Estimating Swale's Future Local Housing Need

A Technical Report

Commissioned by Swale Borough Council from Peter Brett Associates

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The analysis presented is accurate but even with maximum attention to detail errors can arise and, as users are fully aware from media reports, even official data sources are not infallible. Official demographic and housing data are often revised; in recent years ONS has revised its methods of estimating both UK and International migration and the transfer of household projections from DCLG to ONS also caused major methodological changes. Therefore absolute guarantees cannot be given and liability cannot be accepted. Statistics, official or otherwise, should not be used uncritically. If they appear at odds with other sources they should be thoroughly investigated before being used.

Minor revisions were made to the report in May 202, to add subtitles to some charts.

Estimating Swale's Future Local Housing Need

1.   Introduction

1.1.   This technical report explores:

- whether there are exceptional circumstances which might justify a departure from the Government's revised standard method for calculating Swale's Local Housing Need (LHN);

- how Swale's LHN may change in the future as a result of the projected increase in house building in the district; and,

- the projected impact on Swale's population of a building trajectory determined by LHN.

1.2   All charts and tables in the report relate to Swale Borough unless otherwise specified.

2.   Are there exceptional circumstances which might justify departure from the standard method?

2.1.   The 2018 National Planning Policy Framework (2018 NPPF) introduced a new standard method for calculating an authority's local housing need. The current version is set out in an update to the Planning Practice Guidance (PPG) issued on 20 February 2019[1] and stipulates that the MHCLG's 2014-based household projections are to be used as the basis of the calculation.

2.2.   The PPG addresses the question of whether alternative methods can be used for assessing housing need in the following terms:

> ***Is the use of the standard method for strategic policy making purposes mandatory?***
> *No, if it is felt that circumstances warrant an alternative approach but authorities can expect this to be scrutinised more closely at examination. There is an expectation that the standard method will be used and that any other method will be used only in exceptional circumstances.*
>
> *Paragraph: 003 Reference ID: 2a-003-20190220*

2.3.   There is as yet no precedent to indicate how high the threshold of 'exceptional circumstances' might be but, as the objective of introducing the new standard method was to simplify and speed up plan making, the bar is likely to be set fairly high. This is implies that there would need to be clear evidence that the standard method produces a result that is misleading to a substantial degree. In view of this this technical note reviews the 2014-based projections for Swale and considers whether they provide a reasonable indication of the likely level of household growth in the district.

2.4.   There are two components to a household projection:

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[1] Paragraph 004 Reference ID: 2a-004-20190220

- a population projection; and,

- a projection of household formation rates which indicate how the population is expected to group itself into households.

2.5.   These two stages are considered in turn.

The Population Projections

2.6.   The 2014-based household projections are based on ONS's 2014-based population projections. These were constructed by first making trend-based projections for future births, deaths and migration flows. The population projection, calculated by gender at individual ages to 90+, is equal to the number of births, less the number of deaths, plus the net migration inflow (or less the net migration outflow). A review needs to consider the plausibility of each of these components of change.

Births

2.7.   Figure 2.1 shows the historical data for births.

Figure 2.1: Births 2001-02 to 2017-18
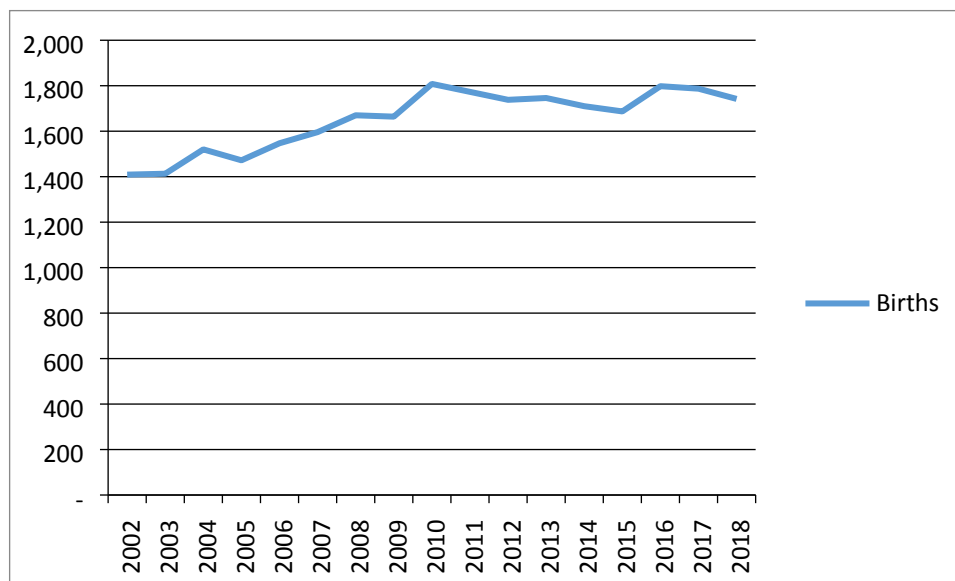
2.8.   While there are undulations around the general trend of births increasing to about 2010 and flat lining thereafter the deviations are not such as to suggest a problem with the historical data. Therefore there is no reason to suspect that a projection of further births based on this data would be implausible.

Deaths

2.9.   Figure 2.2 shows the historical data for deaths. There is a deviation from trend in 2014-15 but this is small and came after the 2014-based projections were prepared. There is therefore no basis for querying the projection of deaths.

Figure 2.2: Deaths 2001-02 to 2017-18
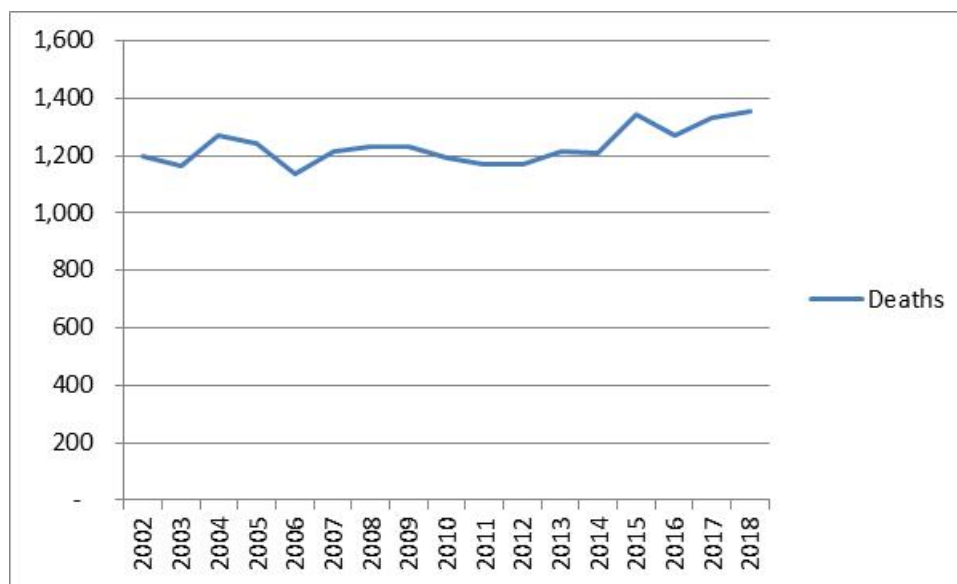
Migration Flows from the Rest of the UK

2.10. Figure 2.3 shows the historical data for flows from the rest of the UK up to those published with the 2018 mid-year estimates. For the 2017 mid-year estimates (2017 MYE) the ONS introduced a new method for estimating flows within the UK, the main change being a new 'Higher Education Leavers Methodology' designed to improve the estimation of when and where students moved to after completing their university courses – a well-known weakness in the earlier population estimates. This generally resulted in slightly higher flows being estimated

**Figure 2.3: Migration from the Rest of the UK 2001-02 to 2017-18
Persons**
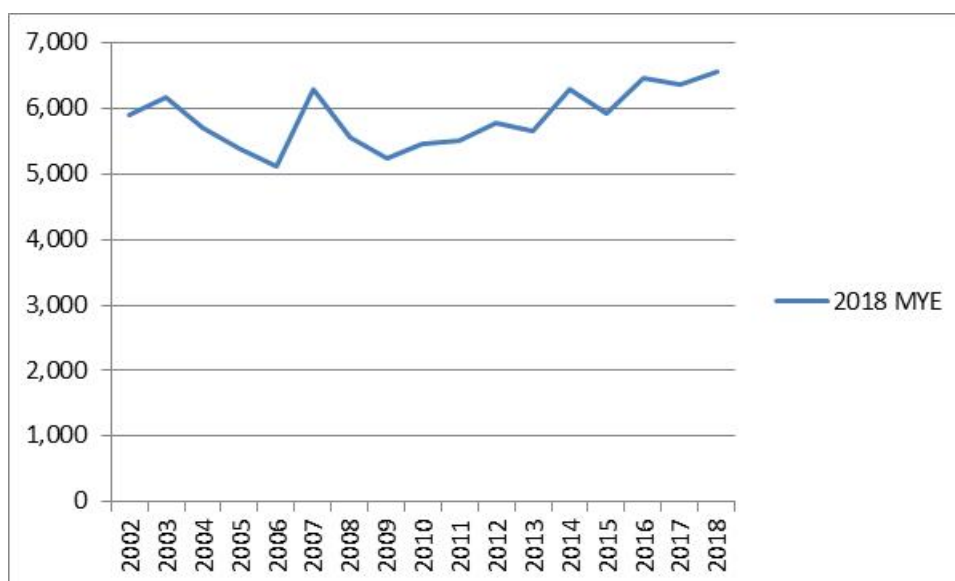
2.11. The new method post-dated both the 2014 and the 2016-based projections. It remains to be seen how it will be reflected in the 2018-based projections as the ONS have not corrected their estimates for years prior to 2016-17 to reflect the new method even though it is clear that it would have altered those figures. This is therefore a potentially significant uncertainty in estimating future household projections.

