

Estimates of Housing Need in Wales by Tenure (2018-based)¹

Background

In January 2019, Welsh Government published a statistical article on [Estimates of Housing Need in Wales at a national and regional level \(2018 based\)](#). The article presented estimates of additional housing need over twenty years at a national level as well as for the three economic regions (North Wales, Mid and South West Wales, South East Wales). This work was required to inform the [National Development Framework](#) (NDF) and housing policy development.

This second publication splits the estimates of housing need into two housing tenures:

- Market housing (owner occupier and private rented sector)
- Affordable housing (intermediate and social rents)²

Full definitions of these terms can be found in Box 2.

These estimates are not official statistics. Producing estimates split by housing tenure is a complex exercise as a combination of different factors (including income and rents) impact on tenure suitability. The figures presented in this article are an estimate of the need for additional housing units by tenure given a set of assumptions. The tenure split has only been produced for the first 5 years of estimates (2018/19 to 2022/23). Forecasts such as future household income growth and future change to private rent prices are required to produce the split of estimates by tenure. To forecast beyond a 5 year period for the purpose of this work was considered to be unreasonable.

Do's

These estimates:

- estimate what the tenure split of housing need *could* be given a set of assumptions
- use the best available data sources in the underlying assumptions as agreed by an expert group
- form a basis of discussion for policy decisions.

Don'ts

These estimates:

- are not official statistics
- cannot forecast exactly what is going to happen in the future
- should not be used as housing targets
- do not attempt to estimate the number of households in unsuitable accommodation

Date of Publication: 5th June 2019

Author: Melanie Brown, Housing Statistics, Knowledge and Analytical Services

E-mail: stats.housing@gov.wales Telephone: 0300 061 6029

Twitter: www.twitter.com/statisticswales | www.twitter.com/ystadegaucymru

¹Notes on the use of statistical articles can be found at the end of this document.

²This definition differs to the TAN 2 definition of affordable housing – see [box 2](#).

Summary: overall estimates of housing need

The overall estimates of housing need used in this article are from the publication [Estimates of Housing Need in Wales at a national and regional level](#) (2018-based) which was published in late January 2019. A brief summary is given below with full details of the methodology, limitations and results available in the article.

The estimates relate to the need for **additional** housing units and are based on:

- estimates of existing unmet need
- newly arising need (2014-based household projections)

Household projections are not forecasts; they are based purely on past trends and assume these trends continue into the future. In particular, such projections do not attempt to account for the effect of future policies (for example, policies which might seek to influence population movements) and events. To illustrate the uncertainty associated with the projections, all variants³ of household projections are included.

Box 1: Definition of terms

Overall Housing Need: The existing unmet need for additional housing units and newly arising need for additional housing units

Existing Unmet Need: The number of households that do not have access to adequate housing **and** would require an **additional** housing unit. Those who may be in need of a more appropriate housing that would not require an additional unit are excluded from this analysis

Newly Arising Need: The projected number of newly forming households that will require additional housing units for a period in the future

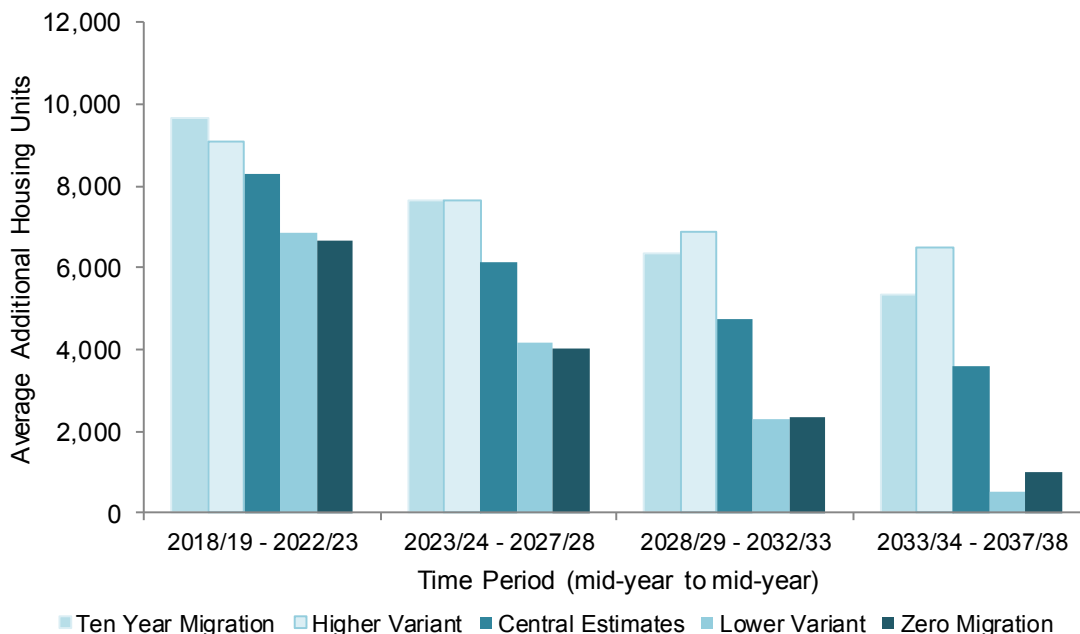
Housing Demand: A market driven concept that relates to the type of house that a household will choose to occupy based on preference and ability to pay.

Overall estimates: Key results

- These key results cover a twenty year period (2018/19 to 2037/38). Only the first five years of these estimates will be split by tenure (2018/19 to 2022/23).
- The range of estimates become wider the further into the future they go, reflecting the uncertainty of these estimates.
- It is estimated that on average, between 6,700 and 9,700 additional housing units will be required annually during the first 5 years, with a central estimate of 8,300 (central estimates of housing need are calculated from 2014-based principal household projections). These figures include an annual average of 1,100 additional housing units to clear those in existing unmet need.

³ Full definitions of the variants of household projections can be found in [Annex 1](#)

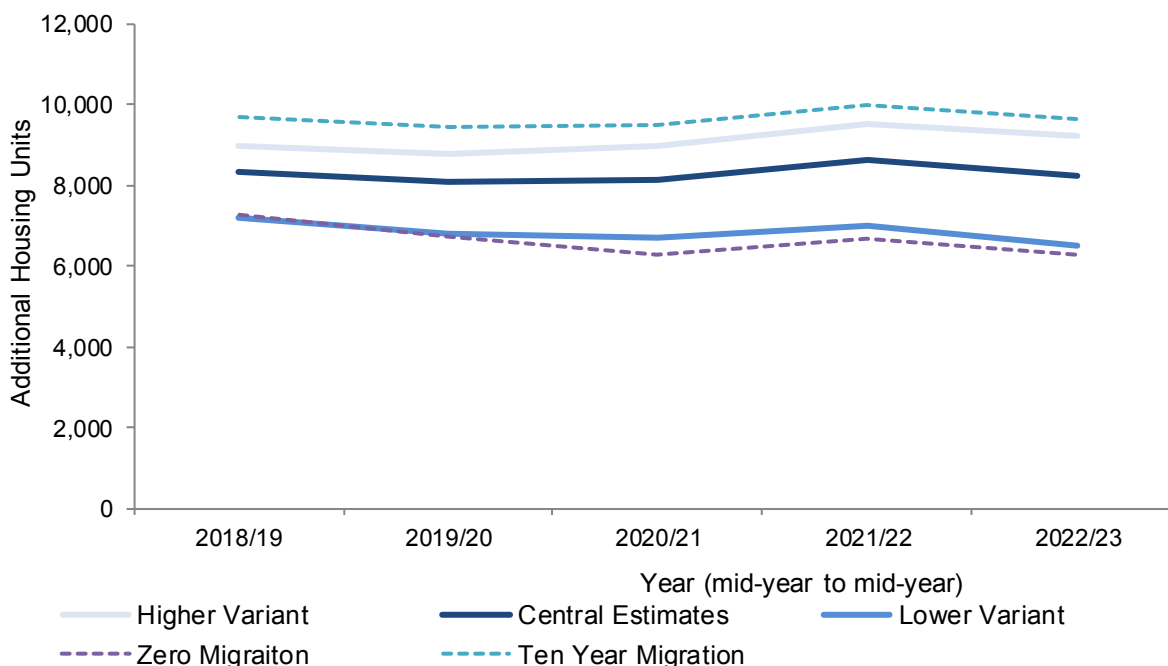
Chart 1: Average annual estimates of additional housing need (Wales)



Sources: WG 2014-based household projections , Homeless Households in Temporary accommodation, 2011 census

- The estimates of additional housing need gradually decrease over the following 15 years, reflecting a slow down in the projected household growth from the 2014-based household projections. Household projections are largely driven by population projections. This is based on newly arising need only. For the purpose of this work, it is assumed that the backlog of existing unmet need will be cleared by 2023/24.
- By the mid 2030s, it is estimated that up to 6,500 additional housing units will be required annually (with a central estimate of below 4,000).

