



Housing Australia's Future

NEW HOME
BUILDING
REQUIREMENTS

POPULATION
GROWTH
SCENARIOS

NATIONAL,
STATE AND
TERRITORY
ANALYSIS

UNDERLYING
DEMOGRAPHIC
DEMAND

Demographic Analysis of Australia's Housing Requirements

2024

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1985 – 2023



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Acronyms

- ABS – Australian Bureau of Statistics
- ACT – Australian Capital Territory
- AHURI – Australian Housing and Urban Research Institute
- AIFS – Australian Institute of Family Studies
- CBD – Central Business District
- GDP – Gross Domestic Product
- HIA – Housing Industry Association
- IGR – Intergenerational Report
- MADIP – Multi Agency Data Integration Project
- NHFIC – National Housing Finance and Investment Corporation
- NOM – Net Overseas Migration
- NSW – New South Wales
- NT – Northern Territory
- RBA – Reserve Bank of Australia
- SA – South Australia
- TfNSW – Transport for NSW
- WA – Western Australia

Executive Summary

The acute shortage of rental accommodation in Australia in 2024 is not solely the result of the rapid return of migration in 2023 but stems from a persistent imbalance over the past two decades between population growth and the slow rate of new housing stock development. This imbalance has led to a significant acceleration in rental prices.

This report focuses on the critical issue of accurately forecasting population growth and the resulting demand for housing. A key contributor to the housing shortage has been the consistent underestimation by all tiers of government regarding future demand for new homes. The pandemic further exacerbated this issue, causing an increased demand for housing despite a pause in migration.

The primary objective of this report is to assist policymakers in estimating demand for new homes. It presents various scenarios based on important economic variables, allowing stakeholders to make their assumptions and guide their forecasting activities. Importantly, these scenarios assume a starting point without an existing housing shortfall and under stable economic and political conditions.

The analysis concludes that if population growth slows and economic growth remains modest, Australia needs to build over 205,000 new homes annually between 2024 and 2050 to avoid continued extraordinary growth in rental prices. If population growth returns to pre-pandemic levels, building 250,000 homes per year is necessary to prevent an amplified affordability challenge. Comparatively, in 2023, Australia commenced less than 175,000 new dwellings.

Estimate of Future Housing Demand from 2024 to 2050

	Population growth		
	Low	Medium	High
Low income growth	162,759	194,350	227,659
Medium income growth	173,649	205,229	238,538
High real income growth	184,528	216,108	249,418

Source: HIA Economics

The report challenges the common misconception of building one home for every 2.5 residents, emphasizing that most demand for new homes exists without migration. The example of Japan, which builds one million new homes annually without population growth, illustrates this point. Another widely reported fallacy that is derived from a misunderstanding of Census data is that 10 per cent of homes in Australia are vacant.

Market equilibrium in the new home market is hindered by the pivotal role governments play in controlling land release, essential services, access to finance, and taxation. The failure of governments to facilitate an adequate supply of homes is identified as the primary cause of rising housing costs.

A well-functioning housing market should maintain a rental vacancy rate of three to five percent. Achieving this balance ensures market dynamics between landlords and tenants, leading to consistent home price growth aligned with wage increases and mortgage repayment capacity. Sustaining an ideal level of rental vacancies promotes a competitive environment among landlords, reducing the need for subsidized housing and mitigating the necessity for taxing short-term rental accommodation or implementing policies against investor activity in the market.

It is this criteria that should be the goal for policy makers at all tiers of government.

Drivers of housing demand

Key points

- Population forecasts have progressively been revised upwards as successive iterations of the Intergenerational Report (IGR) have been released. The volatility of forecasts is due in large part to a lack of timely population data, a problem which might be addressed by exploring the use of alternative datasets to complement official data.
- A growing population, which has historically tended to be underestimated, combined with a falling household size are the main drivers for an increase in housing need going forward.
- It is also necessary to take account of changes within the population which influence what needs to be built.
- A changing demographic profile, an ageing population, an increasing share of one-person households, increased urbanisation and a number of other factors are all likely to alter the dwelling mix. This in turn, will add further pressure to building need.
- Growing migration will add considerably to housing need because people from different countries have different housing preferences. Differences in housing characteristics amongst different segments of the population also need to be considered when assessing housing need.
- Finally, housing need is not a simple matter of dividing population by average household size, even after accounting for a change in dwelling mix. As peoples' incomes grow, they will want to move houses, buy holiday homes, conduct renovations, etc., all of which adds to the total demand for housing.
- Failing to adequately consider the income effect guarantees an underestimate of housing demand, which will only exacerbate housing shortages.

Population forecasts show room for improvement

Although productivity is the most sustainable driver of economic growth in the long term, population will continue to be the dominant factor in the short-to-medium term.

Governments are constantly underestimating population growth, meaning they are subsequently always underestimating the number of dwellings that will be needed to house that growth.

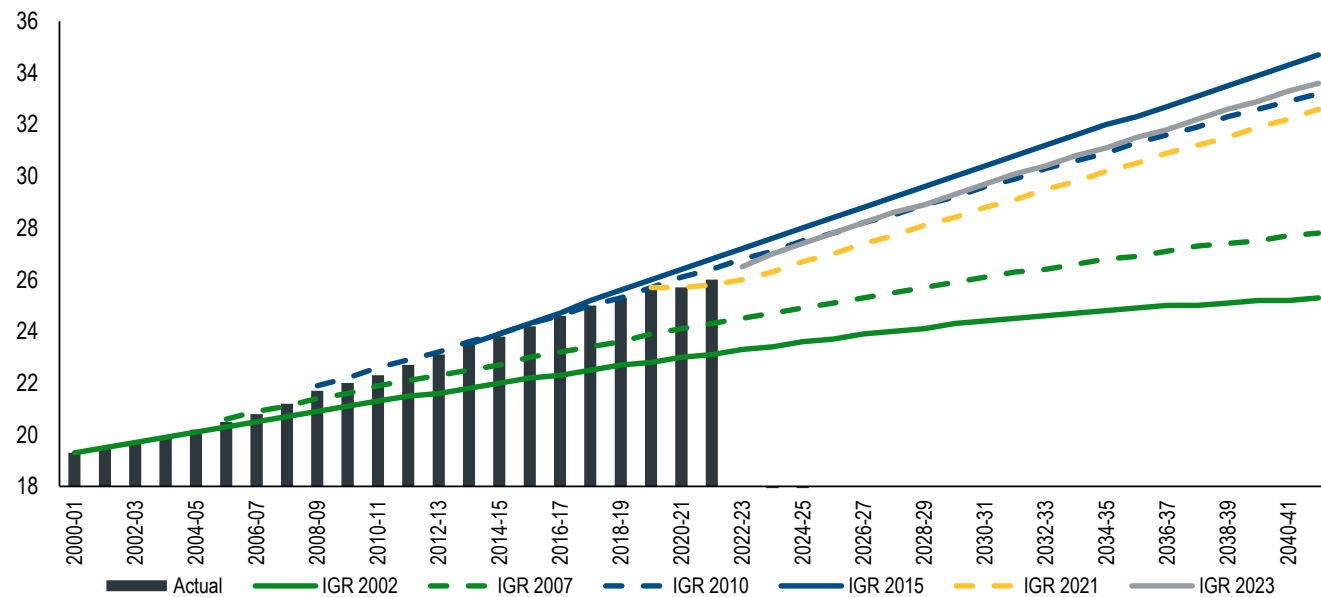
At the time of the 2002 IGR, population in 2042 was expected to be 25.3 million, a figure that has already been exceeded. The most recent forecast for 2042 is about 8 million higher than what was projected in 2002, which is about the same as the population of New South Wales. In 2002, policymakers thought that the population in 2021-22 would be 23.1 million, when in fact it turned out to be 26 million. At the time of the 2002 IGR, the best information available to planners was that they would need to ensure sufficient housing for 23.1 million, not 26 million.

The unsurprising consequence of this poor forecasting of population growth is a constantly changing set of forecasts, making adequate planning of housing needs, all but impossible.

Chart 1: Intergenerational Report population forecasts, 2002-2023

IGR population forecasts (m)

Source: 2023 IGR



Planning for population growth is made more challenging by a lack of data, both at a state and at a national level. Quarterly population data from the Australian Bureau of Statistics (ABS) are available only with a six-month lag, meaning the data generally do not account for the most recent developments affecting housing.

Regional population data are even harder to come by, being released only once a year by the ABS, generally with at least a year's delay. At the time of writing this report, the reference period for regional population data was 2021-22. Consequently, state population forecasts are effectively out-of-date before they are released.

With the right data, however, population should not be hard to forecast. At a national level, population growth consists of only two elements: natural increase, being births less deaths, and net overseas migration, being arrivals from overseas less departures to overseas. The former is fairly straightforward to predict since birth and death rates do not change rapidly.

Migration is where many forecasts come unstuck. Surprisingly, the Intergenerational Report (IGR) assumes migration will remain constant at 235,000 per year for the next 30 years. This in effect, sees migration as continually declining share of overall population. This is a particularly odd forecast, as migration has clearly been trending upwards over the past 40 years, and there is no reason to think this trend will stop.

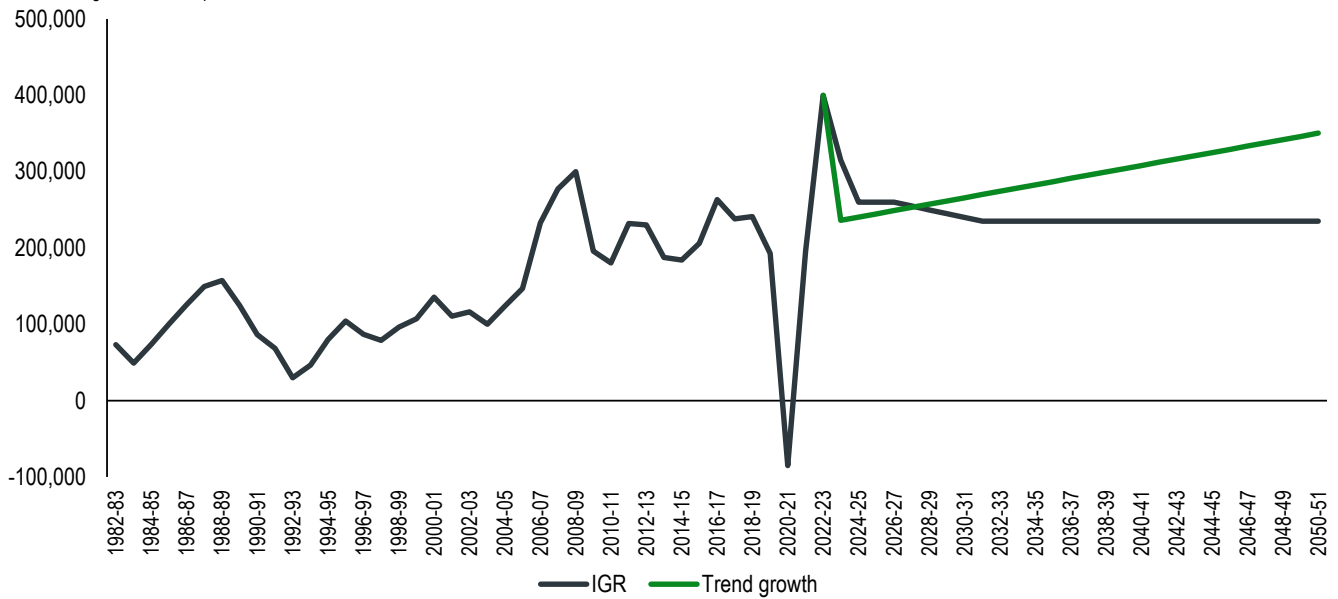
The chart below compares a simple extrapolation (shown in the green line) of the linear trend of migration that has been observed since the early 1980s. Assuming no major changes in policy, the latter would seem to be the more reasonable assumption from a forecasting perspective.



Chart 2: Net overseas migration

Net overseas migration

Source: Intergenerational Report, HIA estimates



The historical trend would imply net overseas migration of 350,000 per year in 2050, or 115,000 more people per year than the IGR assumption. This overtakes even the IGR's sensitivity analysis with a high migration assumption, which assumes a constant migrant intake of 285,000 per year. If the longer-term trend continues, this would be overtaken within 10 years. This equates roughly 50,000 additional net new homes shortfall between the trend in migration and the estimates published by in the IGR.

Far more sophisticated projections of migration could be generated by taking advantage of more timely data sources. This would also have the advantage of allowing forecasts to be generated from more recent data.

For example, monthly arrivals and departures data available from the Department of Home Affairs could be used to generate interim estimates of migration in between official data releases. At a state level, overseas arrivals could be collected in a similar vein to the national data, potentially supplemented by separate data from the relevant airports.

The potential for more real-time datasets to be utilised as a means of estimating migration should also be considered. For example, the NSW Department of Planning publishes data on interstate driver's licence transfers. This can be used to make inferences about interstate migration to NSW, as well as licence change of addresses within the state, from one local area to another.

Other states should follow the lead of NSW and make these data publicly available. This would allow an estimate of interstate migration to be developed on a regular basis, which could in turn allow for more frequent population estimates to be developed, both at a state and a regional level.

Improving population forecasts will go a long way to better planning for Australia's future housing needs. However, it is not the only element to consider. The remainder of this chapter considers factors which will exacerbate the effects of a growing population as well as increase the number of dwellings needed even in the absence of population growth.

Falling household size

The number of people living in the average house is obviously a key determinant of underlying household demand. Fewer people per house means more houses will be needed. The Australian Institute of Family Studies (AIFS) notes that the average household size declined from 4.5 people per household in 1911, to 3.6 in 1961, and to 2.6 in 2016.¹

More recent analysis by the Reserve Bank of Australia (RBA) estimates that there are now on average just 2.5 people living in each household, not 2.6 as previously thought.² Some of the reasons for this decline are considered below.

The RBA's research also showed significant differences in household size by location as well as by cohort. This is particularly important because although many of the broader factors affecting household size discussed below are relevant across the country, there may also be location-specific factors.

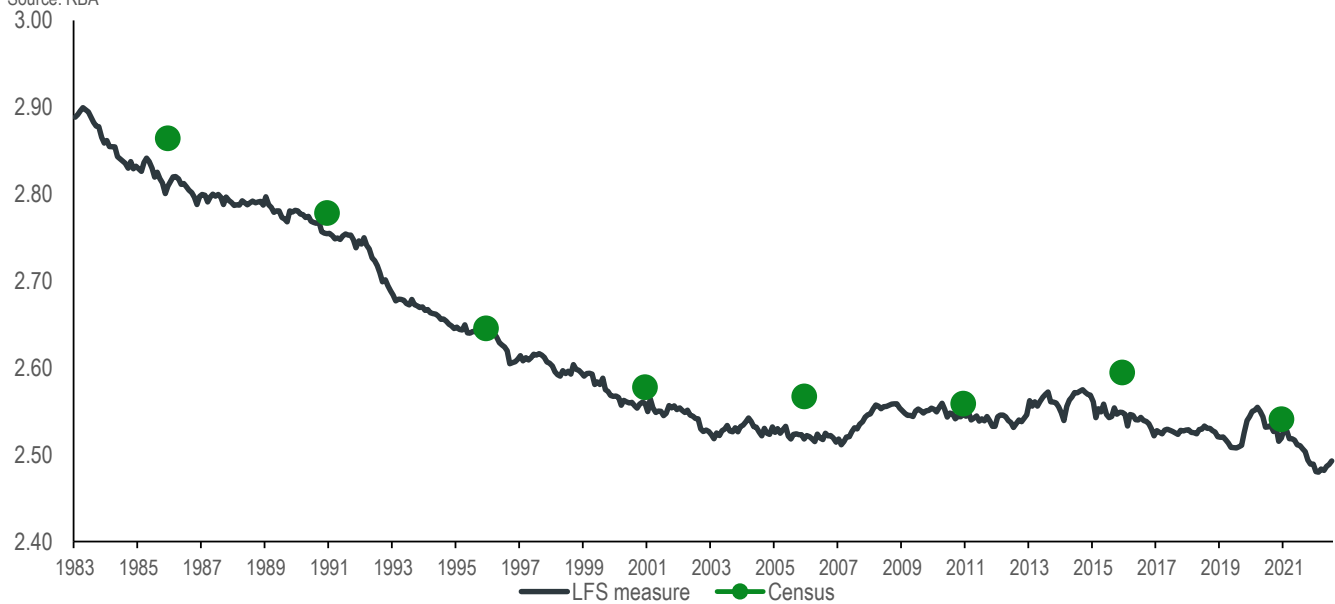
For example, Sydney and Melbourne CBDs have a higher average household size than other cities. This is likely due to a number of factors, such as higher rents, greater population density, and a larger number of international students who are more likely to live in group households than other segments of the population.

Understanding the location-specific factors behind household size is critical for governments. This is particularly important at the state level, to ensure planning regimes keep up with changes in the population, and to ensure that the right type of dwelling is built in the right location. Building detached houses in urban fringes when there is a stronger preference for apartments closer to cities, and vice-versa, will only exacerbate the shortage of housing.

Chart 3: Average household size, 1983 to present

Average Household Size

Source: RBA



Even small changes in household size can have a significant effect on the number of dwellings needed. To show this, the table below compares estimated dwelling requirements for Australia's current population using both an average household size of 2.6 and 2.5. For example, the downward revision in the average household size estimate from 2.6 to 2.5 people per house would imply a need for 411,821 additional dwellings, roughly double Australia's current building rate.

¹ *Australian Families Then & Now: Households and families* (aifs.gov.au)

² <https://www.rba.gov.au/publications/bulletin/2023/mar/a-new-measure-of-average-household-size.html>

Table 1: Effects of a changing household size on dwelling need

	Estimate
Population	26,268,359
Existing need @ 2.6 ppl per home (pop/2.6)	10,103,215
Existing need @ 2.5 ppl per home (pop/2.5)	10,507,344
Pop'n growth 2022	500,000
New pop'n need @ 2.6 ppl per home (500k/2.6)	192,308
New pop'n need @ 2.5 ppl per home (500k/2.5)	200,000
Total need @ 2.6	10,295,523
Total need @ 2.5	10,707,344
Difference	411,821

Source: HIA Economics

The table above provides an estimate of housing need due to a small change in the number of people per home, as occurred during the pandemic. In the example above, this change in density from 2.6 people per home, to 2.5 people per home, requires around 411,000 new homes to be completed (two years of building at historical peaks), before population growth is considered.

This table does not consider factors such as knockdown-rebuilds, changing demographic mix, and income growth. Failure to consider these factors means any estimate of housing need will be an underestimate.

The remainder of this chapter will cover some of the main reasons for a falling household size:

- A change in the dwelling mix, which is seeing a relatively greater share of units than houses.
- A changing demographic profile, which is seeing a greater share of lone-person households relative to families.
- An ageing population, which is seeing a greater share of elderly people who have different housing characteristics to families with kids.
- Growing migration, and within that growing student migration, which is changing housing mix both on account of age as well as different preferences of people from different countries.
- Income growth, which affects demand for housing.

Shift from low to high density housing

As shown in the chart 2, the majority of the construction boom the mid-2010s was driven by apartment construction.

A changing dwelling mix is a function of many things. It is partly a function of demographics: as people live longer there will be a greater share of widowed elderly people living by themselves and with more single person households the need for new homes will increasingly focus on units. Partly this reflects a change in preferences, as the allure of inner city living is perhaps stronger than in the 1980s. Partly it is a necessity, both as house prices squeeze people out of the housing market and into the apartment market, and as land supply constraints force a shift in construction to units.

All of these factors are here to stay, meaning apartments will play an increasing role in meeting future housing requirements. As shown in the second chart below, the average number of people per apartment or semi-detached house is considerably lower than in the average house, meaning stronger growth in apartments going forward will be a large contributor to falling household sizes overall.

The chart 5 also shows that the number of people per dwelling between the 2016 and 2021 Census fell within each individual housing category, meaning the cause of a falling household size is not solely a function of a shift to apartments.

Chart 4: Unit commencements growing more strongly than houses

Detached and Multi starts: 3 Year rolling average - AUS

Source: ABS 8752, HIA

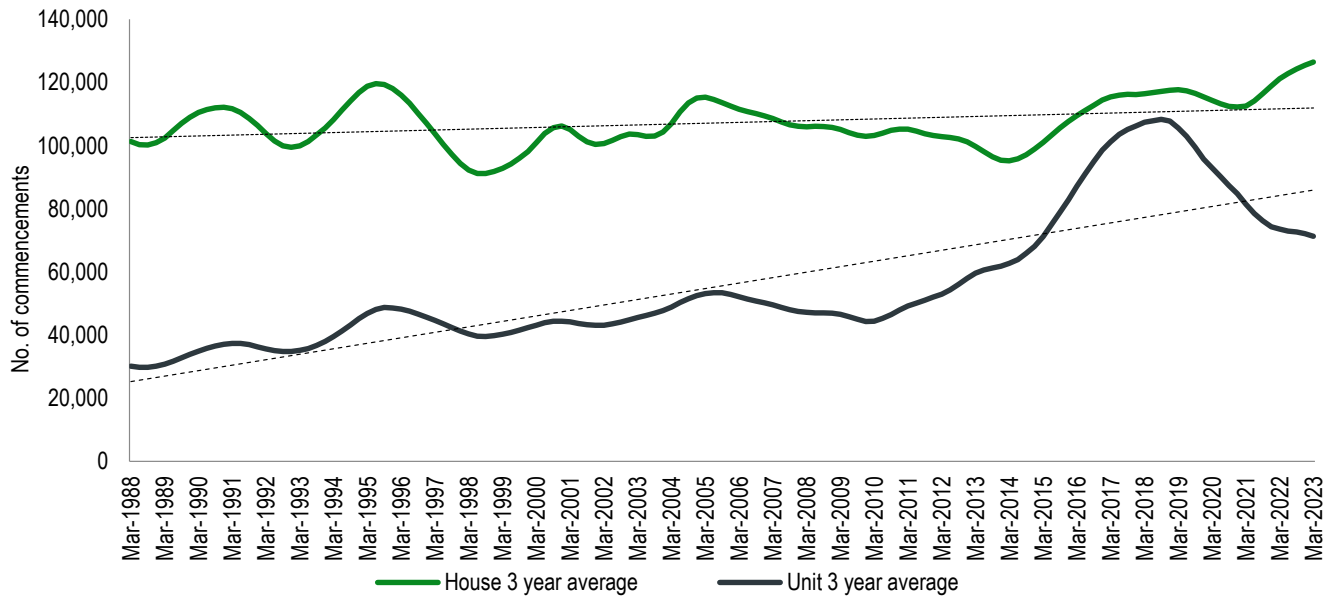
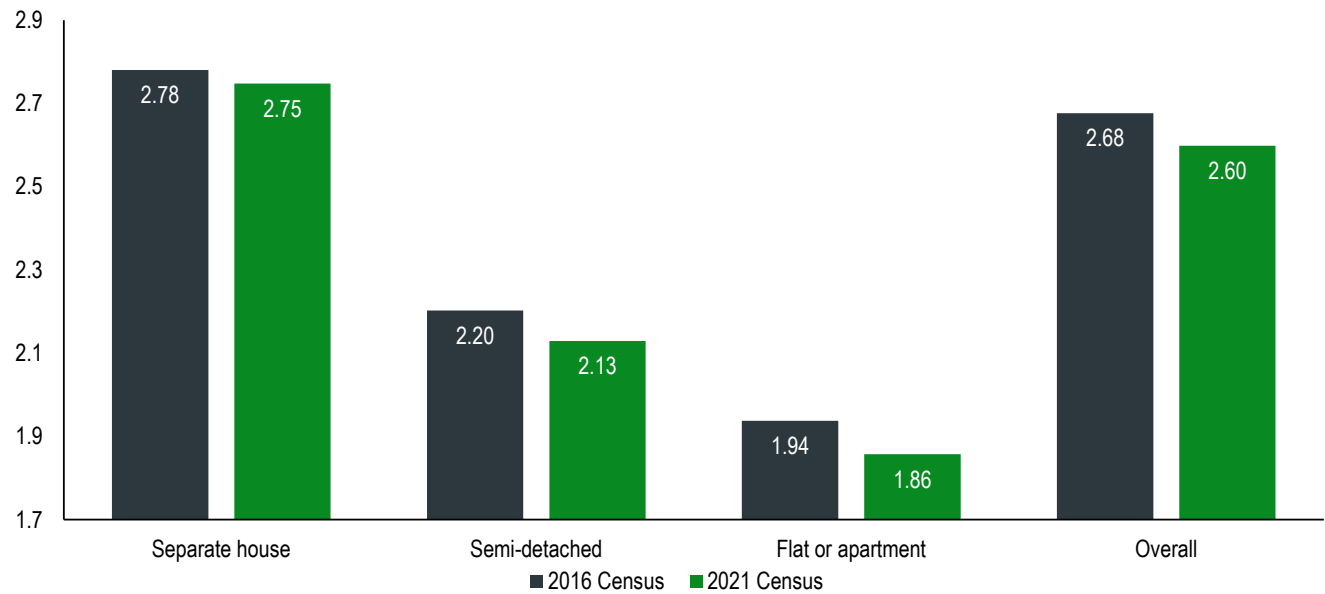


Chart 5: Average dwelling size, 2016 vs 2021 Census

People per household

Source: ABS Census, 2016 and 2021



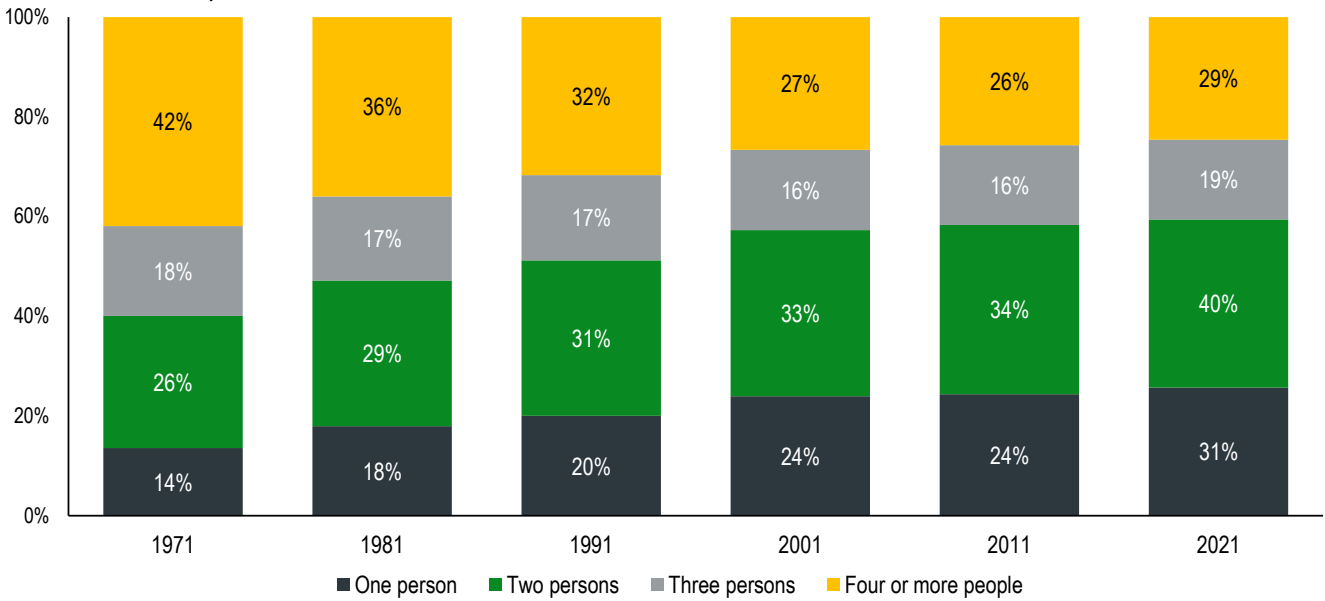
Changing demographic profile

It is well known that fertility rates have fallen over time. Australians are deferring having children, have fewer children, or do not have children at all, and more and more people choose to remain single. Fifty years ago, over 40 per cent of occupied dwellings had four or more people, nearly all of which would be families with two or more children. At the 2021 Census this share had fallen to 29 per cent. Similarly, the proportion of dwellings with just one occupant has risen from 14 per cent fifty years ago to 31 per cent today.

