Projections of Housing Demand in Australia, 2009-2039

Narrative Report

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Prepared for the National Housing Supply Council

BACKGROUND

This report provides a narrative description of results of the projection of future housing demand in the capital cities and balances of state for the eight States and Territories of Australia for the period, 2009-39. The baseline housing data for the projections is obtained from the 2006 Census of Population and Housing. The Estimated Resident Population data for 30 June 2009 form the baseline population data.

PROJECTION METHODOLOGY

The projections employ an innovative approach to projection of housing demand at the sub-national level. The methodology is detailed in McDonald, Kippen and Temple (2006). A short overview of the approach was provided in a previous report (McDonald and Temple 2008). That previous report also contains an analysis of changes in the household situation of Australians between the 1991, 1996, 2001 and 2006 Censuses of Australia. As there has been no further census, there are no new data available to update these trends. It is possible that the effects upon housing supply of the global financial crisis may have slowed the rate of formation of new households but this is not able to be investigated fully as yet.

HOUSING SUPPLY AND DEMAND

The projections provide the housing demand for occupied dwellings (by structure and tenure type) that would result from changing demographic and social trends (population size, births, deaths, international migration, internal migration, age structure changes and family and household formation and dissolution). These are all demand-side factors. The projections are not constrained by any supply-side factors such as availability of land, the number of vacant dwellings, construction of new dwellings and affordability. Our approach is to project housing demand on the basis of current and recent trends in demand inputs. These demand projections should then be assessed in supply terms, that is, the results from the projections of demand for housing can be compared with existing and planned supply of housing and assessments made of what corrections for demand-supply discrepancies need to be made. Where meeting demand would create supply difficulties, consideration would need to be given to how this demand is re-directed. Do the projected households maintain their dwelling preference but change their location or do they change their dwelling preference within the location. The fact that supply cannot meet housing preferences could also conceivably lead to the household not being formed at all.

THE 2009-2039 PROJECTIONS: ASSUMPTIONS

The projections cover three possible future scenarios that reflect different assumptions about future international migration. The three assumed levels of annual net overseas migration are labeled as Low (100,000), Medium (180,000) and High (250,000). The medium level, 180,000 per annum is the medium level assumed in the 2008 official projections of the Australian Bureau of Statistics and in the 2009 Intergenerational Report from the Department of the Treasury. It is also towards the middle of target policy ranges being considered by the Commonwealth Government. Assumptions are scaled to agree with the assumptions of the 2008 official ABS projections. The assumptions are set out in Table 1.

Table 1. Projection assumptions

Input	Assumption
Fertility	Age–specific fertility rates were assumed to be the same as those in the ABS Series B projections from the 2008 official projections of population.
Mortality	The mortality assumptions are also the same as the 2008 Series B projections of the ABS.
International Migration	Three assumptions are used that constitute the three scenarios: net migration equal to 100,000, 180,000 and 250,000 per annum.
Internal Migration	Assumed levels are taken from the 2008 ABS official projections of population.
Dwelling Type	The 2006 Census distributions of dwelling type by region, type of household and age of the reference person were assumed to remain constant throughout the projection period.
Tenure Type	The 2006 Census distributions of tenure type by region, dwelling type, type of household and age of the reference person were assumed to remain constant across the projection period.

The projection methodology requires an assumption about the State and Territory distribution of net overseas migration (NOM) to Australia. Compared to the previous (2010) report, this report assumes that higher percentages of NOM will go to Queensland and Western Australia. To compensate, lower percentages are assumed for New South Wales, South Australia, Tasmania and the Northern Territory. The new assumptions are based on trends evident from the latest ABS data and the high demand for labour in the resource-rich States.

Table 2 displays the state split shares for the migration scenarios used in the 2011 NHSC project. Table 3 displays the same splits, but used previously in the 2010 project. The sub-state splits remain consistent between the 2010 and 2011 project. That is, the way in which migration is split between capital city and balance of state has remained at the existing propensities.

Table 2: State Splits for Share of NOM, 2011 Project

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	
2009	30.47	26.34	19.97	5.57	15.28	0.67	0.61	1.08	100.00
2010	30.57	26.34	20.28	5.33	15.58	0.67	0.52	0.70	100.00
2011-end	30.76	26.34	20.26	5.18	15.57	0.67	0.52	0.70	100.00

Table 3: State Splits for Share of NOM, 2010 Project

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	
2008	31.1	26.5	18.9	7.2	14.4	0.7	0.7	0.5	100
2009	31.2	26.5	18.9	7	14.4	0.8	0.7	0.5	100
2010	31.3	26.5	19	6.7	14.5	0.8	0.6	0.6	100
2011-2056	31.5	26.5	19	6.5	14.5	0.8	0.6	0.6	100

The resulting levels of annual net migration for regions (international and internal) are shown in Table 4. The levels are assumed not to change across the period, 2011- 38. As the only varying parameter across the projections, the levels of annual net overseas migration are the central cause of variation in the results between the scenarios.

The Medium international migration scenario

Queensland gains from migration more than any other State or Territory. The Medium assumption shows net migration to Queensland as 64,000 compared with 41,400 for Victoria, 35,400 for New South Wales and 30,500 for Western Australia. Among the capital cities, the highest net migration in 2011 is for Melbourne at 33,800 followed by 25,200 for Perth, 25,200 for Brisbane and 19,100 for Sydney. However, net migration to Southeast Queensland not including Brisbane is 26,800 in 2011, higher than the migration to Brisbane. Thus, considering Southeast Queensland as a whole (South East Queensland includes the statistical divisions of Brisbane, Gold Coast, Sunshine Coast and West Moreton and Toowoomba Regional Council (Cambooya Shire - Pt A, Crow's Nest Shire - Pt A, Jondaryan Shire - Pt A, Rosalie Shire - Pt A, and Toowoomba City). the level of migration is by far the highest of any of the regions in the table at 51,900. In New South Wales, net migration to areas outside of Sydney (16,300) is only a little lower than the net migration to Sydney (19,100). In Queensland, migration to areas outside of Brisbane is much greater than migration to Brisbane. In contrast, in the other two major states, Victoria and Western Australia, net migration is heavily concentrated on the capital city.