Chart 2: Estimates of additional housing units first 5 years (Wales)



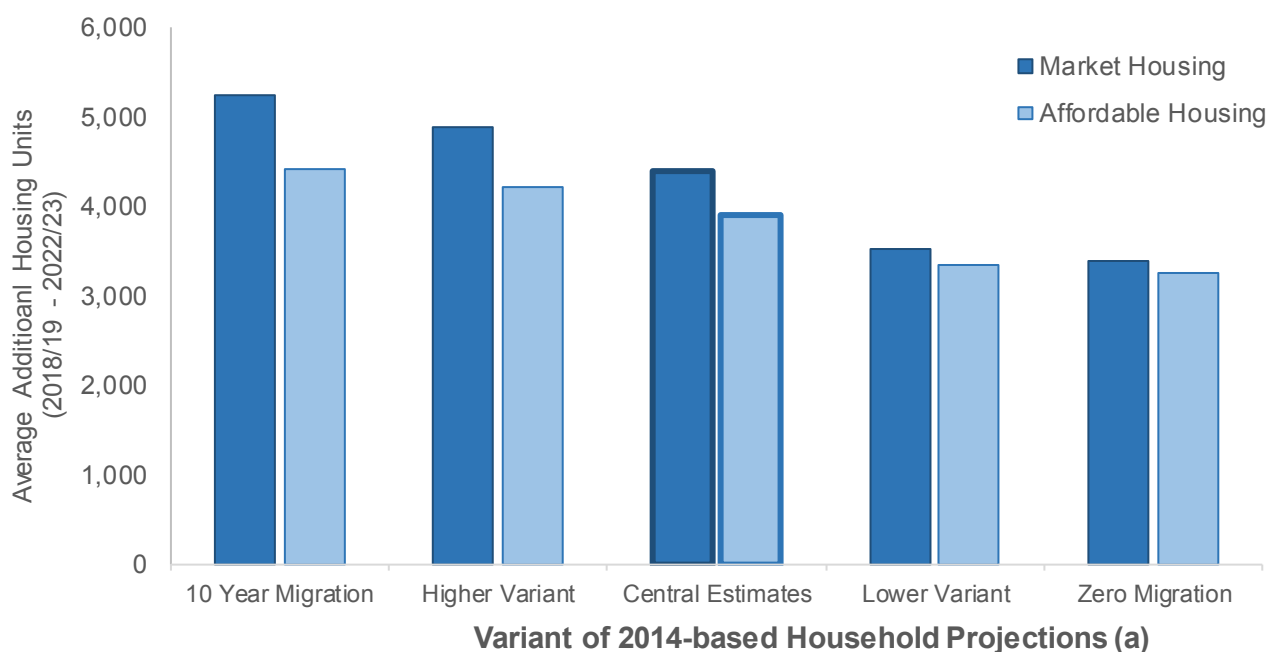
Sources: WG 2014-based household projections , Homeless Households in Temporary accommodation, 2011 census

This stage of the work only splits the estimates for the first 5 years by tenure. Annual estimates for the first five years are shown in chart 2. Estimates are presented at both a national and regional level (North Wales, Mid and South West Wales and South East Wales. The regional boundaries can be seen in Map 2).

Tenure split: key results

The estimates presented in this section are based on a number of default assumptions, which are discussed in detail in section 4. Changing these assumptions would change the estimates. The sensitivities of the assumptions are discussed in section 6.

Chart 3: Estimates of additional housing units split by tenure (Wales)



Source: 2018-based estimates of Housing Need

(a)

10 year migration bases the average migration over a longer period

Higher variant is based on higher fertility and lower mortality rates

Central estimates are based on principal household projections (based on recent trends)

Lower variant is based on lower fertility rates and higher mortality rates

Zero migration is based on natural change only (births and deaths)

- Under the different variants of household projections, the annual estimated requirement of market housing units ranges from 3,400 (zero migration) and 5,200 (10 year migration) each year. Affordable housing units range from 3,300 (zero migration and lower variant) to 4,400 (10 year migration).
- Under the central estimates, an average of approximately 4,400 market housing units and 3,900 affordable housing units would be required each year from 2018/19 to 2022/23.

- Based on the data sources and assumptions discussed throughout this paper, these estimates suggest that on average, under the central estimates, 53 per cent of additional housing units should be market housing with the remaining 47 per cent affordable housing (intermediate rent or social) throughout 2018/19 to 2022/23.
- Under both 10 year migration and the higher variant the proportional split of additional housing units is 54(r⁴) per cent market and 46(r) per cent affordable. Under zero migration and the lower variant, the proportional split of additional housing units is 51 per cent market housing and 49 per cent affordable housing.

This statistical article is supported by data published on [StatsWales](#) as well as an [excel tool](#) where all data sources and underlying assumptions can be altered to observe the impact on the estimates of additional housing units split by tenure.

⁴ (r): Figure revised 06 June 2019

Tenure split of overall estimates of housing need

1. Definitions

This report uses a number of terms that could be interpreted in various ways. Box 2 defines these terms for the purpose of this work.

Box 2: Definition of terms

For the purpose of this report, terms are defined as follows:

Market housing: Housing units that are either owner-occupier or rented privately. It includes Help to Buy and Intermediate Low Cost Home Ownership units (eg Homebuy and Shared Ownership).

Affordable housing⁵: Social housing and intermediate rented housing. It excludes intermediate Low Cost Home Ownership units. This differs slightly from the Technical Advice Note (TAN) 2 Planning and Affordable Housing (2006) definition of affordable housing.

Social housing: Social housing refers to units owned by local authorities and registered social landlords. The majority of social housing units are let at social rents under the [Welsh Government social rents policy](#), but also include other supported units such as extra care units.

Intermediate rent: Where rent is above those of social rent but below market rent

Suitable for: The methodology deems households suitable for a specific tenure if their household income satisfies the affordability criteria of the tenure. The affordability criteria are based on the assumptions outlined below.

Household income: Gross un-equivalised⁶ household income for all adults living within the household, derived from detailed income questions on the National Survey for Wales 2017/18. This includes housing related benefit and allowances.

2. Methodology

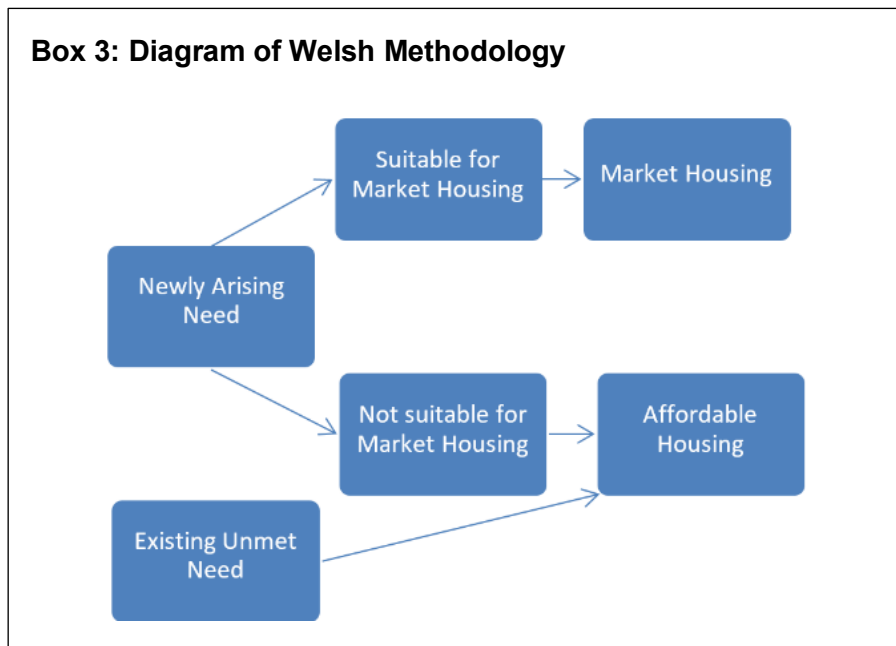
After exploring methods used elsewhere in the UK, Welsh Government has been working closely with officials in the Scottish Government to adopt and adapt their methodology. Scotland's methodology aims to reduce the cost and complexity of the process and to bring together sources of national data together in a way which supports consistency in approach to estimating housing need and demand. Details of their methodology and links to relevant documents can be found in Annex 2.

While the Scottish Government's methodology splits estimates into four tenures, this report splits the estimates into **two tenures** only – market housing and affordable housing as defined above.

⁵ The [Technical Advice Note](#) (TAN) 2 Planning and Affordable Housing (2006) definition of affordable housing includes schemes which may provide for stair-casing to full ownership as long as there are secure arrangements in place to ensure the recycling of capital receipts to provide replacement affordable housing.

⁶ [Eurostat's full definition of equivalised income](#)

Box 3: Diagram of Welsh Methodology



To split the estimates into the full four tenures requires variables that lack robust evidence in order to make a confident assumption for Wales (see annex 3). While this report only splits the estimates into two tenures, an [excel tool](#) has also been published alongside this report. The excel tool allows users to enter their own assumptions and data sources to observe the impact the changes have on both the two tenure and the four tenure split.

The following sections discuss the data sources used to produce the estimates and the assumptions made for each of the variables. A detailed explanation of the methodology with a worked example can be found in annex 4.

3. Data sources

3.1 Household income distribution

The distribution of household income is required at both a national and regional level to calculate what proportion of newly arising need would be suitable for each housing tenure. Household income data has been derived from the National Survey for Wales 2017/18 (June 2017 to March 2018) and for the purpose of this work is defined in box 2. Table 1 shows the median gross household income by region.

Table 1: Median gross household income

Area	Median Gross Household Income
North Wales	£25,500
Mid and South West Wales	£25,200
South East Wales	£26,300
Wales	£25,800

3. 2 Private rent prices

Data on [private sector rents across Wales](#) is collected by Welsh Government rent officers⁷. The median and 30th percentile⁸ private rent data has been calculated from private rentals with 2 or 3 bedrooms. While data is available for different sizes of property (by number of bedrooms) those with 2 or 3 bedrooms were chosen as these are the two most common sizes for private rented properties and account for over 75 per cent of all records in the data set.

