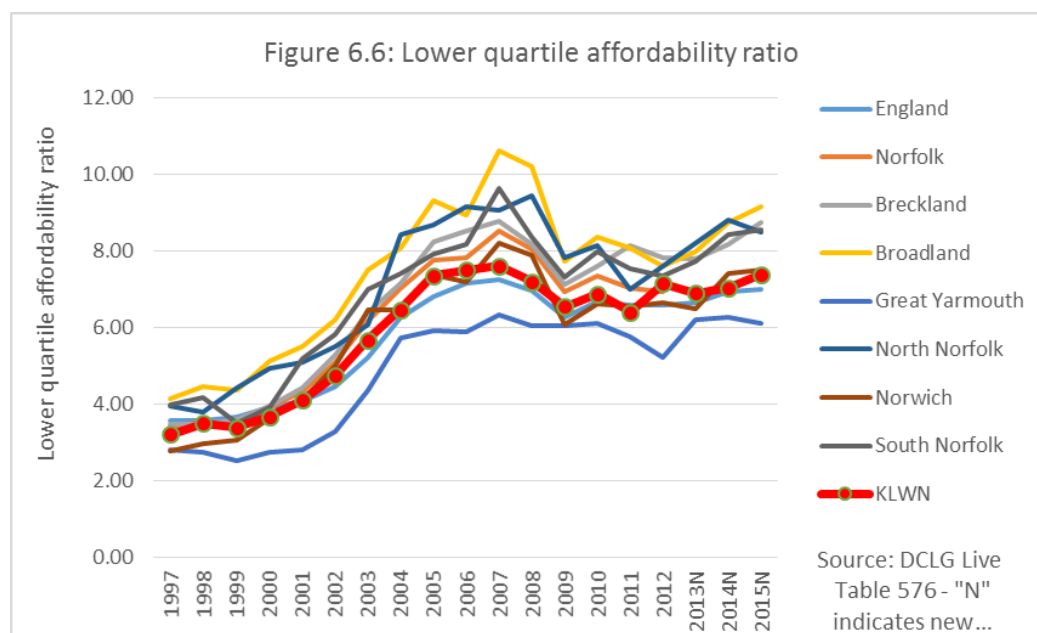
- 6.7. The message from Figures 6.3 and 6.4 is the same: lower quartile house prices in King's Lynn and West Norfolk have moved in line with house prices in the rest of Norfolk. Great Yarmouth has seen smaller price increases and Norwich larger increases but the other Norfolk authorities have seen very similar increases. Prices have risen faster across the East Region but slower in England as a whole.
- 6.8. The overall conclusion is that, in terms of lower quartile house prices, King's Lynn and West Norfolk does not stand out from neighbouring authorities. This measure does not provide grounds for a 'market signals' adjustment.

Affordability

- 6.9. 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. Figure 6.5 below shows the affordability ratio for the Norfolk authorities and England. As can be seen, King's Lynn and West Norfolk has the lowest affordability ratio of all Norfolk authorities apart from Great Yarmouth i.e. it is the most affordable bar one. However, the Borough's affordability ratio is slightly worse than England as a whole.

Figure 6.5: Lower quartile affordability ratios in 2015	
England	7.02
Breckland	8.76
Broadland	9.16
Great Yarmouth	6.12
King's Lynn and West Norfolk	7.39
North Norfolk	8.48
Norwich	7.52
South Norfolk	8.57

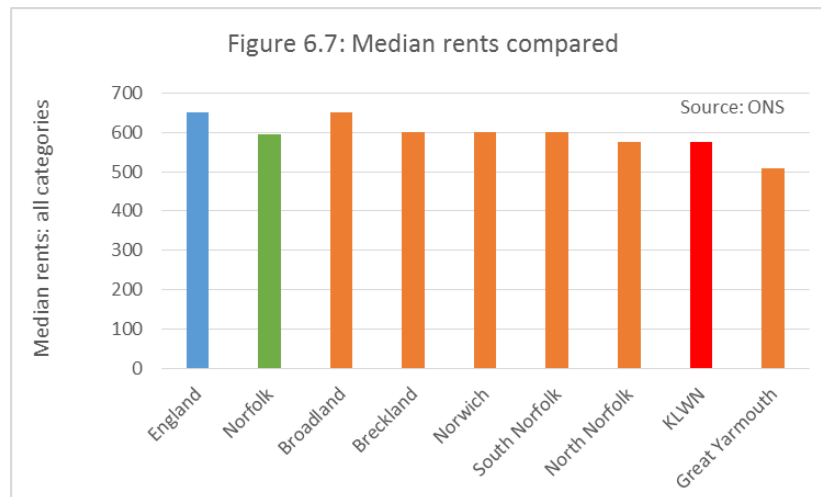
- 6.10. More significant than the absolute value of the affordability ratio in 2015 is the rate at which it has changed. Figure 6.6 plots the change in affordability ratio since 1997. The data comes for DCLG Live Table 576. The old version of this table was discontinued in 2013 and replaced with a new version. As a result there appears to be a small discontinuity in 2013.



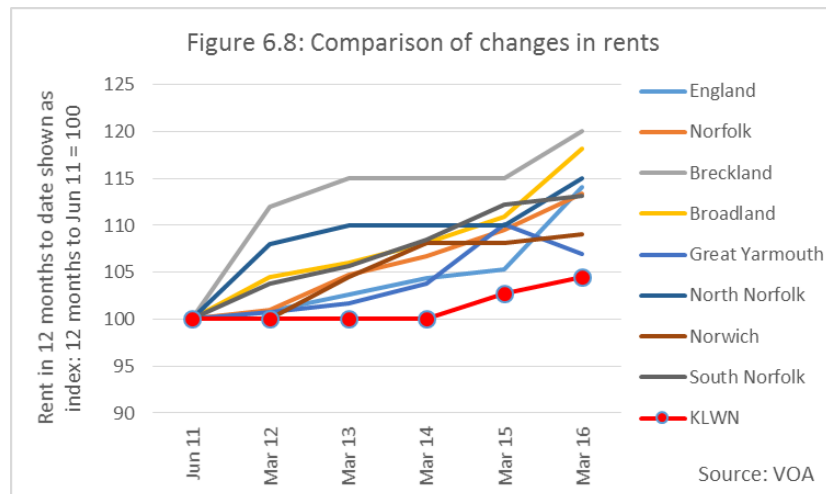
- 6.11. As the chart shows, King's Lynn and West Norfolk has been toward the lower end of this set of comparators, with only Great Yarmouth consistently having a lower affordability ratio.
- 6.12. Again, there are no grounds for a 'market signals' uplift based on this indicator.

Rents

- 6.13. 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, however, that median rents in King's Lynn and West Norfolk are the lowest in Norfolk apart from Great Yarmouth. They are also lower than England as a whole. See Figure 6.7.



- 6.14. What limited trend data there is suggests that rents in King's Lynn and West Norfolk have increased less quickly than in the rest of Norfolk and England as a whole. See Figure 6.8.



- 6.15. Again, there are no grounds for a 'market signals' uplift based on this indicator.

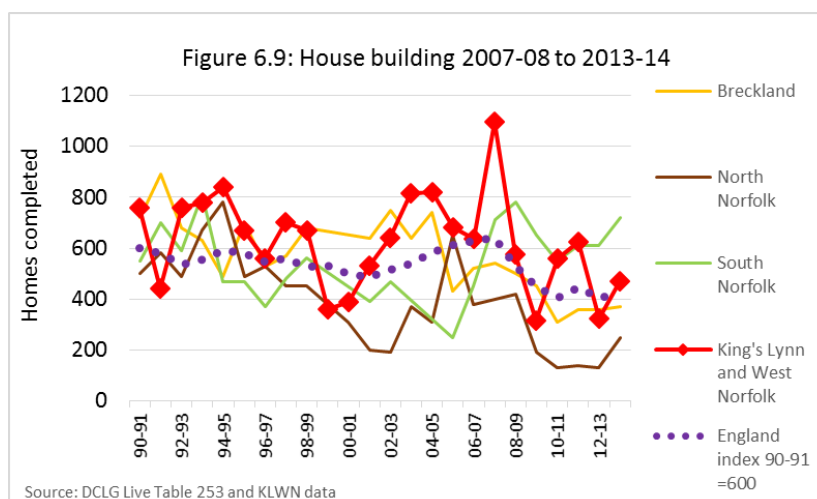
Under supply

- 6.16. 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.

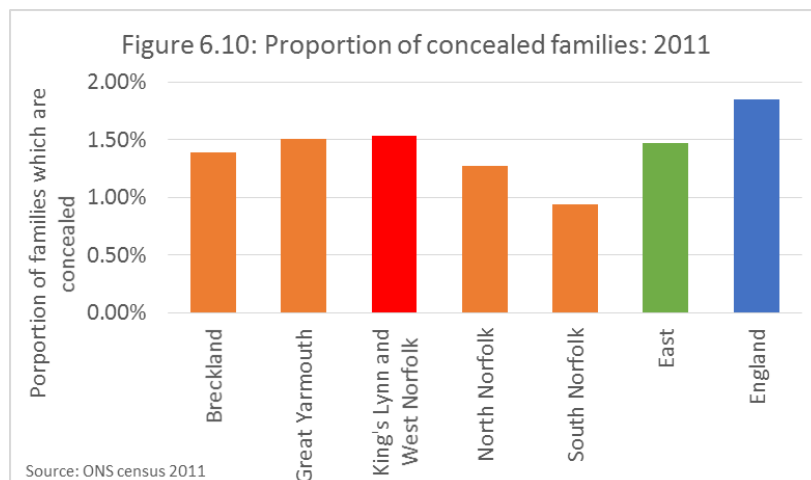
- 6.17. The PAS technical note goes on to advocate that “The past trajectory of housing completions is a good indicator of the severity of planning constraints...” The note also emphasises the importance of focussing on relative not absolute under supply, recognising that it has not been unusual for 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.”.
- 6.18. In this report we follow that approach and consider how house building in King’s Lynn and West Norfolk 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.
- 6.19. Figure 6.9 shows the available data for the last 25 years with the England trend rate shown as an appropriately scaled index. Whilst there have been up and downs, there is no clear evidence that supply has been subject to particular constraints over the last ten years.



