Urban Development Institute of Australia (Victoria)

RESIDENTIAL DEVELOPMENT INDEX

ANNUAL UPDATE

September 2019

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EXECUTIVE SUMMARY

This report provides the annual update of the UDIA Residential Development Index for the 2018–2019 financial year.

The Urban Development Institute of Australia (Victoria) Residential Development Index (UDIA RDI) uses a unique model to assess the health of Victoria's residential development industry and measure its activity on an ongoing basis. The research examines the dynamics impacting the industry, including economic conditions, population growth, development activity, building approvals, regulatory changes and policy implications. These industry activity fundamentals inform the UDIA RDI, which determines whether the industry is operating in a strong, moderate or weak market, relative to recent and long history.

This annual update relies on data from July 2018 to June 2019 and is an accurate reflection of the residential market activity.

UDIA Residential Development Index

- The UDIA RDI declined over the past financial year to 101.0 in June 2019. This is a slight fall from 102.6 in June 2018, and below the ten year average of 101.9.
- Negative drivers of the June 2019 index include a significant decline in the supply of new dwellings combined with minimal growth in purchasing power which was driven by weak wage growth. These inputs were balanced with continued employment growth.
- The primary constraint on the current performance of the UDIA RDI is the lower supply of new dwellings. This component reduced the supply sub index from 111.4 in June 2018 to 90.5 in June 2019.

Demand and Supply Gap

- In FY18/19, supply fell significantly in an environment of continuing strong household formation. This is has led to a shortfall of 6,846 dwellings in FY18/19.
- The undersupply in FY18/19 is the second time in three years that a net undersupply in dwellings has been experienced. A surplus was estimated in FY17/18.
- Overall volumes of net supply vary significantly by dwelling type and region. The supply of detached dwellings is stable in Victoria's regional and growth areas, however a significant share of new dwellings in the inner and middle rings involve the demolition of existing detached stock as it is replaced with townhouses and units.
- Ongoing undersupply over time will lead to future latent demand and is likely to have significant implications for the cost of rent and housing affordability when access to finance begins to improve.

EXECUTIVE SUMMARY CONTINUED

Building Approvals for Dwellings

- Overall, total building approvals for dwellings in Victoria have declined to 59,724 in FY18/19 from 75,634 in FY17/18. This represents a decline of 21.0% in total dwelling approvals within the State.
- Inner Melbourne experienced the most significant downturn in building approvals for dwellings. In this region, four storey plus dwelling approvals declined by 58.7% in FY18/19 to 4,895, down from 11,855 in FY17/18, and townhouse approvals declined by 41.8% over the same period.
- The decline in apartment approvals has now expanded beyond the inner ring of Melbourne and impacts on the middle ring as well.
- The middle ring of Melbourne also experienced a substantial decline in building approvals for dwellings of 27.3% in FY 18/19, with a total of 13,603 approvals. Total apartment approvals were down by 34.4% whilst townhouse approvals were down by 26.2%.
- Melbourne's growth areas experienced a more moderated decline in building approvals for dwellings. Total approvals for the growth areas were 19,675 in FY18/19, a fall of 11.9% from FY17/18. Dwelling supply lags residential lot sales by up to two years in some growth corridors. The current reduction in lot sales is expected to impact on building approval and completion data in FY19/20 and beyond.

Victoria in Future 2019

- The current population forecasts for Victoria — Victoria in Future (VIF) — were released in July this year. This is the first time these statistics have been released since 2016 and they provide an important indication of the future direction and location of growth in Victoria, Melbourne and our key regions.
- Melbourne's share of Victoria's overall population is expected to increase to 80.3% in 2056 compared with 76% in 2016. This shift is driving a more centralised Victoria with a reduction in the share of expected development activity in Victoria's regions overall.
- The population of Greater Geelong is expected to double from 286,400 in 2016 to 569,000 in 2056, growing at a rate of 1.7% per annum which is more rapid than the Victorian and Melbourne averages. This would create a need for around 115,000 new dwellings requiring annual dwelling production of nearly 2,900 per annum.
- Overall, the household forecasts point to the need for a net supply requirement of at least 55,000 dwellings per annum in Victoria over the entire forecast period. This means that with the demolition of existing stock total building construction will need to average around 66,000 to 68,000 per year based on these relatively conservative forecasts.

EXECUTIVE SUMMARY CONTINUED

Economic Contribution

- In FY18/19 the construction of residential dwellings and the associated infrastructure requirements generated a total of $24.6 billion in direct and indirect economic value in Victoria. Of this, around $6 billion was directly generated by the residential development sector.
- This expenditure in the industry supported almost 188,000 full time, part time and casual jobs across the Victorian economy. This represents a loss of approximately 34,000 jobs from FY17/18.
- The decline in four storey plus apartment buildings is directly impacting the Victorian economy and employment. In FY18/19, expenditure on the construction of four storey plus buildings generated $4.8 billion for the Victorian economy, which was a 40% decline from FY17/18.
- The construction of four storey plus buildings sustained over 36,000 jobs in Victoria in FY18/19. This figure includes jobs sustained directly in the sector as well as in support industries such as property and business services, financial services, transport and distribution, manufacturing and other sectors.

Looking forward

- Victoria's residential development market has experienced a downturn driven by a number of factors including access to finance and reduced buyer confidence in the market.
- However underlying demand remains strong and Victoria is experiencing continued population growth. We expect consumer activity to increase within the coming 12 months.
- Within this context, we project a significant under supply of dwellings entering the market in FY19/20 and FY20/21.
- Looking forward, the VIF household forecasts point to the need for a net supply requirement of at least 55,000 dwellings per annum in Victoria over the entire forecast period.
- To achieve this, State and Local Governments must continue delivering Precinct Structure Plans, infrastructure contribution plans and planning approvals to enable the residential development industry to deliver a robust pipeline of new housing, jobs and economic activity for Victoria.

