



Demand for social and affordable housing in WSCD area



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EXECUTIVE SUMMARY

SGS Economics and Planning were commissioned by the Community Housing Industry Association NSW on behalf of some of its members operating in Western Sydney to estimate the current, and future, unmet demand for social and affordable housing (SAH) within the Western Sydney City Deal (WSCD) area. The analysis in this report is comprised of three stages:

- **Total Demand:** An analysis of existing, and forecast demand for social and affordable housing. This section examines demand, disaggregated by household type and LGA
- **Supply of SAH:** A measure of the existing supply of SAH, by LGA, within the WSCD area. Factors which will impact supply in the future are also examined
- **Net Demand:** An alignment of total demand and supply. This gives an estimate of net demand, which represents the SAH provision requirements to 2036

Total Demand

Demand for social and affordable housing is driven by households who either:

- Cannot access market housing (including homeless persons), or;
- Have low household incomes and spend a high proportion of this income on rent (i.e. are experiencing rental stress)

In 2016, the WSCD area had demand for 59,500 SAH dwellings. Most of this demand stems from households in rental stress and those currently residing in social housing. Overall, demand for SAH in the WSCD area is expected to grow by 28,200 dwellings between 2016 and 2036. Of this growth in demand, families with children¹ contribute the largest amount, while lone person households exhibit the fastest growth rate².

Sensitivity tests, which correspond to improving and worsening rental affordability, imply the following lower and upper bounds for growth in SAH demand:

- Improving affordability: Total SAH demand growth of 24,400 dwellings
- Worsening affordability: Total SAH demand growth of 31,500 dwellings

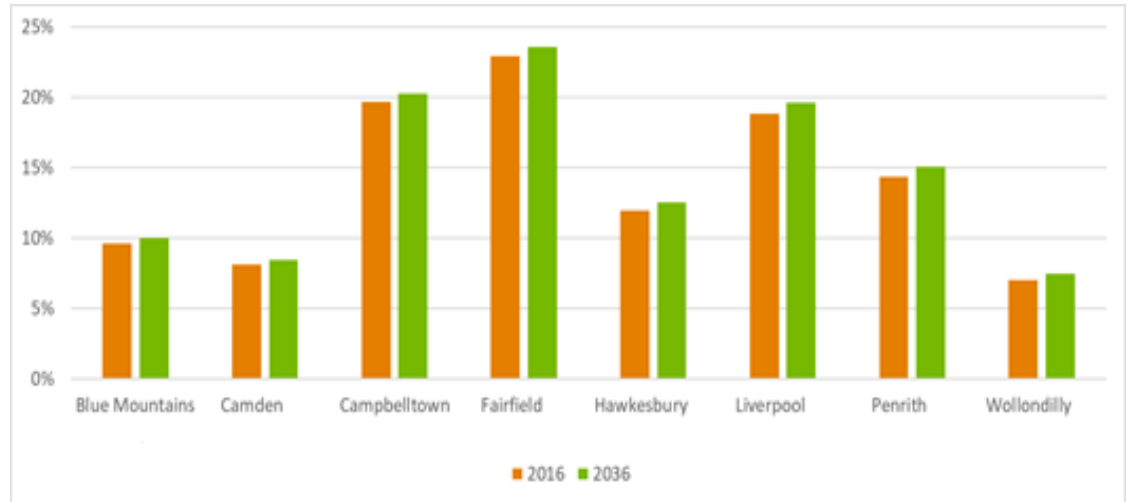
The table below shows a baseline (intermediate) scenario, with demand for 87,800 SAH dwellings in 2036. The demand for SAH dwellings in the WSCD area is equivalent to 16% of all demand in NSW.

Across the constituent LGAs, current demand for SAH is highest in Fairfield, at 16,000. Over the following 20 years, strong population growth results in Liverpool exhibiting the highest demand by 2036. However, as shown in the chart below, Fairfield remains the area with the highest *relative demand*, with demand for SAH representing close to a quarter of all households.

¹ Couple families with children, and one parent families

² See Table 5

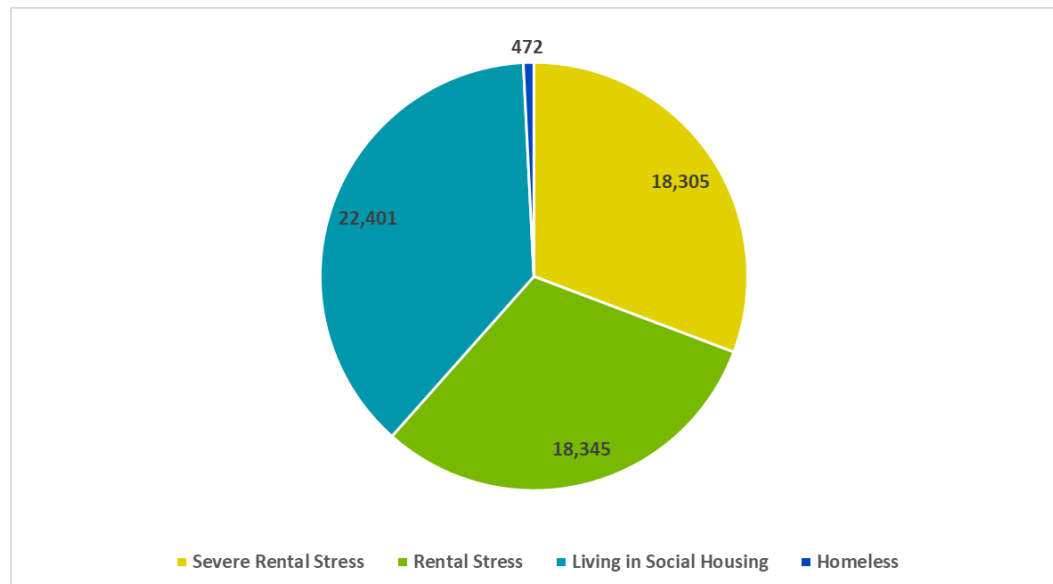
SHARE OF TOTAL HOUSEHOLDS THAT REQUIRE SAH



FORECAST DEMAND FOR SAH, 2016-2036

LGA	2016	2021	2026	2031	2036	Change	AAGR
Blue Mountains	3,146	3,259	3,390	3,560	3,750	604	0.9%
Camden	2,200	3,000	4,122	5,274	6,514	4,315	5.6%
Campbelltown	11,224	12,373	13,872	15,218	16,718	5,495	2.0%
Fairfield	15,313	16,009	16,775	17,364	18,062	2,749	0.8%
Hawkesbury	2,945	3,184	3,424	3,693	4,015	1,070	1.6%
Liverpool	13,118	15,094	17,479	19,525	21,849	8,731	2.6%
Penrith	10,392	11,493	12,608	13,745	14,932	4,541	1.8%
Wollondilly	1,186	1,272	1,451	1,670	1,924	738	2.4%
WSCD Area	59,523	65,685	73,121	80,050	87,765	28,242	2.0%
Demand all NSW	413,155	449,002	485,112	522,359	559,932	146,778	1.5%
Share of NSW demand from WSCD	14%	15%	15%	15%	16%	19%	

CURRENT DEMAND FOR SAH, BY COHORT



Supply of SAH

Across the WSCD area, there is an estimated existing stock of 24,155 social and affordable housing dwellings, primarily provided by public housing (summarised in table below). Little data is available regarding expected changes to SAH stock over the next 20 years. Available information indicates that:

- NRAS SAH stock is expected to rise from 800 to 1,100 dwellings between 2016 and 2021.
- However, by 2026, it is anticipated that some of this stock will be lost to the affordable rental housing portfolio as the 10-year subsidies expire. Potentially, this portfolio could be reduced to 90 dwellings by 2026³.
- No Social and Affordable Housing Fund or Communities Plus projects have been announced in the WSCD area

While the Western Sydney District Plan sets targets that, subject to viability, 5% to 10% of new dwellings in defined precincts should be affordable rental housing (this corresponds to between 5,600 and 11,300 SAH dwellings) there is not enough information available at this stage to estimate how many affordable rental dwellings will be delivered. Supply projections therefore do not include any affordable rental housing which may be delivered through this mechanism.

EXISTING SAH SUPPLY (2016)

LGA	Social housing	NRAS	Total
Blue Mountains	854	39	893
Camden	494	17	512
Campbelltown	6,048	124	6,172
Fairfield	5,689	159	5,849
Hawkesbury	1,016	0	1,016
Liverpool	5,383	88	5,471
Penrith	3,592	378	3,970
Wollondilly	272	0	272
WSCD Area	23,349	805	24,155

³ While it is anticipated that affordable housing owned by community housing providers and supported by NRAS subsidies will be retained as SAH it is not clear what will happen to privately owned units.