Chart 6: breakdown of dwellings by number of occupants

Proportion of dwellings by number of occupants

Source: ABS Census, various years



Regardless of the reason, from a housing perspective, it is important because single-person households have different housing tendencies than households with two or more children.

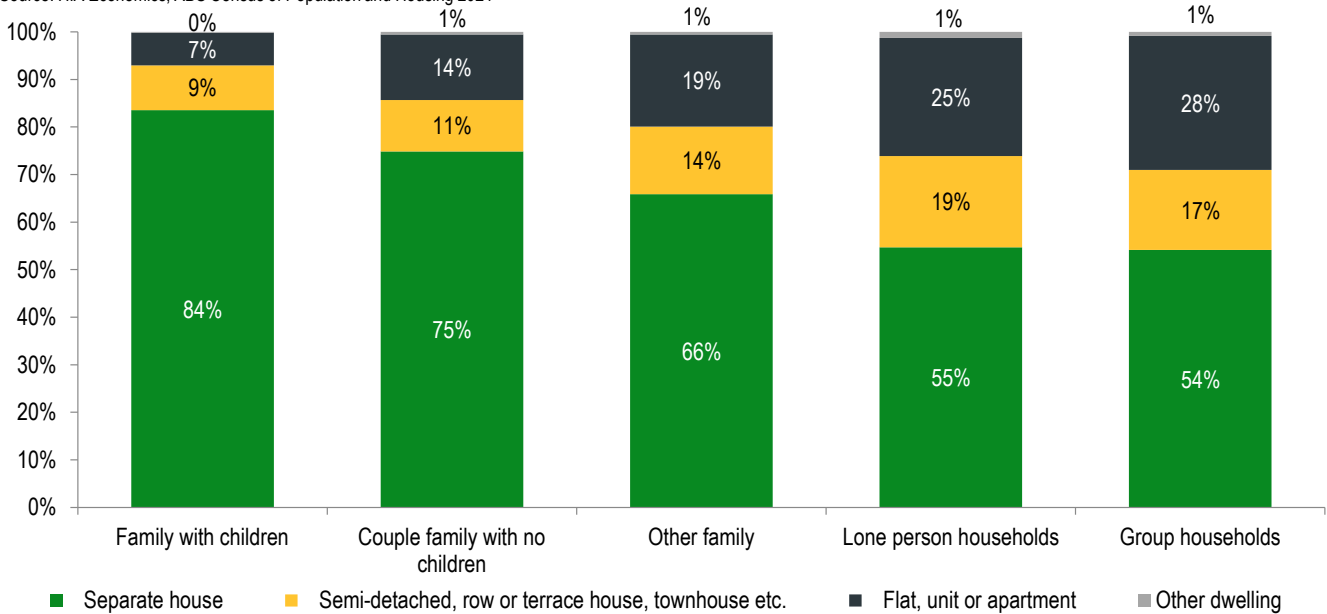
Unsurprisingly, families with children are far more likely to live in a detached house than in a flat or semi-detached dwelling than families with no children or people who live by themselves. Hence, planning for population growth also needs to consider changing family structures. Assuming past trends continue, it can be expected that the proportion of lone-person households will rise while the proportion of households with multiple occupants will fall.

A change in dwelling mix will clearly have implications for future building needs. Further, different areas have different population mixes. Inner city areas tend to have a higher share of lone-person households, for example, meaning a greater need for units relative to houses. By contrast, outer suburbs will tend to be dominated by families, meaning a greater need for houses relative to units.

Chart 7: Dwelling mix by household type

Dwelling mix by household type – Australia

Source: HIA Economics, ABS Census of Population and Housing 2021



Household size is a function of age

The chart below shows how the average household size changes through peoples’ lives.

During their childhood years, the average person will live in a house of around four to five people. From around 18 years of age, people begin moving out of home. The average household size begins to decline, reaching a trough around the mid-to-late 20s.

The ages between 30 to 50 can be thought of as the ‘mid-life’ stage, as people begin to start families of their own. This ties in with the childhood phase, though the peak is not as high because of the proportion of people living by themselves. The peak in this phase of life is around 40. After 40, the average household size steadily declines, initially because the children enter the young adult stage and move out of home. As age progresses into the 70s and beyond, a greater share of people become widowed and live by themselves.

The same cycle can be seen in both the 2006 and 2021 Census, albeit slightly pushed to the right for the 2021 Census. This reflects the fact that people these days tend to have kids later in life, making the ‘young adult’ trough slightly later in 2021 than in 2006. Similarly, people in 2006 tended to move out of home earlier in life than in 2021, making the mid-life peak slightly earlier in 2006 than in 2021, and a sharper decline reflecting earlier mortality rates.

Understanding how the average person’s housing needs are likely to vary over their lifespan will allow states to better plan for housing needs in different areas. Areas with a higher proportion of young adults or university students, such as CBD areas, will require more dwellings to be built purely on account of their relatively young population.

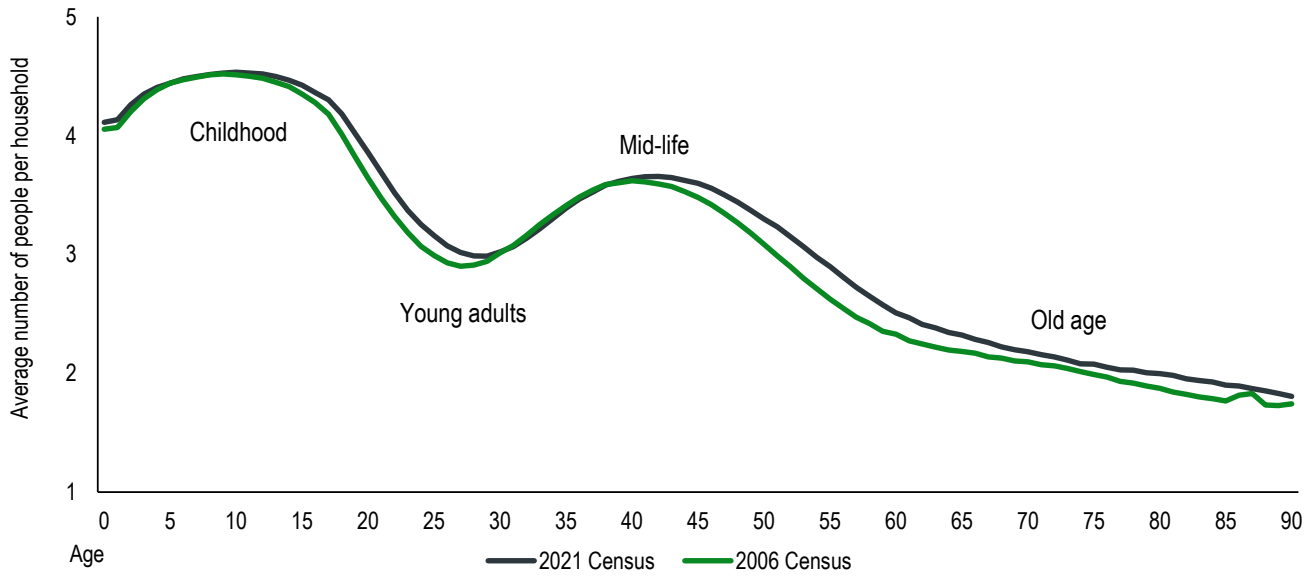
This again highlights the importance of region-specific planning, with different characteristics in terms of the age, structure, and change of populations all important considerations when estimating future housing needs. Of course, age is not the sole determining factor in considering average household size. As discussed in the following section, migration is also a factor, as peoples’ dwelling preferences also differ based on their country of birth.



Chart 8: The housing life cycle

Average household size by age

Source: ABS Census, HIA



People from different countries have different housing preferences

As discussed earlier, migration has shown a strong upward trend since the early 1980s. In the 12 months to March 2023, net overseas migration (NOM) was 454,000 people, nearly twice what it was before the pandemic.

It is also important to consider where migrants come from, as people from different countries have different housing tendencies. The top four source countries in 2021-22, namely India, Nepal, China, and the Philippines, have accounted for a fairly steadily increasing share of the total net migrant intake. With the possible exception of China, each of these countries has a rapidly growing middle-class population, meaning over the coming years, it is reasonable to expect the number of migrants from these countries to continue growing, both for work and/or study.

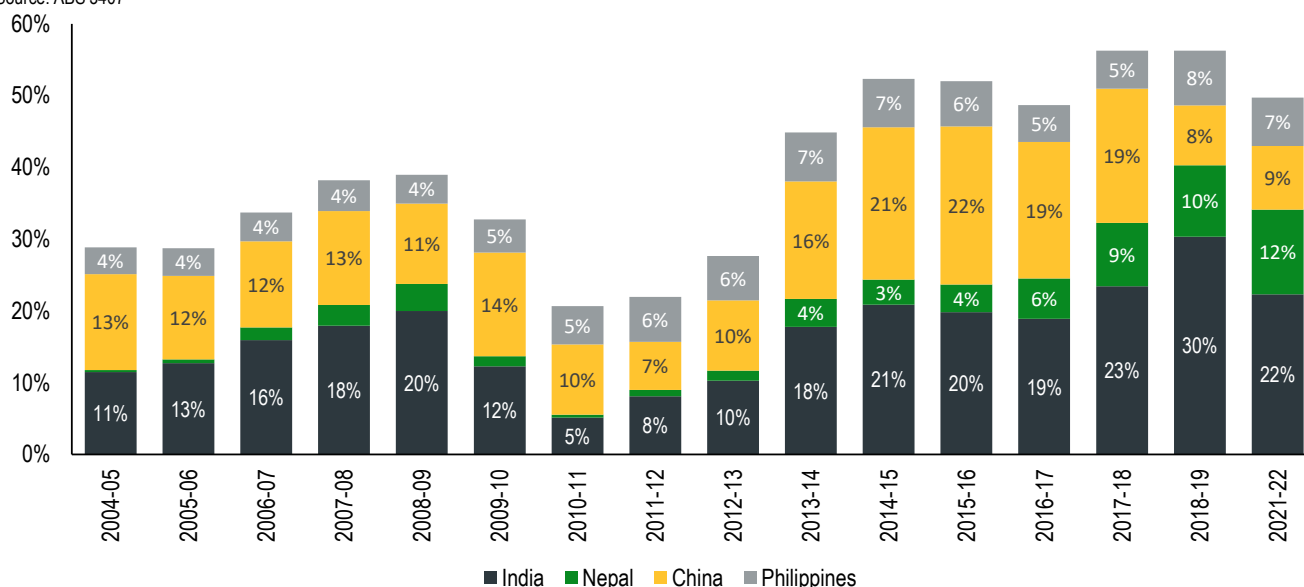
Other south-east Asian countries such as Thailand and Indonesia have similar outlooks and thus can also be expected to provide increasing migration numbers going forward as their middle classes continue to grow.

Chart 9: Net overseas migration from main Asian countries

NOM from top four countries in 2021-22 (% of total)

Source: ABS 3407

*2019-20 and 2020-21 excluded due to COVID effects



This is important from a housing perspective because there are some noticeable differences in the housing characteristics of people from different countries, especially from the top four aforementioned countries today.

Whereas people from 'traditional' source markets such as the United Kingdom tend to share very similar housing characteristics to the Australia-born population, the same cannot be said of people from some of the more rapidly growing source markets in Asia. An article in *The Economist* notes that this is largely due to an inheritance of 'traditional' English town planning systems which favoured detached housing:

*"In many English-speaking countries, inspired by Victorian worries about 'slums', planning laws tended to prioritise detached houses. For urban planners...density was seen as akin to crowding...the writer George Orwell was sceptical of the proceedings: 'If people are going to live in large towns at all they must learn to live on top of one another,' he declared. But he reckoned that many workers in Britain did not 'take kindly to flats'."*³

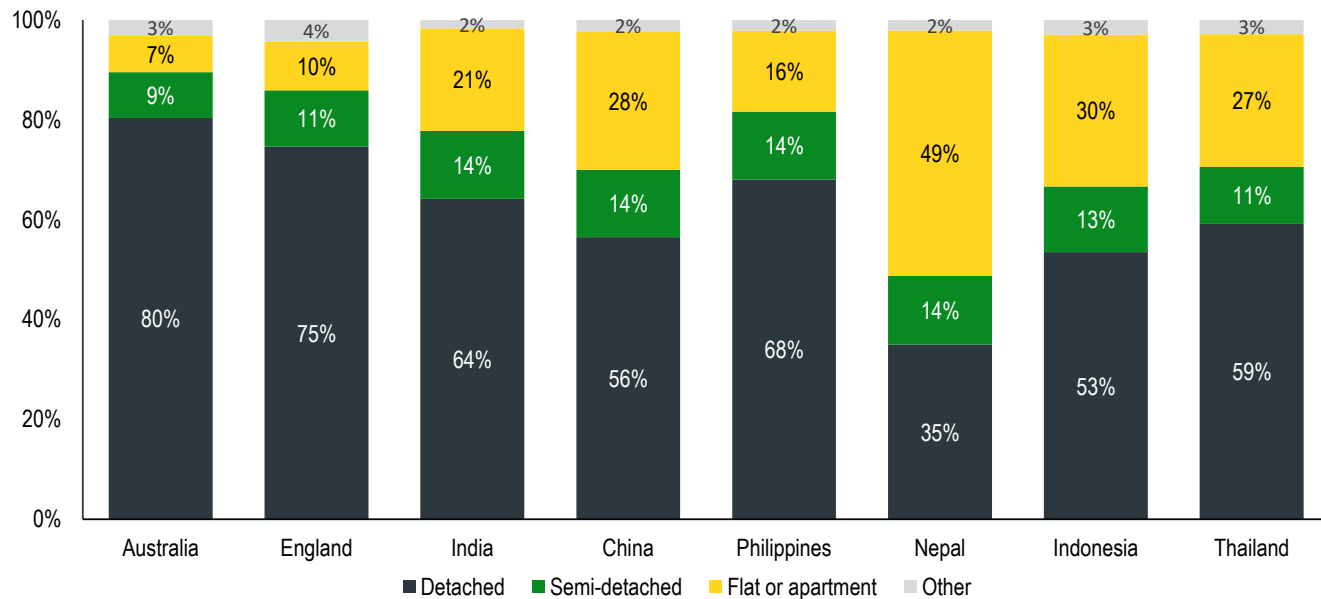
Migrants from Asian countries have a greater propensity than Australians to live in higher-density dwellings such as units or semi-detached. In other words, the number of dwellings needed to house different segments of the population will be partly driven by where the population is from.

³ *The Economist*, 6 September 2023, 'Can YIMBYs ease the global housing crunch?', *Can YIMBYs ease the global housing crunch?* (economist.com)

Chart 10: Dwelling mix by country of birth

Dwelling mix by country of birth

2021 Census



Growing student migration

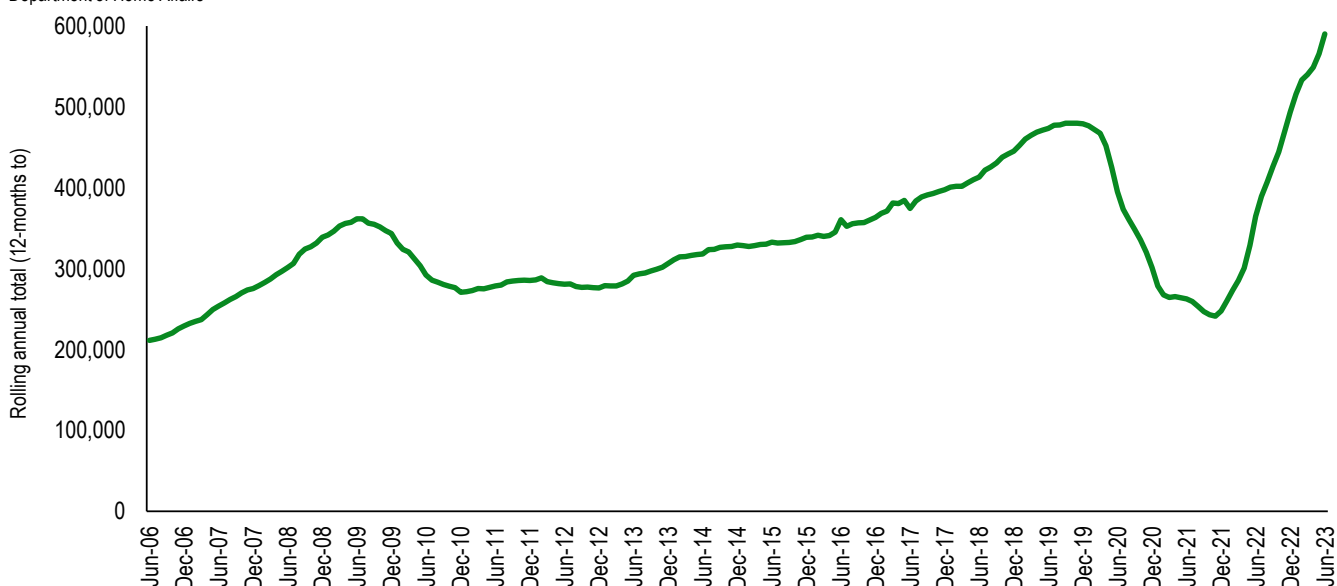
A subset of migration particularly relevant for the inner-city areas is foreign students. International education is one of Australia’s largest exports, with considerable flow-on effects to the broader economy.

Data from the Department of Home Affairs suggest a clear upward trend in the number of student visa lodgements (aside from the pandemic affected years), which is noteworthy given students’ differing housing preferences relative to other segments of the population.

Chart 11: student visa lodgement, 2007-2023

Student visas lodged

Department of Home Affairs



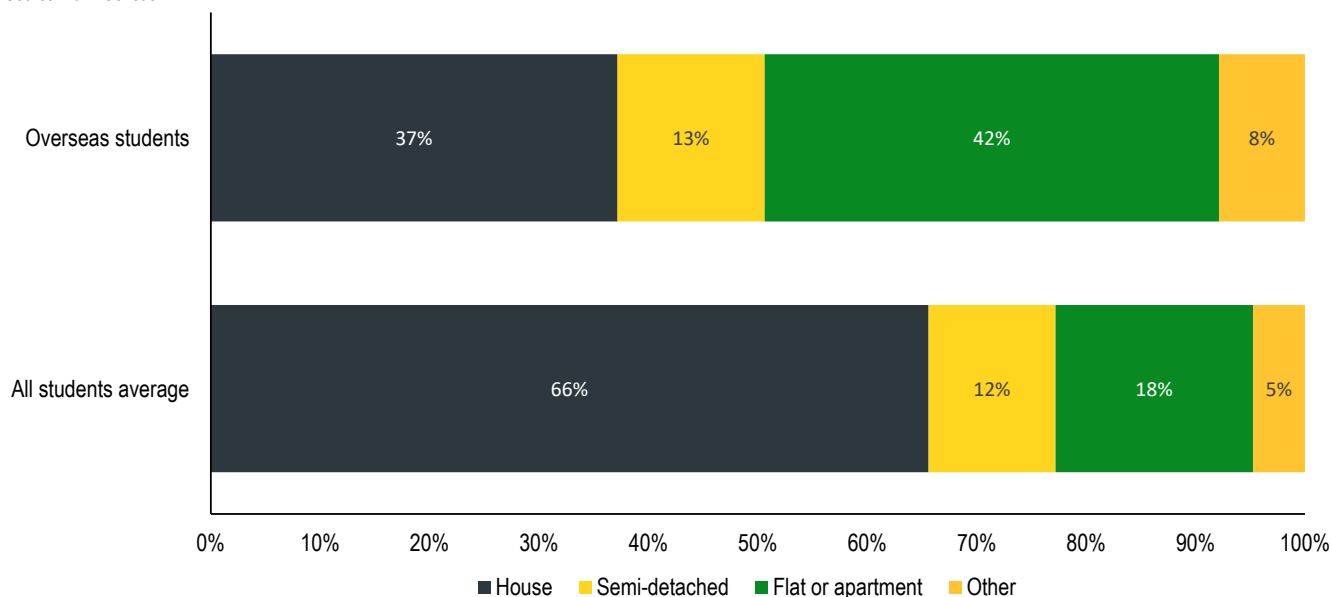
That said, a growing migration intake, particularly the number of international students, does provide challenges for housing supply. As shown below, overseas students are even more likely to live in units than migrants more broadly. This is particularly relevant for cities with a high share of student migrants in the CBD areas such as Sydney or Melbourne.

Although international students make a great contribution to our economy, it is easy to see how they will add pressure to the housing market if not sufficiently planned for. The solution, however, is not to stop migration, but rather to properly plan for stable and reliable migration.

Chart 12: Students' housing status – Australian vs overseas students

Uni students' housing status

Source: 2021 Census



A better way to measure housing demand is needed

As incomes grow, preferences change. Some people will want to buy a holiday house, some will want to move to a new city, and some will simply want to upgrade to a newer dwelling.

It is not enough simply to estimate the number of dwellings required based on average household size and population growth. Ending the forecasts there effectively assumes away any dwelling movement or demand from the existing population. As shown in the previous chapter, even when population growth is zero, it can be expected that dwelling commencements would total around 100,000 per year.

The importance of considering income growth and other demand-side factors was also acknowledged in a report by Housing Australia, formerly named the National Housing Finance and Investment Corporation's (NHFIC):

“Household formation projections based purely on population and demographics can underestimate housing demand. Other metrics to consider include higher average incomes, unemployment rates, and other economic factors. This is why NHFIC’s projections of household formation incorporate impacts from economic variables.

Other economic variables, such as rents, can also affect housing affordability and the rate of household formation. Rents reflect underlying demand for housing. If rents are falling, the purchasing power of incomes for housing increases. This allows more people to live on their own, decreasing average household size and rates of household formation. Conversely, if rents are rising, fewer people can form new households. Given rents and housing affordability are also a function of housing supply, increasing housing supply can put downward pressure on housing costs.”⁴

⁴ <https://www.nhfic.gov.au/research/state-nations-housing-report-2022-23>



Ideally, demographic modelling of housing supply should be complemented by modelling of housing demand. At a minimum, analysis to estimate the elasticity of building demand with respect to income is needed to properly gauge potential (i.e., how does a 1 per cent change in income flow through to future building demand).

Unfortunately, demand-side modelling is not as easy as it sounds. Whereas housing supply can be easily tracked via dwelling commencements, there is no such variable that tracks housing demand.

As NHFIC also noted, properly estimating housing demand requires econometric modelling, an example of which was a report by the Australian Housing and Urban Research Institute (AHURI) in 2017.⁵ Reflecting the fact that it is impossible to directly measure demand, this analysis estimated five separate models and attempted to merge them together.

The sheer complexity of this sort of model means not only would it be too time consuming to recreate regularly, but there would also be a limited number of people who can conduct the analysis and even understand its results. Further, any sort of econometric model is only as good as the data that underpin it, and as this chapter has made clear, significant data gaps exist both at a national and a state level.

There is potential going forward for the use of more frequent, alternative datasets to infer more timely movements in housing demand. In the past, such analysis has not been feasible, but developments in machine learning have opened up a whole realm of possibility. Broadly speaking, this is known as nowcasting, which is the practice of using recent, often non-traditional data to update key indicators (such as population or GDP) which are traditionally published with a considerable lag.

From a housing market perspective, a company in the United States has reportedly had some success predicting residential activity using social media scraping techniques.⁶ Driver's licence transfer data discussed above might also be used in estimating housing demand. Another alternative might be electricity consumption which could be used to infer population growth.

Although potentially not as robust as the AHURI analysis mentioned above, nowcasting would be far timelier and hence more useful in measuring housing demand. It also opens up the possibility of conducting demand-side analysis at a regional level, since measures such as electricity consumption or social media usage are far more likely to be readily available at a regional level than other traditional indicators.

⁵ *Modelling housing need in Australia to 2025* (ahuri.edu.au)

⁶ <https://macroxstudio.com/nowcasting-the-us-housing-market-with-alternative-data/>

Future housing needs

Key points

- Population has grown strongly in most states and territories, and there are some indications of stronger than expected growth going forward.
- The most recent population forecasts from the Intergenerational Report (IGR) make some simplifying assumptions which understate potential population growth. This is not a criticism of the IGR, but a consequence of the different purpose of the IGR compared to this report.
- This analysis does not use official population forecasts. Instead, it adopts assumptions for low, medium, and high scenarios of population growth for the next thirty years, based on historical data and (where possible) recent developments.
- These are not forecasts but nevertheless they represent reasonable upper and lower bounds within which population growth is likely to fall, on average, over the period to 2050.
- The report estimates potential housing need over the period to 2050 by considering 'base' need under the various population growth scenarios, and then by adding an assumed uplift factor to allow for differences in income growth.
- Finally, the report reveals a sensitivity analysis to gauge what the impact might be of a change in the mix between houses, units and semi-detached.

This chapter sets out the most likely range in which future building activity will need to fall in order to meet projected population by 2050. Over the next 30 years, circumstances can and will change, which will make the actual outcomes deviate from what is described below.

These are not forecasts, but instead an estimate of the number of dwellings needed to account changes in population and income growth, over decades. These scenarios assume away many variables, including the existence of a shortfall of housing stock, changes in the price of finance and government policy decisions. This allows the impact of changes to population and wealth growth on housing demand, to be observed.

These scenarios can assist when developing forecast of demand for new homes.

Methodology

Population estimates

As noted in the previous chapter, the uncertainties and lags associated with population data add considerable uncertainties to any form of population forecasts.

This report does not undertake any discrete population forecasting. It instead considers three broad population scenarios, reflecting low, medium, and high scenarios respectively, of population growth. Many official forecasts assume a constant number of migrants going forward.

This assumption is generally made on the basis of a 'no policy change' assumption which is commonly made in economic and demographic modelling. However, the problem with this assumption is it means an implicit assumption of declining population growth through time, which is clearly unrealistic when compared against historical population growth rates.

On that basis a scenario-based estimate is justifiable in guiding estimates of future building requirements.

Estimated building need

The approach taken involves three key steps:

1. First, the number dwellings required to house the expected population growth, or the **base building need**, is derived by dividing annualised population growth between 2022 and 2050 (total growth divided by 28 years) by average household size. The average household size is taken from RBA⁷ and adjusted to account for a changing dwelling mix (one geared more to flats and less to detached houses).
2. Second, the *income uplift* which is an estimate of the extent to which income growth through time will also add to dwelling demand. This estimate is calculated based on an analysis of home building in regions during extended periods without population growth.
3. The report then estimates **total building requirement** for each of the nine scenarios representing the different combinations of base building requirement under the three population scenarios, and the income uplift which is our estimate of the number of dwellings that will need to be built per annum between now and 2050 in order to adequately meet housing demand. This is equal to the base building requirement estimated in step 1 plus the uplift estimated in step 2.

Planning is sometimes undertaken considering only the first step above, without considering the extent to which growing incomes will spur increasing demand for housing, nor the possibility that peoples' dwelling preferences may change through time. However, as shown later in this chapter, in most of the major states there has been a growing trend towards flats and semi-detached rather than separate houses.

Estimating the number of dwellings physically needed to house the population without considering demand-side factors, will almost always underestimate the number of dwellings needed.

The specific calculations are summarised below.