Private rent data has been used at a national and regional level together with household income distribution to estimate how many households are suitable for market housing (see worked example in annex 4)

Table 2: Regional monthly rent

Area	30 th Percentile Monthly Private Rent (2 and 3 bed)	Median Monthly Private Rent (2 and 3 bed)
North Wales	£495	£550
Mid and South West Wales	£450	£495
South East Wales	£475	£550
Wales	£475	£525

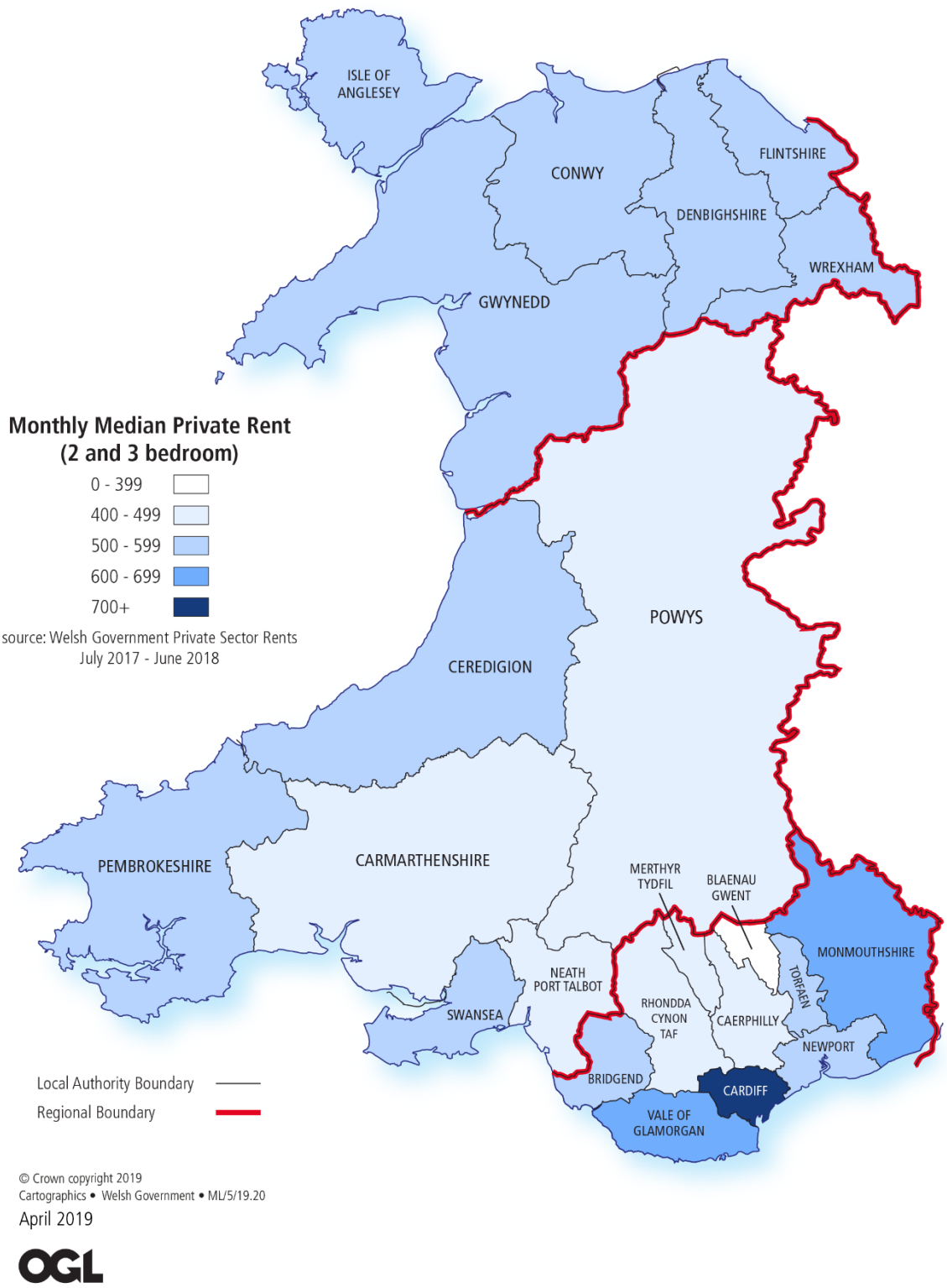
As with the first publication, while overall estimates of housing need are presented at a national and regional level, there are variations within the three regions (as well as variation within Local Authorities).

For context, map 1 shows median rents for private rentals with 2 or 3 bedroom rentals at a local authority level. Though the median rent in North Wales and South East Wales is the same, as the map shows, the median rent in local authorities within South East Wales are much more varied than for local authorities in North Wales. They are also more varied than local authorities within Mid and South west Wales. South East Wales contains both the local authority with the lowest median (Blaenau Gwent) and the highest median (Cardiff).

⁷The data that has been used for this work additionally includes households that are in receipt of housing benefit as well as student households. These are excluded from the data that is published on [StatsWales](#) so the data is not comparable. The data covers the period July 2017 to June 2018.

⁸ The median refers to the midpoint of the frequency distribution. 50 per cent of all private sector rents will be above this value, and 50 per cent below. The 30th percentile refers to a value in the distribution where 30 per cent of all private sector rents are below.

Map 1: Median private rents by local authority



The regional boundaries are shown in map 2.

3.3 House prices

House price data is not required to split estimates of housing need into the two tenures as households that are suitable to purchase a home are a subset of those that are suitable for market housing.

House price data is, however, required to split the estimates into the four tenures. This is further explained in annex 3.

4. Assumptions

A number of variables are used to calculate the tenure split, and an underlying assumption is required for each of these.

A technical subgroup was established with membership including Welsh Government analysts (economic and statistical) and a representative from local authorities. The role of this subgroup was to review what assumptions were needed, assess available sources of information and provide recommendations to the Chief Statistician.

Four variables are required to split the estimates of additional housing units into two tenures. The underlying assumptions are stated in the table below, annex 5 has full descriptions and rationale for the decisions.

Table 3: Variables required for estimates of housing need split into 2 tenures

Variable	Underlying assumption
Affordability Criteria for Market Housing (Proportion of Household Income)	Households that would spend up to 30% of household income on median private rent for a 2/3 bed property would be suitable for market housing. As the household income threshold is increased (e.g. households who spend less than 35% of household income on median rent would be suitable for private rent), so will the number of households that would be suitable for private rent.
Annual growth in median household income	Office for Budget Responsibility (OBR) publish forecasts of household income. While the forecast is at a UK level it has been applied at the national and regional level in Wales. The forecast is around 3% growth each year for the five year period.
Annual change to distribution of household income	Published literature suggests that it's likely there will be an increase in the inequality of household income between high and low income households over the coming years. This means that high income households will increase faster than those of low income households (although the incomes of low income households may not necessarily increase).
Annual growth in private rent prices	Office for Budget Responsibility (OBR) published their latest Economic and Fiscal Outlook in March 2019. They state that private rents are

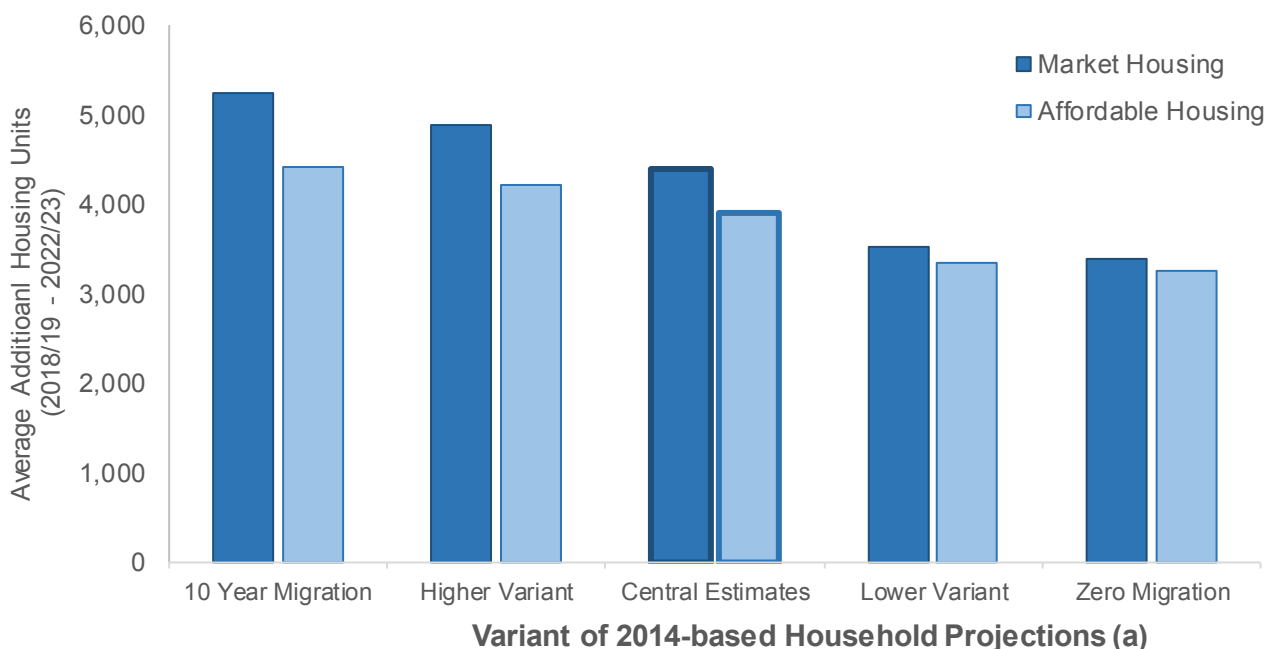
assumed to grow in line with their average earnings forecast. While the forecast is at a UK level, it has been applied at the national and regional level in Wales. The forecast is around 3 per cent growth each year for the five year period.

5. Estimates of housing need by tenure (Wales): market and affordable housing

This section presents estimates of additional housing units in Wales split by tenure, based on the above assumptions. Section 6 describes the sensitivities associated with these assumptions, and how the estimates may differ with slightly different assumptions.