2.12. Aside from the question of the new method, there are no reasons for believing that the data in the trend period for the 2014-based projections (2009-10 to 2013-14) was significantly distorted.

**Migration Flows to the Rest of the UK**

2.13. The ONS new method for estimating migration flows has also affected the outflows to the rest of the UK. The difference is, however, small. Figure 2.4 shows the latest figures,

Figure 2.4: Migration to the Rest of the UK 2001-02 to 2017-18 Persons
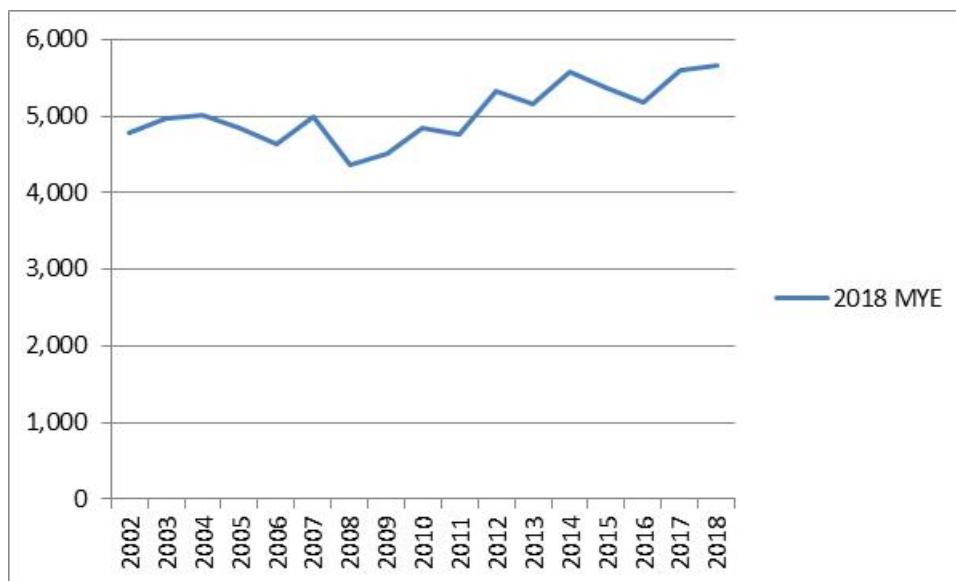
2.14. Again there is nothing in the historical data which might distort the projected outflow. Both the outflow and the inflow are on a rising trend since around 2008, but since 2001 the net flow has always been into Swale. The result is that the net flow from the rest of the UK has generally risen since 2011-12 – see Figure 2.5.

**Figure 2.5: Net Migration with the Rest of the UK 2001-02 to 2017-18 Persons**
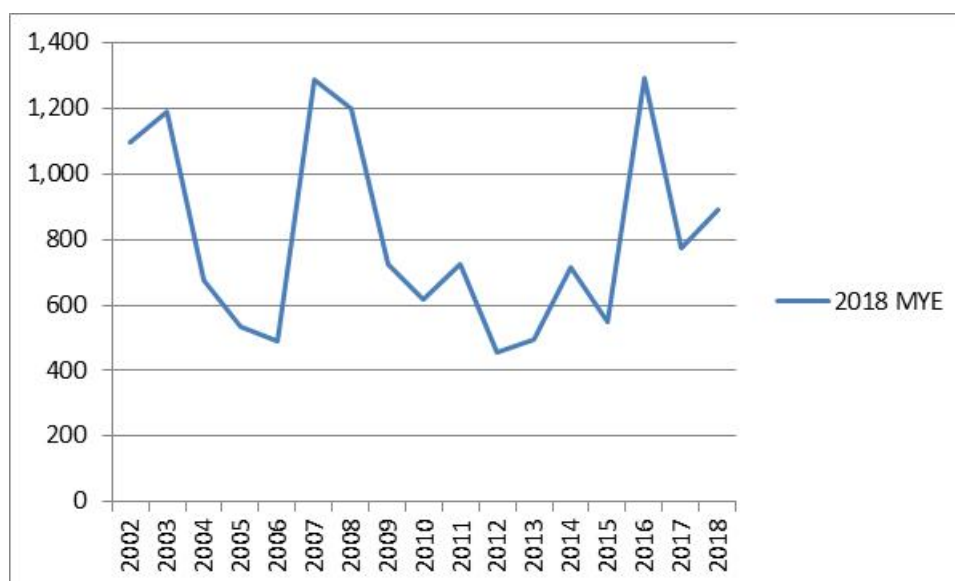
2.15. The net flow has varied widely since 2001; between less than 500 and nearly 1,300. In more recent years there is a detectable rising trend. There is relatively little difference in the trend periods for the 2014-based projection (2009-14: 602) and the 2016-based projection (2011-16: 702). Net flows are invariably a relatively small difference between two much larger gross flows with the result that small changes in the gross flows can produce relatively large percentage changes in the net flow.

2.16. However the net UK flow for the ONS 2018-based projections (based on 2013-18) is 846 meaning that the projection will almost certainly be higher than either the 2014-based or 2016-based projections.

International Migration Inflow

2.17. Figure 2.6 shows the historical data for flows in from overseas. These have also benefitted from methodological improvements by the ONS but in this case the ONS has adjusted the earlier year figures back to 2011-12. Note that these adjusted figures were taken into account in the 2016-based projections but post-date the 2014-based set.

**Figure 2.6: International Inflows 2001-02 to 2017-18**
Persons
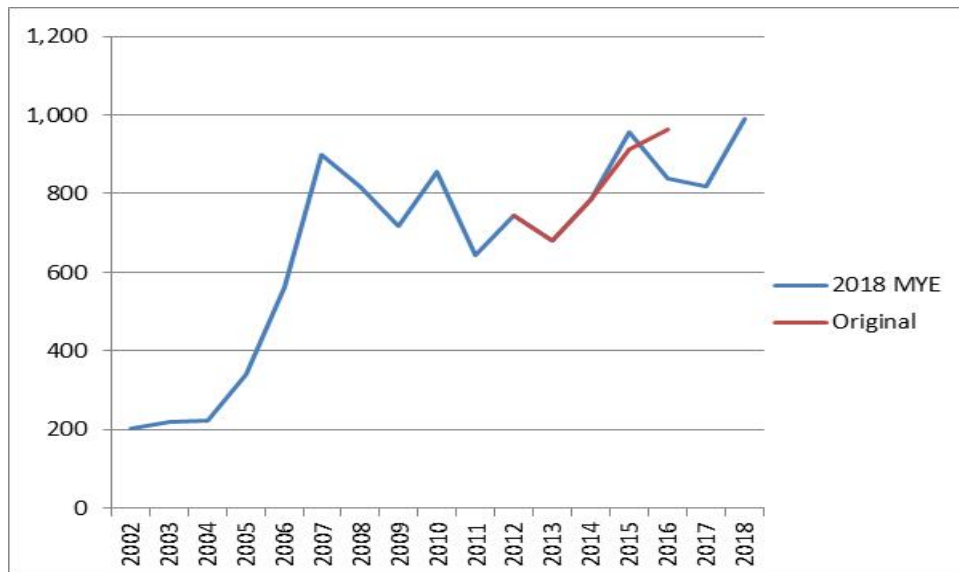
2.18. As the figure shows, there was a dramatic increase in the inflow up to 2007 but change has been more undulating subsequently, though still with a detectable upward trend since 2011. These changes do not indicate that there is a problem with the data. The ONS's revised methodology has made relatively little difference and gives support to the view that the earlier figures were sound.

International Migration Outflow

2.19. Figure 2.7 shows the data for international out-migration. These have been more affected by the ONS's new methodology, with the revised figures producing slightly higher outflows, though not in 2011-12, and so contributing to a lower population growth. There is nothing that is obviously problematic with these figures.

Figure 2.7: International Outflows 2001-02 to 2017-18
Persons
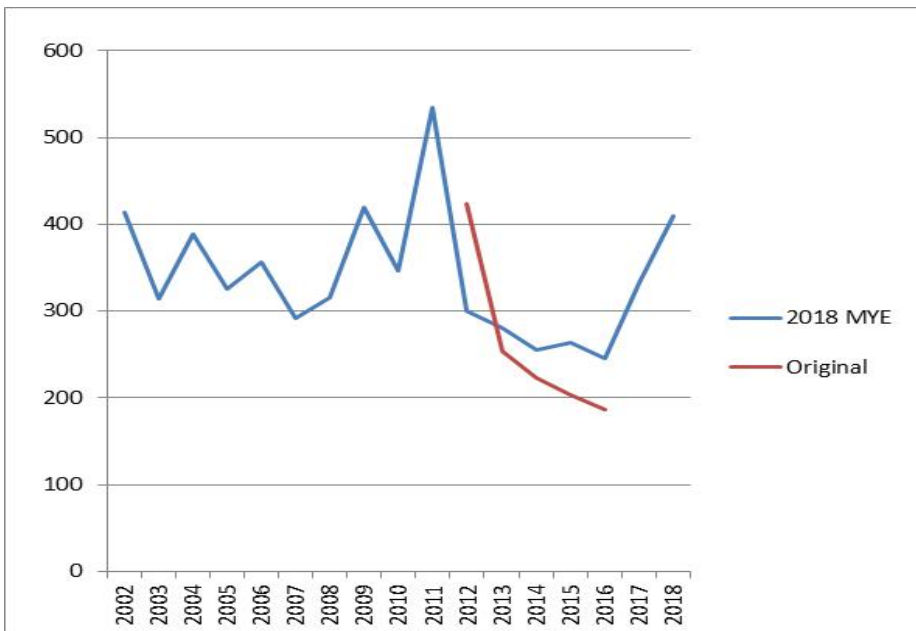
Net Migration