Concealed families

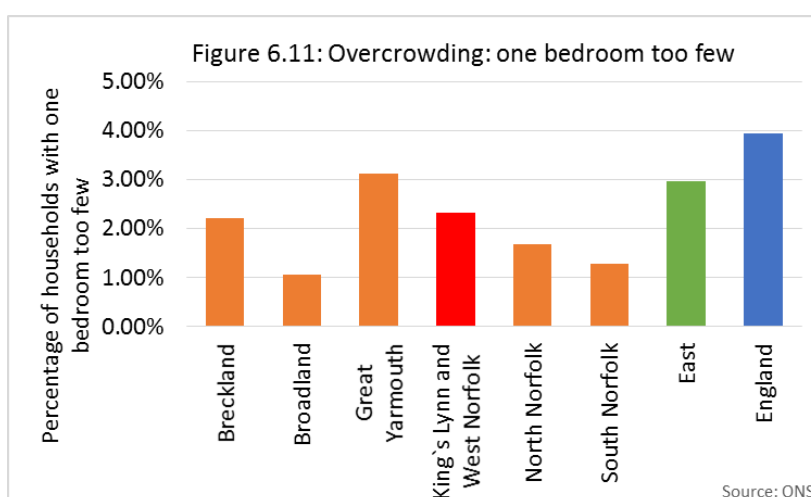
- 6.20. The proportion of concealed families (i.e. families living within another household) is another measure of the degree of stress in a housing market. Figure 6.10 shows the data from the 2011 census.

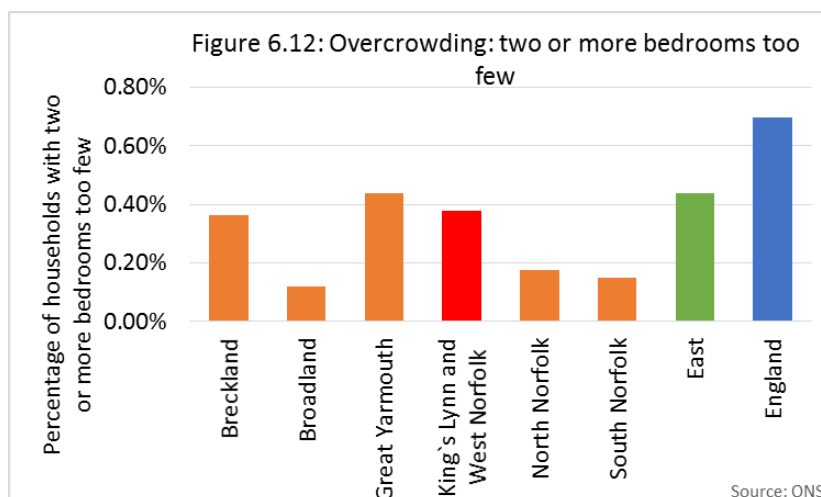
- 6.21. The data does suggest that King's Lynn and West Norfolk has a slightly higher proportion of concealed households than nearby areas and the East region as a whole. However, the differences compared with Great Yarmouth (which also has a sizeable urban area) and the East region are small and the proportion is significantly below the England average. On that basis there are no clear grounds for concern.



Overcrowding

- 6.22. Overcrowding provides a further indicator of potential stress in housing markets. Figure 6.11 and 6.12 present the census 2011 data for households which have either one bedroom too few or two or more too few. 80. On both measures King's Lynn and West Norfolk does not compare favourably with North and South Norfolk or Broadland. However, that is perhaps to be expected as those are areas without large settlements. King's Lynn and West Norfolk has lower rates of overcrowding than Great Yarmouth, the East region and England as a whole. There are therefore no particular grounds for concern on this measure.





Affordable housing

6.23. The PPG includes the following guidance on affordable housing:

“The total affordable housing need should then be considered in the context of its likely delivery as a proportion of mixed market and affordable housing developments, given the probable percentage of affordable housing to be delivered by market housing led developments. An increase in the total housing figures included in the local plan should be considered where it could help deliver the required number of affordable homes.”²²

6.24. The obligation on a local authority preparing a plan is to **consider** increasing the housing requirement in its plan where to do so would help deliver the required number of affordable homes. There is no obligation to set the housing requirement at a level which would enable the full need for affordable housing to be met (and in many cases the need for affordable housing will be so high that this would not be feasible)²³.

6.25. There is no official guidance on the factors which should be taken into account in considering whether a housing requirement should be increased for this purpose. In the absence of guidance it would be reasonable to assume that the view taken should depend on an assessment of benefits of providing more market and affordable housing compared with any dis-benefits this might have. This inevitably involves qualitative value judgements and must therefore be outside the scope an objective assessment of housing needs. This view is confirmed by the second edition of the PAS Technical Note²⁴:

“In summary, it seems logical that affordable need, as defined and measured in paragraphs 22-29 of the PPG, cannot be a component of the OAN. The

²² Planning Practice Guidance, Paragraph: 029 Reference ID: 2a-029-20140306

²³ See Dove J in *Borough Council of King's Lynn and West Norfolk v Secretary of State* [2015] 2464

²⁴ Objectively Assessed Need and Housing Targets Technical advice note, second edition, July 2015. Available at <http://www.pas.gov.uk/documents/332612/6549918/OANupdatedadvicenote/f1bfb748-11fc-4d93-834c-a32c0d2c984d>

OAN does have an affordable component – which cannot be measured separately but will normally be much smaller than the affordable need....”²⁵

This reasoning supports the conclusion that:

“...it seems clear from the PPG and Inspectors’ advice that affordable housing need is a policy consideration that bears on policy targets, rather than a factor that bears on objectively assessed need.”²⁶

- 6.26. On the basis that the uplift, if any, to allow more affordable housing to be delivered is a policy matter to be considered in deciding how the housing requirement in the Local Plan should be set in relation to the FOAN, it is outside the scope of this report.

Conclusions on adjustments for ‘other factors’

- 6.27. None of the above discussion suggests there is a case for adding to the demographically-based estimate of the objectively assessed need for housing (OAN). Indeed, the proposal that the OAN is calculated on the basis that flows into the area from the rest of the UK move back towards earlier trends and that DCLG household formation rates are adjusted so that no group is worse off than in 2011 will have the effect of adding a significant amount of additional housing to the level suggested by a simple application of the latest official projections. That should allow housing conditions to improve compared with what would otherwise have been the case.

²⁵ PAS Technical Note, paragraph 9.7

²⁶ PAS Technical Note, paragraph 9.3

7. SUPPORTING ECONOMIC GROWTH

Government guidance

7.1. 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.”²⁷

- 7.2. 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. On the other hand, the PPG does not prohibit assumptions that include changes in commuting patterns, provided these are sustainable. Such changes would, of course, affect other authorities and would need to be discussed with those authorities under the Duty to Co-operate.

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

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

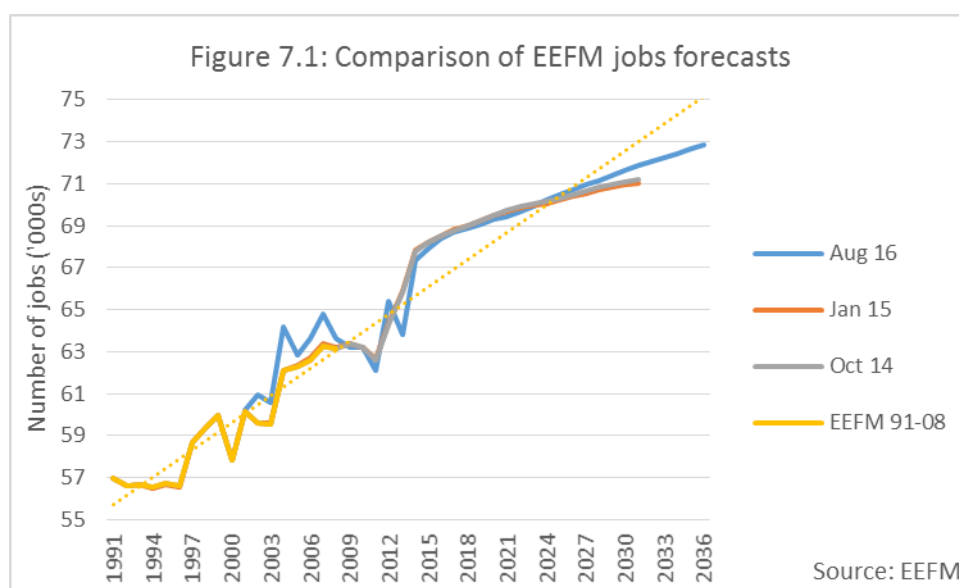
- Past trends
- Economic forecasts

- 7.4. King’s Lynn and West Norfolk has based its analysis on economic prospects on the East of England Forecasting Model (EEFM). There are three recent forecasts from that model dated October 2014, January 2015 and August 2016. Figure 7.1 (below)

²⁷ 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/>

shows how these forecasts compare with past job growth, and include a linear trend line based on jobs increases between 1991 and 2008.