Chart 4 shows the average annual estimates of additional housing units over the period 2018/19 to 2022/23 split into market and affordable housing.

Chart 4: Additional housing units split by tenure (Wales)



Source: 2018-based estimates of Housing Need

(a)

10 year migration bases the average migration over a longer period

Higher variant is based on higher fertility and lower mortality rates

Central estimates are based on principal household projections (based on recent trends)

Lower variant is based on lower fertility rates and higher mortality rates

Zero migration is based on natural change only (births and deaths)

- Under the different variants of household projections, the annual estimated requirement of market housing units ranges from 3,400 (zero migration) and 5,200 (10 year migration) each year. Affordable housing units range from 3,300 (zero migration) to 4,400 (10 year migration).
- Under the central estimates, an average of approximately 4,400 market housing units and 3,900 affordable housing units would be required each year from 2018/19 to 2022/23.
- Based on the data sources and assumptions discussed throughout this paper, these estimates suggest that on average, under the central estimates, 53 per cent of additional housing units should be market housing with the remaining 47 per cent affordable housing (intermediate rent or social) throughout 2018/19 to 2022/23. This proportional split differs depending on the variant used (see table 4)

Those households in existing unmet need are automatically assumed to be suitable for affordable housing. Under the central estimates, these households make up 14 per cent of the overall estimates of additional housing units, and almost 30 per cent of all households suitable for affordable housing.

Under the different variant estimates where the overall estimates of additional housing need are lower, the need for affordable housing is proportionally higher. This is because the estimates of existing unmet need are constant under all variants.

This is demonstrated in the below table under 'Low Variant' and 'Zero Migration'. Zero Migration has the lowest overall estimate of additional housing units in the first five years (2018/19 – 2022/23) and therefore, a greater proportion of this is made up from existing unmet need.

Table 4: Average annual split of market/affordable housing by variant 2018/19-2022/23

	10 Year Migration	Higher Variant	Central Estimates	Low Variant	Zero Migration
Market	54%	54%	53%	51%	51%
Affordable	46%	46%	47%	49%	49%
<i>Percentage of overall estimates from existing unmet need</i>	12%	12%	14%	16%	17%

6. Sensitivity of central estimates

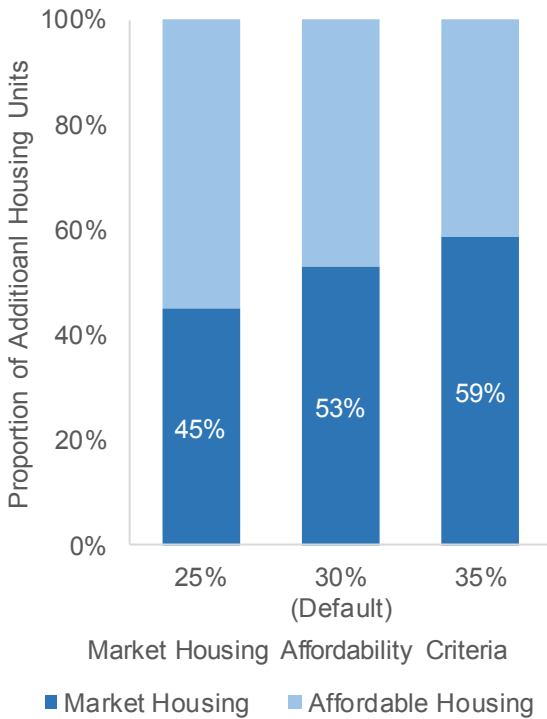
These estimates of housing need by tenure are dependent on the assumptions on which they are built. Changing the assumptions would change the split of affordable to market housing.

This section explores each variable in turn and demonstrates what the impact of changing the underlying assumption is on the proportional split of tenure (holding all other assumptions steady).

Only the central estimates are explored here. Altering the assumptions under the different variants will have similar impacts. This can be further explored in the excel tool.

Affordability criteria for market housing

Chart 5: Sensitivity of market housing affordability criteria



There are differing views across literature that suggest the affordability criteria for market housing lies somewhere between 25 per cent and 30 per cent of household income spent on median private rent.

This variable is the most sensitive out of the four variables.

Changing the default assumption of 30 per cent to 25 per cent reduces the proportion of additional housing units which would need to be market housing from 53 per cent to 45 per cent.

While no evidence suggests an affordability criteria of 35 per cent, the graph demonstrates the impact of increasing the affordability criteria.

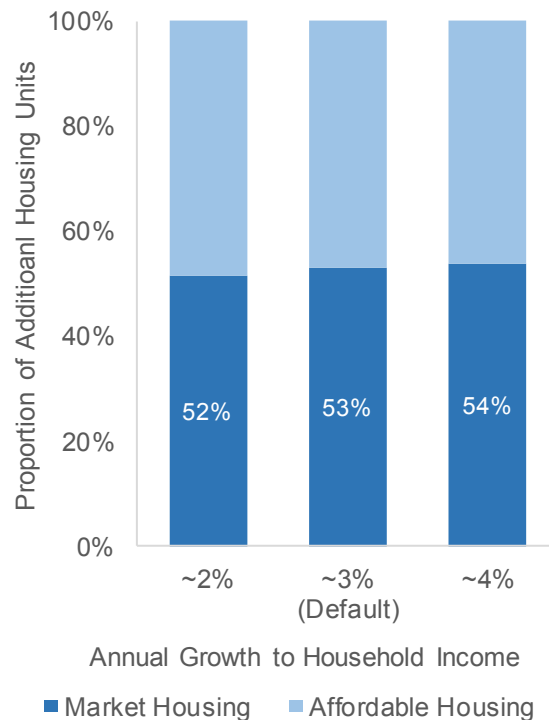
Annual growth in median household income

Chart 6: Sensitivity of household income growth

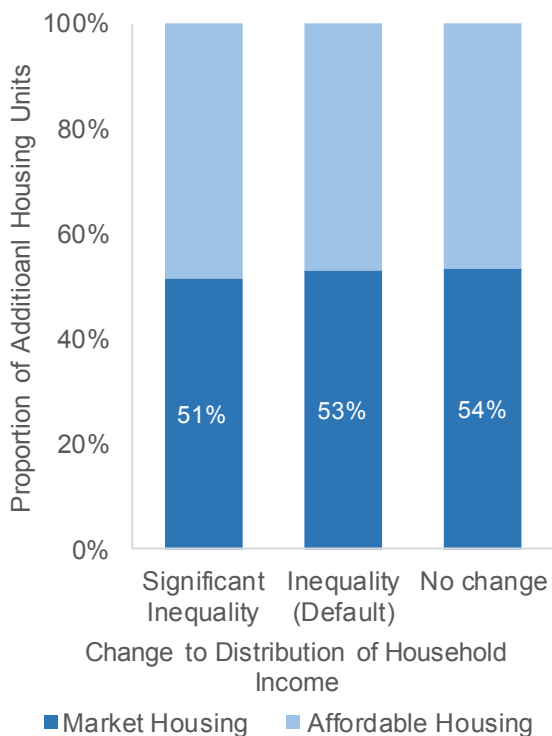
There are a number of different sources that present forecasts of household income. The default growth is approximately 3% each year (based on OBR forecasts).

Reducing the annual growth to household income 1 percentage point lower than the default reduces the required proportion of market housing slightly from 53 to 52 per cent.

Increasing the annual growth to household income by 1 percentage point more than the default increases the proportion of market housing slightly from 53 to 54 per cent.



Annual change to distribution of household income
Chart 7: Sensitivity of household income distribution



Research in this area suggests that in the future, the gap between the income of the most and least affluent households will widen.

Increasing the assumption to significant inequality (households at the top end of the distribution have an additional 6 per cent growth compared to the median compared to 1 under the default) decreases the required proportion of additional market housing units from 53 per cent to 51 per cent.

If the gap between the most and least affluent households were to remain the same over 2018/19 to 2022/23, the required proportion of additional market housing units would increase from 53 to 54 per cent.

Annual growth to private rents

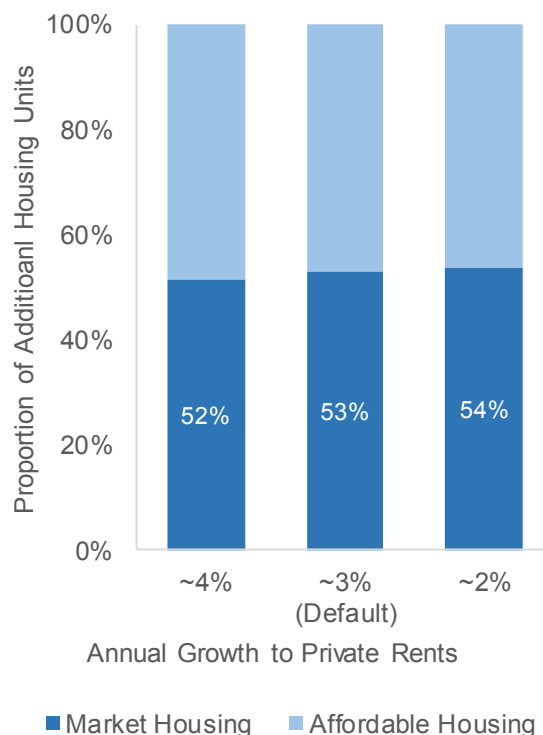
OBRs forecast of private rents has been used in this work as the default assumption (3% annual growth)

Increasing the annual growth by 1 percentage point a year decreases the proportion of market housing from 53 to 52 per cent.

Decreasing the annual growth by 1 percentage point a year increases the proportion of market housing from 53 to 54 per cent.

