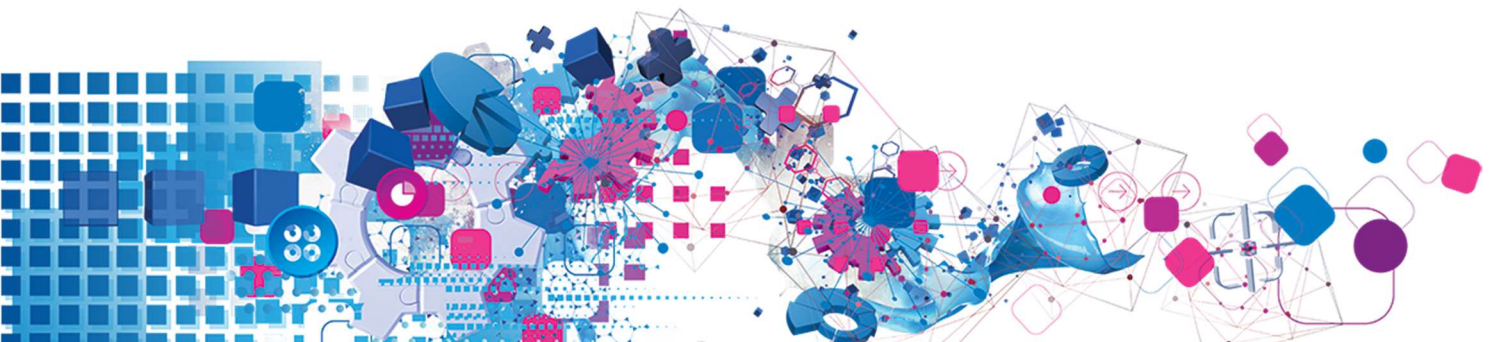




Population and properties forecasts: South West Water

February 2022



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1. Executive Summary

1.1 Scope of the project

Experian have produced a consistent property and population forecasts for Bristol Water and South West Water as part their joint regional plan and individual Water Resources Management Plans. This study includes annual forecasts up to 2080.

To this end, a range of population and property projections for several variables have been produced, each constructed using different assumptions and methodology, including trend based, econometric-based, plan-based and a hybrid (“most-likely”) forecast. Table 1.1 shows the breakdown of how the data is presented by Lower Super Output Area (LSOA) and Water Resource Zone (WRZ) levels. This report outlines how the information was collected, relevant data sources, the methodology and results for South West Water (including Bournemouth) and the water resource zones.

Table 1.1 – South West Water and Bournemouth area breakdown

Water Resource Zone (WRZ)	Local Authority District (LAD)	Lower Super Output Areas (LSOA)
Bournemouth	Bournemouth	110 LSOA
	Poole	34 LSOA
	Christchurch	30 LSOA
	East Dorset	51 LSOA
	Test Valley	3 LSOA
	New Forest	63 LSOA
	Wiltshire	11 LSOA
	North Dorset	2 LSOA
Coliford	Plymouth	2 LSOA
	Cornwall	318 LSOA
	South Hams	1 LSOA
	Torrige	1 LSOA
	West Devon	4 LSOA
Roadford	Plymouth	161 LSOA
	Torbay	89 LSOA
	Cornwall	25 LSOA
	East	1 LSOA
	Exeter	3 LSOA
	Mid Devon	9 LSOA
	North Devon	58 LSOA
	South Hams	49 LSOA
	Teignbridge	83 LSOA
	Torrige	37 LSOA
	West Devon	31 LSOA
	West Somerset	3 LSOA
Wimbleball	East Devon	81 LSOA
	Exeter	74 LSOA

Mid Devon	43 LSOA
North Devon	3 LSOA
Teignbridge	7 LSOA
West Devon	1 LSOA
West Dorset	4 LSOA
South Somerset	2 LSOA
Taunton Deane	3 LSOA
West Somerset	3 LSOA

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2. Methodology

2.1 Trend-based approach

Trend-based projections have been produced using a range of official statistics as detailed in section 2.1.1 below. The projections provide a consistent and comparable set of projections for each area based on historic growth. Trend-based forecasts are subsequently used as input to produce the plan and econometric forecasts. The UKWIR report recommends producing trend-based projections since they are widely used and importantly, are required to produce plan-based and other forecasts. It can also be used to objectively assess the plan-based figures and help to produce a balanced view of likely growth.

Experian's approach started with local authority district level projections, using DLUHC (Department for Levelling Up, Housing and Communities) housing stock statistics, council tax statistics to produce historic estimates of households. A more detailed approach is as followed:

- First, using ONS mid-year population estimates, we estimated the total population between 2011 and 2020. This was projected forward by applying growth rates from the 2018-based sub-national population projections (SNPP), which was extended to 2080 by extrapolation, for each district.
- Second, the number of properties was derived from DLUHC dwelling stock statistics, with the base year aligned to the Census 2011. Vacant dwellings were then derived from DLUHC council tax statistics to be subtracted from the estimates of properties, giving us households. Households were projected by applying the projections of average household size from the 2018-based sub-national household projections to the household population derived in the first step. Vacant dwellings were then projected forward and added to the household projections to derive total properties.
- Thirdly, household occupancy was derived by dividing the total household population by total households. Household population and communal population was derived from the 2018-based household projections and controlled to the total population projections.
- Next, we drilled down below the district level targets to a more refined geographic area. Official statistics such as Census 2011 and ONS Output Area (OA) mid-year population estimates were used to produce population and property estimates and projections at small spatial areas. The district level projections were used to control OA estimates and projections.
- Finally, we aggregated the OA estimates to the Water Resource Zone (WRZ) level using a postcode best-fit methodology and aligned the history to the base year

population and property estimates by WRZ. The process first identified the output areas that were either located entirely within each boundary of a given WRZ or that cut across the WRZ boundary (intersect). For each OA, the process calculated the proportion of each OA population that was inside each WRZ as a proportion of the total OA population using Experian's postcode level estimates for 2020. These rates were kept fixed in the forecast. The proportions were then applied to the population and property variables of the OAs to give the population falling inside the given WRZs. The adjusted OA targets were then summed to form the total for each WRZ boundary.

Three inputs were fed into the WRZ calculation:

- WRZ GIS boundaries supplied by South West Water
- Census 2011 Output Area (OA) boundaries
- Current year population for each OA

The results of the trend-based methodology are displayed in table 6.2A in the appendix.

2.1.1 Data sources used

Our forecast of population and properties growth up to 2080 was developed in-house using:

- **Local authority plans:** Dwelling stock statistics 2001-2020 – Department for Levelling Up, Housing and Communities
- **The Office for National Statistics (ONS):**
 - 2018 sub-national population projections
 - 2011-2020 mid-year population estimates at output area
 - 2018 based sub-national household projections
- **Census 2011**

2.2 Plan-based approach

Experian's approach for producing plan-based forecasts was to first collate annual dwelling allocations using the local plans from water companies' own development database (South West Water only). For areas where the information was incomplete, Experian sought out to collect the site allocations directly from local authorities and supplemented this information with data from desk-based research. Data from the development database contained geographical information, which allowed us to assign planned developments to an OA then aggregate to compute properties and forecast growth for each Water Resource Zone (WRZ). South West Water's development database contained forecasts for individual years up to 2035. Therefore, the forecasts needed to be extrapolated to 2080 based on historic trends and controlled to the district level dwelling projections which were outlined in the local plan in accordance with UKWIR guidance. It must be considered that local authority plans do not necessarily provide population projections that are consistent with the dwelling numbers. As such, considerations about future occupancy were very important, since when applied to the dwelling numbers it would produce an implied population forecast.

Experian developed a two-step approach: first step was to apply occupancy rates from the trend-based forecast to the plan-based household forecasts. The next step was to take a weighted average between trend and the plan-based population forecasts for each local authority. We also assumed that communal population remained at trend-based levels, and so, took the sum of communal and household population to derive total population. This approach had the benefit of recognising that over the long-term, population will be largely influenced by the supply of new homes. It is important to consider that where trend and plan are similar (which is true in most cases where the local plan is adopted and up to date), then the plan and trend-based population are comparable. Where the plan is lower than the trend, the approach recognises that population growth will not necessarily decelerate at the same rate but will be lower than the trend in the long-term. Where the plan is higher than the trend, the approach recognises that additional homes may attract more people, but these may either not all be filled and/or will enable occupancy rates to fall (under the assumption that the under supply of homes has dampened the decline in occupancy rates over time).

To produce vacant dwelling forecasts, we applied the trend-based vacancy rates to the plan-based property forecasts. This was then subtracted from total properties to derive total households. In the final step, we aggregated the set of LSOA estimates to the WRZ level using a similar approach as outlined in the trend-based projections.

2.2.1 Data sources used

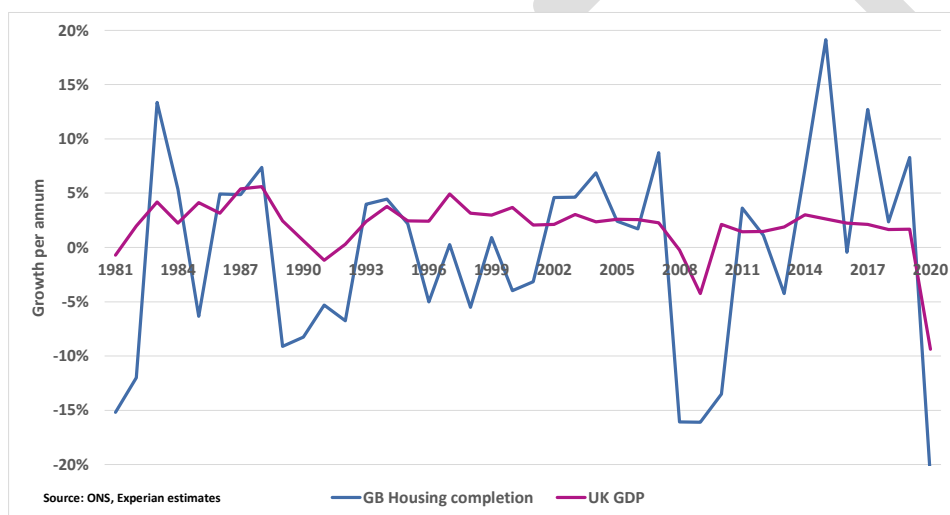
Our forecast of population and properties growth up to 2080 was developed in-house using several different sources:

- **Development database** held by South West Water. These contain local plan data and information obtained from developer services teams. Southern Water were also able to provide the data they hold for the part of the Bournemouth WRZ that they supply with sewerage services.
- Missing data was supplemented by **desktop-based research**.

2.3 Econometric-based approach

The guidance suggests that relationships related to historic changes to population, households and occupancy are only likely to hold at larger geographical levels. Experian has identified a link between economic growth and the rate of house building and produced forecasts for the number of new housing completion at UK and regional level. The regional model is fully linked to our local forecasting model so that the regional econometric forecasts can be further disaggregated to a local authority level similar to the plan-based forecast, the rationale for this approach is that limiting the supply of housing over the long-term will potentially limit population growth in a local area. At the same time, additional supply of housing can attract inward migration. Both these factors are recognised in this approach.