2.20. Figure 2.8 brings all of the migration flows together to show the overall net effect. It is noticeable that a number of small changes in the large individual flows combine to produce net flows that have varied considerably over the 17 year period. In general Swale has received net inflows that have increased, however the significant rise to 2007 fell back until 2011. Although there was a further peak in 2015-16 recent flows have followed the 2011-15 trends

Figure 2.8: Total Net Migration 2001-02 to 2017-18
Persons
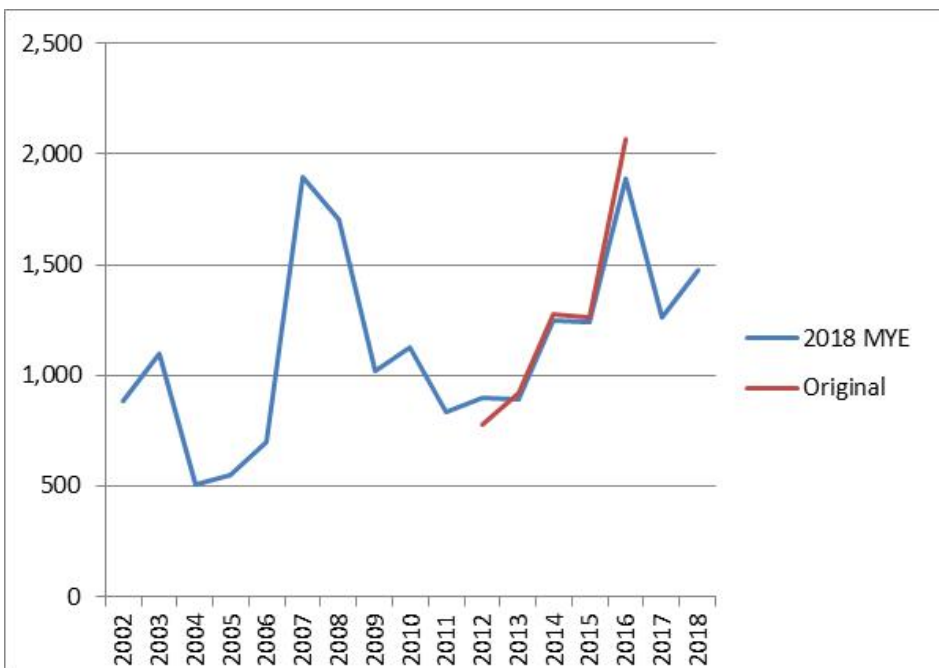
2.21. Swale has shown limited correlation between net housing completions and net migration since 2001. See Figure 2.9. In the early 2000s the ratio between net migration and net completions was around unity; in the more recent years that ratio has been around 2.5, broadly similar to average household size. Net completions peaked in 2005-06 at 854 and declined to only 291 in 2012-13. There has since been an increase to an average of 556 a year in 2013-18. Variation in net migration has been much greater than the stock change. However, the latest years show that both sets of data have been generally growing since 2012-13.

Figure 2.9: Net Housing Completions & Net Migration 2001-02 to 2017-18 Dwellings (completions), persons (net migration)
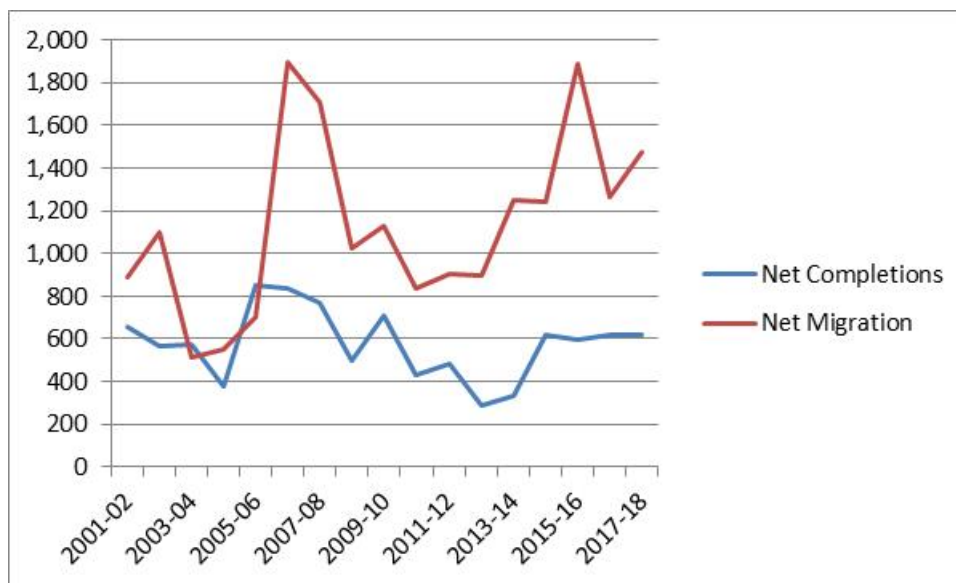
Source: Swale and ONS mid-year estimates change analyses

2.22. Theoretically net migration must be closely related to the net completions to the housing stock, although age structure effects including movers to non-private households may also be significant in the final analysis. In the base period for the ONS 2014 SNPP there was an average of 451 net completions per year, this rose slightly to 465 in the base period for the 2016 SNPP. The latest figure is 556 in 2013-18, the base for the ONS 2018 SNPP which is expected in mid-2020. Therefore it should be expected that the direction of change in the next round of official population and household projections will be upwards.

2.23. The fact that the annual net flow has varied significantly over time, with a general rising trend, means that using a different trend period can produce a significantly different projection. With rising net inflows the more recent five-year period shows the highest projection. This is shown in Figure 2.10.

**Figure 2.10: Variant Total Population Projections
Persons**
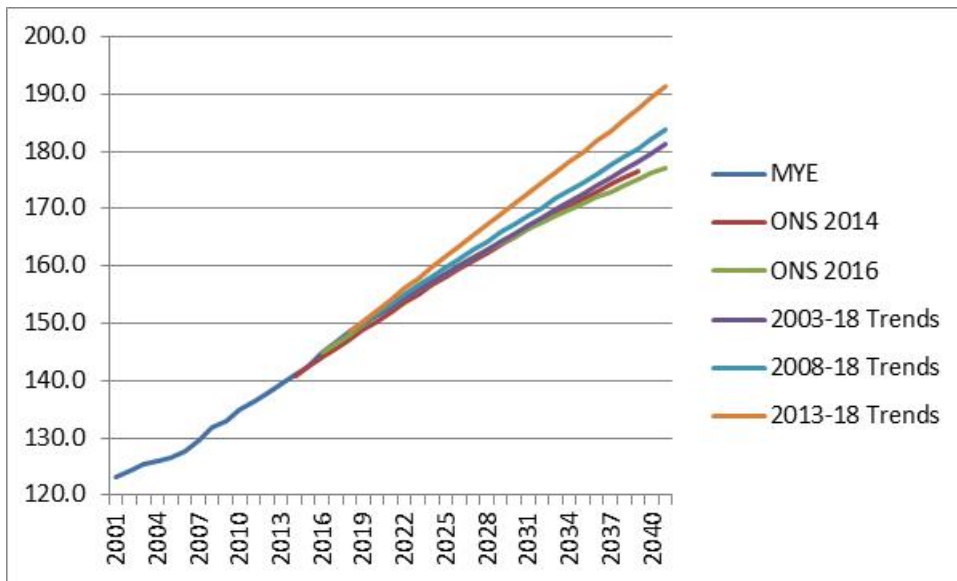
2.24. The variants are:

- **2018 SNPP/HP 5YR All Migration**: as 2016 SNPP in terms of fertility and mortality but with all migration based on the average flow rates over the period 2013-18. Household projection uses same assumptions as DCLG 2014 SNHP

- **2018 SNPP/HP 10YR All Migration**: as above but with all migration based on the average flow rates over the period 2008-18.

- **2018 SNPP/HP 15YR All Migration**: as above but with all migration based on the average flow rates over the period 2003-18.

2.25. Table 2.1 shows the impact that different trend periods have on the population and household growth over the period 2020-30. Applying DCLG 2014 assumptions and methodology to the ONS 2016 SNPP makes very little difference in the number of households. This tends to confirm that although the two household formation input data and models were different the results for Swale are robust and offer no indication of implausibility. The three Trends projections have somewhat different age structures to the ONS projections hence, although the projected growth is in all cases higher than in the 2016 SNPP, the numbers of households projected using the DCLG 2014 methods and assumptions do not increase in proportion.

Table 2.1: Population and Household Growth 2020-30 under ONS and variant population projections

	Population	Households
ONS2014 SNPP/DCLG 2014 SNHP	14,831	7,897
ONS 2016 SNPP/SNHP	13,882	7,543
ONS 2016 SNPP/DCLG 2014 SNHP	13,882	7,566
2003-18 Trends/DCLG 2014 SNHP	14,206	6,940
2008-18 Trends/DCLG 2024 SNHP	15,554	7,692
2013-18 Trends/DCLG 2014 SNHP	18,624	8,622

Unattributable Population Change (UPC)

2.26. In a statistically perfect world the population change calculated from the estimates of births, deaths and migration flows for the period between two censuses would equal the difference between the population estimates made from the censuses. In practice it never does exactly and the difference between 2001 and 2011 is known as 'unattributable population change' (UPC) as it is the change in population that the ONS was not able to attribute to births, deaths or net migration flows. For Swale UPC for the period 2001-11 was -1,313, the minus sign indicating that the combined effect of the ONS's estimates for births, deaths and migration flows over-estimated the population change suggested by the 2001 and 2011 censuses. That overestimate was 10% of the population change suggested by the censuses. As natural change is very accurate, being based on the registration system, most of the discrepancy would be with estimates of migration and any other special changes. Compared to this figure the UPC is a14% of estimated net migration and other changes. This 'error' is relatively small as there are 83 authorities for which the discrepancy is more than 50%.

