

An objective assessment of the latest ONS Household Projections for Wirral Metropolitan Borough

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Executive Summary

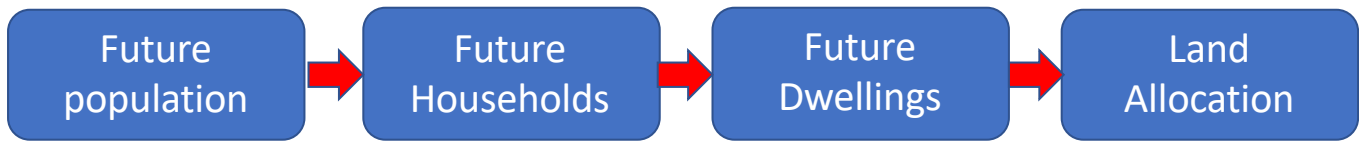
- This evaluation of existing population and household projections has been commissioned by Wirral Metropolitan Borough Council in the context of consultation on development options prior to creation of the Wirral Local Plan.
- The report summarises the methodology adopted by the Office for National Statistics (ONS) in evaluating population and household change as part of central government's official household projections. It highlights the strengths and weaknesses of the underlying population projection methodology, discusses the methods used to convert the resulting population projection into a household projection, and provides sensitivity tests and advice by which the ONS and alternative projections may be assessed.
- Projections using ONS data from 2012, 2014 and 2016 are undertaken which show that population change is the dominant variable affecting the projected growth in the number of households. Although there was variation between the population data for 2012, 2014 and 2016 the projections of population change all imply between 6,100 and 7,100 more households during the plan period 2020-2035.
- The methods employed in these scenarios are robust and internationally accepted. Projecting population change using a cohort component projection, projecting households by deducting the number not in households and applying headship rates, and projecting dwellings by taking into account unoccupied housing, are authoritative and not a matter of serious dispute. These methods results in the ONS projection of households, showing a growth of 430 dwellings per annum on average during the plan period 2020-2035, equivalent to a total growth of 4.2% over that period.
- Following a discussion on the reliability of population projections based on ONS data, the official projections and their alternatives are shown to have considerable uncertainty if taken as forecasts. Although the best estimate may be the official one showing 4.2% growth in housing need between 2015 and 2030 in Wirral, there is a 50% chance of the growth being anywhere between -1% and 9%, and a 50% chance of it being a greater decrease than 1% or a greater growth than 9%.
- ONS household projections do not reflect suppressed demand for housing – those who in current circumstances cannot afford the available housing.
- Previous projections of household formation might be taken as including an element for suppressed demand, and suggest an average growth 2020-3035 of 610 dwellings per annum.
- Recent evidence suggests an increase in suppressed demand, rather than an increase in ability to buy or occupy housing. In other words effective demand is lower than officially forecast. If this lower effective demand is to be used as a basis for release of land, the housing need is estimated at 250 dwellings per annum in 2020-2035.

1.0 Introduction

- 1.1 This report summarises the methodology adopted by the Office for National Statistics (ONS) in making the government's official household projections. It highlights the strengths and weaknesses of the underlying population projection methodology, discusses the methods used to convert the resulting population projection into a household projection, and provides sensitivity tests and advice by which the ONS and alternative projections may be assessed.
- 1.2 After this introduction and summary, section 2 describes the ONS methodology for population and household projections, and establishes the dwellings needed in Wirral according to the ONS and previous rounds of projections, focusing on the 2020-2035 plan period. The projection methods are long-standing in the UK and standard internationally. It is the assumptions about future values which bring uncertainty and debate. The latest ONS projections, 2016-based, indicate a projected growth in the need for housing during 2020-2035 of 430 dwellings per annum in Wirral. This is fewer by some 200 per annum than the previous two projections based on data to 2012 and to 2014 and published by the Department for Communities and Local Government (DCLG), forerunner of the current Ministry of Housing, Communities and Local Government (MHCLG).
- 1.3 Section 2 also shows that the major contribution to household growth in all the projections is the growing population of Wirral; however, it is the smaller contribution from an assumption of stable household formation that causes the differences between the ONS 2016-based projection and previous rounds.
- 1.4 Section 3 measures the considerable uncertainty in the projections if taken as forecasts of what will happen, based on past experience in Wirral and in England over the past four decades. The uncertainty of the latest 2016-based household projection for 2035 for Wirral is slightly greater than the 4% increase projected for 2010-2035. This means that the chance of there being an increase of up to 9% is at most equal to the chance of other more extreme changes: either a decrease, or an increase of more than 9%. However, awareness of this uncertainty does not help to distinguish the most likely scenario. Dealing with this level of uncertainty is not included in current planning guidance.
- 1.5 Section 4 and a table in the Appendix identify the variables used in the ONS methodology, and highlight three which are least certain: future migration, future household formation, and future rates of vacant housing. Variant forecasts of household projections are presented to show the sensitivity of housing need to plausible alternative assumptions about these three variables. The alternative assumptions make a considerable difference to the projection of future demand for housing, but should only be accepted as a forecast on which plans can be based if the evidence is persuasive that the assumptions are more likely than alternatives.
- 1.6 Section 4 also reviews the demographic evidence for 2016-17 which is more recent than could have been used in the latest population and household projections. The outturn in this first year of the projection confirms volatility in UK migration from year to year, but does not challenge the projected population of Wirral.
- 1.7 Section 5 discusses the relationship between demographic evidence and planning for housing need. The distinction is made between effective demand for housing, which up to now has been the basis for housing need measured in local plans, and the potential additional need for housing by those whose financial circumstances do not allow them to take up available housing. The projections are identified which meet these different perspectives.