Figure 2.3.1: The relationship between UK economic growth and housing completion growth, 1981 - 2020



The housing completions forecast model takes into account the following factors:

- Private investment in housing
- Government investment in housing
- Construction of buildings Gross Value Added

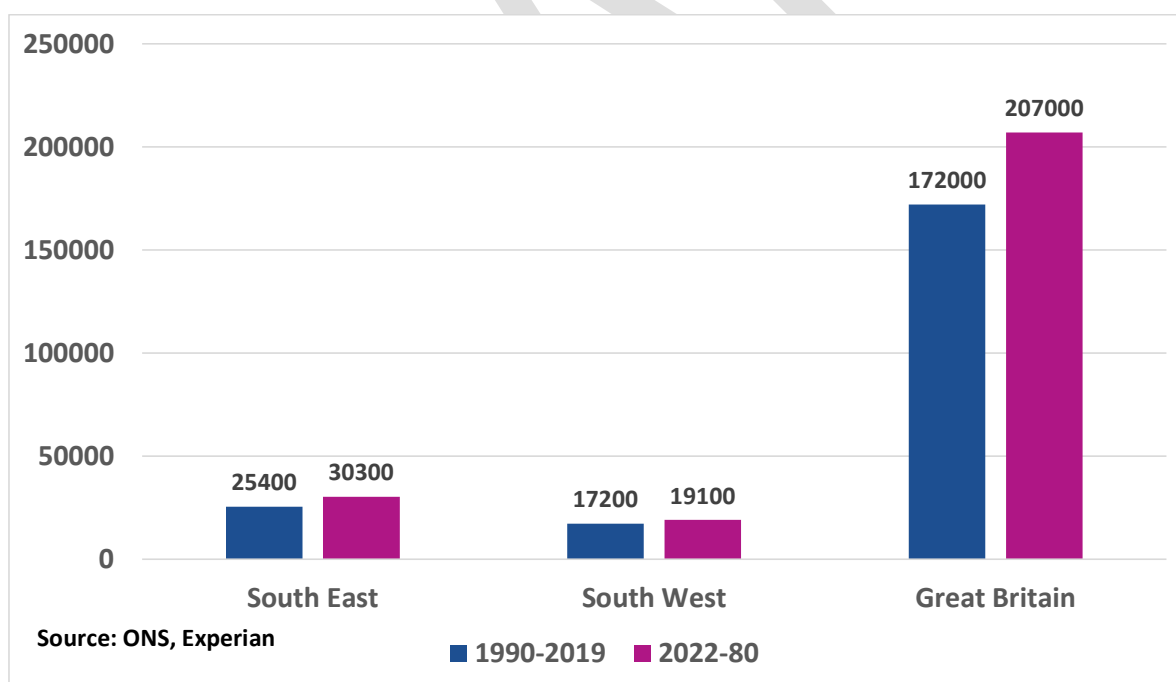
2.3.1 National and regional housing completion

Since 2014, housing completions in Great Britain showed significant upturn compared with the post-recession slump witnessed between 2010 and 2014. The upward trend ended abruptly in 2020 reflecting the Coronavirus lockdown and according to Experian estimates housing completions would fall by 22% compared to 2019¹.

¹ Data for British starts and completions remains incomplete with only data for England being released up to 2021 Q2. Scottish data only goes up to 2020 Q3 for private starts and completions while Welsh

In the short term, the housing market generally has benefited from a number of demand-side boosts during the pandemic, such as the temporary suspension of Stamp Duty, the ongoing Help to Buy scheme and government-backed 95% mortgages on all properties. These have helped to keep house prices buoyant and support a decent level of activity in the market, expected to carry over into 2022. The market has cooled somewhat since the Stamp Duty ‘holiday’ ended at the end of September last year, but there remains a lot of new build projects in the pipeline to help meet current housing targets. Over the medium term, we anticipate steady rates of growth from 2023 onwards, the housing market is likely to be benefited by government policies supporting house building activities and new investment such as multi-year investment of £24 billion for the purpose of building new homes announced in the budget, which also included £11.5 billion investment through the Affordable Homes Programme. Figure 2.3.2 summarises the regional econometric forecasts for the areas covered by this study (South East and South West of England) in terms of average annual housing completions over the forecast period. It is worth noting that the housing completion forecasts for both regions are markedly higher than achieved in recent times compared to historic averages. However, these figures are still lower than the housing requirements projected by government and the figures planned by local authorities in the regions.

Figure 2.3.2: Average housing completions per annum by region and GB



2.3.2 Econometric-based approach

The methodology we applied was to first sum the local authority trend-based property targets to regions and control to the econometric housing completion forecast for each

data has only been released up until 2019 Q4. Therefore, for Great Britain (GB), 2019 is remains the last full year for which data is available.

region. Trend-based vacancy rates were applied to the local authority property levels to derive vacant properties, and vacant properties were subtracted from the total property count to calculate household levels. Following this, the trend-based average household size was applied to the household levels to produce a first cut of the econometric model's total population. The mid-point of the population between the trend-based and first cut econometric model was taken for the final total population forecast. Same as plan-based, we kept the communal population at trend-based levels and subtracted communal population from total population to derive household population at local authority level. For the final step, we aggregated the set of OA estimates to the WRZ level using a similar approach as outlined in the trend-based projections.

The results of the econometric-based methodology are displayed in table 6.2C in the appendix.

2.3.3 Data sources used

Our forecast of population and properties growth up to 2080 was developed in-house using:

- Experian's forecasts: the macroeconomic and regional level economic forecasts produced by Experian
- Trend-based projections (see previous chapter)

2.4 Hybrid approach

Experian's approach for the hybrid ("most likely") forecasts were constructed using elements of the trend, plan-based and econometric forecasts. This helped to produce more robust projections and capture uncertainty as it selected the most appropriate forecasts for each local authority area based on a quality assessment of the underlying data. Each of these forecasts provided an alternative view of the future however, there was still a large degree of overlap between the different forecasts.

For the hybrid forecasts, the mid-point between the econometric and plan-based household forecast was taken for each district. The district level forecasts were then summed to regional targets and controlled to the regional econometric-based household forecasts. The rationale here is that rates of housing development will be greatest in local authority areas with the most accommodating planning system but limited at the broader level according to economic conditions. Next, the hybrid population forecasts were derived by applying the forecast occupancy rate from the econometric forecasts to the hybrid household forecasts. This approach acknowledges that economic factors will influence household occupancy and in the long run, will limit the capacity for population growth in local areas.

2.5 Local housing needs assessment

Housing need is an unconstrained assessment of the number of homes needed in an area. Local authorities in England are now required to consider local housing need to inform their local plans as they are revised and updated. The housing needs assessment used a formula, known as the standard method for assessing housing need, to identify the minimum number of homes needed to meet projected local household growth and historic under-supply.

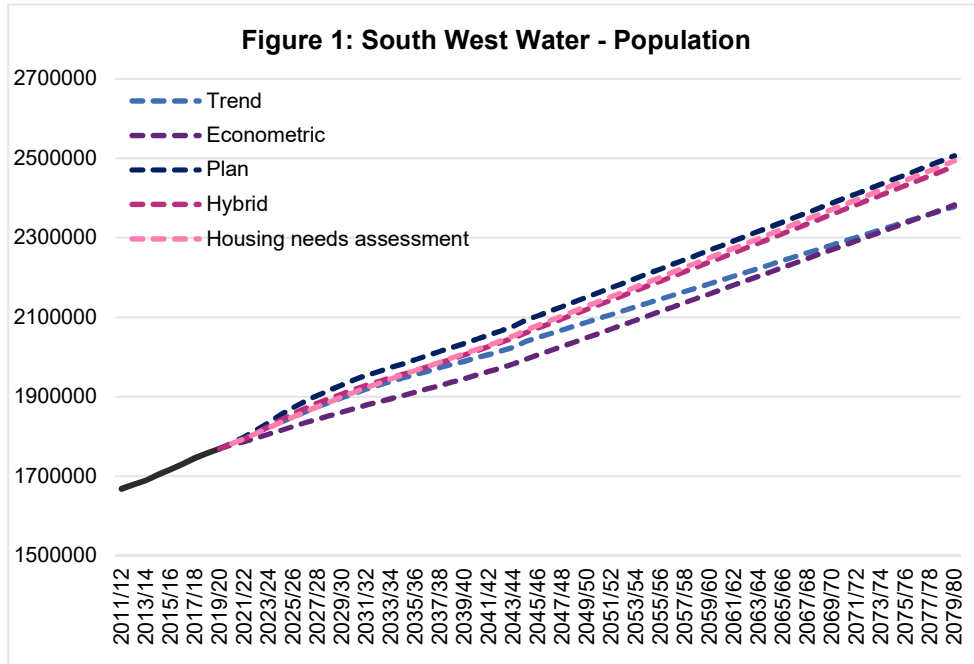
Experian carried out the housing needs assessment for all local authorities within the WCWR supply area to formulate a scenario where the district level dwelling projections equal to their local housing needs.

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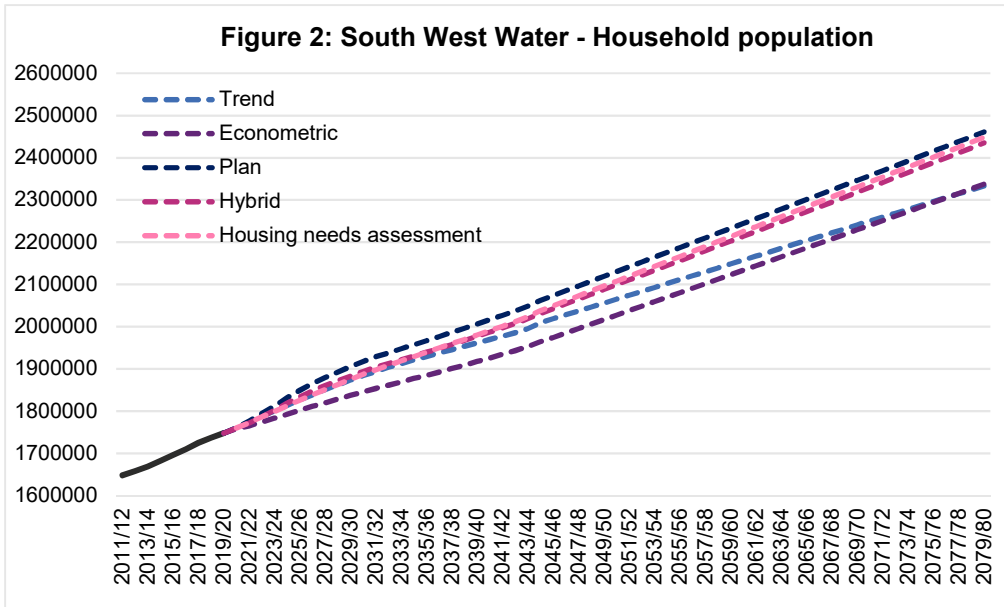
3. Results

The following section presents a comparison of each approach used to forecast a series of variables in a graphical output. It is split by water company and water resource zone (WRZ).