Net Demand

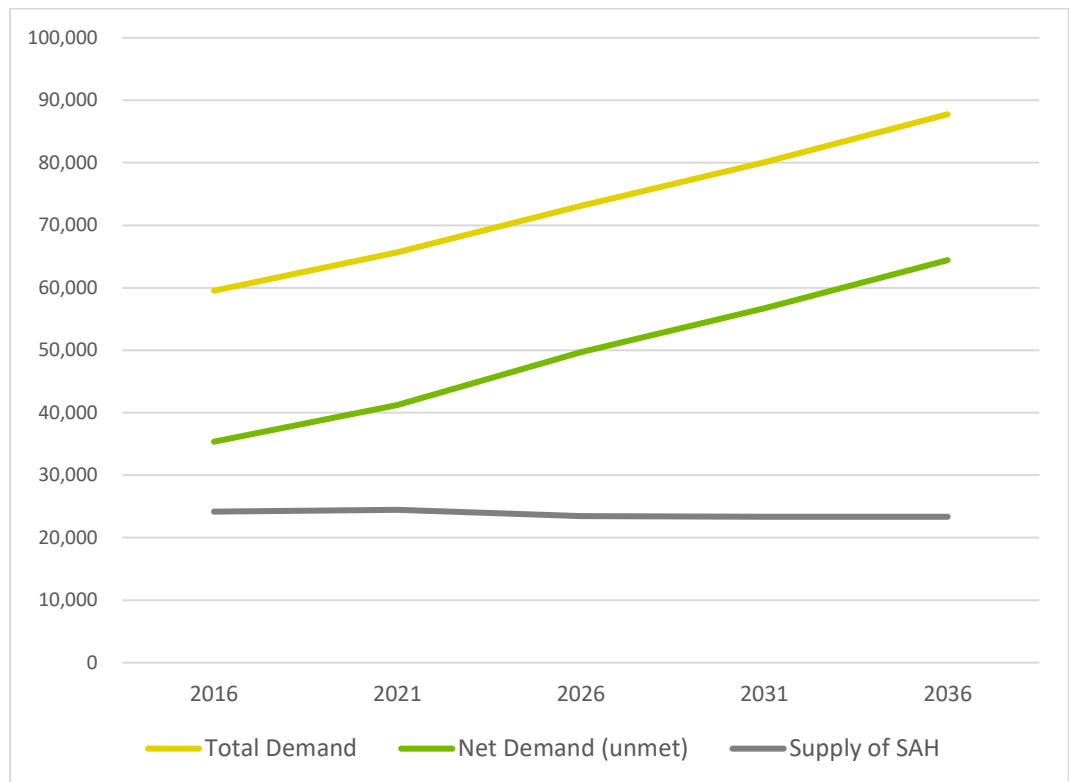
Aligning total demand to supply of SAH, the WSCD has a current net demand of 35,000 SAH dwellings. This is expected to rise by 29,000 over the following 20 years, to 64,000. The evolution of net demand, by LGA, is presented below. Although the greatest existing (2016) shortfall is found in Fairfield, Liverpool will have the largest undersupply of SAH in the region by 2026.

NET DEMAND FOR SAH, BY LGA

LGA	2016	2026	2036	Change (2016 - 2036)	% Change (2016 - 2036)	% Change (Total households)
Blue Mountains	2,253	2,536	2,896	643	29%	15%
Camden	1,688	3,628	6,020	4,332	257%	186%
Campbelltown	5,052	7,758	10,670	5,619	111%	45%
Fairfield	9,464	11,085	12,372	2,908	31%	15%
Hawkesbury	1,929	2,408	2,999	1,070	55%	30%
Liverpool	7,646	12,082	16,465	8,819	115%	60%
Penrith	6,422	9,010	11,340	4,919	77%	37%
Wollondilly	914	1,179	1,652	738	81%	52%
WSCD Area	35,368	49,686	64,415	29,047	82%	31%

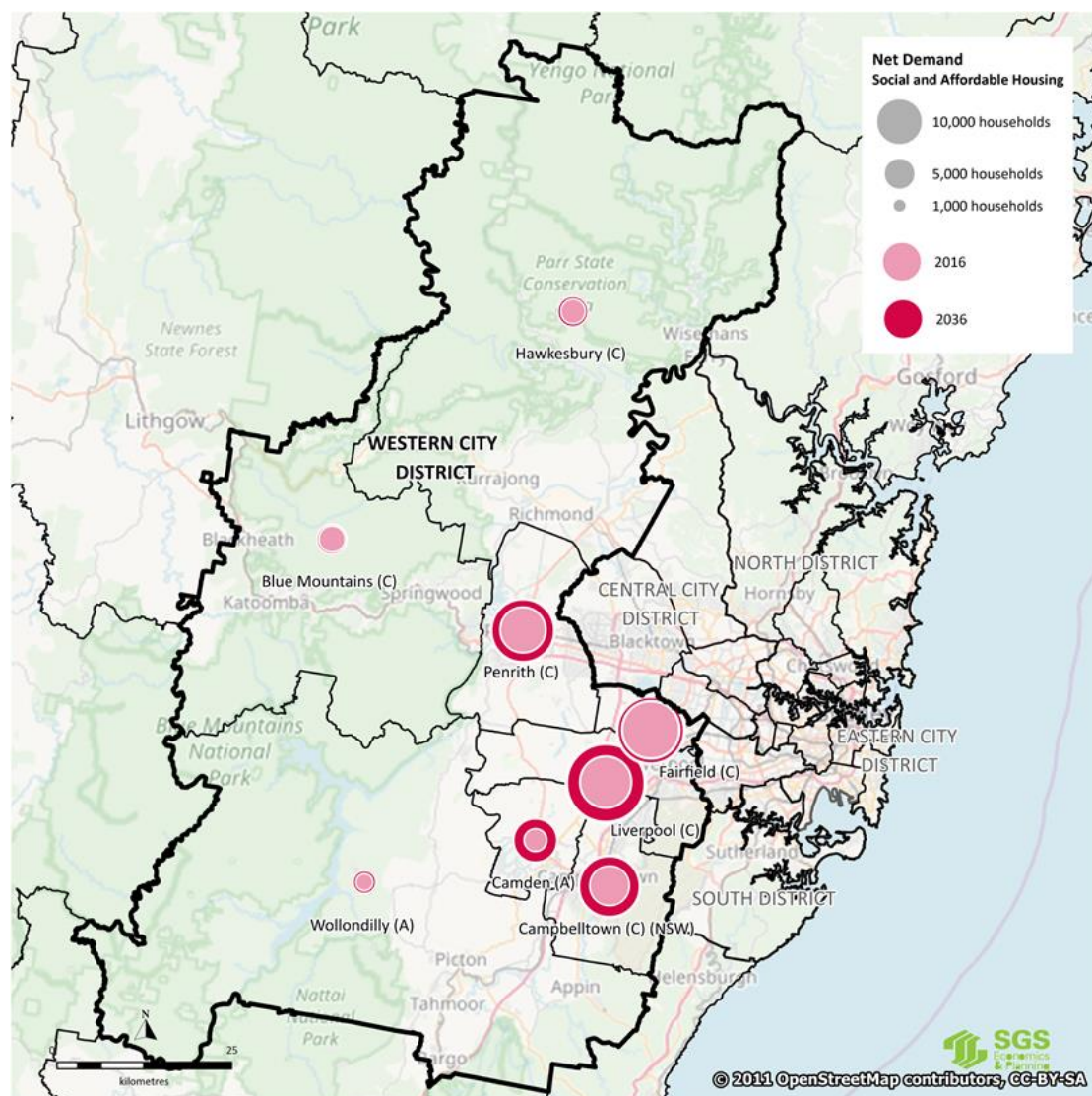
The chart below shows the total demand for SAH in the WSCD area to 2036 and the estimated supply. The green line shows the increase in net demand (or the unmet demand) resulting from the gap between the supply and the demand.

SUPPLY AND DEMAND FOR SAH



The map below presents the spatial distribution of this net demand in 2016 and 2036.

NET DEMAND FOR SAH, BY LGA



The challenge of accommodating the growth in demand for SAH will be significant, likely requiring a concerted effort across government.