BUILDING APPROVAL TRENDS BY REGION FY18/19

MELBOURNE

- Total dwelling approvals in the Greater Capital City Statistical Area (GCCSA) decreased by 26.5% in FY18/19 to 43,915.
- Across the GCCSA, apartment approvals declined by 54% and townhouses by 22% in FY18/19. Housing approvals decreased by 15%.
- Overall, detached housing supply remains relatively strong, leading dwelling approvals over apartments and townhouses in the GCCSA.
- The decline in apartment approvals has now expanded beyond the inner ring and now effects the middle ring also.

INNER MELBOURNE

- Total dwelling approvals in inner Melbourne FY18/19 have declined significantly to 5,915 from 13,467 in FY17/18. This represents a decline of 56%.
- Most local government areas (LGAs) within the inner ring had dwelling approvals decline in FY18/19. Stonnington is the only LGA within inner Melbourne to show a positive shift in dwelling approvals in FY18/19, exhibiting a 42% increase in dwelling approvals.
- The fall in dwelling approvals in the inner ring is driven by the fall in four storey plus projects, which have declined from 11,855 to 4,895 in FY18/19.
- Melbourne City LGA remained the strongest LGA in the inner ring for approvals, representing 33% of the inner ring, despite a 74% decline in building approvals for FY18/19.

MIDDLE MELBOURNE

- Total dwelling approvals in middle Melbourne for FY18/19 declined by 27%, with all building types experiencing a decline in approvals compared to the previous financial year.
- Townhouse approvals were reduced by 26% in FY18/19, whilst apartments fell 34%.
- After a very strong FY17/18, Monash declined in total dwelling approvals by 23%.
- Boroondara experienced the inverse, with a strong FY18/19. There was a 21% increase in dwelling approvals in FY18/19 as compared to FY17/18.

OUTER RING OF MELBOURNE

- Total dwelling approvals in FY18/19 decreased by 9.5% on FY17/18 data.
- In comparison to FY17/18, apartment, townhouse and house approvals declined by 2%, 6% and 17% respectively.
- Nillumbik was the LGA with the highest increase in dwelling approvals. There was a 60% increase in FY18/19 as compared to FY17/18.
- Maroondah experienced significant approval reductions in total dwelling approvals in FY18/19, falling by 58%.

MELBOURNE'S GROWTH AREAS

- Total dwelling approvals in FY18/19 declined by 12% on FY17/18 data and remained stable against FY16/17 data.
- FY18/19 saw a decrease in townhouse approvals by 15%.
- Dwelling approvals for apartments were relatively stable, declining by 4% to 238 in FY18/19, which is below the FY16/17 peak of 417.
- Only Whittlesea LGA within the Melbourne growth area had positive dwelling approval results in FY18/19. There was an increase in total dwelling approvals by 5%.
- The remaining five LGAs within Melbourne's growth areas experienced a decline in total building approvals in FY18/19 as compared to FY17/18.

REGIONAL AREAS

- Regional total dwelling approvals remained stable in FY18/19, after an increase in FY17/18 from FY16/17.
- Houses are the only building type which increased in total approvals in FY18/19, up 4%. Apartments fell by 55%, whilst townhouses declined by 18% to 1,540.

BUILDING APPROVALS FOR DWELLINGS BY REGION FY18/19

VICTORIA

Victoria Total Dwelling Approvals	FY17/18	FY18/19	FYoY Growth
Houses	39,568	36,747	-7.1%
Semi-detached, row or terrace houses, townhouses — Total	13,841	10,916	-21.2%
Flat units or apartments — Total including those attached to a house	22,204	12,061	-45.7%
Flats, units or apartments — Four Levels +	20,631	11,087	-46.3%
TOTAL	**75,613**	**59,724**	**-21.0%**

INNER MELBOURNE

Inner Melb Total Dwelling Approvals	FY17/18	FY18/19	FYoY Growth
Houses	493	313	-36.5%
Semi-detached, row or terrace houses, townhouses — Total	900	524	-41.8%
Flat units or apartments — Total including those attached to a house	12,074	5,078	-57.9%
Flats, units or apartments — Four Levels +	11,855	4,895	-58.7%
TOTAL	**13,467**	**5,915**	**-56.1%**

MIDDLE MELBOURNE

Middle Melb Total Dwelling Approvals	FY17/18	FY18/19	FYoY Growth
Houses	4,053	3,454	-14.8%
Semi-detached, row or terrace houses, townhouses — Total	6,591	4,863	-26.2%
Flat units or apartments — Total including those attached to a house	8,062	5,286	-34.4%
Flats, units or apartments — Four Levels +	7,020	4,732	-32.6%
TOTAL	**18,706**	**13,603**	**-27.3%**

OUTER RING OF MELBOURNE

Outer ring Melb Total Dwelling Approvals	FY17/18	FY18/19	FYoY Growth
Houses	2,038	1,693	-16.9%
Semi-detached, row or terrace houses, townhouses — Total	1,971	1,846	-6.3%
Flat units or apartments — Total including those attached to a house	1,211	1,183	-2.3%
Flats, units or apartments — Four Levels +	1,110	1,091	-1.7%
TOTAL	**5,220**	**4,722**	**-9.5%**

MELBOURNE'S GROWTH AREAS

Melbourne Total Dwelling Approvals	FY17/18	FY18/19	FYoY Growth
Houses	19,585	17,297	-11.7%
Semi-detached, row or terrace houses, townhouses — Total	2,511	2,140	-14.8%
Flat units or apartments — Total including those attached to a house	249	238	-4.4%
Flats, units or apartments — Four Levels +	227	189	-16.7%
TOTAL	**22,345**	**19,675**	**-11.9%**

REGIONAL AREAS

Regional Total Dwelling Approvals	FY17/18	FY18/19	FYoY Growth
Houses	13,399	13,988	4.4%
Semi-detached, row or terrace houses, townhouses — Total	1,868	1,540	-17.6%
Flat units or apartments — Total including those attached to a house	608	276	-54.6%
Flats, units or apartments — Four Levels +	419	180	-57.0%
TOTAL	**15,875**	**15,804**	**-0.4%**

RESIDENTIAL DEVELOPMENT INDEX

In this section

ABOUT THE UDIA RESIDENTIAL DEVELOPMENT INDEX

The UDIA Residential Development Index (UDIA RDI) considers demand for residential development, the ability to purchase property reflected by the employment status of property buyers, and overall supply.