⁷ <https://www.rba.gov.au/publications/bulletin/2023/mar/pdf/a-new-measure-of-average-household-size.pdf>

First, estimate the number of dwellings needed per year:

$$\text{Total dwellings needed} = \frac{\text{total growth in population}}{\text{people per dwelling}}$$

$$\text{Dwellings needed per year} = \frac{\text{Total dwellings needed}}{28}$$

$$\text{Total dwelling demand} = \text{Base dwelling need} + \text{income uplift} * \text{dwelling stock}$$

Next, apply the mix of houses, semi-detached, and flats. Using flats as an example:

$$\text{Flats needed per yr} = \text{share of flats} * \text{Total dwellings needed} * \frac{\text{Avg ppl per dwelling}}{\text{Avg ppl per flat}}$$

This step accounts for the fact that there are fewer people per flat than there are per dwelling overall. Hence, for a given population, more flats will be needed than 'average' dwellings. Finally, multiply the base flats needed per year by the income uplift estimated in the previous section, assuming medium population and medium income growth.

$$\text{Total demand for flats} = \text{Flats needed per year} * \frac{\text{Total dwelling demand (med pop - med inc)}}{\text{Base dwelling need (med pop)}}$$

To make things easier, these can all be simplified into a single equation:

$$\text{Demand for flats} = \frac{\text{population growth} * \frac{\text{share of flats}}{\text{Avg ppl per flat (1.9)}}}{28} * \frac{\text{Total dwelling demand}}{\text{Base dwelling need}}$$

There are a number of inherent limitations to this analysis:

- It does not take into consideration any pent-up demand or existing housing shortages. Hence, even if all other assumptions turned out to be correct, because of the existing shortage, building the number of dwellings estimated in this report will still not ensure everyone receives a home.
- Though considered reasonable, the scenarios considered for population growth, as well as the income uplift assumptions, are simply assumptions for the scenarios. They should not be interpreted as a prediction or forecast.
- The sensitivity analysis conducted for a change in dwelling mix should also not be interpreted as any sort of prediction as to the future dwelling mix. The most likely outcome will however, likely fall within this range.

Australia

Population

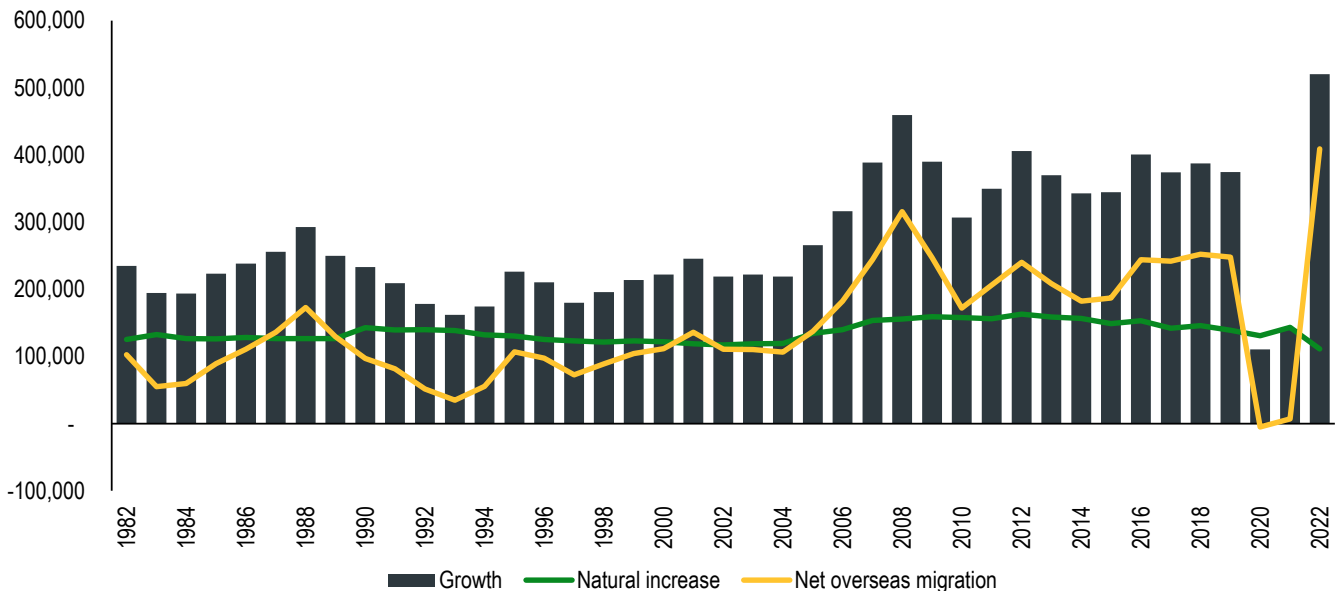
Population growth in 2022 was the highest on record, driven by a surge in net overseas migration as borders around the world reopened and migrants began flocking back to Australia. Net overseas migration reached its highest level on record in 2022, accounting for around 80 per cent of population growth in 2022, well above the pre-COVID average of around 50-60 per cent.

This recent rebound in migration is not indicative of the longer-term trends in population growth that are a core component to estimating housing demand. Regardless of short-term fluctuations, there are reasons to suspect that population growth will remain consistent with the robust volumes observed over recent decades.

Chart 13: Population growth – Australia – 1982 - 2022

AUSTRALIA - components of population growth, 1982 - 2022

Source: ABS



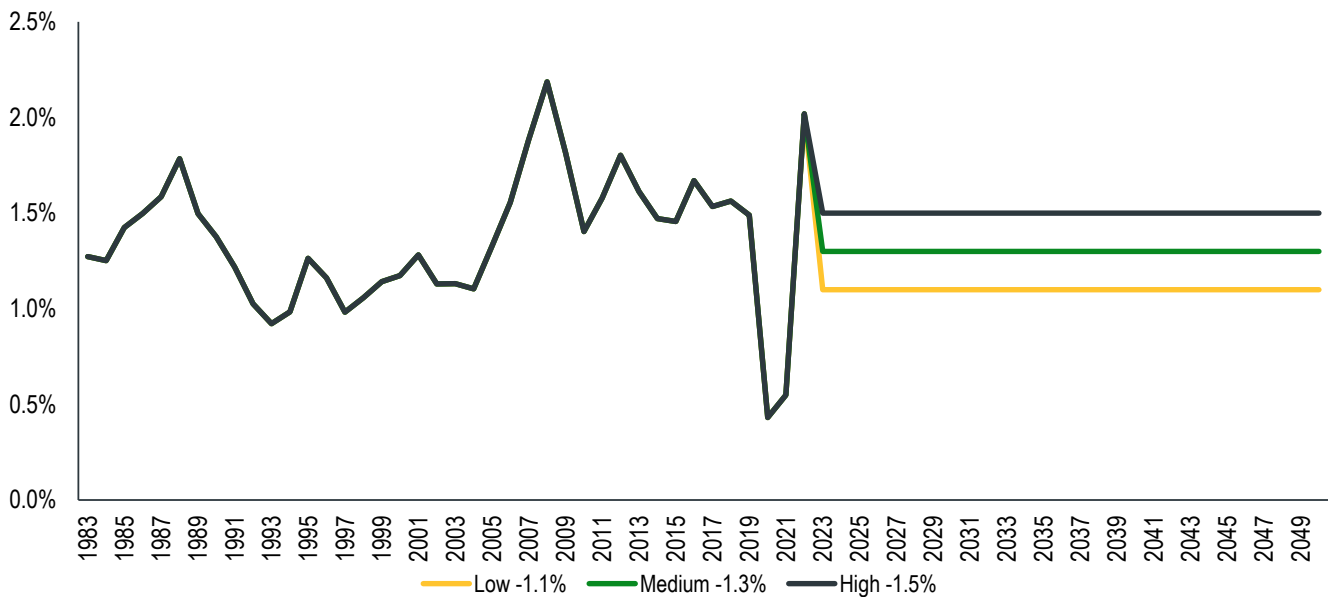
The most recent Commonwealth Budget assumed population would grow at 2 per cent in 2023-24, 1 per cent in 2024-25 before reverting to 1.5 per cent thereafter. This report's low, medium, and high assumptions are as follows:

- The **low growth** assumption of 1.1 per cent aligns with the decade of relatively low growth in the 1990s.
- The **high growth** assumption of 1.5 per cent per year aligns with the average from 2000 to 2019 (excluding the COVID affected years).
- The **medium growth** assumption is thus set at 1.3 per cent a year being halfway between the low and high scenarios.

Chart 14: Population growth assumptions, Australia

Australia Population growth

Source: ABS, HIA



The **Intergenerational Report (IGR)** released in August 2023 contains Federal Treasury’s long-term assumptions around the three P’s of economic growth – population, productivity and participation.

The IGR considers longer-term challenges that are likely to constrain economic growth. Chief among them is an ageing population, which will lead to lower population, reduced productivity (since older people tend to work less) and a greater strain on government finances (as shown earlier, older people are generally a net cost to the Budget).

The IGR’s main function is to project the Government’s fiscal position over the coming 40 years. Its future economic growth projections are relatively conservative, which is understandable given the challenges the Government is facing in the coming years. Indeed, from a fiscal perspective, it is preferable to be deliberately conservative, simply because it is better to underestimate future government revenue than overestimate it.

The purpose of this report is to map out what HIA believes is an appropriate assumption for average housing needs over the next 30 years. Because the IGR is generated for a different purpose, its population forecasts are understated. The IGR assumes a constant number of migrants going forward. Because migration accounts for the bulk of population growth, this effectively means that the IGR’s implied rate of population growth going forward would be declining.

As discussed in section 0, IGR population forecasts have often underestimated actual population growth in the past. More importantly, migration has clearly shown an upward trend over the past 40 years, which makes the view of a flat migration assumption going forward very unlikely.

Using the IGR’s population assumptions would risk underestimating housing requirements moving forward. As such, alternative assumptions have been presented to represent reasonable high, medium, and low scenarios of population growth based on historical experience.

Building requirement

Table 2 provides estimated building requirements under each of the different population scenarios.

Under the low, medium, and high population growth scenarios, the base building need is estimated to be between 4.1 million and 5.9 million new dwellings over the period 2023 to 2050, equating to 146,000 to 211,000 per year.

The matrix in the bottom panel (total demand) shows an estimate of total building need, which is based on population growth and demographic changes (population demand), plus the demand created by non-population related factors (wealth demand), each year between 2023 and 2050.

Table 2: Estimated building needs – Australia

AUSTRALIA			
	Population growth		
	Low	Medium	High
Population in 2022	26,291,429	26,291,429	26,291,429
Population in 2050	35,714,662	37,746,672	39,889,939
Assumed growth rate	1.1%	1.3%	1.5%
Current build rate (completions in 2022)	171,888	-	-
'Base' building need			
Dwellings required to house population growth (total to 2050)	4,100,607	4,984,855	5,917,518
Dwellings required to house population growth (per year)	162,769	194,350	227,659
Estimated future housing demand - 2023 - 2050			
Low income growth	162,769	194,350	227,659
Medium income growth	173,649	205,229	238,538
High real income growth	184,528	216,108	249,418

Source: HIA Economics

Note: Australia-wide estimates are derived separately and hence do not equal the sum of states

While the number of dwellings needed will fluctuate from year to year, the current building rate of around 200,000 new homes per year, is only likely to be sufficient if population consistently grows at 1.1 per cent per year or less. Apart from the COVID-affected years, this rate has been consistently exceeded since the Baby Bonus Scheme in the mid-2000s caused a strong boost in population growth.

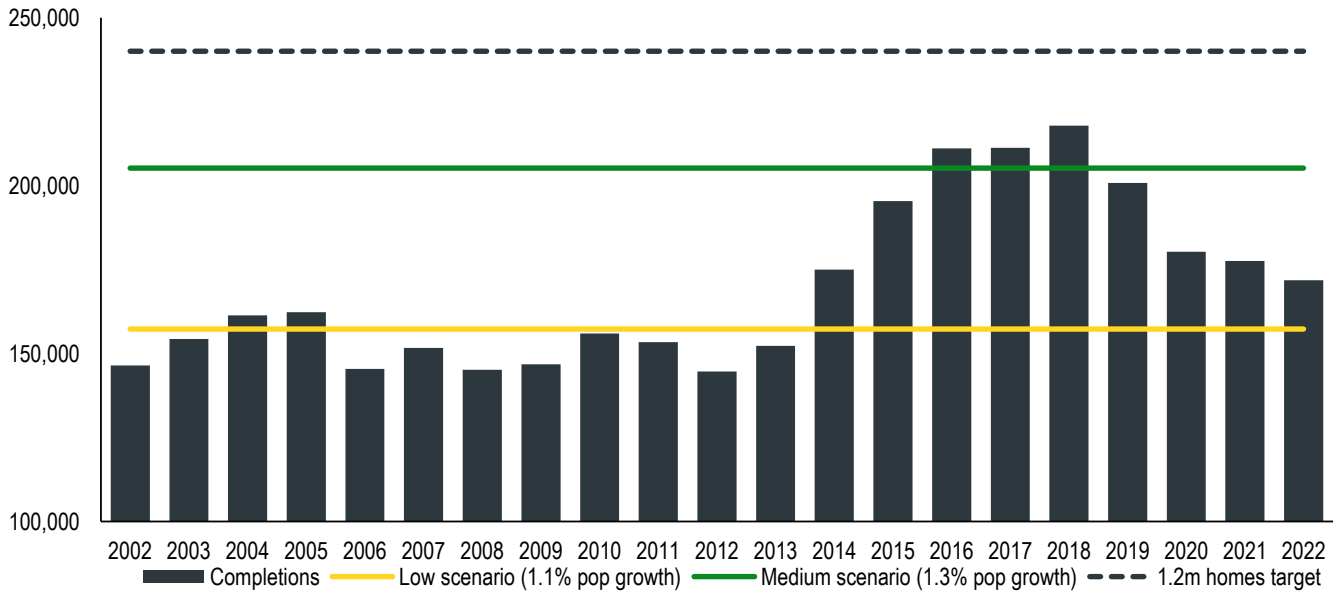
Similarly, the Australian population has consistently grown by more than 1.5 per cent in a year in recent decades. But, over the 30 year horizon of these scenario's this growth rate isn't likely to be sustained.

Under the medium population and medium income growth scenario, which is a far more realistic assumption over the longer term, it is estimated that 205,000 dwellings will need to be added each year.

Chart 15: completions – past vs future requirements

Completions per year – past 20 years vs estimated future need

Source: ABS, HIA



While the number of dwellings needed will fluctuate from year to year, the current building rate of around 200,000 new homes per year, is only likely to be sufficient if population consistently grows at 1.1 per cent per year or less. Apart from the COVID-affected years, this rate has been consistently exceeded since the Baby Bonus Scheme in the mid-2000s caused a strong boost in population growth.

Similarly, the Australian population has consistently grown by more than 1.5 per cent in a year in recent decades. But, over the 30 year horizon of these scenario’s this growth rate isn’t likely to be sustained.

Under the medium population and medium income growth scenario, which is a far more realistic assumption over the longer term, it is estimated that 205,000 dwellings will need to be added each year.

compares building activity over the last 20 years with what is estimated will be required going forward, under the ‘low-low’, ‘medium-medium’ and ‘high-high’ combinations of income and population growth.

Building activity in 2022 (172,670 dwellings completed) was some 16 per cent below the estimated requirement under the medium scenario, 31 per cent below the requirement under the high scenario, and 28 per cent below the 240,000 that would need to be built each year for five years to meet the Government’s target of 1.2 million homes over that five year period.



NHFIC's State of the Nation

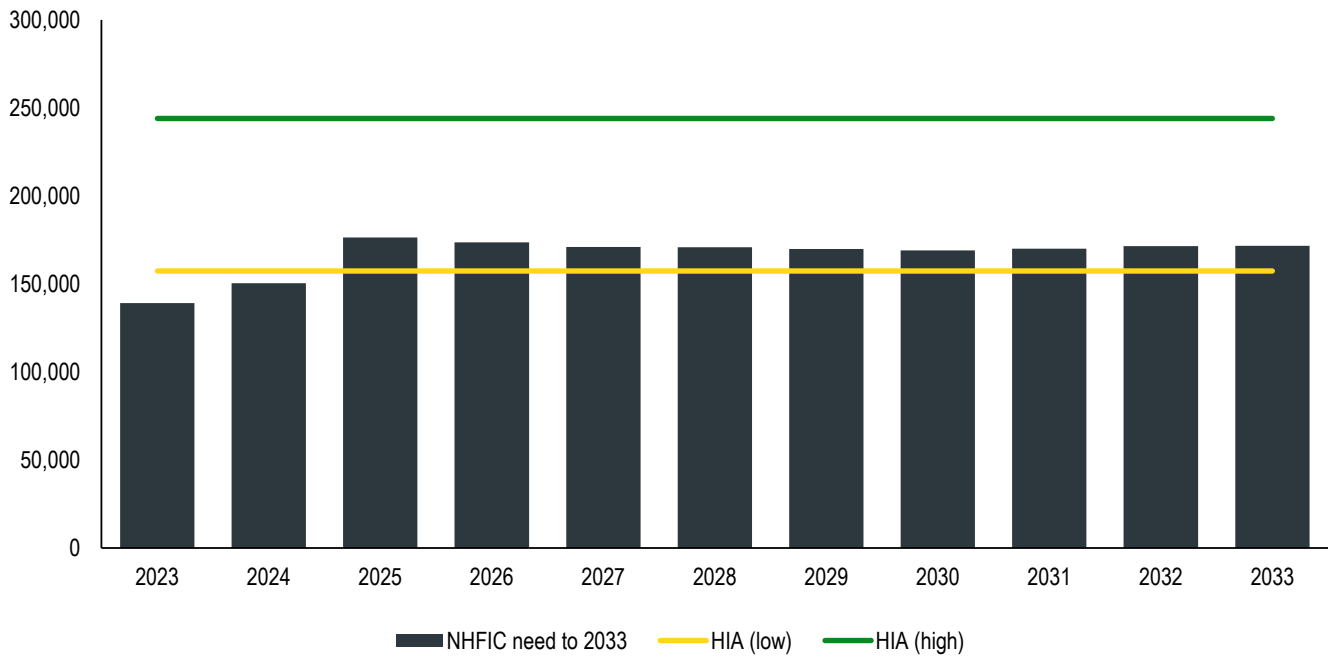
State of the Nation's Housing is NHFIC's flagship report and provides an annual snapshot of housing demand and supply across the country, with a view to identifying supply shortfalls that could over time exacerbate affordability problems.

NHFIC's projections of building need different from the scenario's above as they report 'net' additions to the housing stock. If these NHFIC projections are adjusted to account for building removals since their estimates are in terms of net dwelling additions, are roughly halfway between this report's lower and mid-range scenarios.

Chart 16: NHFIC and HIA estimates

NHFIC vs HIA assumptions of building need - Australia

Source: HIA, NHFIC



Note: NHFIC numbers have been adjusted to convert from net dwelling additions to gross additions. It is the absolute number of dwellings needing to be built (without adjusting for removals) that is of interest for this report.

This is consistent with other government estimates that under estimate demand for homes.



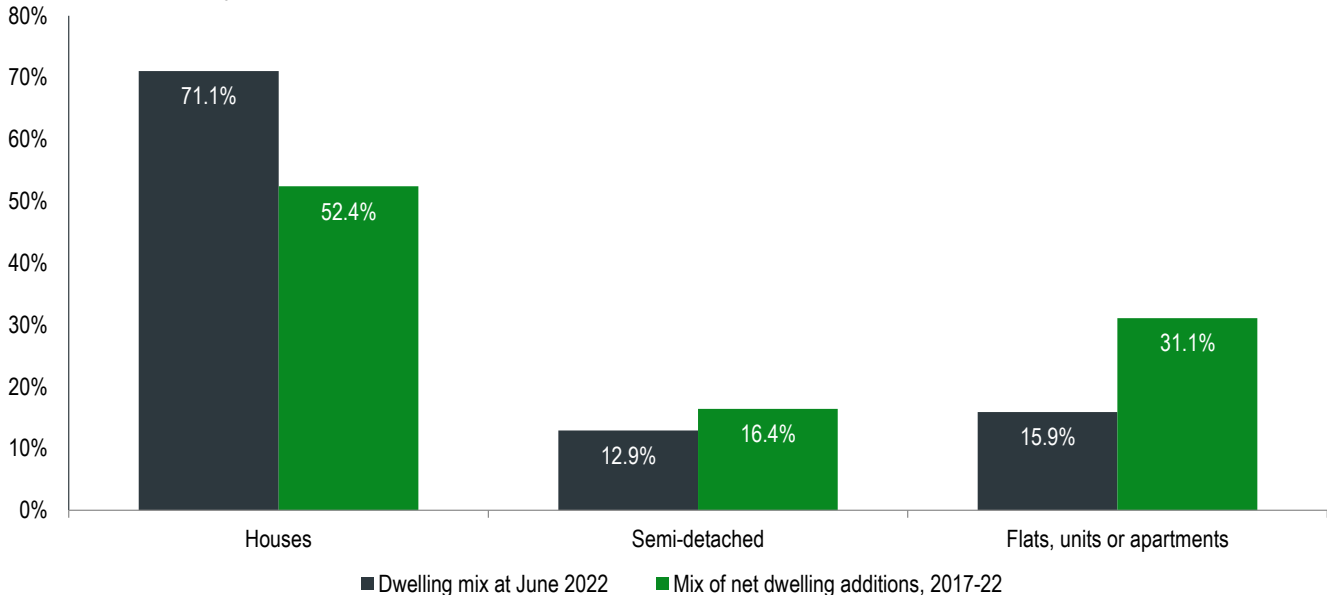
Dwelling composition

As noted in the previous chapter, there has been a notable shift in the dwelling composition when comparing the existing dwelling stock in June 2022 with the additions to that stock over the past five years. Whereas houses account for 71 per cent of the current mix and flats 16 per cent, houses account for only 52 per cent of additions in the last five years and units 31 per cent.

Chart 17: NHFIC and HIA estimates

Dwelling mix of new and existing housing – Australia

Source: ABS, Estimated dwelling stock, cat. 8701



The table below shows how a change in dwelling mix affects the overall estimated dwelling demand, and also how the breakup occurs.

Because the average detached house has more people living in it than an apartment, a greater share of houses means fewer overall dwellings will be needed. This report's estimates of building need are based on the mix of recent builds over the past five years, on the basis that the mix of demand has clearly changed in that timeframe.

If demand were aligned with the mix of existing dwelling stock rather than recent new home construction, then only 40,306 apartments would be needed (under a medium income-medium population growth scenario). However, running the same calculations using the mix of recent builds causes the estimated number of apartments necessary to meet requirements to approximately double, to 78,860.

Table 3: Building requirements of different dwelling mix – Australia

Australia	Houses	Semi-detached	Flats, units or apartments	Overall
Current build rate	114,691	26,408	30,789	171,888
Average dwelling size	2.75	2.13	1.86	2.50
Scenarios				
Mix of existing dwellings	71.1%	12.9%	15.9%	99.8%
Mix of recent builds (last five years)	52.4%	16.4%	31.1%	100.0%
Estimated dwelling demand per scenario (med pop-med income growth)				
Mix of existing dwellings	121,851	28,529	40,306	190,686
Mix of recent builds (last five years)	89,928	36,340	78,860	205,128

Source: HIA Economics

New South Wales

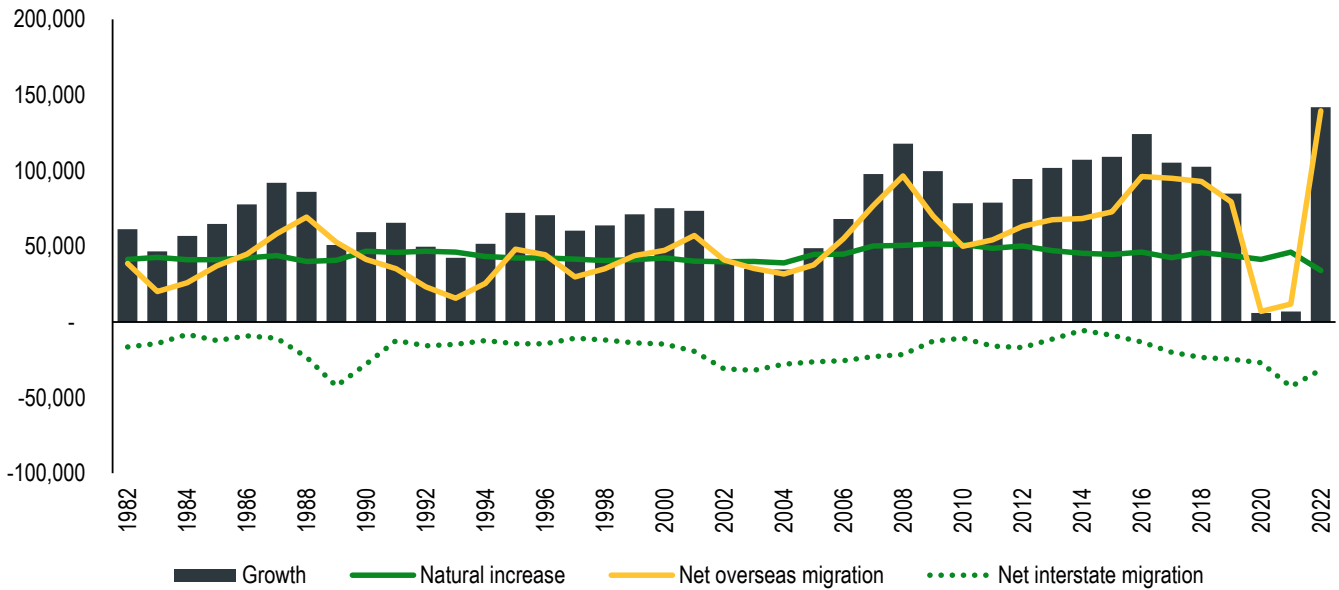
Population

New South Wales (NSW) has traditionally been more dependent than other states on net overseas migration, given it is the largest market for both overseas workers and international students. The difference in housing characteristics among different migrant groups is particularly relevant for NSW going forward.

Chart 18: Population growth – NSW – 1982-2022

NSW – components of population growth, 1982 – 2022

Source: ABS



A timelier source of data is available from Transport for NSW which shows interstate driver’s licence transfers on a monthly basis from 2006⁸. As discussed in the previous chapter, alternative datasets such as this have a strong potential to improve the timeliness of demographic information and through it the robustness of population and housing forecast models.

Licence transfers from other states into NSW began trending down from around mid-2016, although that trend appears to have levelled off in recent months. The obvious exception is the COVID-affected period when NSW residents living interstate returned home.

Anecdotally, it is understood that surrounding states have seen an uptick in interstate licence transfers. This could be a function of high house prices in Sydney discouraging people from other states from moving to NSW. It could also reflect an increased ability to work from home, meaning people are less inclined to move to Sydney for work. It could be a combination of the two, but the only way to really test these theories would be to compare with the equivalent datasets from other states.

With interstate migration seemingly either trending downward or remaining constant since the pandemic, and natural increase expected to continue its downward trend, overseas migration will continue to dominate NSW’s population growth going forward.