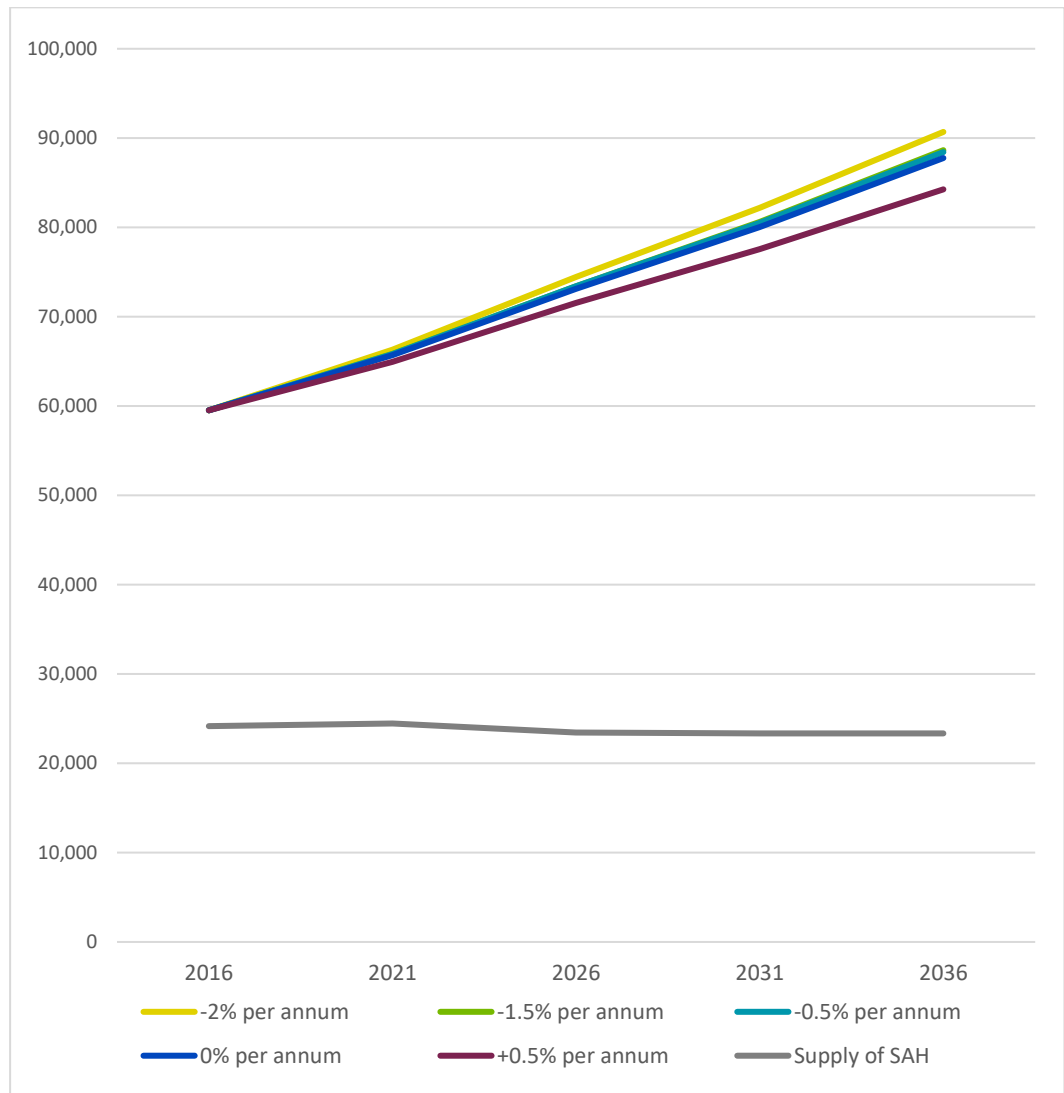
Additional modelling of income effects

Additional modelling showed that with continued increases in income inequality, the change in demand by 2036 may be even higher.

The additional modelling (Appendix 4) forecast the impact of low household income growth in the bottom 40% of households (ranked on income) on demand for SAH. Five scenarios were forecast, ranging from low income household incomes growing 2% slower per annum than the growth in rents (-2% scenario) through to low income household incomes rising by 0.5% per annum faster than rents (+0.5% scenario). It is assumed that the household incomes of the remaining 60%, non-low income, increase in line with rents.

The next figure shows that with greater income inequality, demand for SAH will increase by a greater amount. With decreasing income inequality (the +0.5% scenario) demand for SAH falls in comparison to the base scenario (0% scenario), however overall the demand continues to grow.

DEMAND FOR SAH: LOW INCOME HOUSEHOLDS - INCOME GROWTH SCENARIOS



Compared to the base case of no change to income distribution, slow income growth in low income households will increase the demand for SAH by up to 2,900 to 2036 under the -2% scenario. A reduction in inequality (the +0.5% scenario) will decrease demand for SAH by -3,500.

Another result of the additional modelling task found that the proportion of demand made up of households in severe rental stress (as opposed to moderate rental stress) would increase sharply with increasing inequality. This is due to many households, who would have otherwise continued to experience rental stress (30% of household income on rent) if their incomes kept pace with rents, falling instead into severe stress due to the lower household income growth.

1. INTRODUCTION

This introduction describes the aim and method of the demand projections of social and affordable housing in the Western Sydney City Deal (WSCD) area.

1.1 Project aim

The WSCD area is one of six *City Deal* areas identified by the Australian government, and is comprised of 8 local government areas⁴. *Planning and Housing* is one of the six focus areas for action identified for City Deal areas.

This report presents the current and forecast demand for social and affordable housing (SAH) in the WSCD area. In planning for the future of Western Sydney, it is important to understand the needs for social and affordable housing, which refers to both the current level of unmet demand, as well as projected changes in this over time. These changes will be driven by factors ranging from population growth to income and employment trends to investment in social and affordable housing stock.

Financial household stress, which drives demand for SAH, is influenced by a range of factors, ranging from macroeconomic conditions (such as demographics, employment, and wages) to the operation of our cities and the housing market (supply and location of housing stock). It is important to have a clear understanding of the definition of *total demand* for SAH.

Households who are in need of SAH are those who, due to financial stress (and potentially other issues), are either:

- Unable to access market housing (including homeless persons)
- Have low household incomes and spend a high proportion of this income on rent (i.e. are experiencing rental stress)

Importantly, this definition excludes those who are homeowners, and are experiencing mortgage stress⁵.

Once total demand is known, the quantum of unmet demand must consider the existing stock of social and affordable housing, along with expected changes such as:

- Investment in social or affordable housing stock
- Factors that will impact existing numbers of SAH such as the expiration of the National Rental Affordability Scheme (NRAS)

1.2 Method

At present (i.e. 2016, for this analysis), demand for SAH is classified by three key cohorts. These are:

- Households who are in moderate rental stress (i.e. low income and spending between 30% and 50% of their income on rent) or severe rental stress (i.e. low income and spending greater than 50% of their income on rent)
- Homeless households, who in 2016 (Census night), were outside the private market for dwellings⁶

⁴ Blue Mountain, Camden, Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith, and Wollondilly

⁵ This cohort is typically excluded, as these households potentially have the option of liquidating their asset and entering the rental market

⁶ These households are clearly in need of SAH, but would not be identified as being in rental stress as they are homeless (i.e. 0% of income is spent on rent)

- Households residing in social housing. These households are both in need of, and being provided with SAH, and are therefore a component of total demand

Using ABS Census data, the total demand for SAH in 2016, as defined above, can be estimated. The Census attributes considered are presented in Table 1. The model supplements these with data extracted from the 2016 estimate of homelessness (ABS cat. 2049.0).

TABLE 1: CENSUS ATTRIBUTES

Variable	Use
Weekly rent	Weekly rent is used to identify households spending a large proportion of their income on rent.
Weekly household income	Weekly household income is used to identify households spending a large proportion of their income on rent. Within the model we adjust this to remove the impact of income tax.
Household type	Lone person, Group household, or several family sub-types. The appropriate housing response for households in need of SAH will vary based on household type.
Tenure type	Used to differentiate between home-owner households, rental households, social housing households, and households with no tenure types (includes homeless households).
Weekly equivalised income	Equivalised income converts household income to a 'Lone-person household equivalent' income. This allows for the incomes of different household types to be compared, which is necessary in order to identify 'low income' households. Use of equivalised income in such a way is an OECD ⁷ standard.
LGA	Spatial component used to show distribution of SAH demand across NSW

Source: SGS Economics and Planning, 2018

Following this, the SGS model estimates the demand for SAH from 2021 to 2036, which requires the following key assumptions:

- Growth in the number of households, by type and location, are assumed to follow DPE projections
- Unless otherwise stated, new households assume the 2016 distribution across all attributes. For example, newly formed lone person households in Penrith (obtained from previous step) will assume the 2016 distribution across the attributes of equivalised income, tenure type, total income, and rent expenditure

Detailed definitions and methodological details for the three cohorts can be found in Appendix 1.

⁷ Organisation for Economic Cooperation and Development

2. CURRENT AND FUTURE DEMAND SAH

This section reports on the demand projections for social and affordable housing to 2036.

2.1 Introduction

In 2016, demand for social and affordable housing across the Western Sydney City Deal area exceeded 59,000 dwellings. The majority of this demand stems from households in rental stress, or those currently residing in social housing. Across the constituent LGAs, demand for SAH is highest in Fairfield. However, strong population growth, of lone person households in particular, results in Liverpool exhibiting the highest demand by 2036.

Overall, demand for SAH in the WSCD area is expected to grow by 28,200 dwellings between 2016 and 2036, resulting in a total demand of 87,800 dwellings (i.e. 16% of all dwellings in the WSCD area).

Sensitivity tests, which correspond to improving and worsening rental affordability, imply the following lower and upper bounds for growth in SAH demand:

- Improving affordability: Total SAH demand growth of 24,400 dwellings
- Worsening affordability: Total SAH demand growth of 31,500 dwellings

2.2 Current demand

In 2016, there was demand for 59,500 social and affordable housing dwellings within the WSCD area. Table 2 presents this demand, disaggregated by current tenure and LGA.

Compared to NSW, households in the WSCD area are more likely to need SAH (14% and 16% of existing households, respectively). This is primarily driven by the 36,650 households currently experiencing rental stress, of which 18,305 are experiencing severe rental stress. Supply of social housing also contributes to the higher expressed demand, as the WSCD area has a high number of households living in social housing relative to the rest of NSW (the WSCD area contains 12% of all households in NSW, but 16% of NSW households living in social housing).

Across the constituent LGAs, Table 2 and Figure 2 that Fairfield, Campbelltown, and Liverpool have particularly high demand for SAH. A significant portion of this is due to the presence of existing social housing stock. However, the low incomes across these municipalities, relative to rents, also results in them having a large number of households in rental stress. This is particularly pronounced in Fairfield and Liverpool, where over half of households in rental stress are experiencing severe stress (see

Figure 3). Table 3 also presents median rents in 2016, by LGA.