In considering these factors the UDIA RDI acts as an interface between top down demand and bottom up supply, and can be used to consider the overall health of the industry, relative to historical trends.

The index is depicted in the opposite diagram and includes the following components:

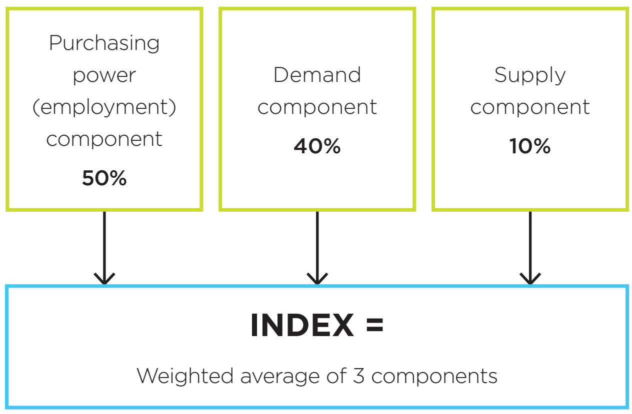
1. **Demand component of index.** Considers population growth in Victoria. Calculated and forecast as annual % growth over 12 months to June 2019 as an index. Index = [annual % change + 1] x 100. The index is weighted at 40%.
2. **Purchasing power component of index.** This component considers employment growth in Victoria and the relative purchasing power by those who are employed by considering wage growth relative to inflation. The sub component of the index is calculated using two factors:

   Input 1: Employment. Calculated and forecast as annual % growth over 12 months to June 2019 as an index.

   Input 2: Relative Wage Growth. Calculated as the growth of wages over the year, compared to CPI as a ratio. Index = [Wage / CPI] x 100.

   Both inputs are averaged to create an index, which is weighted at 50%.
3. **Supply component of index.** Considers dwelling approvals relative to estimated household demand to indicate relative levels of supply. Household demand is calculated as [population growth / the assumed average household size in Victoria at the time RDI is measured]. A loading of 20% is applied to account for the fact that not all dwelling approvals yield net additional supply. This component is weighted at 10% of the overall index due to the higher level of variability in supply that has been observed over time.

It is acknowledged that other factors influence the operation of the new residential construction sector including interest rates, sales volumes, vacancy rates and other economic drivers. These factors are assumed to directly and indirectly influence the three key drivers that act as inputs to the UDIA RDI. The UDIA RDI (including its weightings) will be updated over time as drivers of the market are continually assessed and re-calibrated.



CURRENT UDIA RESIDENTIAL DEVELOPMENT INDEX

CURRENT UDIA RDI RATING: 101.0

The last ten years of analysis between June 2009 and June 2019 indicates the following:

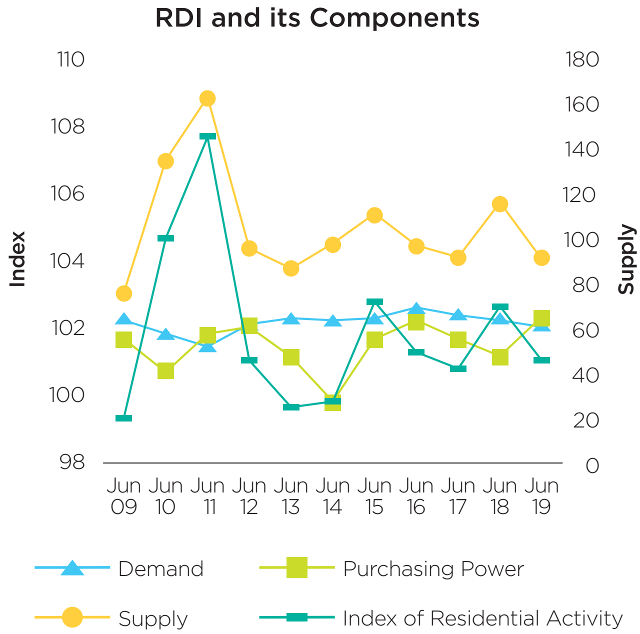
1. The index has experienced a significant decline in June 2019 to 101.0 down from 102.6 in June 2018. This is below the 10-year average of 101.9.

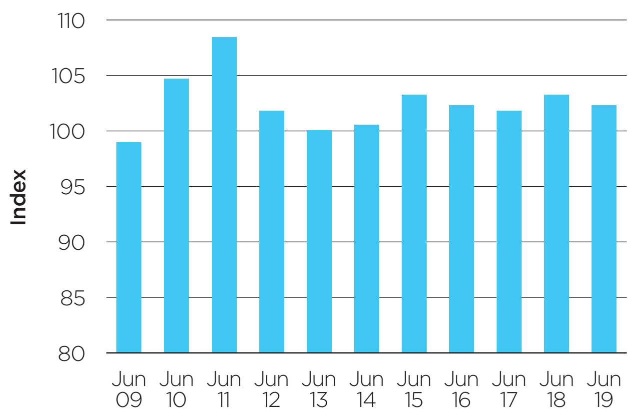
2. Based on historical data an index of 100 or higher indicates a relatively well performing sector with results above 103 indicating strong drivers in the sector. Results below 100 indicate relative weakness or emerging weakness in key drivers.