- 7.5. As can be seen, the trend line indicates that future jobs growth will be at a slower rate than the trend between 1991 and 2008, although strangely in 2014, not long after the downturn, the number of jobs is above the level suggested by the historic trend, implying that job growth over the period 2008-14 was above the trend rate, despite the recession. 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 16-64) is not projected to grow at the same rate in the past.
- 7.6. 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 EEFM forecasts for jobs growth as the best available indication of likely job growth.

The EEFM forecasts

- 7.7. Figure 7.2 shows the three EEFM forecasts from 2006 to 2031 on a larger scale in an attempt to make the differences between them easier to see. From this it is clear that the October 2014 and January 2015 forecasts are very similar but the August 2016 forecast is rather different. This may be due to the provider of the EEFM having changed from Oxford Economics to Cambridge Econometrics and the different views which these two forecasting houses take of some of the key assumptions. Figure 7.3 summarises the key numbers.

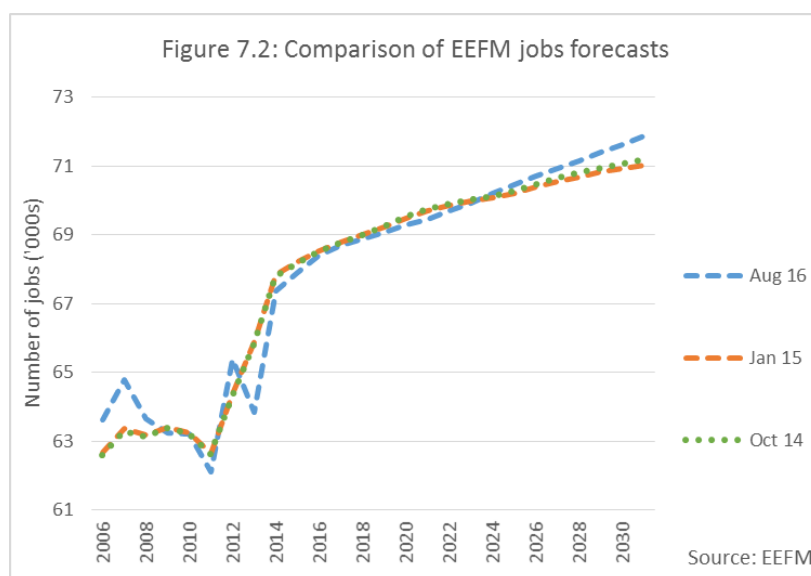


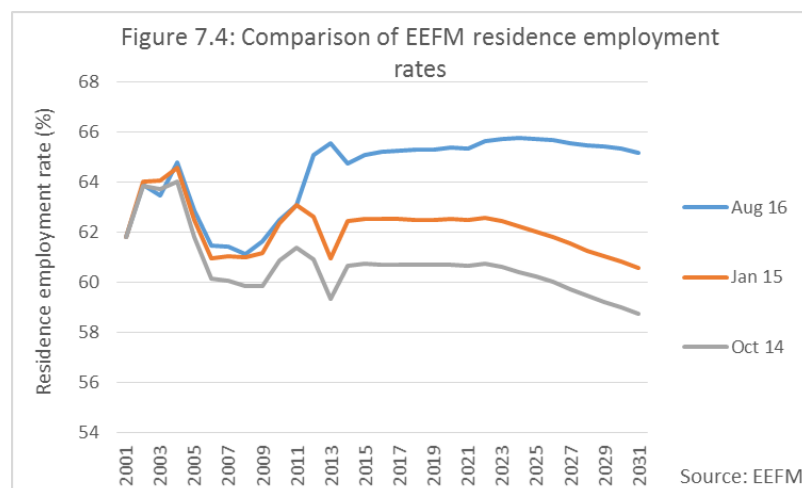
Figure 7.3: EEFM jobs increase forecasts: 2014-31

	Total change 2014-31	Annual change 2014-31
Aug 2016	4511	265
Jan 2015	3173	187
Oct 2014	3403	200

- 7.8. As can be seen from both the chart and the table, the August 2016 forecast envisages significantly faster job growth than the earlier two forecasts.
- 7.9. Note that in Figure 7.3 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.
- 7.10. The EEFM provides forecast figures for a range of demographic and labour market parameters. A comparison of two key elements – the residence employment rate and net commuting – give some insight into why the forecast produces such different results.
- 7.11. Figure 7.4 compares the projections made in different versions of the EEFM for the residence employment rate, which is the number of residents in employment divided by the population aged 16-74. This is a simple, if highly aggregated, measure of economic activity i.e. of the proportion of a population that is either in work or available for.
- 7.12. It is generally accepted that the economic activity rates of older people will increase as a result of increases in the state pension age, less generous pensions and better health causing people to retire later. They are not, however, expected to reach rates anything like as high as those in younger age groups so in the forecasts two factors are at work:
- increased activity amongst older people, which tends to push the overall economic activity rate up; and,

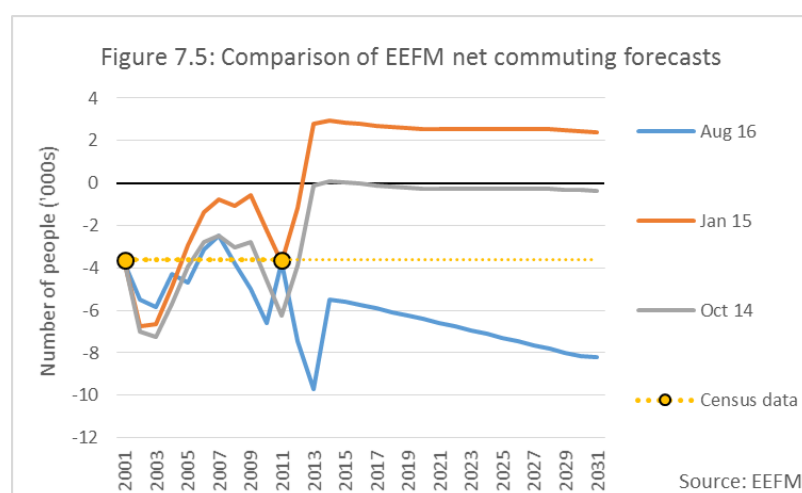
- an increasing proportion of older people in the population, with higher economic activity rates than in earlier years but lower rates than younger age groups, which tends to push the overall activity rate down.

These two factors can be seen at work in Figure 7.4, with the later factor winning out towards the end of the period shown.



7.13. Whilst the broad shape of all three trajectories in Figure 7.4 is similar after 2014, the projected levels are very different: by 2031 the August 2016 projection has a residence employment rate that is 4.6 percentage points higher than the January 2015 rate and 6.4 percentage points higher than the October 2014 rate. These differences have a significant impact on the number of jobs that can be filled by a given population and the size of population needed to support a given number of jobs.

7.14. Figure 7.5 compares the forecasts for the net commuting flows in the three projections.



7.15. In Figure 7.5 negative numbers indicate a net commuter flow out of King's Lynn and West Norfolk. The two yellow circles are the estimates from the 2001 and 2011 censuses. All three projections are broadly consistent with the 2001 census point

and the January 2015 and August 2016 projections are consistent with the 2011 census. (The October 2014 figure may pre-date the availability of the necessary 2011 census data.) Between the two censuses the three projections have different figures for the net flows as they do after 2011. The divergence by 2013 is stark: the October 2014 projection has a net outflow of 400 people; the January 2015 projection an inflow of 2,400 people; and the August 2016 projection an outflow of 8,200. This wide variation is the result of the way in which the projection models disaggregate national forecasts and assumptions for economic activity and job growth to the local level and reconcile that disaggregation with local data and assumptions for the working age population, unemployment rates, double jobbing (i.e. the number of people who have more than one job), commuter flows and local economic activity rates. Too much weight should not be put on the figures for commuter flows which emerge from this process, not least because in this case the census data suggests that there was little change in the net flows between 2001 and 2011 – indicating that a continuation of the net flow estimated by the 2011 census may be the most plausible assumption to make. However, the forecast made for net commuting, realistic or not, does have a significant impact on the working age population needed to support the projected job growth.

7.16. The PAS Technical Advice Note on OANs advises²⁸ that,

“...before using any job forecast the housing needs assessment must be clear about the future population (numbers and age profile) that is incorporated in the forecast, and how population interacts with workplace jobs in the forecasting model.”

7.17. The PAS Note also explains that jobs and population are linked by commuting, double-jobbing, economic activity rates and unemployment and that efforts to translate a jobs forecast into a population increase and a housing number using assumptions for these factors “will often produce invalid results” because “the models used by economic forecasters already incorporate a view of the factors that link workplace jobs”. In a nutshell, to make a valid estimate of the housing implications of a jobs forecast, you must use assumptions for the ‘linking factors’ which are consistent with those used in the model. What follows explores the assumptions made in the EEFM and illustrates how using different assumptions can lead to misleading results.

7.18. The EEFM output helpfully provides all of the parameters which connect jobs to working age population or the data from which those parameters can readily be calculated:

7.18.1. **Total employment (Jobs).** This is the starting point of the journey from jobs to population.

7.18.2. **Double jobbing.** The number of jobs is not the same as the number of people employed as some people have more than one job. As well as

²⁸ Objectively Assessed Need and Housing Targets, Technical advice note, Planning Advisory Service, Second Edition, July 2015, paragraph 8.12, page 35

‘total employment’ the EEFM output gives ‘total workplace employed people’, the difference between the two being the number of ‘double jobbers’. Double jobbing can therefore readily be calculated by subtracting one from the other.