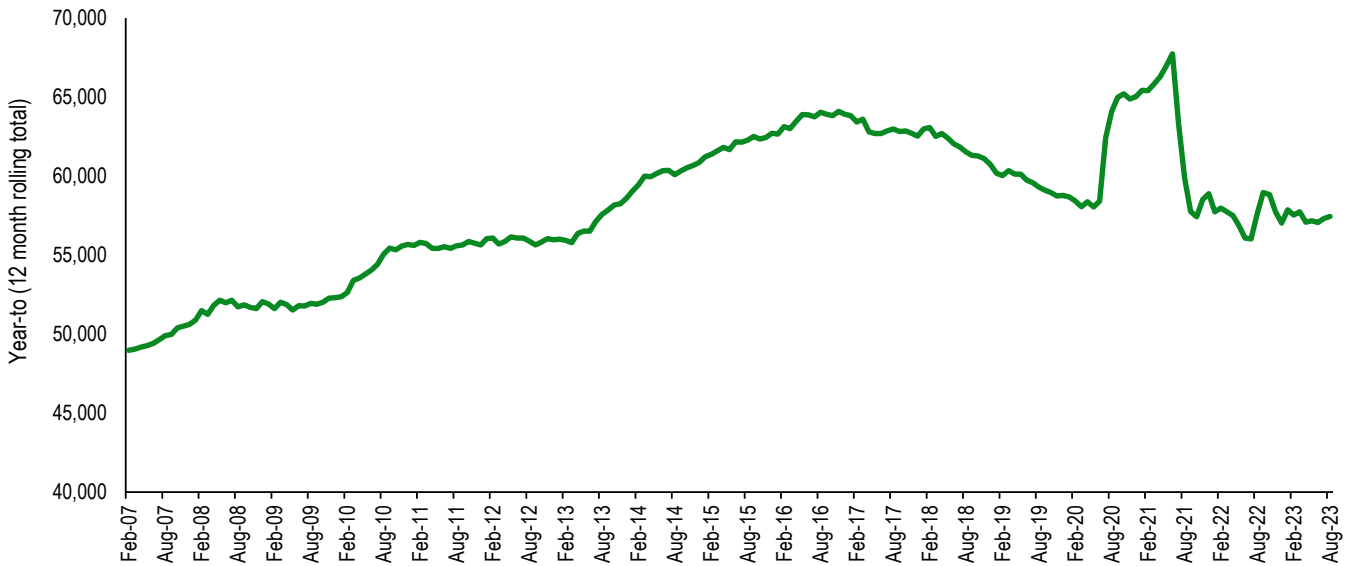
8 Transport for NSW Driver Licence Statistics - Dataset - TfNSW Open Data Hub and Developer Portal



Chart 19: Driver's licence transfers from interstate to NSW – December 2006 – June 2023

Drivers licence transfers from interstate

Source: Transport for NSW



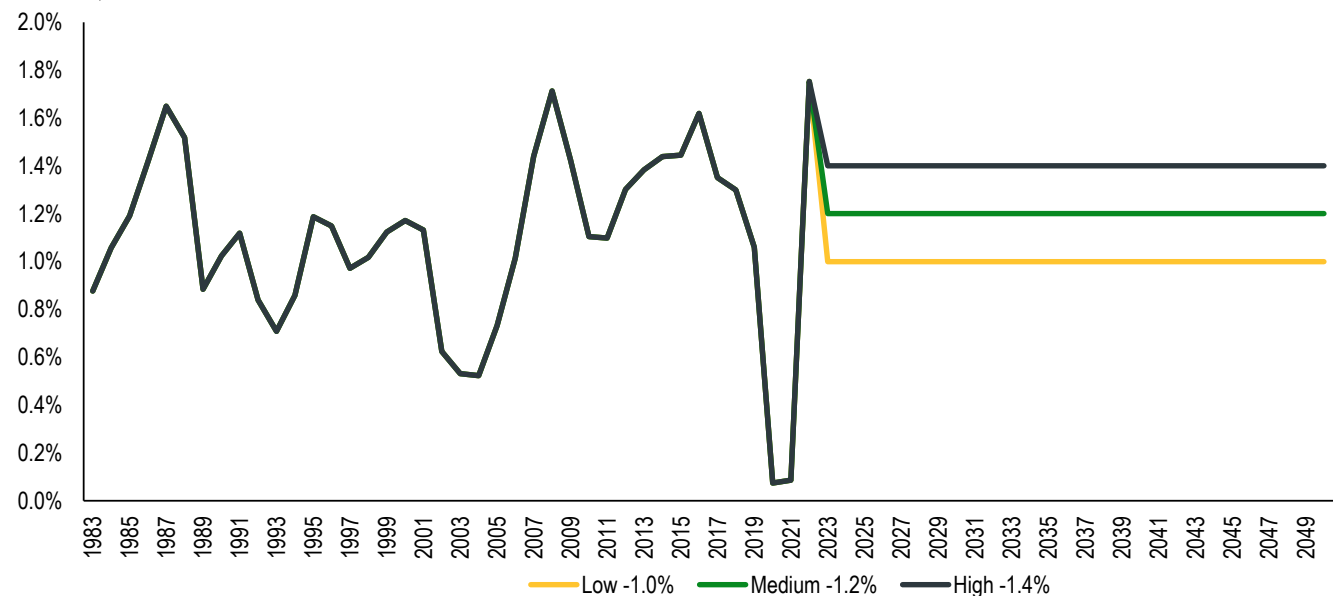
Our population assumptions for NSW are lower than for the other states, though consistent with recent history. Specifically:

- It is assumed 1.0 per cent for the **low growth** scenario, on par with the longer-term average growth rate over the last 40 years and in line official NSW Planning projections.
- It is assumed 1.2 per cent growth per year in the **medium growth** scenario, which is broadly consistent with the average growth rate observed in the 10 years prior to COVID.
- It is assumed 1.4 per cent population growth per year under the **high growth** scenario, which is in line with growth during the construction boom around 2015 but has not been achieved since then.

Chart 20: Population growth assumptions, NSW

NSW Population growth

Source: ABS, HIA



Building need

Without considering the effects of a change in dwelling mix (that is considered in the next section), it is estimated that the building requirement for NSW to range between 48,537 and 76,208 per year from now to 2050, depending on the specific combination of population and income growth achieved from year to year.

This report's lower bound building estimates are broadly consistent with NSW's current build rates. The medium and upper bound estimates have not been achieved for some time, but they are nevertheless feasible given the state's recent history. Based on NSW's current population share of 31.3 per cent of the Australian total, it is estimated that the state's share of the 1.2 million homes target to be around 75,000 per year, in line with the upper bound scenario. NHFIC's estimates of the state's building need, adjusted to add back dwelling removals, are in line with the lower bound scenario.

Table 4: Estimated building needs - NSW

New South Wales			
	Population growth		
	Low	Medium	High
Population in 2022	8,243,268	8,243,268	8,243,268
Population in 2050	10,891,756	11,512,079	12,166,402
Assumed growth rate	1.0%	1.2%	1.4%
Current build rate (completions in 2022)	45,773	-	-
'Base' building need			
Dwellings required to house population growth (total to 2050)	1,217,322	1,502,441	1,803,186
Dwellings required to house population growth (per year)	43,476	53,659	64,400
Estimated future housing demand - 2023 - 2050			
Low income growth	48,537	58,719	69,460
Medium income growth	51,910	62,093	72,834
High real income growth	55,284	65,467	76,208

Source: HIA Economics

Chart 21: Building sufficiency, NSW

NSW dwellings completed - past 20 years vs future need

Source: ABS, HIA

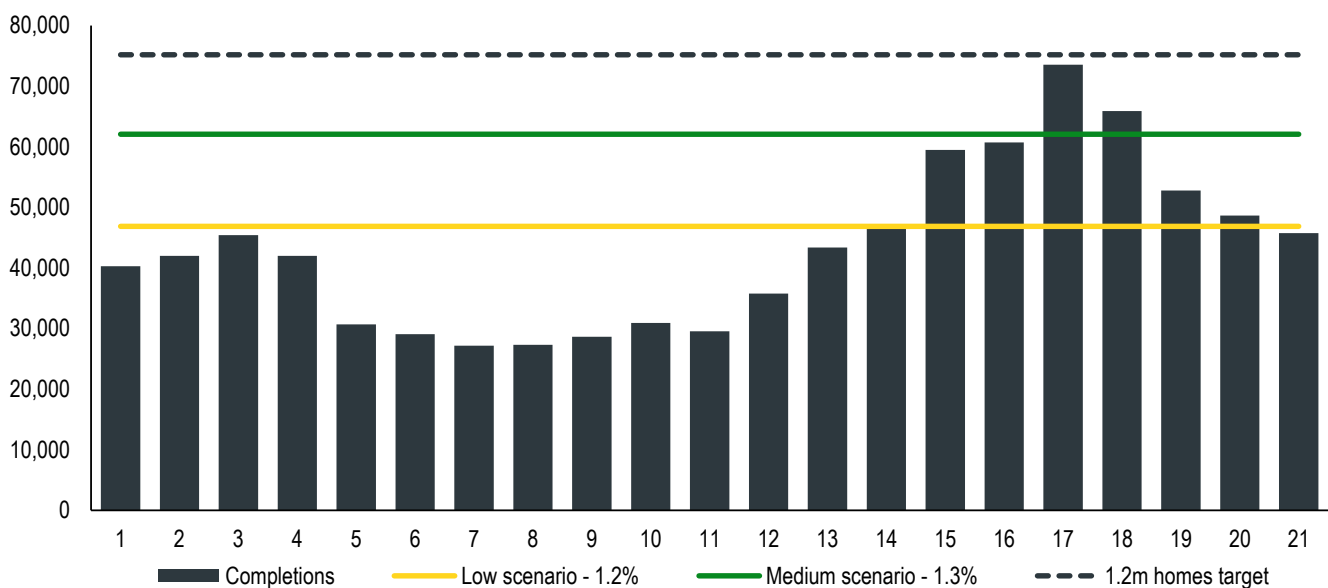
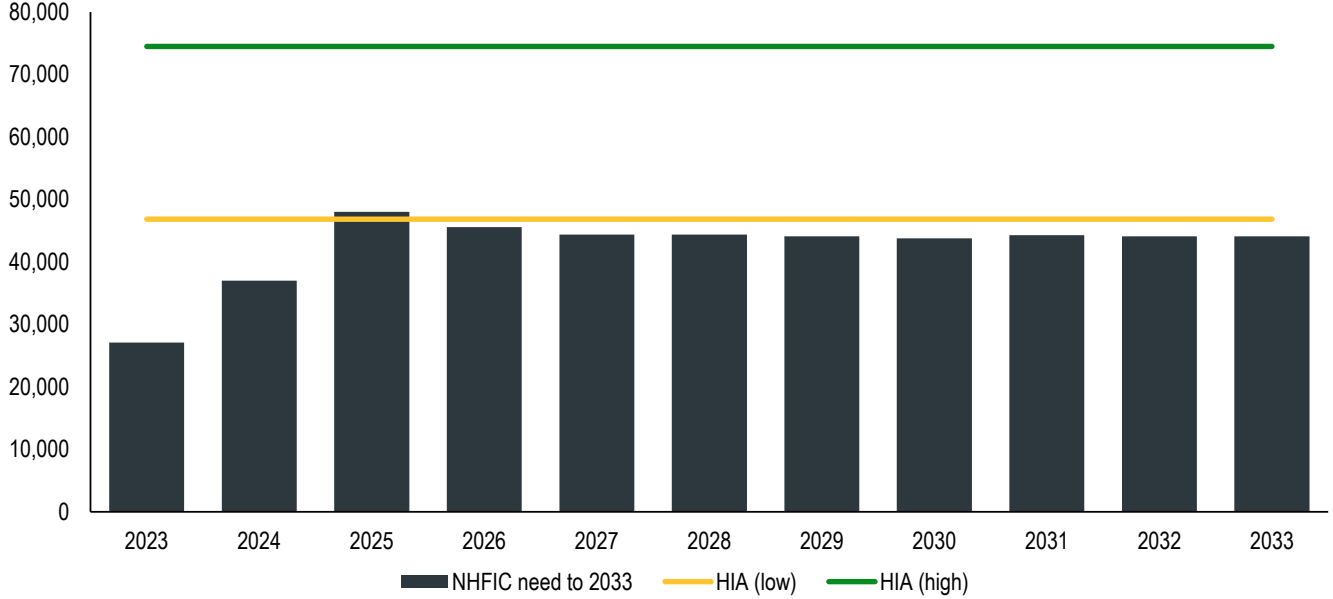


Chart 22: NHFIC v HIA estimates, NSW

NHFIC v HIA assumptions of base building need - NSW

Source: HIA, NHFIC



Note: NHFIC numbers have been adjusted to convert from net dwelling additions to gross additions. It is the absolute number of dwellings needing to be built (without adjusting for removals) that is of interest for this report.



Dwelling Composition

The main risk for NSW's future housing adequacy is most likely the expected change in the dwelling mix.

The shift in NSW from low to high density living is far more significant than at a national level when comparing the current dwelling mix with the mix of net additions in the five years from 2017 to 2022. Only 39 per cent of net additions in the past five years have been houses, with the considerable apartment boom seeing 46 per cent of additions as units and 15 per cent as semi-detached.

Given that overseas migration is likely to be the state's main driver of population growth in the coming years, such a shift is necessary.

This makes the change in dwelling mix worthy of attention. This report's scenarios assume that the future population will have a dwelling mix in line with recent additions. It means that around 60 per cent of the future population is thus assumed to live in a semi-detached or apartment complex. This is a logical assumption given the broader drivers discussed in the previous chapter.

If future demand for homes shifts to a higher mix of apartments compared to detached homes, then the volume of new homes constructed will need to be higher to meet demand due to the lower number of people per new apartment, compared to a new detached home.

This means that increasing the supply of apartments does not necessarily result in an equivalent decline in the volume of detached homes required to meet demand.

Chart 23: Changing dwelling mix, NSW

Dwelling mix of new and existing housing – NSW

Source: ABS, Estimated dwelling stock, cat. 8701

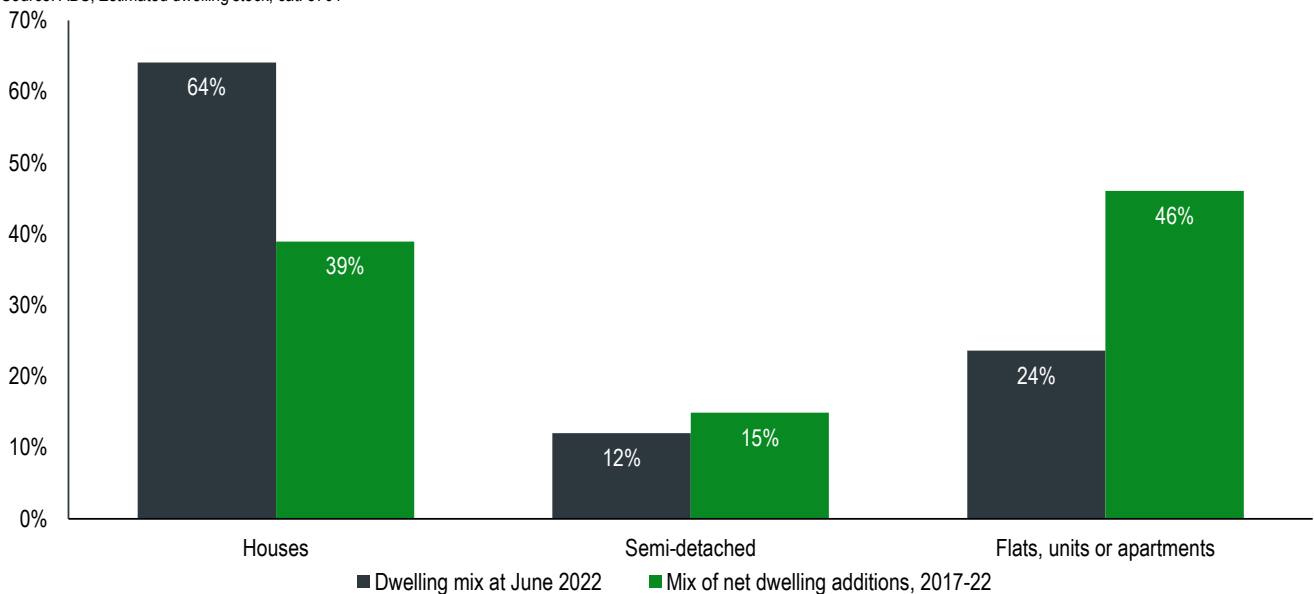


Table 5: Building requirements of different dwelling mix, NSW

New South Wales	Houses	Semi-detached	Flats, units or apartments	Overall
Current build rate	25,871	9,043	10,859	45,773
Average dwelling size	2.8	2.1	1.9	2.5
Scenarios				
Mix of existing dwellings	64.1%	12.0%	23.6%	100.0%
Mix of recent builds (last five years)	39.0%	14.9%	46.1%	100.0%
Estimated dwelling demand per scenario (med pop-med income growth)				
Mix of existing dwellings	31,482	7,618	17,165	56,264
Mix of recent builds (last five years)	19,137	9,454	33,450	62,040

Source: HIA Economics

Victoria

Population

Population growth in Victoria hovered around 50,000 per year until the mid-2000s when changes to skilled visa rules as well as growth in overseas students saw a migration-spurred boost to population growth. Victoria's population in the 10 years from 1990 to 2000 grew on average by only 0.7 per cent a year. From 2000 to 2010, it grew on average by 1.5 per cent a year, and from 2010 to 2019 (before COVID) it grew by 2 per cent a year.

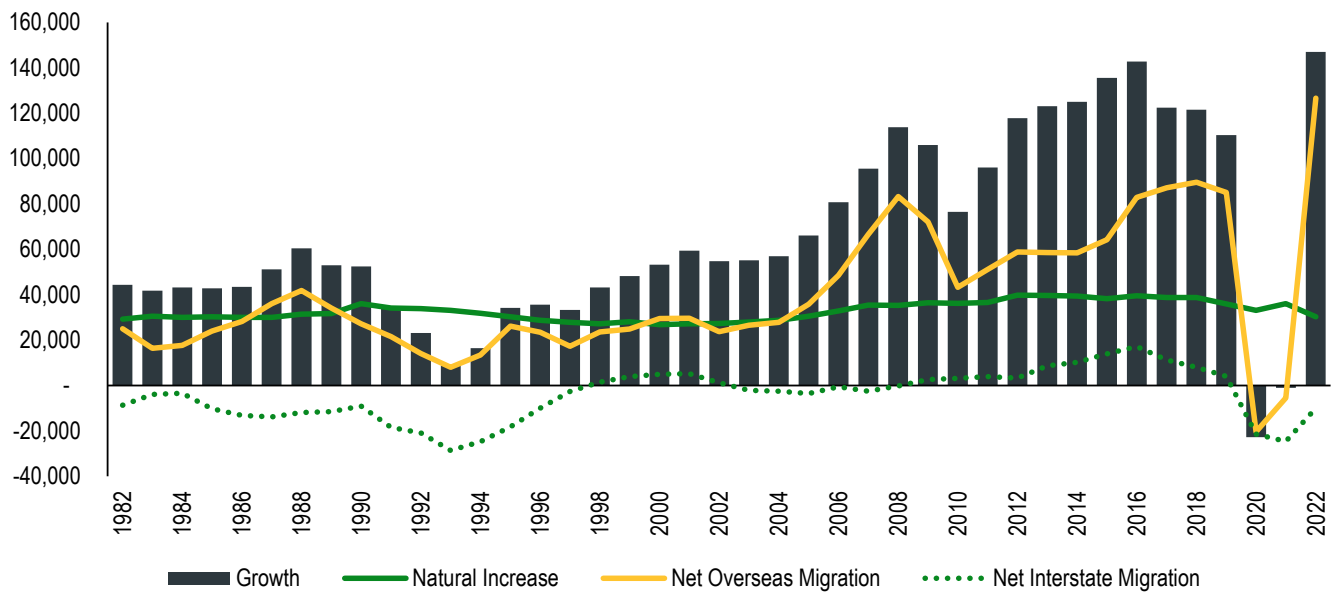
A strong boost in overseas migration saw population growth take off, peaking at around 140,000 in 2016. This was both a result of changes to 457 (skilled) visa rules as well as growth in overseas students, combined with growth in the number of migrants from interstate from around 2010.

Victoria has also been a net recipient of interstate migrants since the turn of the century. Despite being a relatively small contributor to overall growth in absolute terms, interstate migration nevertheless reduced the state's dependence on overseas migrants. This has slightly recovered since the pandemic; however, the ABS population data are far too dated to know for sure, and the Victorian Government does not report driver's licence transfers in a similar way as their NSW counterpart.

Chart 24: Population growth – Victoria – 1982 - 2022

VIC – components of population growth, 1982 – 2022

Source: ABS



The growth assumptions for Victoria range from 1.3 per cent per year under the low scenario to 1.9 per cent per year under the high scenario. All of these scenarios assume that the underlying growth will remain broadly consistent with the elevated rates that were experienced after the boom in the mid-2000s. Official Victorian Government projections are for 10.6 million people by 2050,⁹ which is in line with this report's mid-range growth scenario.

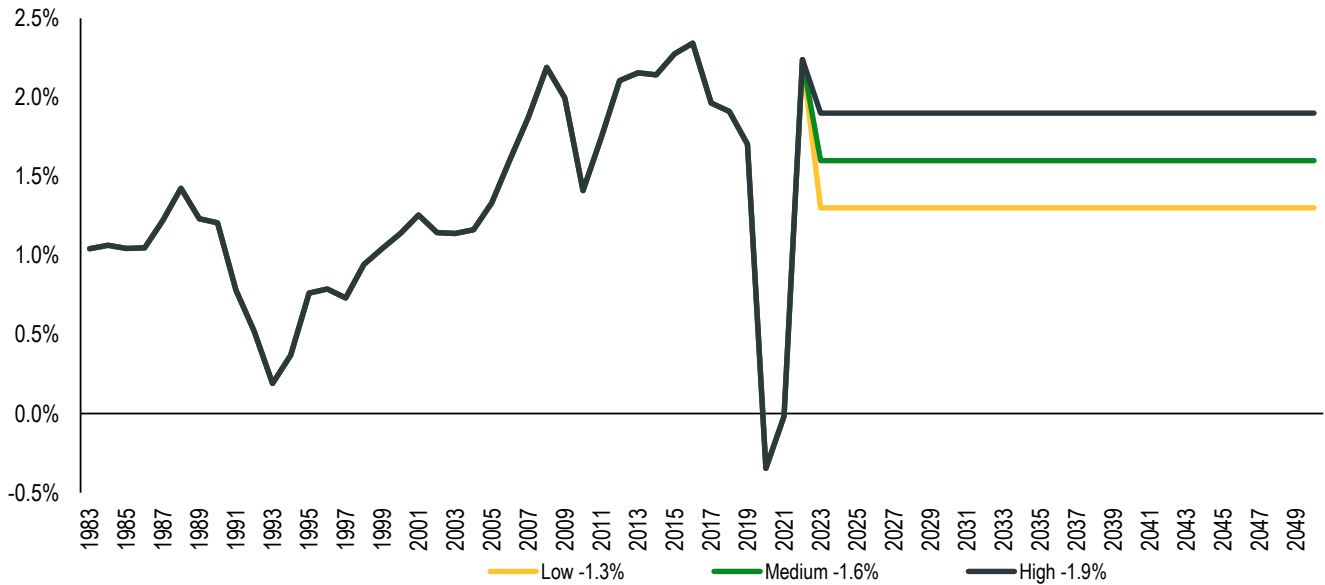
⁹ Victoria in Future (planning.vic.gov.au)



Chart 25: Population assumptions, Victoria

VIC Population growth

Source: ABS, HIA



Building need

Victoria’s population, and thereby its economy, boomed during the last decade. There have been some anecdotal indications of an outflow of people from Victoria to other states (for example as working from home become easier there may be less inclination for people to move to Victoria). It is nevertheless expected that on the balance of probabilities, the state will continue to enjoy strong growth rates, consequently placing continued pressure on its building industry.

Table 6: Estimated building needs - Victoria

Victoria			
	Population growth		
	Low	Medium	High
Population in 2022	6,713,075	6,713,075	6,713,075
Population in 2050	9,637,979	10,469,967	11,371,000
Assumed growth rate	1.3%	1.6%	1.9%
Current build rate (completions in 2022)	57,107	-	-
'Base' building need			
Dwellings required to house population growth (total to 2050)	1,259,405	1,617,642	2,005,608
Dwellings required to house population growth (per year)	44,979	57,773	71,629
Estimated future housing demand - 2023 - 2050			
Low income growth	49,238	62,032	75,888
Medium income growth	52,077	64,871	78,727
High real income growth	54,916	67,711	81,567

Source: HIA Economics



Victoria has averaged around 60,000 dwellings per year over the past five or six years, comfortably within lower to middle range estimates of building need. This has much to do with the considerable construction boom that began around 2012 and peaked in 2018 at a build rate of 66,000 dwellings per year. That said, the upper bound estimates are well above the state's current build rate.

For comparison, NHFIC's estimates, adjusted to convert to gross dwelling additions, are around 60,000 dwellings per year, which is in between the low and mid-range scenarios.

Chart 26: Building sufficiency, Victoria

VIC dwellings completed- past 20 years vs future need

Source: ABS, HIA

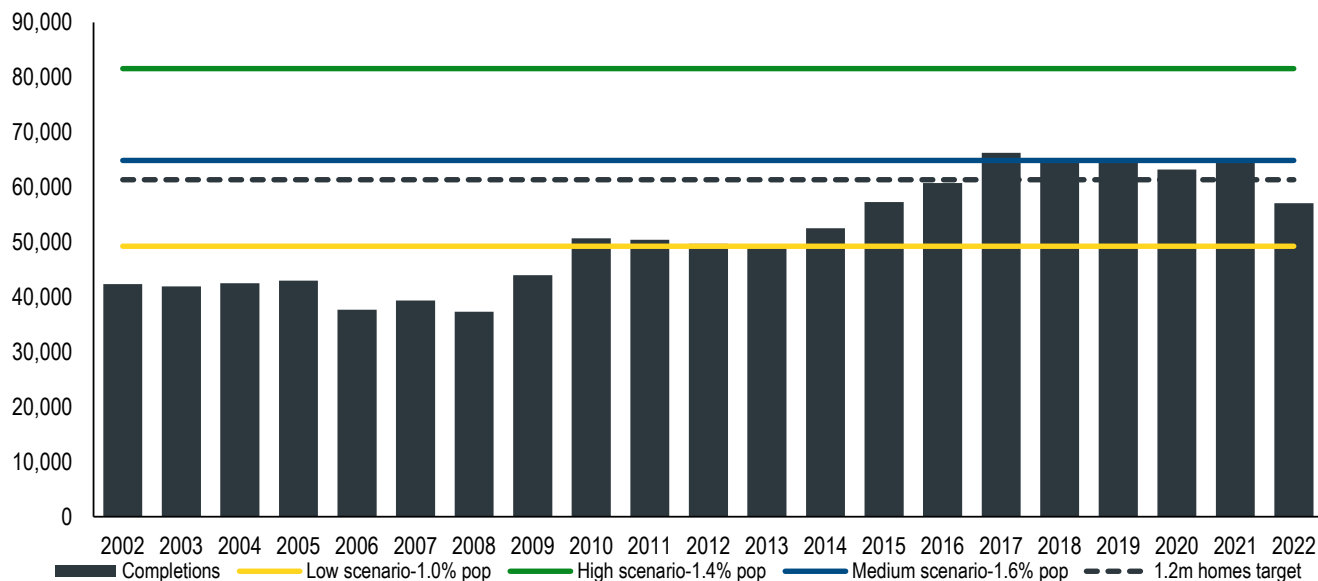
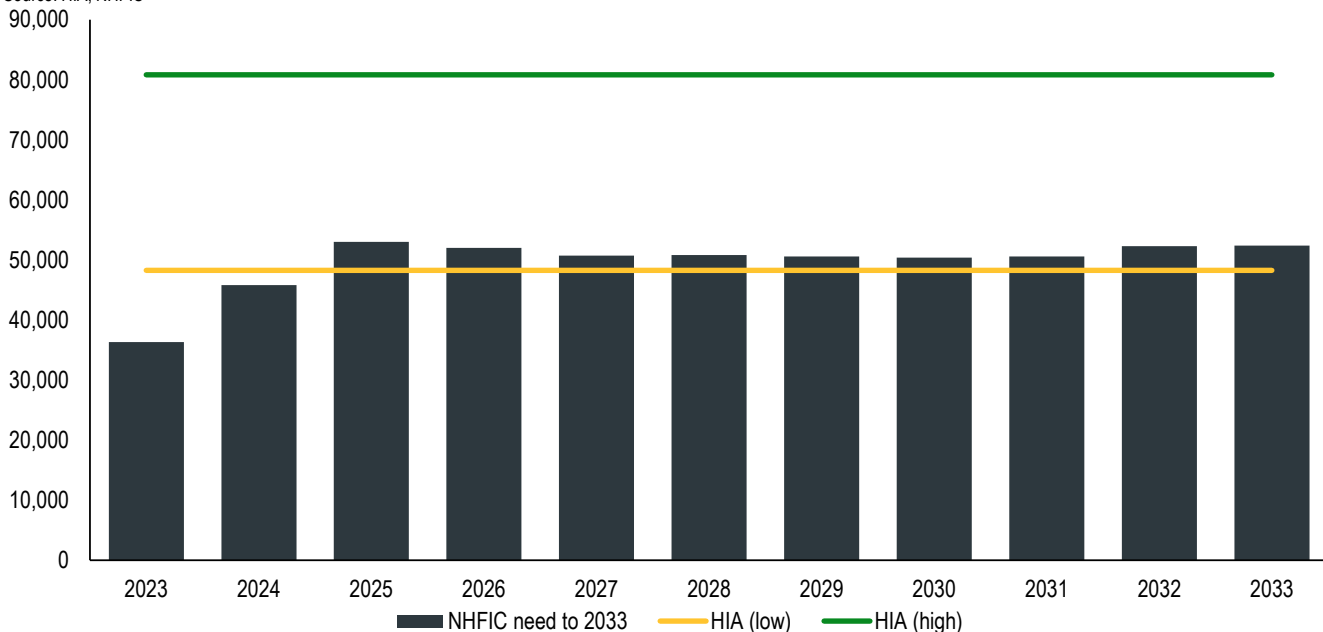


Chart 27: NHFIC v HIA estimates, Victoria

NHFIC v HIA assumptions of base building need - VIC

Source: HIA, NHFIC



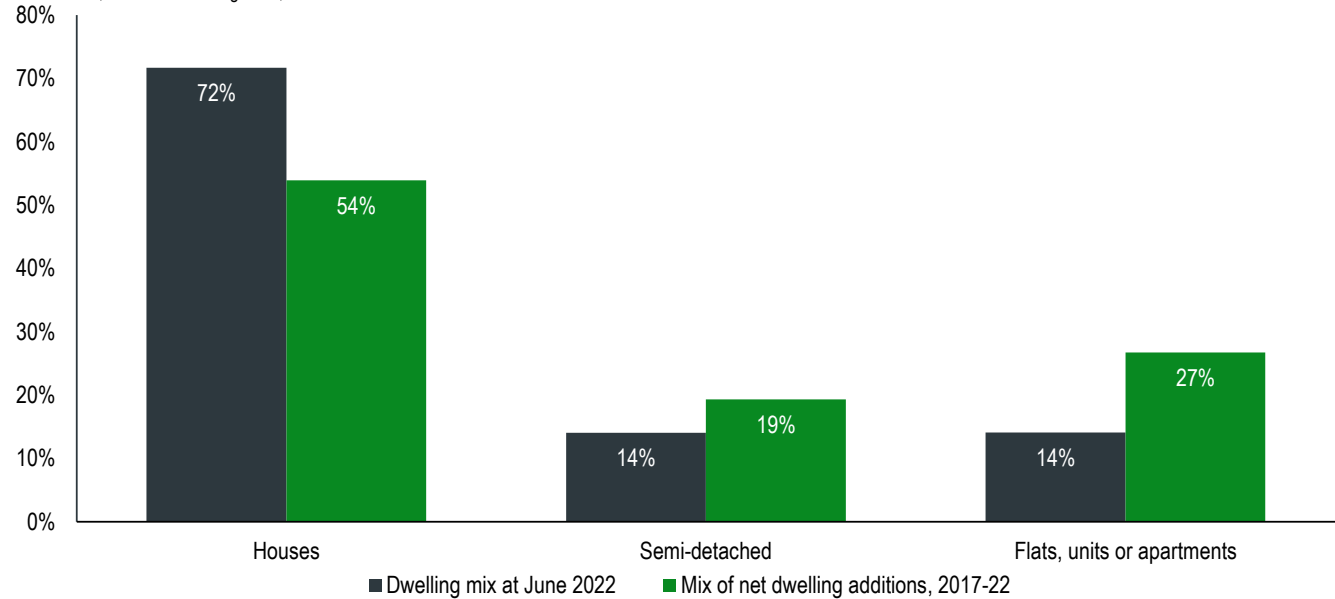
Dwelling Composition

Victoria has seen a similar shift in dwelling composition as in NSW when comparing recent builds with the current dwelling stock. Recent builds have seen an emphasis towards building apartments and semi-detached in the last five years. The reasons behind this are much the same as in NSW. Expected strong growth in migration, especially international students, combined with rising house prices driven by land constraints, are likely to mean an increasing focus on higher density living will be required going forward.