3. The index was at its lowest point in June 2009 (99.2) when employment growth (purchasing power) and population (demand) were all relatively consistent but supply (dwelling approvals) was notably low.

4. Negative drivers of the June 2019 index include a significant decline in supply and minimal growth in purchasing power, driven by weak wage growth but balanced with continued employment growth.

5. The primary constraint on the performance of the RDI at present is supply. This component reduced the supply sub index from 111.4 in June 2018 to 90.5 in June 2019. By comparison, this sub component is slightly above June 2017 (90.2) and June 2013 (82.4).





DRIVERS OF THE UDIA RESIDENTIAL DEVELOPMENT INDEX

There are a number of issues emerging in the Victorian economy that are likely to continue to have an impact on the UDIA RDI over time.

LOW UNEMPLOYMENT AND EMPLOYMENT GROWTH

From a positive perspective, unemployment rates remain low and this is reflected in recent data released by the ABS for June 2019 showing Victoria's unemployment rate has remained steady at 4.7%.

The State Budget released in May 2019 anticipates employment growth will decline in the foreseeable future. The State Budget forecasts employment growth of 3.25% (FY18/19) dropping to 2.00% (FY19/20) and to 1.75% (FY20/21 to FY22/23).

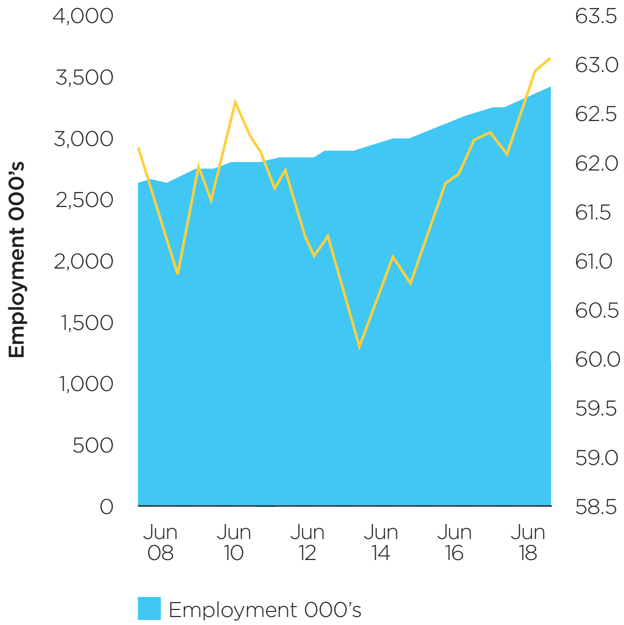
The strength of Victoria's employment market is reflected in the high employment to population ratio which has reached a long-term high of 63% in Victoria relative to a national average of 62.6%. This indicates that the State's labour market is being worked relatively hard and the trend is shown in the figure opposite.

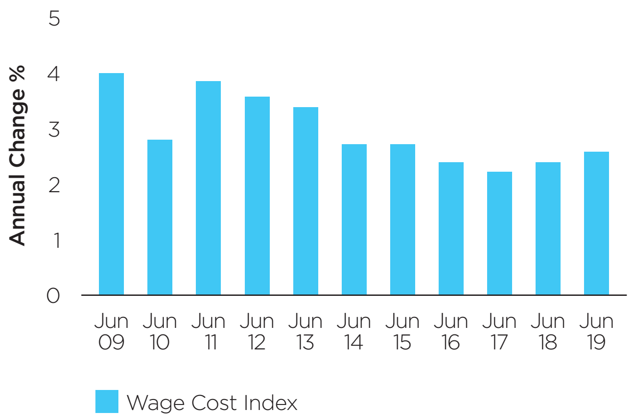
INCREASING POPULATION GROWTH

Population growth has continued to increase, although at a slightly reduced rate of 2.18% in the 12 months to December 2018. The slowing population growth allows for the drop in forecast supply to have a slightly lesser effect on the UDIA RDI and supply and demand gap. It is expected that relatively weak wage growth will continue to hamper price escalation for established and new properties in the market.

WAGES AND CPI

Over the year to June 2019 wages increased by 2.6% in Victoria. This exceeded the Consumer Price Index (CPI) growth of 1.3%, however non-discretionary household costs such as health, transport and education which grew above wage growth continue to constrain the purchasing power of those considering the purchase of a home.





DEMAND AND SUPPLY GAP

In this section

METHODOLOGY OF THE DEMAND AND SUPPLY GAP

As discussed in the previous iterations of the UDIA RDI, there are no regularly updated estimates of net dwelling supply released annually in Victoria. In addition, population forecasts and expected household formation (demand) should be assessed to confirm current trends on an ongoing basis.

Estimates of a demand and supply gap (DSG) are made based on a series of assumptions.