7.18.3. **Net commuting.** Having subtracted double jobbing from the number of jobs to give the number of people employed in the area, by subtracting the number of net in-commuters we can calculate the number of employed people who are resident in the area. This appears in the EEFM output as “Residence employment”. Note that in the case of King’s Lynn and West Norfolk, net commuting is negative, i.e. the net flow is outwards so ‘residence employment’ is larger than ‘total workplace employed people’.

7.18.4. **Economic activity rate and unemployment rate.** To turn an estimate of residence employment into a number of people of working age an economic activity rate needs to be used. The economic activity measure provided in the EEFM output is the “Residence employment rate” which is defined as the “total number of residents that are employed as a proportion of the working age population” with working age population in this instance unhelpfully defined to be those aged 16-74, not 16-64 as it is defined in the EEFM output line labelled “working age population”. In addition, the output line “unemployment rate” is defined as the number unemployed as a percentage of the number age 16-64.

7.18.5. To get round this mis-match in the definitions of working age population and at the same time make explicit the role played by both the economic activity rate (i.e. the proportion of the population available for work whether employed or unemployed) and the unemployment rate, it is helpful to calculate an economic activity rate which is defined as the number who are economically active divided by the 16-64 population, where those economically active are those who are employed (i.e. the ‘residence employment’ figure) plus those who are unemployed. With these definitions:²⁹

$$16-64 \text{ population} = \frac{\text{Residence employment (number of people)}}{(\text{economic activity rate} - \text{unemployment rate})}$$

²⁹ If:

Number economically active = Residence employment + Unemployed

Economic activity rate = Number economically active ÷ 16-64pop

= (Residence employment + Number unemployed) ÷ 16-64pop

Number unemployed = Unemployment rate x 16-64pop

It follows that:

Economic activity rate = (Residence employment + (Unemployment rate x 16-64pop)) ÷ 16-64pop

Economic activity rate = (Residence employment ÷ 16-64pop) + Unemployment rate

i.e.:

Economic activity rate – Unemployment rate = Residence employment ÷ 16-64pop

or:

16-64pop = Residence employment / (Economic activity rate – Unemployment rate)

- 7.19. Figure 7.6 shows how the number of jobs forecast for King's Lynn and West Norfolk in 2036 is linked to the 16-64 population for that year in the August 2016 EEFM. The figures highlighted in green appear in the EEFM output sheet. The parameters in bold italics and shaded grey are the four linking factors identified in the PAS guidance – double jobbing, net commuting, the unemployment rate, and the economic activity rate. The left hand column shows the calculations which link the various parameters.

Figure 7.6: Relationship between jobs and 16-64 population in August 2016 EEFM		2036
A	Total employment (jobs)	72848
B	<i>less double jobbing</i>	4443
C = A - B	Number of workers needed = jobs - double jobbing	68404
D	<i>Net commuting</i>	-8330
E = C - D	Residence employment = total workers needed less net commuters	76734
F	<i>Unemployment rate % of 16-64 residents</i>	1.1%
G	<i>Economically active residents as % of 16-64 population</i>	82.9%
H = E ÷ (G - F)	16-64 population = Resi employment ÷ (econ activity rate - unemployment rate)	93732

- 7.20. Having identified how the various parameters are related it is possible to calculate the implications of assuming that net commuting remains at the 2011 level. The calculation is complicated because assuming that some of those who the EEFM assumes will live in King's Lynn and West Norfolk will live elsewhere will reduce the population in the Borough below the level projected by the EEFM which will reduce the number of jobs in sectors such as health and education which are related to the size of the population. That in turn reduces the number of jobs in those service sectors in which the number of jobs is related to the total number of jobs in the area. Full details are set out in Annex A. Figure 7.7 summarises the results. Note that the key economic assumptions about economic activity rates, unemployment and double jobbing rates are unaffected.

Figure 7.7: Relationship between jobs and 16-64 population in 2036 if commuting at 2011 levels		2036
A	Total employment (jobs)	68437
B	<i>less double jobbing</i>	3918
C = A - B	Number of workers needed = jobs - double jobbing	64519
D	<i>Net commuting</i>	-3755
E = C - D	Residence employment = total workers needed less net commuters	68274
F	<i>Unemployment rate % of 16-64 residents</i>	1.1%
G	<i>Economically active residents as % of 16-64 population</i>	82.9%
H = E ÷ (G - F)	16-64 population = Resi employment ÷ (econ activity rate - unemployment rate)	83363

- 7.21. As can be seen from Figure 7.7, the impact on the 16-64 population in 2036 of assuming no change from the 2011 net commuter flow is substantial: it falls from 93,732 in the August 2016 EEFM to 83,363, a reduction of 10,369 people.

- 7.22. Figure 7.8 compares the August 2016 EEFM forecast for the 16-64 population with the forecast obtained if it is assumed that net commuting remains constant at the 2011 level and the projection in the demographic OAN for this age group.

Figure 7.8: Estimates of 16-64 population in 2036	
	16-64 population
Demographic OAN	91000
Unadjusted EEFM	93700
Adjusted EEFM 'constant net commuting'	83400

- 7.23. As can be seen from Figure 7.8, the August 2016 EEFM forecasts a higher number of 16-64 year olds than the demographic OAN. However, if the EEFM is adjusted to assume constant net commuting at the 2011 level, the 16-64 population forecast falls well below that in the demographic OAN. This implies that, if the unadjusted EEFM is used, extra homes would be needed above the number assumed in the demographic OAN. The number of homes needed can be calculated by adjusting the net migration from the rest of the UK assumed in the demographic OAN until the 16-64 population in 2036 equals that forecast in the unadjusted EEFM³⁰. A similar calculation can be carried out to estimate the number of homes needed in the 'constant net commuting scenario'. Figure 7.9 summarises the results from this analysis.

Figure 7.9: Jobs-led estimates of homes needed	
	Homes needed a year: 2016-36
Demographic OAN	670
Unadjusted EEFM	740
Adjusted EEFM 'constant net commuting'	480

- 7.24. As Figure 7.9 shows, the unadjusted EEFM requires 740 homes a year, 70 more than the demographic OAN. In contrast, the 'constant net commuting' scenario requires 480 homes a year, 190 fewer than demographic OAN. However, the PPG requires those producing local plans to consider additional housing, "Where the supply of working age population that is economically active (labour force supply) is less than the projected job growth". It does not say anything about what should happen when the demographic projection provides a working age population that is larger than needed. This is interpreted to mean that a 'housing for jobs' adjustment can only be an upwards adjustment³¹. On this basis, in the constant commuting scenario the full OAN would be the demographic OAN of 670 homes a year.

³⁰As the reason for additional people moving to King's Lynn and West Norfolk is job related it is assumed that the additional internal migrants are not over retirement age or near it as such people are unlikely to relocate for work purposes. The calculation accordingly scales up the demographic OAN projection for the number of people aged up to 50 until the 16-64 population in 2036 equals that suggested by the unadjusted EEFM.

³¹ See PAS Technical Note, paragraph 8.3, page 32

Conclusions on homes needed to support economic growth

7.25. To summarise, given that:

- 7.25.1. the three EEFM forecasts for net commuting are very different, highly erratic and bear little relation to the census estimates (see Figure 7.5 above);
- 7.25.2. it is questionable how sustainable a substantial increase in net commuting out of the Borough would be; and,
- 7.25.3. there is substantial headroom between the number of homes needed in the 'constant commuting' scenario and the demographic OAN – which means that there is considerable scope for an increase in out-commuting before homes need to be added to the demographic OAN;

it is proposed that the 'constant commuting' scenario should be taken as the basis for planning for housing. **This means that the demographic OAN of 670 homes a year (2016-36) is the full OAN.**

8. SENSITIVITY ANALYSIS

- 8.1. 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.
- 8.2. 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

- 8.3. There are three main areas in which adjustments have been made to the 2014 SNPP:

- Flows to and from the rest of the UK
- Overseas flows
- UPC

- 8.4. This sub-section looks at each in turn.

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

- 8.5. As noted in paragraph 3.26 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.
- 8.6. There are a number of possible approaches:
- 8.6.1. **Method A: Ratio of total flows:** Adjusting the projected flows in 2014 SNPP by the ratio of the average total flows in the period 2010-15 to the average in the period 2009-14.