TABLE 2: CURRENT DEMAND FOR SAH, BY COHORT

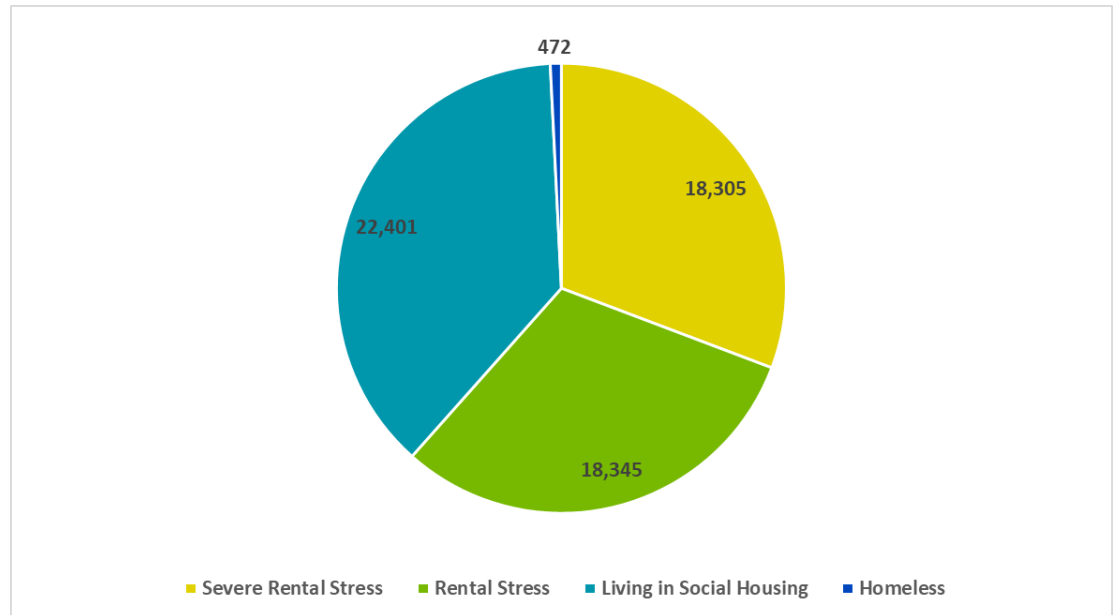
LGA	Homeless*	Living in Social Housing^	Severe Rental Stress	Moderate Rental Stress	Total Demand for SAH	Total Households	Demand % of Total households
Blue Mountains	26	711	1,125	1,284	3,146	32,650	10%
Camden	26	452	922	800	2,200	27,050	8%
Campbelltown	54	5,988	2,373	2,808	11,224	56,950	20%
Fairfield	89	5,338	5,194	4,693	15,313	66,800	23%
Hawkesbury	49	1,006	942	948	2,945	24,600	12%
Liverpool	60	5,330	4,136	3,592	13,118	69,550	19%
Penrith	140	3,328	3,167	3,757	10,392	72,350	14%
Wollondilly	28	248	446	464	1,186	16,950	7%
WSCD Area	472	22,401	18,305	18,345	59,523	366,900	16%
NSW	10,304	144,072	142,901	115,878	413,155	2,983,350	14%
WSCD % of NSW	5%	16%	13%	16%	14%	12%	

* Only includes persons in improvised dwellings, supported homeless accommodation, boarding houses and temporarily staying with other households. Does not include persons staying in severely overcrowded dwellings (which involves the majority of homeless people) to prevent double counting with other categories (i.e. households in rental stress).

^ All tenure and landlord categories are adjusted such that total households are consistent with DPE total households by LGA. This is an upward adjustment, and there may be discrepancies to Census data. Current demand does not measure unoccupied dwellings, and will therefore be lower than supply.

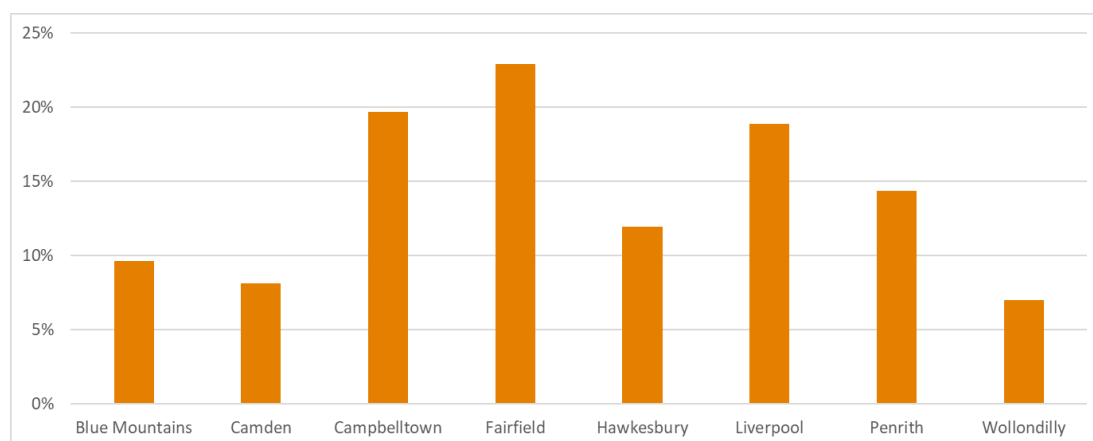
Source: ABS Census 2016, ABS Homelessness Estimate (Cat. 2049.0), SGS Economics & Planning 2018

FIGURE 1: CURRENT DEMAND FOR SAH, BY COHORT



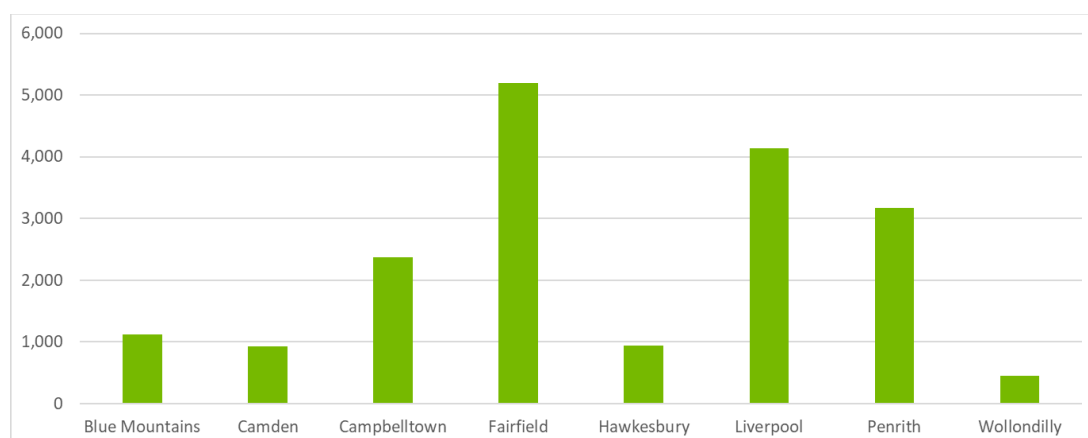
Source: ABS Census 2016, ABS Homelessness Estimate (Cat. 2049.0), SGS Economics & Planning 2018

FIGURE 2: SHARE OF TOTAL HOUSEHOLDS THAT REQUIRE SAH, BY LGA, 2016



Source: ABS Census 2016, ABS Homelessness Estimate (Cat. 2049.0), SGS Economics & Planning 2018

FIGURE 3: HOUSEHOLDS IN SEVERE RENTAL STRESS, BY LGA, 2016



Source: ABS Census 2016, ABS Homelessness Estimate (Cat. 2049.0), SGS Economics & Planning 2018

TABLE 3: MEDIAN RENTS BY LGA (2016)

LGA	One Bedroom	Two Bedrooms	Three Bedrooms	Four + Bedrooms
Blue Mountains	\$270	\$355	\$420	\$530
Camden	\$300	\$385	\$450	\$540
Campbelltown	\$290	\$350	\$400	\$500
Fairfield	\$250	\$340	\$450	\$530
Hawkesbury	\$280	\$340	\$430	\$530
Liverpool	\$290	\$350	\$460	\$570
Penrith	\$250	\$330	\$420	\$520
Wollondilly	\$260	\$350	\$415	\$533

Source: FACS Rent and Sales Report, Issue 116

2.3 Future demand

Over the 20-year period spanning from 2016 to 2036, the WSCD area is expected to accommodate a significant proportion of NSW's population growth. This in turn drives demand for SAH. As presented in Table 4, demand for SAH in the WSCD area is expected to grow by over 28,000 households. This represents an average annual growth rate of 2.0%, compared to an annual growth of 1.5% across NSW. Across the constituent LGAs, the most significant growth is expected in Liverpool, Campbelltown, and Camden.

TABLE 4: FORECAST DEMAND FOR SAH, 2016-2036

LGA	2016	2021	2026	2031	2036	Change	AAGR
Blue Mountains	3,146	3,259	3,390	3,560	3,750	604	0.9%
Camden	2,200	3,000	4,122	5,274	6,514	4,315	5.6%
Campbelltown	11,224	12,373	13,872	15,218	16,718	5,495	2.0%
Fairfield	15,313	16,009	16,775	17,364	18,062	2,749	0.8%
Hawkesbury	2,945	3,184	3,424	3,693	4,015	1,070	1.6%
Liverpool	13,118	15,094	17,479	19,525	21,849	8,731	2.6%
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Wollondilly	1,186	1,272	1,451	1,670	1,924	738	2.4%
WSCD Area	59,523	65,685	73,121	80,050	87,765	28,242	2.0%
NSW	413,155	449,002	485,112	522,359	559,932	146,778	1.5%
WSCD % of NSW	14%	15%	15%	15%	16%	19%	

Source: DPE Household Forecasts 2016, SGS Economics and Planning 2018

Table 5 expresses this forecast demand, disaggregated by household type. Lone person households have the fastest growth *rate* of demand for SAH. This is consistent with trends across NSW, as the ageing of the population (as the largest driver) leads to more lone person households overall, combined with the lower incomes of such households. However, in absolute terms, families with children exhibit the greatest growth in demand and remains the largest cohort of households requiring SAH.