2.27. UPC is only significant for males in their 20s, as shown in Table 2.2. This difference is explained by ONS as due to errors in estimated international migration flows. The methodology to estimate these flows at local level has been improved by ONS since the 2011 Census results were available. It does not suggest that UPC creates a serious ongoing problem in any age group as the largest discrepancy is less than 8%. The inclusion of UPC would only have a small impact on overall net migration in a projection with a base including years prior to 2011 – i.e. a 2008-18 based projection.

Table 2.2: UPC for males ages 15-34

	MYE Rolled Forward	MYE 2011 Census Based	Difference (UPC	UPC (%)
15-19	4,552	4,567	15	0.33
20-24	4,299	3,993	-306	-7.12
25-29	4,366	4,024	-342	-7.83
30-34	3,774	3,765	-9	-0.24

Comparison between the 2014 and 2016-based Population Projections and the subsequent ONS Mid-year Estimates

2.28. The ONS 2014 SNPP was based on the ONS 2014 Mid-Year Estimates. The 2014 MYE have subsequently been revised to reflect the ONS's new method for estimating international flows and there are now annual estimates to 2018. The ONS 2016 SNPP was based on the ONS 2016 MYE that have – so far – not been re-evaluated. The comparison between the projections and subsequent estimates gives some idea of the direction of change of updated projections

Figure 2.11: Comparison of ONS 2014 and 2016 SNPP with ONS MYE Thousands of persons
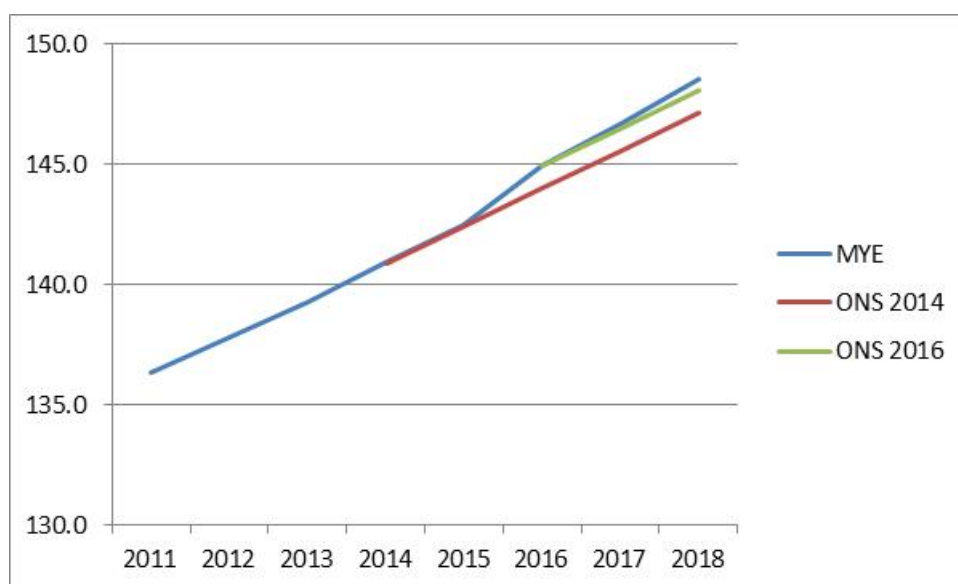
2.29. The latest ONS population estimates suggest that:

- 2014 SNPP: the population in the base year (2014) was little affected by revisions.

- The 2014 SNPP for 2018 was nearly 1,400 lower than the 2018 MYE, a difference of 0.9%.

- The 2014 SNPP showed an increase of 6,300 between 2014 and 2018 whereas the MYE increase was 7,600.

- 2016 SNPP: the base population is still the latest estimate for 2016.

- The 2016 SNPP for 2018 was over 400 lower than the 2018 MYE, a difference of 0.3%.

- The 2016 SNPP showed an increase of 3,200 between 2016 and 2018 whereas the MYE increase was 3,600.

2.30. Assuming what was estimated to have happened in the period 2014-18 as guidance of what is likely to happen in the future then this suggests that both the 2014 SNPP and 2016 SNPP underestimated the future population growth.

Household Formation

2.31. The household formation rates (HFR) in the 2014 and 2016-based household projections are very different. The 2014-based projected rates were the last produced by DCLG and were based on data drawn from 5 censuses between 1971 and 2011. The 2016-based set was the first produced by the ONS and used data from just two censuses: 2001 and 2011. The two projections also used different definitions of 'household', the 2014-based set using an earlier definition which necessitated the adjustment of the output from the 2001 and 2011 censuses to estimate what the figure would have been had those censuses used the earlier definition.

2.32. There were also substantial methodological differences. In particular, the 2014-based projection was built up using household formation rate projections for gender, 5-year age groups from 15-19 to 85+, and relationship status (single, in a couple, formerly in a couple) whereas the ONS's 2016-based set only used gender and age groups 16-19, 20-24 ...85-89 and 90+. This could be significant as the household formation rates of single coupled and previously coupled people are very different in many age groups. As result the 2016-based projections may not accurately reflect likely changes in the household formation rates of some age/gender groups due to changes in the status of those groups. For example, as the life expectancy of men increases more couples are likely to survive longer into old age, reducing the overall household formation rate of older age groups.

2.33. Another key difference is that the ONS's 2016-based projections hold household formation rates constant after 2021 whilst the DCLG's 2014-based projections allow the rates to continue to change to 2039.

2.34. In seeking to assess the reasonableness of the household formation rates there are two aspects that should be considered:

- How well do the rates reflect what has happened since 2011?

- How plausible are the rates going forward?

How well do the HFRs reflect what has happened since 2011?

2.35. Unlike the population projections, there is for the household projections no equivalent of the ONS's mid-year population estimates with which to compare

a projected number of households with a separately estimated number. Although the household projections are described as "2014-based" or "2016-based" it is only the population element that has the stated date as its base year: The household formation rates in the base year are themselves projections from the census-based figures and, although the controlling change in England in the 2014 SNHP references the latest data from the Labour Force Survey, as such at local authority level could be significantly adrift from what is actually happening.

2.36. This issue was addressed by the ONS in an article entitled, "Household projections for England, comparisons with other sources: 2001 to 2018[2]" which was published alongside the 2016-based household projections in September 2018. This notes that household projections are not forecasts. They show the number of households there would be if a set of assumptions about the size and structure of the population and the patterns of household formation were realised in practice. They do not predict the impact of future public policy, changing economic circumstances or other factors which may influence household growth.

2.37. The paper reviews other sources of estimates of household numbers between 2001 and 2018, focussing in particular on the household estimates derived from the Labour Force Survey (LFS). It shows that after 2011 there is a significant divergence between the household numbers suggested by the LFS and all of the household projections produced since 2011, all of which suggest higher household numbers. The lower numbers suggested by the 2016-based projections are the closest to the LFS estimates but are still somewhat higher. This raises the possibility that all of the recent household projections may have taken as their starting point a set of household numbers in the base year that was too high – and potentially be projecting future household formation rates that are too high.

2.38. The Labour Force Survey is too small to provide accurate data at the local authority level. It is, however, possible to compare local authority level household numbers with dwelling stock figures and council tax valuation lists.

2.39. Figure 2.12 compares household estimates with the numbers of homes on the Council Tax valuation list. The household numbers shown in Figure 2.12 have been produced using the most recent ONS mid-year population estimates, converted to households using the DCLG 2014 relationships and methodology, and both the 2014 and 2016-based SNHPs

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[2] Household projections for England, comparisons with other sources: 2001 to 2018, ONS, 20 September 2018 at:
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/articles/householdprojectionsforenglandcomparisonswithothersources/2001to2018

Figure 2.12: Comparison of 2014 and 2016 Household Projections and the Council Tax Valuation List

Thousands of dwellings
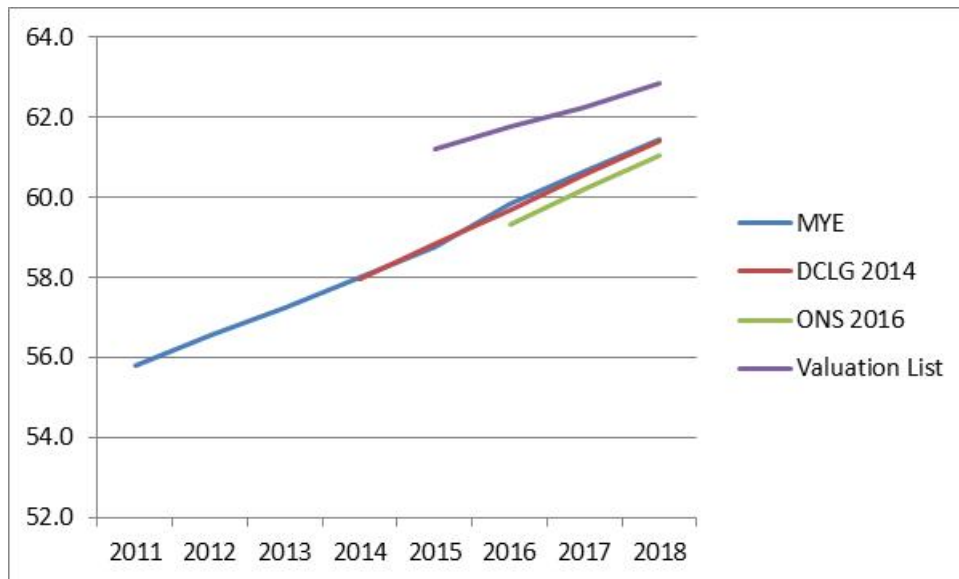
2.40. Comparing the Valuation List with the 2014 SNHP, allowing for empty and second homes, the discrepancy between the datasets has fallen from 2,300 in 2015 to 1,400, or about 2.3%, in 2018. The change comparing the 2016 SNHP is similar, though the differences are a little greater. In general the differences are small enough to be explained by a reduction in the numbers of empty and second homes, or some increase in sharing households