Chart 28: Changing dwelling mix, Victoria

Dwelling mix of new and existing housing – Victoria

Source: ABS, Estimated dwelling stock, cat. 8701



Victoria's shift to higher density living is evident when comparing the current building stock with the mix of new additions, though not as pronounced as in NSW. Assuming this trend continues, it can therefore be expected that the dwelling mix by 2050 will be something akin to the mix of new additions in the last five years.

Victoria's estimated building requirements do not appear to be significantly out of synch with recent activity. The picture begins to change when a change in dwelling mix is factored in.

It is assumed in the central scenario that the future population will have a similar demand mix to recent builds. However, if the future population are in fact more aligned with the mix of existing dwellings and the existing shortage of stock is ignored, then there is a risk of underestimating the need for homes.

Table 7: Sensitivity analysis, Victoria

Victoria	Houses	Semi-detached	Flats, units or apartments	Overall
Current build rate	37,035	9,105	10,967	57,107
Average dwelling size	2.75	2.13	1.86	2.50
Scenarios				
Mix of existing dwellings	71.7%	14.0%	14.1%	100.0%
Mix of recent builds (last five years)	53.9%	19.3%	26.7%	100.0%
Estimated dwelling demand per scenario (med pop-med income growth)				
Mix of existing dwellings	39,283	9,931	11,411	60,625
Mix of recent builds (last five years)	29,547	13,671	21,628	64,846

Source: HIA Economics

Queensland

Population

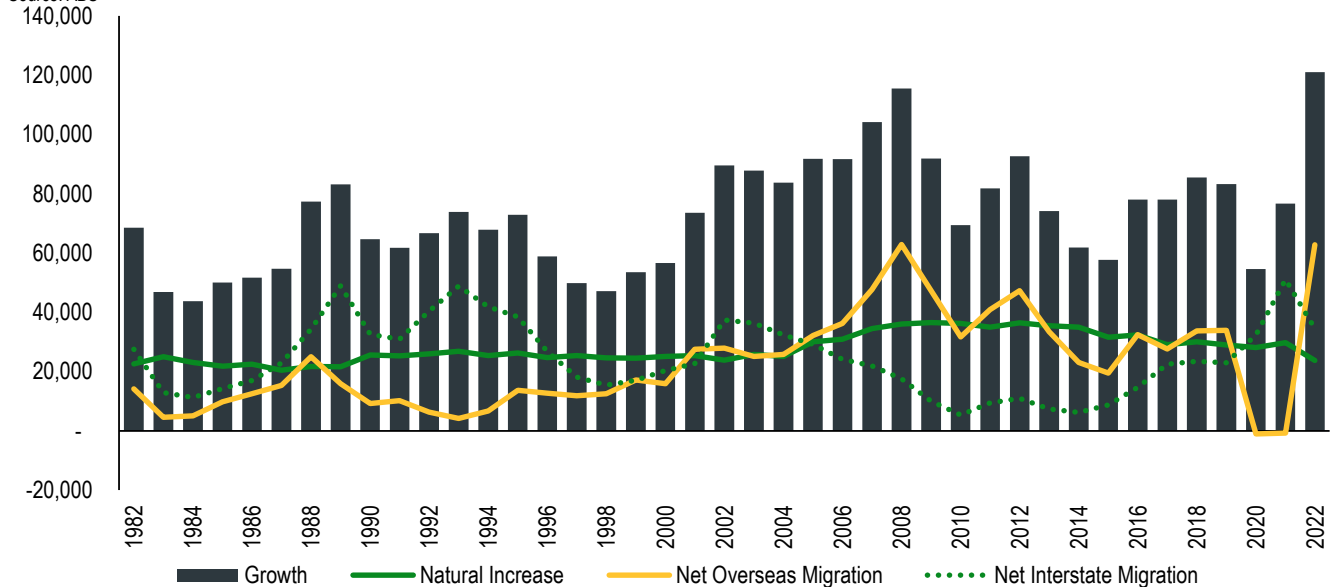
Queensland has enjoyed considerable population growth for most of the last two decades. The strength of population growth to 2008 was largely a result of the mining boom and as such cannot be expected to continue, adding a layer of difficulty in deciding on future growth scenarios.

Queensland has always been a net recipient of residents from other states, and this can be expected to continue as an ageing population means more and more retirees moving to the Sunshine State. Additionally, remote working habits post-COVID are expected to increase the ability of Queenslanders to remain in Queensland while still working for an interstate employer.

Chart 29: Population growth, QLD

QLD – components of population growth, 1982 – 2022

Source: ABS



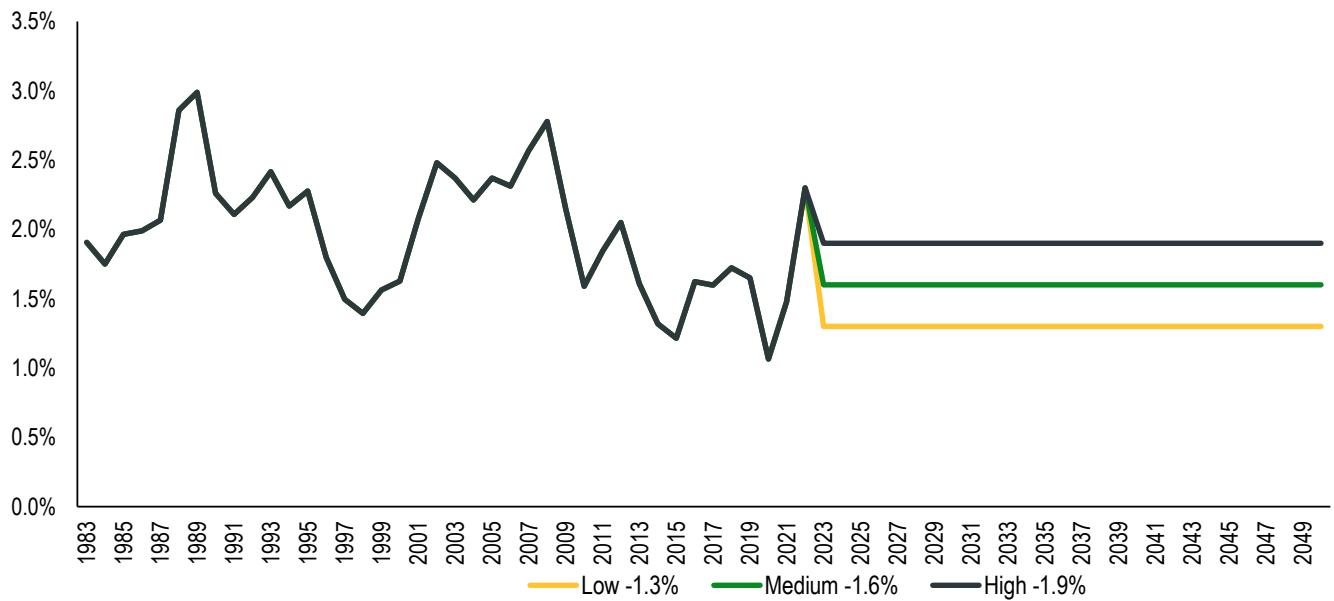
This report's population growth assumptions for Queensland are as follows:

- A **low scenario** of 1.3 per cent per annum, which is consistent with the average observed since 2010 (recalling that growth prior to that was affected by the mining boom and thus not likely to be repeated).
- A **medium scenario** of 1.6 per cent per annum is intended as a mid-point between the high and low scenarios.
- A **high scenario** assumes a growth rate of 1.9 per cent, higher than recent years. This reflects a number of factors going right: a boost in remote working; a boost in migration as Brisbane increasingly becomes an 'alternate CBD' to Sydney and Melbourne; and a boost in population growth in the lead up to the Olympics in 2032.

Chart 30: Population assumptions, QLD

QLD Population growth

Source: ABS, HIA



Building need

Queensland’s strong population growth in recent years, combined with its general strength against other states, can be expected to place considerable strain on the state’s building needs. Even under a low income-low population growth scenario, the estimate of total dwelling requirement is above its current build rate of around 35,000 dwellings per annum. The upper bound estimate is almost double the current build.

The state will need to return to the boom years of 2016-18 going forward if it is to have any hope of housing its future population. This is achievable but challenging. On the basis of Queensland’s share of Australia’s population, its share of the National Cabinet’s target of 1.2 million homes is also above anything the state has previously built, while NHFIC’s estimates (adjusted to account for dwelling removals) is slightly above the lower bound estimate.

One positive is that Queensland is the best of the states when it comes to the provision of data around land release and planning. Queensland provides easy to access data covering all except the second stage of land release (zoned for development). Data are available for around half of the state’s local government areas, on a quarterly basis from June 2003 to March 2023, and an annual market update report for South-East Queensland has been conducted since 2019.



Table 8: Estimated building need, QLD

Queensland	Population growth		
	Low	Medium	High
Population in 2022	5,382,028	5,382,028	5,382,028
Population in 2050	7,726,991	8,394,016	9,116,394
Assumed growth rate	1.3%	1.6%	1.9%
Current build rate (completions in 2022)	34,519	-	-
'Base' building need			
Dwellings required to house population growth (total to 2050)	992,676	1,275,042	1,580,841
Dwellings required to house population growth (per year)	35,453	45,537	56,459
Estimated future housing demand - 2023 - 2050			
Low income growth	38,724	48,809	59,730
Medium income growth	40,906	50,990	61,911
High real income growth	43,087	53,171	64,093

Source: HIA Economics

Chart 31: Building adequacy, QLD

QLD dwellings completed- past 20 years vs future need

Source: ABS, HIA

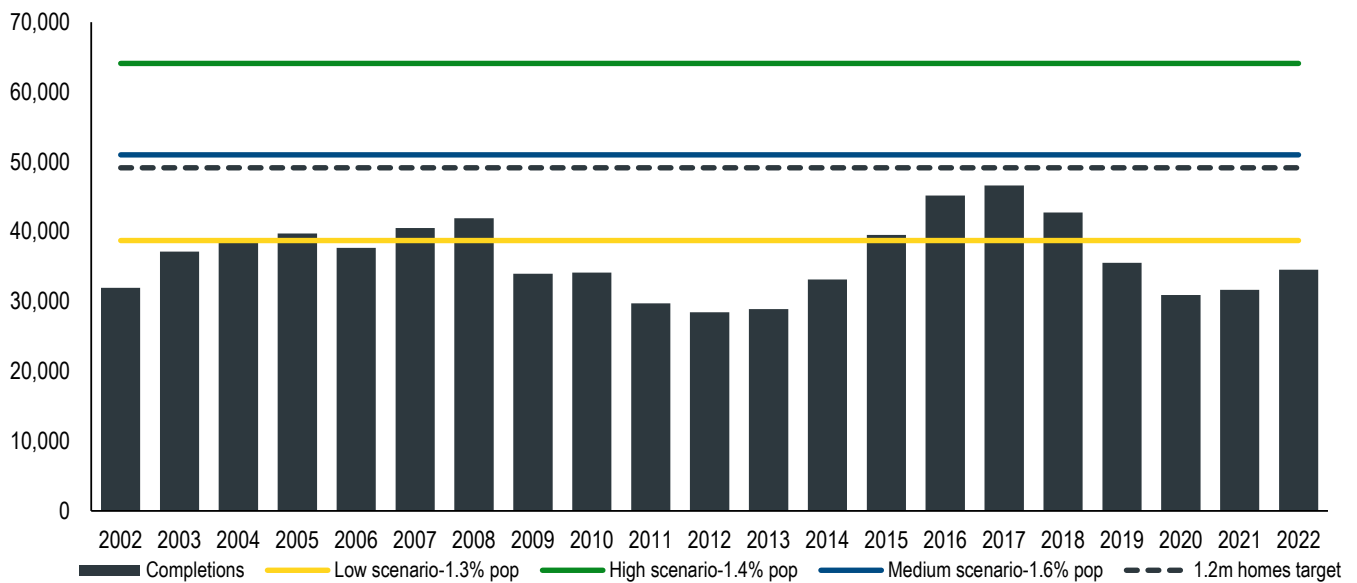
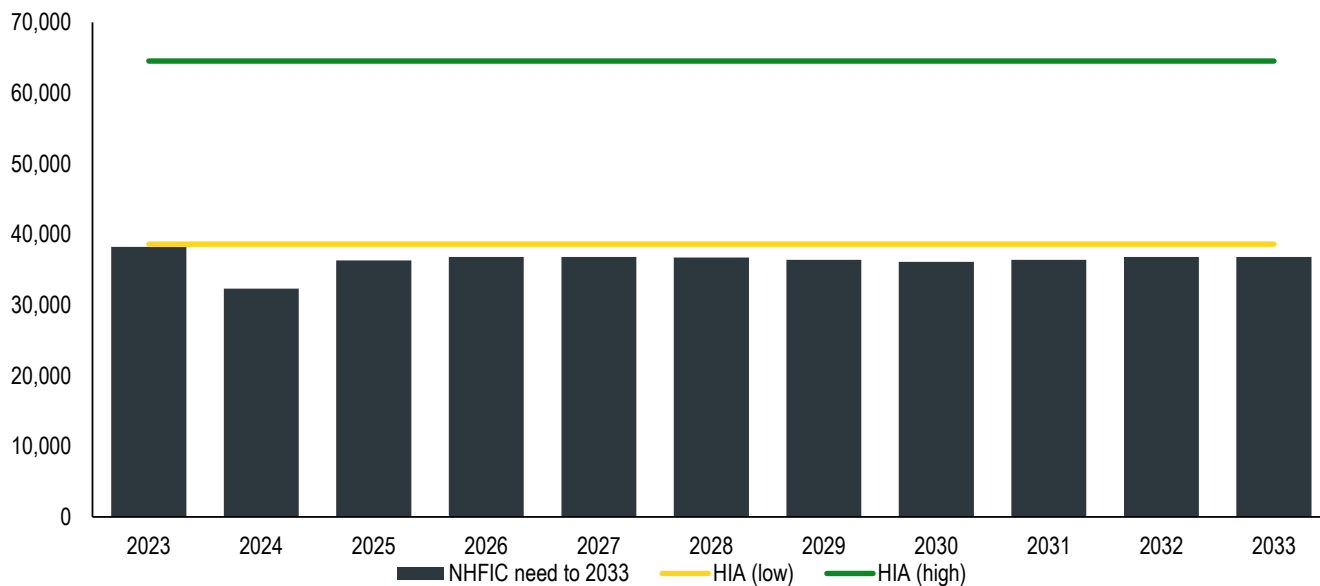


Chart 32: NHFIC vs HIA estimates, QLD

NHFIC v HIA assumptions of base building need - QLD

Source: HIA, NHFIC



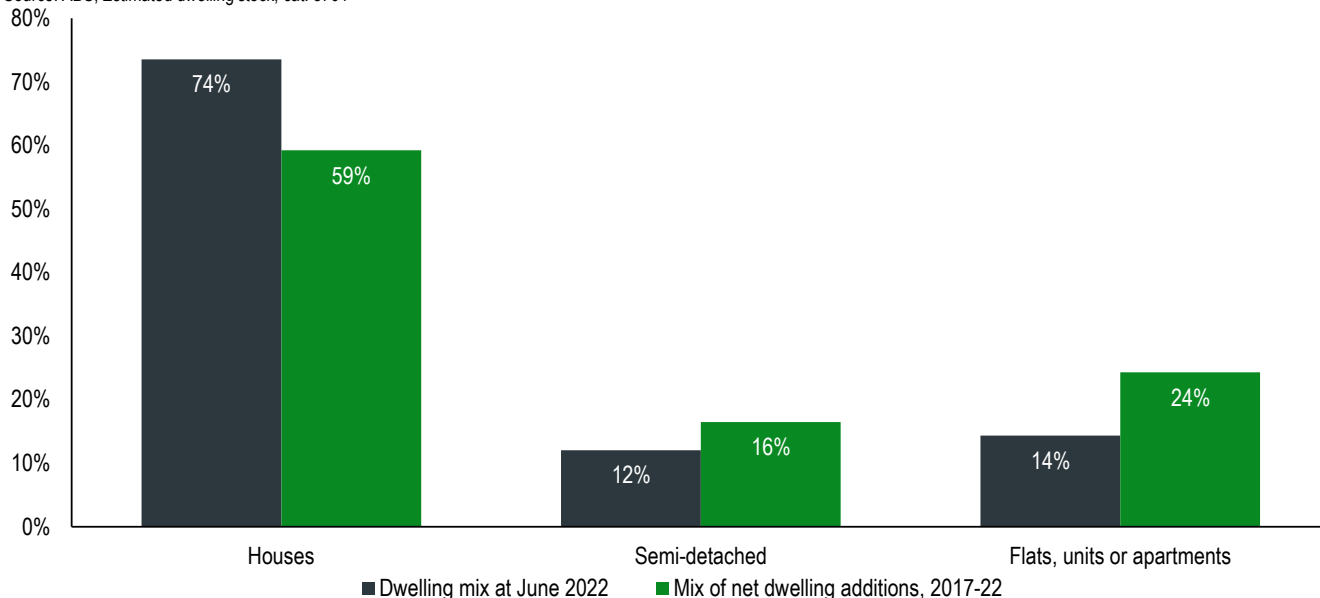
Dwelling composition

The change in dwelling composition observed in NSW and Victoria has also played out in Queensland over the last five years, although not to the same extent. Houses as a share of construction in the past five years in Queensland fell to 59 per cent (compared to 74 per cent of existing stock). This is a 15 per cent fall from the existing stock to the recent builds and compares to an 18 per cent drop in Victoria and 25 per cent fall in NSW.

Chart 33: Change in dwelling composition, QLD

Dwelling mix of new and existing housing - Queensland

Source: ABS, Estimated dwelling stock, cat. 8701



Because the change in dwelling composition is not likely to be as significant as in the other eastern states, the potential change in composition from houses to semi-detached and apartments is not quite as drastic as in those states. Queensland on the whole is dominated by houses, and likely will be for the foreseeable future. That said, the higher-density areas of the Gold Coast and Brisbane have a far higher proportion of flats than other regions which underscores the importance of considering the dwelling type in future planning.

Table 9: Sensitivity analysis, QLD

Queensland	Houses	Semi-detached	Flats, units or apartments	Overall
Current build rate	24,763	4,639	5,117	34,519
Average dwelling size	2.75	2.13	1.86	2.50
Scenarios				
Mix of existing dwellings	73.5%	12.0%	14.3%	100.0%
Mix of recent builds (last five years)	59.2%	16.5%	24.3%	100.0%
Estimated dwelling demand per scenario (med pop-med income growth)				
Mix of existing dwellings	32,214	6,811	9,283	48,308
Mix of recent builds (last five years)	25,943	9,309	15,722	50,974

Source: HIA Economics

South Australia

Population

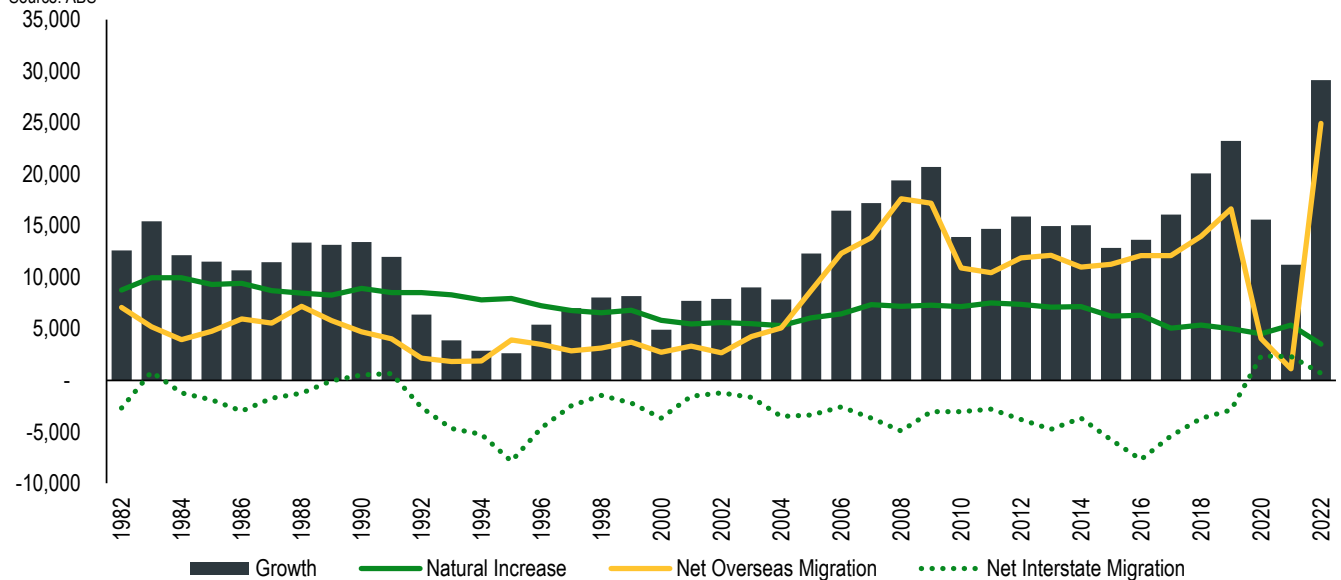
South Australia's population grew by 1.6 per cent in 2022, its second highest growth rate on record. The reopening of international borders has seen overseas migration more than double relative to its decade average, which has long been the dominant driver of population growth in the state. Net interstate migration has also seen strong growth in recent quarters, in defiance of a decade-long trend of net outflows to other jurisdictions.

As noted previously this may reflect an increasing ability post-pandemic to work from home. This trend could have incentivised people who have previously moved to Sydney or Melbourne to move back, given the state's relatively more affordable housing market compared to other jurisdictions.

Chart 34: SA population

SA – components of population growth, 1982 – 2022

Source: ABS



The assumptions for population growth are as follows:

- A **low scenario** of 1 per cent per annum is consistent with the average observed since 2010.
- A **medium scenario** of 1.2 per cent per annum is intended as a mid-point between the low and high scenarios.
- The **high scenario** assumes a growth rate of 1.4 per cent. This effectively assumes that following a slight correction from the post-COVID boom, the underlying factors discussed above will continue and population will grow at above average rates going forward.

It is worth noting that these growth assumptions are higher than the official estimates. For example, the lower bound scenario in the official forecasts assumes growth of just 0.6 per cent per annum to 2050, a rate which has been exceeded since the early 2000s. The official upper bound scenario assumes a growth rate of 1.15 per cent per annum, slightly less than this report's middle ground assumption.

Chart 35: SA population growth

SA Population growth

Source: ABS, HIA



Building need

South Australia has capitalised on its relatively cheaper housing to make it an attractive destination for people leaving Victoria and New South Wales. This has seen ongoing strength across the leading indicators of building activity including building approvals, expenditure on renovations and activity on the ground. After accounting for income growth, it is expected that total building requirements will be in the range of 10,400 to 16,400 over the period to 2050.

Table 10: Estimated building need – South Australia

South Australia	Population growth		
	Low	Medium	High
Population in 2022	1,834,846	1,834,846	1,834,846
Population in 2050	2,424,365	2,562,442	2,708,085
Assumed growth rate	1.00%	1.20%	1.40%
Current build rate (completions in 2022)	12,003	-	-
'Base' building need			
Dwellings required to house population growth (total to 2050)	256,535	316,620	379,998
Dwellings required to house population growth (per year)	9,162	11,308	13,571
Estimated future housing demand - 2023 - 2050			
Low income growth	10,374	12,520	14,784
Medium income growth	11,183	13,329	15,592
High real income growth	11,991	14,137	16,401

Source: HIA Economics



The chart below compares estimated total dwelling demand (i.e., after accounting for knockdown-rebuilds and income growth) under each of the low, medium, and high growth scenarios with actual dwelling completions over the last 20 years. Although the current build rate, if maintained, would be sufficient under the low population growth scenarios, the low scenarios are unlikely to persist for such a long timeframe.

More importantly, the current build rate would need to maintain an 11 per cent jump if it were to be sufficient under the middle-ground scenarios. It would need to grow by nearly 40 per cent to match the high growth scenarios or the state's estimated share of the 1.2 million homes target.