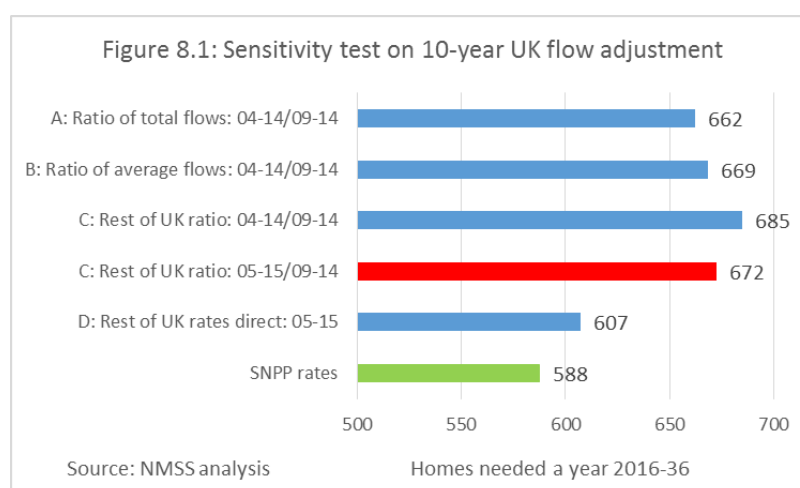
- 8.6.2. **Method B: Ratio of flows:** As (i) but adjusting the flows for each age and gender group by the ratio of the average flows in each age and gender group.
- 8.6.3. **Method C: Ratio of rest of UK flows:** Calculating average flow rates for inflows by dividing the flows in each age and gender group by the population in that age and gender group in the rest of the UK. Ratios of average flow rates for the periods 2005-15 and 2009-14 can then be calculated and used to adjust the flows in the 2014 SNPP.
- 8.6.4. **Method D: Rest of UK rates direct:** The average flow rates calculated in Method C can be used directly by multiplying the flow rates by the projected population in the rest of the UK.
- 8.7. Each of these methods has its advantages and disadvantages.
- 8.8. Method A 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.
- 8.9. Method B is rather more sophisticated but may also not fully reflect changes in flow rates that have occurred.
- 8.10. Method C calculates 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 is for the sending authorities.
- 8.11. Method D 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.
- 8.12. The proposed demographic population projection assumes that the 2014 SNPP flows are adjusted by the ratio of the average UK flow rates for 2005-15 to the average UK flow rates for 2009-14. To test how sensitive this assumption is to plausible alternatives the following alternative scenarios have been modelled:
 - 8.12.1. Method A: Ratio of total flows 2004-14 to 2009-14.
 - 8.12.2. Method B: Ratio of average flows by age and sex, 2004-14 to 2009-14
 - 8.12.3. Method C: Ratio of rest of UK flow rates, 2004-14 to 2009-14. This is similar to the selected method except that the 10 year period used starts and ends a year earlier. As a sensitivity test it provides an indication of how sensitive the result is to the choice of 10-year trend period.

8.12.4. Method C: Ratio of rest of UK flow rates, 2005-15 to 2009-14. This is the selected method. It uses the latest 10-year trend period for which data is available.

8.12.5. Method D: Rest of UK flow rates used direct (rather than to scale the SNPP inflows as in Method C).

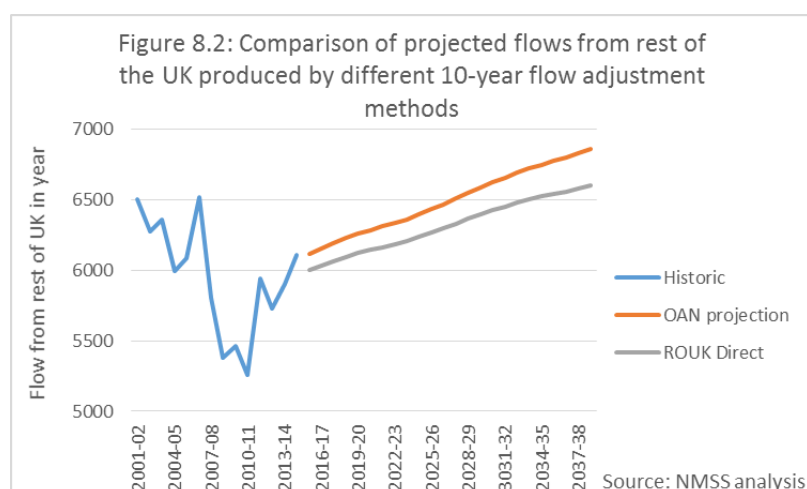
8.12.6. 2012 SNPP flows: This is the official baseline/starting point.

8.13. Figure 8.1 compares these scenarios with the chosen OAN scenario highlighted in red.



8.14. As can be seen from the chart, with the exception of the method which uses the rest of UK rates direct, the different methods produce very similar results: the difference between them is only 3.5%. This provides reassurance that the chosen method provides a reasonable estimate.

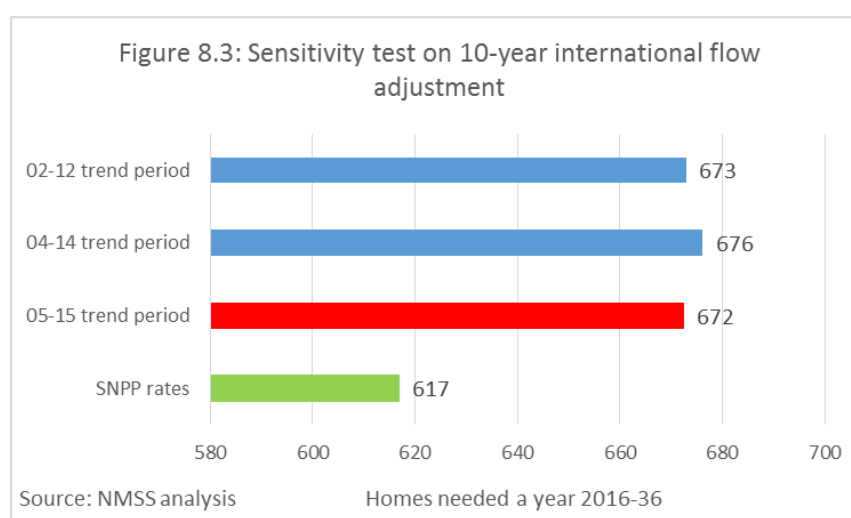
8.15. Figure 8.2 compares the flows in from the rest of the UK in the method used for the demographic OAN – “Rest of UK ratios” – and that in the “Rest of the UK direct” method.



- 8.16. In both methods the size of the projected flow and the rate at which it grows depends on the source or reference population used. The reason why the ROUK Direct method both starts from a lower inflow and then grows less quickly is that it is based, in effect, on the assumption that those moving to King's Lynn and West Norfolk come in the same proportions from all other authority areas in the UK whereas the reality, reflected in the ONS projections which the OAN method scales up, is that most of those moving to the Borough come from the East Region and London. The East Region and London are projected to grow much faster than the UK as a whole, so a projection which reflects the reality that the origins of most of those who move to the Borough are in faster growing areas, will produce the higher and faster growing inflows.

(b) Overseas flows

- 8.17. 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. 2005-15. Figure 8.3 shows the impact of choosing an earlier 10-year period – 2002-12 or 2004-14 or leaving the international flows at the lower rate envisaged by the 2014 SNPP. It should be recognised that the chart has a 'cut-off' X axis which exaggerates the difference between the scenarios.



- 8.18. As can be seen, the difference between the scenarios is based on 10-year trend periods is very small indeed. The big difference is between 10-year trend period scenarios and the ONS method which produces net inflows that are significantly smaller than seen in recent years. The conclusion is that the number of homes needed is not very sensitive to the choice of 10-year international trend period chosen but the difference compared with the ONS approach is substantial.

(c) Unattributable population change

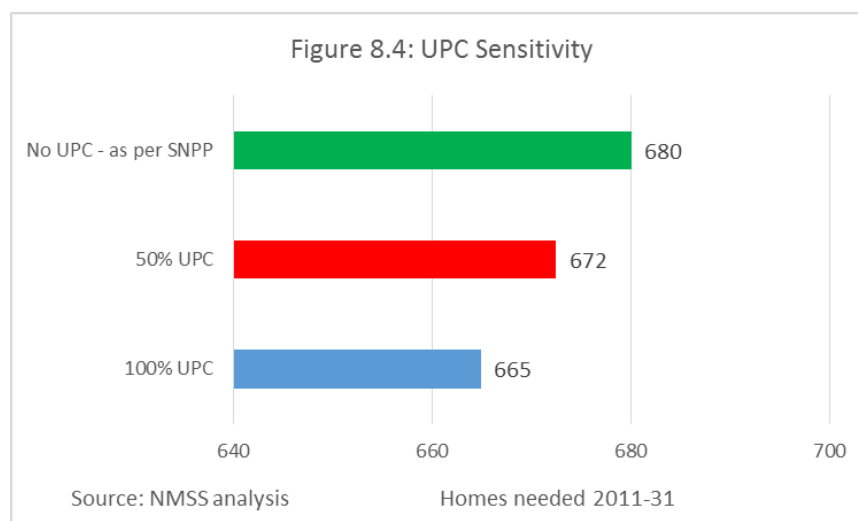
- 8.19. Whether or not an adjustment should be made for UPC is debatable. The OAN scenario assumes that 50% of UPC would have contributed to population increases.

That is a mid-range scenario. The extremes of the range are the obvious alternative scenarios to sensitivity test, i.e.:

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

8.19.2. 100% of UPC contributes to future population change.