TABLE 5: FORECAST DEMAND FOR SAH, BY HOUSEHOLD TYPE

Household Type	2016	2021	2026	2031	2036	Change	AAGR
Couple family with children	14,288	15,314	16,490	17,418	18,431	4,144	1.3%
Couple family with no children	17,214	18,898	20,943	22,911	25,014	7,801	1.9%
Families with children (sub-total)	31,501	34,212	37,433	40,329	43,446	11,944	1.6%
One parent family	7,482	8,304	9,214	10,044	11,025	3,543	2.0%
Other family	3,247	3,497	3,812	4,116	4,466	1,218	1.6%
Group household	1,366	1,421	1,560	1,648	1,812	445	1.4%
Lone person household	15,925	18,251	21,103	23,912	27,016	11,091	2.7%
Total	59,523	65,685	73,121	80,050	87,765	28,242	2.0%

Source: DPE Household Forecasts 2016, SGS Economics and Planning 2018

The above analysis presents a base case, which is the expected demand for SAH if the distributions of household incomes and rents remain constant, relative to each other. In other

words, it is assumed that rents do not grow faster than income, or vice versa. However, in reality, the evolution of these variables will be influenced by a variety of factors ranging from macroeconomic conditions to housing policy and infrastructure investment⁸. Table 6 examines the forecast demand for SAH under two alternate scenarios, which are defined as follows:

- **Improving affordability:** Household incomes grow by 0.5% per annum, relative to rents. Over a 20-year period (i.e. at 2036), incomes would have grown by 10% relative to rents
- **Worsening affordability:** Household rents grow by 0.5% per annum, relative to incomes. Over a 20-year period (i.e. at 2036), rents would have grown by 10% relative to incomes

TABLE 6: FORECAST DEMAND FOR SAH – SENSITIVITY TESTS

Scenario	2016	2021	2026	2031	2036	Change	AAGR
Base	59,523	65,685	73,121	80,050	87,765	28,242	2.0%
Improving affordability	59,523	65,084	71,606	77,465	83,883	24,360	1.7%
Difference	0	-601	-1,515	-2,585	-3,882		
Worsening affordability	59,523	66,272	74,528	82,348	91,064	31,541	2.1%
Difference	0	587	1,407	2,298	3,299		

Source: DPE Household Forecasts 2016, SGS Economics and Planning 2018

Based on ABS data, it is clear that incomes of lower income households (i.e. bottom 40% percent) has been increasing at a lower rate than higher income households (i.e. top 40%). As a result, while rental affordability has remained stable for the average and higher income households, the situation has worsened for lower income households: rent increases have outpaced their income increases.

Additional modelling was undertaken to understand **the consequences of increasing income inequality on future demand for SAH** (see Appendix 4). This modelling shows that if rising inequality continues, demand for SAH is likely to increase significantly from the base case by up to 9,845 dwellings to 2036. In addition, of this demand, the number of households in the WSCD area in severe rental stress (as opposed to moderate rental stress) would increase sharply

⁸ E.g. Improving the accessibility of an area can significantly alter property values and rents

3. SUPPLY OF SAH

This section reports on the estimates current and future supply of social and affordable housing in the WSCD dwellings and the possible impact on supply.

3.1 Current supply of social and affordable housing

The existing supply of social and affordable housing in the WSCD area is primarily provided through public housing, community housing, and the NRAS. In 2016, the WSCD area had a stock of 24,150 social and affordable housing dwellings across these three providers, with public housing comprising the majority. Table 7 presents this current supply by LGA.

TABLE 7: EXISTING SOCIAL AND AFFORDABLE HOUSING SUPPLY (2016)

LGA	Social Housing*	NRAS	Total
Blue Mountains	854	39	893
Camden	494	17	512
Campbelltown	6,048	124	6,172
Fairfield	5,689	159	5,849
Hawkesbury	1,016	0	1,016
Liverpool	5,383	88	5,471
Penrith	3,592	378	3,970
Wollondilly	271	0	272
WSCD Area	23,349	805	24,155

* AIHW National Housing Assistance Data is used to get the best possible estimate of public and community housing for NSW as a whole; however this data is not provided an LGA level. Census data is available at an LGA but results in an undercount, therefore Census data by LGA scaled to be consistent with AIHW NSW state totals.

Sources: ABS Census 2016, NRAS Quarterly Performance Report Dec 2016, AIHW National Housing Assistance Data Repository 2017, SGS Economics and Planning, 2018

3.2 Projected changes in social and affordable housing

Publicly available data about social and affordable housing development is limited. There are no planned projects in the WSCD area under either of the NSW Government's two key supply initiatives (Communities Plus and the Social and Affordable Housing Fund).

The Greater Sydney Commission Region Plan and District Plans (March 2018) include 5-10% (subject to viability) affordable rental housing target for nominated urban renewal areas (only for very low to low-income households). The mechanisms for how these affordable housing targets may be delivered are still under consideration by government.

Financial incentives issued to housing providers under the National Rental Affordability Scheme expire after ten years. Community housing providers that own affordable rental housing properties with NRAS incentives attached anticipate that these properties will be retained as sub-market housing after the scheme expires.

The Federal Government has announced that this scheme will not be extended so it is likely that as the subsidy making it possible to charge below market rents ends, some of the affordable rental housing supplied by private investors because of this scheme will be converted to market housing.

Table 8 shows the potential number of NRAS dwellings within the WSCD area under the following assumptions:

- All NRAS incentives that have not yet been realised (as at December 2017) will be delivered by 2021
- All NRAS dwellings will be lost from the pool of affordable housing once their 10-year subsidy expires

TABLE 8:NRAS DWELLINGS

LGA	2016	2021	2026
Blue Mountains	39	39	0
Camden	17	17	0
Campbelltown	124	191	66
Fairfield	159	219	0
Hawkesbury	0	0	0
Liverpool	88	102	14
Penrith	378	541	6
Wollondilly	0	0	0
WSCD Area	805	1,109	86

Source: NRAS Quarterly Performance Reports 2017

4. NET DEMAND FOR SAH

This final section presents the estimated net present demand, and the projected net demand for social and affordable housing in the WSCD area.

4.1 Net demand

Across the WSCD area, existing demand for SAH exceeds supply by over 35,000 dwellings⁹. Under the same assumptions around NRAS that were made in the previous section, this unmet demand will rise to 49,700 dwellings by 2021, and 64,400 by 2036. This represents an increase of 82% over 20 years.

Table 9 presents the net demand forecasts by LGA. Although the greatest existing shortfall is found in Fairfield, Liverpool will become the most undersupplied region by 2026. Moreover, it's evident that the growth rate of net demand for SAH is in fact greater than the growth rate of total households. This is a result of two factors:

- The growth rate of supply does not keep pace with the growth rate of total demand
- Lone person households, which tend to have the lowest incomes, are expected to grow the most over the next 20 years

Figure 4 presents both total and net demand for SAH, while the spatial distribution of net demand is shown in Figure 5.

TABLE 9: NET DEMAND FOR SAH, BY LGA

LGA	2016	2026	2036	Change (2016 - 2036)	% Change (2016 - 2036)	% Change (Total households)
Blue Mountains	2,253	2,536	2,896	643	29%	15%
Camden	1,688	3,628	6,020	4,332	257%	186%
Campbelltown	5,052	7,758	10,670	5,619	111%	45%
Fairfield	9,464	11,085	12,372	2,908	31%	15%
Hawkesbury	1,929	2,408	2,999	1,070	55%	30%
Liverpool	7,646	12,082	16,465	8,819	115%	60%
Penrith	6,422	9,010	11,340	4,919	77%	37%
Wollondilly	914	1,179	1,652	738	81%	52%
WSCD Area	35,368	49,686	64,415	29,047	82%	31%

Source: SGS Economics and Planning, 2018

The unmet demand described above represents the amount by which total demand exceeds current supply (accounting for the loss of NRAS). Should the SAH targets of the Western Sydney District plan be achieved (5% - 10% of new dwellings in nominated renewal areas to be SAH)¹⁰, then net demand will range from 53,000 to 59,000 dwellings at 2036.