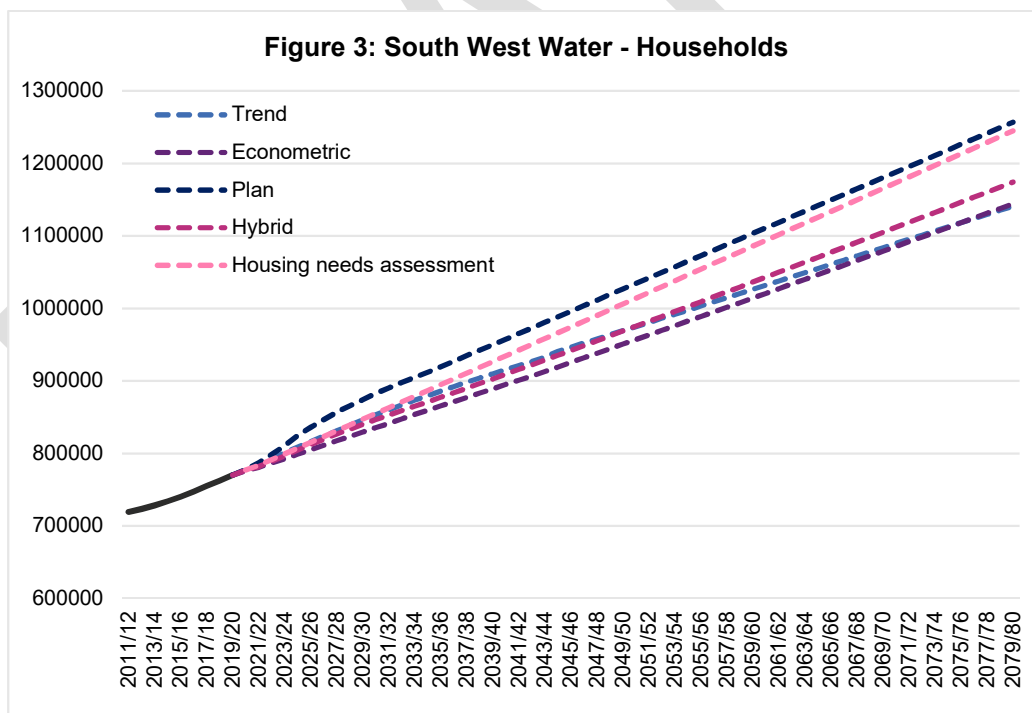
3.1 South West Water forecast results



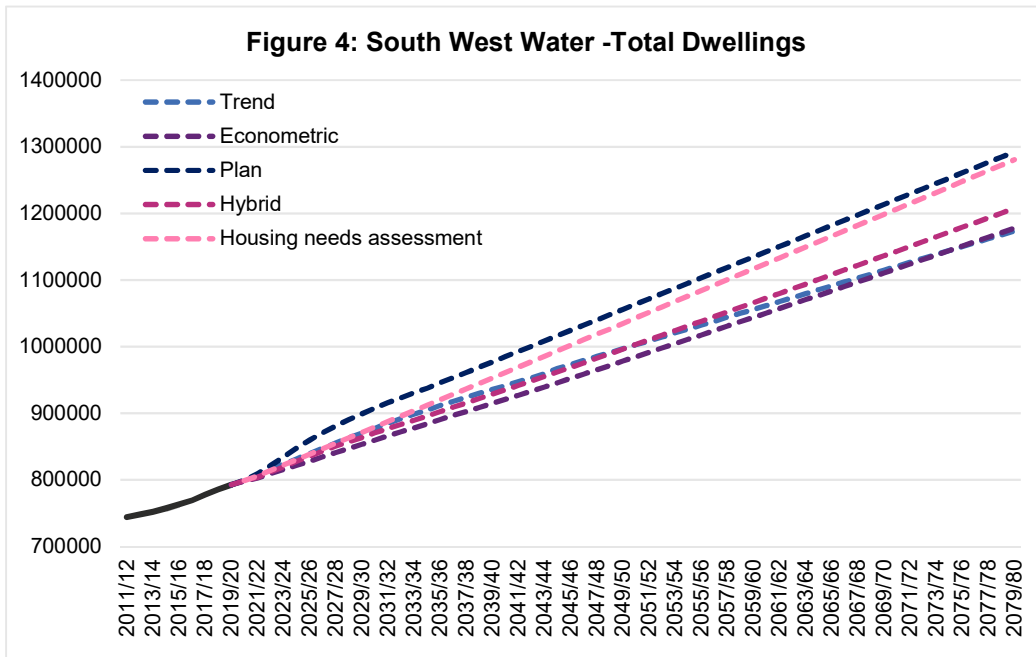
Total population, shown in Figure 1, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods used, the trend-based approach estimates the smallest increase from 1,769,000 to 2,378,300, an increase of 34.4% over the forecasting period. The plan-based approach estimates the largest increase of 41.7%. The average annual growth rate for all approaches is 0.5-0.6%.



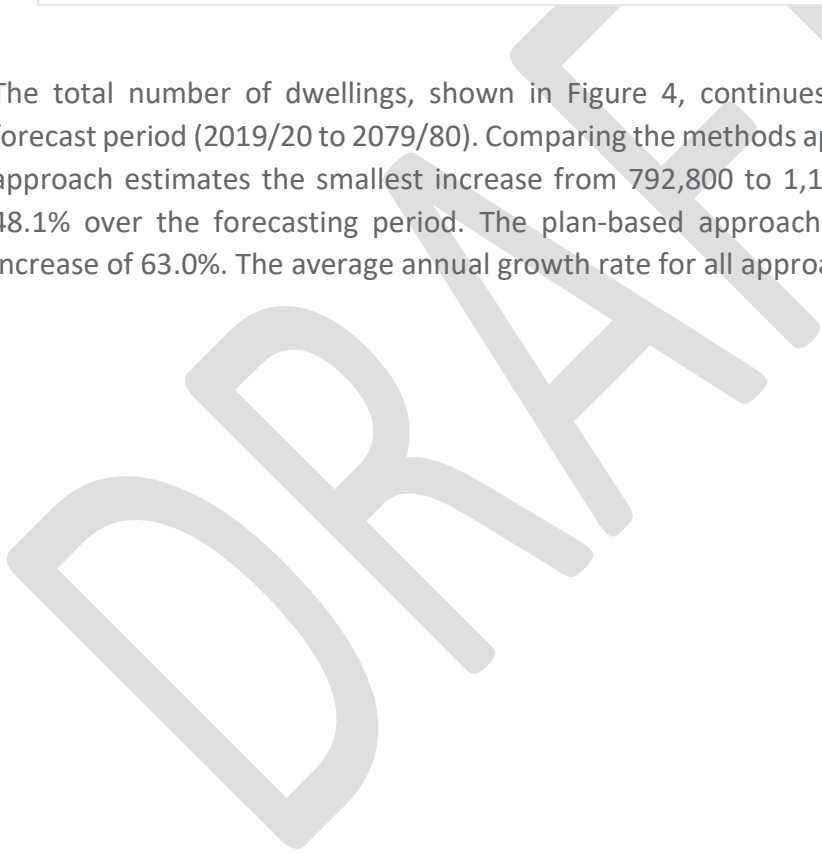
Household population, shown in Figure 2, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods used, the trend-based approach estimates the smallest increase from 1,747,800 to 2,333,000, an increase of 33.5% over the forecasting period. The plan-based approach estimates the largest increase of 40.8%. The average annual growth rate for all approaches is 0.5-0.6%.



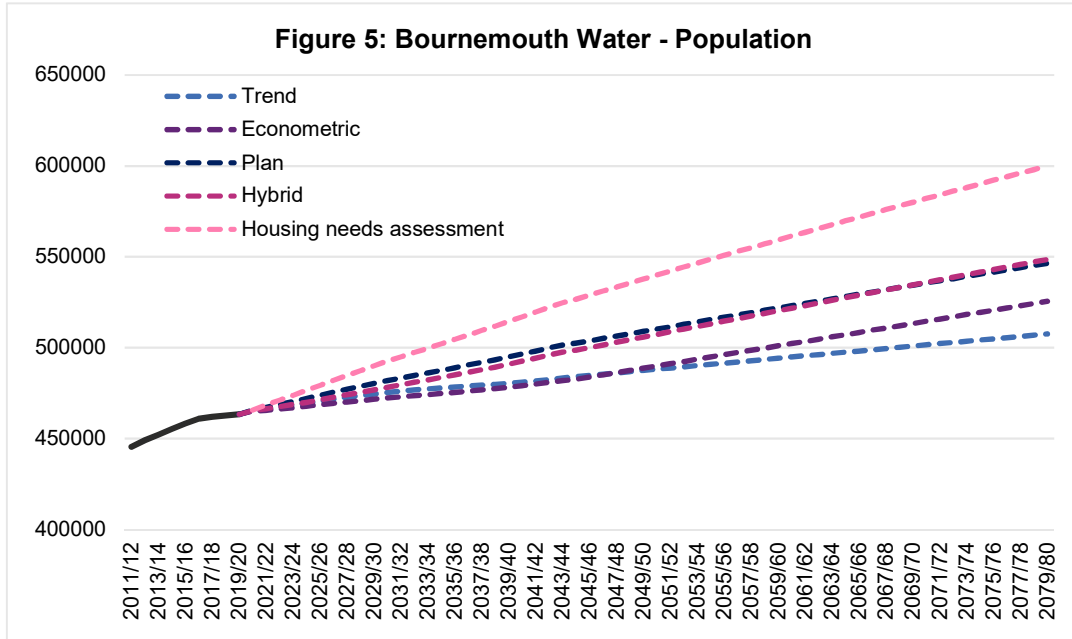
The number of households, shown in Figure 3, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods applied, the trend-based approach estimates the smallest increase from 770,200 to 1,141,000, an increase of 48.1% over the forecasting period. The plan-based approach estimates the largest increase of 63.2%. The average annual growth rate for all approaches is 0.7-0.8%.



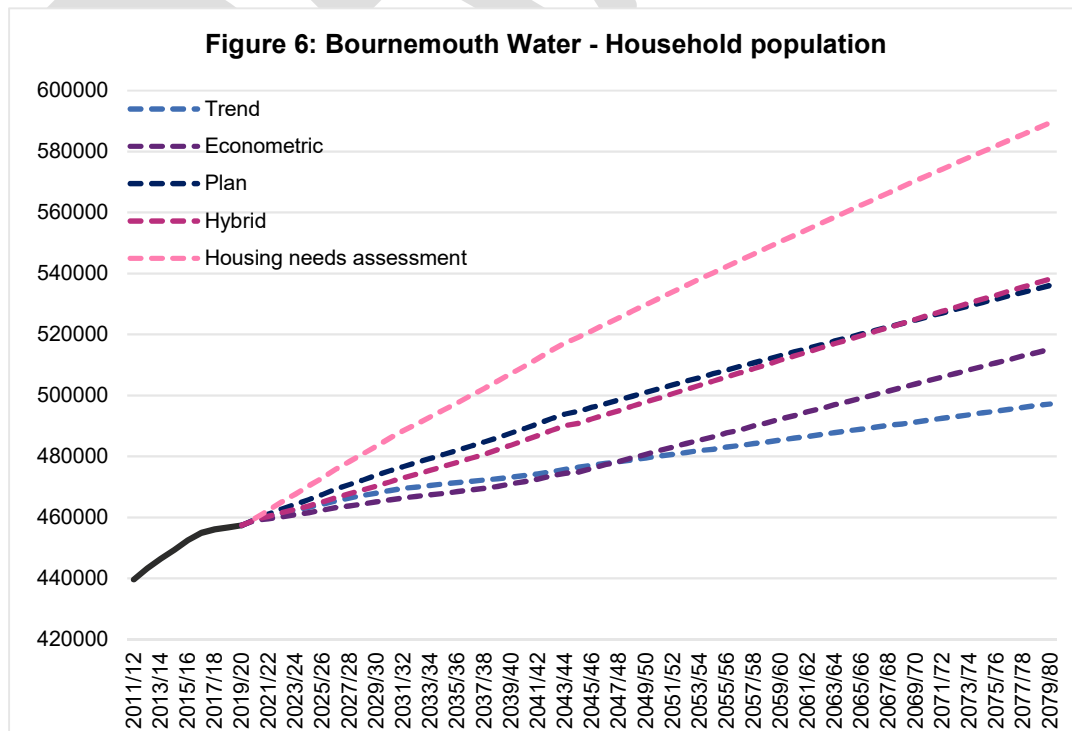
The total number of dwellings, shown in Figure 4, continues to increase over the forecast period (2019/20 to 2079/80). Comparing the methods applied, the trend-based approach estimates the smallest increase from 792,800 to 1,173,800, an increase of 48.1% over the forecasting period. The plan-based approach estimates the largest increase of 63.0%. The average annual growth rate for all approaches is 0.7-0.8%.



