

**The Australian Population Research Institute, Research Report,
October 2015**



**The housing affordability crisis in Sydney and Melbourne
Report One: The demographic foundations**

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The housing affordability crisis in Sydney and Melbourne

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Executive Summary

Sydney and Melbourne face a serious housing crisis. The shortage of affordable separate housing stock already means that most first home buyers and renters cannot currently find housing suited to their needs in locations of their choice, either in Sydney or Melbourne.

The dominant response on the part of the development industry and many commentators is that governments must get off their hands and unlock the potential for more intensive development of the established suburbs. This has led many to believe that the recent surge in high-rise apartment construction in Sydney and Melbourne will solve the problem of housing affordability and will also lead to more efficient use of infrastructure.

For those looking at the issue from a financial perspective, the escalation in housing prices is seen as a reflection of demand generated from low interest rates, incentives for investors with negative gearing and capital gains tax concessions, and easy access to mortgage credit on the part of investors and owner occupier upgraders. These purchasers can now follow the price escalation to higher levels, because the increase in average household income over the past decade or so enables them to take on higher debt and, in the case of investors, to negatively gear. For the Australian Prudential Regulation Authority this means the answer is to restrict access to borrowing.

While these factors are important in contributing to a lack of affordable housing, the crisis has much deeper roots. The implication is that finding solutions will require new policy responses that address these issues.

These issues have their base in demography, family formation/fertility and migration – with a change in any of these factors having the potential to significantly alter the demand for housing by type of housing in both Melbourne and Sydney.

The current study has been designed to understand the importance of each of these factors in contributing to housing need; and then to apply the insights to project future dwelling need in Melbourne and Sydney. We identify both the projected need for housing, and the type of housing needed by households at different life stages.

1. New households are being formed from people arriving in Australia, and from residents starting independent living. The projections assume that net overseas migration will continue at 240,000 a year and that Sydney and Melbourne will continue to receive almost half these migrants. If so, Sydney will have to add a total of some 308,000 dwellings and Melbourne some 355,000 over the decade 2012 to 2022.
2. Over half of this increase in dwelling need will come from migration in Sydney and Melbourne (Table 7).
 - a. The extra number of dwellings needed to accommodate migrants over the decade will be around 199,000 in Sydney and 193,000 in Melbourne (Table 7).
 - b. The extra number of dwellings needed to accommodate residents over the decade will be 109,000 in Sydney and 161,000 in Melbourne (Table 7).

3. Younger households (including young residents and migrants) are confronting an unprecedented squeeze when entering the housing market in each city. This is because of the huge growth that is occurring in the numbers of older households in both cities due to population ageing. Our projections indicate that there will be an additional 110,000 households aged 45 plus living in Sydney by 2022 and 162,000 in Melbourne as compared with 2012 (Table 7). They are replacing relatively small cohorts aged 75+, thus leaving few vacancies for young families.
4. Most of the new resident and migrant households, being relatively young and on the threshold of starting families will be looking for suitable housing, mainly separate houses. However, in the inner and middle suburbs of Sydney and Melbourne, as of 2011, 50 to 60 per cent of the separate housing stock was occupied by older households (Table 10). As indicated, their numbers will rise rapidly.
5. The study shows a pattern of transition from living in flats and apartments into detached houses when younger persons form families and start having children (Table 4). It also shows that once people move into separate houses, the majority stay in these houses, even after their children have left the home (Figures 3 and 4).
 - a. This finding means that we have to estimate the number of households by life-stage in order to be able to project the need for housing by type of dwelling.
 - b. Most researchers, commentators and policy makers have not taken the life-stage factor into account in calculating housing need. This has led to flawed assumptions about 'solutions' for the housing crisis in Sydney and Melbourne.
 - c. They assume that, because there will be rapid growth in the number of couple and single person households over the decade 2012 to 2022, a new era of high demand for apartments will ensue. However, most of the growth in these households, due to the ageing effect, will be among older households who are already occupying separate houses.
 - d. Few of these older households show much interest in downsizing or any need to do so because of ill health, care needs or partner death. As of 2011, the share of older households living in detached dwellings does not start to decline significantly until people reach 75 years of age (Table 11).
 - e. There is a finite supply of separate houses in high amenity suburbs within 10 kilometres of city centres. Currently, as noted, at least half of these houses are occupied by older households and the numbers of older households occupying existing dwellings will increase significantly over the decade to 2022. As a consequence, the scarcity of detached housing in these suburbs will intensify.
6. There will be a serious mismatch between the dwelling needs of households over the decade to 2022 in Sydney and Melbourne, if the recent trend in the number and type of new dwellings approved in both cities continues (Table 9).
 - a. If dwelling approvals not do adjust, there will be a shortfall of approximately 28,500 separate houses and a surplus of around 59,000 apartments by 2022 in Sydney. In Melbourne there will be a shortfall of around 19,000 detached houses and a huge surplus of apartments of around 123,000 by 2022.

- b. In practice there is likely to be a major fall in the number of approvals amongst high rise apartments toward the end of decade to 2022.
- c. These findings are contrary to the expectations of most housing industry planners and commenters who think that detached housing needs are weakening as a result of an increase in the number of smaller households and a cultural transition in favour of inner city, apartment living.
- d. Nor will the increased stock of high-rise apartments provide an option for householders intending to start or who are already raising a family and who cannot afford an inner or middle suburban separate house.
- e. These apartments are predominantly tiny 60 square metre or smaller dwellings with no access to protected outdoor space. They are totally unsuitable for raising a family. They are tiny because developers selling to investors need to keep prices below \$600,000.
- f. Urban redevelopment or consolidation in areas of established suburbia will not provide affordable housing for families. The demand for land within high amenity areas has meant that the site costs even to put two dwellings in place of a separate house make the resulting dwellings too expensive for most aspiring home owners. This is also true for developers of medium and high density housing. Their costs have risen to the extent that even an 80 square metre apartment (the minimum needed for a family) has a cost of at least \$600,000, putting them out of reach of most young households.

Implications

1. Given the likely increased competition for separate houses, it is unlikely that households of 2022 will achieve the dwelling standards of their counterparts in 2012.
2. The impact will be tougher in Sydney where there are more natural barriers to city expansion. As well, the constraints on opening up new land for subdivision are more restrictive than is the case in Melbourne. In Melbourne, this option constitutes a 'safety valve' that will absorb some of the growth in demand for detached housing.
3. Already a much higher proportion of families with children in Sydney are living in flats and units than is the case in Melbourne (Table 4).

Report authors and future studies

The implications of the housing crisis (based on the housing dynamics articulated in this report) and possible policy options will be discussed in a subsequent paper. These possible solutions require an understanding of the problem – which we hope this report will contribute to.

This work was commenced in 2014. It was conducted by Dr Bob Birrell, the Founding Director of the Centre for Population and Urban Research at Monash University (CPUR); David McCloskey, then concurrently a partner in Deloitte Analytics and an Adjunct Senior Research Fellow in the CPUR; and Virginia Rapson, the data analyst on the project. The work has since been completed under the auspices of The Australian Population Research Institute (TAPRI), an independent, non-profit research organisation.

The housing affordability crisis in Sydney and Melbourne

The demographic foundations

Introduction

That Sydney and Melbourne face a serious housing crisis is beyond dispute. The shortage of affordable housing in both cities means that most first home buyers and renters cannot find housing suited to their needs near locations of their choice.

The dominant response on the part of the development industry and many commentators is that governments must get off their hands and unlock the potential for more intensive development of the existing suburban housing stock. This has led prominent commentators (itemised below) to believe that the recent surge in high-rise apartment construction in inner Sydney and Melbourne will solve the problem.

For those looking at the issue from a financial perspective, the escalation in housing prices is seen as a reflection of low interest rates, easy access to mortgage credit on the part of investors and owner occupier upgraders. These purchasers can now follow the price escalation to higher levels because the increase in average household income over the past decade or so enables them to take on higher debt and, in the case of investors, to negatively gear. For the Australian Prudential Regulation Authority this means the answer is to restrict access to borrowing.

While these factors are important, the crisis has much deeper roots. These derive from changes in the numbers and age distribution of households in the two cities. The implications of these changes are barely recognised in the housing industry, partly because the required projections are not available. This report fills the vacuum. It is based on new household projections for Melbourne and Sydney covering the period 2012 to 2022.

Two aspects of household numbers and distribution in Sydney and Melbourne stand out. The first is that by the beginning of the projection period in 2012 there were already a relatively large number of households in the 25-34 and 35-44 aged cohort. The main reason for this is that there was a rapid increase in migration to Sydney and Melbourne in the 2000s. The net influx of migrants settling in NSW (almost all of whom located in Sydney) jumped from 38,523 in 2007 to 73,590 in 2007 and has remained at about this level since. There was a similar outcome in Victoria when Net Overseas Migration (NOM) increased from 39,561 in 2007 to 62,539 in 2007.¹ Again, almost all of these migrants located in Melbourne.