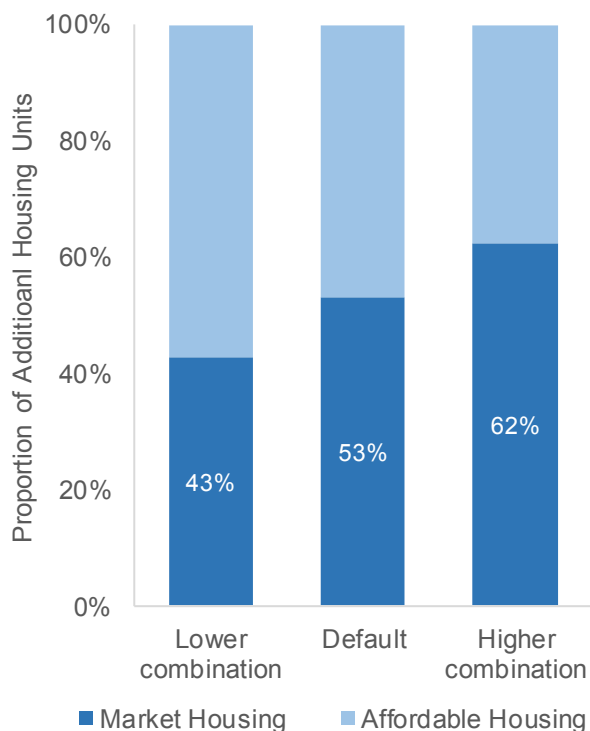
The impact seen here is very similar to that of the impact on changing the growth to household income.

Chart 8: Sensitivity of private rental growth



Cumulative impact of changing assumption

Chart 9: Cumulative impact of changing all assumptions



Charts 5 to 8 show what the impact would be if the assumption underlying one of the variables were to change with the rest remaining constant. In reality, there could be any combination of changes to the assumptions.

Chart 9 shows a combination of all assumptions that would likely lead to a reduction in amount of market housing needed (lower combination) compared with a combination of those assumptions likely to lead to increase in the amount of market housing (higher combination).

Under the lower combination, 43 per cent of additional housing units are required to be market housing compared with 62 per cent under the higher combination.

This section highlights the limitations of these estimates. While the central estimates (based on principal household projections and default assumptions) presented in this report are based on assumptions that have been agreed with a number of internal and external stakeholders, they will not replicate exactly the real world environment. They provide an indication of a suitable tenure split of additional housing units based on a set of assumptions.

The published excel tool allows users to further alter the underlying assumptions behind the estimates to see the impact this has on the estimates.

7. Regional estimates

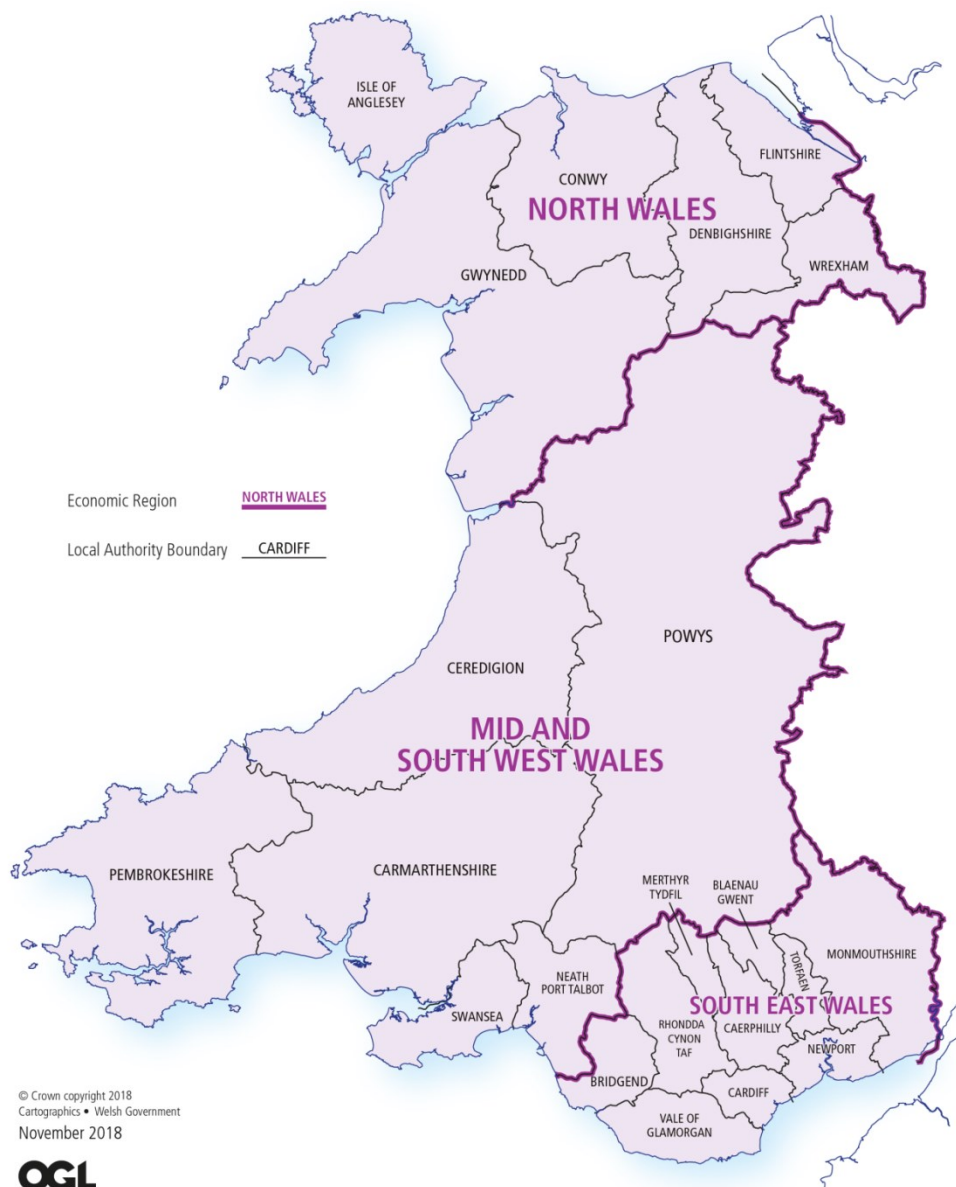
This section explores estimates at a regional level (North Wales, Mid and South West Wales, South East Wales). Map 2 shows where the economic boundaries are.

To produce estimates at a regional level, the distribution of household income is required for each region, as well as regional private rent values.

All other variables remain the same as at the Wales level, i.e.

- affordability criteria for market housing
- rents growth
- household income growth
- change in the distribution to household income.

Map 2: Welsh economic regional boundaries



There are slight differences in the proportional tenure split of housing need by region. There are a number of reasons for this. Firstly, there are differences in private rents and household income data. This will affect the proportion of newly arising need that will be suitable for market housing.

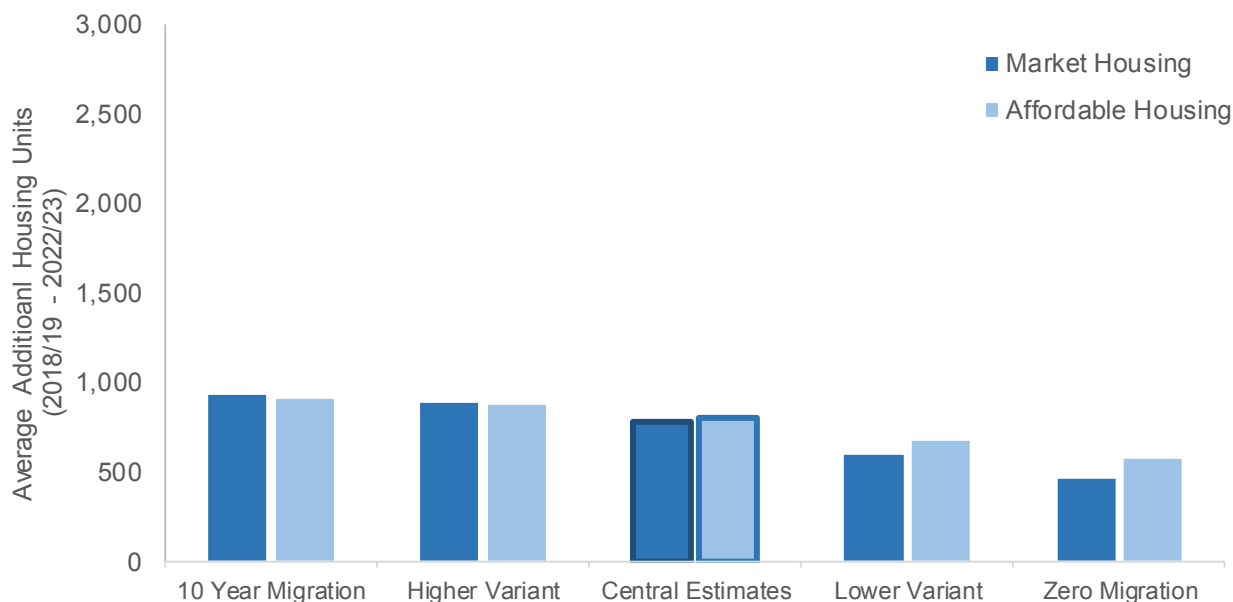
Table 5: Regional data

Area	Annual Median Rent	Median Household Income	Proportion of Overall Estimates from Existing Unmet Need
North Wales	£6,600	£25,500	16%
Mid and South West Wales	£5,490	£25,200	12%
South East Wales	£6,600	£26,300	14%
Wales	£6,300	£25,800	14%

Secondly, the proportion of overall estimates of additional housing units by region that comes from existing unmet need differs. In North Wales, 16% of the overall estimates of additional housing units come from existing unmet need (this proportion is automatically deemed suitable for affordable housing). In Mid and South West Wales, the proportion is 12%.