2.0 Official population and household projections



2.1 Every two years ONS updates its population projections for the countries of the UK and for local authority districts of England. Since 2016 the ONS is also responsible for household projections for districts of England, previously undertaken by the (as was) Department for Communities and Local Government. This section specifies the methods used and recent results. The official projections provide the first two elements in the sequence of evidence below. This section also describes how a projection of needed dwellings is derived from a projection of households. The final land allocation in a Local Plan may incorporate further adjustments according to interpretation of the National Planning Policy Framework and Guidance as briefly discussed in the final section of this report.

Methods

2.2 The methods used for both population and household projections are the standard ones used in national statistical agencies and recommended by the United Nations.

Population

2.3 For population projections, the cohort component projection method establishes a future age-structure ('cohorts') by separately considering the components of population change: fertility, mortality and migration and is documented by ONS (2018a).

2.4 Projecting the future age structure is beneficial to household projections because for example, older people who are not in residential care tend to live in smaller households, while children do not form households independently of adults. It is for this reason that projection by average household size without consideration of age structure is not recommended for the UK.

Households

2.5 Households are projected by multiplying the future age structure of the population, after a deduction

for those not living in households, by the future headship rate (also known in England as the future household representative rate). Headship rates are the proportion of the household population who 'head up' or represent households, one 'head' per household. Headship rates vary in predictable ways between ages and between men and women. Children have rates of zero, young adults have lower rates than older adults, and the elderly have the highest rates. The main task in a household projection is the estimation of the headship rates of the future based on an analysis of their past values, and is reported by ONS (2018b).

Housing units

2.6 Finally, a conversion must be made between the projected number of households and the number of dwellings needed to house them. The two are not the same, partly because there is a small proportion of households that share a dwelling (0.2% in Wirral), but primarily because there are always some unoccupied dwellings. In Wirral the unoccupied dwellings (3.7% of the total according to the 2011 Census) are mainly vacant, while in other areas the proportion of second or holiday homes is also important (but only 0.2% in Wirral). This conversion from households to dwellings is not provided by ONS in the household projections and is the responsibility of the planning authority when developing their estimate of housing need. From the census, in Wirral the ratio of dwellings to households was 1.036 in 2011 (and only slightly higher at 1.042 in 2001).

Latest projections

2.7 The latest ONS projections are the baseline to consider, as their assumptions are published, subject to scrutiny by users in central and local government, academia, business and the public, and use standard methods that have been developed over several decades.

2.8 It has been practice in local planning to consider the latest projections as the most relevant for planning.

AN OBJECTIVE ASSESSMENT OF THE LATEST ONS HOUSEHOLD PROJECTIONS FOR WMB

They are presented here along with the previous two sets of projections for comparison. Figure 1 shows the projections of population, of households, and of average household size.