The migration surge was largely a reflection of a sharp increase in the number of migrants holding temporary visas, mainly students, but also Working Holiday Migrants, 457 visa holders and visitors. The number of New Zealand citizen arrivals stating that they intended to stay on a long term or permanent basis also escalated at this time.

For the most part this was not a revolving group. Tens of thousands have managed to stay on in Australia by switching to other temporary visas or by gaining permanent residence, through sponsorship by employers, by marriage and other avenues.² Most were aged in their twenties and early thirties and as a consequence gave a boost to the size of the 25-34 and 35-44 year old age cohorts in the two cities as of 2012. If NOM continues at 240,000 a year in the decade to 2022 migration will give a further boost to these two cohorts over this decade.

The implication of this large 25-34 and 35-44 year old cohort of households is that demand for detached housing will be in high. This is because, as is documented below, most of these 25-34 and 35-44 year old households will already have started raising a family or will begin doing so at some point over the years to 2022. When they do, their dwelling priority will be a detached house.

The second important aspect of the number and distribution of households during this decade is that there will be enormous growth in the number of households where the householder is aged 45 or more years. Most of these will be couple households as the children leave home or single person households as one or other of the partners die or move into care. This is a consequence of population ageing.

The main consequence of this ageing effect will be a large increase in the number of small households aged 45 plus who will be occupying mainly detached houses (Table 7) in both Sydney and Melbourne. Every extra occupancy due to ageing means one less of the stock of detached houses in Sydney and Melbourne that will be available to younger households who are seeking a detached house, whether a resident or newly arrived migrant.

Most industry, planning and housing industry commentators on the housing crisis neglect the significance of these demographic factors. The one outcome they do acknowledge is the likely increase in one and two person households. Most assume that this increase will create a large pool of households who, though occupying detached housing, will be interested in downsizing to a unit or apartment. Some argue that this interest will contribute to an historic switch in the preference for apartment living relative to the past preference for detached houses. The evidence cited below indicates that this is a highly unlikely.

This report argues that the neglect and misunderstanding of these demographic factors means that the housing industry leaders, commentators and planners, do not appreciate the depth and long-term nature of the housing affordability crisis in Sydney and Melbourne. Nor do they appreciate why the recent surge in apartment approvals will not solve the problem.

Existing household projections are inadequate

The Australian Bureau of Statistics (ABS) population projections (Series B) used as the basis for this study forecast a change in total persons from 4.7 million in 2012 to 5.5 million in 2022 for Sydney and a growth from 4.3 million in 2012 to 5.2 million people by 2022 for Melbourne.

Most commentators are aware of the value of household projections. The ABS household projections related to the above-mentioned population projections are provided by family type, but not by age group.³ The same is true for the household projections prepared by the Victorian and NSW State planning departments. All these projections show that the rate of growth of single-person and couple-without-children households will outpace that for couple-with-children households.

For example, the latest *Victoria in Future* projections indicate that the share of households made up by families with children will drop from 43.2 per cent in 2011 to 41.8 per cent in 2021 and that most of the increase in household numbers will be amongst couple-only and one-person households.⁴

Most commentators think these developments justify policies promoting urban consolidation. For example, the Grattan Institute uses these projections as the basis for its claim that housing policy in Sydney and Melbourne should focus on apartments. The Institute's recent report, *City Limits*, notes

that 'Couples with children make up less than a third of Australian households. Couples aged eighteen to forty-four with children make up less than a fifth'.⁵

The Grattan Institute, like many other commentators marries this growth in single and couple only households to a belief that there is now a much more positive attitude to apartment living than was the case in the past.

Bernard Salt, KPMG partner and well known property industry commentator is a case in point. He writes in an *Australian* newspaper supplement directed at investors that:

Why would you live in the sparse, lifeless and frankly naff suburbs when you could choose to live amid the vibrancy and the opportunity of all the inner city has to offer? The apartment delivers connectivity to the states' best jobs, best shopping, best cultural and sporting facilities and best parks and gardens.⁶

This collection of beliefs add up to a widely held view that it is apartments rather than detached houses that represent the way forward in housing policy. These beliefs might have some substance if most of the small households in question were young. But as our analysis shows, they are not. Any serious evaluation of the housing needs of households in Sydney and Melbourne must begin with an accurate mapping of projected change in the number of households by household type and age.

Household projections

This report provides household estimates for the period 2012 to 2022 by household type and by age group. These are based on ABS population projections. The latest available begin in the year 2012. They are based on the ABS Series B 'medium' population projections (Total fertility rate [TFR] = 1.8 and Net Overseas Migration [NOM] = 240,000 per year) for Sydney and Melbourne

Households are classified into two broad categories: those that constitute families (couple families with no children, couple families with children, lone-parent households, and other family households) and those that do not constitute families (group households and lone-person households). The household projections were calculated by applying the propensity of persons in each age group to be the household reference person in the various household/family types in the 2011 Census in Melbourne and Sydney to the ABS projections of the population for each city over the years to 2012 to 2022. The propensities were calculated separately for Melbourne and Sydney since they differ significantly, one example being that young residents in Sydney were leaving home later than was the case in Melbourne in 2011.

The projections had to deal with the problem that households are often composed of members of diverse ages. To overcome this, the projections were based on the age of the reference person identified in each household. As a result, they provide approximate estimates of household growth by age group in that they reflect the age of the reference person and not necessarily the age of other members of partnered households. The propensities were calculated by five-year age groups but the output is mainly presented in ten-year age groups in order to facilitate comprehension of the data.

The resulting projections provide an empirically based starting point for assessing the need for dwellings by dwelling type for Sydney and Melbourne. Of course, occupancy patterns could change over the decade. Indeed, given our subsequent findings of a mismatch between the need for detached housing and apartments and its supply, it is likely that many households will not be able to achieve the dwelling outcomes of their same age counterparts as of 2011.

Tables 1 and 2 indicate the overall growth in the number of households by type of household by the age of the household reference person for each city over the decade from 2012 to 2022. They indicate the scale of the building task in the two cities. Melbourne will have to provide for an additional 355,116 households over the decade, or just over 35,000 a year and Sydney an additional 308,374 households or some 31,000 a year. Since each household, by definition, occupies a separate dwelling, a matching number of extra dwellings will be needed in each city. The focus for the moment is on households. Projections of dwellings by type of dwelling are provided later.

Table 1: Projection of the change in the number of households by household type and age group of the Reference person, Greater Melbourne, 2012 to 2022

	Age group of reference person								Total
	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	
Couple family with no children household	873	16,168	8,562	5,728	17,844	28,510	17,295	3,155	98,135
Couple family with children household	162	18,941	41,355	27,124	15,644	7,334	2,355	357	113,271
Couple family household total	1,034	35,109	49,917	32,852	33,487	35,844	19,650	3,512	211,406
Lone parent family household	245	3,775	9,012	8,375	5,567	4,227	3,541	1,569	36,311
Other family household	412	1,268	532	313	442	600	516	171	4,255
Total family households	1,691	40,152	59,461	41,540	39,496	40,671	23,708	5,252	251,972
Group household	1,196	4,985	2,041	970	1,142	1,098	532	120	12,084
Lone person household	1,113	10,103	11,614	8,583	13,275	20,043	18,260	8,070	91,060
Total households	4,000	55,240	73,117	51,093	53,913	61,813	42,499	13,442	355,116

Notes: Age group is based on the age of the reference person in the primary family in each family household and on the age of the designated reference person in each non-family household. The estimations are based on the propensities by five-year age group and summed to the ten-year age groups shown in the table. The calculated estimations in the table are shown rounded to whole numbers and any minor discrepancies in the summed numbers are a result of this rounding.

The estimates of the households were based on the ABS projection Series B which includes assumptions for Net Overseas Migration (NOM) of 240,000, Medium Fertility (1.8), Medium Life Expectancy at birth and Medium flows of net interstate migration.

Source: The household propensities by age group have been calculated using data extracted from tables from the ABS 2011 Census [Greater Capital City Statistical Areas (UR), Family/Household Reference Person Indicator and Relationship in Household by Age in Five Year Groups], ABS Census 2011 one per cent sample file, ABS, Projected population, Victoria and New South Wales, capital city/balance of state, 2012-2061

Table 2: Projection of the change in the number of households by household type and age group of the reference person, Greater Sydney, 2012 to 2022

	Age group of reference person								Total
	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	
Couple family with no children household	1,020	13,401	6,222	4,381	14,068	27,074	16,745	2,532	85,442
Couple family with children household	293	16,034	32,168	19,465	14,380	9,145	3,305	398	95,188
Couple family household total	1,313	29,435	38,390	23,845	28,448	36,219	20,049	2,930	180,630
Lone parent family household	359	3,539	7,135	5,895	4,749	4,607	3,995	1,529	31,808
Other family household	385	1,042	387	230	428	756	643	189	4,058
Total family households	2,057	34,016	45,911	29,970	33,625	41,582	24,687	4,647	216,496
Group household	1,102	3,997	1,596	782	1,103	1,328	665	118	10,691
Lone person household	1,057	7,850	8,142	5,871	11,215	21,431	18,742	6,879	81,187
Total households	4,216	45,863	55,649	36,623	45,943	64,342	44,094	11,644	308,374

Source and Notes: see Table 1.