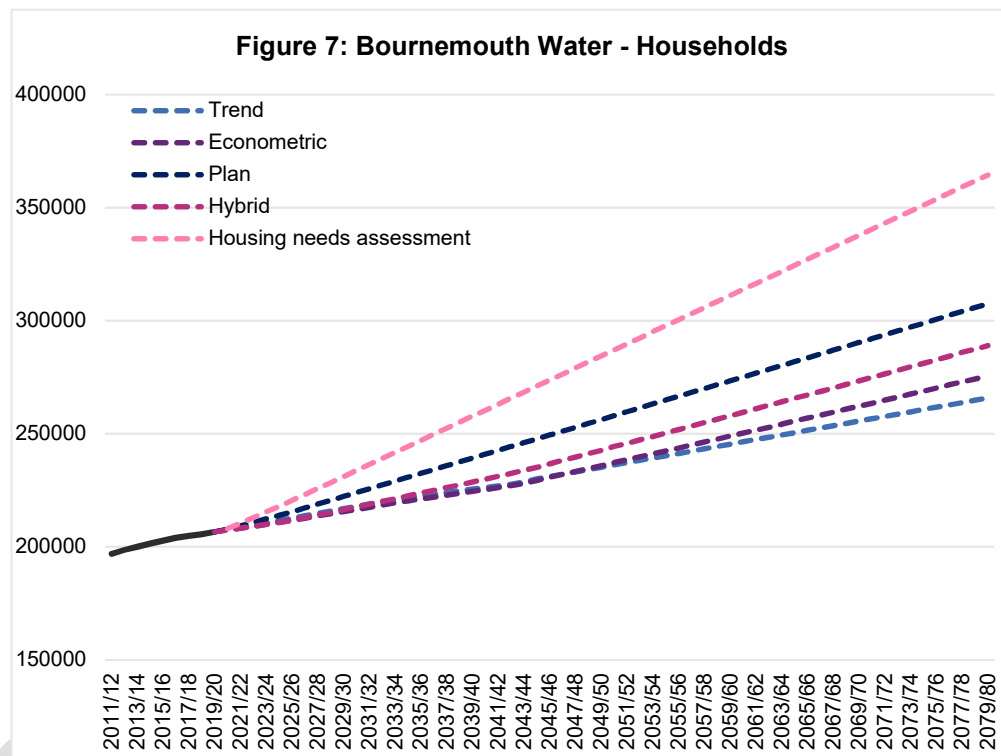
3.2 Bournemouth Water forecast results



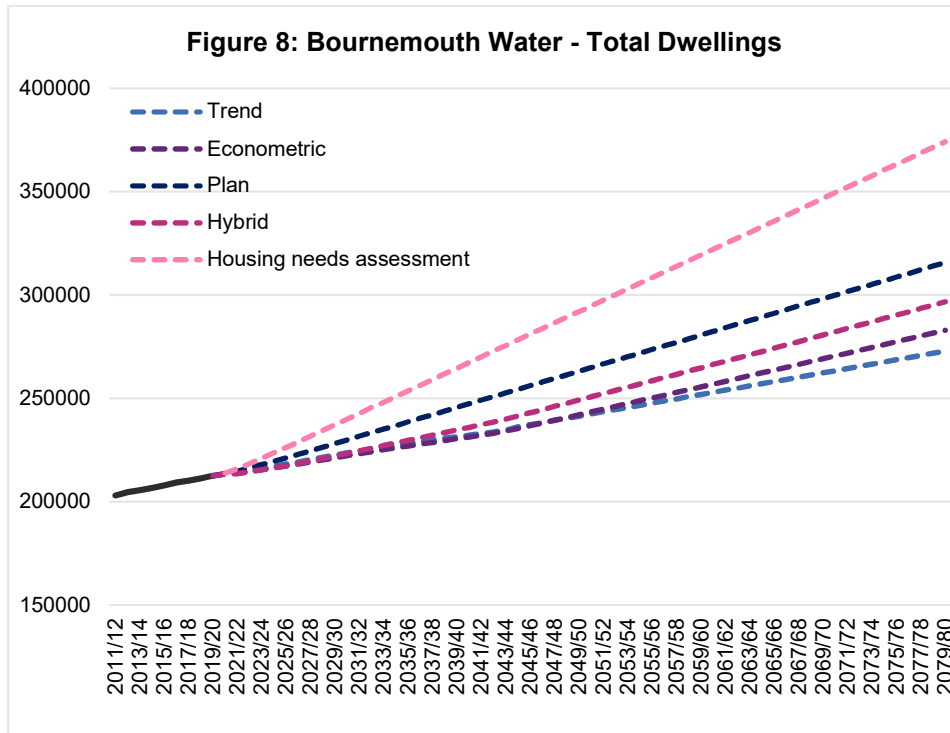
Total population, shown in Figure 5, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods applied, the trend-based approach estimates the smallest increase from 463,400 to 507,600, an increase of 9.5% over the forecasting period. The housing needs assessment estimates the largest increase of 29.5%. The average annual growth rate for all approaches is 0.2-0.4%. Under the housing needs assessment scenario points to significant higher population, 26% more population by 2079/80 than the hybrid projections as a result of high number of dwellings to meet local housing needs.



Household population, shown in Figure 6, has an increasing trend over the forecast period (2019/20 to 2079/80). Each approach has relatively different results. The trend-based approach estimates the smallest increase from 457,400 to 497,200, an increase of 8.7% over the forecasting period. This is followed by the econometric based approach which estimates an increase of 12.6% over the same period. Meanwhile, the housing needs assessment estimates the largest increase of 28.9%, followed by the hybrid and plan-based approach with a growth of 17.7% and 17.2%, respectively. The average annual growth rate ranges between 0.1-0.4% across all approaches.

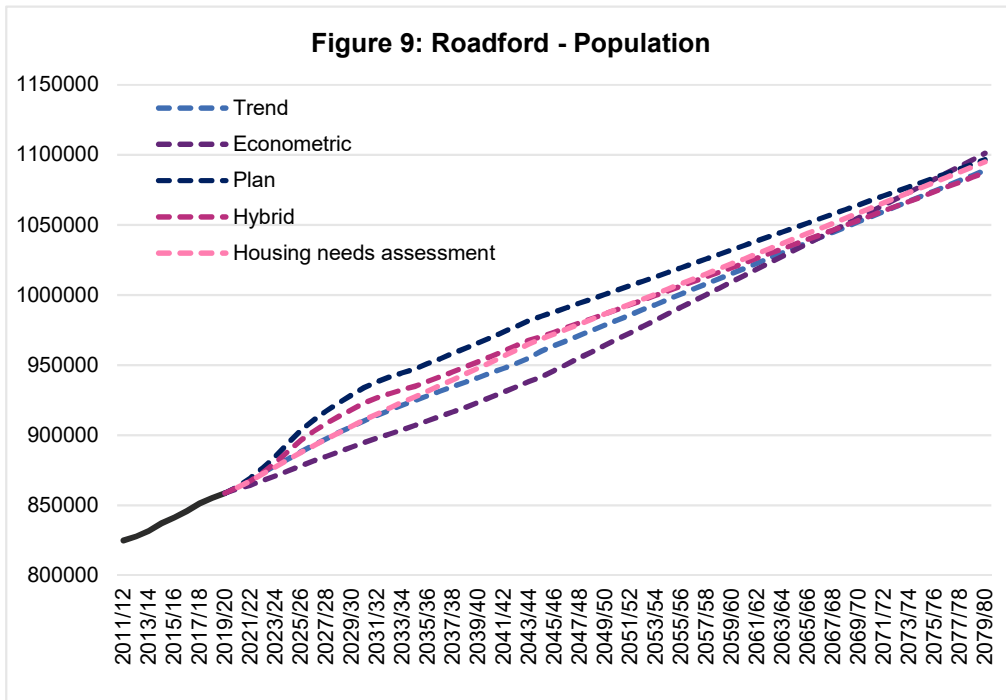


The number of households, shown in Figure 7, has an increasing trend over the forecast period (2019/20 to 2079/80), however, the results differ by the method used. The trend-based approach estimates the smallest increase from 206,600 to 265,800, an increase of 28.7% over the forecasting period. The housing needs assessment estimates the largest increase of 76.4%, followed by the plan-based approach with a growth of 48.8%. The average annual growth rate ranges between 0.4-1.0% across all approaches.

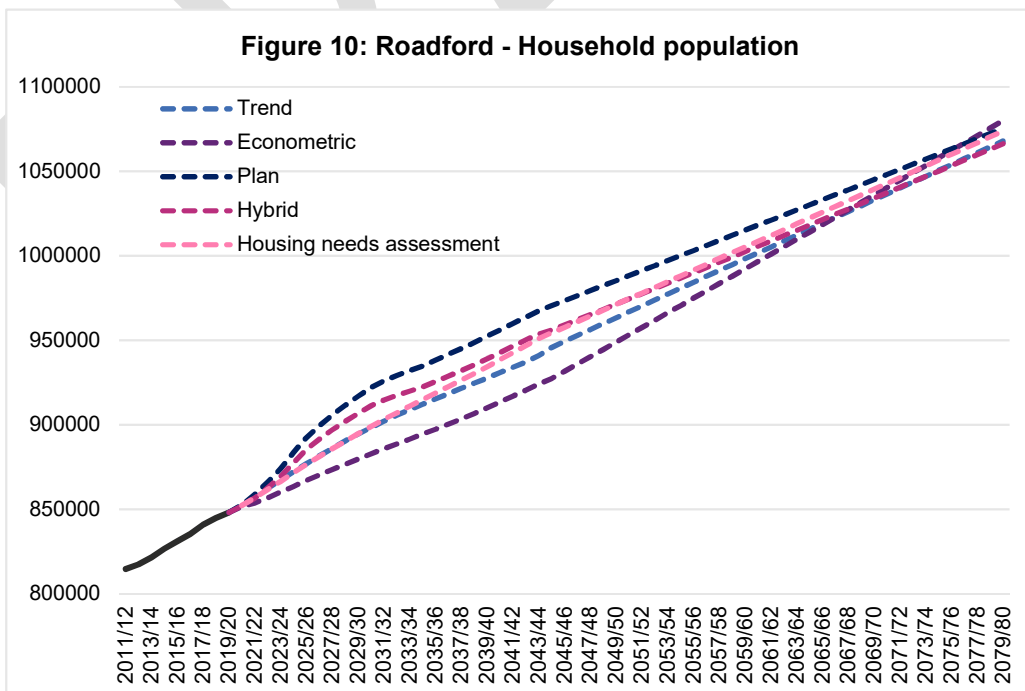


The total number of dwellings, shown in Figure 8, continues to increase over the forecast period (2019/20 to 2079/80) but at a different rate across methods applied. The trend-based approach estimates the smallest increase from 212,600 to 272,800, an increase of 28.3% over the forecasting period. The housing needs assessment estimates the largest increase of 76.0%. The average annual growth rate ranges between 0.4-1.0% across all approaches.