Chart 36: Building adequacy, South Australia

SA dwellings completed- past 20 years vs future need

Source: ABS, HIA

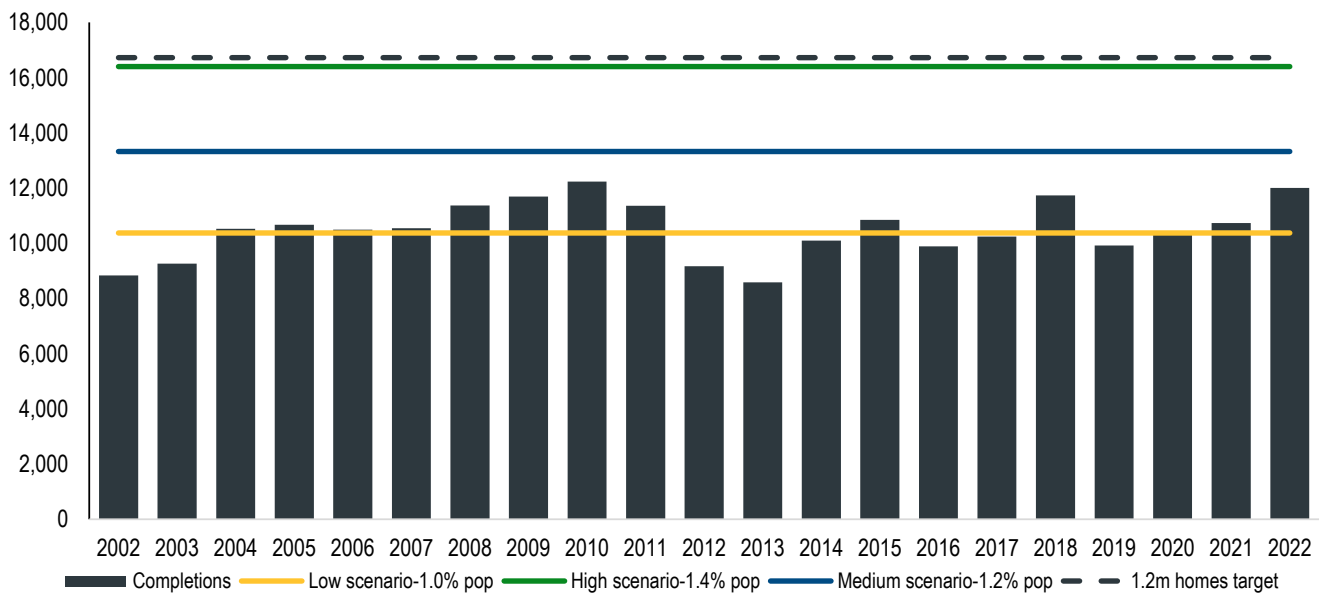
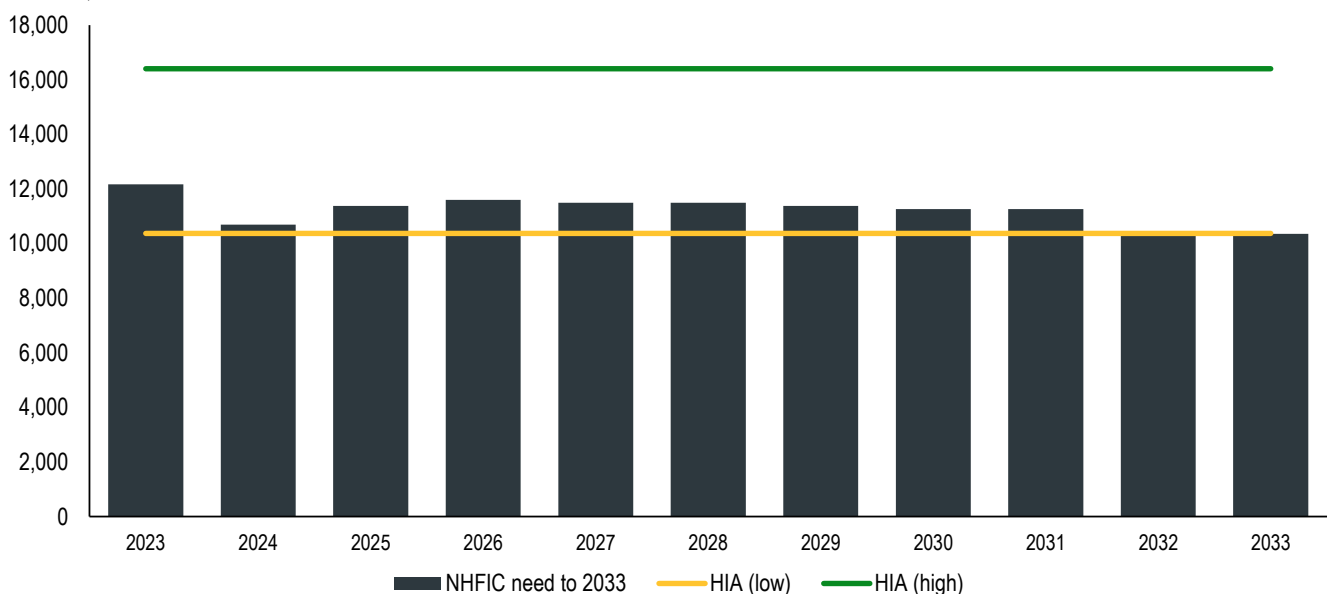


Chart 37: NHFIC vs HIA estimates, South Australia

NHFIC vs HIA estimates of building requirements - SA

Source: HIA, NHFIC



Dwelling Composition

Although there has been some shift in dwelling composition toward more apartments in South Australia, the change has been nowhere near as strong, relative to the eastern states, both in proportional and absolute terms. As such, a sensitivity analysis along the lines of those done for the other states has not been conducted for South Australia.

Chart 38: Change in dwelling composition, South Australia

Dwelling mix of new and existing housing – South Australia

Source: ABS, Estimated dwelling stock, cat. 8701

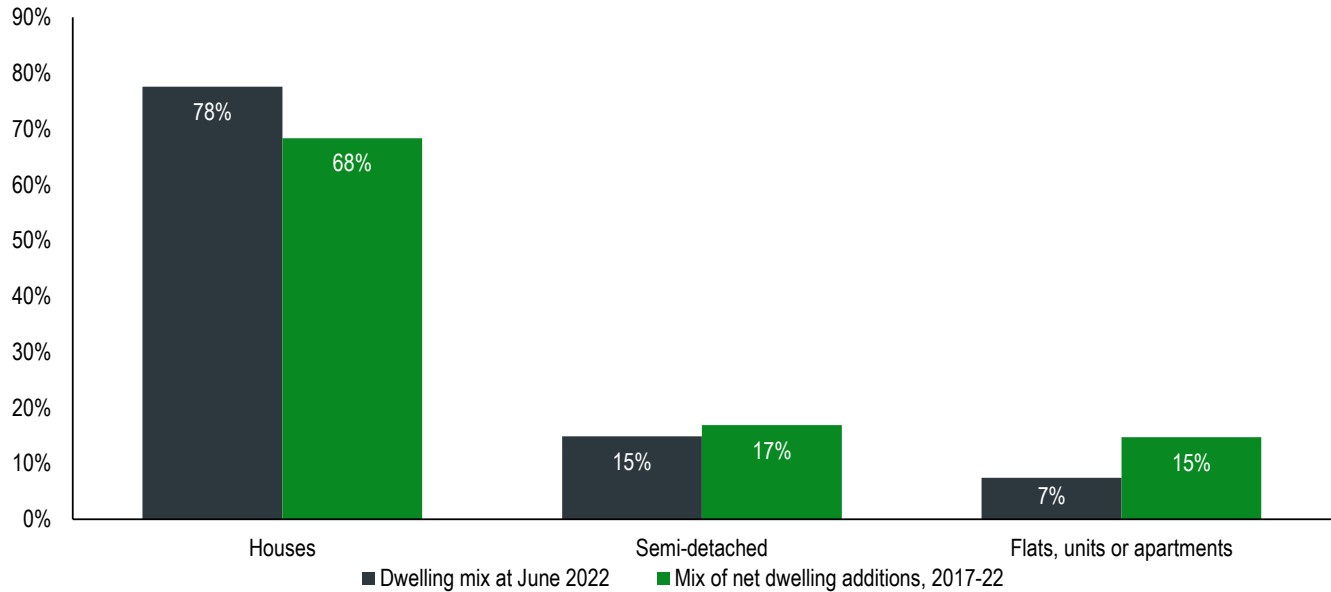


Table 11: Sensitivity analysis, SA

South Australia	Houses	Semi-detached	Flats, units or apartments	Overall
Current build rate	9,645	1,675	683	12,003
Average dwelling size	2.75	2.13	1.86	2.50
Scenarios				
Mix of existing dwellings	77.6%	14.9%	7.4%	100.0%
Mix of recent builds (last five years)	68.4%	16.9%	14.7%	100.0%
Estimated dwelling demand per scenario (med pop-med income growth)				
Mix of existing dwellings	8,639	2,140	1,224	12,003
Mix of recent builds (last five years)	7,613	2,428	2,424	12,465

Source: HIA Economics

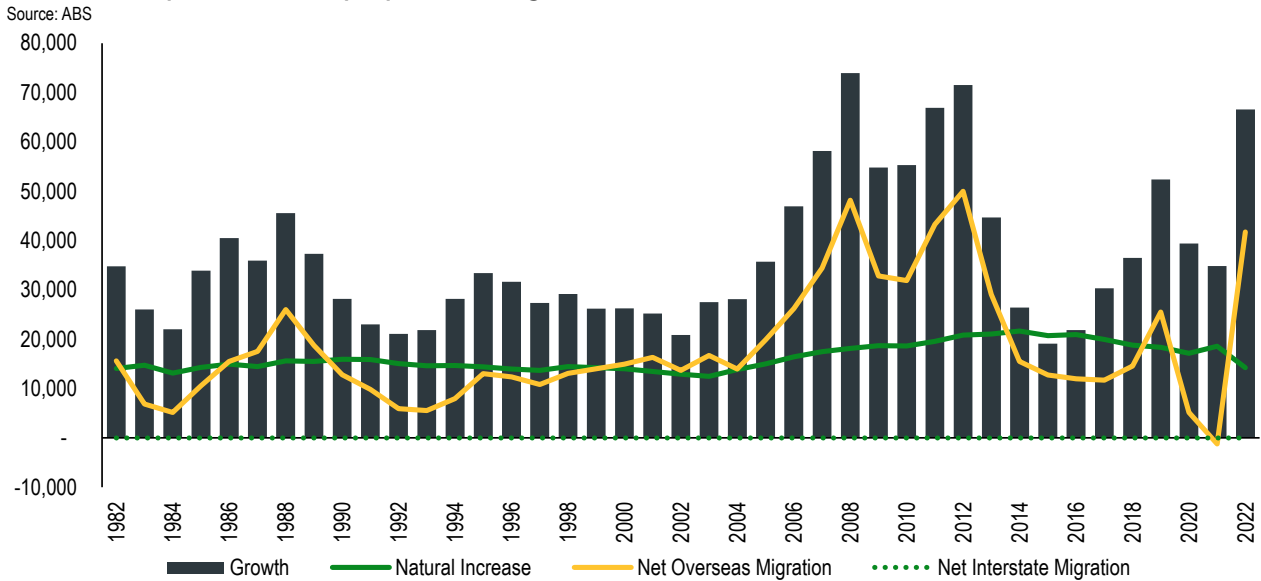
Western Australia

Population

Western Australia's population grew by nearly 63,000 in 2022, marking the state's highest growth since 2012, which broadly corresponded to the end of the mining boom. Net overseas migration was nearly 38,000 in 2022, also the highest since 2012. The end of the mining boom saw workers return home to other states, which made the state a net exporter of migrants from around 2013 right up to the beginning of the pandemic when interstate workers began to return to Western Australia.

Chart 39: WA population

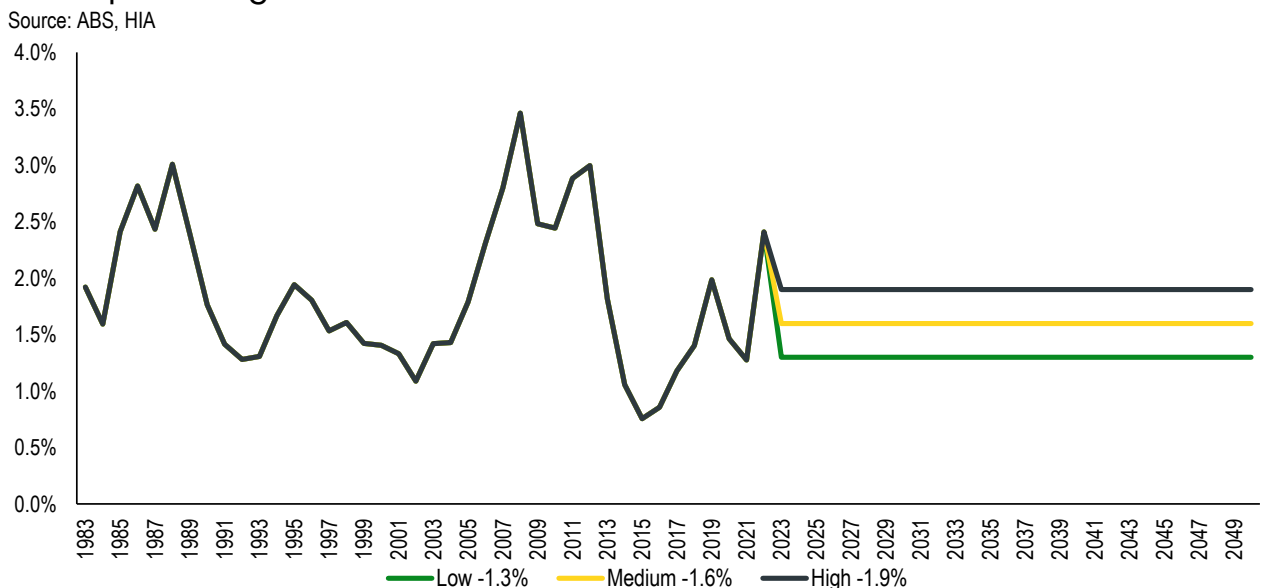
WA - components of population growth, 1982 - 2022



Population growth in Western Australia is difficult to forecast. Much like Queensland, the mining boom years of the late-1980s and mid-2000s are unlikely to be repeated, meaning there is little relevant history to base assumptions on. This report's forecasts are therefore based on what is considered to be the approximate average of the 1990s and the post mining, pre-COVID era.

Chart 40: WA population growth

WA Population growth



Building need

Western Australia's completion rate of just 13,965 dwellings in 2022 is well-below the base requirement of between 21,000 and 35,000 per year. It is also well-below NHFIC's estimated build requirement which averages to around 22,000 per year.

The considerable gap between current building activity and the estimated building need (including both the base building requirement and the adjustments for income and knockdown-rebuild activity) is an ongoing concern.

Table 12: Estimated building need, Western Australia

Western Australia	Population growth		
	Low	Medium	High
Population in 2022	2,829,589	2,829,589	2,829,589
Population in 2050	4,062,448	4,413,135	4,792,924
Assumed growth rate	1.3%	1.6%	1.9%
Current build rate (completions in 2022)	13,965	-	-
'Base' building need			
Dwellings required to house population growth (total to 2050)	536,490	689,095	854,363
Dwellings required to house population growth (per year)	19,160	24,611	30,513
Estimated future housing demand - 2023 - 2050			
Low income growth	20,868	26,318	32,221
Medium income growth	22,007	27,457	33,360
High real income growth	23,146	28,596	34,498

Source: HIA Economics

Chart 41: Building adequacy, Western Australia

WA dwellings completed - past 20 years vs future need

Source: ABS, HIA

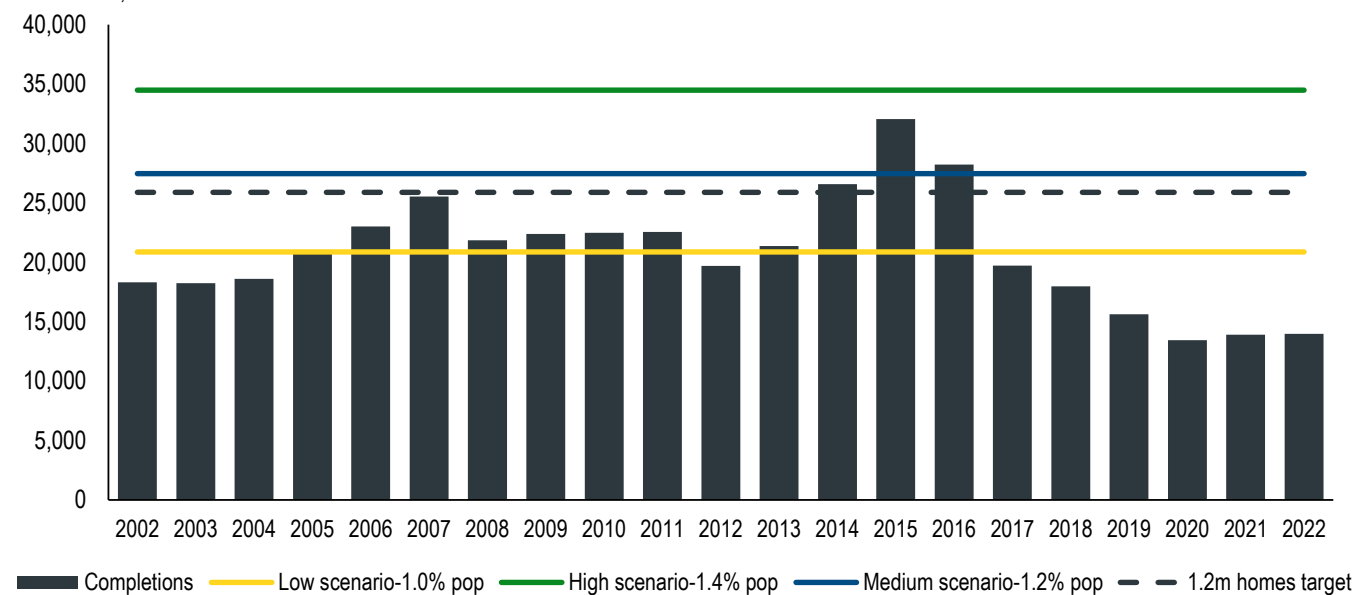
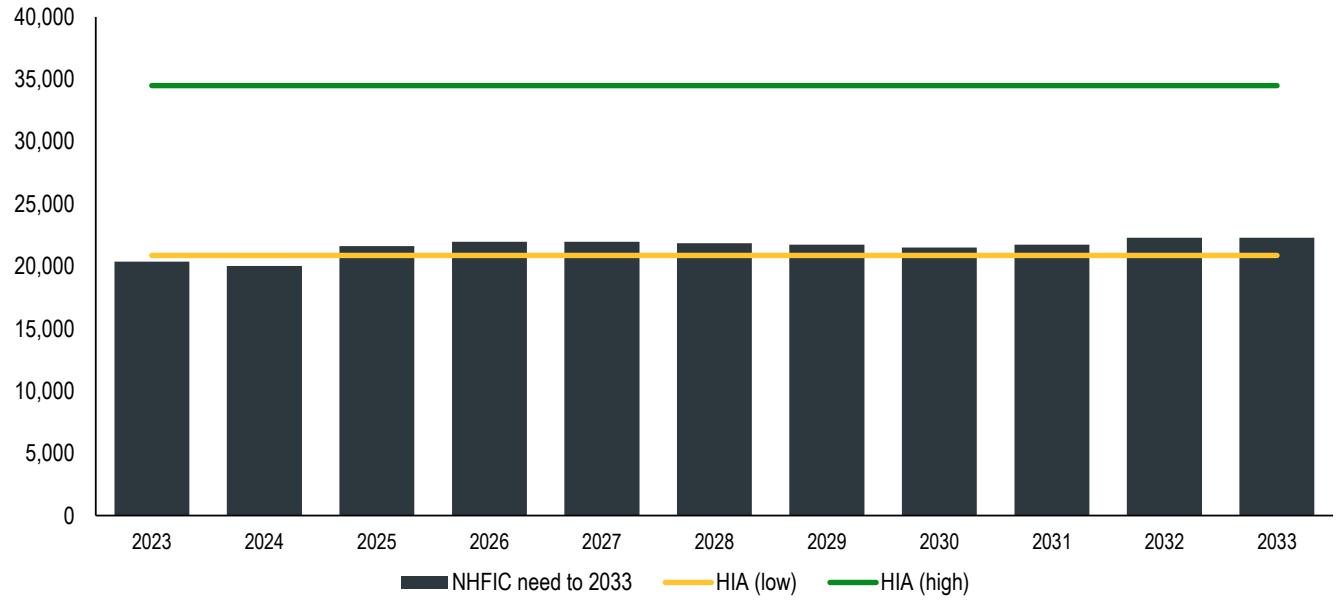


Chart 42: NHFIC vs HIA estimates, Western Australia

NHFIC vs HIA estimates of building requirements - WA

Source: HIA, NHFIC



Dwelling composition

As with South Australia, the change in dwelling composition in Western Australia, while still broadly evident, is nowhere near as substantial as that seen in the eastern states. Notably, although the proportion of flats and apartments built in the last five years was twice the share of existing stock, the propensity to build semi-detached has pared back slightly in recent years.

Chart 43: Change in dwelling composition, Western Australia

Dwelling mix of new and existing housing – Western Australia

Source: ABS, Estimated dwelling stock, cat. 8701

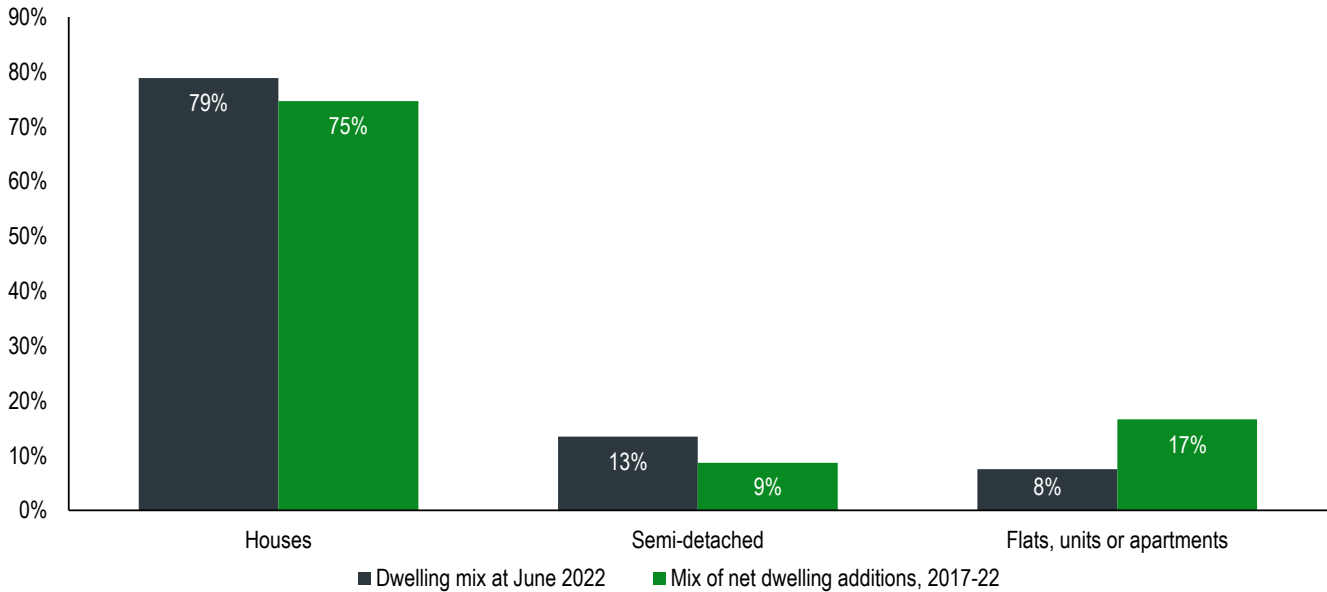


Table 13: Sensitivity analysis, Western Australia

Western Australia	Houses	Semi-detached	Flats, units or apartments	Overall
Current build rate	12,450	671	844	13,965
Average dwelling size	2.75	2.13	1.86	2.50
Scenarios				
Mix of existing dwellings	78.9%	13.5%	7.6%	100.0%
Mix of recent builds (last five years)	74.7%	8.7%	16.6%	100.0%
Estimated dwelling demand per scenario (med pop-med income growth)				
Mix of existing dwellings	16,224	3,577	2,297	22,098
Mix of recent builds (last five years)	17,132	2,569	5,644	25,345

Source: HIA Economics

Tasmania

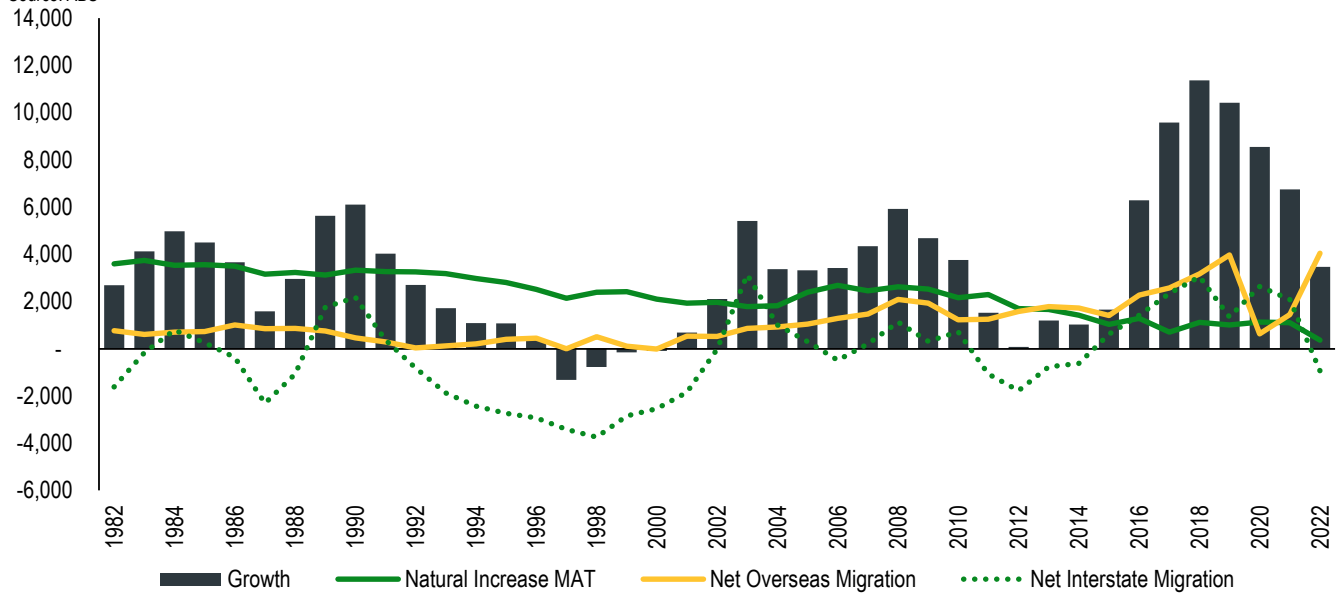
Population

Tasmania's population began to boom around 2015, largely driven by a spike in net interstate migration. This is likely driven mostly by an ageing population encouraging retirees to Tasmania and more significantly during the COVID years. That period was driven by a return of people who had previously moved to the mainland for work. However, as borders began to reopen post-COVID, population once again has reverted to its previous growth rates, with net interstate migration once again turning negative.