The migrant contribution to household growth

The issue here is how much of this extra need for dwellings will come from natural increase and how much from new migrants arriving during the projection period. Table 3 provides a breakdown of these two sources. It compares household growth in Sydney and Melbourne where NOM is nil and where NOM is 240,000. The projections show that most of the growth in household numbers in Sydney and Melbourne is attributable to migration.

NOM is defined as the outcome of all movements in and out of Australia regardless of whether those coming in and out are migrants or residents. Residents are defined by the ABS as all those who have resided in Australia for 12 months out of the ensuing 16 months after they arrive. Residents cease to be residents if they leave Australia for 12 months of the 16 months after departure. In practice NOM can be taken as a proxy measure of the in- and out-movements of recently arrived persons born overseas. This is because each year there is only a small net loss of Australian citizens.

Here are the key figures. As noted, with NOM of 240,000 per annum over the decade to 2022, the total number of households in Sydney will grow by 308,209 and in Melbourne by 355,116. However, if NOM is nil, the growth in households in Sydney over the decade to 2012-22 will be 109,567 and in Melbourne, 161,964.

In the case of the 25-34 cohorts, with nil NOM the number of households in this age group would decline in both cities. This is mainly because of the low number of births in the early 1990s. For the 35-44 year old cohort of households, particularly in Sydney, there would be little change over the decade in the Nil NOM scenario.

Why is migration so important?

The reason why migration is such a major contributor to household growth in the young age cohorts is that Sydney and Melbourne are the main settlement sites for recent migrants to Australia. Currently, Sydney and Melbourne are receiving some 28 per cent and 24 per cent respectively of Australia's migrant intake (by comparison Sydney's population makes up 20 per cent of Australia's current population and Melbourne 18 per cent).

The impact is so heavy in the younger age cohorts because most migrants, on arrival, are relatively young. This shows up clearly in Figure 1. In 2013-14, 16 per cent of the net inflow of movers to and from Australia was aged 15-19 and 23 per cent was aged 20-24. By comparison, only 6.3 and 7.0 per cent respectively of Australia's population as of June 2014 were in these two age groups.

On the other hand, Table 3 indicates that for the household cohorts older than 35-44 years, migration makes only a modest contribution to household growth. This is hardly surprising given the youthful age structure of recently arrived migrants. However, these older cohorts will continue to grow strongly through the decade with the resident population, including earlier migrants, contributing most of this growth. This is attributable to the ageing effect.

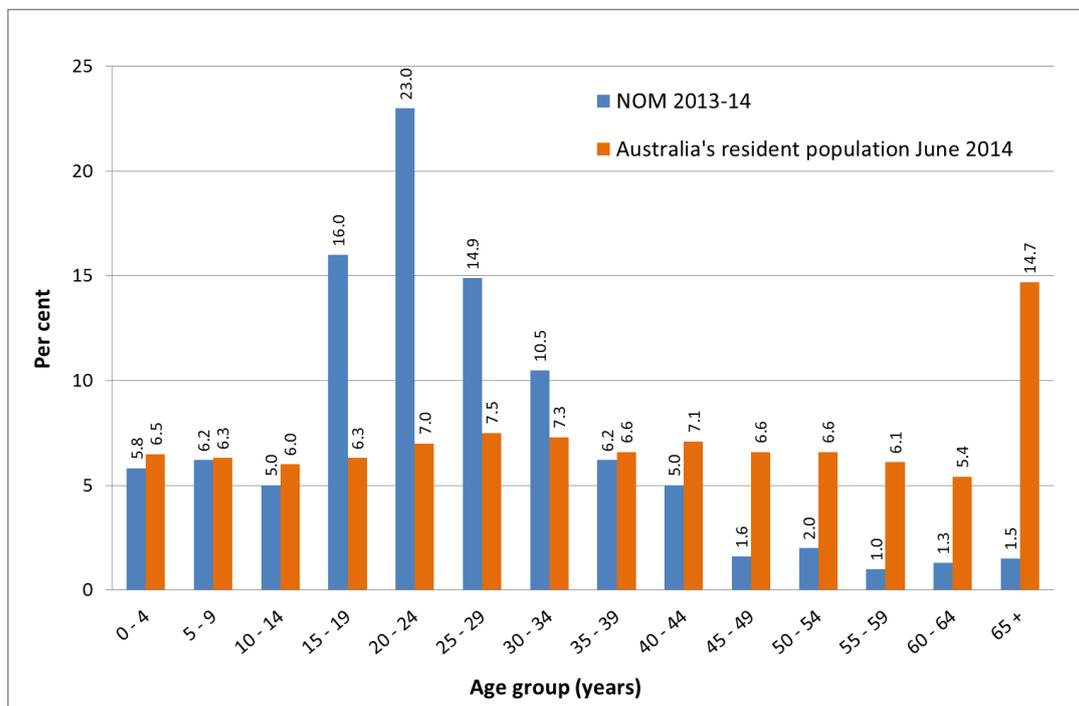
Table 3: Effect of migration on household growth: comparison of projected household numbers using 240,000 NOM and Nil NOM,* by 10 year age group, Greater Melbourne and Greater Sydney, 2012 to 2022

	Age of reference person								Total
	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	
Melbourne									
Estimate of total number of households:									
2011-12	62,551	275,996	320,885	301,370	241,793	168,771	109,461	41,524	1,522,351
2021-22 - 240,000 NOM	66,552	331,236	394,001	352,462	295,705	230,584	151,960	54,967	1,877,467
2021-22 - Nil NOM	51,400	255,631	338,127	326,061	283,605	224,636	150,071	54,786	1,684,315
Estimated growth/decline 2011-12 to 2021-22 under:									
240,000 NOM	4,000	55,240	73,117	51,093	53,913	61,813	42,499	13,442	355,116
Nil NOM	-11,152	-20,365	17,242	24,691	41,812	55,864	40,610	13,262	161,964
Household growth due to migration	15,152	75,605	55,875	26,402	12,100	5,948	1,889	180	193,151
Sydney									
Estimate of total number of households:									
2011-12	55,370	285,641	342,438	328,888	266,608	183,173	114,986	45,831	1,622,934
2021-22 - 240,000 NOM	59,586	331,504	398,087	365,511	312,551	247,514	159,079	57,475	1,931,308
2021-22 - Nil NOM	45,776	244,529	342,360	341,110	301,296	242,152	157,670	57,609	1,732,501
Estimated growth/decline 2011-12 to 2021-22 under:									
240,000 NOM	4,216	45,863	55,649	36,623	45,943	64,342	44,094	11,644	308,374
Nil NOM	-9,595	-41,112	-78	12,222	34,688	58,979	42,684	11,778	109,567
Household growth due to migration	13,811	86,975	55,727	24,400	11,255	5,362	1,410	-134	198,807

* Other factors held constant: Medium Fertility (1.8), Medium Life Expectancy at birth, Medium flows net interstate migration

Source: See Tables 1, 2 and 3.

Figure 1: Age distribution of Australia's resident population and NOM in 2013-14



Source: Chart 1.4, Age distribution of Australia's population and migrants, 2015 Intergenerational Report, Australia in 2055, Commonwealth of Australia, March 2015

The importance of population ageing in the need for additional housing in Sydney and Melbourne

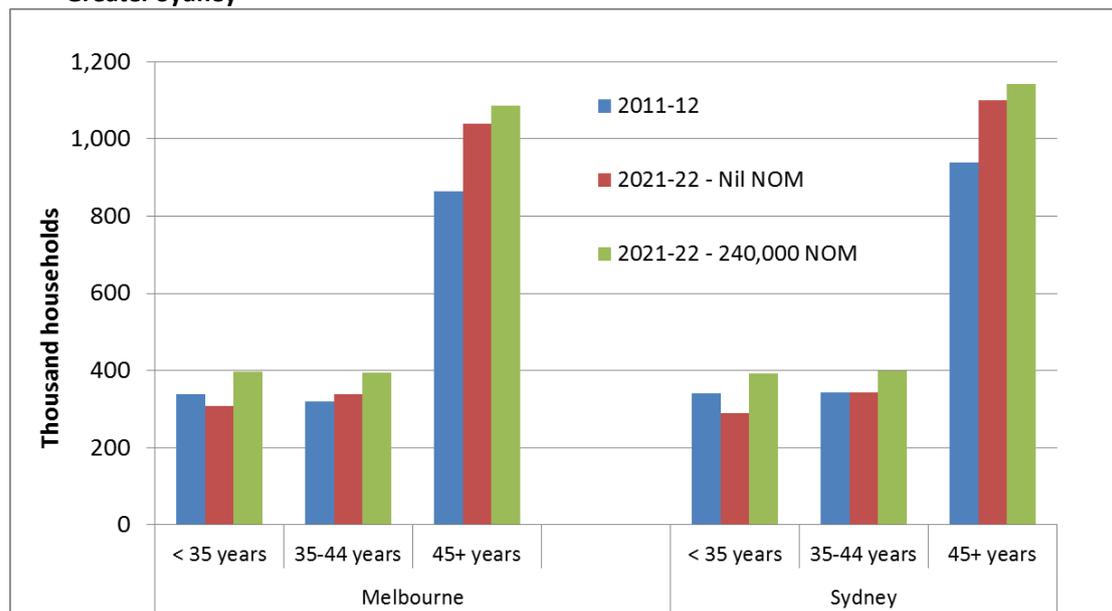
The dominance of migrants in household growth in both cities does not mean that in the absence of NOM there would be no additional need for dwellings. There will be. Moreover, it will be big and it will be entirely due to the ageing of the resident population.