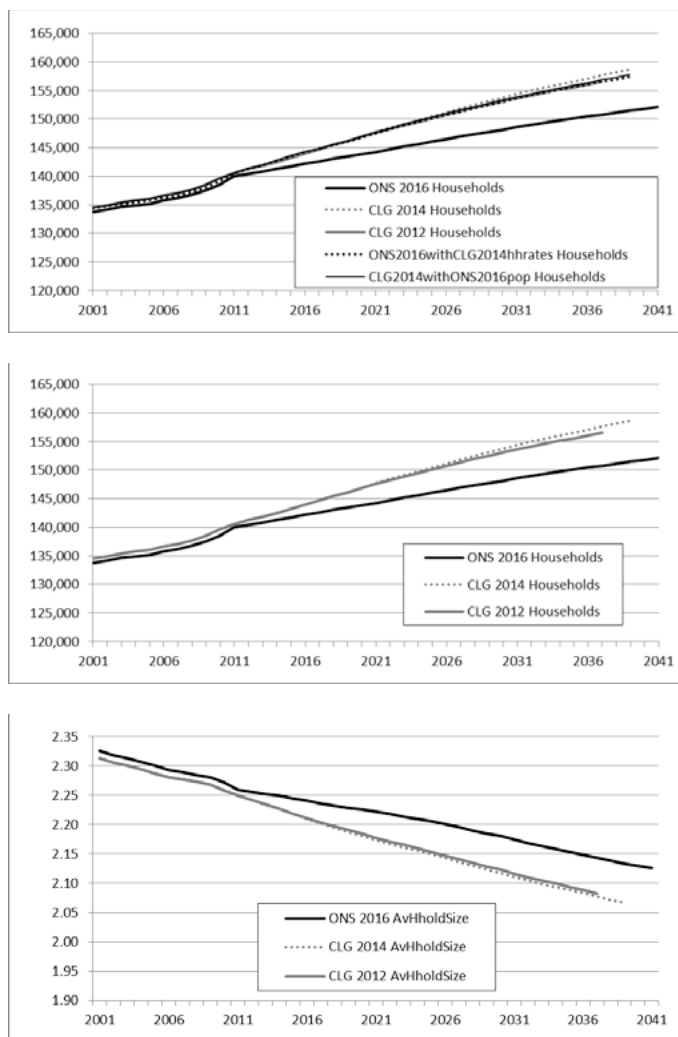


Figure 1: Population, households and average household size projected for Wirral by Government

2.9 These data result in the projected increase in households and dwellings during the period 2020-35 in Table 1. The projected number of dwellings is simply the households multiplied by the Dwellings/Household ratio of 1.036 from the 2011 Census. The 2016-based projection of household growth is considerably less than that of the 2012- and 2014-based projections.

	Projected increase in number of households 2020-2035	Households p.a. 2020-2035	Dwellings p.a. 2020-2035
ONS 2016-based	6,250	420	430
CLG 2014-based	9,640	640	670
CLG 2012-based	8,740	580	600

Table 1: Need for housing in Wirral according to official projections, annual average 2020-2035. Notes. Rounded to nearest 10.

Population growth and household formation

- 2.10 The projections of demand for housing represented in Table 1 are a product of two main factors: population change, and change in household formation. If neither changed, there would be an unchanging total housing stock needed.
- 2.11 It is useful to disaggregate the change in households in Table 1 into the part that is due to the population changing, and the remainder which is dependent on household formation changes that are projected to take place. The result is displayed in Table 2.
- 2.12 The change in number of households due to future population change is calculated by running the projection with constant headship rates, i.e. no change at all in the age- and sex-specific formation of households during the projection between 2020 and 2035. The 'Change due to population' includes the impact of a population projected to grow in total in Wirral and the additional impact of its ageing, because older people tend to live in smaller households.

	Projected increase in number of households 2020-2035	Change due to population	Change due to household representative rates
ONS 2016-based	6,250	6,530	-270
CLG 2014-based	9,640	7,040	2,600
CLG 2012-based	8,740	6,130	2,610

Table 2: Need for housing in Wirral according to official projections, annual average 2020-2035.

Notes. Figures independently rounded to 10. The total (left hand column) may therefore be different from the sum of the two components to its right.

2.13 In each of the three projections, it is population change that dominates the projected growth in number of households. Although the population projections changed in each round, they all imply between 6,100 and 7,100 more households during the plan period 2020-2035. However, although the impact of changes in household formation is smaller, it is the variable that is most different between the three projections. The 2016-based projections from ONS project no increase in households due to changes in household formation, in fact a small reduction in households. This is one of the factors in the current MHCLG consultation that prefers the 2014-based projections (MHCLG, 2018), which is discussed further in section 5.