The following steps are carried out in calculating a current and future DSG in Victoria:

Update to underlying demand

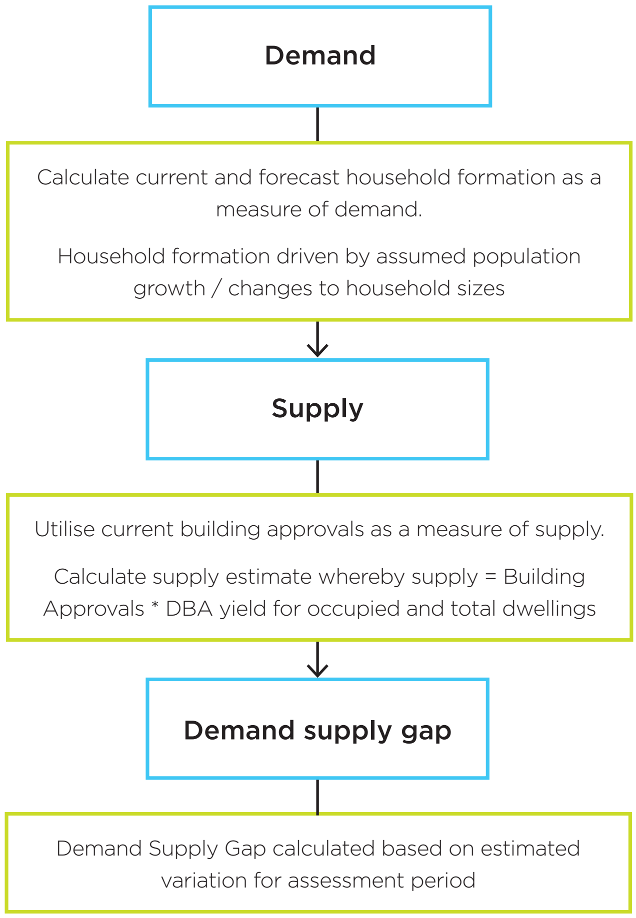
1. Estimate household demand between FY16/17 and FY18/19 using demand drivers including population growth and estimated household sizes.

Supply

1. Calculate the historical growth in supply of dwellings using census data on actual supply of dwellings including the supply of dwellings available for occupation.
2. Compare the historical supply of dwellings with dwelling approvals to allow for the calculation of an average ratio of supply to dwelling approvals (DBA yield).
3. Utilise the historical DBA yield over the assessment period to forecast current and future levels of supply based on current trends in dwelling approvals.

Demand Supply Gap

1. Compare the estimated supply of dwellings with forecasts of demand based on household formation.
2. The variation between Demand and Supply = the DSG (undersupply or oversupply).



CURRENT DEMAND AND SUPPLY GAP

An important component of the UDIA RDI is the relationship between housing demand and supply for Melbourne and the regions

The estimates of the DSG for Victoria and the regions are theoretical in nature and based on a series of assumed parameters including:

- An average household size of 2.54 people.
- Actual dwelling approvals to June 2019.
- Population estimates based on forecasts in VIF2019, released June 2019.

Based on the DBA yields adopted in the methodology section, an estimate of the current DSG is shown below.

What is the relationship between demand and supply right now?

- A significant decline in building approvals for dwellings in FY18/19, combined with strong population growth driving demand, has created a substantial shortfall of 6,846 dwellings for the 18/19 financial year.

How has the demand and supply relationship changed over the past three years?

- There has been a significant shift in the demand and supply gap in Victoria in the past two financial years — from a surplus of 4,565 dwellings in FY17/18 to a deficit of 6,846 in FY18/19 assuming a household size averaging 2.54 persons.
- In FY18/19 there was a significant increase in the DSG of all dwellings compared to FY17/18 results. This is driven by a fall in building approvals for FY18/19.
- The DSG for all dwellings three-year average is a shortfall of 3,324.

CURRENT ESTIMATES OF DSG IN VICTORIA

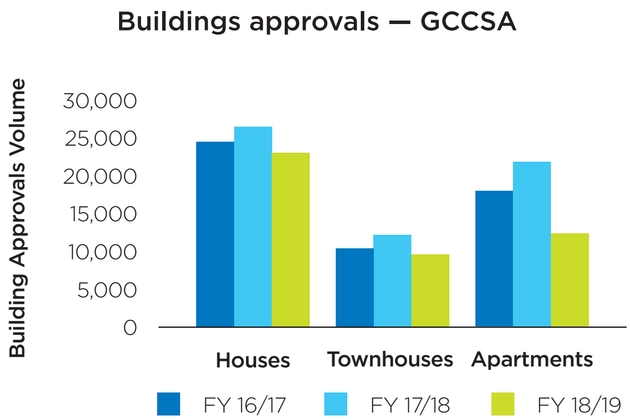
Year End	FY16/17	FY17/18	FY18/19	Average
Supply estimate				
Dwelling approvals	65,088	75,613	59,719	
Assumed DBA yield total	0.78	0.78	0.78	
Estimated net supply of total dwellings	50,769	58,978	46,581	
Demand estimate				
Population growth	148,434	138,159	135,655	
Household size	2.54	2.54	2.54	
Household growth	58,459	54,413	53,427	
DSG all dwellings	**-7,691**	**4,565**	**-6,846**	**-3,324**

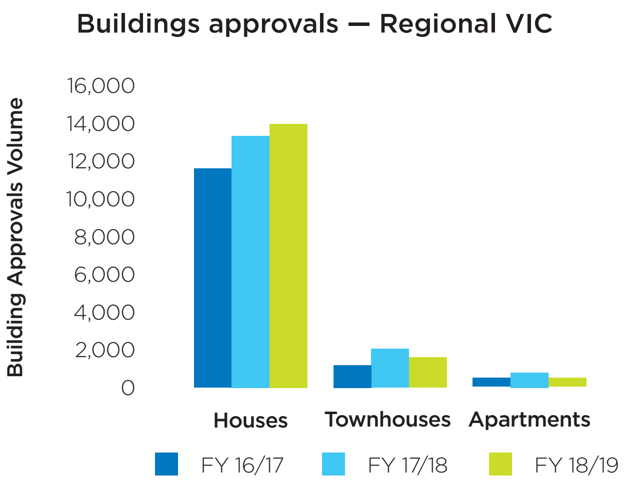
Source: ABS building approvals (8731.0), ABS demographic statistics (3101.0) and State Government of Victoria, 2019.