Table 3 shows that 109,000 of the total increase of 308,000 households in Sydney over the decade to 2022 derives from natural increase, as will 161,000 of the total increase of 355,000 households in Melbourne. As can be seen from the nil NOM projected growth line in Table 3, all of the increase in household numbers in both cities will occur in the older household cohorts. It can be calculated from the table that households aged 45 plus will be occupying in excess of 150,000 more dwellings in both cities by the end of the decade to 2022 than was the case in 2012.

The ageing effect is most notable for the 65-74 year cohort which swells by more than 55,000 households under Nil NOM in both cities. This cohort in 2022 includes most of the baby boomer generation, conventionally tagged as those born in the 1950s and early 1960s. They will be replacing the very much smaller cohort aged 65-74 in 2012 whose members were born in the 1940s. However, the effect also applies to the cohort born in the 1930s. Their numbers were greater than those born in the 1920s. Likewise the number of births in Australia during the period 1965 to 1975 was greater than in the 1950s and early 1960s. As a result, the ageing effect adds to the number of households in the 45-54 and 55-64 year old cohorts by 2022 as well. Each of these cohorts will replace smaller cohorts over the decade to 2022 and so be occupying more dwellings than was the case in 2012.

The enormous scale of the ageing effect is shown graphically in Figure 2 for Sydney and Melbourne. The figure shows that most of the effect of migration in increasing the number of households between 2012 and 2022 occurs in the household cohort aged less than 35 year old and the 35-44 year old household cohort. This is not the case for the 45+ year old cohort of households. Their numbers increase sharply, largely driven by the increase in the number of older resident households (the ageing effect).

Figure 2: Number of households 2012 and projected number of households in 2022 under nil Net Overseas Migration (NOM) and 240,000 NOM, by age cohort of reference person, Greater Melbourne and Greater Sydney



Source: Table 3

Is this ageing effect a problem? It certainly is. This is because unless a large number of older households downsize, they will be occupying much of the existing stock of detached houses in the inner and middle suburbs of Sydney and Melbourne, as is currently already the case (see Table 10). They will be doing so at the same time as there will strong demand for such dwellings from the extra migrant households projected in Table 3, as well as from the younger resident households.

The significance of younger resident households in the housing market requires some elaboration. One might think that because the number of resident households in the combined 25-34 and 35-44 year old age groups will not show a net increase during the decade (Table 3), they will not add demand pressure to the housing markets of Sydney and Melbourne. In fact, they will because a large number of the households in these age groups will be newly formed households and will be looking for accommodation for the first time. Others will switch from an apartment or unit to a detached house, thus adding to the need for such dwellings.

Younger resident households and the need for detached housing

Table 3 shows that there will be a large number of households in Sydney and Melbourne by 2022 in the 25-34 and 35-44 year old age groups. Under 240,000 NOM, there will be 398,057 in Sydney and 394,001 in Melbourne in the 35-44 year old age group alone. Migration during the decade, as we have seen, will be a significant contributor to this number.

When young people create a household they typically start in a flat or apartment. When they begin a family, usually when the female partner is in her late twenties or early thirties, most switch to a detached house. They do so because raising children requires more indoor space than apartments usually offer, as well as some protected external space.

This point is documented in Table 4 which shows that most women with children in Sydney and Melbourne live in a detached house. This is the case for 72 per cent of all women aged 30-34 who have one child and 86 per cent of those who have two or more children who were living in Melbourne as of 2011. This transition is not as marked in Sydney where only 48 per cent of women aged 30-34 with one child live in a detached house. However, by the time women with children living in Sydney reach the age of 35-39, the share of those in Sydney with a child who live in a detached house increases to 53 per cent and those with two or more children rises to 78 per cent.

Nevertheless, 30 per cent of women aged 35-39 with one child and ten per cent of those with two or more children who were living in Sydney, were occupying a flat, unit or apartment. For Melbourne, the comparable figures were 11 per cent and four per cent respectively.

But it is important to note (in the context of the apartment market to be discussed later) that the Sydney women in couple families with children who occupied flats or apartments in 2011 rarely did so in high-rise apartment blocks. This is indicated in Table 5. For this table we were unable to cross classify data by family type, age group and detailed dwelling type because it was not available from the Census. However, Table 5 shows that only a little more than one sixth of the 22 per cent of Sydney women (of all ages) from couple families with children who lived in a dwelling other than a separate house were living in an apartment in a four storeys or higher block. In Melbourne, just one fifteenth of the 12 per cent who were not living in a separate house were occupying such an apartment in 2011.

Table 4: Dwelling type for women aged 30-34 and 35-39 living in private occupied dwellings by number of children, Greater Sydney, Greater Melbourne, and rest of Australia, 2011

Age of women (other than visitors)	Number of children ever born	Separate house %	Semi-detached, row or terrace house, town house %	Flat, unit or apartment %	Total %	Count N
Sydney						
30 to 34 years	None	37	13	50	100	62,600
	One	48	16	36	100	38,100
	Two or more	72	13	15	100	52,000
35 to 39 years	None	40	18	42	100	36,500
	One	53	17	30	100	30,900
	Two or more	78	12	10	100	88,100
Melbourne						
30 to 34 years	None	55	17	28	100	59,400
	One	72	14	14	100	29,800
	Two or more	86	8	6	100	42,600
35 to 39 years	None	56	16	28	100	34,100
	One	77	12	11	100	25,300
	Two or more	88	8	4	100	78,400
Rest of Australia						
30 to 34 years	None	70	11	19	100	116,300
	One	83	9	8	100	75,400
	Two or more	92	4	4	100	170,300
35 to 39 years	None	75	11	14	100	73,400
	One	79	12	9	100	63,600
	Two or more	94	4	3	100	281,400

Notes: Excludes women who were overseas visitors or visitors from elsewhere in Australia and private occupied dwellings where the structure was classified as other or not stated.

Source: ABS, Census 2011, one per cent sample file

Table 5: Couple families with children households in Greater Sydney and Greater Melbourne by dwelling structure, 2011

Dwelling structure	Sydney No.	Melbourne No.	Sydney %	Melbourne %
Separate house	431,751	442,149	77.6	88.1
1 storey semi-detached	21,271	19,666	3.8	3.9
2 or more storey semi-detached	36,518	16,425	6.6	3.3
1 or 2 storey flat/apartment	16,255	15,819	2.9	3.2
3 storey flat/apartment	25,422	2,648	4.6	0.5
4 or more storey flat/apartment	23,436	3,932	4.2	0.8
Other*	2,059	1,075	0.4	0.2
Total	556,696	501,709	100.0	100.0

*Other includes flat/apartment attached to house or shop, other dwelling and not stated structure.

Source: 2011 Extended Community Profile, Table 25

Figures 3 and 4 illustrate the point about the extent of the transition to detached housing among younger households. The figures show the scale of the step-up in the share of households in each city that occupy a separate house as of 2011 with each older cohort. The main factor prompting this movement is undoubtedly the needs of households when they begin raising a family.

This share starts from a lower base in Sydney than for Melbourne for the 25-29 year old cohort. However, as noted, in both cities the share living in separate houses increases strongly with each

older cohort. In Melbourne, as of 2011, 72 per cent of all the households in this 35-39 cohort were living in a separate house as were 80 per cent of those in the 40-44 year old cohort. In Sydney it is only with the 45-49 year old cohort that this share reaches 70 per cent. The lower share in Sydney reflects the more limited availability of detached houses in Sydney relative to Melbourne. This, of course, is one of the reasons why detached house prices are higher in Sydney than Melbourne.

Figures 3 and 4 show that there is a slight increase in the share of flats and apartments occupied by the 75-79 and older age households. However, the number of these households who move from separate houses to flats and apartments will have to show a dramatic increase in the rate of switch for these households to have any significant effect on detached housing stock availability over the decade to 2022. So far, there is no indication any such increase is occurring.