8.20. Figure 8.4 shows the results for these two scenarios compared with the OAN scenario.

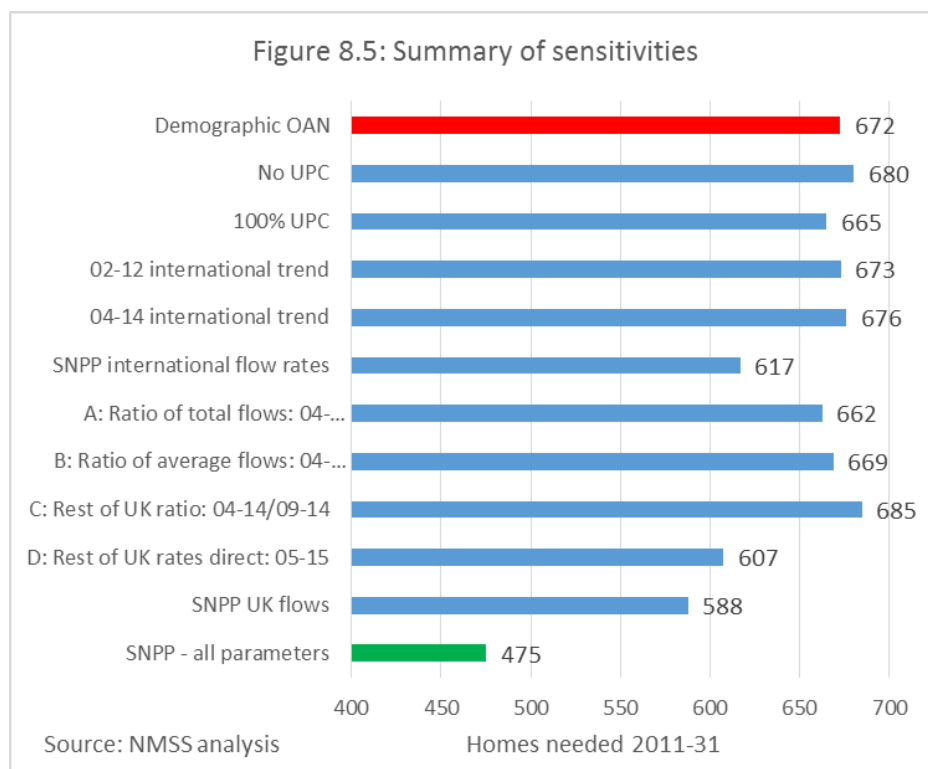


8.21. As is to be expected these sensitivities are symmetrical, changing the projected homes needed by +/- 1%. This is a small range, indicating that UPC is not a major factor in estimating the King's Lynn and West Norfolk OAN.

8.22. Note also that despite UPC being positive, the effect of adjusting for it is to reduce the projected increase in the number of households. As discussed in paragraph 2.48, this is because UPC varies with age, being positive for younger age groups with low or zero household formation rates and negative for older age groups with higher household formation rates.

Summary of population sensitivities

8.23. Figure 8.5 illustrates all of the population sensitivities discussed above. It includes the unadjusted 2014 SNPP projection (green) to give a comparison with the starting point suggested by the PPG.



- 8.24. As can be seen, if you exclude the SNPP sensitivities and 'Rest of UK Direct' option, the range suggested by the sensitivities is narrow: 662 – 685 homes a year, with the highest figure being only 3.5% larger than the lowest. This gives confidence that the demographic OAN estimate is soundly based.

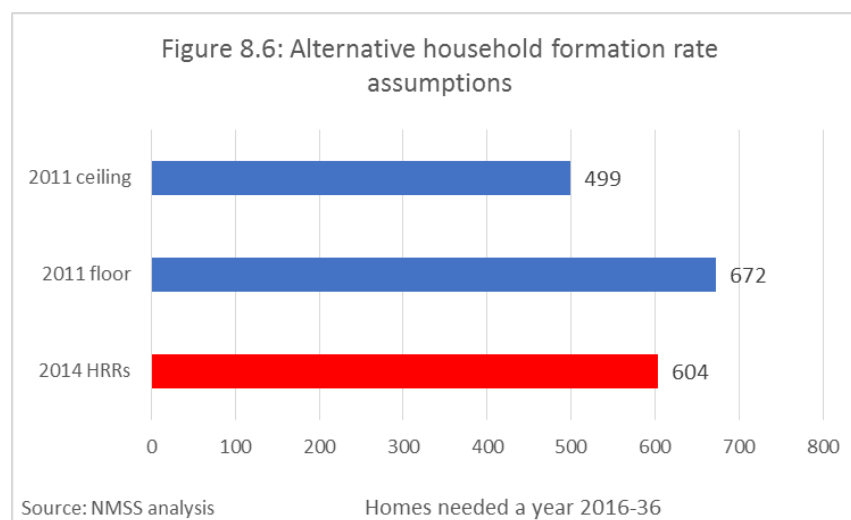
Household formation rate sensitivities

(a) Tests relative to the DCLG 2014 household formation rates

- 8.25. The discussion in paragraphs 3.5 – 3.18 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:
- 8.25.1. Although the household formation rates in the 2014-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.

8.25.2. 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.

8.26. Figure 9.5 gives the results for these two tests compared with OAN scenario (i.e. 2014 HRRs).



8.27. The 2011 floor scenario increases the number of homes needed compared with using the DCLG HRRs 'as published' by 69 homes a year or 11%. This is a moderately large adjustment and indicates that the deterioration in housing conditions for some groups implicit in the new projections is not insignificant. This is, of course, the reason for suggesting that this option should be used to determine the OAN.

8.28. The 2011 ceiling scenario reduces the number of homes needed by 105 homes a year or 17%. This is a somewhat larger margin and indicates that the improvements in housing conditions which some groups are projected to enjoy are reasonably significant and outweigh the reductions projected for other groups.

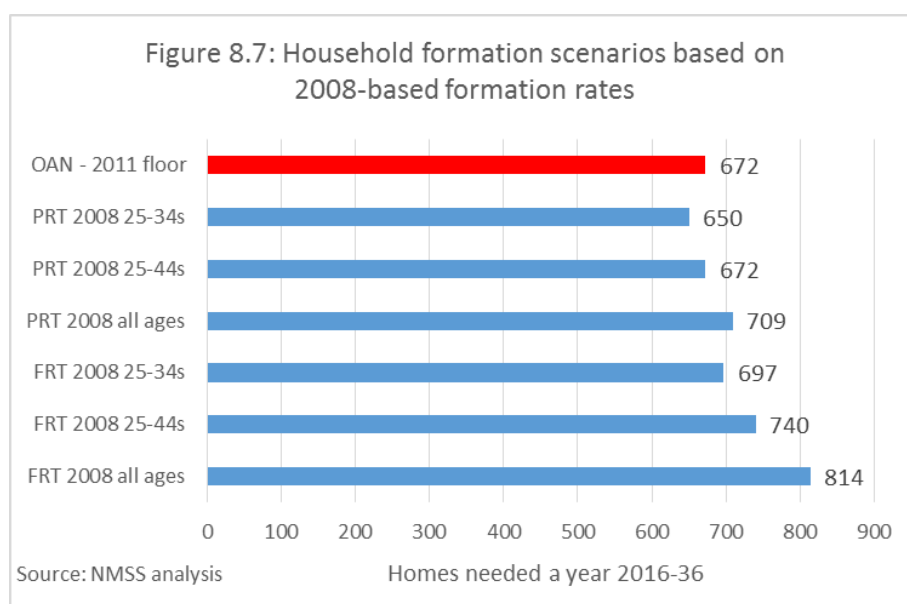
Test based on the 2008-based household formation rates

8.29. 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 2014-based rates by 2031. These tests are:

- 8.29.1. Full return to 2008-based rates for all age groups for all ages 'FRT 2008 all ages'.
- 8.29.2. Full return to 2008-based rates for 25-34 year olds 'FRT 2008 25-34s'
- 8.29.3. Full return to 2008-based rates for 25-44 year olds 'FRT 2008 25-44s'
- 8.29.4. Partial return to 2008-based rates for all age groups 'PRT 2008 all ages'
- 8.29.5. Partial return to 2008-based rates for 25-34 year olds 'PRT 2008 25-34s'
- 8.29.6. Partial return to 2008-based rates for 25-44 year olds 'PRT 2008 25-44s'

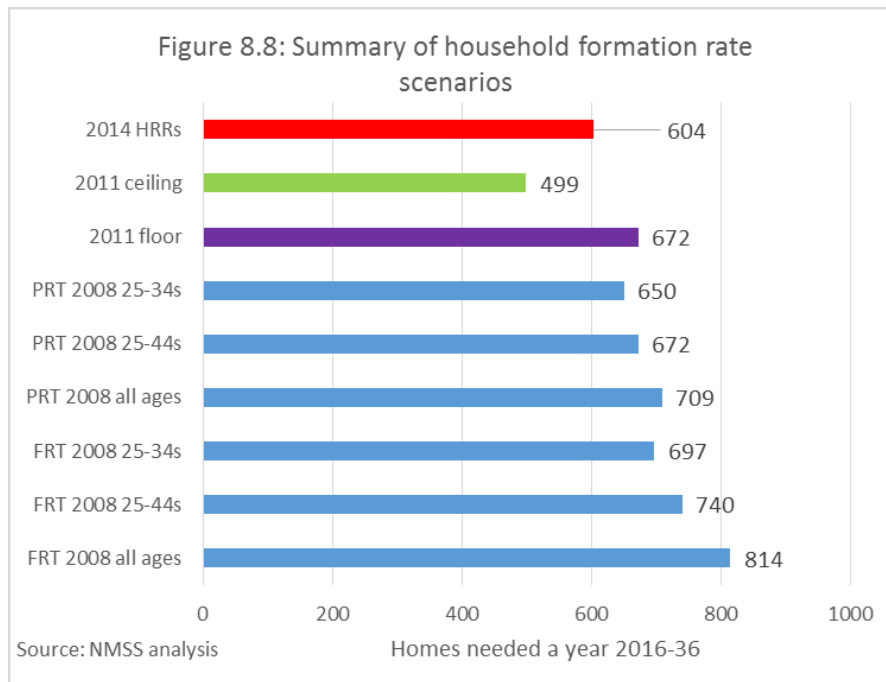
8.30. Figure 8.7 shows the results of these tests. The demographic OAN figure is also shown.



8.31. The key point to note from Figure 8.7 is that the '2011 floor' option recommended for the OAN produces a housing need figure that is above that for the 25-34 partial return to 2008-based rates and very similar to that for the 25-44 partial return option. The full return options should not be regarded as at all likely.