RESIDENTIAL DEVELOPMENT BY REGION

In this section

TRENDS IN VICTORIA AND MELBOURNE





Greater Capital City Statistical Area

- Overall, total dwelling approvals in the Greater Capital City Statistical Area (GCCSA) decreased by 26.5% to 43,915 in FY18/19 from 59,738 in FY17/18.
- Townhouse dwelling approvals decreased in the GCCSA by 22% to 9,373 in FY18/19. This compares to 11,973 townhouse approvals in FY17/18. Townhouse approvals over the three years to FY18/19 reflect a compound annual growth rate (CAGR) of -3%.
- In the three years to FY18/19, housing approvals reflect a CAGR of -2%. There were 22,757 housing approvals in FY18/19, down from 26,169 in FY17/18.
- In FY18/19 apartment approvals reached 11,785, a 45% fall from the 21,596 apartment approvals in FY17/18.
- The main driver of the decline of total building approvals across Victoria in the March 2019 UDIA RDI was the drop off in dwelling approvals for apartments in the central city and the inner Melbourne region. This decline in apartment approvals has expanded beyond the inner ring and now effects the middle ring as well.

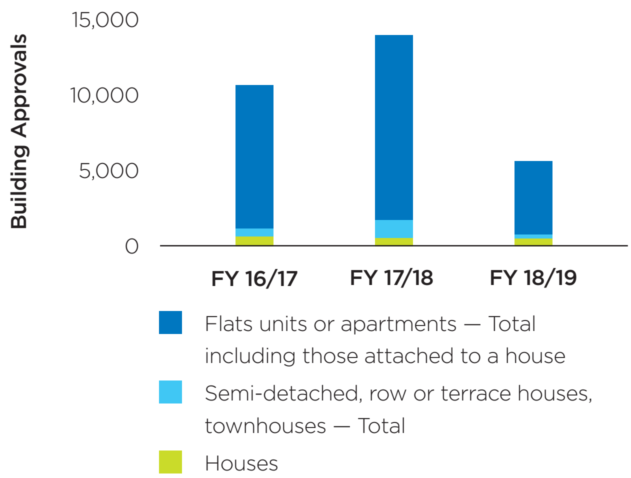
Trends in Regional Victoria

- Relative to Melbourne, regional Victoria is enjoying a stable FY18/19 dwelling approval performance. This situation is primarily due to the limited impact of the downturn in investor activity in regional Victoria and the profile of projects typically delivered in regional Victoria.
- The approvals for houses increased by 4% in FY18/19 to 13,988 up from 13,399 in FY17/18.
- Townhouse activity in Regional Victoria has taken a negative shift in FY18/19, exhibiting a 17.6% decline. The CAGR of the three years to FY18/19 is 11.07%.
- The dwelling approvals for apartments in Regional Victoria fell by 55% to 276 in FY18/19 from 608 in FY17/18.

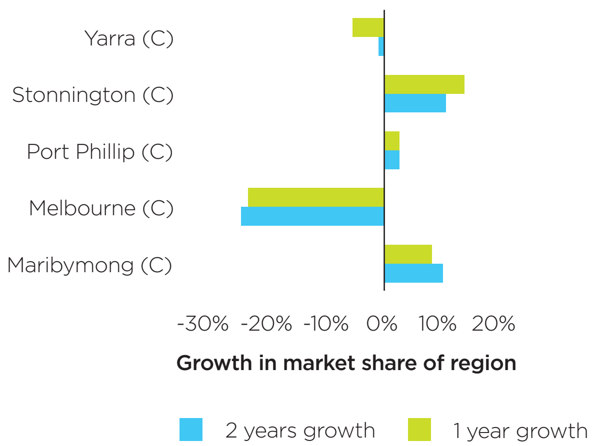
INNER RING OF MELBOURNE

OVERALL PERFORMANCE IN MELBOURNE'S INNER RING HAS SHARPLY DECLINED

Buildings approvals — Inner Ring



Market Share Growth — Inner Ring



Melbourne's inner ring exhibits a mostly negative trend in FY18/19 in comparison to FY17/18.

- House approvals for the inner ring of Melbourne declined from FY17/18 to FY18/19 with a 37% decrease in the 12-month period.
- Apartment dwelling approvals were 5,078 for FY18/19, down significantly from 12,074 in FY17/18. The three-year CAGR for apartments is -19% for FY16/17 to FY18/19.
- Townhouse approvals declined by 42% to 524 in FY18/19, down from 900 in FY17/18.

Hot spots

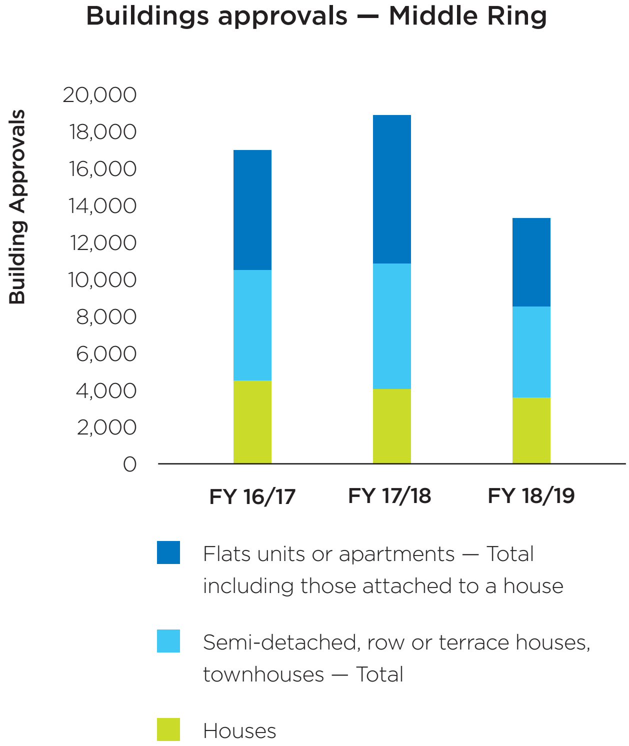
- The City of Stonnington is the only local government area within inner Melbourne to show a positive shift in dwelling approvals in FY18/19. In FY18/19 1,388 dwellings were approved in Stonnington compared to 979 in FY17/18, reflecting a 42% increase.
- Stonnington is now second to the City of Melbourne in total building approvals within the inner ring, making up 23% of the market in comparison to 33% for the City of Melbourne.