Figure 3: Dwelling structure of households by age group of reference person (%), Greater Sydney, 2011

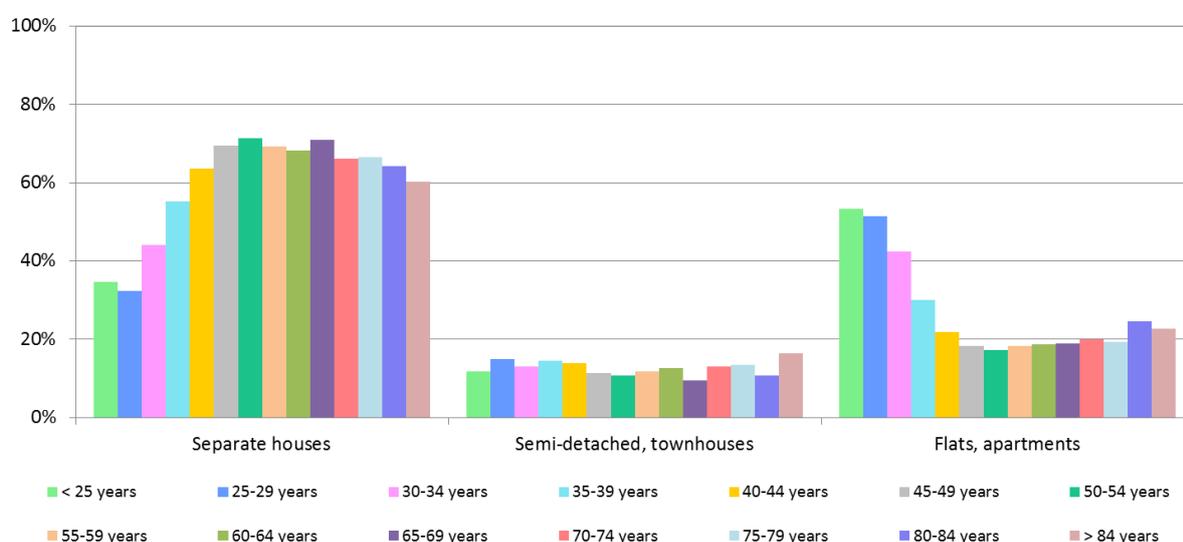
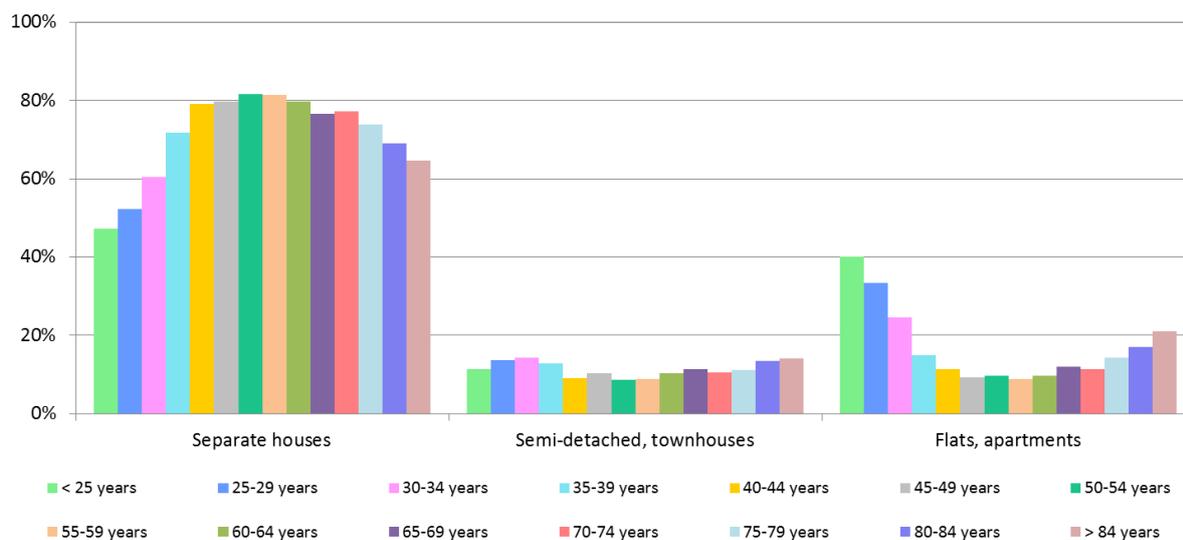


Figure 4: Dwelling structure of households by age group of reference person (%), Greater Melbourne, 2011



Source for Figures 3 and 4: ABS, Census 2001, one per cent sample file

We now turn to providing estimates of the number and type of dwellings needed in Sydney and Melbourne, given the household projections detailed above. Later these dwelling projections are compared with the pattern of dwelling supply in both cities.

Dwelling need projections

The dwelling need projections in Table 7 have been calculated by applying the actual rate of dwelling occupancy for each household cohort by age group as of 2011 to the household projections detailed in Table 3. The projections indicate how many extra dwellings by dwelling type will be needed by household age group if these occupancy propensities remain the same.

The word, 'need' is used advisedly. In this context it does not refer to what households themselves may prefer, but rather the dwelling type that they actually occupied as of 2011. This occupancy pattern is the best guide we have as to the dwelling type that households in the same age group and family type will occupy by 2022.

If there was a cultural revolution in favour of apartment living the outcome would be different. It is also possible, indeed quite likely given the subsequent analysis, that some households may not be able to replicate the dwelling choices of their counterparts as of 2011.

In one respect, however, we have modified the dwelling projections to reflect recent evidence showing that one group of households is unlikely to replicate the dwelling outcomes of residents as of 2011. The group in question is recently arrived migrants.

The record of dwelling occupation of recently arrived migrants implies that it would be unwise to assume that those arriving over the decade to 2022 would achieve the same dwelling outcomes as occurred for all residents in Sydney and Melbourne as of 2011. To do so would almost certainly overstate the effective demand or 'need' for detached housing and understate that for apartments.

The distribution of these households by dwelling type was accordingly re-weighted to reflect the relatively low rate of occupancy of separate houses by this group. This exercise was difficult because the housing patterns of recently arrive migrants is highly diverse — most disperse to live with a resident whether Australian-born or former migrant. Only a minority of the recent migrants live in migrant only households.

Table 6 shows the accommodation outcomes for persons by time of arrival in Australia, along with a comparison for all Australian-born persons. In the case of the migrants they could be in all migrant households or partners with Australian-born persons. Only 30 per cent of the migrants who arrived in Australia between 2006 and 2011 were living a separate house, compared with 71 per cent of the Australian-born persons living in Sydney as of 2011. In Melbourne the comparable shares were 52 per cent for migrants arriving 2006-2011 and 79 per cent of other households.

Table 6 also shows that a slightly higher proportion of the households who arrived between 2006 and 2011 were composed of migrants-only lived in detached houses in Sydney and Melbourne than was the case for all households with a migrant present.

By the time the migrant arrivals had extended their length of stay to between six and ten years (those arriving 2001 to 2005) the share living in separate houses had increased, though it had not yet reached the level of Australian-born persons. The outcomes for Sydney, by comparison with Melbourne and the Rest of Australia, are striking. Just 44 per cent of these migrant-only households

who arrived over the years 2001 to 2005 were living in a separate house in Sydney, compared with 65 per cent in Melbourne and 75 per cent for those living elsewhere in Australia.

Table 6: Dwelling type of residences of Australia-born persons and persons who arrived in Australia before 2001, 2001-2005 and 2006-2011, Greater Sydney, Greater Melbourne and rest of Australia, 2011, percentages

Region	Dwelling structure	Australia-born persons	Persons who		
			Arrived before 2001	Arrived 2001-2005	Arrived 2006-2011
Sydney	Separate house	71	67	44	30
	Semi-detached, row or terrace house, town house	11	13	15	14
	Flat, unit or apartment	15	19	40	54
	Other including not stated*	3	1	1	2
	Total	100	100	100	100
	Number	2,870,500	947,400	183,600	304,300
Melbourne	Separate house	79	79	65	52
	Semi-detached, row or terrace house, town house	9	9	14	13
	Flat, unit or apartment	9	10	20	32
	Other including not stated*	3	2	1	3
	Total	100	100	100	100
	Number	2,713,800	760,800	134,200	275,200
Rest of Australia	Separate house	83	81	75	63
	Semi-detached, row or terrace house, town house	6	8	11	11
	Flat, unit or apartment	6	6	10	21
	Other including not stated*	6	5	3	5
	Total	100	100	100	100
	Number	10,511,900	1,553,600	253,000	595,800

* The sum of the type of dwelling structures may not add to 100% because of rounding.

Source: ABS, Census 2011, one per cent sample file

The results of applying the dwelling occupation patterns as of 2011 by household type and age group to the household projections over the decade between 2012 and 2022 are shown in Table 7.

In order to reflect the different outcomes for residents and migrants shown in Table 6, we have weighted the projections for residents and migrants differently. We have also adjusted the migrant need over the ten year period to 2022 according to the different dwelling occupancy outcomes that occurred as recent migrants extended their residence in Australia in the period to 2001. The propensities to calculate the projections for the resident group (which includes the longer term migrants) are based on the occupancy pattern as of 2011 but with the recent migrants removed.