The Low and High migration scenarios

The picture changes sharply when the other two scenarios are examined. With the Low international migration scenario (100,000 per annum), Sydney would experience an annual net loss of population through migration of around 4,500 people while net migration for the balance of New South Wales would fall only marginally. This indicates that Sydney's growth from migration is entirely determined by international migration

while the growth from migration for the rest of the state is determined by internal migration (very largely from Sydney). This story is largely repeated across other states; lower international migration has a large impact on net migration for the capital cities but only a marginal impact on net migration fore the balances of each state. An exception is Queensland where direct overseas migration occurs to the regions of Southeast Queensland outside of Brisbane so a fall in net overseas migration would affect this region moderately more that other areas in Australia outside the capitals.

The low migration story is repeated in reverse for the High international migration scenario. Under this scenario also, the areas outside of the capitals have much the same levels of annual net migration as under the Medium scenario but the net migration to the capital cities is much larger. Sydney's net annual migration more than doubles under the High assumption compared with the Medium assumption.

It must be emphasised that these scenarios do not consider the possible impacts on population movements of housing supply factors. If housing supply in some region is constrained or if prices rise relative to other regions, this may affect the net migration flows. It is generally considered that internal out-migration from Sydney is influenced by housing supply factors. Therefore, for example, the population boom in Southeast Queensland could slow relative to these scenarios if housing prices rise more than in other regions and/or housing supply is constrained.

PROJECTION RESULTS
Total households

Table 5 shows the ratio of the total number of households in 2024 compared with the number in 2009 and 2039 compared with 2024 for each region across the three scenarios.

Because the different assumptions about international migration do not have much impact on the growth on annual net migration for the balances of each state, the growth rates of households do not vary much across the scenarios in the balances of each state. For example, from 2009 to 2024, in the balance of New South Wales, the growth rates across the scenarios from Low to High range from 22% to 23% and in the balance of Victoria from 20% to 23%. The exception is the balance of Queensland outside Brisbane, especially in Southeast Queensland outside Brisbane where direct overseas migration does make a difference to growth rates under the different scenarios. In the balance of Queensland, the range of growth rates from 2009 to 2024 from Low to High is from 38% to 46%.

Table 4. Annual net migration, 2011-2038, by region (international and internal combined)

Region	Scenario	ANM
NSW capital city	Low	-4492
	Medium	19114
	High	39770
NSW balance of state	Low	15256
	Medium	16261
	High	17140
VIC capital city	Low	13914
	Medium	33845
	High	51285
VIC balance of state	Low	6427
	Medium	7568
	High	8567
QLD capital city	Low	15548
	Medium	25186
	High	33619
QLD balance of state	Low	32210
	Medium	38779
	High	44526
SA capital city	Low	432
	Medium	4217
	High	7530
SA balance of state	Low	1744
	Medium	2099
	High	2409
WA capital city	Low	13993
	Medium	25187
	High	34982
WA balance of state	Low	4074
	Medium	5333
	High	6435
TAS capital city	Low	392
	Medium	705
	High	980
TAS balance of state	Low	-219
	Medium	5
	High	202
NT	Low	23
	Medium	441
	High	807
ACT	Low	700
	Medium	1260
	High	1750
SE QLD	Low	38785
	Medium	51947
	High	63463

In contrast, in the four largest cities, the range of growth rates for households is strongly influenced by the three migration assumptions. From the Low assumption to the High assumption, the growth rates from 2009 to 2024 of total households in the four largest capitals range from 14% to 30% for Sydney, from 21% to 37% for Melbourne, from 29% to 44% for Brisbane and from 30% to 50% for Perth. Growth rates in the smaller cities (Adelaide, Hobart, and Canberra) are much lower and less affected by variation in the migration assumptions.

In the second 15-year period, the growth rates for households are lower than in the first 15-year period. This is a result of the lower population growth rates in the second period due to the higher number of deaths and the assumption of a constant level of annual net migration as distinct from a constant rate.

The growth rates for Australia as a whole are interesting because they indicate the impact on housing demand of the three levels of international migration, Low (100,000), Medium (180,000) and High (250,000). With 100,000 net overseas migration, the total number of households would rise by 23 per cent in the period, 2009 to 2024. This increases to 29 per cent with 180,000 net overseas migration This means that the higher level of net overseas migration meaning would lead to an additional six percentage points of growth across a 15-year period or 0.4 of a percentage point per annum.

Household types

The different migration assumptions have their main effects upon the growth of total households. There is little differential effect of the three migration assumptions upon the growth of the different types of households. Thus, the relative growth of different types of households can be examined by looking at one scenario. Using the Medium scenario, Table 6 shows the relative increase in the number of households of each type for the two periods, 2009-24 and 2024-39.

Reflecting the ageing of the population, households consisting of couples without children or lone persons grow much more rapidly than families with children in all regions in the period 2009-24. In the second period (2025-39), however, the growth of households consisting of couples without children slows to growth levels that are similar to the growth of households of families with children. While dropping off somewhat, the growth of households of lone persons continues in the second period to be much higher than the growth for other household types. Reflecting more extreme ageing after 2024, the numbers of persons in non-private dwellings increases strongly in all regions in the second period with growth rates approaching 50% in 15 years in many regions.