Summary of the household formation rate scenarios

8.32. Figure 8.8 (below) summarises all of the household formation rate sensitivity tests relative to the demographic OAN.



9. SUMMARY AND CONCLUSIONS

- 9.1. The starting point for this report is the DCLG's 2014-based household projections (DCLG 2014) which were released in July 2016. These were based on the ONS's 2014-based Sub-national Population Projections (2014 SNPP) which were published in May 2016. However, more recent evidence on how the population has changed since 2014 is available from the 2015 Mid-Year Estimates (2015 MYE) which were issued in June 2016 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

- 9.2. It is proposed that three adjustments should be made to the ONS's 2014-based Sub-national Population Projection for King's Lynn and West Norfolk to reflect both weaknesses in those projections and the latest evidence available from the 2015 Mid-Year Estimates and the most recent international migration statistics.
- 9.3. The proposed adjustments are shown in Figure S1 (below):
- 9.3.1. The ONS's 2014 Sub-national Population Projections (2014 SNPP) use 2009-14 as the trend period for projecting flows to and from the rest of the UK. Although less affected by the economic downturn than the period used for the 2012 SNPP (2007-12), adjusting the projection to reflect flows in the latest 10-year period for which data is available (2005-15) is likely to provide a better view of future flows as the impact of the atypical flows during the recession is balanced by the higher flows in earlier years and increased 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 2015 rather than the projection made for that year in the 2014 SNPP. The effect of this set of adjustments is to increase the projected population increase between 2011 and 2031 from 15,400 in the 2014 SNPP to 18,531, an increase of 3131 or 20%. (Rows B and C)
- 9.3.2. Net international migration into the UK is currently about twice that assumed by those who compiled the 2014 SNPP. There is a case for adjusting those projections to reflect this. To avoid giving undue weight to the most recent years' figures whilst reflecting what has actually happened in the Borough, 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. 2005-15. This increases the projected population increase between 2011 and 2031 by 2,489 or 13%, increasing the projected increase from 18,531 to 21,020. (Rows D and E)

- 9.3.3. It is debatable whether the projections should make an allowance for Unattributable Population Change (UPC). The ONS made no such allowance in the 2014 SNPP. However, that assumption assumed that none of the UPC had any impact on the projections. That is an extreme view. The assumption at the other extreme is that all of UPC would have affected the projections. 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 increase the projected population increase of King's Lynn and West Norfolk by 473 or 2%, from 21,020 to 21,493. (See Rows F and G.)

Figure S1: Summary of adjustments to 2014 SNPP		
Change 2016 - 2036		Population
A	2014 SNPP	15400
B	Adjustment for 2005-15 UK flows + 2015 MYE	3131
C	2005-05 UK flows + re-basing to 2015 MYE	18531
D	Adjustment for 2005-15 international flows	2489
E	2015 UK and international flows + 2015 MYE re-base	21020
F	Adjustment for 50% UPC	473
G	05-15 trend all flows + 2015 MYE re-base + 50% UPC	21493

- 9.4. The overall effect of these adjustments is to increase the 2014 SNPP's projected increase over the period 2016-36 from 15,400 to 21,493, an increase of 6,093 or 40%. This is a large percentage adjustment, driven in significant part by the use of 10-year trend periods which give weight to higher net flows in the period before the economic downturn. Given the evidence of what has happened since the recession, it is far from certain that there will be a return to the flows seen in the period up to 2006-07. This adjustment may therefore overestimate the increase that is likely to occur.

How the population is likely to group itself into households

- 9.5. 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 2014) provide the most recent official view on this. They envisage that some age groups and household types will see an improvement in their chances of setting up separate households and others will see a deterioration, with there being more 'winners' than 'losers'.
- 9.6. An examination of the latest projections and expert advice suggests they take a realistic view of what is likely to happen to household formations rates based on the most recent evidence. On that basis there would be a need to accommodate 10,861 households (2016-36) or 543 extra households a year. However, in King's Lynn and West Norfolk's case that would mean planning on the basis of a significant deterioration in the chances of some groups forming their own households, most notably younger couples. A more positive approach would be to plan on the basis

that no one's chance of setting up a separate household is worse than it was in 2011. This would mean planning for 12,095 extra households (2016-36) or 605 households a year.

- 9.7. Once an allowance is made for empty and second homes based on council tax data and an assessment of the rate at which housing has been 'lost' to second homes in recent years, this implies a need for 13,449 homes 2016-36 or 672 homes a year.

Figure S2: Summary of adjustments to 2014-based DCLG projection			
Change 2016 - 2036	Population	Homes	Homes/yr
2014 SNPP/DCLG 2014	15400	9507	475
Adjusted population projection + 2014 HRRs	21493	12077	604
Demographic OAN - as above + '2011 floor'	21493	13449	672

- 9.8. To avoid suggesting spurious accuracy, the demographic OAN should be taken to be 13,400 homes 2016-36 or 670 homes a year.

Conclusions on adjustments for 'other factors'

- 9.9. The key market signals identified in the Planning Practice Guidance have been reviewed and none provides grounds for a market signals uplift to the OAN.
- 9.10. Whether there should be an uplift to the OAN to allow more affordable housing to be built is a policy matter for the Council and outside the scope of this report.

Conclusion on homes needed to support economic growth

- 9.11. King's Lynn and West Norfolk have based their assessment of the economic prospects of the Borough on the East of England Forecasting Model (EEFM). The latest version of this (dated August 2016) suggests a much faster jobs increase than the previous version: 265 extra jobs a year 2014-31 compared with 187 jobs a year in the January 2015 version.
- 9.12. The latest version of the EEFM also assumes that there will be a substantial increase in net out-commuting from the Borough from 3,800 people recorded in the 2011 census to 8,300 in 2036. Given that it is questionable how sustainable this would be and that the forecast is very different from earlier version of the EEFM, highly erratic and bears little relation to the census estimates (which suggest no change in net commuting between 2001 and 2011), it is proposed that the number of homes needed to support job growth should be estimated on the assumption that commuting remains constant at the 2011 census level. On this basis the demographic OAN provides a larger working age population than is needed to support the forecast increase in jobs.
- 9.13. This means that no additional homes need be provided above the demographic OAN to support economic growth.

Conclusion on the OAN

- 9.14. The Full Objectively Assessed Housing Needs (FOAN) of King's Lynn and West Norfolk Borough is 13,400 homes over the period 2016-36 or an average of 670 homes a year.**
- 9.15. It should be acknowledged that there are substantial uncertainties which may affect this estimate of the FOAN in either direction. Examples include the impact of decision to leave the EU and the future of the Mildenhall air base. It is simply not possible to estimate what impact these might have. The only prudent course is to monitor closely the demand for homes and the growth in employment and then to review the FOAN periodically in the light of what actually happens.

ADJUSTING COMMUTING FLOWS WHEN USING THE EAST OF ENGLAND FORECASTING MODEL (EEFM) TO ESTIMATE THE NUMBER OF HOMES NEEDED TO SUPPORT ECONOMIC GROWTH

SUMMARY

This note discusses how commuting flows in the EEFM can be adjusted so that no change in net flows is assumed when estimating the housing implications of an EEFM jobs forecast.

The way in which net commuting flows are calculated in the EEFM model can produce some surprising results which can vary substantially from one forecast to the next. It may therefore be appropriate to adjust the EEFM forecast for an area so that commuting flows do not change from those observed in the 2011 census. It is possible to do this by, in effect, altering the assumptions about where people live so that additional jobs are filled by people living in the areas in which the jobs are created rather than commuting across local authority boundaries. However, this is not as straightforward as it might appear as any such change in the number of people resident in an area would affect the jobs forecast as in some sectors the number of jobs is related to the population. This note suggests a method which might be used to adjust the EEFM whilst respecting the linkage within the model between population and jobs.

1. Introduction

1.1. The Planning Practice Guidance (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.”³²

1.2. This makes it clear that Local Plans should be consistent with the economic prospects of an area and, in effect, directs those estimating the ‘objectively assessed housing

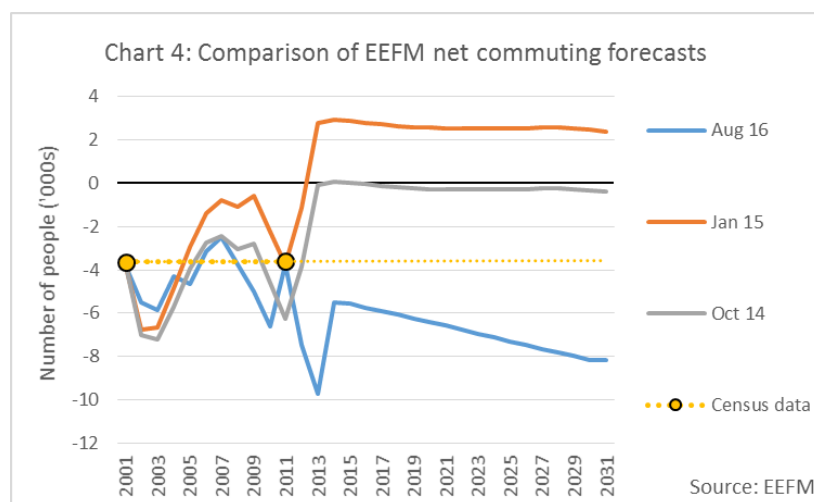
³² Planning Practice Guidance, Paragraph: 018 Reference ID: 2a-018-20140306

<http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/>

needs' (OAN) of an area 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. Whilst the PPG does not prohibit assumptions that include changes in commuting patterns provided these are sustainable, it is commonly interpreted to mean that, where a demographically based estimate of the population of a district would not provide a sufficient workforce without a change in commuting patterns, additional homes should be provided to attract more people to the area.