2.41. In recent years the increase in the number of homes on the valuation list has been less than the increase in the number of households according to both projections. This suggests that both the 2014 and the 2016-based SNHP for Swale may be overestimating the change in household numbers. This can be due to two factors, working separately or in combination, the projected population is too large or the household representative rates are too high. Given the latest population estimates exceed the two projections it is more likely that the HRRs are the main cause of concern. However, the over-estimation in the case of Swale is relatively small and is potentially explained by changes in the valuation list and is insufficient to argue that there are exceptional circumstances which justify departing from the published projections.

How plausible are the HFRs going forward?

2.42. Figure 2.13 compares the aggregate household formation rates (AHFR) in the 2014 and 2016 based projections. The aggregate is the total number of households divided by the number of people of all ages living in households. It is the inverse of average household size. In Swale the 2016-based AHFR is consistently lower than the 2014 AHFR but in later years the gap narrows.

Figure 2.13: Comparison of 2014 and 2016 Aggregate Household Formation Rates (AHFR)
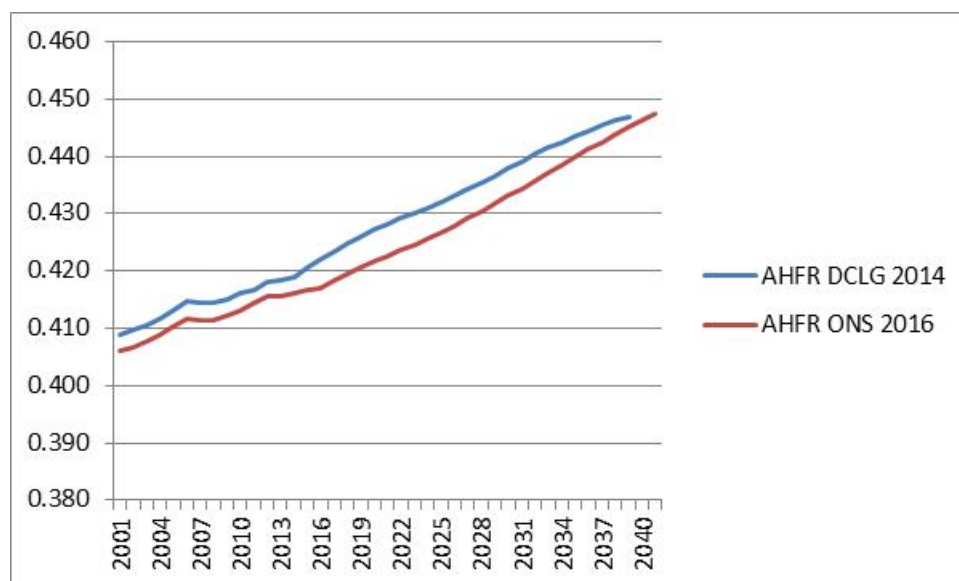
2.43.　The reasons for this are complex and include the way in which the 2016-based projections hold HRRs constant after 2021, rather than continuing to project the 2001-11 rises and falls, and the way in which the 2014-based projections reflect likely changes in the relationship status of the population. This feature was based on a 2008-based projection that there are no plans to update and so was dropped by ONS from the 2016-based HFRs. However it may be particularly significant for some older age groups. Therefore, whilst the 2014-based HFRs for 2018 are seemingly too high, they may be less so for later years in the projection which are needed to get the ten years household change required by MHCLG for the standard way of calculating LHN.

2.44.　The difference between the 2014 and 2016-based HFRs could be important, particularly over the ten year periods used for the standard method. For Swale, applying the 2014 HFRs to the 2016 SNPP instead of using the 2016 HFRs would change the average number of additional households over the period 2020-30 from 754 to 757, a trivial difference.

2.45.　The projections are not forecasts. They only aim to demonstrate what would happen if past trends continue; they do not take any account of policy changes or possible future events. (Apart, perhaps, from the exception of the assumptions about international migration in the short term.) Of particular relevance here is the Government's intention to boost housing supply to 300,000 homes a year. That is well in excess of the number of homes needed to accommodate the projected increase in the number of households in the country and, if achieved, would almost certainly result in household formation rates rising faster than envisaged in the projections. The impact that this would have on individual authorities is, at present, very difficult to predict.

Conclusion on Exceptional Circumstances

2.46. There is nothing in the historical data for births, death and migration flows to suggest there are errors or anomalies in the statistics. However, the figures do partly reflect the change in house building in the district since the peak in 2005-06. The fall has recently been reversed and net migration inflows to Swale reflect this.

2.47. As a consequence, population and household projections for Swale are sensitive to the trend period used. This explains much of why the 2016-based projections suggest somewhat lower population and household growth than the 2014-based set.

2.48. An OAN based on the 2016 SNHP would have been criticised under the 2012 NPPF as being too low as it would have reflected the relatively low levels of house building in its trend period. It is also doubtful whether the 2014 SNHP could be considered as being too high as, whilst the first year of the trend period (2009-10) was a year of high house building, the number of homes built in the rest of the period fell sharply and only in 2004-05 were fewer homes built since 2001 than in any of the years 2010-14.

2.49. The population projections which underlie the 2014 SNHP are too low for the period 2014-18. This reflects the increased average house building rates in those years. Assuming a return to much higher house building rates will result in population projections that are substantially higher than the 2014 SNPP.

2.50. There are some indications that both the 2014- and 2016-based HFRs over-estimate household formation rates since 2011 but the discrepancy is not large.

2.51. The difference between the two sets of HFRs is not large. Even if it could be shown that the 2016-based set were clearly superior, the difference is not sufficient to constitute exceptional circumstances for departing form the 2014 SNHP in the standard method.

2.52. **The overall conclusion is that there are no exceptional circumstance that would justify departing from the standard method formula based on the 2014-based household projections.**

3.   How Swale's LHN may change in the future

Estimating future household projections

3.1.   There are two key inputs to the LHN standard formula: the projected household growth over a ten year period; and the latest median affordability ratio. Whilst the affordability ratio may change over time, there is no way in which this can be projected. It is, however, possible to estimate how the projected household growth may change in future official projections.

3.2.   There are a large number of inputs and assumptions to any household projection and it is possible that the ONS may adjust its methodologies at any time. However the projected changes in the numbers of homes built in the district over the next 10 years is likely to have a bigger impact than all but the most radical of changes to other inputs and assumptions. A useful indication of the levels of household growth which may be envisaged in the 2018-based projections can therefore be gained by estimating the impact which the recent (2013-18) estimated migration flows will have on the population projection. It is possible that anticipated levels of house building between 2018 and 2020 will have a further impact on Swale's migration between 2018 and 2020. Any population projections based on these two premises must assume that nothing else changes; that is continue with the latest fertility and survival rate assumptions.

3.3.   There are two possible responses to a significant increase in house building: more people may move into the district to fill the additional homes (i.e. an increase in net migration); and those who were expected to be in the district may form more separate households than they otherwise would have (i.e. household formation rates may rise). The practical reality is that the actual response is likely to be a combination of the two. However, in a high demand South East local authority within London's commuter belt such as Swale the most likely effect is an increase in net migration. This effect may be ameliorated if there is a similarly large increase in house building in the rest of the region. It is the Government's intention to see house building nationally rise to 300,000 homes a year. This would undoubtedly result in a rise in average household formation rates nationally. The projections in this section assume that the response to increased house building would be increased net migration without any impact on household formation rates.

3.4.   Working on this assumption, the first step in estimating the 2018 and 2020-based projections is to estimate how net migration flows would need to change to fill the additional homes that are expected to be built. Having estimated revised migration flows; those can then be used to calculate revised migration flow rates for the trend periods of the 2018 and 2020-based projection, which in turn can be used to produce revised projections.

3.5.   Two methods have been used to calculate the impact which the projected higher house building rates will have on flow rates.

2018-based Projections

3.6.   The ONS mid-year estimates already show gross and net migration flows up to mid-2018. Therefore a projection using five-year average flows may be prepared with no reference to planned house building. The population projection would effectively update the ONS 2016-based population projection and use the same fertility and survival assumptions. Given that MHCLG has rejected the use of the ONS 2016 SNHP the population would be converted to households using the DCLG 2014 SNHP data and assumptions. The LHN could then be calculated.