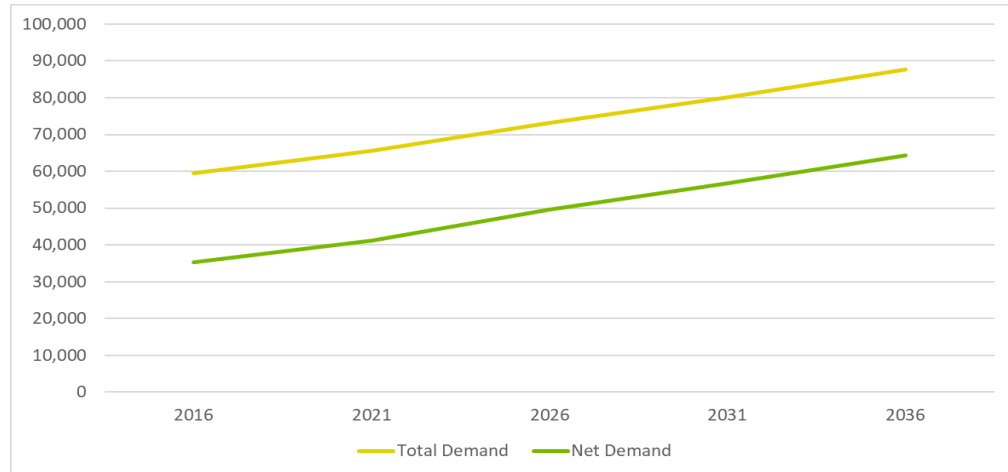
⁹ The presence of affordable housing programs will likely result in total demand being underestimated. Unlike social housing, which can be identified as a distinct tenure type, affordable rental dwellings (e.g. NRAS) are indistinguishable from ordinary private stock which is rented at a price that is affordable to the occupying household

¹⁰ These targets are applied to 64% of total growth. Small area growth forecasts (TPA, 2016) indicate that 64% of WSCD growth will occur in areas which are classified as priority growth areas by DPE (i.e. greenfield), or in renewal precincts (small area zones are classified as renewal if forecast growth exceeds 200% between 2016 and 2036)

With continued increases in income inequality (Appendix 4), this net demand may even be higher: 35,894 to 38,892 by 2036. In addition, of this demand, the number of households in severe rental stress (as opposed to moderate rental stress) would increase sharply.

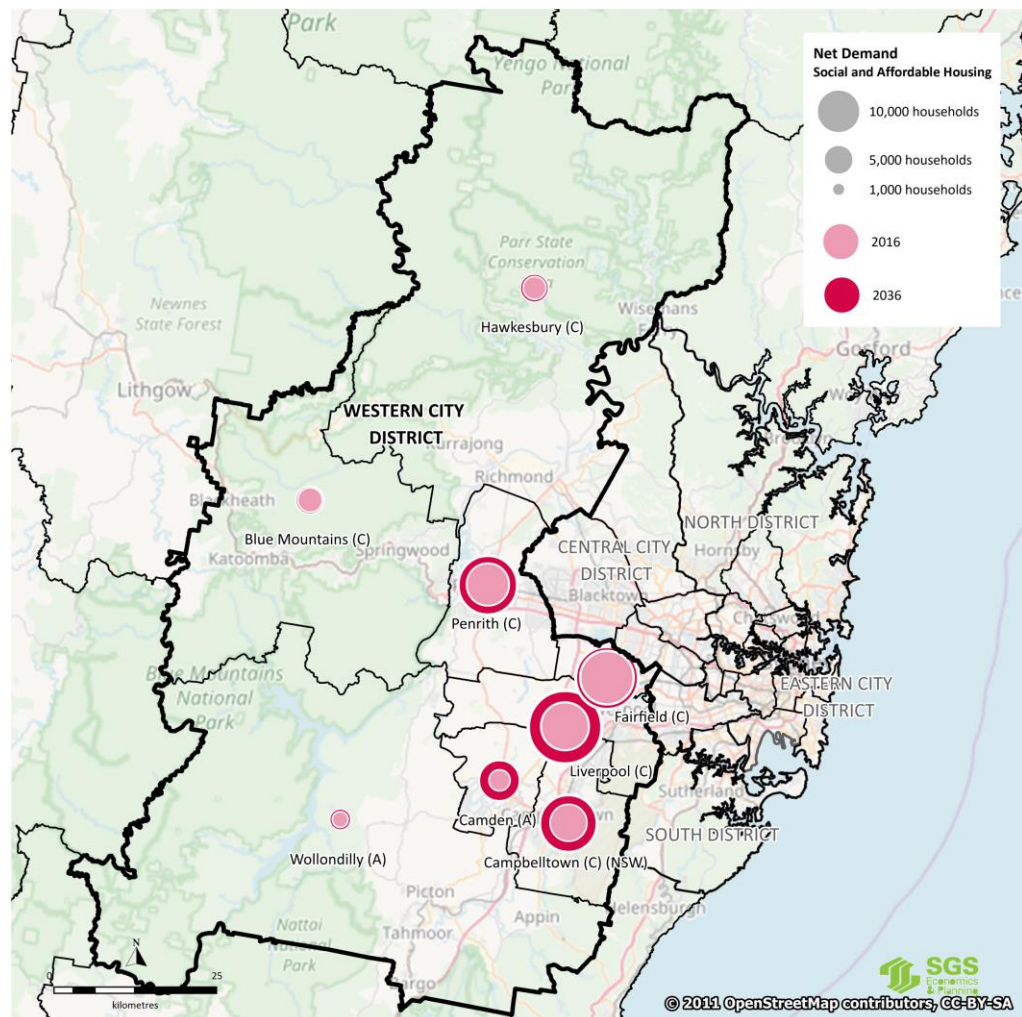
The challenge of accommodating this growth in demand will be significant.

FIGURE 4: TOTAL AND NET DEMAND FOR SAH



Source: SGS Economics and Planning, 2018

FIGURE 5: NET DEMAND FOR SAH, BY LGA



Source: SGS Economics and Planning, 2018

APPENDIX 1 – DEMAND ASSUMPTIONS

Total Demand - Rental Stress

Households are experiencing rental stress if they are both low-income and spending a high proportion of their income on rent. Low income households are those which have an *equivalised*¹¹ weekly household income which is in the bottom 40th percentile of Greater Sydney. Once low-income households are identified, they are classified as being in rental stress if they expend greater than 30% of *total*¹² weekly household income on rent. Those spending between 30% and 50% are considered to be in moderate rental stress, while those spending greater than 50% are considered to be in severe rental stress.

In 2016, the number of households, by type, which are in rental stress can be identified using census data (see variables presented in Table 1). One issue to note, is that households receiving assistance in the form of rental subsidy (or an affordable rental dwelling) may not be captured as part of total demand, as these are immeasurable characteristics.

Forecasting the number of households who would potentially be in rental stress in the future uses following key assumptions:

- Growth in the number of households, by type and location, are assumed to follow DPE projections
- New households assume the 2016 distribution across all attributes, with the exceptions of weekly rent and weekly income
- The relative growth rate of rents to household incomes is an assumed parameter
 - In the base case scenario, the growth rates are assumed to be equal
 - In the improving affordability and worsening affordability scenarios, it is assumed that the annual growth in rents is 0.5% slower and 0.5% faster than the growth rate of household incomes respectively

Total Demand - Households residing in social housing

Estimation of the number of households residing in social housing utilises ABS Census 2016 data related to the reported landlord type. Specifically, households who report the following landlord categories are assumed to reside in social housing:

- State or Territory Housing Authority
- Housing Co-operative/Community/Church Group

For forecast years, it is assumed that households with the same characteristics as those who currently live in social housing (e.g. household types, income, etc) will continue to form part of total demand. That is, they are included in the count of SAH demand, despite no additional SAH supply being assumed.

An important point to note in the estimation of demand for SAH, is that locations which have a high existing stock of social housing will also have a higher forecast demand for SAH in the future. This is because social housing is, by definition, targeted to households who are most in need. In the absence of additional data, it is implicitly assumed that such low-income

¹¹ Equivalised income allows for comparisons across household types to be made. For example, consider the case where a lone person earning a total household income of \$50,000 per annum is not considered low income, whereas a couple family with children household earning \$55,000 is classified as low income.

¹² Adjusted to represent after-tax household income, which can then be directly compared to rent payments

households will choose to locate according to current patterns in the future. A more detailed analysis, which should be explored in future research, should estimate the 'pool' of demand for SAH at a metropolitan level, and test scenarios which allocate demand to finer geographies (LGAs) based on policy driven targets which consider factors ranging from accessibility to feasibility.

Total Demand - Homeless households

Estimation of the number of homeless households utilises the 2016 ABS estimation of homelessness (cat 2049.0), which is available at a statewide scale. Although this is derived using census data, it provides a more accurate estimate of the following homelessness operational groups than is possible using publicly available variables:

- Persons living in improvised dwellings, tents, or sleeping out
- Persons in supported accommodation for the homeless
- Persons staying in boarding houses

Following this, these statewide estimates are disaggregated to LGA using publicly available ABS Census 2016 data. Similar to households currently living in social housing, it is assumed that in future, households with the same characteristics as those who are currently homeless will continue to form part of total demand (i.e. this does not forecast homelessness, but rather the need for SAH).

APPENDIX 2 - DPE POPULATION PROJECTIONS BY LGA (2016)

This section describes how the small area population projections were made and what assumptions are included.

Method State projections

These projections were produced using the Department of Planning and Environment's cohort-component population projection model. The cohort-component method takes a population broken down by age groups and moves them forward in time. In each five-year period we make assumptions about:

- the number of deaths and at what age,
- how many babies women will have at certain ages, and
- how many people will move into and out of a geographical area and at what age.

The cohort-component method is the most common projection method used by demographers.

Method small area projections

A multi-regional model produces projections for multiple regions in a single run. Projections for seven projection regions and all local government areas (LGAs) are produced at the same time as the state-level projections.

A top-down approach is used with projection assumptions and outputs having to add up to the state totals. This is called **constraining** and is different to projection models that produce projections for one small area at a time and add up the outputs to get a region or state total.

The top-down approach also means that interstate and overseas migration is modelled first at the state level. Interstate, intrastate and overseas migration are then modelled for projection regions with assumption totals not exceeding the state totals. Lastly, LGA migration flows are modelled for all internal and overseas migration and constrained to the projection region totals.

The **Housing Unit Method** is applied for areas where **new housing developments and the timing of public infrastructure** construction are known and committed. For areas where the population impacts of an infrastructure project are unknown or speculative, no changes are made to the assumptions for births, deaths or migration. Close monitoring of these components takes place so any impacts that may occur can be reflected in future reviews.