The effect of these adjustments is substantial. The need resulting from natural increase/decrease in the resident population and from migration during the decade 2012-22 are provided separately so that the contribution from both streams can be appreciated. It can be seen in Table 7 in the first two panels (nil NOM and the migrant component when NOM is increased to 240,000 NOM). These panels show that for new migrants there are far fewer separate houses and far more semi-detached and apartments needed, especially in Sydney for the 25-34 and 35-44 year migrant household cohorts by comparison with the same age resident cohorts.

Table 7: Estimate of additional dwelling needs under NIL NOM, 240,000 NOM and total, 2012-2022, Greater Sydney and Greater Melbourne

Age band (years)	Sydney				Melbourne			
	Separate house	Semi-detached, row or terrace house, town house	Flat, unit or apartment	Total	Separate house	Semi-detached, row or terrace house, town house	Flat, unit or apartment	Total
Additional dwellings 2012-2022 projected under Nil NOM								
18-24	-4,120	-1,320	-4,160	-9,600	-6,350	-1,240	-3,430	-11,150
25-34	-19,270	-6,000	-15,570	-41,100	-12,420	-2,900	-4,920	-20,350
35-44	-50	-10	-20	-80	13,490	1,750	1,930	17,250
45-54	8,780	1,340	2,020	12,220	20,090	2,290	2,200	24,690
55-64	24,080	4,190	6,160	34,690	33,770	4,020	3,800	41,810
65-74	40,840	6,510	11,230	58,980	43,090	6,110	6,440	55,860
75+	35,170	7,170	11,800	54,460	37,710	6,860	9,120	53,880
Total	85,430	11,880	11,460	109,570	129,380	16,890	15,140	161,990
Additional dwellings 2012-2022 projected due to increasing the NOM to 240,000 – migration component								
18-24	2,670	1,320	9,770	13,820	4,320	2,250	8,130	15,160
25-34	15,380	10,330	60,270	86,970	33,720	9,940	31,500	75,600
35-44	19,680	9,930	25,610	55,730	32,360	9,230	14,090	55,870
45-54	11,650	3,360	9,390	24,400	18,170	3,580	4,450	26,400
55-64	5,020	1,680	4,550	11,250	8,890	630	2,580	12,100
65-74	1,830	1,450	2,080	5,360	3,180	990	1,780	5,950
75+	410	170	700	1,280	1,330	220	510	2,060
Total	56,640	28,240	112,370	198,810	101,970	26,840	63,040	193,140
Total additional dwellings 2012-2022								
18-24	-1,450	-10	5,610	4,210	-2,030	1,010	4,690	4,000
25-34	-3,900	4,330	44,700	45,860	21,300	7,030	26,580	55,240
35-44	19,630	9,920	25,590	55,650	45,840	10,980	16,020	73,110
45-54	20,430	4,700	11,410	36,620	38,260	5,860	6,650	51,080
55-64	29,100	5,880	10,710	45,950	42,660	4,650	6,380	53,910
65-74	42,670	7,960	13,310	64,340	46,270	7,100	8,220	61,810
75+	35,580	7,340	12,490	55,730	39,040	7,080	9,630	55,940
Total	142,060	40,120	123,820	308,360	231,340	43,710	78,170	355,090

Notes: The totals by age group in each panel have been drawn from Table 3 and have been rounded. Totals include a small number of other and not stated dwelling types not shown separately. The age group for each household is that of the reference person in each household. The propensities used to calculate the data in the table were drawn from the 2011 Census. The migrant status was determined by the birthplace and year of arrival information for Persons 1 and 2 in each household and weighted to take account of mixed households where a recent migrant lived with a pre-2001 migrant or Australia-born person.

Source: Tables 1, 2, 3 and propensities calculated from the ABS Census 2011

Implications of the dwelling need projections

The dwelling projections provide an accurate guide to the extra number of detached houses, semi-detached dwellings and flats and apartments needed in Sydney and Melbourne over the decade to 2022, should the dwelling type occupancy patterns of 2011 be repeated. The projections incorporate deaths and internal migration. They also take account of householders who move into non-private accommodation, as with older persons moving into hostels providing care (assuming that this movement will occur at the same rate as in 2011). There will, of course, be many transfers to and

from separate houses to flats and other types of dwellings over the decade. These, too, are reflected in the projections.

For example, Table 7 indicates that, based on the 2011 occupancy patterns, the 65-74 year old cohort in Melbourne of resident households (see the Nil NOM panel) will occupy an additional 43,090 separate houses, 6,110 semi-detached dwellings and 6,440 flats and units in 2022 as compared with 2012. This is entirely due to the ageing effect, as this cohort replaces a much smaller cohort born in the 1940s. There will be another 5,950 dwellings needed for this cohort due to the migrant effect (see the 240,000 NOM panel).

The extra number of separate houses occupied by these older cohorts will be greater in Melbourne than in Sydney because the projections assume that the higher occupancy rates for separate houses in Melbourne as of 2011, by comparison with Sydney, will continue over the decade to 2022.

Both cities will need a major building program if the total need for additional dwellings is to be satisfied. About half the additional dwellings needed in Sydney and 65 per cent of those in Melbourne will be separate houses. The source of this need derives primarily from the ageing effect, but also from the need to accommodate additional migrants. On the other hand, most of the projected growth in need for other dwellings, especially in Sydney, will derive from migration, should NOM continue at 240,000 a year.

The ageing effect on dwelling occupancy, shown in the Nil NOM panel, is stunning. Table 7 shows that households aged 45-54 years or older will occupy an additional 100,000 separate houses in Sydney by 2022 as compared with 2012 and an additional 135,000 in Melbourne. There will be relatively few additional semi-detached and other dwellings occupied in both cities as a consequence of ageing. This is because the projections assume that these older households will repeat the occupancy rates of 2011. As shown in Figures 2 and 3, the great majority of these households occupied separate houses in 2011.

NOM at 240,000 will also add significantly to the need for additional dwellings. However, as the 240,000 NOM panel of Table 7 shows, most of this need will be focussed in the 25-34 and 35-44 year old age groups. Since many of these migrant households will have already begun, or will begin raising a family during the decade to 2022, they too will generate the need an additional 57,000 separate houses in Sydney and 100,000 in Melbourne. Nevertheless, they will need even more 'other' dwellings, especially in Sydney. This reflects the assumption in Table 7 that the capacity of migrants to afford separate houses will continue at the very low level evident for recent arrivals in Sydney as of 2011.

Overall, Sydney will require an additional 308,000 dwellings over the decade to 2022 and Melbourne another 355,000. As noted, near half of this will be for detached houses in Sydney and 65 per cent for Melbourne, if current dwelling patterns are to be replicated during the decade.

Is this a problem?

It depends on whether the housing industry is building on the scale and in the mix between detached and other houses sufficient to provide for these needs. We provide some indicative data on this outlook in Table 8.

Table 8 shows the pattern of building approvals by dwelling type for Sydney and Melbourne. The table is limited to detached houses and other dwellings because that is the classification level provided in the published ABS building approvals releases.

Table 8: Dwelling Approvals for new houses and other dwellings,* Sydney and Melbourne 2007-08 to 2014-15

	Sydney			Melbourne		
	Houses	Other dwellings	Total	Houses	Other dwellings	Total
2007-08	6,955	11,841	18,796	22,569	10,333	32,902
2008-09	6,238	8,132	14,370	21,962	10,486	32,448
2009-10	8,596	11,793	20,389	27,492	16,723	44,215
2010-11	8,614	14,952	23,566	25,203	24,011	49,214
2011-12	8,793	16,474	25,267	20,098	19,772	39,870
2012-13	10,123	20,356	30,479	18,229	20,471	38,700
2013-14	12,161	26,953	39,114	20,710	23,878	44,587
2014-15	14,907	28,261	43,168	23,132	33,059	56,191

Source: ABS, Building Approvals, Australia, Jun 2015, cat. no. 8731.0, Table 10: Number of Dwelling Units Approved, By Greater Capital City Statistical Area – Original

* Other dwellings include semi-detached, row and terrace houses, townhouses, flats, units and apartments

In order to examine whether the number and mix of building approvals are consistent with the projected number of additional dwellings needed by 2022, the annual average of approvals in both cities over the five years 2010-11 to 2014-15 has been projected forward to 2022. The resulting number of approvals for detached houses and other dwellings is then compared with the projected dwelling needs shown in Table 7. The results of this comparison are shown in Table 9. As pointed out below, if the stock of high-rise apartments becomes excessive, it is likely that the current rate of approvals for such dwellings will drop.