3.0 The uncertainty of projections

- 3.1 How reliable are the household projections? Recent research looked at the accuracy of all population projections for local authority districts made between 1974 and 2014, measured against the latest population estimates after each census and up to 2017 (Simpson, Wilson and Shalley, 2018). As population is one of the main inputs to household projections - but importantly not the only one - these give a conservative estimate of the inaccuracy of household projections for local authority districts when they are taken as forecasts of the future. The results are summarised in Table 3. The results for the individual districts of Merseyside are based on 148 data points over the four decades, with those relating to forecasts 15 and 20 years ahead based on only 13 and 9 data point respectively (for example, one data point is the 20 year forecast from 1996 to 2016).
- 3.2 It is well-established that projections further into the future have less reliability. This is one reason why the most recent set of projections has superseded previous sets in planning policy. The results in Table 3 confirm greater inaccuracy for longer horizons for all the districts and types of area shown. It is also well-established that projections are not biased: one cannot know in advance whether a projection is an under- or an over-estimate of the future. For this reason the absolute percentage error is the preferred measure of inaccuracy.
- 3.3 The projections for London Boroughs are particularly unreliable when taken as forecasts, while those for Metropolitan Districts are among the most reliable.
- 3.4 From Table 3, the average inaccuracy for Wirral population projections 20 years ahead is about 5%, and is similar to the average inaccuracy for Merseyside districts as a whole, and indeed for Metropolitan districts more widely. Therefore, one can expect an even chance that the 2016-based official projections of the future population of Wirral in 2035 will be within 5% of the figure projected by ONS from 2016, and half the time it will be less accurate. The number of households projected will have additional uncertainty.
- 3.5 The official 2016-based projected change in number of households in Wirral between 2020 and 2035 is 6,200 out of 150,100, or 4.2%. The accuracy of this projection will only be knowable once we reach 2035. But based on the evidence in Table 3, it is fair

to say that there is the same chance of growth in the range of -1% to +9%, as there is chance of growth even higher or lower than that. In other words, there is an evens chance of the projected growth in households either not appearing at all, or being more than double that projected.

3.6 The further into the future a projection is taken, the more uncertain it becomes. As a result official projections for the period 2020-2035 made in earlier years carry even more uncertainty, because they project further into the future from their base year.

	Horizon of the projection: years after the base year				
	1	5	10	15	20
Knowsley	1.0%	1.7%	2.4%	4.3%	4.6%
Liverpool	2.2%	4.2%	6.4%	8.0%	8.6%
Sefton	0.6%	1.0%	1.4%	2.0%	3.2%
St Helens	0.9%	1.7%	3.4%	6.0%	6.4%
Wirral	1.4%	1.9%	2.1%	3.8%	5.2%
All districts of Merseyside	1.2%	2.1%	3.1%	4.8%	5.6%
All Metropolitan Districts	0.8%	1.6%	2.3%	3.6%	4.5%
London Boroughs	1.5%	3.7%	6.8%	9.2%	12.5%
Unitary Authorities	1.0%	2.1%	3.3%	4.2%	4.9%
Shire Districts	0.9%	1.9%	3.1%	4.1%	6.1%

Table 3: Average Absolute Percentage Error of ONS population projections, if taken as forecasts, for horizons of 1 year, 5 years, 10 years, 15 years and 20 years.

Notes. The horizon is the number of years after the base year. In the table the horizons have been grouped to show 1 year (0-2 years), 5 years (3-7 years), 10 years (8-12 years), 15 years (13-17 years) and 20 years (18-23 years). Derived from projections for years 1974 up to 2017 taken from the 19 published projections by OPCS from 1974-based to 2014-based, compared to the latest population estimates.

4.0 Which assumptions are most critical to assessment of housing need?

- 4.1 The methods described in section 2 of projecting population by a cohort component projection, of projecting households by deducting the number not in households and applying headship rates, and of projecting dwellings by taking into account unoccupied housing, are authoritative and not a matter of serious dispute. In this section validity and reliability of the assumptions for the variables involved in the projections are considered, rather than the methods themselves. The section considers alternative projections based on plausible alternatives to the least certain assumptions, as another means to consider the reliability of the projections if taken as forecasts.
- 4.2 The appendix provides a listing of the variables used in each of the three stages of projection (population, households, and dwellings), the nature of the data and assumptions used, and an assessment of the sensitivity of the results to those assumptions.
- 4.3 From the appendix, the three important uncertain variables that affect the assessment of total housing need are:
 - Migration within the UK and overseas.
 - The household headship rates (also called representative rates)
 - The proportion of housing that is vacant
- 4.4 The level of migration is monitored annually, is not very steady from one year to the next, and has indeed changed for Wirral in the past two decades from net out-migration to net in-migration. It directly increases or decreases the number of people and households in each area. ONS projections of migration are anchored in the experience of the most recent years, which is a sensible and accepted approach. However, it is usually impossible to predict accurately the level or direction of migration, especially when it has been changing in the past decade.
- 4.5 The headship rates and vacancy rates are important for a different reason. While relatively stable, they apply to the whole population. Small changes in their future trajectory affect the whole population and therefore have a significant impact on number of required dwellings predicted by demographic

change. The target in a plan for releasing housing land is based on the projected increase in households, which is usually quite small relative to the total housing need, most of which is provided for by the existing stock. Thus uncertainty in headship rates and vacancy rates may be small but can have a big impact.