Table 5: Relative changes in the total numbers of households

Region	Scenario	Growth in total households	
		2009 to 2024	2024 to 2039
NSW capital city	Low	1.14	1.11
	Medium	1.23	1.19
	High	1.30	1.24
NSW balance of state	Low	1.22	1.13
	Medium	1.23	1.13
	High	1.23	1.14
VIC capital city	Low	1.21	1.17
	Medium	1.30	1.23
	High	1.37	1.28
VIC balance of state	Low	1.20	1.12
	Medium	1.22	1.13
	High	1.23	1.14
QLD capital city	Low	1.29	1.23
	Medium	1.37	1.29
	High	1.44	1.33
QLD balance of state	Low	1.38	1.26
	Medium	1.42	1.29
	High	1.46	1.31
SA capital city	Low	1.11	1.07
	Medium	1.16	1.12
	High	1.21	1.15
SA balance of state	Low	1.19	1.11
	Medium	1.20	1.12
	High	1.21	1.13
WA capital city	Low	1.30	1.22
	Medium	1.40	1.29
	High	1.50	1.35
WA balance of state	Low	1.33	1.19
	Medium	1.36	1.21
	High	1.39	1.23
TAS capital city	Low	1.16	1.11
	Medium	1.19	1.13
	High	1.21	1.15
TAS balance of state	Low	1.14	1.04
	Medium	1.15	1.05
	High	1.16	1.06
NT	Low	1.28	1.19
	Medium	1.31	1.22
	High	1.34	1.24
ACT	Low	1.22	1.14
	Medium	1.25	1.17
	High	1.27	1.18
SE QLD	Low	1.36	1.28
	Medium	1.43	1.32
	High	1.49	1.35
AUSTRALIA	Low	1.23	1.16
	Medium	1.29	1.21
	High	1.34	1.24

Table 6. Relative increase in numbers of households by type, Medium scenario

Region	Period	2 parent families	1 parent families	Couples without children	Lone person	Group households	Total households	Persons in NPDS
				Relative increase over the period				
NSW capital city	2009-24	1.16	1.13	1.25	1.35	1.18	1.23	1.30
	2024-39	1.12	1.15	1.18	1.30	1.16	1.19	1.38
NSW balance of state	2009-24	1.04	1.03	1.24	1.51	1.17	1.23	1.36
	2024-39	1.01	1.05	1.04	1.33	1.07	1.13	1.34
VIC capital city	2009-24	1.16	1.27	1.26	1.53	1.25	1.30	1.41
	2024-39	1.12	1.26	1.17	1.40	1.25	1.23	1.44
VIC balance of state	2009-24	1.01	1.07	1.22	1.49	1.12	1.22	1.34
	2024-39	1.00	1.10	1.02	1.32	1.06	1.13	1.41
QLD capital city	2009-24	1.29	1.31	1.38	1.52	1.25	1.37	1.40
	2024-39	1.21	1.30	1.26	1.40	1.29	1.29	1.37
QLD balance of state	2009-24	1.28	1.24	1.47	1.65	1.25	1.42	1.43
	2024-39	1.19	1.21	1.25	1.46	1.20	1.29	1.49
SA capital city	2009-24	1.06	1.05	1.18	1.29	1.07	1.16	1.22
	2024-39	1.04	1.10	1.06	1.22	1.08	1.12	1.37
SA balance of state	2009-24	0.98	1.05	1.20	1.48	1.19	1.20	1.52
	2024-39	1.00	1.08	1.01	1.30	1.09	1.12	1.46
WA capital city	2009-24	1.28	1.32	1.41	1.60	1.24	1.40	1.55
	2024-39	1.17	1.29	1.26	1.45	1.30	1.29	1.56
WA balance of state	2009-24	1.11	1.15	1.41	1.69	1.19	1.36	1.38
	2024-39	1.04	1.12	1.14	1.44	1.14	1.21	1.42
TAS capital city	2009-24	1.03	1.05	1.23	1.39	1.05	1.19	1.08
	2024-39	1.03	1.09	1.08	1.27	1.06	1.13	1.30
TAS balance of state	2009-24	0.92	0.98	1.17	1.42	1.10	1.15	1.46
	2024-39	0.93	1.01	0.95	1.24	1.00	1.05	1.47
NT	2009-24	1.14	1.19	1.32	1.64	1.28	1.31	1.23
	2024-39	1.11	1.28	1.16	1.35	1.15	1.22	1.23
ACT	2009-24	1.14	1.14	1.25	1.45	1.10	1.25	1.18
	2024-39	1.05	1.17	1.14	1.31	1.14	1.17	1.37
SE QLD	2009-24	1.35	1.34	1.45	1.58	1.27	1.43	1.46
	2024-39	1.24	1.31	1.30	1.44	1.29	1.32	1.53
AUSTRALIA	2009-24	1.16	1.17	1.30	1.49	1.20	1.29	1.37
	2024-39	1.11	1.19	1.16	1.36	1.19	1.21	1.41

Total demand for additional dwellings

Table 7 shows that the demand for additional dwellings is strongly contingent upon the assumed level of net international migration. For the 2009-24 period, the additional immigrants increase the demand for dwellings in Australia as a whole from 1.95 million in the Low scenario to 2.45 million in the Medium scenario and then to 2.89 million in the High scenario. Thus the additional 80,000 net migrants in the Medium scenario compared to the Low scenario (1.2 million additional immigrants over 15 years) increases the demand for dwellings in Australia as a whole by 505,000 in the period 2009-24.