Data on dwelling completions published by the Department of Planning and Environment were used for the period 2011-2015. For the period 2016-2021, short-term housing supply forecasts based on known current activity and land zoned for housing have been used (Department of Planning and Environment, unpublished data set). This includes dwellings where construction has started or development approvals are in place.

APPENDIX 3 – LGA RESULT TABLES

This section provides SAH demand forecasts by household type, for each LGA.

TABLE 10: DEMAND FOR SAH BY HOUSEHOLD TYPE - BLUE MOUNTAINS

Blue Mountains	2016	2021	2026	2031	2036	Change	AAGR
Couple family with children	389	383	379	379	389	0	0.0%
Couple family with no children	323	337	347	359	373	50	0.7%
One parent family	743	754	765	797	841	98	0.6%
Other family	132	126	126	138	138	6	0.2%
Group household	151	151	151	151	160	9	0.3%
Lone person household	1,408	1,507	1,621	1,735	1,849	441	1.4%
Total	3,146	3,259	3,390	3,560	3,750	604	0.9%

TABLE 11: DEMAND FOR SAH BY HOUSEHOLD TYPE - CAMDEN

Camden	2016	2021	2026	2031	2036	Change	AAGR
Couple family with children	534	726	974	1,212	1,439	904	5.1%
Couple family with no children	308	424	572	716	883	574	5.4%
One parent family	626	849	1,173	1,508	1,854	1,229	5.6%
Other family	114	145	192	249	301	187	5.0%
Group household	61	77	107	130	161	99	4.9%
Lone person household	556	780	1,105	1,460	1,877	1,321	6.3%
Total	2,200	3,000	4,122	5,274	6,514	4,315	5.6%

TABLE 12: DEMAND FOR SAH BY HOUSEHOLD TYPE - CAMPBELLTOWN

Campbelltown	2016	2021	2026	2031	2036	Change	AAGR
Couple family with children	2,465	2,646	2,899	3,103	3,323	858	1.5%
Couple family with no children	1,259	1,379	1,522	1,647	1,812	553	1.8%
One parent family	3,881	4,258	4,753	5,228	5,723	1,842	2.0%
Other family	664	717	784	837	930	266	1.7%
Group household	220	232	255	267	290	70	1.4%
Lone person household	2,734	3,141	3,659	4,136	4,641	1,907	2.7%
Total	11,224	12,373	13,872	15,218	16,718	5,495	2.0%

TABLE 13: DEMAND FOR SAH BY HOUSEHOLD TYPE - FAIRFIELD

Fairfield	2016	2021	2026	2031	2036	Change	AAGR
Couple family with children	4,846	4,919	4,968	4,959	4,976	129	0.1%
Couple family with no children	2,182	2,317	2,461	2,587	2,714	532	1.1%
One parent family	4,196	4,370	4,563	4,703	4,877	682	0.8%
Other family	862	887	911	936	961	99	0.5%
Group household	251	251	264	264	277	26	0.5%
Lone person household	2,977	3,265	3,608	3,915	4,258	1,281	1.8%
Total	15,313	16,009	16,775	17,364	18,062	2,749	0.8%

TABLE 14: DEMAND FOR SAH BY HOUSEHOLD TYPE - HAWKESBURY

Hawkesbury	2016	2021	2026	2031	2036	Change	AAGR
Couple family with children	432	446	460	479	505	74	0.8%
Couple family with no children	319	344	370	395	423	104	1.4%
One parent family	785	837	888	953	1,030	245	1.4%
Other family	185	204	204	214	233	49	1.2%
Group household	96	96	106	106	115	19	0.9%
Lone person household	1,128	1,257	1,397	1,548	1,709	580	2.1%
Total	2,945	3,184	3,424	3,693	4,015	1,070	1.6%

TABLE 15: DEMAND FOR SAH BY HOUSEHOLD TYPE - LIVERPOOL

Liverpool	2016	2021	2026	2031	2036	Change	AAGR
Couple family with children	3,520	3,949	4,438	4,792	5,173	1,653	1.9%
Couple family with no children	1,704	1,982	2,287	2,545	2,857	1,154	2.6%
One parent family	3,519	4,031	4,663	5,210	5,808	2,289	2.5%
Other family	713	796	915	1,010	1,117	404	2.3%
Group household	264	292	334	361	403	139	2.1%
Lone person household	3,399	4,044	4,843	5,608	6,491	3,093	3.3%
Total	13,118	15,094	17,479	19,525	21,849	8,731	2.6%

TABLE 16: DEMAND FOR SAH BY HOUSEHOLD TYPE - PENRITH

Penrith	2016	2021	2026	2031	2036	Change	AAGR
Couple family with children	1,904	2,043	2,152	2,251	2,357	453	1.1%
Couple family with no children	1,229	1,352	1,462	1,576	1,714	485	1.7%
One parent family	3,122	3,437	3,737	4,052	4,352	1,231	1.7%
Other family	512	555	598	642	685	173	1.5%
Group household	293	293	313	333	364	71	1.1%
Lone person household	3,332	3,813	4,345	4,890	5,460	2,128	2.5%
Total	10,392	11,493	12,608	13,745	14,932	4,541	1.8%

TABLE 17: DEMAND FOR SAH BY HOUSEHOLD TYPE - WOLLONDILLY

Wollondilly	2016	2021	2026	2031	2036	Change	AAGR
Couple family with children	197	201	220	243	270	72	1.6%
Couple family with no children	158	169	193	219	250	92	2.3%
One parent family	343	362	402	460	529	186	2.2%
Other family	66	66	81	92	102	36	2.2%
Group household	30	30	30	36	42	12	1.7%
Lone person household	392	443	525	621	732	340	3.2%
Total	1,186	1,272	1,451	1,670	1,924	738	2.4%

APPENDIX 4 – LOW INCOME GROWTH SCENARIOS

Future demand scenarios with differing household income growth scenarios

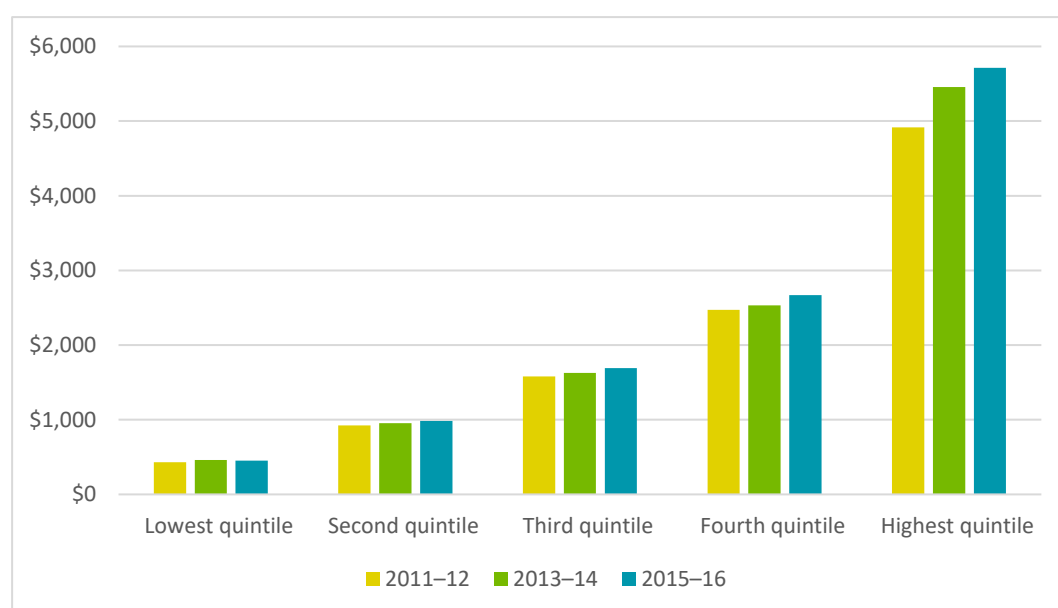
The analysis presented in section 2 provided a base case, which is the expected demand for SAH if the growth of household incomes and rents remain constant, relative to each other. In other words, it is assumed that rents do not grow faster than income, or vice versa. Section 2 also presented two sensitivity scenarios where rents grew 0.5% faster or slower than household incomes, improving or worsening affordability.

The sensitivity analysis above considered changes to affordability across the population. The analysis in this section considers the impacts of differing household income growth rates between groups. For example, if low income households see their incomes increase slower (or faster) than higher income groups, what is the outcome in terms of demand for SAH?

The analysis in this section tracks the household income of the bottom 40% households, ranked by income; i.e. if every household in NSW was put in in order from lowest to highest based on income, we are considering the lowest earning 40%. This corresponds to the first and second quintiles in Figure 6 below.

Figure 6 shows that between the financial years 2011/12 to 2015/16 the mean household incomes of the highest quintile (top 20% of households ranked on income) and fourth quintile experienced an increase in household income of 3.8% and 1.9% per annum respectively¹³. In comparison, the weekly household incomes of the lowest quintile only increased by 1.3% over the same four-year period. The second and third quintiles experienced increases of around 1.7% per annum.