Chart 44: Tasmania population

TAS - components of population growth, 1982 - 2022

Source: ABS



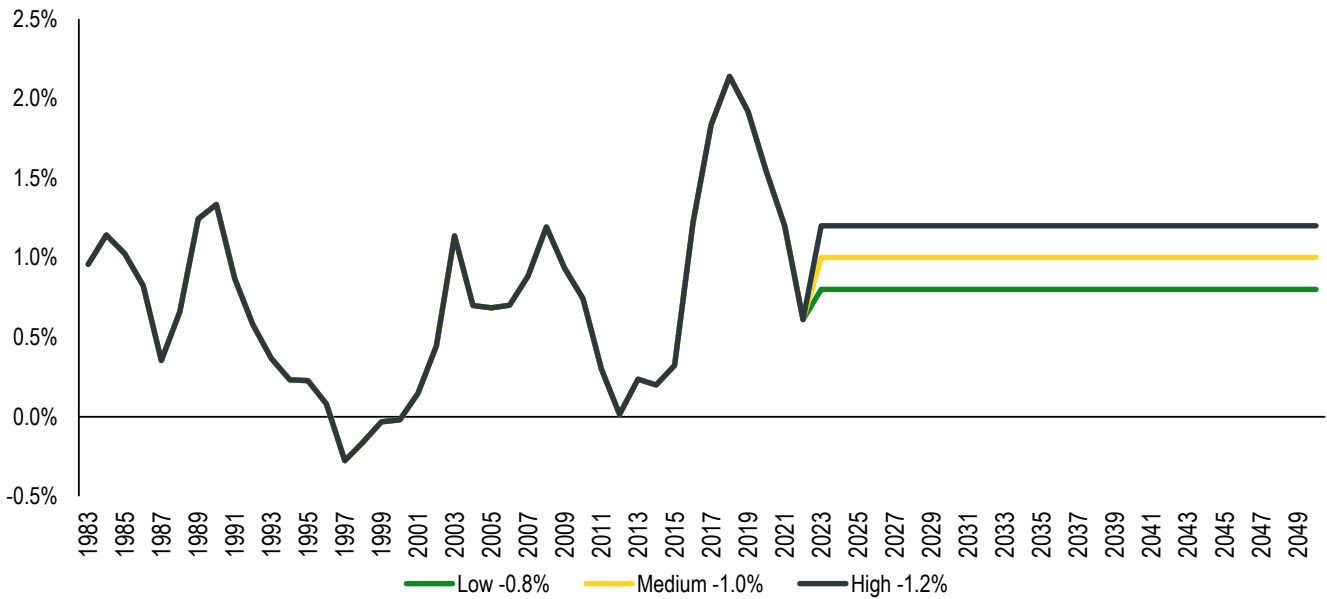
This report has assumed population growth rates of 0.9 per cent, 1.1 per cent and 1.3 per cent per year in the low, medium, and high scenarios, respectively. Broadly speaking, these are aligned with more recent trends for the high scenario and longer-term trends in the low case scenario.



Chart 45: Tasmania population growth

TAS Population growth

Source: ABS, HIA



Building need

Tasmania’s current build rate is broadly aligned with the estimated total building demand under the low population growth scenarios. It is not substantially below the medium scenarios, which are very much achievable. Current build rates would need to rise between 20 per cent and 40 per cent per year if the upper-bound population growth assumptions were achieved. To achieve the state’s estimated share of the 1.2 million homes target, build rates have to increase by 60 per cent.

Table 14: Estimated building need, Tasmania

Tasmania	Population growth		
	Low	Medium	High
Population in 2022	572,099	572,099	572,099
Population in 2050	715,099	755,909	798,961
Assumed growth rate	0.8%	1.0%	1.2%
Current build rate (completions in 2022)	3,216	-	-
'Base' building need			
Dwellings required to house population growth (total to 2050)	62,228	79,987	98,721
Dwellings required to house population growth (per year)	2,222	2,857	3,526
Estimated future housing demand - 2023 - 2050			
Low income growth	2,612	3,246	3,915
Medium income growth	2,871	3,505	4,174
High real income growth	3,130	3,765	4,434

Source: HIA Economics



Chart 46: Building adequacy, Tasmania

TAS dwellings completed- past 20 years vs future need

Source: ABS, HIA

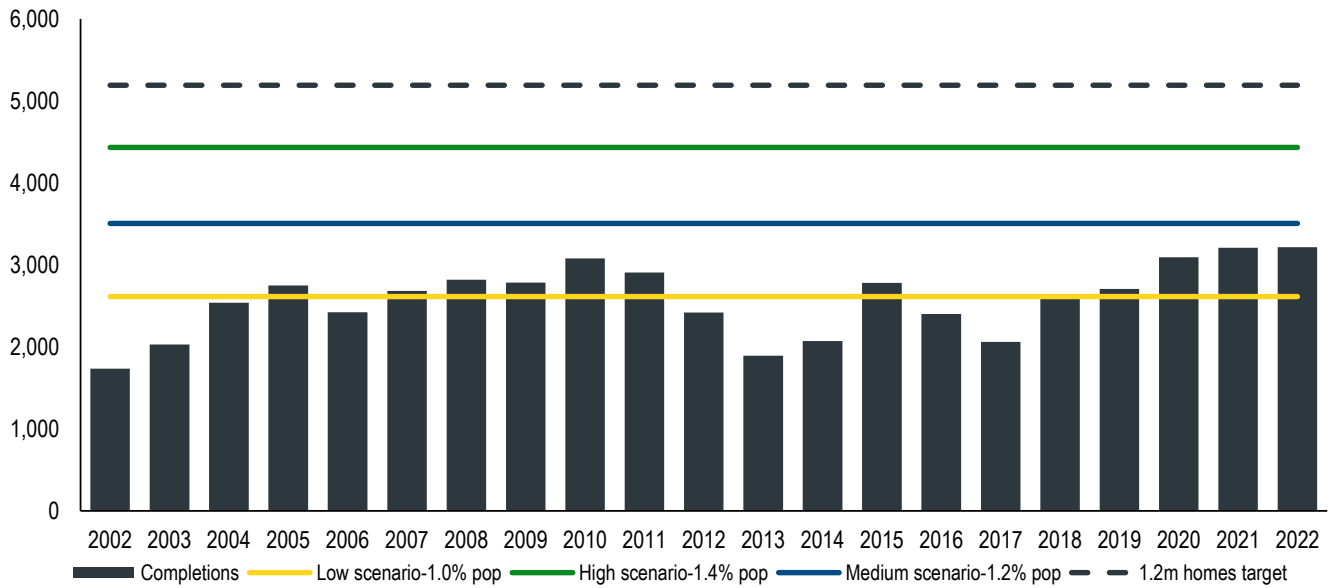
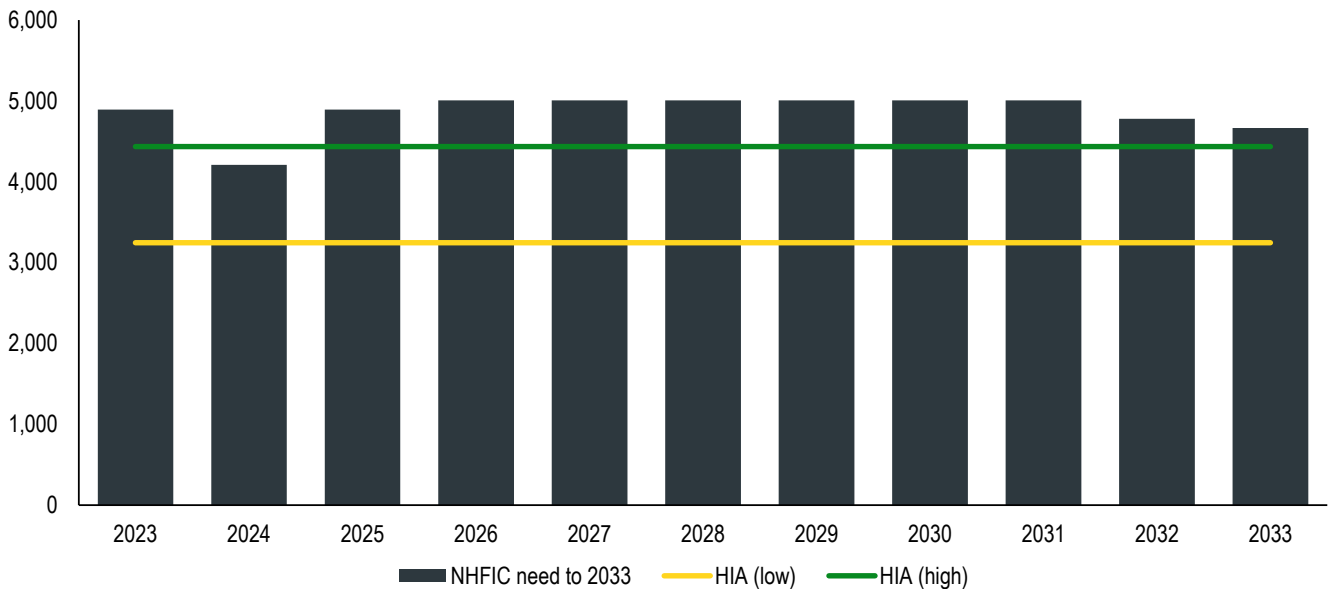


Chart 47: Building adequacy, Tasmania

NHFIC v HIA assumptions of base building need - TAS

Source: HIA, NHFIC



Dwelling composition

Overall, Tasmania remains dominated by detached dwellings, with five detached dwellings for every multi-unit dwelling currently underway. Most other jurisdictions have more multi-units underway than detached. This reflects the lower population and the lower share of new migrants.

As seen in the chart below, there has been slight but notable growth recently in semi-detached dwellings. The composition of dwelling additions in the last five years is not significantly different than that of the current dwelling stock. As such, a scenario/sensitivity analysis along the lines of that conducted for the larger states is not conducted for Tasmania.

Chart 48: Change in dwelling composition, Tasmania

Dwelling mix of new and existing housing – Tasmania

Source: ABS, Estimated dwelling stock, cat. 8701

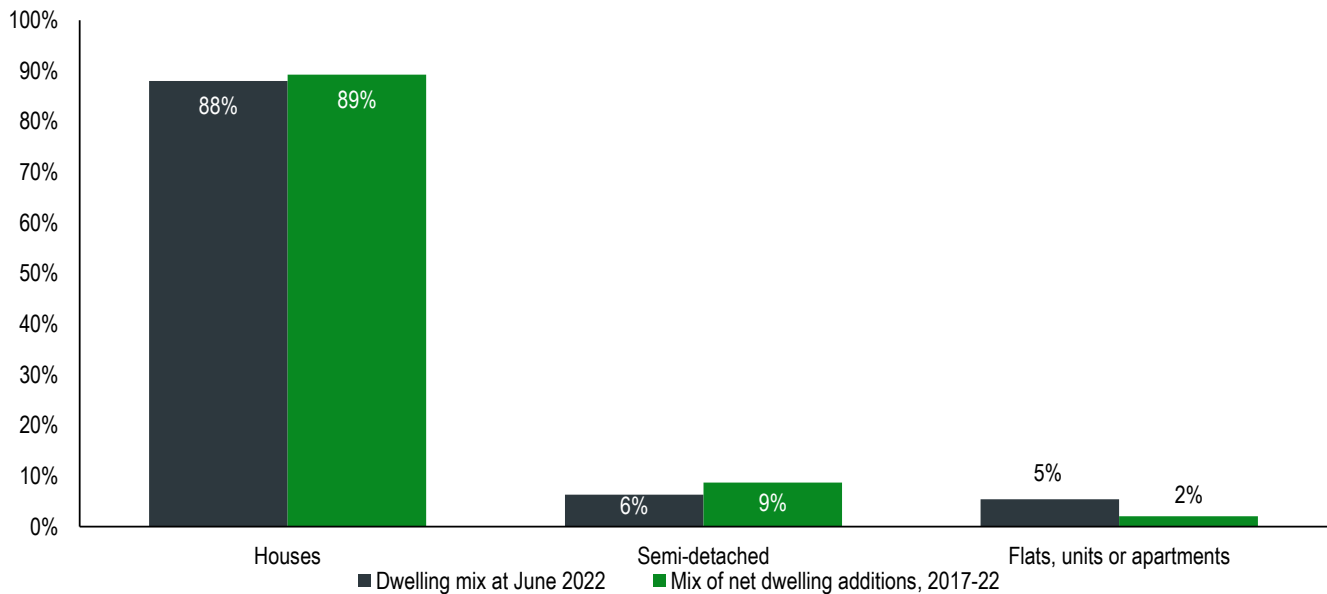


Table 15: Sensitivity analysis, Tasmania

Tasmania	Houses	Semi-detached	Flats, units or apartments	Overall
Current build rate	3,216	-	-	-
Average dwelling size	2.75	2.13	1.86	2.50
Scenarios				
Mix of existing dwellings	88.0%	6.3%	5.4%	100.0%
Mix of recent builds (last five years)	89.3%	8.7%	2.0%	100.0%
Estimated dwelling demand per scenario (med pop-med income growth)				
Mix of existing dwellings	2,311	166	142	2,626
Mix of recent builds (last five years)	2,615	328	88	3,031

Source: HIA Economics

Northern Territory

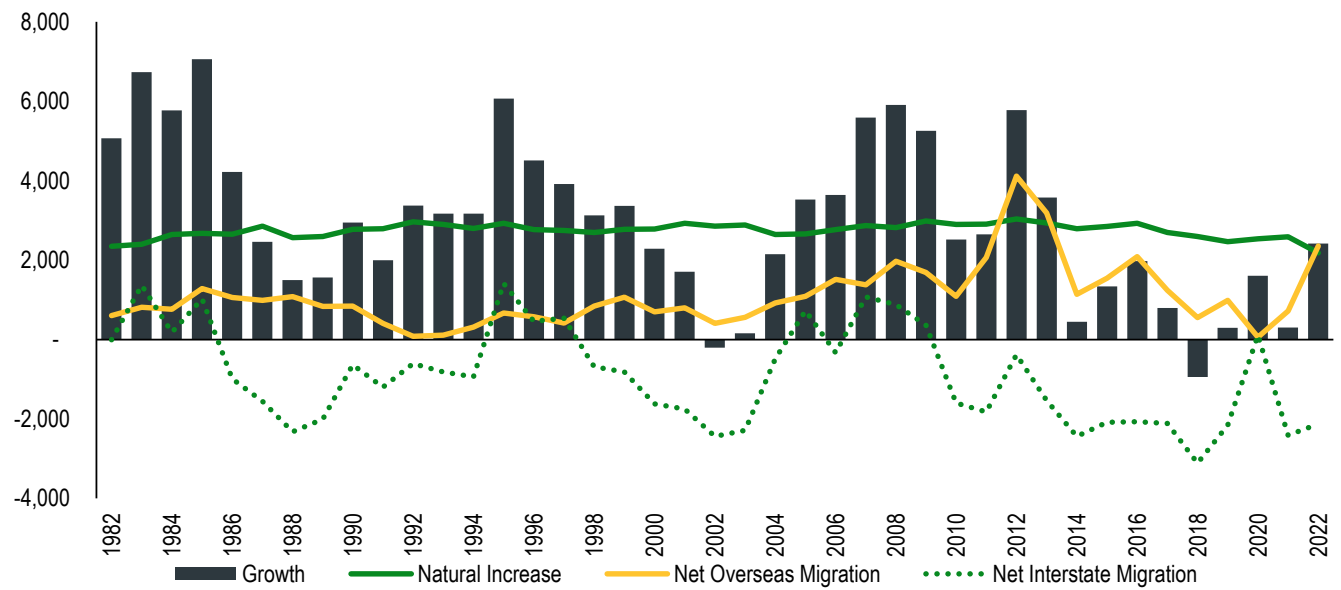
Population

Aside from the mining booms of the mid-1990s and mid-2000s, the Northern Territory (mostly Darwin) has traditionally been a net exporter of people to other states, working to its small domestic public service and limited professional services presence. It should also be noted that population in the Territory, owing to its small size, is extremely lumpy. For example, its net overseas migration recorded just 6 people in the December Quarter 2022.

Chart 49: Northern Territory population

NT – components of population growth, 1982 – 2022

Source: ABS



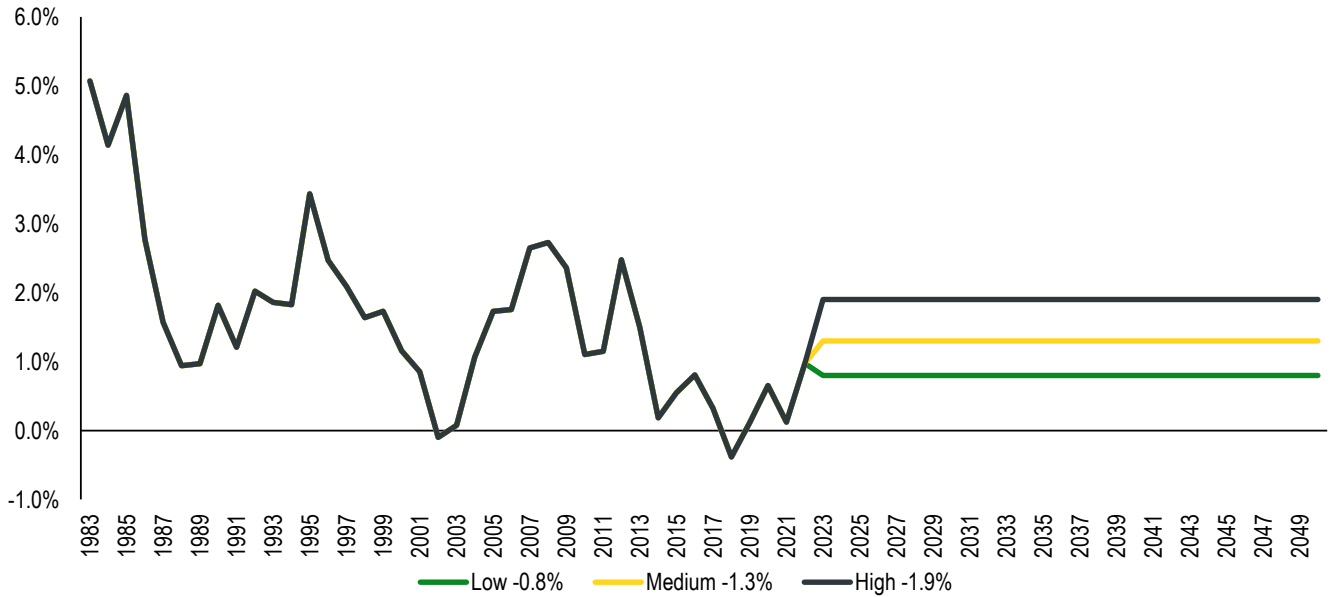
The Northern Territory Budget forecasts population to grow by 0.9 per cent in 2023-24. This is expected to rise to 1 per cent per annum to 2026-27, which it notes is consistent with longer-term averages. Given the considerable volatility with past growth rates, this report has presented a broad range of scenarios, with a low assumption of 0.8 per cent, medium 1.3 per cent, and high 1.9 per cent.



Chart 50: Population growth, Northern Territory

NT Population growth

Source: ABS, HIA



Building need

The Territory’s current build rate of 534 dwellings in 2022 is about the same as it has been for the past three years. This is around half of what both this report and NHIFC estimate to be the base building requirement. It will be difficult for the Territory to surpass its decade averages across all categories. Realistically, it would take another economic or employment catalyst to refuel the Territory’s home building industry.

Table 16: Estimated building need, Northern Territory

Northern Territory			
	Population growth		
	Low	Medium	High
Population in 2022	250,540	250,540	250,540
Population in 2050	313,164	359,701	424,379
Assumed growth rate	0.8%	1.3%	1.9%
Current build rate (completions in 2022)	534	-	-
'Base' building need			
Dwellings required to house population growth (total to 2050)	27,251	47,502	75,648
Dwellings required to house population growth (per year)	973	1,697	2,702
Estimated future housing demand - 2023 - 2050			
Low income growth	1,149	1,872	2,877
Medium income growth	1,412	2,135	3,140
High real income growth	1,587	2,310	3,315

Source: HIA Economics



Chart 51: Building adequacy, Northern Territory

NT dwellings completed- past 20 years vs future need

Source: ABS, HIA

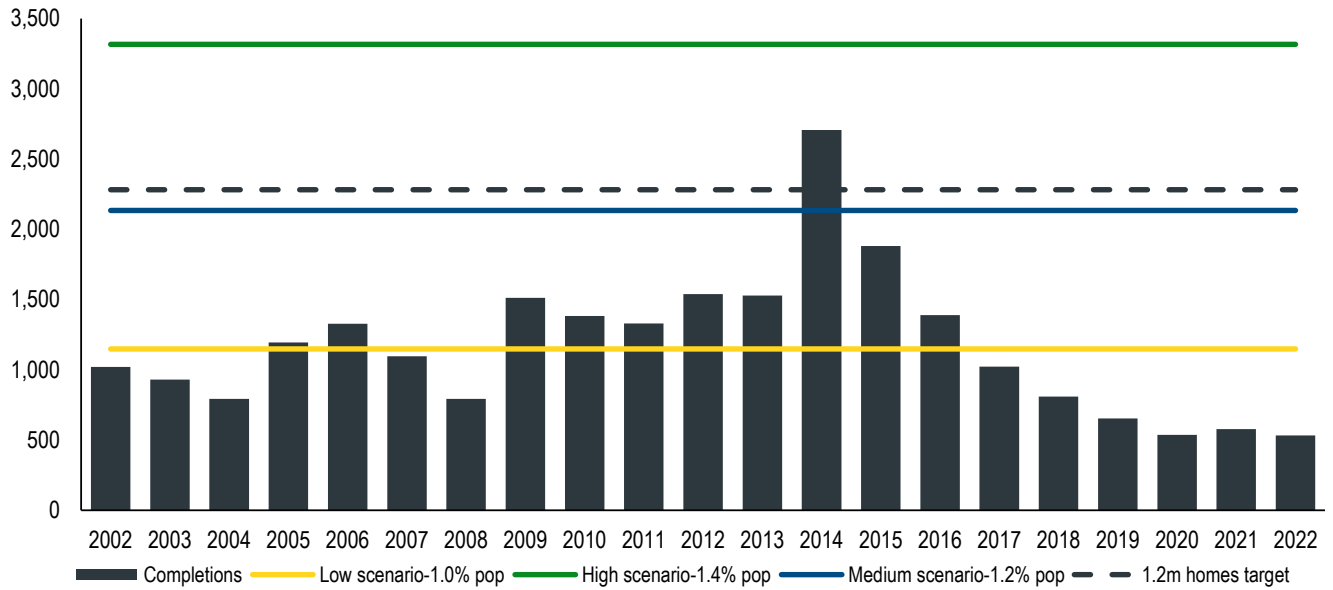
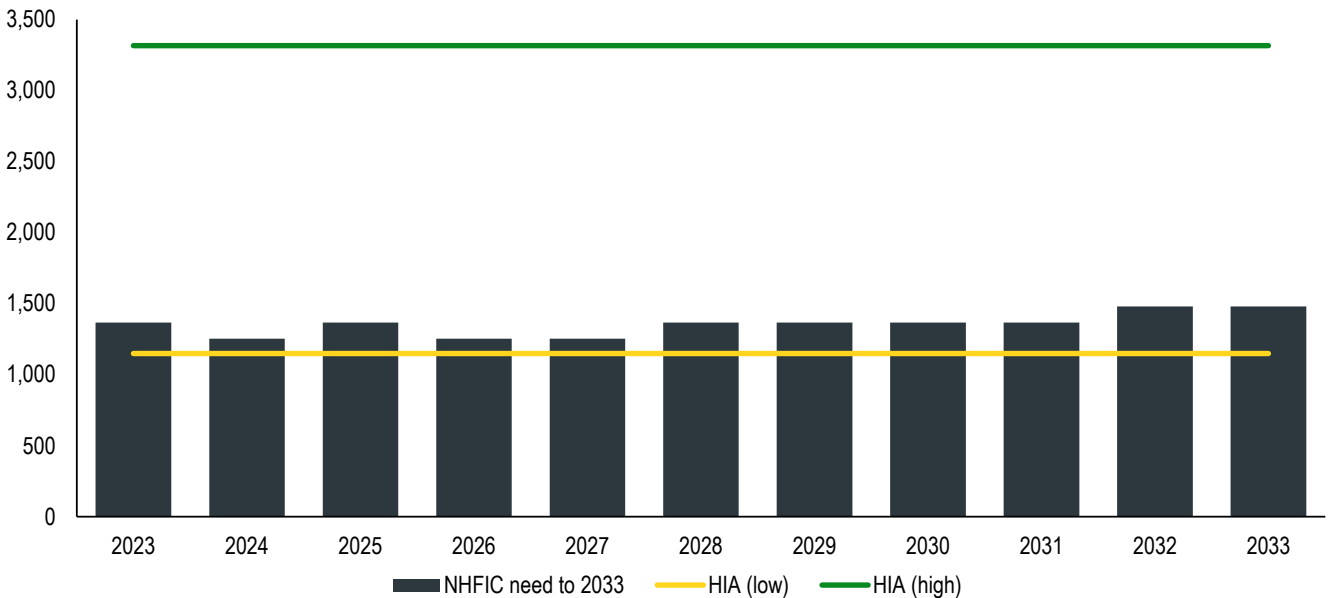


Chart 52: Building adequacy, Northern Territory

NHFIC v HIA assumptions of base building need - NT

Source: HIA, NHFIC



Dwelling Composition

The Northern Territory has not seen the shift towards multi-unit and apartment construction, mostly just because it does not have the volume of migration, be it for work or for study, that drives such a push. Given this, a separate sensitivity analysis has not been conducted.

Chart 53: Change in dwelling composition, Northern Territory

Dwelling mix of new and existing housing – Northern Territory

Source: ABS, Estimated dwelling stock, cat. 8701

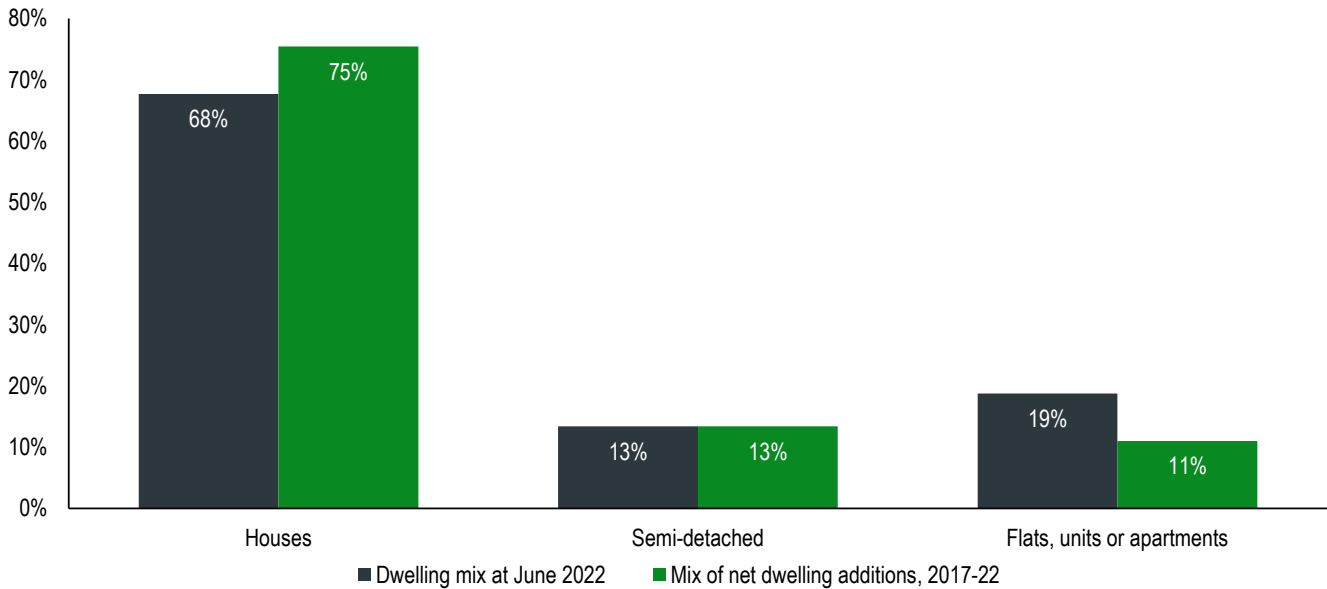


Table 17: Sensitivity analysis, Northern Territory

Northern Territory	Houses	Semi-detached	Flats, units or apartments	Overall
Current build rate	3,216	-	-	-
Average dwelling size	2.75	2.13	1.86	2.50
Scenarios				
Mix of existing dwellings	0.0%	0.0%	0.0%	0.0%
Mix of recent builds (last five years)	0.0%	0.0%	0.0%	0.0%
Estimated dwelling demand per scenario (med pop-med income growth)				
Mix of existing dwellings	2,311	166	142	2,626
Mix of recent builds (last five years)	2,615	328	88	3,031

Source: HIA Economics

Australian Capital Territory

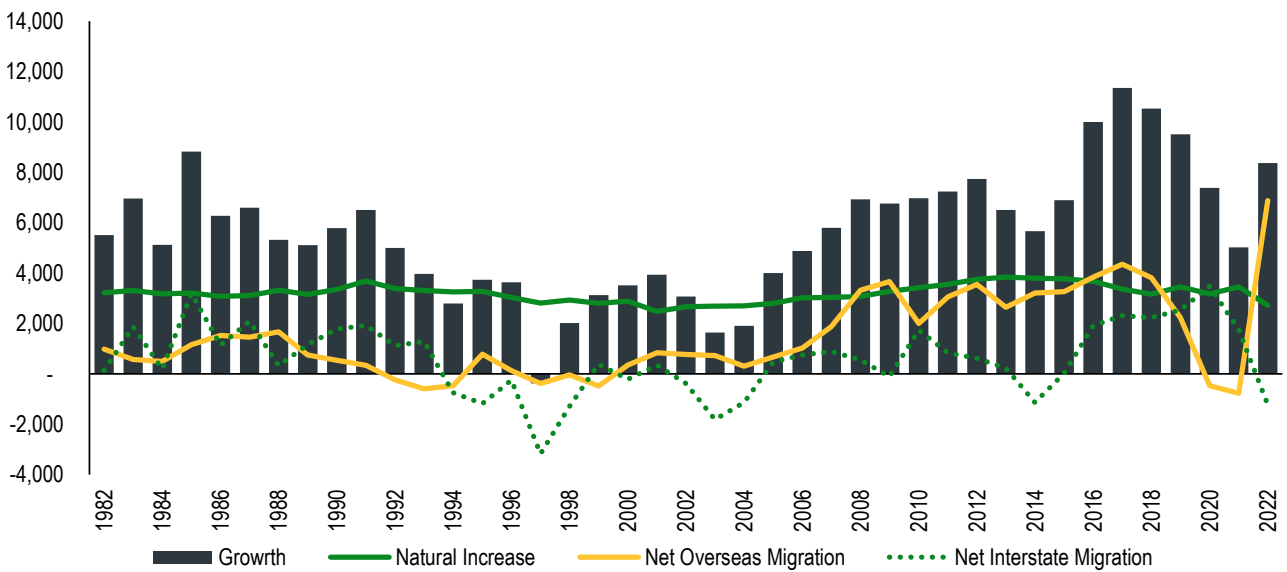
Population

The Australian Capital Territory (ACT) is one of the biggest beneficiaries of net overseas migration compared to other states, with a rapid return of migrants and students driving strong population growth in 2022. The ACT's interstate migration figure over the longer-term average close to zero. This means that over the long term, roughly the same number of people arrive from other states for work or study as the number of people that leave the ACT for other states.