Table 7: Increment in the demand for all dwellings

Region	Scenario	2009 to 2024	2024 to 2039
NSW capital city	Low	237061	219094
	Medium	383392	388202
	High	511379	536104
NSW balance of state	Low	237281	165339
	Medium	244000	172584
	High	249878	178924
VIC capital city	Low	327346	321832
	Medium	452367	463983
	High	561722	588322
VIC balance of state	Low	120265	83412
	Medium	127915	91679
	High	134608	98913
QLD capital city	Low	215020	224438
	Medium	274599	292389
	High	326713	351837
QLD balance of state	Low	368662	349761
	Medium	411166	397669
	High	448352	439586
SA capital city	Low	52831	38286
	Medium	78589	65929
	High	101122	90111
SA balance of state	Low	34320	23138
	Medium	36695	25664
	High	38773	27873
WA capital city	Low	194120	191212
	Medium	265244	271264
	High	327449	341293
WA balance of state	Low	76109	58549
	Medium	84241	67690
	High	91355	75688

TAS capital city	Low	14304	11383
	Medium	16477	13839
	High	18378	15987
TAS balance of state	Low	16652	5637
	Medium	18199	7289
	High	19553	8735
NT	Low	22521	19649
	Medium	25033	22693
	High	27231	25356
ACT	Low	30174	24329
	Medium	33985	28496
	High	37319	32142
SE QLD	Low	428129	448519
	Medium	511257	542816
	High	583972	625316
Australia	Low	1946665	1736058
	Medium	2451903	2309371
	High	2893834	2810871

Under the Medium scenario, the additional demand for dwellings in Australia is in the order of 163,500 per annum in the period 2009-24 and 154,000 per annum in the period 2024-39. There may have been an assumption that the increasing number of deaths in the second period, 2024-39, would free up existing dwellings thus reducing demand for additional dwellings, but these results suggest that the reduction will be quite small.

Of the additional dwelling demand projected for the 2009-24 period, 20.9% is in Southeast Queensland, 18.4% is in Melbourne, 15.6% is in Sydney and 10.8% is in Perth. Thus, two-thirds of additional demand for all of Australia is projected to be in these four major cities. The balance of NSW accounts for another 10.0% of additional demand in this period.

The changes in demand from the previous report to this report are shown in Table 8. For Australia as a whole, the increase in demand from the 2008-09 to the 2009-24 projections is due to the higher net overseas migration in recent years that has been factored into the base population for the current projections. Thus, it is due to the change in the base population rather than to the projections.

The differences for cities and balances of state across the two projections again reflect changes in the base populations but also are the result of the changes to the migration assumptions discussed above. As expected, the increments to demand are larger in Queensland and Western Australia and lower in South Australia and Tasmania.

Table 8: Increment in the demand for all dwellings, Medium Scenarios, 2008- and 2009-Based Projections Compared

Region	Total additional dwellings	
	2008 to 2023	2009 to 2024
NSW capital city	378896	383392
NSW balance of state	242859	244000
VIC capital city	442943	452367
VIC balance of state	127906	127915
QLD capital city	262963	274599
QLD balance of state	389808	411166
SA capital city	91752	78589
SA balance of state	38701	36695
WA capital city	248819	265244
WA balance of state	82586	84241
TAS capital city	17560	16477
TAS balance of state	19076	18199
NT	25985	25033
ACT	32422	33985
SEQ	491743	511257
Australia	2402275	2451903

Demand by dwelling type

Table 9 shows the ratio of dwellings required in 2024 to the number of dwellings in 2009 according to dwelling type. It also shows the same ratio for the second period. The numbers shown relate to the Medium scenario. The purpose of this table is to show whether the demand for any type of housing increases more than for other types. The conclusions do not change if other scenarios are used.

Given the ageing of the population, we might expect an increased demand for semi-detached housing and flats relative to separate houses and, overall, that is the conclusion to be drawn from Table 9 especially in relation to flats. In most regions, the expected relative increase in demand for flats is higher than for separate houses. The higher relative increase in demand for flats is particularly evident in Western Australia and in the balance of South Australia. However, there are some exceptions to this rule. In Sydney, the relative increase in demand is a little higher for separate houses than for flats and, in Queensland, there is essentially no difference.

Demand by tenure category

Table 10 shows the ratio of dwellings required in 2024 to the number of dwellings in 2009 according to tenure type. It also shows the same ratio for the second period. The numbers shown relate to the Medium scenario. The purpose of this table is to show whether the demand for any type of tenure increases more than for other types. The conclusions do not change if other scenarios are used.

The main conclusion to be drawn from the table is that the relative demand for public rental accommodation increases in many places much more than for the other tenure types. Additional relative demand for public housing is particularly noticeable in Victoria, in Brisbane, in South Australia, Western Australia, the Northern Territory and the ACT. This derives from the fact that the age by household type categories that now tend to occupy public housing in these places are set to increase relative to other age and household type categories. In contrast, the demand for private rental dwellings increases at a much lower relative rate in the same areas in which the demand for public housing rises but also in other regions such as New South Wales and Southeast Queensland. In Queensland balance of state and Western Australia balance of state, there is a notable relative increase in demand for owner/purchaser tenure.