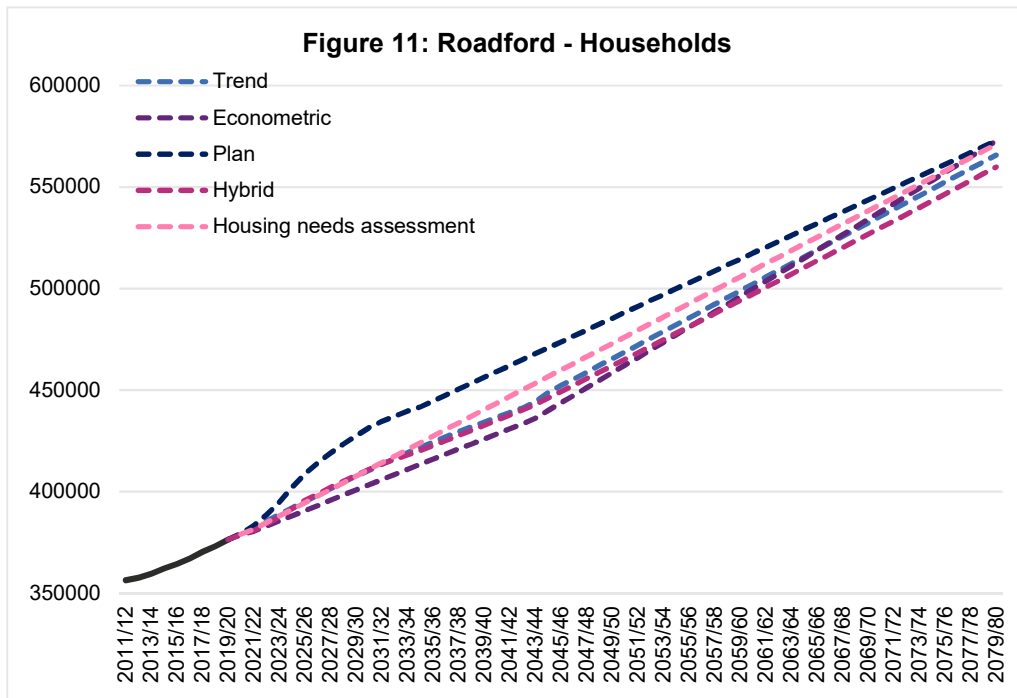
3.3 Roadford WRZ forecast results



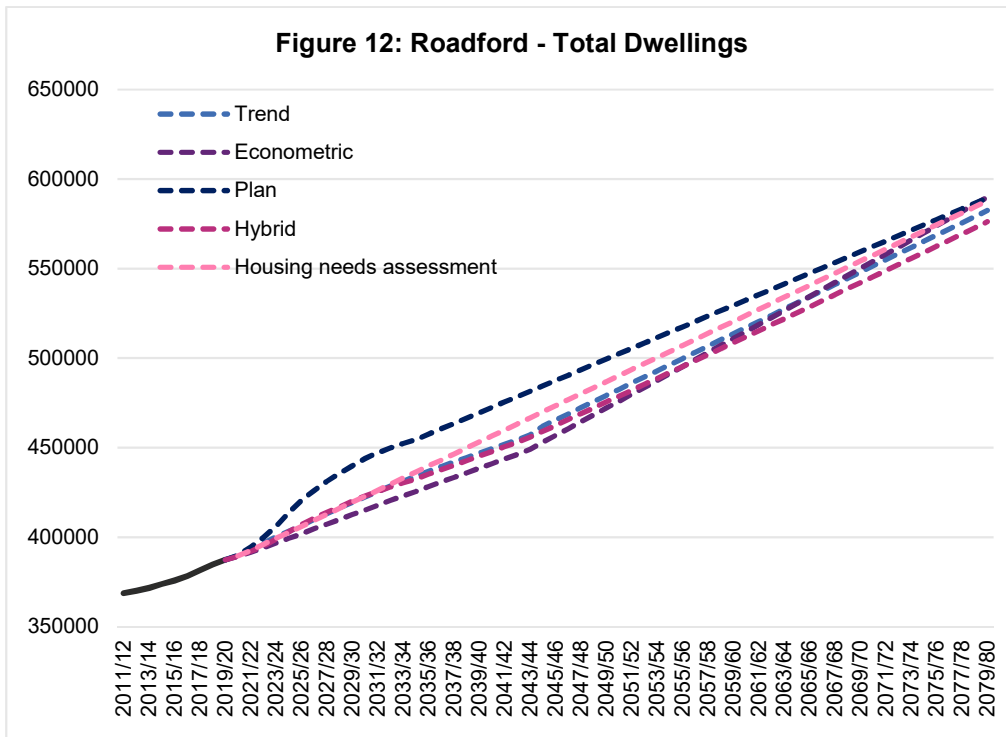
Total population, shown in Figure 9, has an increasing trend over the forecast period (2019/20 to 2079/80). The trend shows a faster growth rate in the short run before settling at a steady average annual growth rate of 0.4% for all approaches. The hybrid approach estimates the smallest increase from 858,600 to 1,087,400, an increase of 26.6% over the forecasting period. The econometric-based approach estimates the largest increase of 28.2%.



Household population, shown in Figure 10, has a similar trend to total population. The hybrid approach estimates the smallest increase from 848,100 to 1,066,300, an increase of 25.7% over the forecasting period. The econometric-based approach estimates the largest increase of 27.3%. The average annual growth rate for all approaches is 0.4%.

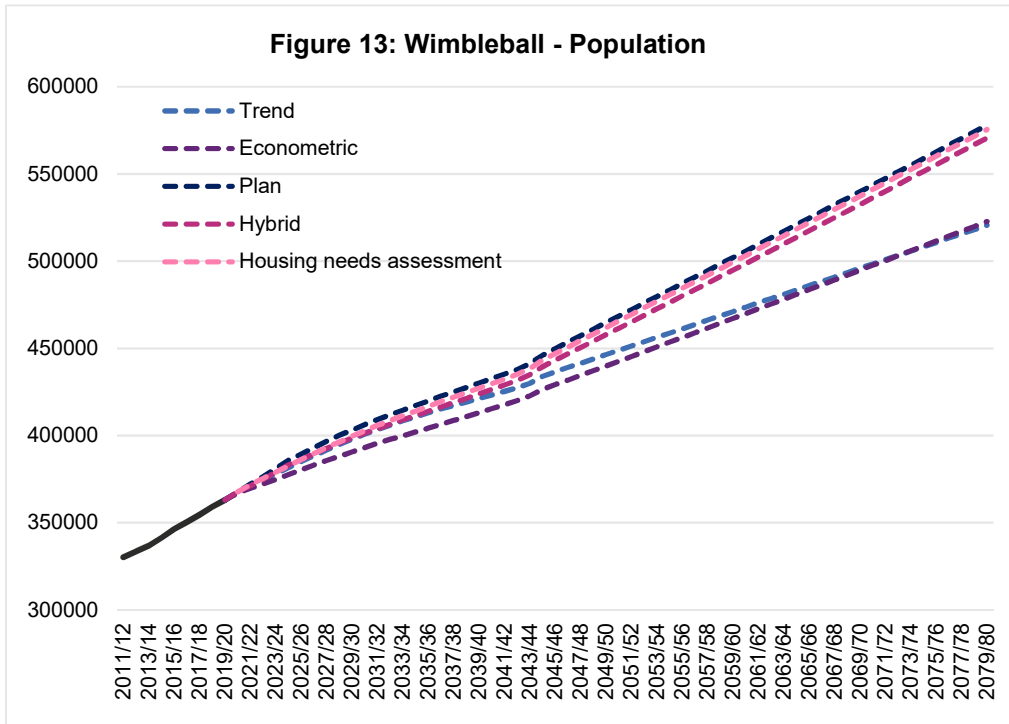


The number of households, shown in Figure 11, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods applied, the hybrid approach estimates the smallest increase from 376,300 to 559,800, an increase of 48.8% over the forecasting period. The plan-based and econometric-based approach estimate the largest increase of 52.2%. The average annual growth rate for all approaches is 0.7%.

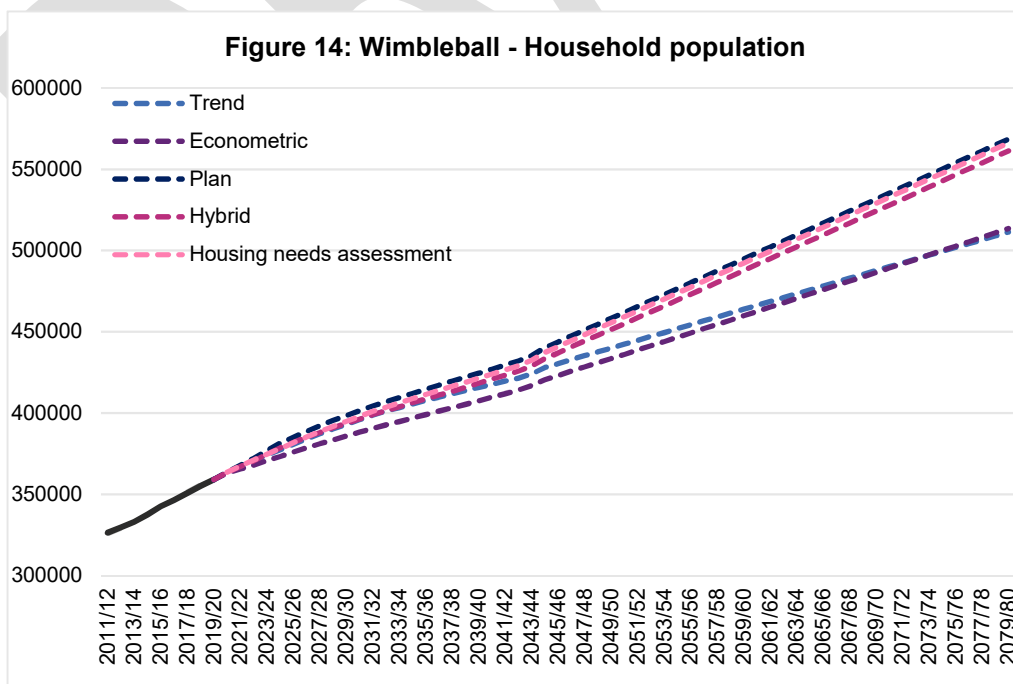


The total number of dwellings, shown in Figure 12, shows an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods used, the hybrid approach estimates the smallest increase from 387,400 to 576,200, an increase of 48.7% over the forecasting period. The econometric-based approach estimates the largest increase of 52.3%. In the short run (2024/25 to 2034/35), the plan-based approach estimates higher results with a growth rate peaking at 1.9% in 2024/25 before settling at the average annual growth rate of 0.7% (the same average for all approaches).

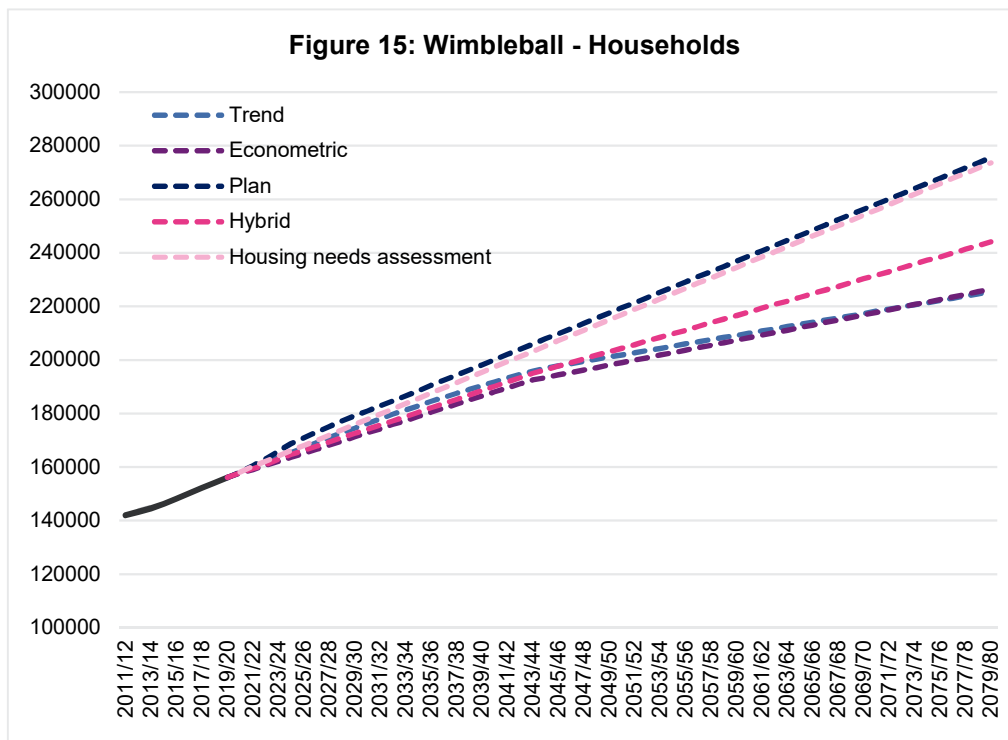
3.4 Wimbleball WRZ results



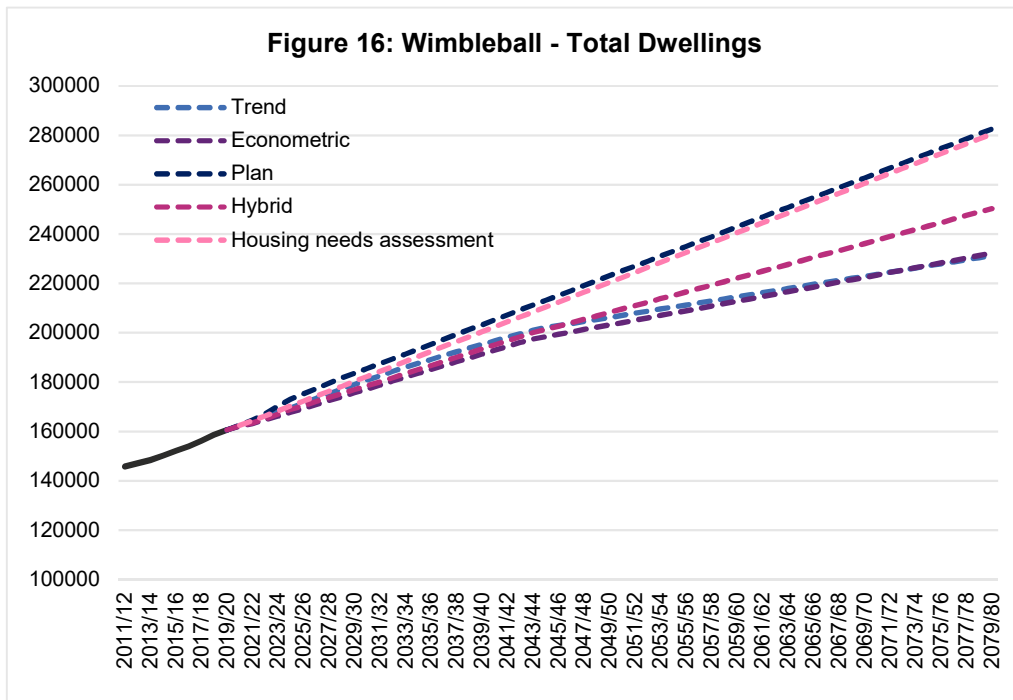
Total population, shown in Figure 13, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods used, the trend-based and econometric-based approach show similar results, estimating the smallest increase from 363,100 to 520,600 and 522,700, respectively. This represents an increase of 43.4% and 44.0% over the forecasting period, respectively. The three other approaches increase to a higher level, with the plan-based approaching estimating the largest increase of 59.2%. The average annual growth rate for all approaches is 0.6-0.8%.