Table 9: Comparison of projected needs for new dwellings to 2022 under NOM 240,000 and recent building approval numbers, Greater Sydney and Greater Melbourne

	Greater Sydney			Greater Melbourne		
	Houses	Other	Total	Houses	Other	Total
Projected need 2012-2022						
A Additional dwellings needed over decade to 2022 (240,000 NOM)	142,060	166,300	308,360	231,340	123,750	355,090
Recent supply pattern						
B Average annual approval numbers over five years 2010-11 to 2014-15	10,920	21,399	32,319	21,474	24,238	45,712
C Dwellings already approved over the three years 2012-13 to 2014-2015	37,191	75,570	112,760	62,071	77,407	139,478
Remaining seven year projected need (2015-16 to 2021-22)						
D Outstanding approvals needed for remaining seven years to 2022 to meet projected needs (A minus C)	104,869	90,730	195,600	169,269	46,343	215,612
E Average annual approvals required over the next seven years (D divided by 7)	14,981	12,961	27,943	24,181	6,620	30,802
Disparity between supply and projected demand						
F Difference between average approval numbers for the five years to 2014-15 and annual number required over next seven years (B minus E)	-4,062	8,438	4,376	-2,707	17,618	14,911
G Expected surplus/deficit by housing type in 2022 if approvals continue at last five year average rate (negative indicates undersupply) (F multiplied by 7)	-28,432	59,064	30,630	-18,948	123,323	104,375

Source: Tables 7 and 8

The comparison shows that if building approval numbers continue at the average level of the five years to 2014-15, there will be too few detached houses built in both Melbourne and Sydney and far too many other dwellings. As is detailed later, most of this surplus in other dwellings is attributable to high rise apartments. We return to the apartment situation after first exploring the implications of these findings for the detached housing markets in Sydney and Melbourne.

Consequences for the detached housing markets in Sydney and Melbourne

As indicated in Table 7, about 60 per cent (or 85,430) and 56 per cent (or 129,380) of the need for additional separate houses in Sydney and Melbourne respectively will be from growth in the number of resident households (shown in the Nil NOM panel). It is not that the older households will be out in the marketplace looking for another dwelling. For the most part they will be ageing in place. They will continue to occupy a large part (detailed below in Table 10) of the available stock of all the detached houses in the inner and middle suburbs.

In addition, another 56,640 migrant households in Sydney and 101,970 in Melbourne will need separate houses (shown in the migrant column of Table 7).

These two sources add up to a total additional need for 142,060 separate houses in Sydney and 231,340 in Melbourne over the decade to 2022. All of these will have to come from new construction.

At first glance this might imply that Sydney does not face a severe problem, since the shortfall in separate houses by 2022 will be 'only' 28,400 (Table 9). But Sydney has a chronic record of low numbers of building approvals for detached dwellings – just 10,920 annually on average between 2010-11 and 2014-15. As a result it will require a major change to the policies that produced this low output if this shortfall is to be overcome.

By comparison the average over the same period in Melbourne was 21,474. Since the shortfall projected in Table 9 for separate houses is 19,000, or about one year's supply, the situation may seem more reassuring. This is especially the case given that in Melbourne there is a huge amount of land zoned for residential subdivision on the fringe.

But in reality, the outlook is grim in both cities. The problem is that competition for detached housing in the inner and middle suburbs of both cities is likely to intensify.

Many of the newly formed young resident households, as well as the existing young households looking to switch away from an apartment or unit, will be seeking a detached house in these suburbs. They provide access to inner city amenities, good jobs and relatively high performing schools. When conducting this search they will be competing with similarly motivated recently arrived migrant households as well as resident upgraders and local and overseas investors. All will be competing for detached dwellings in a context where some 50 to 60 per cent of the stock in these suburbs (as of 2011) is held by older households. This is shown in Table 10.

As a consequence of this competition, these markets have been red hot. Prices for detached houses have reached levels few younger resident or migrant households can afford. If the significant numbers of these older households were to downshift to apartments or units this would help. Another possibility, favoured by politicians, the housing industry and advocates of inner city living is the promotion of urban consolidation. We return to the consolidation option after exploring the possibilities of downshifting.

Table 10: Percentage of occupied private separate houses occupied by households where the reference person is aged 50 or older, Greater Melbourne and Greater Sydney, 2011

Region	Total separate Houses	Per cent with reference person aged 50 years or older
Melbourne – Inner	63,800	50
Melbourne - Inner East	86,400	60
Melbourne - Inner South	88,000	57
Melbourne - North East	127,000	49
Melbourne - North West	90,900	50
Melbourne - Outer East	144,200	52
Melbourne - South East	179,400	50
Melbourne – West	174,000	42
Mornington Peninsula	86,200	54
Greater Melbourne	1,039,900	51
Sydney - Baulkham Hills and Hawkesbury, Sydney – Ryde	90,200	54
Sydney - City and Inner South	18,300	51
Sydney - Eastern Suburbs	24,200	59
Sydney - Inner South West	101,700	58
Sydney - Inner West	41,100	61
Sydney - North Sydney and Hornsby, Sydney - Northern Beaches	124,200	58
Sydney - Outer South West, Sydney – Sutherland	113,700	52
Sydney - Outer West and Blue Mountains	83,400	49
Sydney – Parramatta	74,500	54
Sydney - South West	79,600	50
Sydney Blacktown	77,600	44
Central Coast	92,400	54
Greater Sydney	920,900	54

Source: ABS, Census 2011 one per cent sample file

Downshifting and supply of detached houses

The prospects for downshifting are poor. Older households show no sign of any net movement from their detached houses. If they were we would expect that the proportion of these older cohorts living in detached houses would decrease with each older age group. As Table 11 shows this is not the case. For Sydney the proportion of households in the age group 45-54 living in a detached house in 2011 was 70 per cent. It was still 69 per cent for those aged 65-74. The story is similar in Melbourne. Some 81 per cent of households in the 45-54 year old cohort were living in a detached house by 2011 as were 81 per cent of those aged 55-64. There is a slight fall for the cohort aged 65-74, but only to 77 per cent.

There is a mountain of evidence indicating that most of these persons aged 55 or older prefer to age in place and, to the extent that they do move, it will not be to apartments in the inner city or inner suburbs.⁷ The Coalition government added a potent financial incentive to avoid downsizing in its 2015 budget. From 2017 the rate at which the pension reduces for assets above the asset test threshold will increase from \$1.50 a fortnight to \$3 dollars a fortnight.

Households downsizing and thus having to report increased assets, as with bank deposits that have been augmented by the difference between the price of the family detached home and the

downsized unit or apartment, will find their pension payment reduced significantly. In any case, as the discussion of the price of town houses or units built in the inner and middle suburbs below highlights, their cost has increased sharply. This has added another disincentive for older households to downshift if they want to stay in the neighbourhood they are familiar with.

Table 11: Dwelling occupancy for households by age of reference person, Greater Sydney and Greater Melbourne, 2001 (%)

Age of reference person	Per cent of households who live in				Total	Number of households
	Separate house	Semi-detached, row or terrace house, town house	Flat, unit or apartment	Other dwelling & not stated		
Greater Sydney						
15-24	35	12	53	0	100	47,900
25-34	39	14	46	1	100	259,800
35-44	59	14	26	1	100	336,700
45-54	70	11	18	1	100	313,700
55-64	69	12	18	1	100	252,200
65-74	69	11	19	1	100	164,200
75-84	65	12	22	1	100	110,000
85+	60	16	23	1	100	39,700
Total	60	13	26	1	100	1,524,200
Greater Melbourne						
15-24	47	11	40	1	100	57,600
25-34	57	14	29	1	100	247,200
35-44	76	11	13	0	100	294,300
45-54	81	10	9	0	100	299,700
55-64	81	10	9	1	100	232,800
65-74	77	11	12	0	100	152,600
75-84	72	12	16	0	100	108,800
85+	65	14	21	0	100	39,400
Total	73	11	16	1	100	1,432,400

Source: ABS, Census 2011, one per cent sample file

The consolidation option

Our scepticism about the potential of urban consolidation to provide detached housing, or town houses or units suitable for households raising a family is spelled out in an earlier report.⁸ This case will be updated in the report to follow this one.

Here is summary of the argument. It is true that the number of sites available for multi-dwelling and apartment blocks in the inner and middle suburbs of Sydney and Melbourne is limited by restrictive zoning rules. But even where these sites exist, the costs of the sites and of constructing medium-to-high density apartments (five storeys or more) are such that developers cannot build apartments suitable for child-raising families at an affordable price. An 80 square metre apartment in a five-storey block costs \$7,000-\$8,000 dollars per square metre (including site costs) to put on to the market. This means a price of at least \$600,000. Few young households can afford this price. As a result, hardly any family friendly apartments are being built in either Sydney or Melbourne.

A similar situation has arisen where developers, investors or owners contemplate putting two new dwellings on a site occupied by a detached house or adding a unit to the site (as with a dual occupancy). Except for the minority of detached houses in the inner and middle suburbs of Melbourne and Sydney with heritage overlays, such development is usually permitted. Dwellings of

150 to 200 squares, big enough to raise a family, can be built. But if the site cost is a million dollars or more, as is usually the case in the inner and middle suburbs, such dwellings cannot be put onto the market for much less than a million dollars. This limits the market for such dwellings, since the price is well beyond the resources of most young households.