Table 9. Relative increase in numbers of dwellings by type, Medium scenario

Region	Period	Total Dwellings	Separate houses	Semi-detached	Flats
NSW capital city	2009-24	1.23	1.23	1.22	1.21
	2024-39	1.19	1.19	1.20	1.19
NSW balance of state	2009-24	1.23	1.22	1.27	1.27
	2024-39	1.13	1.13	1.14	1.16
VIC capital city	2009-24	1.30	1.29	1.31	1.33
	2024-39	1.23	1.22	1.25	1.28
VIC balance of state	2009-24	1.22	1.21	1.26	1.30
	2024-39	1.13	1.12	1.15	1.18
QLD capital city	2009-24	1.37	1.37	1.37	1.37
	2024-39	1.29	1.27	1.31	1.35
QLD balance of state	2009-24	1.42	1.42	1.44	1.42
	2024-39	1.29	1.28	1.30	1.31
SA capital city	2009-24	1.16	1.15	1.18	1.18
	2024-39	1.12	1.11	1.13	1.14
SA balance of state	2009-24	1.20	1.19	1.26	1.35
	2024-39	1.12	1.11	1.15	1.20
WA capital city	2009-24	1.40	1.39	1.44	1.46
	2024-39	1.29	1.28	1.35	1.39
WA balance of state	2009-24	1.36	1.35	1.45	1.49
	2024-39	1.21	1.20	1.28	1.32
TAS capital city	2009-24	1.19	1.19	1.20	1.21
	2024-39	1.13	1.13	1.16	1.15
TAS balance of state	2009-24	1.15	1.14	1.25	1.24
	2024-39	1.05	1.05	1.11	1.11
NT	2009-24	1.31	1.30	1.35	1.32
	2024-39	1.22	1.21	1.23	1.21
ACT	2009-24	1.25	1.25	1.23	1.22
	2024-39	1.17	1.16	1.19	1.20
SE QLD	2009-24	1.43	1.43	1.43	1.43
	2024-39	1.32	1.31	1.34	1.36
AUSTRALIA	2009-24	1.29	1.28	1.32	1.32
	2024-39	1.21	1.20	1.24	1.26

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Table 10. Relative increase in numbers of dwellings by tenure, Medium scenario

Region	Period	Total Dwellings	Owner Purchaser	Public Renter	Private Renter
NSW capital city	2009-24	1.23	1.24	1.22	1.18
	2024-39	1.19	1.19	1.20	1.17
NSW balance of state	2009-24	1.23	1.25	1.24	1.15
	2024-39	1.13	1.14	1.17	1.08
VIC capital city	2009-24	1.30	1.30	1.38	1.27
	2024-39	1.23	1.23	1.31	1.23
VIC balance of state	2009-24	1.22	1.23	1.26	1.15
	2024-39	1.13	1.13	1.19	1.09
QLD capital city	2009-24	1.37	1.39	1.41	1.31
	2024-39	1.29	1.28	1.34	1.29
QLD balance of state	2009-24	1.42	1.46	1.45	1.33
	2024-39	1.29	1.30	1.34	1.24
SA capital city	2009-24	1.16	1.17	1.21	1.10
	2024-39	1.12	1.12	1.17	1.09
SA balance of state	2009-24	1.20	1.21	1.28	1.14
	2024-39	1.12	1.12	1.18	1.08
WA capital city	2009-24	1.40	1.42	1.55	1.34
	2024-39	1.29	1.29	1.41	1.30
WA balance of state	2009-24	1.36	1.41	1.42	1.23
	2024-39	1.21	1.23	1.29	1.14
TAS capital city	2009-24	1.19	1.21	1.19	1.10
	2024-39	1.13	1.14	1.17	1.11
TAS balance of state	2009-24	1.15	1.16	1.17	1.09
	2024-39	1.05	1.06	1.09	1.02
NT	2009-24	1.31	1.35	1.48	1.24
	2024-39	1.22	1.22	1.33	1.19
ACT	2009-24	1.25	1.27	1.28	1.14
	2024-39	1.17	1.17	1.21	1.14
SE QLD	2009-24	1.43	1.46	1.48	1.36
	2024-39	1.32	1.32	1.37	1.31
AUSTRALIA		1.29	1.30	1.31	1.23
		1.21	1.21	1.25	1.19

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Supplement to 2011 Report

Regional Differences in Household Size and their Impact on Demand

The initial household sizes implicit in these projections are consistent with household sizes (by household type and age of reference person) observed at the 2006 Census corrected for census undercount and changes in population up to 30 June 2009. As the projections progress through time, household sizes change because of changes in the age distribution of the population (including the effects of migration) and the cumulative effects of the household transition probabilities. The household transition probabilities are assumed to remain unchanged from those that applied in the 2001-2006 intercensal period (specific to age, sex and region). The initial household sizes are a product of the reconciliation of housing needs and housing supply in 2006. No such reconciliation between demand and supply is made as these projections of housing needs move forward through time. However, such a reconciliation necessarily will occur so long as almost all persons are living in a private or non-private dwelling. To give a simple example, if the population were to increase by 20 per cent between 2009 and 2029 while the number of dwellings (supply) increased by only 10 per cent, then the average size of households necessarily will increase by 9.1 per cent (120/110).

In general, differences in household sizes across regions are not the product of preferences about household size. Instead, they are the result of variations in household composition across cities and regions (a higher percentage of two-parent families with children will lead to higher average household sizes) and the housing supply situation (cities or regions with the largest housing shortages relative to needs, all else being equal, will have larger household sizes). In this report, we can describe how differences in household composition across cities and regions affect housing needs but we are not able to discuss the effects on household size of differences in supply relative to needs. An intriguing question is whether the household compositions that have been adopted by a population in a situation where supply falls short of needs become part of longer-term behaviour. Do supply-induced household compositions lead to longer term changes in housing preferences or do people revert to more fundamental preferences if the supply shortfall disappears?

Table S1 shows the average household size in each region in 2009 and 2024 (based on the Medium scenario) It also shows the household size that would apply in that region if the region had the same composition of household types as Australia in the given year. The difference between the two numbers reflects how much larger/smaller households are in the given region because their composition of household types differs from that of Australia.

Table S1. Average household sizes in 2009 and 20024 Compared to What Average Household Size would Be If Each Region Had the Same Household Composition As Australia, Medium scenario.