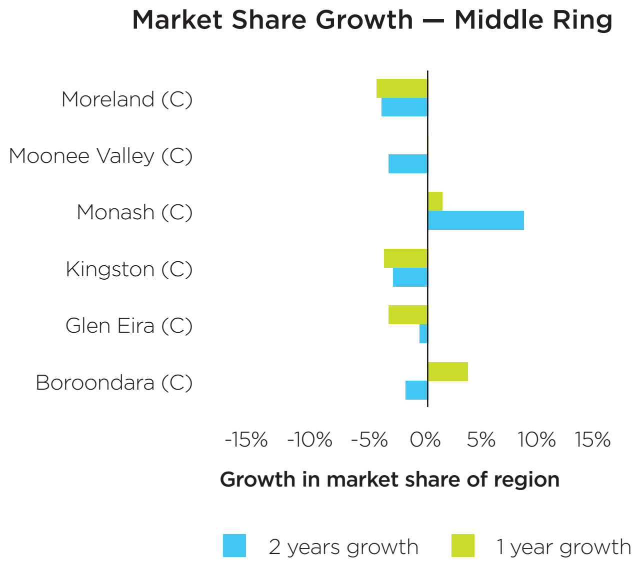
Areas showing signs of weakness

- All other LGAs experienced a significant decline in dwelling approvals in FY18/19. This was led by Melbourne City followed by the City of Yarra.
- City of Melbourne experienced 74% less dwelling approvals in FY18/19. City of Melbourne had 1,924 dwelling approvals in FY18/19, compared to 7,350 approvals in FY17/18.
- Key central Melbourne locations have seen significant declines in activity, such as Melbourne CBD (down from 3,700 to less than 300), Docklands / Southbank (down from 2,400 to approximately 700) and North Melbourne (down from 1,000 to 400).
- City of Yarra dwelling approvals declined by 70% in FY18/19 to 653. This is a significant shift, coming off the peak of 2,190 dwelling approvals in FY17/18.
- Dwelling approvals for FY18/19 declined by 45% in Port Philip and 26% in Maribyrnong.
- The inner region apartment market is currently sitting at 5,100 approvals for dwellings, which is now smaller than the middle ring market with 5,300 building approvals for dwellings.

MIDDLE RING OF MELBOURNE

MELBOURNE'S MIDDLE RING HAS SEEN A SIGNIFICANT DECLINE IN BUILDING APPROVALS





Melbourne's middle ring has shown a significant decline in total dwelling approvals in FY18/19 when compared to FY17/18.

- Total dwelling approvals for the middle ring of Melbourne were 13,603 in FY18/19, down from 18,706 building approvals for dwellings in FY17/18.
- Building approvals for houses decreased by 15% to 3454 in FY18/19 compared with FY17/18.
- Approvals for townhouse decreased by 26% in FY18/19 to 4863 when compared to FY17/18.
- Apartment dwelling approvals declined significantly, falling 34% to 5286 from FY17/18 to FY18/19.

Hot spots

In the Middle Ring, only two of the 12 LGA's experienced an increase in total building approvals for FY18/19 compared with FY17/18.

- The City of Boroondara experienced an 21% increase in total dwelling approvals in FY18/19 to 1,170.
- The City of Whitehorse experienced a 12% increase in total dwelling approvals in FY18/19, up to 1,717 for the period.
- The City of Monash continues to have the greatest percentage of market share of dwelling approvals within the middle ring at 18%.

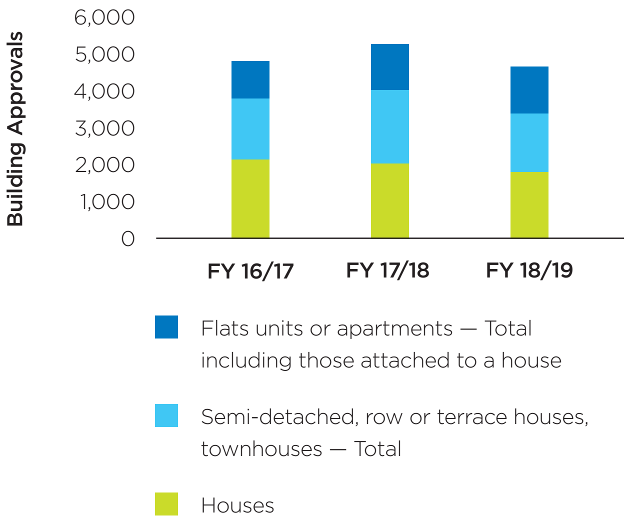
Areas showing signs of weakness

- The Cities of Kingston, Moreland, Bayside and Glen Eira all declined by more than 40% in FY18/19 when compared to the previous financial year.
- Monash experienced a 23% decline in total building approvals in FY18/19, after a 126% increase in FY17/18. Monash comprised 18% of all building approvals within the Middle Ring, the highest LGA for the area.