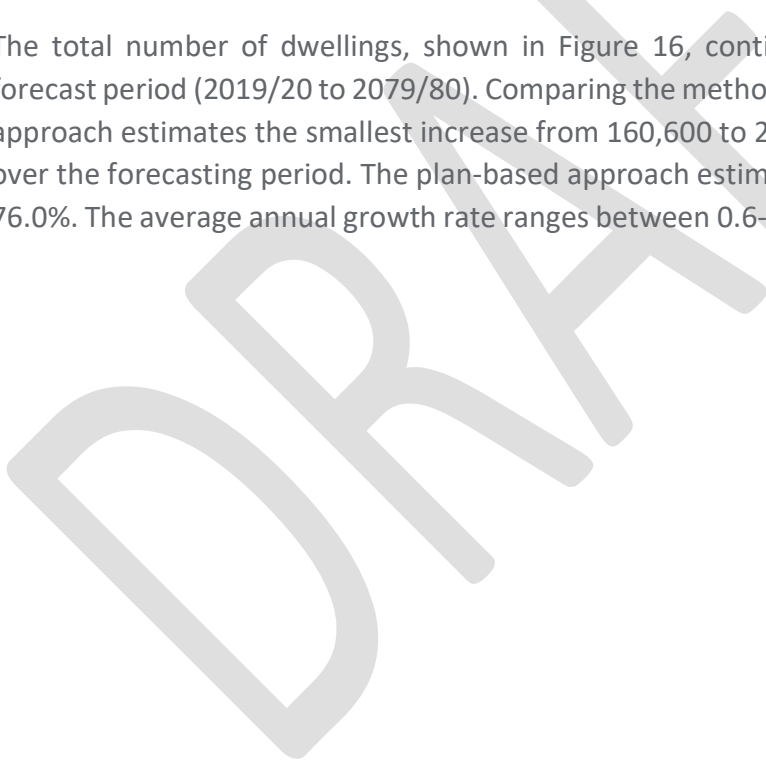
Household population, shown in Figure 14, has a similar trend to total population, increasing over the forecast period (2019/20 to 2079/80). The trend-based and econometric-based approach estimate the smallest increases from 359,000 to 511,400 and 513,500, respectively. This represents an increase of 42.5% and 43.0% over the forecasting period, respectively. The three other approaches increase to a higher level, with the plan-based approaching estimating the largest increase of 58.4%. The average annual growth rate for all approaches is 0.6-0.8%.



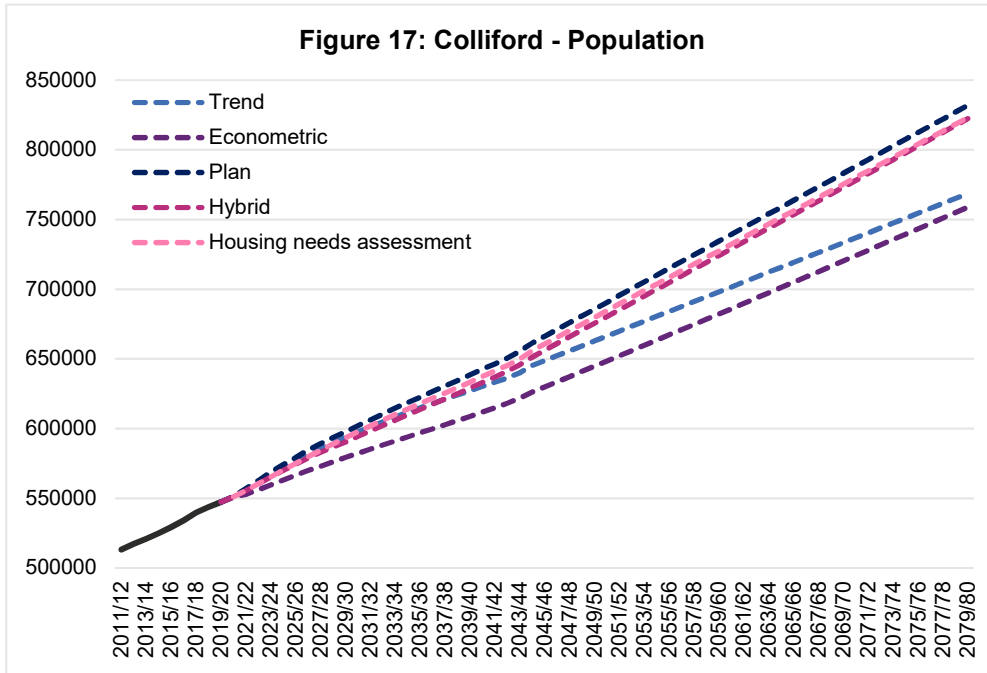
The number of households, shown in Figure 15, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods applied, the trend-based approach estimates the smallest increase from 156,100 to 225,500, an increase of 44.5% over the forecasting period. The plan-based approach estimates the largest increase of 76.6%. The average annual growth rate ranges between 0.6-0.1% across all approaches.



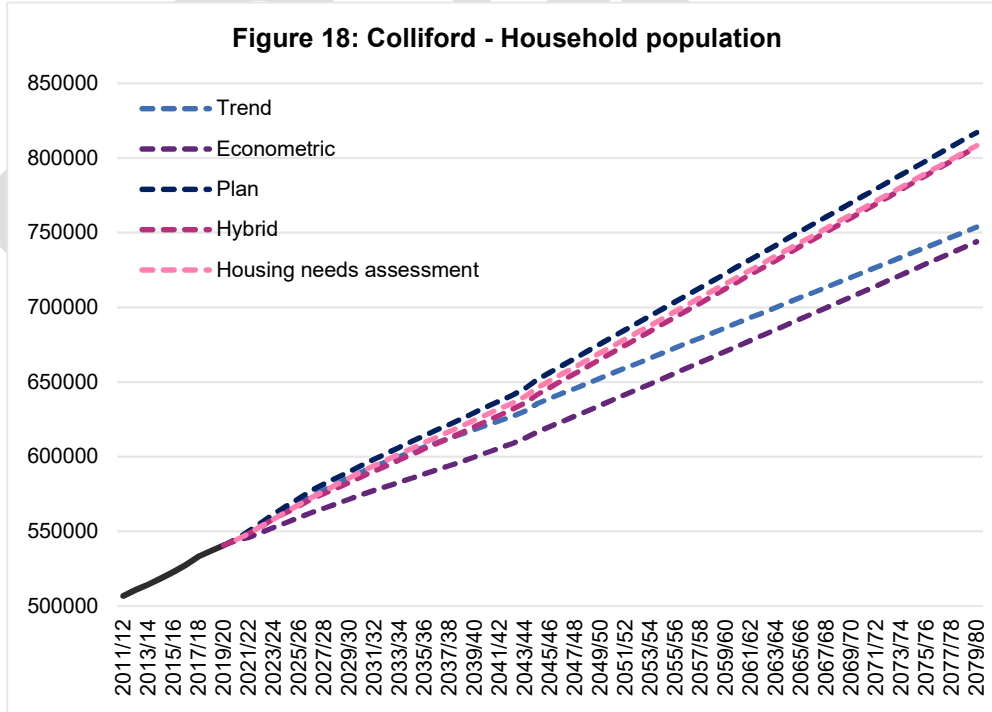
The total number of dwellings, shown in Figure 16, continues to increase over the forecast period (2019/20 to 2079/80). Comparing the methods applied, the trend-based approach estimates the smallest increase from 160,600 to 231,300, an increase of 44.0% over the forecasting period. The plan-based approach estimates the largest increase of 76.0%. The average annual growth rate ranges between 0.6-0.9% across all approaches.