3.7.   A variant 2018-based projection would continue to use DCLG 2014 SNHP data and estimate the migration required to fill the planned house building.
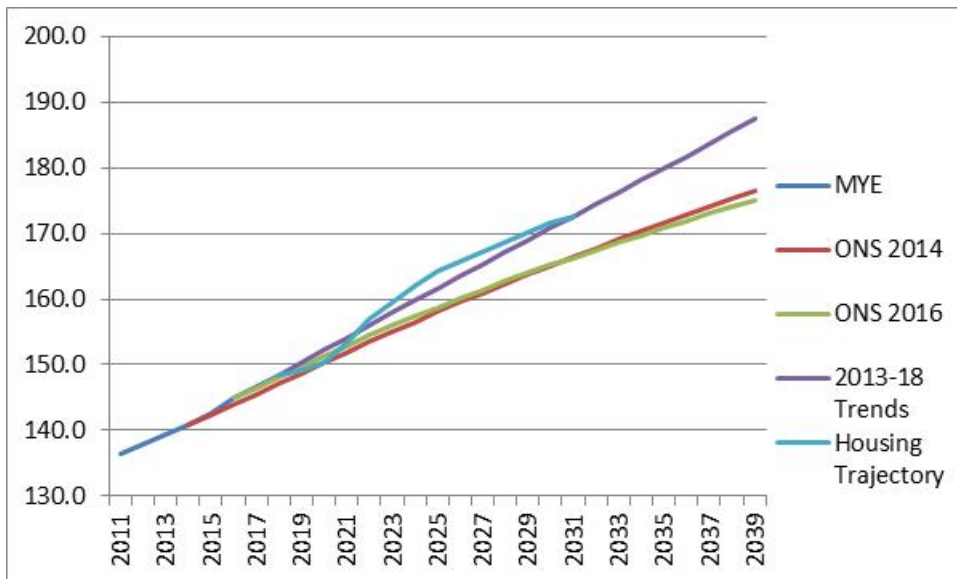
2020-based Projections

3.8.   To create a 2020-based projection it is first necessary to estimate the population forwards to 2020 from the 2018 MYE. This would be done by assuming the planned house building of 2018-20 and link this to population change via the 2014 SNHP data. This would set migration levels in 2018-20 and provide a basis for 2025-20 trend-based projections from 2020 and a projection based on planned house building after 2020.

Revised Population Projections

3.9.   Figure 3.1 shows the results of two projections starting with the 2018 MYE. They are compared to the two previous ONS 2014 and 2016 SNPP for Swale. The initial 2013-18 based trends projection is adjusted so that from 2018-19 to 2030-31 the Swale housing trajectory, as shown in the *Annual Monitoring Report 2016-17* is used as the guide for migration. Although the OAN for Swale as determined by the EiP and published by the Inspector in 2017 is 776 dwellings per year the trajectory has taken account of issues regarding starts and site availability. Additional dwellings rise from 387 in 2018-19 to 1,394 in 2020-21 before declining to 570 in 2030-31 – the last year of the current plan. Due to the uneven trajectory the population, while initially lower than the trends projection exceeds it in 2022 but returns to almost the same value by 2031.

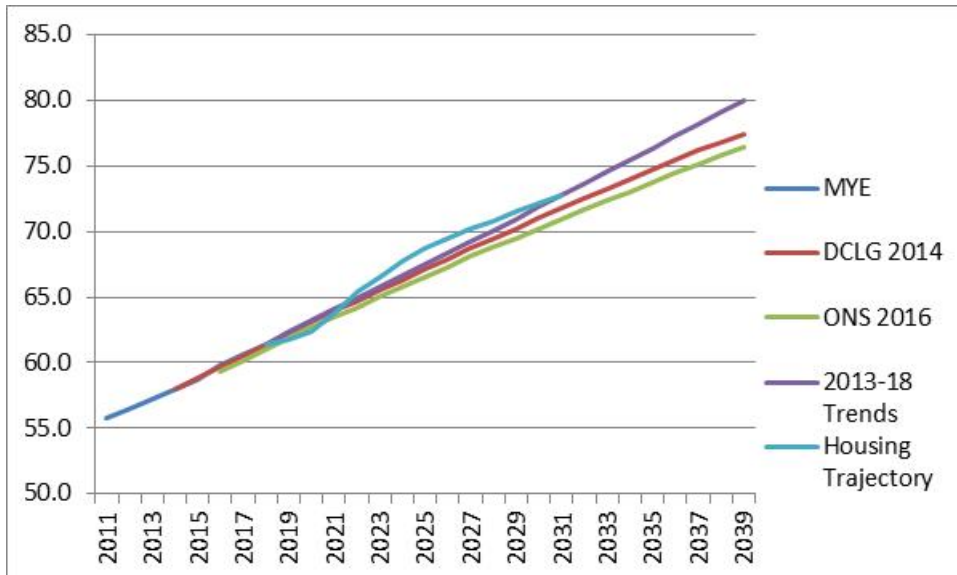3.10.   Figure 3.2 shows the results in terms of households. The picture is very similar to the population projection.

Figure 3.1: Comparison of ONS SNPP and 2018-based Population Projections

Thousands of persons

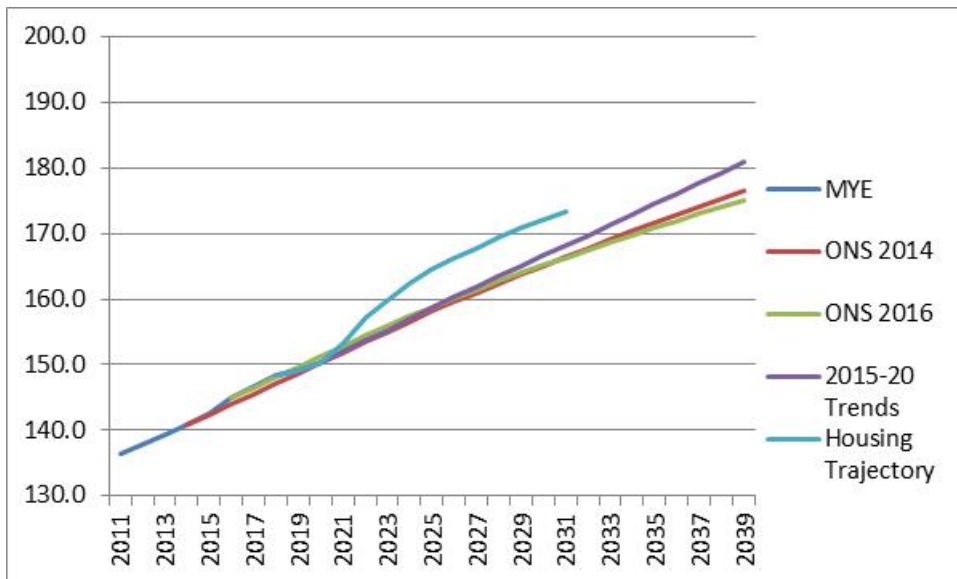**Figure 3.2: Comparison of DCLG and ONS SNHP and 2018-based Household Projections**
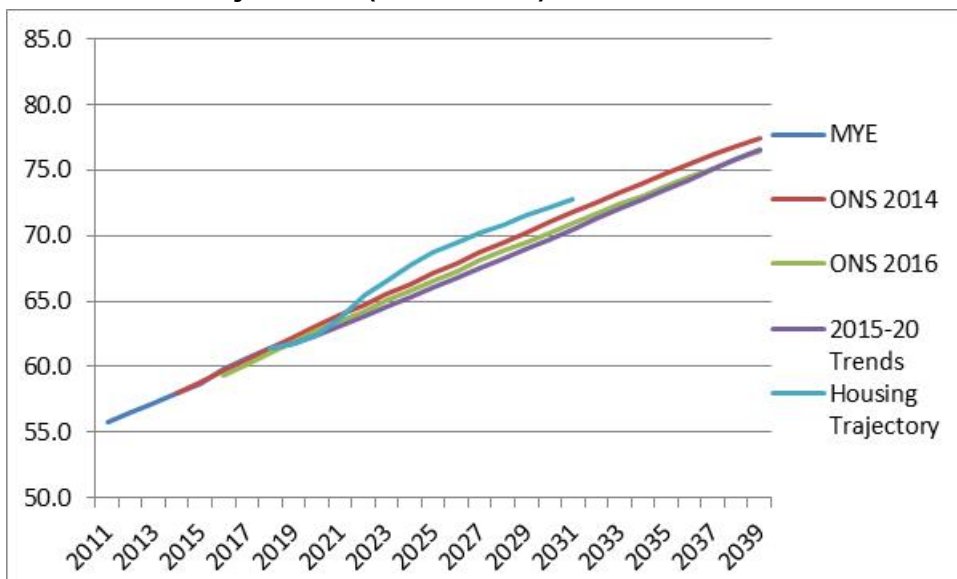
Thousands of households

3.11. Figures 3.3 and 3.4 show the results for 2020-based population and household projections respectively. The outcomes are similar tom the 2018-based projections but as the Swale housing trajectory shows low annual totals in 2018-20 the results of the 2020-based projections are lower than the 2018-based projections.

Figure 3.3: Comparison of ONS SNPP and 2020-based Population Projections

Thousands of persons

Figure 3.4: Comparison of DCLG and ONS SNHP and 2020-based Household Projections (thousands)

3.12. Table 3.1 summarises the results for the 10-year periods which would be used in the standard LHN methods for 2020 and 2022:

Table 3.1: Variant Household Projections

Change in number of households

		2020-30	2022-32	
	2014 SNHP	790	780	
	2016 SNHP	754	739	
2014 SNHP + 2013-18 Trends		862	873	
2014 SNHP + 2018-31 Trajectory		984	817	(1)
2014 SNHP + 2015-20 Trends		735	742	
2014 SNHP + 2020-31 Trajectory		984	817	(1)

(1)   2022-31 average

3.13. These results depend crucially on the assumptions made: different assumptions or alternative methods for updating the 2014 SNHP could produce significantly different but equally valid results.