Region	Average household size 2009, Actual	Average household size 2009, with Australian composition	Difference 2009	Average household size 2024, Actual	Average household size 2004, with Australian composition	Difference, 2024
NSW capital city	2.7	2.6	0.1	2.6	2.5	0.1
VIC capital city	2.6	2.6	0.0	2.5	2.5	0.0
VIC balance of state	2.5	2.5	0.0	2.3	2.3	0.0
QLD capital city	2.6	2.6	0.0	2.6	2.5	0.1
QLD balance of state	2.5	2.6	-0.1	2.4	2.4	0.0
SA capital city	2.4	2.5	-0.1	2.3	2.4	-0.1
SA balance of state	2.4	2.5	-0.1	2.3	2.3	0.0
WA capital city	2.5	2.6	-0.1	2.4	2.5	-0.1
WA balance of state	2.5	2.6	-0.1	2.3	2.3	0.0
TAS capital city	2.4	2.5	-0.1	2.3	2.4	-0.1
TAS balance of state	2.4	2.5	-0.1	2.2	2.3	-0.1
NT	2.8	2.8	0.0	2.7	2.5	-0.2
ACT	2.5	2.6	-0.1	2.4	2.4	0.0
SE QLD	2.6	2.6	0.0	2.5	2.5	0.0

The results show that average household size in a region is only minimally affected by the fact that the household composition in the region differs from that of Australia. This conclusion applies to both 2009 and the projections for 2024. However, small differences in average household size can be equivalent to relatively large numbers of dwellings so Table S2 shows the change in the number of dwellings that would be required in each region if that region had the same household composition as Australia. Again, the results are shown for 2009 and for the projection in 2024. To interpret these numbers, the first number in the 2009 column means that Sydney would have required an additional 59,949 dwellings in 2009 if its household composition had been the same as that of Australia as a whole.

Table S2 shows that Sydney and Melbourne would need to increase their dwelling requirement if their household composition was the same as Australia as a whole. Effectively, this means that if Sydney and Melbourne had the same population but higher proportions of smaller household types (lone persons, couples only) replacing larger households types (two parent families), then they would need more dwellings. Across time, the differences become smaller apparently as the household compositions of

Sydney and Melbourne become more like those of the rest of Australia. The dwelling demand in all of the balance of state regions in 2009 would be smaller if their household compositions were the same as that of Australia.

Table S2. Change in Dwellings Required If Regional Household Composition Was the Same as Australia

Region	Change in Dwellings Required If Regional Household Composition Was the Same as Australia	
	2009	2024
NSW capital city	59949	48360
VIC capital city	33420	14043
VIC balance of state	-13909	-14077
QLD capital city	-2320	7956
QLD balance of state	-11113	6695
SA capital city	-16158	-21264
SA balance of state	-4883	-4200
WA capital city	-14863	-18241
WA balance of state	-3864	1358
TAS capital city	-4030	-3907
TAS balance of state	-4816	-4279
NT	607	7989
ACT	-2773	-2760
SE QLD	-8038	5949

Household size differences across cities and regions can be due to a number of factors including the balance of supply and demand. Where supply is constrained, household sizes will tend to be larger. However, the differences across cities and regions in relation to household size are mainly the result of different distributions of household types. This is evident from Table S3 which shows the household type of individuals by their age, sex and region at the beginning of the projection period.

Males Aged 15-34
For males aged 15-34, being a parent in a two- and a one-parent family is more common in the balance of state regions than in the cities. This results from the earlier ages at which men in the balance of state regions had their children. By state, earlier parenthood for men was evident in Tasmania and Queensland and later parenting in Victoria. At this age, many men are still living at home with parents as indicated by their status as a child in a two- or one-parent family. Living at home with parents was less common for men of this age in the balance of state regions than in the cities, but the differences were small except in Western Australia. By State, still being at home with parents was more commonly the case in New South Wales and Victoria and least common in Queensland, Northern Territory and the ACT. This may reflect the varying ethnic compositions of these states.

The proportions living as a couple with no children did not vary much across the cities and regions but living alone was more common in South Australia and Western Australia. Living in a family household as a single person (not a parent or child of the family) was most common in Queensland and the Northern Territory presumably reflecting the higher proportions of indigenous people in these places or shortage of rental accommodation. Group household living was more common in the cities than in the balances of state and more common in Queensland and the ACT than in other States/Territories. Residence in a non-private dwelling was most common in the Northern Territory, the ACT (student residences) and in the balance of Western Australia (mining camps).

Females Aged 15-34

Compared to men aged 15-34, women aged 15-34 were much more likely to be living as a parent in a one- or two- parent family or in a couple family with no children. They were much less likely to be living in all the other household categories than men of the same age, in particular, they were much less likely to be still at home with parents than men of the same age. The patterns of differences across states and territories for each household type were the same for women as for men except that women were more likely to live alone in the cities than live alone in the balances of state. The opposite situation applied to men who were more likely to be living alone in the balances of state than in the cities..

Males Aged 35-59

In these middle ages, the two-parent family with children is much more common in the cities than in the balances of state. In contrast, couples with no children are more common in the balances of state. The third main form of household for this age range, living alone, is also more common in the balances of state. These differences imply smaller household sizes in the balances of state in these middle ages. In the balances of state of South Australia and Western Australia, one in six men of this age live alone.

Females Aged 35-59

Like the younger age group, middle age females generally have higher proportions living alone in the cities than in the balances of state, the opposite situation to men and, overall, women of this age are much less likely to be living alone compared to men. Balancing this, women of this age are much more likely than men to be lone parents with the rate of lone parenthood not varying much between the cities and the balances of state. Compared to men, women of this age are also more likely to be living in a couple family without children and less likely to be living in a two-parent family with children. However, the differences between cities and balances of the state for these two household types are the same as for men with the family with children being more common in the cities and the family without children less common.

Males Aged 60+

The three main household types for men aged 60 and over are couple family without children, couple family with children and living alone. Much higher proportions of men

aged 60 and over in the cities live in two-parent families with children compared to those living in the balances of state. Balancing this, couple families without children were more common in the balances of state than in the cities as were households consisting of men living alone. Again, this implies that households in the cities would be larger on average than those in the balances of the state for men of this age. The fourth largest category for men of this age was those living in non-private dwellings. There was little variation in the proportion represented by this category either across states and territories or across cities and balances of state.