FIGURE 6: MEAN WEEKLY HOUSEHOLD INCOME BY INCOME QUINTILE (NSW)



Source: ABS Household Income and Wealth, Australia: Summary of Results, 2015–16 (2017)

¹³ Calculated using ABS Household Income and Wealth, Australia: Summary of Results, 2015–16 (2017)

Over the same time period housing costs for renters¹⁴ across NSW increased 2.4% per annum¹⁵. For all quintiles except the highest, rents have been increasing faster than household incomes. For the lowest and second quintile, income growth has lagged behind growth in rent costs by 1.1% and 0.7% per annum respectively. This difference can be thought of as a 1.1% and 0.7% decrease in household income in comparison to rents respectively, per annum.

To forecast the impact of low household income growth in the bottom 40% of households on demand for SAH, five scenarios have been tested:

- The household incomes of the bottom 40% decrease by 2% per annum in comparison to rents (for example rents increase by 3% but incomes only increase by 1% per annum).
- The household incomes of the bottom 40% decrease by 1.5% per annum in comparison to rents.
- The household incomes of the bottom 40% decrease by 0.5% per annum in comparison to rents.
- The household incomes of the bottom 40% increase at the same rate as rents.
- The household incomes of the bottom 40% increase by 0.5% per annum in comparison to rents (i.e. household income growth for the bottom 40% is higher than the increase in rents).

For all scenarios, the incomes of the remaining households (third, fourth and highest quintiles) increase in line with rents (as they do in the base case).

Table 6 examines the forecast demand for SAH under the five alternate scenarios.

TABLE 18: FORECAST DEMAND FOR SAH – LOW HOUSEHOLD INCOME GROWTH SCENARIOS

Scenario	2016	2021	2026	2031	2036	Change	Change diff. to base case	AAGR
-2% per annum	59,523	66,308	74,433	82,194	90,690	+31,167	+2,925	2.13%
-1.5% per annum	59,523	65,830	73,425	80,602	88,645	+29,122	+880	2.01%
-0.5% per annum	59,523	65,825	73,419	80,523	88,433	+28,910	+669	2.00%
0% per annum	59,523	65,685	73,121	80,050	87,765	+28,242	-	1.96%
+0.5% per annum	59,523	64,950	71,534	77,554	84,258	+24,735	-3,507	1.75%

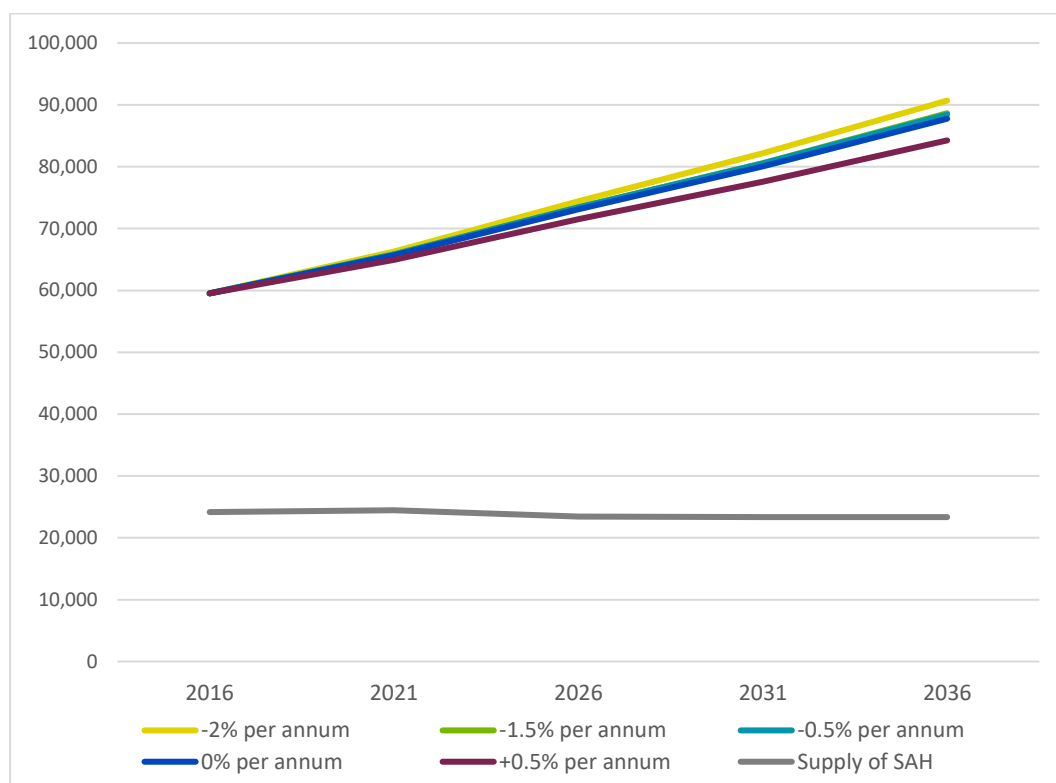
Source: DPE Household Forecasts 2016, SGS Economics and Planning 2018

Figure 7 shows the above scenarios graphically and compared with the estimated supply of SAH in the WSCD Area.

¹⁴ For all housing types including both state housing authority housing and housing with a private landlord.

¹⁵ Calculated using ABS Housing Occupancy and Costs, Australia, 2015–16 (2017)

FIGURE 7: FORECAST DEMAND FOR SAH – LOW HOUSEHOLD INCOME GROWTH SCENARIOS



Source: DPE Household Forecasts 2016, SGS Economics and Planning 2018

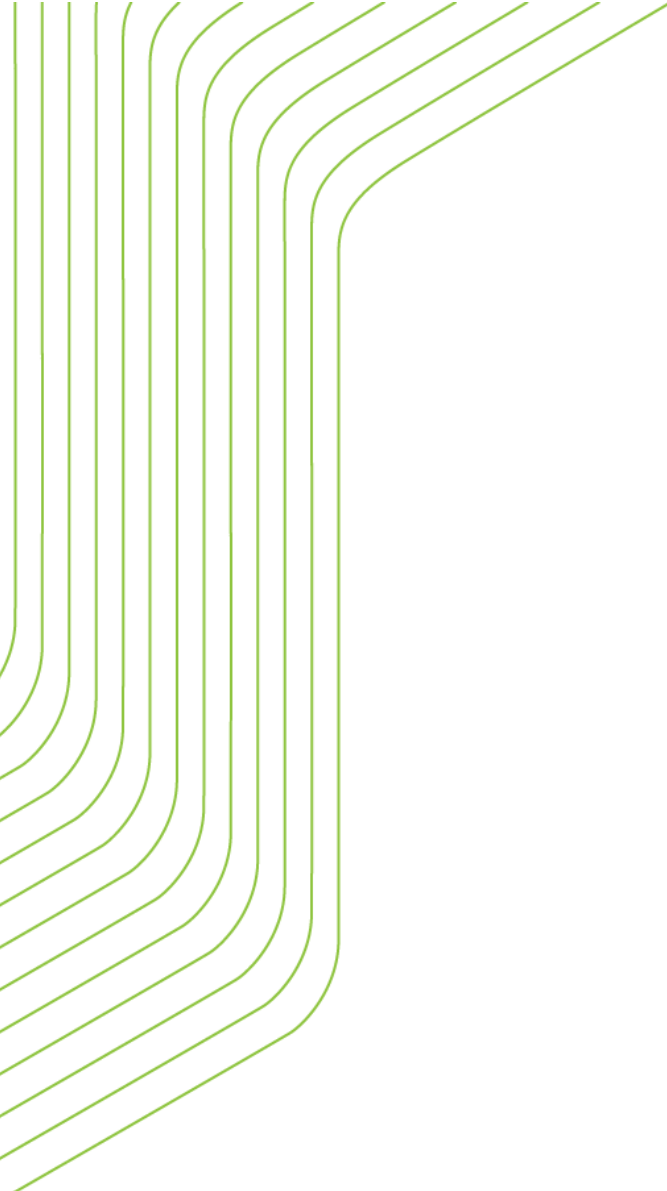
The base case (0% per annum) is that incomes grow in line with rent. In this case, demand for affordable housing follows population trends in household makeup. For scenarios where the income grows more slowly than rents for the bottom 40%, Table 11 shows that there may be demand for between 669 and 2,925 additional SAH dwellings compared to the base case. If incomes of the bottom 40% grow by 0.5% relative to rents, we see demand being reduced, compared to the base case, by 3,507 SAH dwellings.

A larger difference between the base case and the scenarios is found when only those who experience ‘severe’ rental stress are considered. These households would be spending more than 50% of their income on rent.

Table 19, shows that with low household income growth in the bottom 40% the number of households who experience ‘severe’ rental stress rises sharply, with an AAGR of 2.3% to 2.8% in SAH demand depending upon the scenario. This is due to many households, who would have otherwise continued to experience rental stress (30% of household income on rent) if their incomes kept pace with rents, falling instead into severe stress due to the lower household income growth.

TABLE 19: FORECAST DEMAND FOR SAH FROM HOUSEHOLDS IN SEVERE RENTAL STRESS – LOW HOUSEHOLD INCOME GROWTH SCENARIOS

Scenario	2016	2021	2026	2031	2036	Change	Diff. to base case	AAGR
-2% per annum	41,178	47,892	55,786	63,412	71,598	30,420	9,845	2.80%
-1.5% per annum	41,178	47,210	54,295	61,159	68,600	27,422	6,847	2.58%
-0.5% per annum	41,178	46,202	52,250	58,021	64,459	23,281	2,706	2.27%
0% per annum	41,178	45,639	51,050	56,115	61,753	20,575	-	2.05%
+0.5% per annum	41,178	44,733	49,133	53,131	57,615	16,437	-4,138	1.69%



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