3.14. Updating the 2014 SNHP to 2018 produces household growth figures that are higher than the 2016 SNHP. This is partly because levels of migration have increased since 2016 but also due to differences in the age profiles. Updated 2014 projections using 2015-20 estimated migration trends are quite similar to the 2016 SNHP due partly to relatively low build number in the housing trajectory for 2018-20 lowering the average annual net migration. Figures for 2022-32 based on the housing trajectory are the same for both projections and are based on the 9-year average 2022-31 as the trajectory linked to the current local plan ends at 2031.

Calculating the LHN

3.15. There are several steps in the current methods for calculating the LHN. Applying the standard methods to the above figures if the plan start date is 2020 the 2018-based projections are used and if it is 2022 then the 2020-based projections are used.

3.16. Step 1 takes the baseline 10-year household change from the 2014 SNHP. This is 790 and 780 from the above table for the respective start years.

3.17. Step 2 adjusts for the affordability adjustment. For Swale the latest (2018) median Workplace-based Affordability Ratio is 9.14. This leads to an Affordability Adjustment Factor of 1.32125. The results would be requirements of 1,043 and 1,031 respectively.

3.18. Step 3 involves applying a cap based upon the status of the local planning process. As Swale has a Local Plan adopted in 2017 (ie within the last five years) for which the Inspector specified an annual housing requirement of 776, this would be capped by a factor of an additional 40%.This would lead to a current baseline requirement of 1,086. As this is above either of the two Step 1 and Step 2 calculations using the 2014 SNHP it would not be applied.

3.19. If a plan was to start in 2020 and could use an updated 2018-based projection (i.e. 2014 SNHP plus 2013-18 migration trends as in Table 3.2) The Stage 2 calculation would be 1.139. The cap would again be 1.086 but this time it would be applied.

3.20. However, Swale's next plan is likely to be for 2022-38 therefore a separate approach may have to be taken for the capping process if the plan is deemed to break the 'five year' rule for reviewing the housing requirement. Although the current plan was adopted in 2017 it runs from 2014-31. In this case the cap is set at 40% above the higher of the most recent average annual housing requirement figure (776) or household growth projection (742, calculated for 2022-32 from the 2014 SNHP with 2015- 20 trend based projection – see Table 3.1). In this example the cap would still be 1,086 but as it is higher than the Stage 2 calculation of 980 it would not be applied.

3.21. However the timing of the work may be such that the latest household growth projection would have been the 2018 trends (ie in this case the 2014 SNHP adjusted by 2013-18 migration trends). The cap on this occasion would be 1,222 but would not be applied as it would be greater than the Stage 1 and 2 calculations based on the higher of 776 or 873 (2014 SNHP plus 2013-18 trends over the period 2022-32). The LHN would be 1,153.

Table 3.2: Current Method LHN Dwellings

|		Start Year		Start Year	
		2020	Cap	2022	Cap
	2014 SNHP	1,043	1,086	1,031	1,086
2014 SNHP + 2013-18 Trends		1,139	1,086	1,153	1,222
2014 SNHP + 2015-20 Trends		na	na	980	1,086

3.22. There is currently uncertainty as to whether, and how, the standard method may change in the future. The DCLG 2014 SNHP uses a projection of relationship status that has not been updated and for which there is no prospect of being updated by ONS. It is also likely that the ONS SNHP methodology will be developed to project beyond 2021.

3.23. The projections of LHN shown in Table 3.2 are therefore speculative in the continuation of methodology as well as the accuracy of estimated migration data based on the level of assumed house building in Swale up to 2020. As Swale has a requirement set by the Inspector of the current plan that, at 776, gives rise to an LHN cap of 1,086. This is above recent performance and the current trajectory until 2020-21. Therefore it may not be used for a new local plan running from 2022. The LHN in this case would be 980. However, the alternative, higher, LHN of 1,153, may be necessary if the migration in a 2018-based population projection becomes the most recent available.

3.24. **Given a plan starting in 2022 it is likely that the LHN that needs to be planned for is between 980 and 1,153**.

4.   Projections based on Swale's LHN

4.1   In order to prepare projections based on an LHN starting in 2022 it is necessary to consider an appropriate housing trajectory. The current trajectory peaks at 1,773 in 2021-22 but falls below the range of the potential future LHN in 2025-26. It is assumed that the current trajectory to 2024-25 will be maintained but that in years 2025-26 to 2037-38 the remainder of the requirement will be provided evenly at each year. The results are shown in Figure 4.1.

**Figure 4.1: LHN Trajectories 2018-19 to 2037-38**
Dwellings
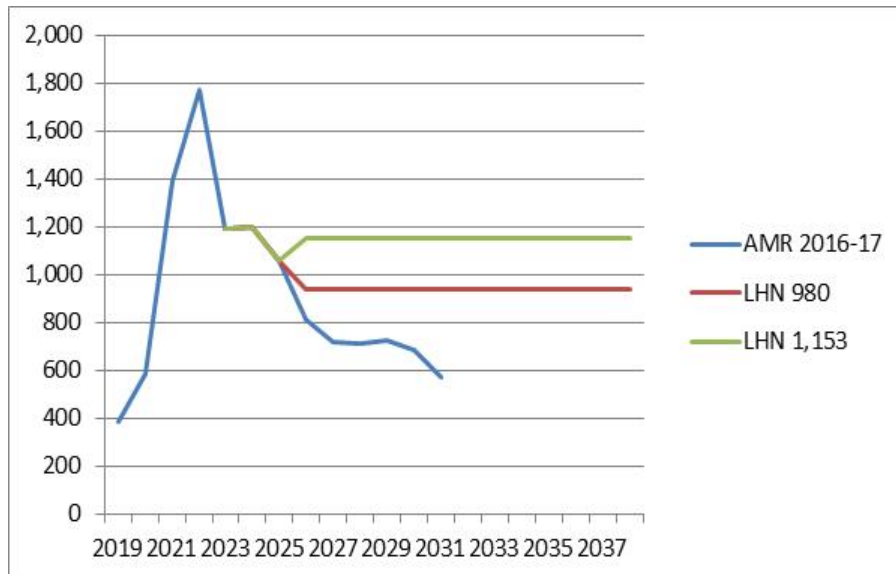
4.2   From 2025-26 the annual average completion rates are 940 and, remarkably, 1,153. Both figures imply significantly higher completion rates after 2025 than the present trajectory. Figure 4.2 shows the resulting population projections related to the LHN range.

**Figure 4.2: Population Estimates and Projections: 2001 to 2038**
Thousands of persons
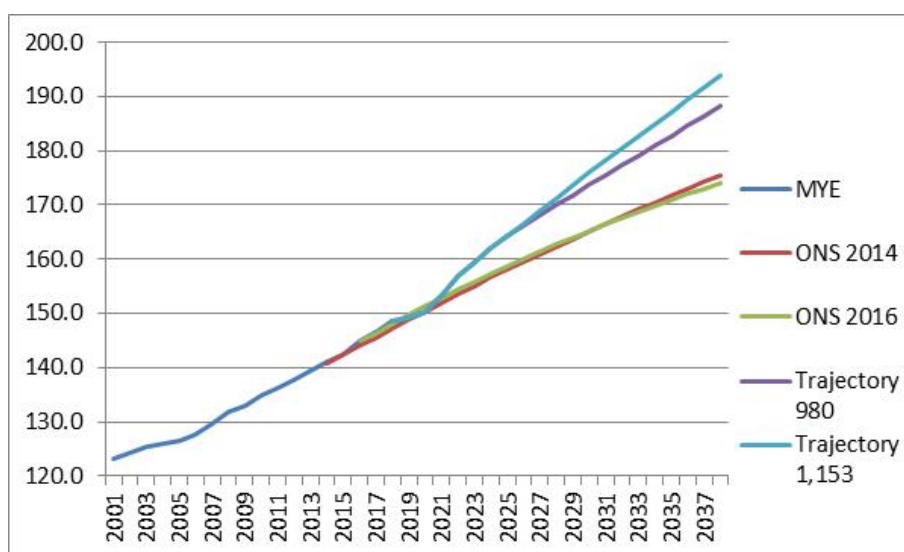
4.3 Both projections are significantly above both the ONS 2014 and 2016 SNPP, rising to 188.2 to 193.9 thousand persons in 2038. These are projected increases of 31.2 to 37.0 thousands over the proposed plan period.

4.4 Figure 4.3 shows the equivalent household projection. Growth in households is less than the LHN as the 2011 Census net vacancy rate of 4.25% is assumed to remain. With an LHN of 980 there is a projected growth of 15.0 thousand households, rising to 80.4 thousand in 2038. The higher LHN of 1,153 leads to a growth of 17.7 thousand to 83.1 thousand in 2038.