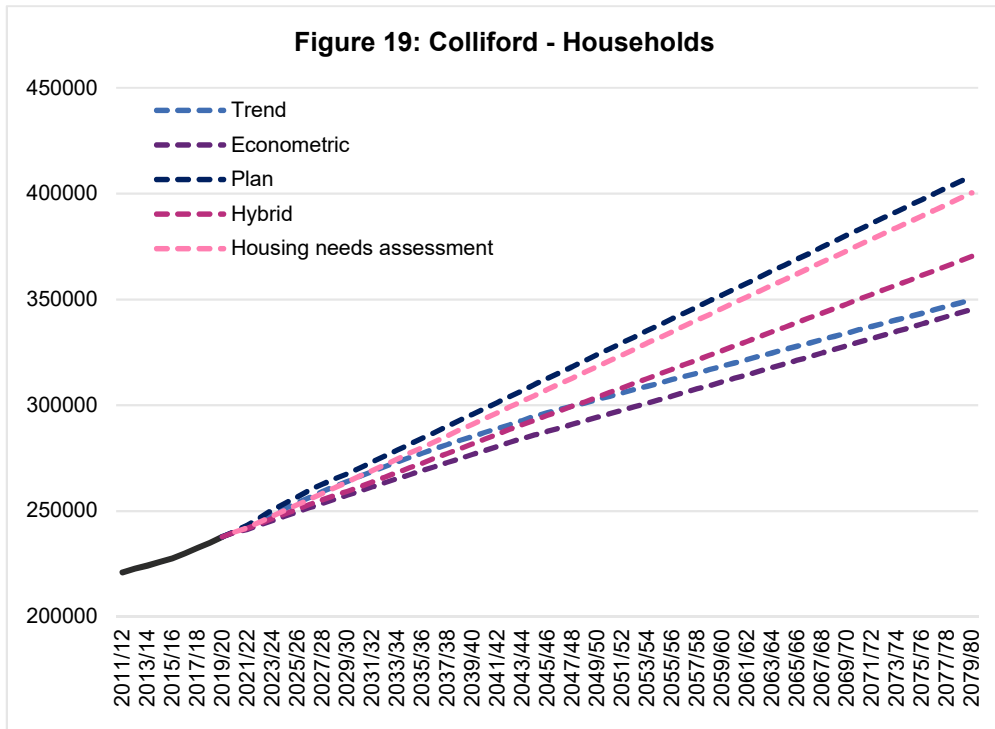
3.5 Colliford WRZ results



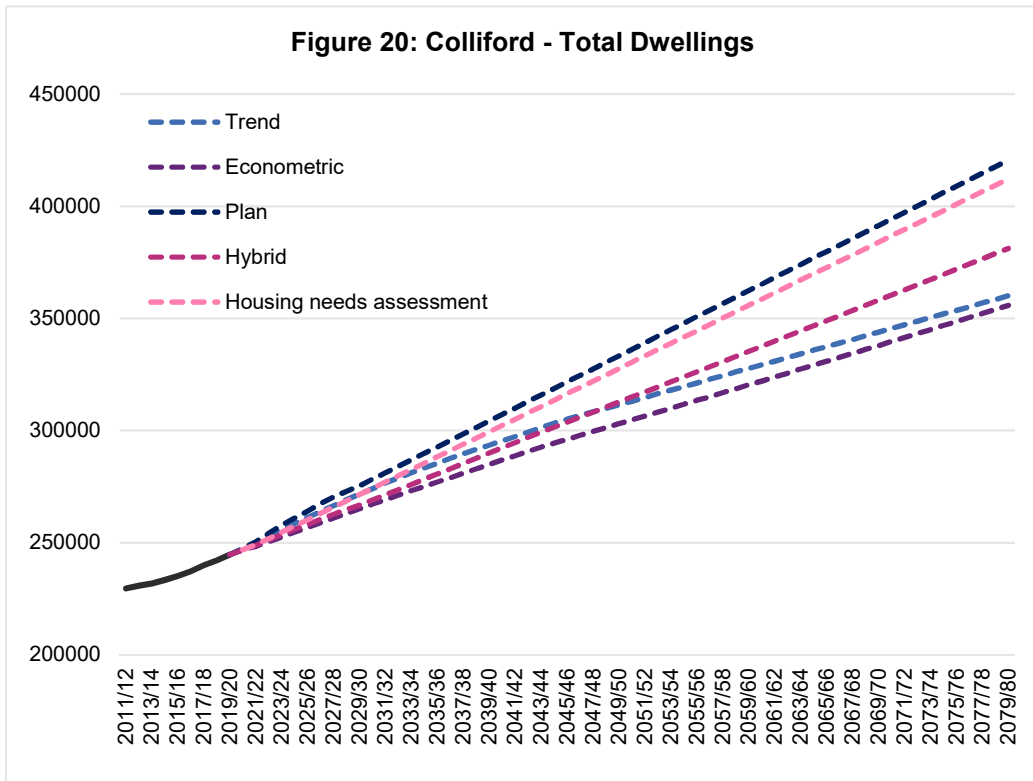
Total population, shown in Figure 17, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods used, the econometric-based approach estimates the smallest increase from 547,300 to 758,900, an increase of 38.7% over the forecasting period. The plan-based approach estimates the largest increase of 52.0%. The average annual growth rate for all approaches is 0.6-0.7%.



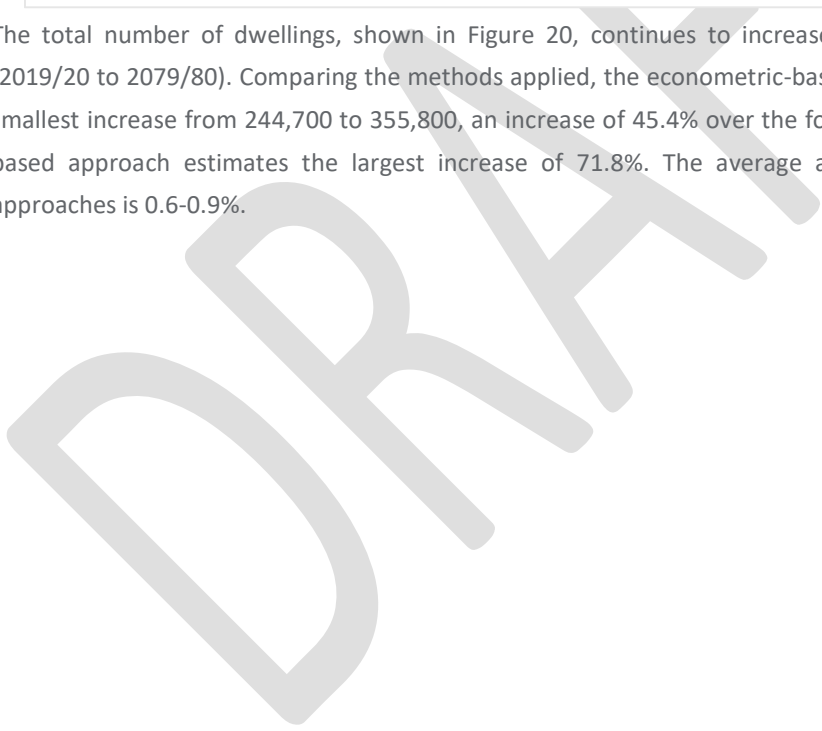
Household population, shown in Figure 18, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods used, the econometric-based approach estimates the smallest increase from 540,700 to 744,000, an increase of 37.6% over the forecasting period. The plan-based approach estimates the largest increase of 51.1%. The average annual growth rate for all approaches is 0.5-0.7%.



The number of households, shown in Figure 19, has an increasing trend over the forecast period (2019/20 to 2079/80). Comparing the methods applied, the econometric-based approach estimates the smallest increase from 237,800 to 345,300, an increase of 45.2% over the forecasting period. The plan-based approach estimates the largest increase of 71.8%. The average annual growth rate for all approaches is 0.6-0.9%.



The total number of dwellings, shown in Figure 20, continues to increase over the forecast period (2019/20 to 2079/80). Comparing the methods applied, the econometric-based approach estimates the smallest increase from 244,700 to 355,800, an increase of 45.4% over the forecasting period. The plan-based approach estimates the largest increase of 71.8%. The average annual growth rate for all approaches is 0.6-0.9%.



3.1 Sensitivity analysis

The four approaches outlined in the earlier sections are primarily based on the 2018-based national and sub-national principal projections produced the ONS. The principal projections are themselves based on a set of long-term assumptions considered to best reflect recent patterns of future fertility, mortality and net migration. In order give the water South West Water an indication of the inherent uncertainty of demographic behaviour and show what the potential outcomes could be from different assumptions of future demographic change, Experian produced different sets of projections using the variant projections released by the ONS with alternative demographic assumptions. The high and low international migration scenarios were chosen as the uncertainty associated with international migration in the post-Brexit world. The high and low international migration variants assume either higher or lower levels of net international migration to England as a whole, but the proportional distribution at local authority level remains the same. The result is that all areas see correspondingly higher or lower population totals, with areas that have high levels of international migration in the principal projection (especially in cities and Greater London) seeing the greatest difference.

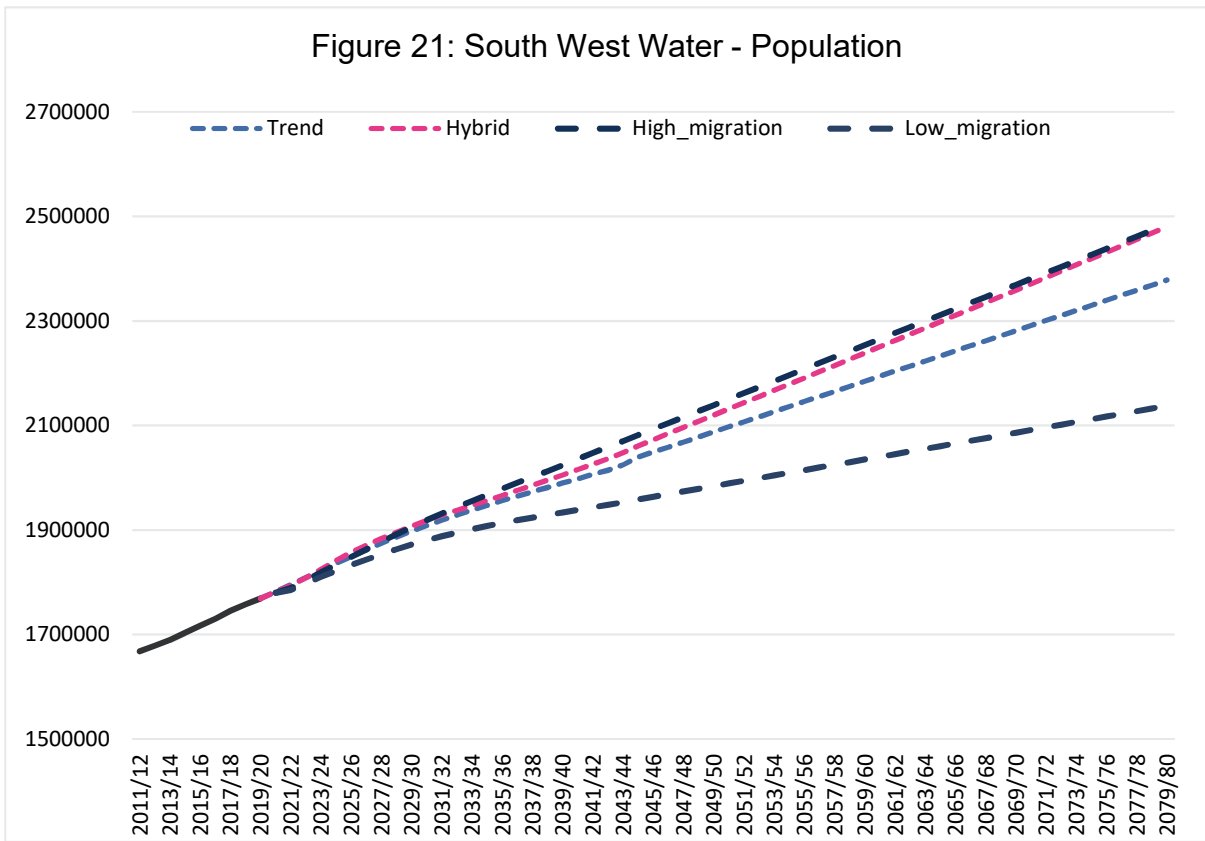
High international migration scenario

This has a higher long-term net migration total of 290,000 per year from 2025 onwards, compared with 190,000 in the principal projection.

Low international migration scenario

This has a lower long-term net migration total of 90,000 per year from 2025 onwards, compared with 190,000 in the principal projection.

Figure 21: South West Water - Population



The alternative forecasts themselves represent the uncertainty associated with the forecasts. The four approaches have demonstrated the wide range of growth trajectories should be considered. In this example, the hybrid population forecast sits above the other forecasts and is marginally higher than the high migration scenario. Under the low migration scenario, the population growth is 14% lower compared to the hybrid projections by 2019/80.

4. Comparison to Bristol Water

Experian have produced a consistent property and population forecasts for Bristol Water and South West Water as part their joint regional plan and individual Water Resources Management Plans.

A brief description of the four approaches:

The **trend-based approach** allowed us to combine recent local trends and national assumptions to form a long-term view of local growth. These projections implicitly captured economic effects but did not include any explicit assumptions about future economic change. Experian proposes to explore an adjusted trend-based projection that would include an affordability adjustment. This would provide a set of consistent projections that all local authorities should be aiming to deliver.

The **plan-based approach** provided a view based on the number of houses the local authority hopes will be built over the lifetime of their local plan (typically extending 20 years). The housing targets are themselves, in part, based on the concept of local housing needs, which take into projected household growth as well as housing affordability. The plans are subject to market conditions of which the local authority has limited control and as a result these housing targets may be unrealistic.

The Econometric-based approach forecasts allow an assessment of changing economic conditions on housing completion which

The **hybrid approach** takes elements of all three approaches to produce more robust forecasts and capture uncertainty, by selecting the most appropriate forecasts for each local authority area based on a quality assessment of the data used.

The hybrid approach is our preferred (most-likely) projections as the approach takes key elements from the other approaches by considering recent trends in terms of demographic changes (trend-based); the expected growth local authorities are able to deliver the housing targets set out in their local plans (plan-based); and relevant economic factors (econometric-based). Therefore, the forecasts comparison between Bristol Water and South West are primarily using the hybrid projections.

At company level, both Bristol Water and South West Water are expected to similar level of population growth under the hybrid-based approach at close to 0.6 per cent per annum between 2019/20 to 2079/80. In terms of property forecasts, South West Water are expected to have stronger growth profile with average property growth of 0.7 per cent per annum between 2019/20 and 2079/80, compared with 0.6 per cent for Bristol Water. The analysis above suggests that the decline in average household size is keeping population growth in both company areas at similar level despite the stronger growth in both property numbers and households in South West Water area.

Figure 5.1 – Forecasts comparison between South West Water and Bristol Water over the forecast period (2019/20-2079/80)

Series	Type of projections	Average annual growth	
		SWW	Bristol Water
Household population	Hybrid	0.7%	0.6%
Households	Hybrid	0.6%	0.6%
Population	Hybrid	0.6%	0.6%
Total Dwellings	Hybrid	0.7%	0.6%

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5. Summary

5.1 Compare forecasts

In this report, trend based ONS forecasts for household and population are shown. Plan-based, econometric-based, hybrid and an assessment of local housing forecasts for properties and population are also reported. Each of the forecasts provide an alternative view of the future however, there is still a large degree of overlap between the different forecasts as seen in the results chapter where trends across the approaches are similar.