Females Aged 60+

The household compositions of women aged 60 and over are very different from those of men aged 60 and over. This has demographic drivers: the earlier mortality of men, the age difference between male and female partners to a relationship and the combination of these two factors. Women of this age are more likely to have older children than men of this age and hence more children would have left home. As a consequence, women aged 60 and over are less likely than men of the same age to be living in a two-parent family with children. They are also considerably less likely than men of this age to be living in a couple family without children (because of the earlier mortality of male partners). On the other hand, women aged 60+ are much more likely than men aged 60+ to be living alone, in a one-parent family, living with a family or living in a non-private dwelling.

Overall, women aged 60 and over in the cities were much more likely to be living with children or with a family than women in the balances of state. For example, 24.2 per cent of women aged 60 and over in Sydney lived with their children or a family compared to 14.2 per cent of women of the same age in the balance of New South Wales.

Summary: Effects of Differences in Household Composition Upon Household Size.

Couple families with children are the largest households on average and, obviously, lone-person households are the smallest. The above discussion shows that two-parent families with children are generally much more common in the cities that in the balances of state., For men, living alone is more common in the balances of state. Couple families without children are also more common in the balances of state and aged parents are more likely to share with children or another family in the cities than in the balances of state. Thus, as observed in Table S1, average household sizes are larger in the cities than in the balances of state.

While Table S2 shows what would happen to housing needs if there were no differences in household composition across regions, this is a very hypothetical exercise. There are solid demographic, economic and social reasons explaining the differences in household compositions between cities and balances of state and these are not about to change. If anything, with the progression of time, these differences get wider.

Table S3. Household classification type for individuals

Males—15-34

Household classification type	NSW CC	NSW B	VIC CC	VIC B	QLD CC	QLD B	SA CC	SA B	WA CC	WA B	TAS CC	TAS B	NT	ACT	SEQ
2-parent-parent	13.4	18.2	11.9	17.4	15.4	19.1	13.7	20.7	14.2	20.9	15.8	20.5	19.9	13.1	15.9
1-parent-parent	0.4	0.9	0.4	0.6	0.6	0.8	0.6	0.8	0.5	0.9	0.8	0.8	1.1	0.6	0.6
2-parent-child	34.7	32.5	34.1	33.7	28.6	26.9	31.4	31.7	30.6	24.7	30.3	32.8	19.3	27.0	28.4
1-parent-child	10.3	11.3	10.2	10.5	9.5	9.7	11.5	9.7	9.9	8.2	11.2	10.7	8.2	8.9	9.8
Couple, no children	15.9	12.0	15.3	13.1	15.8	14.8	14.9	13.5	15.4	14.4	13.7	13.3	14.5	16.0	15.6
Lone person	6.8	8.0	7.8	8.3	6.8	7.4	9.3	10.1	9.7	10.4	7.6	8.1	7.1	7.9	6.8
Single person living with a family	7.4	6.0	7.6	5.5	9.0	8.2	6.7	5.5	7.6	7.5	6.7	5.5	14.7	7.0	8.8
In group household	9.1	7.6	11.3	7.9	12.0	9.4	9.9	5.5	9.7	6.3	10.9	6.8	7.3	13.7	11.8
Non-private dwelling	1.9	3.5	1.4	3.0	2.3	3.7	1.9	2.5	2.5	6.7	2.9	1.4	7.8	5.9	2.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Males—35-59

Household classification type	NSW CC	NSW B	VIC CC	VIC B	QLD CC	QLD B	SA CC	SA B	WA CC	WA B	TAS CC	TAS B	NT	ACT	SEQ
2-parent-parent	58.2	49.2	57.9	50.7	53.8	48.2	51.8	45.9	53.7	44.5	50.9	47.1	42.8	55.5	52.6
1-parent-parent	2.8	3.8	3.0	3.3	3.3	3.4	3.8	3.7	3.5	3.7	3.9	3.7	3.8	3.8	3.3
2-parent-child	2.1	2.0	2.2	1.7	1.5	1.5	1.8	1.4	1.4	1.1	1.4	1.5	0.7	1.1	1.5
1-parent-child	2.5	2.7	2.5	2.2	2.0	1.9	2.2	1.8	1.8	1.5	2.3	2.1	1.2	1.4	2.0
Couple, no children	16.3	21.9	16.1	22.4	20.4	24.2	19.1	24.9	19.2	24.3	21.2	25.4	21.2	19.4	21.5
Lone person	11.2	14.4	12.2	14.5	11.8	13.0	15.6	17.0	14.6	16.1	14.7	15.6	15.5	13.1	11.9
Single person living with a family	2.7	2.2	2.4	1.8	2.7	2.7	2.0	1.8	1.9	2.5	1.8	1.7	5.8	1.8	2.6
In group household	3.1	2.6	2.9	2.2	3.4	3.4	2.6	2.0	2.8	2.4	2.6	2.1	4.2	3.0	3.6
Non-private dwelling	1.2	1.4	0.8	1.2	1.2	1.8	1.2	1.5	1.1	3.9	1.2	0.8	4.6	0.8	1.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Males—60+