Alternative assumptions - migration

4.6 Figure 2 shows the net impact of migration to Wirral from the rest of the UK and from overseas, for the period up to the latest 2016-based projections, and the projection assumption. International migration has contributed to Wirral's growth in the past decade, and perhaps longer as it is thought to have been underestimated in the early 2000s. ONS assumes that it will drop very close to zero in its projection. The projected impact of future migration is, therefore, entirely led by migration with the rest of the UK, which has been positive for most years since 2007.

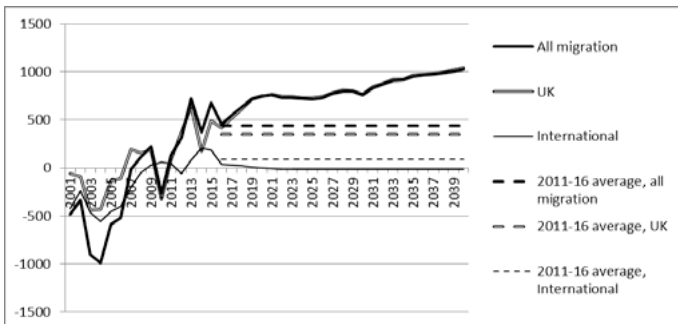


Figure 2: The net impact of migration 2001-2016, in the 2016-based ONS projection, and an alternative assumption.
 Notes. ONS estimated and projected migration for the mid-year period following June 30th in the year shown. The alternative assumption is shown with dashed lines.

4.7 The ONS projection properly takes into account the age structure of the local population, and the areas of the UK with which Wirral exchanges population through migration. This is a complex interaction which means that although the migration rates are constant, there is a projected upward trend in Wirral's gain through migration with the rest of the UK, from around 500 recently to around 1000 by the end of the ONS projection.

4.8 An alternative projection assumption would be to assume that future migration levels match the average of the five-years before the start of the projection period. This alternative 'steady state' migration assumption is also illustrated in Figure 2.

Alternative assumptions – headship rates

4.9 A trend towards smaller households was evident during most of the 20th century across the whole of Britain. Much of the trend was due to fewer children in each household, but between about 1920 and 1990 the number of adults per household also reduced, reflecting fewer extended households, more autonomy for younger and older adults, and increased divorce and separation rates. The lower number of adults in each household resulted in a steadily growing demand for housing over and above the extra demand from a growing population and the replacement of inadequate housing (Berrington and Simpson, 2016, review these changes).

4.10 Since 1990, this tendency of adults spreading out into more housing has slowed and has now perhaps stopped. The reasons are multiple, and include a tendency for more young adults to remain with or to return to their parental home for more years than in the past, as well as an improvement in older men's mortality relative to women which reduces the proportion of older women living alone. The financial crash of 2008 and government financial and social policies since then have also contributed to the deceleration of effective demand for housing.

4.11 There has been debate about the extent to which projections to the future should rely on continuing recent experience of household formation, or take into account what may be considered as 'suppressed demand', particularly from younger people and families unable to access affordable housing at present.

4.12 Two alternative assumptions are tested here. The Ministry for Housing Communities and Local Government argues in a current consultation (MHCLG, 2018) that "If more homes are planned for and delivered, more people will be able to own or rent their own home", and that since the ONS assumptions for future household formation are based only on evidence from the 2001 and 2011 censuses, it ignores the previous trend towards smaller households. They prefer the 2014-based projections made by their predecessor department, DCLG, which were based on trends from 1971 and projected rates of higher household formation. These are our first alternative. This scenario was one of the sensitivity tests published by ONS with its 2016-based projections (ONS 2018b, section 8).

4.13 At the time of publication of its household projections (ONS 2018c), ONS also published a comparison of its own and previous household projections with the number of households estimated each year up to 2017 (ONS 2018d). This is a helpful validation because the household projections did not include evidence of household headship rates since 2011, but were based on that and previous censuses. The independent series of household estimates up to 2017 are based on the Labour Force Survey.