North Wales

Chart 10: Estimates of additional housing units split by tenure (north Wales)



Variant of 2014-based Household Projections (a)

Source: 2018-based estimates of Housing Need

(a)

10 year migration bases the average migration over a longer period

Higher variant is based on higher fertility and lower mortality rates

Central estimates are based on principal household projections (based on recent trends)

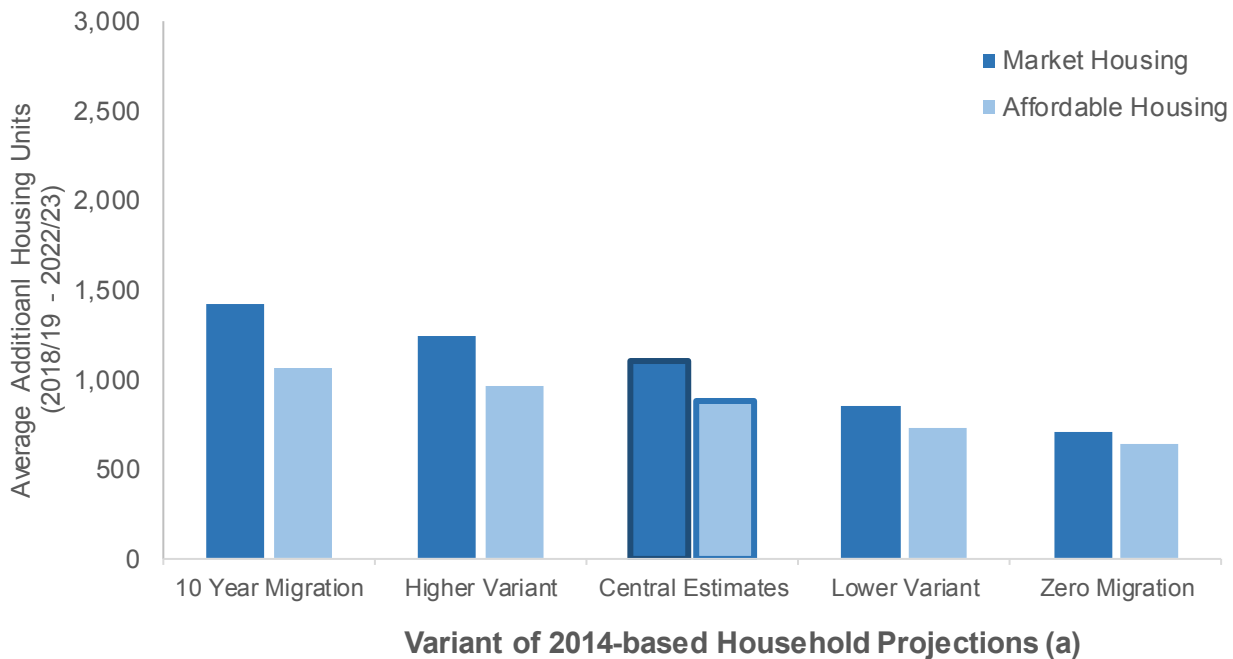
Lower variant is based on lower fertility rates and higher mortality rates

Zero migration is based on natural change only (births and deaths)

- In North Wales, the estimated average annual need for additional market housing units ranges between 450 and 900 between 2018/19 and 2022/23 (dependent on the chosen variant of 2014-based household projections). The annual need for affordable housing units ranges between 600 and 900.
- Under the central estimates and default assumptions, an average of 780 market housing units and 800 affordable housing units would be required annually between 2018/19 and 2022/23.

Mid and south west Wales

Chart 11: Estimates of additional housing units split by tenure: mid and south west Wales



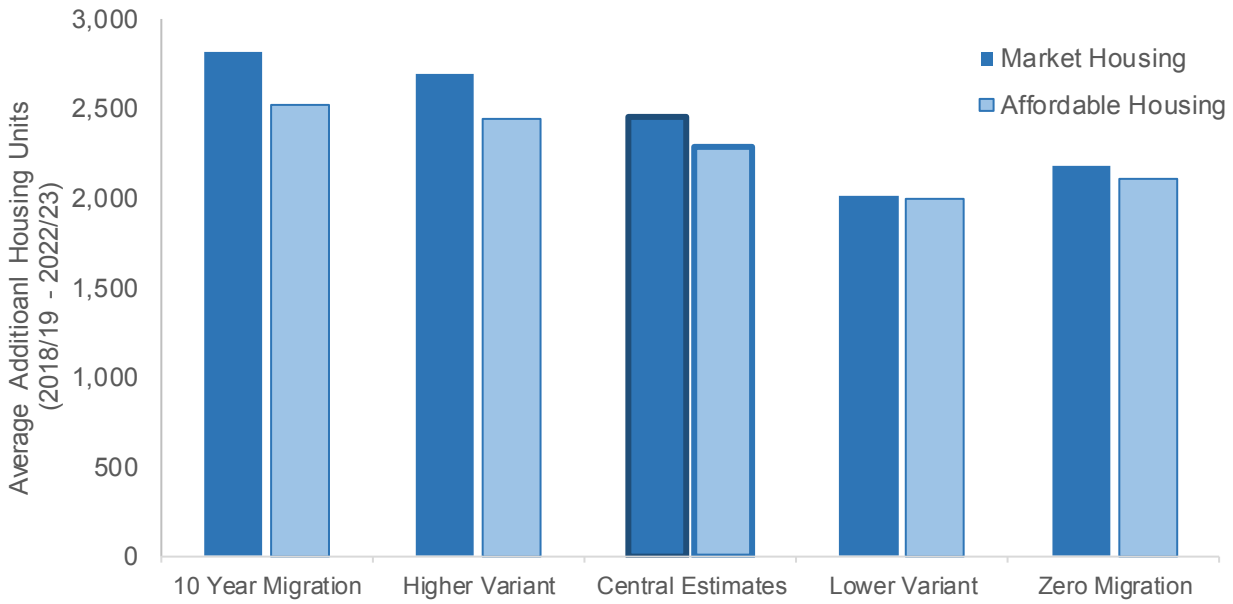
Source: 2018-based estimates of Housing Need

- (a)
- 10 year migration bases the average migration over a longer period
 - Higher variant is based on higher fertility and lower mortality rates
 - Central estimates are based on principal household projections (based on recent trends)
 - Lower variant is based on lower fertility rates and higher mortality rates
 - Zero migration is based on natural change only (births and deaths)

- In Mid and South West Wales, the estimated average annual need for additional market housing units ranges between 700 and 1,400 between 2018/19 and 2022/23 (dependent on the chosen variant of 2014-based household projections). The annual need for affordable housing units ranges between 600 and 1,100.
- Under the central estimates and default assumptions, an average of 1,100 market housing units and 900 affordable housing units would be required annually between 2018/19 and 2022/23.

South east Wales

Chart 12: Estimates of additional housing units split by tenure (south east Wales)



Variant of 2014-based Household Projections (a)

Source: 2018-based estimates of Housing Need

(a)

- 10 year migration bases the average migration over a longer period
- Higher variant is based on higher fertility and lower mortality rates
- Central estimates are based on principal household projections (based on recent trends)
- Lower variant is based on lower fertility rates and higher mortality rates
- Zero migration is based on natural change only (births and deaths)

- In South East Wales, the estimated average annual need for additional market housing units ranges between 2,000 and 2,800 between 2018/19 and 2022/23 (dependent on the chosen variant of 2014-based household projections). The annual need for affordable housing units ranges between 2,000 and 2,500.
- Under the central estimates and default assumptions, an average of 2,500 market housing units and 2,300 affordable housing units would be required annually between 2018/19 and 2022/23.

Contextual information

While these estimates are not a housing target, this section discusses historical trends of house building by tenure in Wales over the past 20 years and affordable housing provision since 2007-08. This is to provide context to these housing need estimates by tenure.

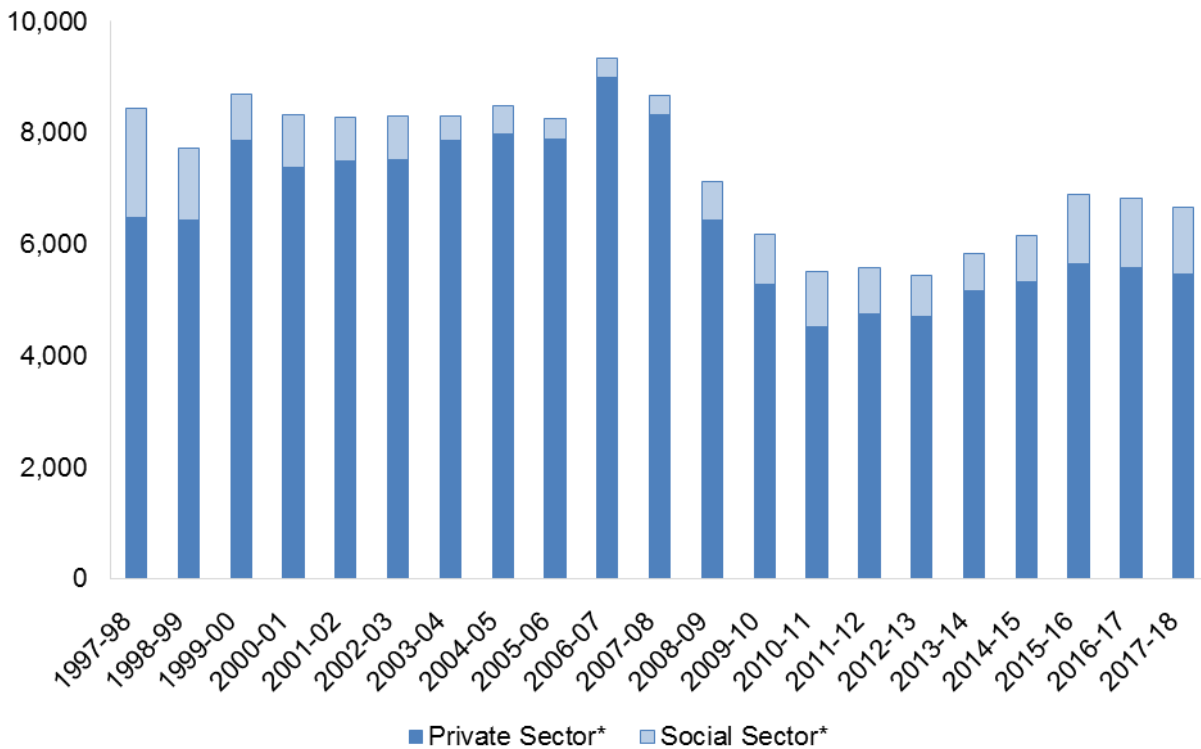
New build dwellings

Overall new build dwelling trends were discussed in the first article which presented [overall estimates of additional housing units](#).