2. Adjusting commuting flows

- 2.1. In the EEFM net commuting is the difference between the number of people in an area who are in employment (residence-based employment) and the estimate made of the number of people employed in the area (workplace-based employed people). The estimate of the number of jobs in an area (and hence the number of people employed in the area) is based on a disaggregation of the Cambridge Econometrics' national forecasts. Where the people employed in an area live is based on commuting flows taken from the 2011 census. This means, for example, that if 5% of the workforce in Area A lived in Area B in 2011 and by 2031 the estimated workforce needed in Area A is forecast to increase by 20%, then the EEFM will assume that 5% of that increased workforce will also come from Area B. The commuting flow from Area B to Area A will therefore increase by 20%.
- 2.2. The difficulty with this approach is that it can lead to some surprising projections for commuter flows which can change substantially between subsequent versions of the EEFM. The following example for King's Lynn and West Norfolk (KLWN) illustrates this.



- 2.3. As Chart 4 shows, the EEFM 2016 envisages that commuting will change from a net outflow of under 4,000 in 2011 to an outflow of over 8,000 in 2031. Moreover, earlier versions of the EEFM suggested a very different trajectory including a

negligible net flow in October 2014 and a sizeable net inflow in the 2015 version. The differences between these forecasts has a significant impact on the 16-64 population needed in KLWN, and hence the number of homes needed. Such variable (and, in this case, counter-intuitive) results are therefore of very real concern.

- 2.4. Given the quality of the transport links to and from KLWN, the plausibility and sustainability of a significant increase in net out-commuting is questionable. That, together with the fact that net commuting appears to have changed little between the 2001 and 2011 censuses (see Chart 4) suggests, that a more plausible assumption would be that net commuting remains constant at the 2011 level.
- 2.5. It would be possible simply to assume that the additional out-commuters envisaged by the EEFM live in some other district (ideally the district where they work), which would have the effect of reducing the number of people forecast to be resident in the district. However, that would also reduce the number of jobs in the district as, for some sectors, the number of jobs is related to the population of the district. There would therefore be fewer jobs for resident workers to fill and, if the employment rate and unemployment levels are to be maintained at the levels envisaged in the EEFM, some residents who the model envisages would work in the KLWN would need to find work elsewhere. In short, re-locating the additional out-commuters would underestimate the population reduction needed to bring net commuting back to the 2011 level: the population reduction needs to be calculated having regard to the way in which the EEFM relates jobs to population.
- 2.6. The EEFM industrial sectors into three categories:
 - 2.6.1. Sectors in which the jobs forecasts are **related to the area's share of the region's employees** in a particular sector. These are sectors which are largely independent of the local economy where goods and services are typically traded over long distances. Examples include manufacturing, agriculture and mining. In these sectors there is no direct link with the size of the local population – "unlinked sectors".
 - 2.6.2. Sectors in which the number of jobs is **related to the size of the local population**, relative to the regional average such as health and education – "population-linked sectors".
 - 2.6.3. Sectors in which number of jobs is **related to the total number of jobs in the area**, relative to the regional average. These are sectors in which activity is related to the amount of economic activity in the area such construction and finance and business services. These might be referred to as "jobs-linked sectors".
- 2.7. It follows that the number of jobs in an area is a function of the resident population in two ways: changing the population changes the number of jobs in the population-linked sectors; and the change that that causes to the total number of jobs causes a secondary change to the number of jobs in the jobs-linked sectors. Assuming that the first change is proportionate to the size of the population and the second to the

change in the total number of jobs (ignoring any third order effects from the change to the number of jobs-linked jobs) it is possible to express the number of jobs in a district if the population is changed from the level envisaged in the EEFM as a function of the changed resident population.

- 2.8. Using economic activity, unemployment and double jobbing rates from the EEFM it is possible to express the number of jobs which a changed resident population can support as a function of that change population. The net commuter flow is the number of jobs in the district less the number of jobs supported by the resident population (ignoring double jobbing amongst commuters). It is therefore possible to express net commuting as a function of the resident population – thereby enabling the resident population that is consistent with returning the net commuting flow to its 2011 census level to be calculated. The number of homes needed can then be estimated by applying DCLG household formation rates to that population figure.
- 2.9. What follows illustrates the use of this method to estimate the population needed in King's Lynn and West Norfolk in 2036 to bring net commuting back to the 2011 census level.

2.9.1. Using the following notation and data from the EEFM output for 2036:

Factor	Notation	Value in EEFM
EEFM population in 2036	Ptot	176148
EEFM 16-64 population in 2036	Pop16-64	93732
EEFM 0-64 population in 2036	Pop0-64	120534
EEFM 65+ population in 2036	Pop65+	55615
Jobs in unlinked sectors in 2036	Jobsunlinked	10463
Jobs in population-related sectors in 2036	Popjobs	41817
Jobs in jobs-related sectors in 2036	Jobsjobs	20568
Total jobs in 2036	Jobstot	72848

2.9.2. If P'tot, Pop'16-64, Pop'0-64, Pop'65 etc. denote adjusted values, in a scenario in which the total population is adjusted:

- The number of jobs in unlinked sectors is unaffected i.e. it is Jobsunlinked, in this case 10463
- The number of jobs in the population related sectors scales according to the change in population, i.e. it is:

$$\text{Popjobs} \times P'_{\text{tot}} \div P_{\text{tot}} = 41817 \times P'_{\text{tot}} / 176148 = 0.237 \times P'_{\text{tot}}$$

- The number of jobs in the job-related sectors scale with the total number of jobs is:

$$\frac{\text{Jobsjobs} \times \text{Jobstot}'}{\text{Jobstot}} = \text{Jobstot}' \times 20568 / 72848 = \text{Jobstot}' \times 0.282$$

- The total number of jobs if the population in P'tot is simply the sum of the above three terms.

$$\text{Jobstot}' = 10463 + P'\text{tot} \times 0.237 + 0.282 \times \text{Jobstot}'$$

So

$$\text{Jobstot}' \times 0.718 = 10463 + P'\text{tot} \times 0.237$$

Or

$$\text{Jobstot}' = 14579 + P'\text{tot} \times 0.331$$

- 2.9.3. If we assume that the adjustment to the population needed to return net commuting to its 2011 level does not affect those over 65, then the change in the total population is equal to the change in 0-64 population i.e.:

$$P_{\text{tot}} - P'\text{tot} = \text{Pop}_{0-64} - \text{Pop}'_{0-64}$$

or

$$P'\text{tot} = \text{Pop}'_{0-64} - \text{Pop}_{0-64} + P_{\text{tot}}$$

- 2.9.4. If we further assume that the 0-15 population scales with the change in the 16-64 population (as the 0-15 will be children of the 16-64s) then:

$$\text{Pop}'_{0-64} / \text{Pop}_{0-64} = \text{Pop}'_{16-64} / \text{Pop}_{16-64}$$

Or

$$\text{Pop}'_{0-64} = \text{Pop}_{0-64} \times \text{Pop}'_{16-64} / \text{Pop}_{16-64}$$

- 2.9.5. Substituting for Pop'0-64 in the equation in 2.9.3 gives:

$$P'\text{tot} = \text{Pop}_{0-64} \times \text{Pop}'_{16-64} / \text{Pop}_{16-64} - \text{Pop}_{0-64} + P_{\text{tot}}$$

Inputting values from the above table to simplify the algebra gives:

$$P'\text{tot} = \text{Pop}'_{16-64} \times 1.286 - 120534 + 176148$$

Or

$$P'\text{tot} = \text{Pop}'_{16-64} \times 1.286 + 55615$$

- 2.9.6. Substituting for P'tot in 2.9.2 gives the revised number of jobs in the district as a function of the 16-64 population:

$$\text{Jobs}'_{\text{tot}} = 14579 + (\text{Pop}'_{16-64} \times 1.286 + 55615) \times 0.331$$

$$= \text{Pop}'_{16-64} \times 0.4254 + 14579 + 18397$$

$$= \text{Pop}'_{16-64} \times 0.4254 + 32976$$

- 2.9.7. Using the following notation and values the number of jobs supported by the resident population can be calculated:

Notation	Factor	Value
djobrate	double jobbing rate = difference between workplace jobs and people based jobs/16-64 population	4.7%
emprate	employment rate = residents employed/16-64 population	81.9%
econrate	economic activity rate = residents available for work/16-64 population	82.9%
unemprate	unemployment rate = number unemployed/16-64 population	1.1%

Jobs supported by resident population = $\text{Pop}'16-64 \times (\text{econ rate} + \text{djobrate} - \text{unemprate})$

Inputting the values for the various rates and summing them gives:

$$\text{Jobs supported by resident population} = \text{Pop}'16-64 \times 0.866$$

2.9.8. Now:

Net commuting = total jobs – jobs supported by resident population

$$= \text{Pop}'16-64 \times 0.426 + 32976 - \text{Pop}'16-64 \times 0.866$$

$$= 32976 - \text{Pop}'16-64 \times 0.440$$

2.9.9. Setting net commuting equal to its value in 2011 (-3755) and re-arranging the above formula gives:

$$\text{Pop}'16-64 = (3755 + 32976)/0.44062$$

$$= 83363$$

- 2.10. This is the 16-64 population that produces the same net commuter flow in 2036 as in 2011 with the same economic activity, unemployment and double jobbing rates as in the EEFM in 2036. It is relatively straightforward to apply household formation rates to turn this population into a number of homes needed to support the projected job growth.