4.14 The number of households since 2011 has grown by an average of 0.47% per annum up to the latest figure for 2017. This growth is lower than the household projections based on trends from past censuses. The 2016-based projections show a growth over the period 2001-2017 of 0.80% per annum, while the 2014-based projections show a growth of 1.00% per annum for the same period. The second alternative we have investigated is, therefore, to reduce the growth expected between 2020-2035 in the 2016-based projection by the factor 0.47/0.80. This would give credence to the evidence of lower demand for housing since 2011.

Alternative assumptions – vacancy rates

4.15 Finally, the proportion of unoccupied dwellings is a critical assumption that is not part of the

ONS household projections, but is included in the calculation to estimate housing need used in local plans. The ratio of dwellings to households reduced from 1.042 in 2001 to 1.036 in 2011. The number of unoccupied houses will respond to the economic environment as well as to taxation and other policies. For the purpose of this sensitivity analysis, two alternatives to the assumption of continuing into the future the 2011 ratio have been investigated. The first is to return to the higher level of unoccupied housing of 2001 (1.042) by 2021 and then remain constant. This makes little difference to the change between 2020 and 2035. The second alternative is to continue the decrease of the 2000s into the future (1.030 by 2021, 1.024 by 2031, but no further decrease beyond that, which would be implausibly lower than almost all English authorities). This makes more of a difference as the assumed decrease in unoccupied housing during 2020-2031 applies to all the housing stock, freeing up housing to accommodate the expected growth in demand. These two alternatives show the implications of different but plausible vacancy rates in the future.

Alternative assumptions – results for projection of housing need

4.16 Table 4 applies the alternative assumptions suggested above, supplementing the official projections already given in Table 1 and repeated

	Projected increase in number of households 2020-2035	Households p.a. 2020-2035	Dwellings p.a. 2020-2035
ONS 2016-based	6,250	420	430
CLG 2014-based	9,640	640	670
CLG 2012-based	8,740	580	600
Alternative scenarios based on ONS 2016-based			
1. Migration, 2011-16 average held constant in the future	3,380	220	230
2. Higher headship rates of CLG 2014-based	8,820	590	610
3. Lower headship rates indicated by household estimates	3,670	240	250
4. Unoccupied dwellings increase	6,250	420	440
5. Unoccupied dwellings decrease	6,250	420	360

Table 4: Need for housing in Wirral according to official projections and alternatives, annual average 2020-2035.

Notes. Each alternative is an adjustment to the 2016-based ONS household projections. Each alternative is independently calculated, not including the other alternatives. The calculations are described in the text. Each figure has been rounded to the nearest 10 after calculation. Scenarios 4 and 5 are the same household projection but with alternative levels of unoccupied dwellings.

in Table 4.

- 4.17 The resulting estimate of housing need between 2020 and 2035 varies between the scenarios and in some cases indicates quite serious deviations from the latest projections, reinforcing the message of section 3 that the projections carry considerable uncertainty, even if they represent an accepted official projection of the most likely outcome given recent experience.
- 4.18 A different interpretation of ‘continuing recent migration’, holding steady Wirral’s past experience of migration without interaction with what may happen in other districts, reduces the estimate of future net in-migration, and nearly halves the extra demand for dwellings, from the ONS projection of 430 per annum to 230 per annum.
- 4.19 The higher headship rates that the MHCLG prefers in order to include the higher household formation rates that have not been experienced recently, suggests an increase in the demand for dwellings from the ONS 2016-based projection, up to 610 dwellings per annum. However, the recent evidence suggests not a higher but a lower household formation, reducing the demand to 250 per annum.
- 4.20 The two alternative assumptions for unoccupied housing make less difference in this case than the other scenarios, with a range of 360 to 440 extra dwellings per annum during the period 2020-2035.
- 4.21 The validity of these variant projections as an alternative forecast to one based on ONS projections, and therefore as an input to local planning, will depend on locally available evidence supporting one variant over another .