There is a vicious circle in play here, if, as appears likely, site costs continue to increase given the likelihood that competition for separate houses in the inner suburbs will continue.

The outcome is that most households looking for an affordable family friendly dwelling have had to move to the outer suburbs or new estates on the fringe. They can still find detached housing in the outer suburbs of Melbourne, like Frankston and Hume for around \$400,000. They can also purchase a detached house for around \$300,000 on fringe estates if they are willing to accept a small 150 square metre house on a sub-400 square metre block.

Neither of these options is available in Sydney. There are only a tiny number of outer suburban areas in Sydney where it is possible to purchase a separate house for much less than \$600,000. Separate houses in new estates on the fringe cost at least \$500,000.

Apartments

The situation with apartments is completely different. Too many are being approved in both cities, rather than too few, as is the case for detached houses.

Table 8 does not provide a split between semi-detached dwellings, flats and apartments. However, the unpublished numbers the ABS provides for building approvals show that in the case of Sydney, the great majority of other dwellings being approved in recent years are for apartments of four or more storeys.⁹ Though there are heavy concentrations in central Sydney, there is also a significant dispersal, including to the outer areas of Parramatta, Auburn, Botany Bay and Ryde. The apartments approved in these latter locations tend to be medium density four to five storey blocks, whereas those in Sydney's inner city area are predominantly high-rise projects of ten storeys or more.

In Melbourne, apartments of four storeys or more make up just under half of all the other dwellings. Unlike Sydney, however, high-rise apartment projects dominate apartment approvals. The great majority of these are located in inner Melbourne.

The projections reported in Table 7 indicate that the need for additional apartments in Melbourne will be relatively small (just 78,170) by comparison with Sydney, where an extra 123,800 will be needed. Yet the number of approvals for apartments in Melbourne currently greatly exceeds that of Sydney.

The problem is not with approvals for low-rise units or flats, especially those being built in the outer suburbs where site costs are relatively low. There is a ready and probably growing market for such dwellings given the numbers of households being forced to look in these suburbs for affordable family friendly housing.

Rather, the issue is the number of approvals for high-rise apartments, which appear to vastly exceed needs, as defined in this report.

If there are too many apartments being built why do developers continue to seek planning approval for ever more? The answer is that it will take several years before the huge boost to apartment approvals over the last few years will be completed. In effect, the impending surplus is being hidden.

When developers sell off-the-plan apartments after gaining planning approval they are selling to local and overseas investors and not to prospective owner occupiers or leasing to renters.

Table 12 provides an insight into the impending huge scale of apartment construction in Inner Melbourne over the next few years. Most of these apartments will be in the form of high-rise blocks.

Table 12: Dwellings under construction or scheduled for construction in Inner Melbourne and the City of Melbourne

	Under construction	Construction 0-2 years	Construction 3-5 years
City of Melbourne	13,357	18,008	23,054
Inner Melbourne*	21,506	34,107	34,627
City of Melbourne share (%)	62.1	52.8	66.6

* Inner Melbourne includes the City of Melbourne as well as the LGAs of Maribyrnong, Port Phillip, Stonnington and Yarra.

Source: Department of Transport, Planning and Local Infrastructure, Urban Development Program, 2014

As a consequence the apartment market in Melbourne promises to be a buyers' paradise. First, when young resident households enter the apartment market, they will find most of the stock of these dwellings occupied by 25-34 and 35-44 year old households. Large numbers of these latter households will vacate their dwelling during the decade when they switch to a more family friendly dwelling. The main competition will be from newly arrived migrants. As Table 7 shows, almost all of the growth in need for apartments in both Sydney and Melbourne will come from this source.

Second, apartment hunters will have the luxury of choosing from the huge number of additional apartments coming onto the market over the period to 2022. The result, as in indicated in Table 9, is that it seems inevitable that there will be a significant surplus other dwellings – mainly apartments - in both cities by the year 2022.

To make matters worse, from the point of view of competition for apartments, there is no possibility that the increased stock of high-rise apartments will provide an option for households intending to or already raising a family and who cannot afford an inner or middle suburban separate house.

These apartments are predominantly tiny 60 square metre or smaller dwellings with no access to protected outdoor space. They are totally unsuitable for raising a family. They are tiny because developers selling into overseas markets need to keep prices below \$600,000.¹⁰ There are a few larger two and three bedroom apartments being marketed. These are the ones featured regularly in advertisements for apartments that show panoramic views and luxury fittings in Sydney and Melbourne. They invariably cost at least \$600,000 in Melbourne and much more in Sydney.

These same characteristics also mean that relatively few of the stock of high-rise apartments are of a size that might attract downsizers.

This does not mean that thousands of high-rise apartments are destined to remain empty. There will be plenty of takers happy to rent a relatively cheap inner city apartment, especially if the cost of rental accommodation in the inner and middle suburbs continues to increase. The takers will include residents in transit and the massive number of migrants in Australia on temporary visas, including students, backpackers and tourists.

Implications of the findings

Young people are the main casualties of Sydney and Melbourne's crisis in the availability of affordable housing. What is new about this report is that it shows that these affordability issues will not pass in the night. They will not be corrected by restrictions on investor engagement in the detached housing markets or by repetitious calls from consolidators. The latest, from the new Treasurer, Scott Morrison, is that the housing price problem can be fixed by removing constraints over the planning, development and regulatory process.¹¹

This is because of the coincidence of a very large cohort of younger households aged 25-34 and 35-44 years (including newly arrived migrants), most of whom will be looking for family friendly housing at a time when there will be an enormous increase in the number of older households who are occupying this stock, especially in the inner and middle suburbs of Sydney and Melbourne.

Young people (including recently arrived migrants) will be forced to pursue their dream ever further towards the periphery of Sydney and Melbourne and perhaps beyond. Once there, an increasing share, particularly in Sydney, will have to make do with a semi-detached dwelling, rather than a detached house. The result will be an intensification of the effect already noted by housing commentators, that is, an increased gulf between those wealthy enough to enjoy the amenity of the inner and middle suburbs and the rest who have to cope with long distances from this amenity.

Things may not remain the same

The implication of these conclusions are that the core assumption underlying our analysis, that household formation and dwelling occupancy patterns will remain the same during the projection period, is doubtful. There will be adjustments; some potentially game changing for the two cities' housing markets. These adjustments will be explored in our next report. But here are a few of the possibilities.

It would be idle to believe that, once the next generation of aspiring home buyers realize that the crisis in affordability is not going away, that there will not be consequences. One is that some young people will delay leaving home and forming new households. Other households will delay having children or have fewer children.

Some may accept that they have no choice but to live in a unit or low-rise apartment block (as is evident in Sydney, see Table 4). Alternatively, there could be an increase in the numbers who move out of Sydney and Melbourne in a search of more affordable housing.

In the case of migrants, as documented earlier, the share of recently arrived migrants able to buy or rent detached housing is well below that of same age residents, especially in Sydney (Table 6). If affordability further diminishes, the share of migrants locating in Sydney and Melbourne could fall.

It is notable that NOM is already lower than the 240,000 assumed in our projections. In the year to December 2014, the ABS estimates that it fell to 184,100, compared with 216,000 in the year to December 2013. This is mainly a consequence of a decrease in the number of arrivals and an increase in the number of departures to and from the resource states of Western Australia and Queensland. The share of migrants moving to Sydney and Melbourne has actually increased recently. But, if work is hard to find and dwelling expenses increase, this will diminish the attractions of Sydney and Melbourne.

A further possibility is that the electorate will demand that the Commonwealth Government reduce the permanent entry migration program. Though few voters would be able to estimate the precise contribution NOM is having on the need for dwellings, they will know when this report is published. Some 40 per cent of the additional separate houses needed in Sydney and 44 per cent of those needed for Melbourne in the decade to 2022 will be attributable to NOM between 2012 and 2022 (Table 7).

On the other hand it is possible that if the demand for separate houses, and particularly that for apartments, flags, future governments may respond by increasing the migrant intake.

As shown in Table 7, the great majority of the need for additional apartments in the decade to 2022 in Sydney and Melbourne will be attributable to NOM. Harry Triguboff, the owner of the massive apartment developer, Meriton, likes to remind governments and the residential building industry that with the decline of resource investment, 'we have nothing left but building'.¹²

The property industry will lobby hard for more migrants. It will find a sympathetic audience amongst the Federal and State governments, the Reserve Bank and the 'big four' private banks. All are acutely aware that the revival of the residential construction industry has helped to provide a major boost to the economy at a time when the impetus from resource investment is waning sharply.

The downsides of this strategy for promoting growth in Australia will be explored in our subsequent report. It is not just that this strategy is condemning the next generation of young people to dwelling standards and locations inferior to those of their parents' generation. It is at best a temporary economic solution that depends on further escalation of Australia's already high level of debt. It is also inevitable, that when the surplus in apartments becomes evident, the building industry itself will contract.

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