Information on [new dwelling completions](#) by tenure in Wales are based on the reports of local authority building inspectors and the National House Building Council (NHBC).

During the last twenty years, an annual peak of 1,940 social sector dwellings were built in 1997-98 before decreasing to a low of 346 in 2006-07. Numbers have increased again in the last ten years, with around 1,200 social sector properties built annually during the last three years.

Chart 13: New build dwellings by tenure



*It is sometimes difficult for building control officers who record the data to identify the intended final tenure of the property (the basis for the tenure information). This may lead to an under-count of social sector new house building and an over-count for the private sector. Therefore this data should be treated with caution.

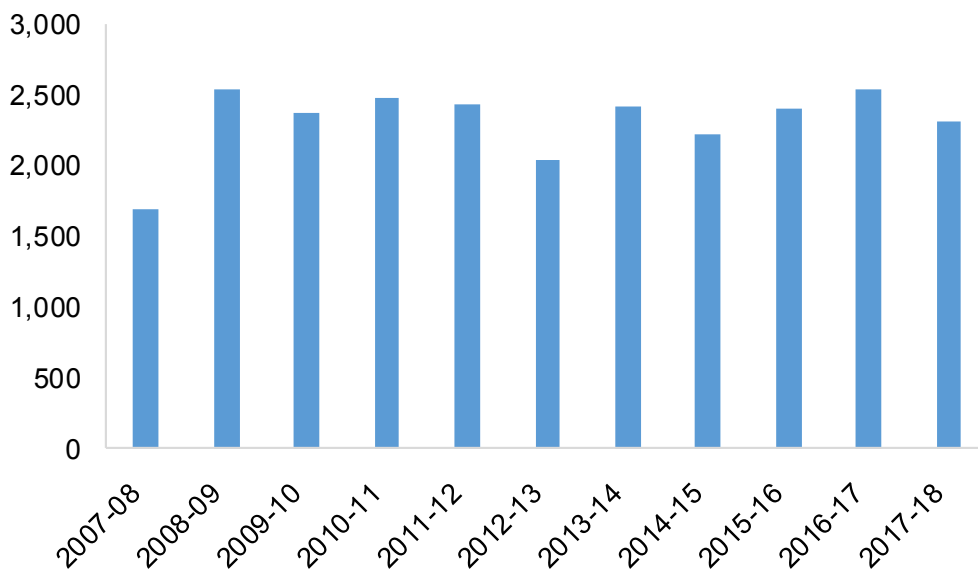
Affordable housing provision

Within the Welsh Government's [affordable housing provision statistics](#), 'affordable housing' is defined as housing where there are secure mechanisms in place to ensure that it is accessible to those who cannot afford market housing, both on first occupation and for subsequent occupiers as defined in [Technical Advice Note \(TAN\) 2](#) Planning and Affordable Housing (2006). The figures cover all additional affordable housing units, whether through new build, purchase, acquisition, leasing or conversion of existing dwellings.

Affordable housing includes social rented housing that is provided by local authorities and registered social landlords as well as intermediate housing where prices or rents are above those of social rent but below market housing prices or rents. Figures include additional affordable housing units provided under schemes which may provide for stair-casing to full ownership as long as there are secure arrangements in place to ensure the recycling of capital receipts to provide replacement affordable housing⁹.

New build affordable housing units and some conversions can be regarded as *additional* housing units. However, the purchase or acquisition by social landlords of *existing* private sector properties and converting them into affordable housing means an increase in the provision of *additional affordable* housing units, but a *reduction in the number of private sector units*. Therefore direct comparisons should not be made between affordable housing provision trend data and estimates of housing need for affordable housing (as defined in this report).

Chart 14: Affordable housing units delivered



On average around, 2,400 additional affordable housing units were delivered in each of the last 5 years. These include new builds, purchase, acquisition, leasing or conversion of existing dwellings. The figures do not take into account any reductions in existing stock due to demolitions or sales.

⁹ These are not included within the 'affordable' housing definition used in this housing need report.

Comparison to previous figures

These estimates replace the [previous estimates of housing need in Wales](#) produced by Alan Holmans and published by the Public Policy Institute for Wales (PPIW) in 2015. The estimates published by PPIW used 2011-based household projections.

These previous estimates did not include an estimate of existing unmet need. While it was identified as an important aspect of need for additional housing units it was not included in the final overall calculation.

The presentation of the previous estimates does not enable a direct comparison with the new estimates broken down for the same 5 year periods.

Holmans' principal estimate estimated a need of 8,700 units a year over the complete twenty year period 2011-2031 of which 60 per cent in the market sector (5,200 a year) and 40 per cent in the social sector (3,500 a year). Holmans' methodology used a demographic based approach and an 'ageing model' while the approach by Welsh Government uses information on affordability, household income and prices.

Next steps

The overall estimates of additional housing units will be reviewed with the next publication of Welsh Government household projections.

Annex 1 – Definition of household projection variants

Definition of Household Projection Variants

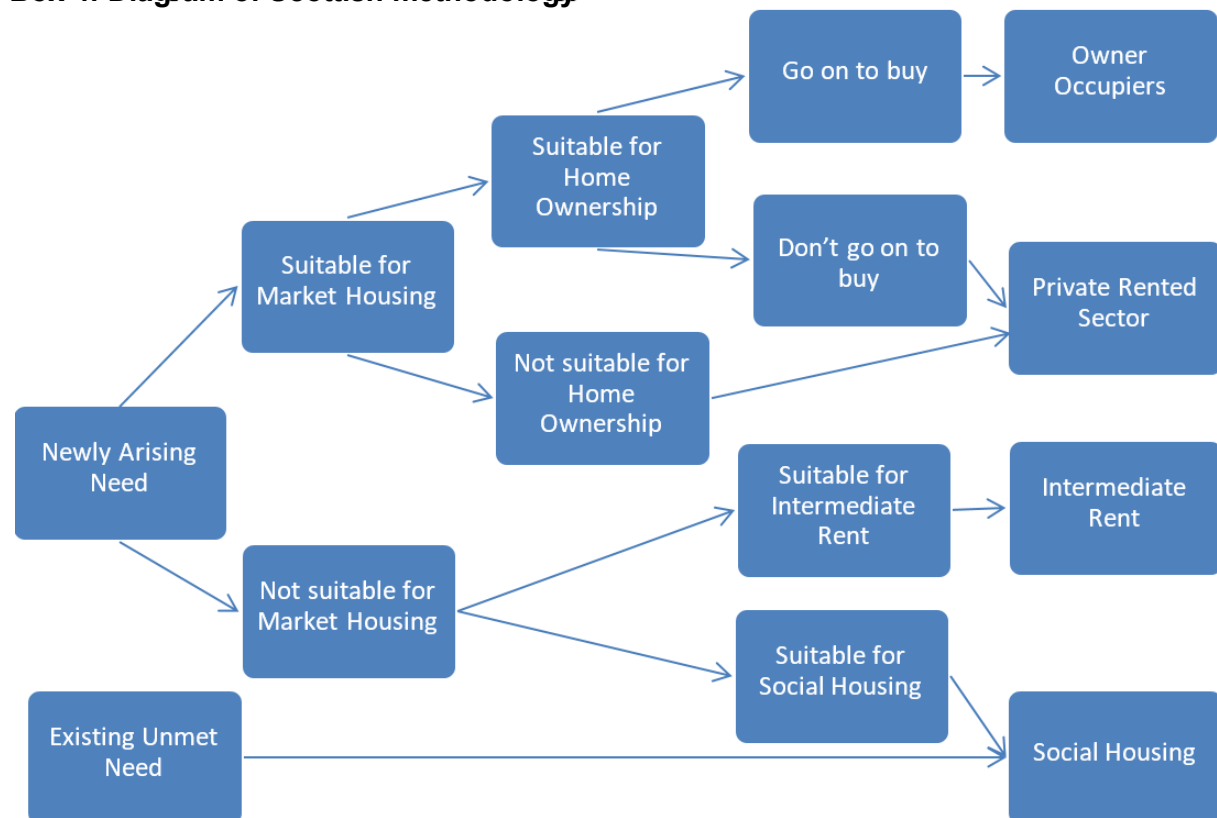
- The principal projection is based on recent past trends in births, deaths, and migration (estimates based on the principal household projections are called the central estimates)
- The higher population variant is based on assumptions of higher fertility rates and lower mortality rates
- The lower population variant is based on assumptions of lower fertility rates and higher mortality rates
- Zero migration is natural change only (births and deaths). It illustrates the projected population if there were no future inward or outward migration
- Ten Year migration bases the migration assumption on the average migration over a longer, 10-year period (other variants are based on the most recent 5 year period)

Annex 2 – Scottish Government methodology

In Scotland, local authorities produce Housing Need and Demand Assessments (HNDAs). To support them in doing so, the Scottish Government has developed a tool to be used by local authorities which splits estimates of housing need into four tenures (owner occupier, private rent, intermediate housing and social housing). Box 4 shows broadly how this is worked out.