Figure 4.3: Household Estimates and Projections: 2001 to 2038
Thousands of households
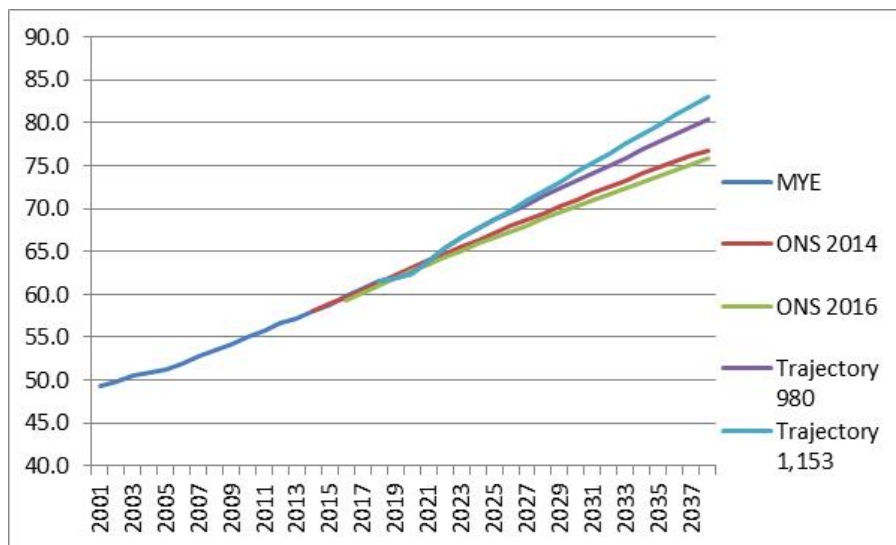
4.5 Over the plan period the population is expected to rise in almost all ages – the few exceptions are due to undulations in the age structure existing in the projections base – the 2018 MYE. Figure 4.4 shows the overall changes. The most significant increases are seen in the 40's and above age 65, particularly the very old. This is shown in Table 4.1 with numbers from the higher LHN.

Figure 4.4: Population Projections by Age: 2022 and 2038
Persons
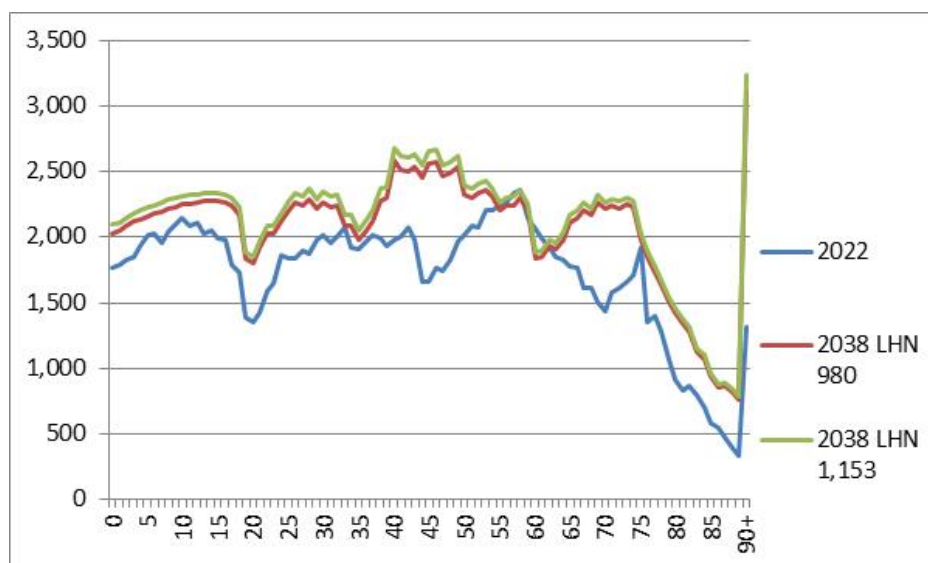
Table 4.1: Projected Population Change by Age Persons

|	2022	2022-38 Change	2022-38 %
0-3	7,229	1,321	18
4-10	14,216	1,627	11
11-15	10,277	1,375	13
16-19	6,902	1,828	26
20-29	17,281	4,488	26
30-39	19,791	2,711	14
40-49	18,657	7,496	40
50-59	21,959	1,520	7
60-69	17,942	2,986	17
70-79	15,004	5,332	36
80-89	6,417	4,352	68
90+	1,320	1,918	145
Total	156,996	36,954	24

4.6 In order to construct the two projections based on LHN a number of critical assumptions have been made:

- The affordability ratio was fixed at its 2018 value
- The household formation rates of the DLG 2014 projection held true
- The link between net migration and net completions after 2018 was maintained

While the projections rely on the link between population change and stock change there can be some debate about the affordability ration and the household formation rates.

4.7 Figure 4.5 shows the median affordability ratio from 2011 to2018 together with two trend-based forecasts.

Figure 4.5: Median Affordability Ratio 2011-18 plus Trends to 2021
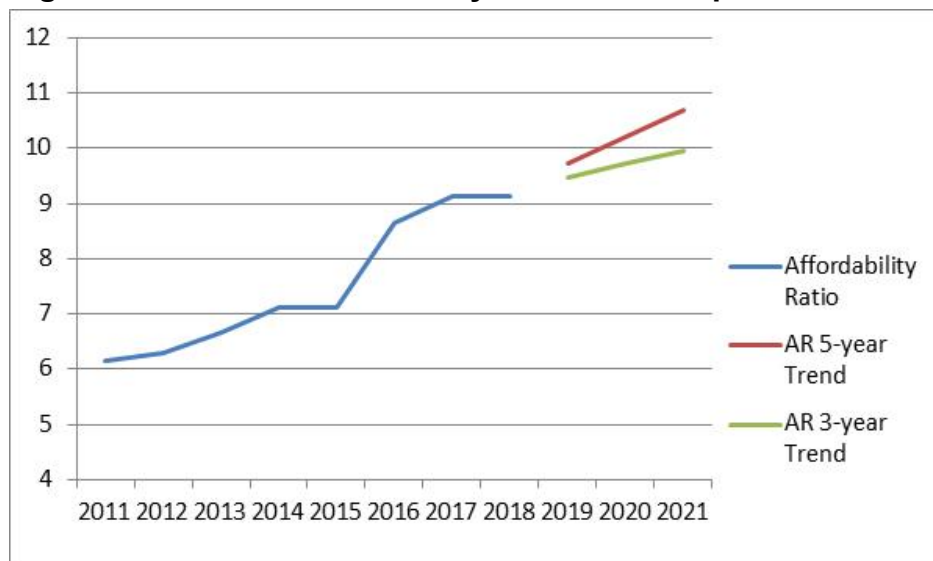
4.8   The affordability ratio has risen by about 50% between 2011 and 2018 but after an accelerated increase to 2017 has been more stable. The two projections to 2021 are straight line trends over the most recent 3 and 5 year periods. These show the ratio rising from 9.14 in 2018 to between 9.97 and 10.71 in 2021, the data that would be the most recent at the start of the plan period in 2022. Increases in the ratio would – under current MHCLG methodology – raise the affordability adjustment actor from 1.32125 for 2018 to between 1.37313 and 1.41914 in 2021; these are increases of between 3.9% and 7.4%.

4.9   How would these increases in the affordability adjustment factor impact the LHN values shown in Table 3.2? They would increase the requirement calculated at Step 2 of the MHCLG calculations. This is shown for a 2022 start year in Table 4.2. The LHN calculated using a 2018-based population projection would rise to 1,199 using the 3-year trend of affordability and to 1,239 using the 5-year trend. However the latter figure is higher than the cap hence the cap would be applied. The situation is similar for a 2020-based projection with the cap being applied to the 5-year trend affordability but not the increased LHN based on a 3-year trend. The possible revised range of the LHN would be as shown in the boxed figures in Table 4.2 – a range from 1,066 to 1,222.

Table 4.2: Sensitivity of LHN to Affordability Ratio Dwellings

	Population Projection:	
	2018-based	2020-based
Original LHN	1,153	980
Cap	1,222	1,086
3-year Trend LHN	1,199	1,066
5-year Trend LHN	1,239	1,101
LHN % Increase	5.98	8.78

4.10   The future projection of household formation rates is very hard to foresee   as the modelling is now done by ONS using simpler methodology than by DCLG. It is important to again note that the valuable intervening variable of relationship status is no longer a part of the ONS methodology owing to marital status no longer being projected by ONS. However as seen in Table 2.13 the changes in the aggregate household formation rates is extremely similar. More telling are the results of applying the DCLG 2014-based household formation methodology to the ONS 2016 SNPP. The result – referenced in paragraph 2.44 - was a trivial difference in the projected number of households compared to the ONS 2016 SNHP – 3 households out of 754 averaged over the projection period from 2016 to 2039. Therefore at this point it seems best not to speculate on future household formation.

5. . Conclusions

5.1 2018 and 2020-based population and household projections have been prepared based on the ONS 2018 MYE. These projections adopt the fertility and mortality assumptions of the ONS 2016 SNPP with migration after 2018 based upon (a) average 2013-18 trends or (b) the Swale housing trajectory for 2018-20 and the resulting migration trends for 2015-20. The conversion to households used the data, methods and assumptions of the DCLG 2014 SNHP.

5.2 Having established that there were no exceptional circumstances to question the base data for the population and household projections the two projections were used to calculate the LHN for 2020 and 2022 plan start dates using the current MHCLG guidance.

5.3 **For a 2022 start date the LHN was calculated to be 980 or 1,153 depending upon which of the two projections was used and how the LHN Cap was applied.**

5.4 Two further population and household projections were prepared that used the two LHN values in the period 2022-38. Housing completion trajectories were established by assuming that the current Swale trajectory would persist until 2024-25 after which a constant annual number of completions were assumed to match the LHN requirement.

5.5 These two projections showed population growth of between 31.2 and 37.0 thousand over the plan period. This is equivalent to 15.0 to 17.7 thousand additional households.

5.6 Over the plan period the population would increase particularly for persons in their 40s and those over 65, notably at the highest ages.

5.7 While it was concluded that future developments in the projection of household formation may have an impact on the above numbers the comparison between the use of the DCLG 2014 and the ONS 2016 SNHP household formation rates with the ONS 2016 SNPP was so small that no sensitivity tests were undertaken. However, as the median affordability ratio for Swale had steadily increased since 2011 it was decided to test the impact on the LHN of two variants of projecting the ratio to 2021. **This resulted in a new – higher - range of LHN of 1,066 to 1,222.** These new values are indicative only and were not the subjects of additional projections.