Household classification type	NSW		VIC		QLD		SA		WA		TAS		NT	ACT	SEQ
	CC	B	CC	B	CC	B	CC	B	CC	B	CC	B			
2-parent-parent	19.6	9.1	18.5	9.4	14.3	9.3	12.3	7.3	13.0	7.3	11.4	8.2	15.8	16.2	12.2
1-parent-parent	2.5	1.8	2.4	1.5	2.1	1.7	2.0	1.3	1.8	1.5	1.9	1.8	3.5	2.1	2.0
2-parent-child	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
1-parent-child	0.4	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.3
Couple, no children	52.9	62.8	55.9	63.5	60.5	62.1	60.7	66.0	62.0	64.1	61.2	64.0	43.6	62.7	61.9
Lone person	15.7	18.3	15.1	18.1	14.5	17.8	17.5	18.8	16.2	19.3	17.8	19.3	21.4	13.4	15.3
Single person living with a family	3.1	2.3	2.5	1.9	2.7	2.7	1.6	1.7	1.7	2.2	1.8	1.8	6.8	1.7	2.6
In group household	2.0	1.9	1.7	1.6	2.0	2.4	1.4	1.1	1.6	1.7	1.8	1.6	3.6	1.3	2.3
Non-private dwelling	3.7	3.4	3.6	3.7	3.6	3.6	4.2	3.4	3.3	3.7	3.8	2.8	5.1	2.4	3.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Females—15-34

Household classification type	NSW		VIC		QLD		SA		WA		TAS		NT	ACT	SEQ
	CC	B	CC	B	CC	B	CC	B	CC	B	CC	B			
2-parent-parent	20.3	25.6	18.2	24.2	21.3	26.4	19.7	30.1	21.0	31.0	21.3	27.6	26.8	19.1	21.9
1-parent-parent	5.1	9.7	4.5	8.2	6.6	8.5	6.9	8.7	5.8	8.6	8.9	9.9	9.0	4.5	6.9
2-parent-child	28.7	25.4	28.6	26.7	23.3	20.9	26.1	24.7	25.7	19.5	23.0	24.1	15.0	22.4	22.9
1-parent-child	8.2	8.4	8.3	8.1	7.4	7.3	8.9	7.0	7.9	6.1	8.7	7.5	6.5	7.2	7.7
Couple, no children	18.4	14.4	18.6	15.7	18.9	17.8	17.8	16.2	19.2	18.2	16.3	15.3	18.4	19.9	18.7
Lone person	5.3	4.8	6.2	5.7	5.1	4.7	6.7	5.7	6.5	5.4	6.6	5.5	5.5	6.5	4.9
Single person living with a family	5.8	4.1	5.9	3.7	6.7	5.5	5.2	3.6	5.7	5.0	4.8	4.0	10.6	5.4	6.4
In group household	7.2	5.8	8.8	6.1	9.6	7.1	7.4	3.6	6.9	4.3	8.7	5.2	6.0	11.0	9.3
Non-private dwelling	1.0	1.7	0.9	1.5	1.2	1.9	1.4	0.5	1.2	1.9	1.8	1.0	2.2	4.1	1.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Females—35-59

Household classification type	NSW		VIC		QLD		SA		WA		TAS		NT	ACT	SEQ
	CC	B	CC	B	CC	B	CC	B	CC	B	CC	B			
2-parent-parent	55.2	46.3	55.1	47.6	50.4	45.0	48.4	45.4	51.9	45.4	46.2	44.0	42.8	51.8	48.5
1-parent-parent	12.7	12.9	12.8	12.0	12.8	12.4	13.9	10.3	12.7	10.4	14.1	11.3	12.8	12.6	13.1
2-parent-child	0.9	0.6	1.0	0.6	0.7	0.6	0.7	0.4	0.6	0.4	0.6	0.4	0.3	0.5	0.6
1-parent-child	1.3	1.0	1.2	0.9	1.1	0.9	1.1	0.7	0.8	0.6	1.1	0.9	0.9	0.7	1.0
Couple, no children	17.1	27.0	17.2	27.1	22.1	28.7	21.7	32.4	21.7	31.8	23.5	31.0	24.5	20.6	23.7
Lone person	8.5	8.7	8.9	8.9	8.6	8.1	10.8	8.1	9.3	7.8	11.0	9.5	9.0	10.6	8.6
Single person living with a family	2.1	1.3	1.7	1.0	1.9	1.8	1.3	1.0	1.3	1.5	1.3	1.1	5.8	1.3	1.8
In group household	1.8	1.7	1.8	1.5	2.1	2.1	1.6	1.3	1.4	1.3	1.8	1.5	2.4	1.6	2.2
Non-private dwelling	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.3	0.3	0.8	0.4	0.4	1.4	0.3	0.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Females—60+

Household classification type	NSW		VIC		QLD		SA		WA		TAS		NT	ACT	SEQ
	CC	B	CC	B	CC	B	CC	B	CC	B	CC	B			
2-parent-parent	9.4	5.0	9.2	5.1	7.0	5.1	5.4	4.1	6.0	4.1	5.3	4.4	7.6	7.3	6.1
1-parent-parent	7.5	5.2	7.1	4.8	6.5	5.1	5.4	3.6	5.5	4.3	5.4	4.4	10.2	5.9	5.7
2-parent-child	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
1-parent-child	0.4	0.3	0.3	0.2	0.4	0.3	0.2	0.2	0.3	0.2	0.4	0.3	0.3	0.3	0.3
Couple, no children	38.2	47.0	40.2	46.4	42.3	48.6	40.7	51.0	44.5	52.9	41.7	48.0	36.2	44.3	44.8
Lone person	28.9	30.4	29.1	32.0	29.7	28.2	35.3	30.4	31.8	27.7	34.7	32.4	23.2	30.9	29.4
Single person living with a family	7.3	4.0	5.8	3.0	5.9	4.6	3.4	2.6	4.3	3.4	3.5	2.9	14.8	4.7	5.4
In group household	1.6	1.6	1.5	1.5	1.7	1.9	1.1	1.1	1.3	1.4	1.5	1.4	2.7	1.5	1.9
Non-private dwelling	6.6	6.5	6.8	6.9	6.5	6.2	8.4	6.8	6.3	5.9	7.3	6.2	4.9	5.0	6.3
TOTAL	9.4	5.0	9.2	5.1	7.0	5.1	5.4	4.1	6.0	4.1	5.3	4.4	7.6	7.3	6.1