The Scottish Government have produced comprehensive [guidance](#), and their [excel tool](#) is also published.

Box 4: Diagram of Scottish methodology



Annex 3 – Assumptions for four tenure split

Table 6 lists the variables that are required to split the estimates into two tenures. The below table lists the additional assumptions that would be required to split estimates into four tenures.

Table 6: Additional variables to produce four tenure split

Variable	Description
House Prices	<p>House prices are required to split those that are suitable for market housing into owner occupier and private rent.</p> <p>House price data is available through the Land Registry's price paid data set.</p> <p>The Office for Budget Responsibility (OBR) produces house price forecasts for the UK.</p>
First Time Buyer Affordability Ratio	<p>This variable is required to split market housing into owner occupiers and private rented. The affordability ratio is how many times their income first time buyers can expect to pay for a house.</p> <p>UK Finance (previously Council for Mortgage Lenders) publish quarterly figures at a Wales level.</p>
Percentile of the house price distribution that First Time Buyers (FTB) typically enter the market	<p>This variable is used together with the above to determine how much household income is required for FTB to purchase a house.</p> <p>Comparing the average price paid by FTB in Wales as published by ONS with the distribution of land registry's price paid data set, FTB in Wales typically enter the market at the 40th percentile.</p>
Proportion of FTB who go on to purchase a house	<p>The variable takes into account that not all households who could afford to purchase a house (based on the above assumptions) will actually go on to do so, either by choice or circumstance.</p> <p>No robust evidence has been found in order to make a confident assumption about this variable in Wales. This drove the decision to not present a split by four variables.</p>
Affordability Criteria of Social Rent	<p>To split those deemed suitable for affordable rent into social and intermediate rent requires an assumption on what households are suitable for social rent.</p> <p>The default assumption in the excel tool is that households that would spend more than 35% of household income on 30th percentile rent would be suitable for social housing As the household income threshold is lowered (e.g. households that spend more than 30% of household income on 30th percentile rent are suitable for social housing), more household will be suitable for social housing.</p>

Annex 4 – Worked example

Below is a detailed example of how the tenure split is calculated.

1. Overall estimates of additional housing units

Estimates of additional housing units have been produced at a Wales and a regional level, as well as for the different variants of household projections. The overall housing need estimates are based on a combination of newly arising need as well as a measure of existing unmet need.

For this example, we'll say we have 7,200 newly arising households and 1,100 households in existing unmet need (making a total of 8,300). The 1,100 households in existing unmet need are automatically assumed to be suitable for affordable housing rather than market housing. The 7,200 newly arising households need to be split into those suitable for market and affordable housing.

2. Affordability criteria for market housing

Based on our default assumptions, households that would spend up to 30% median private rent for a 2 or 3 bed property would be suitable for market housing.

For this example, median annual private rent in Wales is £6,300. Therefore, for households to be suitable for market housing, they need a *minimum* income of:

$$\frac{\text{Median Private Rent}}{\text{Affordability Criteria}} = \frac{£6,300}{30\%} = £21,000$$

So households with an income of £21,000 and above can afford market housing.

3. Proportion of newly arising need

We can use the distribution of household income in Wales to interpret how many households have an income of £21,000 and above.

Let's say that £21,000 lies at the 38th percentile of household income. This means that 38 per cent of all households in Wales have an income *below* £21,000, leaving 62 per cent of households with an income of £21,000 and above.

So, we make the assumption that 62 per cent of all households coming from newly arising need (not existing unmet need – they are automatically suitable for social rent) are suitable for market housing.

$$\text{Proportion that are suitable for market} \times \text{All newly arising need} = 0.62 \times 7,200 = \mathbf{4,464}$$

Therefore, 4,464 of the additional housing units should be for market housing.

4. Affordable housing

In point 3, we calculated that 4,464 households are suitable for market housing. The remainder are suitable for affordable housing (as all the existing unmet need are assumed to be affordable)

$$\textit{Total additional housing units} - \textit{Market Housing} = 8,300 - 4,464 = \mathbf{3,836}$$

5. Additional housing units split by tenure

Steps 1-4 have calculated how many households are suitable for either market or affordable housing. The overall split in this example is therefore **54% market housing** (4,464 out of a total 8,300) and **46% affordable housing** (3,836 out of a total 8,300).

Annex 5 – Assumptions for two tenure split

Table 3 briefly describes the variables and assumptions required to split the estimates into two tenures. This annex explains in more detail the underlying assumptions.

Affordability Criteria of the Private Rented Sector

There appears to be general agreement in published literature that the affordability criteria of market housing lies between 25 and 30 per cent but there is no consensus on one figure. This assumption was discussed in detail with the members of the subgroup whose role it was to provide recommendations on the assumptions. This was also discussed with the wider stakeholder group, made up of Welsh Government officials and more representatives from local authorities.

After reviewing the literature, it was generally agreed that an affordability criteria of 30 per cent was more reasonable than 25 per cent.

An affordability criteria of 30 per cent (based on median private rent of properties with 2 or 3 bedrooms) translates to households requiring a minimum household income of £21,600 in order to be suitable for market housing (based on 2017/18 figures).

Annual growth in median household income

The Office for Budget Responsibility (OBR)'s forecast of household income measures disposable household income (after direct and indirect taxes have been paid and any direct benefits received). While this is a slightly different definition to the data source for household income used for these estimates (before taxes have been deduced) this was deemed the most robust and suitable forecast for this work. The impact on the estimates of slightly increasing or decreasing the forecast of median household income is minimal.

Table 7: Annual growth in median household income

Year	2018/19	2019/20	2020/21	2021/22	2022/23
Annual Growth	3.54%	2.57%	3.28%	3.71%	3.81%

Source: [Table 1.13](#), Household Disposable Income

Annual change to the distribution of household income

The Resolution Foundation published its [2019 Living Standards Outlook](#) in early 2019. They "project a small rise in inequality in the short term" but go on to say that their forecast is uncertain. While the main focus of the report is after housing costs (AHC), in annex 3 of their report they explain that when measured before housing costs, they still project an increase in inequality (although flatter than when measured AHC).

The Institute for Fiscal Studies' [2018 Living Standards report](#) also suggests an increase in inequality in the coming years, but highlight that these forecasts come with "a substantial degree of uncertainty".

Given the above sources, and ONS latest publication on [household income inequality](#) which shows a slight increase in inequality in the financial year ending 2018, the subgroup determined that the default assumption should be a slight increase in household income inequality across the estimated period.

For the purpose of this work, how the distribution of household income changes is measured relative to how the 10th and 90th percentile points move relative to median household income. The subgroup determined that a reasonable assumption of a slight increase equates to households at the 90th percentile having an additional 1% growth compared to households at the 50th percentile (median). Those at the 10th percentile have 1% less growth compared to households at the 50th percentile (median). This is pro-rated across each point of the distribution.

Annual growth in private rent prices

OBR published their latest [Economic and Fiscal Outlook](#) in March 2019. They state that private rents are assumed to grow in line with their average earnings forecast. While the forecast is at a UK level, it has been applied at the national and regional level in Wales.

Table 8: Annual growth in private rent

Year	2018/19	2019/20	2020/21	2021/22	2022/23
Annual Growth	2.90%	3.00%	3.10%	3.10%	3.20%

Source: [Table 1.6](#), Average Earning Growth

Notes on the use of statistical articles

Statistical articles generally relate to one-off analyses for which there are no updates planned, at least in the short-term, and serve to make such analyses available to a wider audience than might otherwise be the case. They are mainly used to publish analyses that are exploratory in some way, for example:

Introducing a new experimental series of data;

A partial analysis of an issue which provides a useful starting point for further research but that nevertheless is a useful analysis in its own right;

Drawing attention to research undertaken by other organisations, either commissioned by the Welsh Government or otherwise, where it is useful to highlight the conclusions, or to build further upon the research;

An analysis where the results may not be of as high quality as those in our routine statistical releases and bulletins, but where meaningful conclusions can still be drawn from the results.

Where quality is an issue, this may arise in one or more of the following ways:

- being unable to accurately specify the timeframe used (as can be the case when using an administrative source);
- the quality of the data source or data used; or
- other specified reasons.

However, the level of quality will be such that it does not significantly impact upon the conclusions. For example, the exact timeframe may not be central to the conclusions that can be drawn, or it is the order of magnitude of the results, rather than the exact results, that are of interest to the audience.

The analysis presented does not constitute a National Statistic, but may be based on National Statistics outputs and will nevertheless have been subject to careful consideration and detailed checking before publication. An assessment of the strengths and weaknesses in the analysis will be included in the article, for example comparisons with other sources, along with guidance on how the analysis might be used, and a description of the methodology applied.

Articles are subject to the release practices as defined by the release practices protocol, and so, for example, are published on a pre-announced date in the same way as other statistical outputs.

Missing value symbols used in the article follow the standards used in other statistical outputs, as outlined below.

- .. The data item is not available
- .
- The data item is not exactly zero, but estimated as zero or less than half the final digit shown
- * The data item is disclosive or not sufficiently robust for publication



All content is available under the [Open Government Licence v3.0](#), except where otherwise stated.