Chart 54: ACT population

ACT - components of population growth, 1982 - 2022

Source: ABS

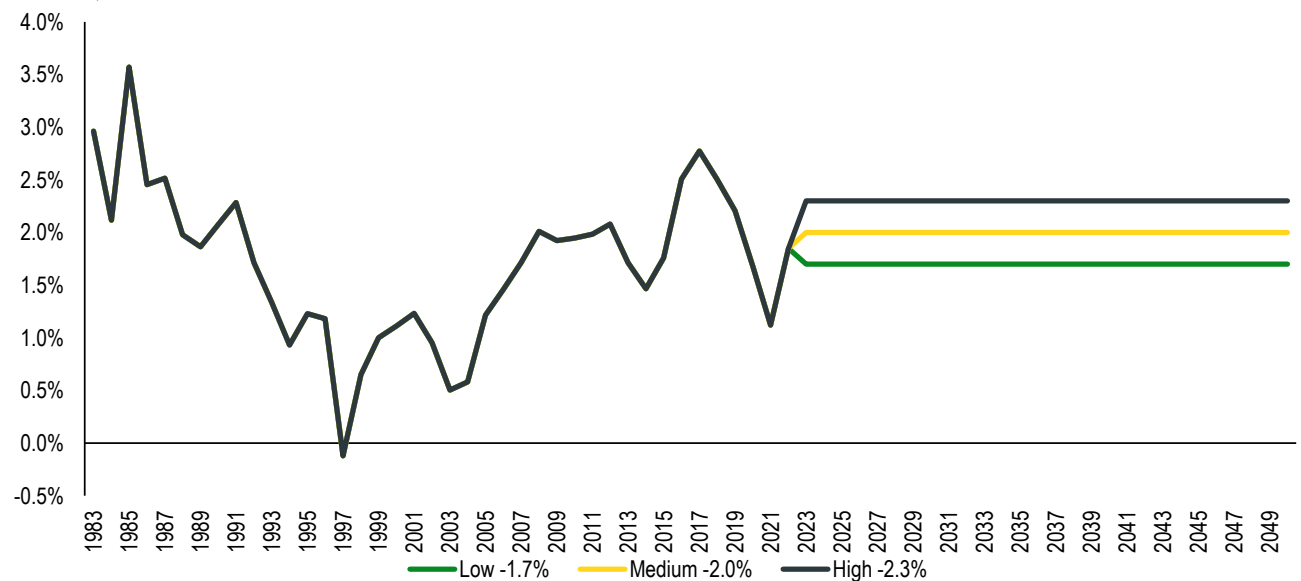


This report has adopted a low, medium, and high population growth assumptions of 1.7 per cent, 2 per cent and 2.3 per cent per annum, respectively. This is intended to centre around the Budget forecast of 2 per cent per annum.

Chart 55: Population growth, ACT

ACT Population growth

Source: ABS, HIA



Building need

The ACT has seen a considerable uptick in population growth in recent years. In the two decades from 1990 to 2010, its population grew on average by 1.3 per cent a year. In the last ten years, it has grown by 2 per cent a year on average. That includes the COVID downturn which saw growth fall to 1.1 per cent. This strong recent growth coincides with the development of new suburbs in northern and western parts of Canberra.

Table 18: Estimated building need, ACT

Australian Capital Territory			
	Population growth		
	Low	Medium	High
Population in 2022	461,042	461,042	461,042
Population in 2050	739,141	802,685	871,482
Assumed growth rate	1.7%	2.0%	2.3%
Current build rate (completions in 2022)	4,771	-	-
'Base' building need			
Dwellings required to house population growth (total to 2050)	121,017	148,669	178,607
Dwellings required to house population growth (per year)	4,322	5,310	6,379
Estimated future housing demand - 2023 - 2050			
Low income growth	4,704	5,691	6,761
Medium income growth	5,277	6,264	7,333
High real income growth	5,659	6,646	7,715

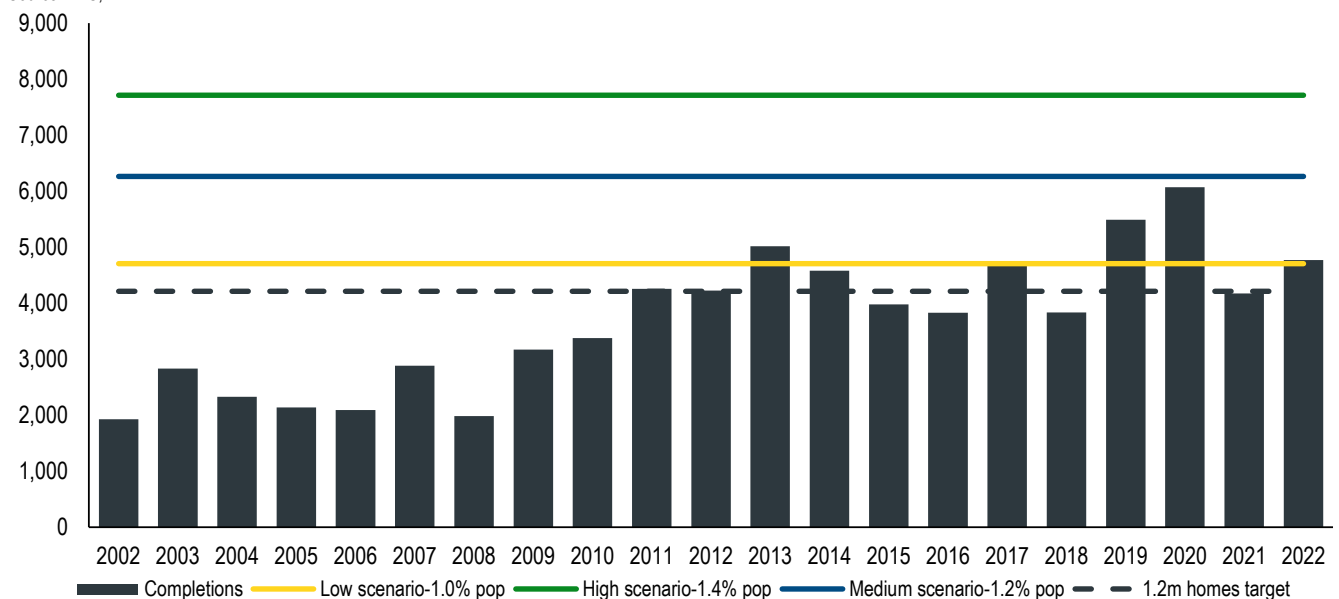
Source: HIA Economics

NHFIC's and HIA's estimates of building requirements are broadly aligned for the low population growth scenario. If growth were to be maintained at its recent high rates in the coming decades, then an upper bound of around 7,000 new homes per year is required. This is well-above the current building rate of around 4,800 per year.

Chart 56: Building need, ACT

ACT dwellings completed- past 20 years vs future need

Source: ABS, HIA



Dwelling Composition

In the last five years 80 per cent of dwellings completed in the ACT were either semi-detached or apartments, making the Territory seemingly well on track to account for the potential changing demographic composition going forward.

Chart 57: Change in dwelling composition, ACT

Dwelling mix of new and existing housing – Australian Capital Territory

Source: ABS, Estimated dwelling stock, cat. 8701

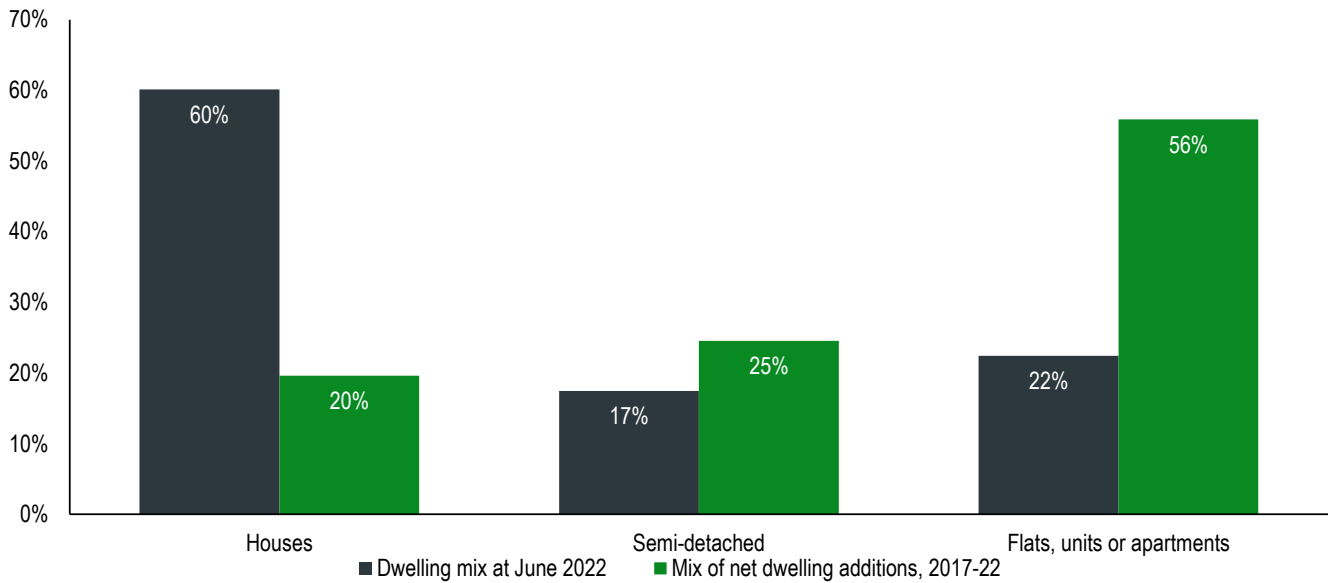


Table 19: Sensitivity analysis, ACT

Australian Capital Territory	Houses	Semi-detached	Flats, units or apartments	Overall
Current build rate	4,771	-	-	-
Average dwelling size	2.75	2.13	1.86	2.50
Scenarios				
Mix of existing dwellings	60.1%	17.4%	22.4%	100.0%
Mix of recent builds (last five years)	19.6%	24.5%	55.9%	100.0%
Estimated dwelling demand per scenario (med pop-med income growth)				
Mix of existing dwellings	3,148	1,179	1,735	6,062
Mix of recent builds (last five years)	1,026	1,659	4,324	7,008

Source: HIA Economics

Conclusion

By better understanding the varying preferences of different segments of the population, Australia can better plan needs of the population and mitigate the effects of a housing shortage, if not prevent one altogether.

People in their childhood and teenage years tend to live in homes with four to five people in them. After those 20 to 25 years of age, the average size of the dwelling they live in falls, as people begin to move out of home. The average household size peaks again as people have families of their own during their 40s and 50s, before falling again as people progress into old age. Hence, the true housing need across different areas in Australia will already differ based solely on the age profile of their population.

People from different countries also have different housing preferences. People from Western countries, particularly English-speaking countries, are far more likely to live in detached houses than people from other countries, particularly those in developing Asia. As the cultural mix of the population changes, so too will the need for housing.

As income grows, housing demands change. Household income partly determines the decision to defer or opt against having children. In doing so, the proportion of single-person households increases through time. In 1971, 42 per cent of households had four or more occupants and only 14 per cent had just one occupant. This trend has steadily changed through time, so much so that in the 2021 Census, the share of single person households (31 per cent) exceeded the share of four or more person households.

At an aggregate level, each of these three trends suggests that there will need to be more apartments built going forward. At the same time, it is necessary to be conscious of region-specific factors. Planning to build apartments where people want houses, and vice-versa, is a waste of time and money. In the Australian context however, given that the vast majority of homes are built by owner-occupiers, poor planning will likely lead to an underbuild, not poor resource allocation.

More apartment construction does not mean fewer detached homes. Australia has built roughly the same number of detached homes each 5 years, for the past 40 years. The increase in dwellings commencing construction is due to an increase in apartment construction and increasingly the dream of home ownership will be an apartment as a first home, as households increasingly choose this type of living.

The optimal way to plan for housing needs would be a complete bottom-up analysis, beginning with data that detail multiple cohorts of the population across multiple regions in each state. Estimates of the type of housing needed at a detailed regional level could then be computed, with forecasts built up from there.

Rather than develop specific forecasts, this analysis has defined a range in which building activity will need to sit over the next thirty years. This is to account both for population growth and for the various factors defined throughout this report that influence housing demand. At an Australia-wide level, it is estimated to be between 190,000 and 275,000 new homes per year.

These scenarios are arguably better from a planning perspective because it provides planners with a clear view of the goalposts. The Government's recent announcement of 240,000 homes per year in the next five years is a worthy objective and lies around the middle of our broad range. This goal also incorporates a need to 'catch-up' on the decades of under building.

The failure of governments to facilitate the supply of an adequate volume of homes is evidenced by the acute shortage of rental accommodation across all markets in Australia in recent years. A well-functioning housing market should have a rental vacancy rate of between three and five per cent. Maintaining this level of rental vacancy ensures that the market dynamics is evenly balanced between landlords and tenants. When tenants have options for the location and type of accommodation in the market, governments will not need to regulate good landlord behaviour. A rental market with a vacancy in this range of three to five percent should also see home prices rising consistently with wage growth, and the capacity to repay a mortgage.

Sustaining an ideal level of rental vacancies should create an environment where landlords face competition to attract and retain tenants, and tenants have more options when choosing the home that best meets their needs.

When there are more options in the private rental market, rental prices would be lower than when they are in short supply. Sustainably serviceable and affordable rental prices in the private market will mean fewer households would require subsidised housing. In turn, this would likely see reduced demand for social and community housing.

Myth Busting

Myth #1 – housing demand only grows when population grows

When people talk about the sufficiency of Australia’s housing stock, they generally refer to growth in the population. In other words, how many dwellings are needed to accommodate the expected increase in population. That is certainly a key part of estimating dwelling sufficiency, but it is not the only part.

Housing demand will continue to grow even if population does not, for a number of reasons:

- For one, there will always be a stock of dwellings needing to be replaced, either as they get old and no longer habitable or simply as their owners move out.
- Another factor to consider is income growth. As people become wealthier, they will be more likely to purchase an investment house, a holiday home, or make extensions to their existing home, all of which will add to the overall demand for building activity.
- Most of the underlying demand drivers discussed in Chapter 0 (apart from migration obviously) are also independent of population growth.

This can be considered ‘base demand’, or the demand that would occur if population growth were persistently zero for a number of years. To estimate base demand, this report conducted a simple regression of the number of housing commencements against population growth.

$$Commencements_t = Base_dem + \beta * popgrowth_{t-i} \quad i=1-7$$

Of primary interest here is the value of the variable *Base_dem*, which is what the model estimates housing commencements would be if population growth were zero. However, in order to have confidence in the robustness of the base demand estimate, confidence in the robustness of the overall model is also necessary.

Since logically there would be a gap between when a person arrives in Australia and when additional housing is built, the model did not include the current year’s population growth, but rather lags of between 1 and 8 years ago. Taking the year 2000 for example, a lag of 2 means that the model is regressing building commencements in the year 2000 against population growth 2 years prior, i.e., population growth from 1997 to 1998.

The results of the analysis at an Australia wide level are shown below.

Table 20: Estimated base housing demand

Australia	Lag (t-i)	1	2	3	4	5	6	7	8
Base_dem		142,651	119,281	109,302	106,902	101,460	100,100	97,104	97,766
std error		16,571	15,377	15,076	15,198	14,960	14,404	13,684	13,986
t statistic		8.608	7.757	7.250	7.034	6.782	6.950	7.096	6.990
Popgrowth_t-i		0.08	0.17	0.21	0.22	0.24	0.26	0.28	0.28
std error		0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05
t-statistic		1.465	3.245	4.075	4.217	4.681	5.050	5.642	5.518
R-squared		6%	24%	33%	36%	41%	46%	52%	52%
F statistic		2.15	10.53	16.61	17.78	21.91	25.50	31.84	30.45

Source: HIA Economics



The main variable of interest is the F-statistic, which is an indication of the overall robustness of the regression. An F-statistic greater than 3.3 means that the model is robust at the 5 per cent significance level.

As a final check on the robustness of these results, the same regression model was also estimated using state level data. Robust models were generated for all states bar one, and also generally with a similar lag. This provides extra confidence that the relationship estimated in the primary model is genuine. Further, even in the state where a robust model was not available (Queensland) the variable of interest, the constant in the model which is our estimate of 'base' demand, was significant.

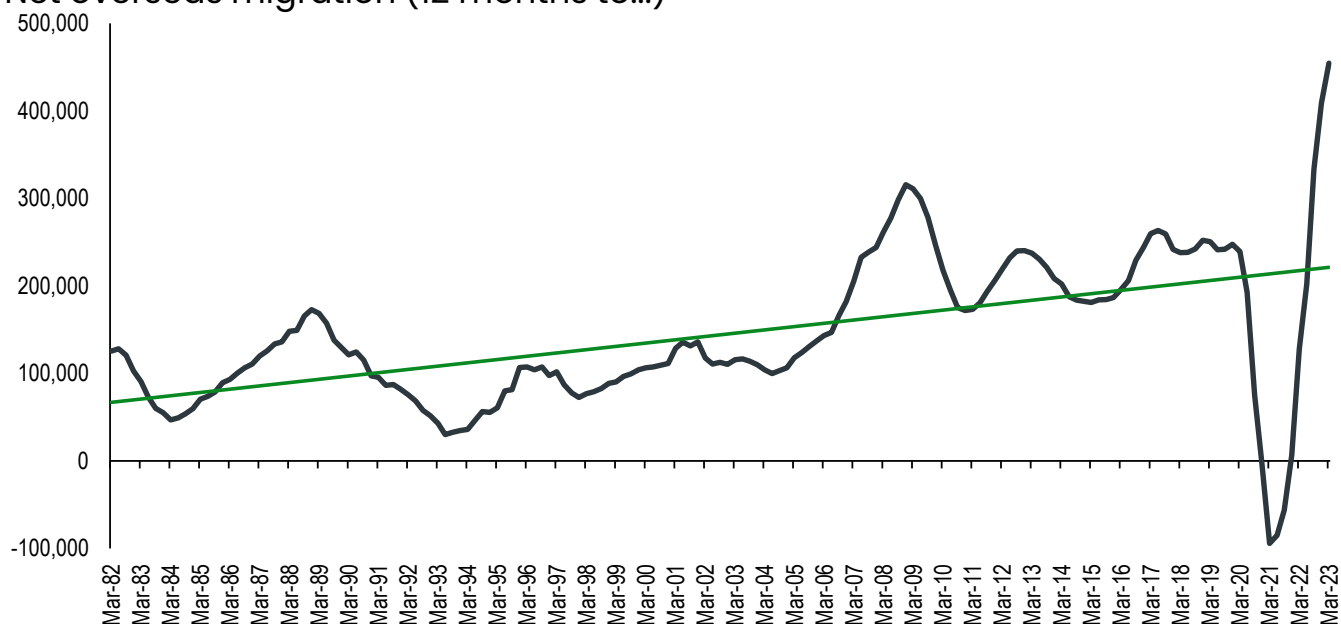
Given that all models with a lag of two or more years are found to be robust at a 5 per cent level of significance, it can therefore be assumed, with a fairly high degree of confidence, that the 'base' level of dwelling commencements is around 100,000 to 120,000 per year.

Importantly, this is over half of Australia's current build rate of 170,000 per year, which provides two key insights:

- First, it indicates that even if Australia were to sustain a period of zero population growth (which would almost certainly never occur), dwelling commencements could be expected to level off at about 100,000 per year.
- Second, with the optimal lag being between five to eight years, it can be concluded that population growth today can be expected to add to the stock of dwellings needing to be completed in around five to eight years' time. This highlights the importance of long-term, consistent planning.

Chart 58: Net overseas migration

Net overseas migration (12 months to...)



Myth #2 – 10 per cent of homes are vacant

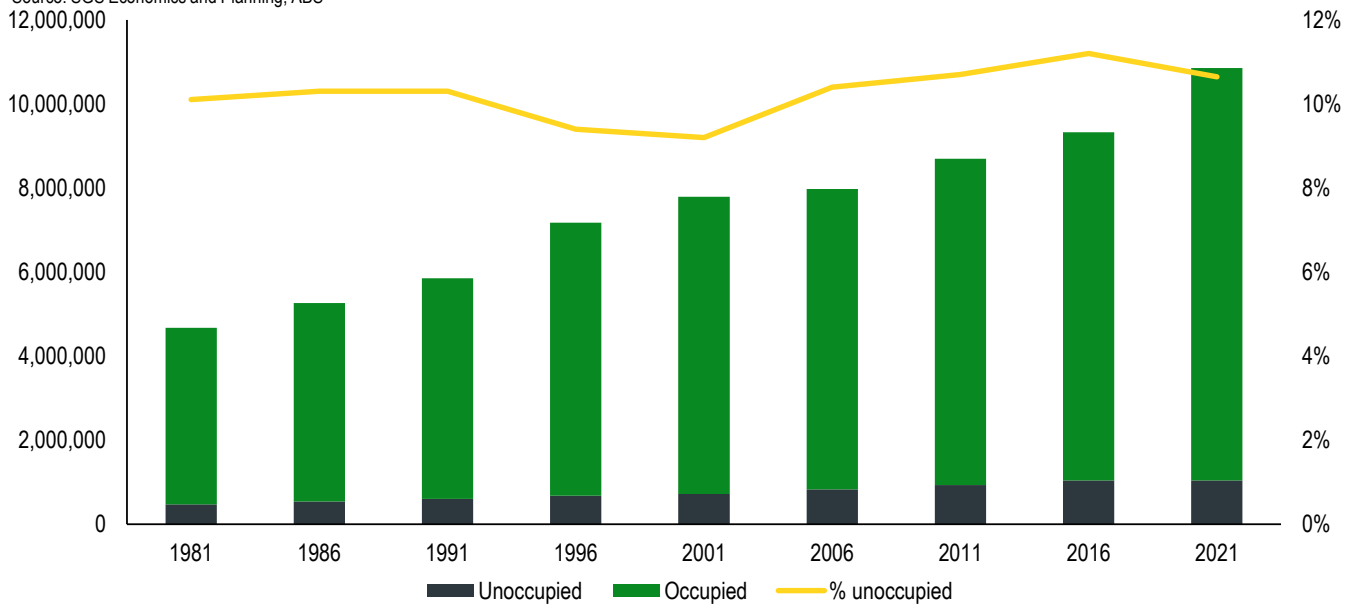
There have been a number of attention-grabbing headlines since the 2021 Census around the 10 per cent of homes that were vacant on Census night, a total of more than one million. The articles imply that there are one million completely empty, effectively abandoned homes around Australia that are being withheld from the property market, just waiting for someone to live in. This claim is untrue.

The proportion of unoccupied homes has consistently been around 10 per cent since as far back as the 1981 Census. In fact, an article in *The New York Times* noted that the vacancy rate from the 2020 US Census was around 10 per cent as well¹⁰. On that basis, it is hardly newsworthy statistic to say that 10 per cent of homes were unoccupied. Additionally, the simple fact that the proportion of unoccupied homes has been so steady means it cannot be due to ‘abandoned’ dwellings that are being withheld from the market; if it were, then surely something would have been done about it 30 years ago.

Chart 59: Occupancy rates through time

Occupied and unoccupied homes through time

Source: SGS Economics and Planning, ABS



What this all boils down to is that most of the so-called ‘vacant’ homes were in fact unoccupied for a good reason. An analysis in 2017 estimated that residents being absent accounted for 44 per cent of reported vacant homes in the 2016 Census, and holiday homes accounted for a further 23 per cent of vacant dwellings.¹¹ Rental properties accounted for a further 11 per cent of unoccupied dwellings, while homes undergoing repairs and homes for sale both contributed 5 per cent each.

As a side note, while some have argued that holiday homes could be converted into rental accommodation, the fact that only around a quarter of vacant homes were due to the dwelling being a holiday home means that holiday homes must account for only around 2.5 per cent of vacant homes at the Census (since vacant homes account for 10 per cent of total homes). This is clearly not enough to make a significant impact on the availability of rental properties, and of course it overlooks the important economic benefits provided by holiday homes.

A better measure was recently released by the ABS in an experimental dataset that draws on the Multi Agency Data Integration Project (MADIP), an initiative commenced in 2015 with the aim of making better use of the wealth of information collected through Australia’s various government departments.¹²

The dataset uses data from the ABS address register, as well as data on electricity connections from electricity

¹⁰ <https://www.nytimes.com/2022/03/10/realestate/vacancy-rate-by-state.html>

¹¹ <https://sgsep.com.au/publications/insights/why-was-no-one-home-on-census-night>

¹² <https://www.abs.gov.au/about/data-services/data-integration/integrated-data/administrative-data-snapshot-population-and-housing>



distributors and networks to estimate the proportion of dwellings that were (1) in use as a primary residence; (2) in use but not as a primary residence; and (3) inactive with no sign of recent use. Based on this definition, it is clearly the third category that is of most interest, whereas the vast majority of the 10 per cent of 'vacant' homes more accurately fall into the second category.

Based on this measure, only around 107,000 to 136,000 dwellings, or 1.3 per cent of the total, were 'inactive' at the time of the Census, which is less than what is estimated to be the number of dwellings required simply to house the expected growth in the population each year.

Table 21: Dwellings in use versus 'inactive' dwellings

	MADIP	Electricity data
Total dwellings captured in dataset	10,136,086	8,487,504
1 - Dwellings in use as a primary residence	9,005,028 (89%)	
2 - Dwellings in use, but not as a primary residence	994,780 (9.7%)	
3 - Inactive dwellings with no sign of recent use	136,278 (1.3%)	107,136 (1.3%)

Source: HIA Economics

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