Evidence from 2016-17 for Wirral

- 4.22 The 2017 population estimates for Wirral, published by ONS shortly after the 2016-based population projections, contain evidence that can be used to assess at least the first year of the projections. Table 5 presents the projection of that first year 2016-17 and the subsequent evidence what happened for births, deaths and migration in that year.
- 4.23 The 2016 population is the starting point for both the projection and the estimate. While the number of births and deaths in the following year

was very similar to those projected, the migration flows were not. This is not surprising, as annual flows do vary from year to year, as illustrated above in Figure 2. Both inward and outward migration between the Wirral and the rest of the UK was higher than expected by about 10%. However, in net terms the overall impact on the size of Wirral’s population was small, and the projected population increase for Wirral is only 400 (0.1%) from the outturn, giving rise to a total population of 322,800 rather than 322,400.

- 4.24 There is no deviation here that could lead to questioning the ONS population projection and therefore its household projection. The outturn of the first year was closer to the ONS projection than to our alternative scenario of lower migration. However, the small difference emphasises that any projection is not a precise forecast. The uncertainty is greater as the horizon of the projection increases.

	2016-based projection	2017 Mid- Year Estimate
Population mid-2016	322,200	322,200
Births	+3,400	+3,400
Deaths	-3,700	-3,700
Net natural change	-300	-200
In-migration from rest of UK	+7,900	+8,800
Out-migration to rest of UK	-7,500	-8,100
Net migration with rest of UK	+400	+700
Immigration	+700	+800
Emigration	-600	-600
Net migration with overseas	0	+100
Net migration, total impact	+500	+800
All changes 2016-2017	+200	+600
Population mid-2017	322,400	322,800

Table 5: Wirral population accounts 2016-17 according to ONS 2016-based projection and its later estimates for births, deaths and migration 2016-17.

Notes. Each figure is independently rounded to the nearest 100; thus totals may not be exactly the sum of their constituent parts.

5.0 Demographic evidence and planning for housing need

- 5.1 Having reviewed the household projections and alternative scenarios, which figures should be used for planning land release?
- 5.2 Since the introduction of the National Policy and Planning Framework (NPPF) in 2012, government has given little leeway for Local Plans to deviate from the government's household projections when planning release of housing land. This has been reinforced with revised guidance in 2017.
- 5.3 There is an ambiguity in planning over the concept of housing need, which is not defined in the NPPF. In practice it has been interpreted by Planning Inspectors as effective demand: the housing that households are willing and able to buy or rent, either from their own resources or with assistance from the state. This concept of 'effective demand' ignores potential householders unable to afford housing in current circumstances. Historic patterns of effective demand (household formation) provide the basis for the official household projections. Hence official household projections reflect past levels of effective demand, but omit consideration of past unmet housing need.
- 5.4 The latest household projections indicate an effective demand of 430 dwellings per annum in Wirral during the period 2020-2035. 5.5 However, the evidence of household estimates since 2011 presented in section 4 above suggests that the 2016-based projections over-estimate effective demand and point to housing need of 250 dwellings per annum (Alternative Scenario 3), reflecting the recent slow down in household formation rates.
- 5.6 Having passed responsibility to the ONS for household projections, MHCLG is currently suggesting (MHCLG 2018) that the ONS household projections are not in fact suitable for use in planning because they do not reflect 'suppressed' demand for housing – the housing that is currently unavailable or unaffordable to those who need it. This offers a different perspective of housing need. The ONS projections continue the practice of giving weight to more recent evidence and project a lower rate of household formation than previous projections. The MHCLG wish to use their own previous projections, 2014-based, which indicate a higher need in Wirral for 670 housing units per annum.
- 5.7 The issue of suppressed demand is not a new one, and has been at the centre of debate over the impact of the financial crash of 2008 on the housing market and planning in the UK. There is evidence that some of the reduced household demand is structural and predates 2008, and some is a result of reduced family resources which continues a decade after the financial crash. The MHCLG argues that the release of more housing land will itself bring prices down to an affordable level, satisfying some of the need for housing that is currently suppressed in the projections. Evidence that house prices significantly reduce in response to increased supply is meagre at best. On the other hand, the lobby for increasing the land supply for housing is considerable.
- 5.8 If suppressed demand is to be catered for within the measurement of housing need, then some principles can be suggested. First, the latest population projections should be accepted as the basis of calculations for housing need; they are available, accepted and use the most recent evidence of population change; there is little to favour relying on out of date population statistics. Second, a more direct approach to measuring suppressed or unmet demand should be used, as was common practice within household projections up to 2006 when 'concealed families' were identified (single parents



or couples within other households). This may be difficult to implement by local analysts, but is an argument to make to official statisticians and MHCLG. Third, the unaffordable nature of current housing for those unable to enter the housing market would need to be recognised through policy that ensures the construction of new housing at appropriate rent or purchase price.