5.2 Closing remarks

The **trend-based approach** allowed us to combine recent local trends and national assumptions to form a long-term view of local growth. These projections implicitly captured economic effects but did not include any explicit assumptions about future economic change. Experian explored an adjusted trend-based projection that would include an affordability adjustment. This provides a set of consistent projections that all local authorities should be aiming to deliver.

The **plan-based approach** provided a view based on the number of dwellings the local authority hopes will be built over the lifetime of their plan (typically extending 20 years). The dwelling targets are themselves, in part, based on analysis of trend-based projections. The plans are subject to market conditions of which the local authority has limited control and as a result these dwelling targets may be unrealistic.

The **econometric-based approach** uses Experian's own forecast, allowing an assessment of changing economic conditions on demographic growth. It includes assumptions on natural population change and household formation taken from observed trends.

The **hybrid approach** took elements of all three approaches to produce more robust forecasts and capture uncertainty, by selecting the most appropriate forecasts for each local authority area based on a quality assessment of the data used.

6. Appendix A

6.1 Summary tables by Water Resource Zone

The following table details the annual growth rates by financial year

Table 5.1.1 – South West Water

Methodology	Series growth (%)	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	Average 30/31 - 79/80
Trend	Population	0.72	0.79	0.76	0.75	0.73	0.71	0.69	0.67	0.63	0.60	0.57	0.45
	Total Dwellings	0.82	1.00	1.02	0.99	0.97	0.94	0.93	0.94	0.90	0.85	0.83	0.60
	Vacant dwellings	-3.56	3.23	0.89	1.33	0.87	0.87	0.86	1.28	0.84	0.83	0.83	0.60
Econometric	Population	0.62	0.39	0.51	0.53	0.53	0.55	0.52	0.49	0.48	0.49	0.48	0.50
	Total Dwellings	0.71	0.60	0.77	0.77	0.77	0.77	0.76	0.77	0.74	0.73	0.73	0.65
	Vacant dwellings	-3.56	2.76	0.90	0.89	0.88	0.87	0.43	0.86	0.85	0.85	0.84	0.69
Plan	Population	0.75	0.90	0.97	1.04	1.07	0.95	0.87	0.78	0.71	0.67	0.65	0.52
	Total Dwellings	0.86	1.24	1.45	1.57	1.65	1.42	1.29	1.16	1.06	0.97	0.98	0.72
	Vacant dwellings	-3.56	3.23	1.79	1.32	1.73	1.28	1.26	1.24	1.23	0.81	0.80	0.72
Hybrid	Population	0.70	0.70	0.82	0.89	0.93	0.84	0.76	0.69	0.63	0.60	0.60	0.53
	Total Dwellings	0.73	0.70	0.92	0.99	1.00	0.94	0.91	0.85	0.80	0.77	0.79	0.67
	Vacant dwellings	-3.56	2.76	0.90	0.89	1.32	0.87	0.86	0.85	0.85	0.84	0.42	0.67
Housing needs assessment	Population		0.73	0.76	0.76	0.74	0.74	0.71	0.68	0.67	0.65	0.63	0.54
	Total Dwellings		0.89	1.00	1.01	0.98	0.99	0.98	0.96	0.96	0.95	0.93	0.77
	Vacant dwellings		3.23	0.89	0.88	0.88	1.30	0.86	0.85	0.84	1.26	0.83	0.77

Table 5.1.2 – Bournemouth Water

Methodology	Series growth (%)	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	Average 30/31 - 79/80
Trend	Population	0.41	0.24	0.24	0.21	0.23	0.23	0.23	0.21	0.19	0.19	0.17	0.13
	Total Dwellings	0.42	0.28	0.47	0.51	0.46	0.51	0.46	0.55	0.50	0.50	0.45	0.41
	Vacant dwellings	-1.69	-5.17	1.82	0.00	0.00	0.00	1.79	0.00	0.00	0.00	1.75	0.39
Econometric	Population	0.39	0.09	0.15	0.15	0.17	0.19	0.17	0.15	0.15	0.17	0.15	0.22
	Total Dwellings	0.38	0.14	0.42	0.42	0.42	0.42	0.46	0.46	0.46	0.45	0.45	0.49
	Vacant dwellings	-1.69	-5.17	1.82	0.00	0.00	0.00	0.00	1.79	0.00	0.00	1.75	0.50
Plan	Population	0.45	0.37	0.36	0.34	0.34	0.36	0.38	0.34	0.34	0.33	0.31	0.26
	Total Dwellings	0.52	0.51	0.74	0.74	0.73	0.73	0.77	0.81	0.76	0.80	0.74	0.65
	Vacant dwellings	-1.69	-3.45	0.00	0.00	1.79	0.00	1.75	0.00	1.72	0.00	1.69	0.64
Hybrid	Population	0.41	0.26	0.26	0.26	0.23	0.30	0.30	0.27	0.30	0.29	0.29	0.28
	Total Dwellings	0.42	0.09	0.42	0.42	0.42	0.46	0.55	0.50	0.55	0.59	0.54	0.58
	Vacant dwellings	-1.69	-5.17	1.82	0.00	0.00	0.00	1.79	0.00	0.00	1.75	0.00	0.58
Housing needs assessment	Population		0.60	0.58	0.57	0.57	0.57	0.58	0.56	0.54	0.53	0.53	0.40
	Total Dwellings		0.98	1.16	1.19	1.18	1.16	1.19	1.22	1.16	1.19	1.14	0.91
	Vacant dwellings		-3.45	1.79	0.00	1.75	1.72	0.00	1.69	1.67	0.00	1.64	0.92

Table 5.1.3 – Roadford WRZ

Methodology	Series growth (%)	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	Average 30/31 - 79/80
Trend	Population	0.50	0.60	0.59	0.57	0.56	0.55	0.54	0.52	0.50	0.48	0.44	0.37
	Total Dwellings	0.62	0.92	0.86	0.83	0.82	0.79	0.81	0.81	0.77	0.74	0.72	0.66
	Vacant dwellings	-4.50	5.66	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.66
Econometric	Population	0.41	0.26	0.38	0.39	0.40	0.41	0.40	0.36	0.37	0.37	0.37	0.42
	Total Dwellings	0.52	0.56	0.66	0.66	0.66	0.65	0.67	0.64	0.66	0.63	0.63	0.72
	Vacant dwellings	-4.50	5.66	0.89	0.00	0.88	0.88	0.87	0.86	0.85	0.00	0.85	0.77
Plan	Population	0.52	0.72	0.85	0.92	1.10	0.99	0.80	0.72	0.64	0.60	0.57	0.33
	Total Dwellings	0.65	1.15	1.39	1.55	1.90	1.64	1.31	1.20	1.04	0.96	0.93	0.58
	Vacant dwellings	-4.50	6.60	0.88	1.75	1.72	1.69	0.83	1.65	0.81	0.81	0.80	0.56
Hybrid	Population	0.47	0.53	0.70	0.79	0.94	0.88	0.70	0.63	0.56	0.54	0.51	0.34
	Total Dwellings	0.52	0.67	0.82	0.91	1.05	1.02	0.86	0.80	0.75	0.72	0.71	0.63
	Vacant dwellings	-4.50	5.66	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.62
Housing needs assessment	Population		0.53	0.59	0.57	0.58	0.57	0.55	0.53	0.52	0.51	0.50	0.38
	Total Dwellings		0.77	0.87	0.86	0.83	0.84	0.84	0.81	0.82	0.82	0.79	0.67
	Vacant dwellings		5.66	0.89	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.67

Table 5.1.4 – Wimbleball WRZ

Methodology	Series growth (%)	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	Average 30/31 - 79/80
Trend	Population	1.21	0.98	0.97	0.93	0.93	0.89	0.88	0.85	0.79	0.76	0.73	0.54
	Total Dwellings	1.12	0.86	1.22	1.15	1.13	1.12	1.11	1.10	1.08	1.02	1.01	0.50
	Vacant dwellings	-2.22	-6.82	0.00	2.44	0.00	2.38	0.00	2.33	0.00	2.27	0.00	0.52
Econometric	Population	1.13	0.68	0.68	0.73	0.72	0.74	0.71	0.65	0.65	0.64	0.64	0.58
	Total Dwellings	1.00	0.62	0.92	0.91	0.90	0.95	0.95	0.94	0.87	0.92	0.91	0.55
	Vacant dwellings	-2.22	-6.82	0.00	0.00	2.44	0.00	2.38	0.00	0.00	2.33	0.00	0.60
Plan	Population	1.27	1.20	1.13	1.28	1.23	0.93	0.95	0.92	0.86	0.77	0.74	0.72
	Total Dwellings	1.18	1.29	1.58	1.79	1.70	1.21	1.26	1.24	1.17	1.05	1.03	0.86
	Vacant dwellings	-2.22	-6.82	0.00	2.44	2.38	0.00	2.33	2.27	0.00	2.22	0.00	0.86
Hybrid	Population	1.24	0.98	0.97	1.12	1.08	0.81	0.85	0.82	0.76	0.71	0.68	0.72
	Total Dwellings	1.06	0.68	1.04	1.15	1.14	0.89	1.00	0.93	0.98	0.86	0.90	0.69
	Vacant dwellings	-2.22	-6.82	0.00	0.00	2.44	0.00	2.38	0.00	2.33	0.00	0.00	0.71
Housing needs assessment	Population		1.09	0.97	0.99	0.95	0.94	0.91	0.87	0.84	0.81	0.80	0.73
	Total Dwellings		1.11	1.22	1.20	1.19	1.17	1.16	1.15	1.13	1.12	1.11	0.88
	Vacant dwellings		-6.82	0.00	2.44	0.00	2.38	0.00	2.33	0.00	2.27	0.00	0.91

Table 5.1.5 – Colliford WRZ

Methodology	Series growth (%)	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	Average 30/31 - 79/80
Trend	Population	0.75	0.92	0.92	0.87	0.86	0.82	0.80	0.77	0.73	0.70	0.67	0.51
	Total Dwellings	0.98	1.17	1.20	1.11	1.06	1.04	1.03	1.02	0.98	0.93	0.88	0.56
	Vacant dwellings	-1.45	4.41	1.41	1.39	0.00	1.37	1.35	1.33	0.00	1.32	1.30	0.55
Econometric	Population	0.60	0.42	0.60	0.61	0.61	0.62	0.58	0.56	0.54	0.56	0.54	0.54
	Total Dwellings	0.86	0.65	0.85	0.84	0.83	0.82	0.86	0.77	0.80	0.76	0.79	0.59
	Vacant dwellings	-2.90	5.97	0.00	1.41	1.39	0.00	1.37	1.35	0.00	1.33	0.00	0.64
Plan	Population	0.75	1.00	1.06	1.05	0.95	0.89	0.93	0.79	0.73	0.69	0.74	0.66
	Total Dwellings	1.02	1.29	1.48	1.46	1.24	1.19	1.29	1.08	0.96	0.88	1.05	0.85
	Vacant dwellings	-1.45	4.41	1.41	1.39	1.37	1.35	1.33	1.32	1.30	0.00	1.28	0.86
Hybrid	Population	0.69	0.78	0.88	0.91	0.78	0.79	0.80	0.71	0.63	0.61	0.69	0.66
	Total Dwellings	0.86	0.81	0.96	1.00	0.87	0.86	0.93	0.84	0.80	0.76	0.86	0.71
	Vacant dwellings	-2.90	5.97	0.00	1.41	1.39	0.00	1.37	1.35	0.00	1.33	0.00	0.72
Housing needs assessment	Population		0.80	0.88	0.87	0.87	0.84	0.83	0.78	0.79	0.75	0.74	0.66
	Total Dwellings		0.89	1.12	1.11	1.10	1.09	1.08	1.06	1.05	1.04	1.03	0.83
	Vacant dwellings		4.41	1.41	0.00	1.39	1.37	1.35	1.33	0.00	1.32	1.30	0.83

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