- 5.9 For future consideration, the modelling of alternative household projections is common practice within local authorities, using the standard methods described in this report. Such modelling is supported by software owned by the Local Government Association which Wirral Council or Liverpool City Region Combined Authority are able to obtain.

References

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Appendix. Variables used in demographic projection

This table lists and comments on each of the variables that must be measured from the past and projected to the future when projecting the size of the population, the number of households, and the number of dwellings.

POPULATION PROJECTION	Government methods of extrapolation to the future	Evidence of uncertainty	Comment on the planning context
Population in the most recent year	The base population: census and updated Mid-Year Estimate.	Sometimes doubted, but the 2011 Census is generally considered the best since at least 1981, and therefore an unquestioned anchor for the population estimate of recent years.	Not a subject of dispute, but official projections can be updated for the most recent years' population since they were published, currently mid-2017.
Births, represented in the future by age-specific fertility rates	The same national trend is used for every area, starting at the recent estimate of local fertility. Long-term convergence is assumed to about two children.	The most uncertain component of population projections nationally, affecting future children.	Has no impact on housing requirement for 15 years from the base year. Not a subject of debate in planning.
Deaths, represented in the future by age-sex-specific mortality rates	The same national trend is used for every area, starting at local recent estimate. Mortality is expected to continue to decrease at older ages.	Uncertain component, only significantly affecting the elderly. Inaccuracy in projected deaths is about one third that affecting births; mortality rates have been over-projected until the past decade.	Has impact through number of elderly requiring housing. Planners have relatively little measurable impact on mortality. Not a subject of debate.
Migration (1) Migration within England, represented by out-migration rates and in-migration shares. (2) Migration with Wales, Scotland, Northern Ireland, represented by out-migration and in-migration rates. (3) Migration with overseas, represented by out-migrant and in-migrant counts.	ONS maintains the experience of the five years before the projection, except in rare cases where evidence shows that is unsustainable.	Thought to be the most unpredictable component of sub-national population projections, though there are no empirical studies of accuracy.	Strongly debated, based on (a) the relevance of the past five years to represent the future; (b) the sustainability of alternative levels of migration implied by jobs or housing investment.
Armed forces, treated separately within the ONS projection model.	Assumed a constant population with a constant age structure.	Unpredictable.	Not subject to planning debate.

HOUSEHOLD PROJECTION	Government methods of extrapolation to the future	Evidence of uncertainty	Comment on the planning context
People not in households, at each age and sex. This is deducted from the projected population to derive the household population, residents living in households.	Taken from the last Census (and from the 2016-based round, with adjustment for changes to the prison population up to mid-2016). Then assumed to be a constant number at each age below 75 and a constant percentage of the population at each age 75 and above.	No studies of accuracy. Has significant impact only on the number of elderly in households.	Not a subject of dispute. Would be relevant when social care policy and insurance systems change.
Future Household headship or representative (HHR) rates, age-sex-specific: number of household representatives as a proportion of the household population.	Taken from past Censuses for each area, extrapolated with logistic models with standard methods. From the 2016-based round, the last two censuses rather than the last five censuses were used. Also from 2016, no updating of national trends was attempted from Labour Force Survey results since the previous census.	No studies of accuracy; the impact of plausible alternative futures has been calculated and is significant. Long term steady trends to smaller households since the 1920s have clearly changed since about 2000. For this reason the accuracy of past projections would be a poor guide to the accuracy of current projections.	For most areas, changing HHR rates have less impact on household projections than does population change. However, it is still significant marginal change that affects estimated housing need, and is subject of fierce debate currently, centred on a disputed relationship to the economic recession and a disputed impact on them of a disputed future economic recovery.
LINKS BETWEEN HOUSEHOLDS AND HOUSING	Not undertaken by government.	Evidence of uncertainty	Comment on the planning context
Vacant housing, as a proportion of all housing	Usually based on past census, or Council Tax or similar records	No research results.	Claims of future reduction in the vacancy rate are sometimes made, and reduce the housing need, but are difficult to justify.
Second or holiday homes, as a proportion of all housing	Usually based on past census, or Council Tax or similar records	No research results.	Usually assumed not to change in the future.
Households sharing a housing space, as a proportion of all households.	Usually based on past census	No research results.	Low and usually assumed not to change in the future.
Dwellings/ Households ratio	Used to summarise the three elements above, as they are sometimes not available separately, whereas this ratio is available from each census.	No research results.	Usually assumed not to change in the future, but can be adjusted to reflect assumptions about a changing vacancy rate.