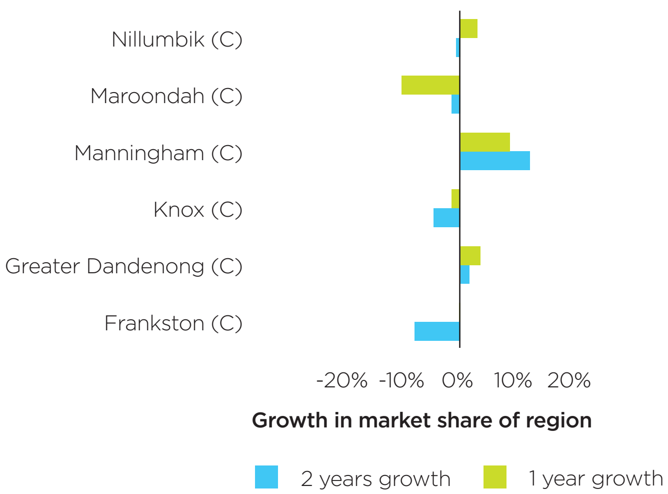
OUTER RING OF MELBOURNE

MELBOURNE'S OUTER RING EXPERIENCED A MODERATE DECLINE IN BUILDING APPROVALS

Buildings approvals — Outer Ring



Market Share Growth — Outer Ring



Melbourne's outer ring has exhibited a moderate decline in dwelling approvals in FY18/19 when compared to FY17/18.

- Total dwelling approvals for the outer ring of Melbourne have decreased in FY18/19 to 4,722 from 5,220 in FY17/18.
  This represents a 9.5% decrease in approvals.
- In comparison to FY17/18, apartment, townhouse and house approvals decreased by 2%, 6% and 17% respectively in FY18/19.

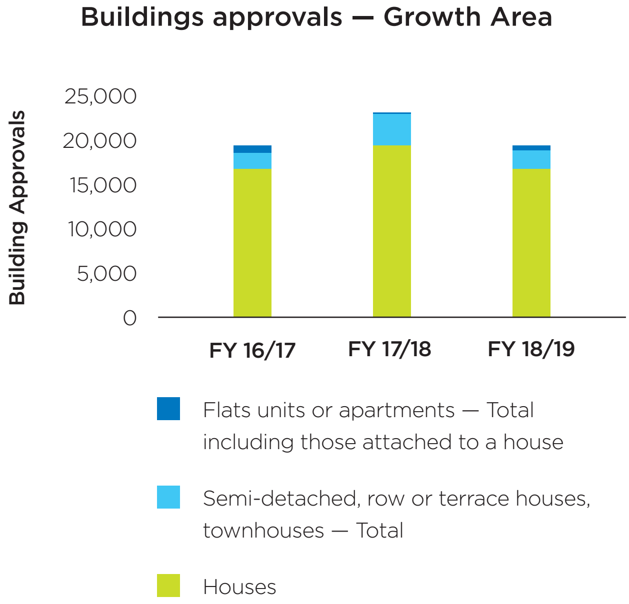
Hot spots

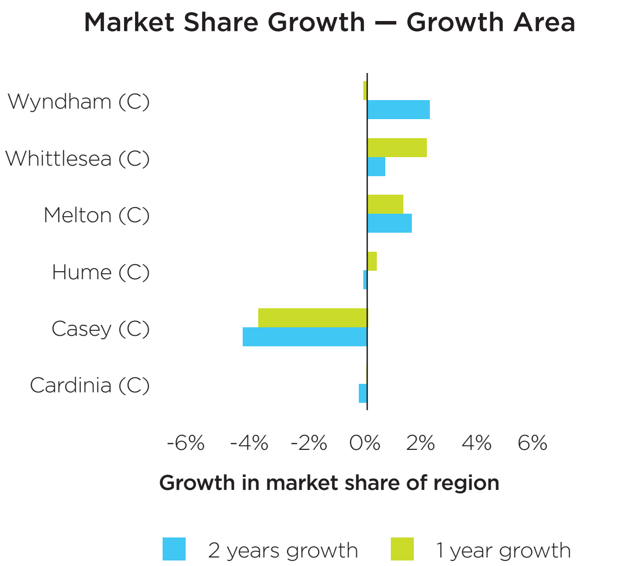
- Three of the six LGAs within the outer ring increased their total dwelling approvals in FY18/19 in comparison to FY17/18.
- Dwelling approval growth on a percentage basis was strongest in Nillumbik, up 60% in FY18/19, although the LGA only makes up 5% of approvals for the outer ring.
- The City of Manningham grew by 16% in FY18/19, with an additional 232 dwellings approved in comparison to FY17/18.
  The City of Manningham increased its position as the predominant LGA of dwelling approvals within the outer ring, increasing its share of the market from 28% in FY17/18 to 35% in FY18/19.
- Greater Dandenong also experience an increase in dwelling approvals in FY18/19, up 5% to 1,831 over the 12-month period.

Areas showing signs of weakness

- The City of Maroondah experienced significant approval reductions in total dwelling approvals in FY18/19, falling by 58%. This reflected 452 dwellings being approved in FY18/19, down from 1,082 dwellings in FY17/18.
- The City of Knox declined in total approvals in FY18/19 to 846, down from 1,028 in FY17/18 and 1,067 in FY16/17.
- The City of Frankston also experienced a decline in total dwelling approvals in FY18/19, which were down 11% to 459.

MELBOURNE'S GROWTH AREAS





Five of the six LGAs in Melbourne's growth areas experienced decreases in dwelling approvals over the past 12 months to June 2019. Dwelling approvals were again underpinned by approvals for houses which accounted for 88% of all approvals in FY18/19 and FY17/18.

- Melbourne growth area LGAs has a combined 17,297 approvals for dwellings in FY18/19, decreasing from 19,585 in FY17/18. It is however slightly above the FY16/17 results of 17,005 building approvals for dwellings.
- FY18/19 saw a decrease in townhouse approvals by 15%. There were 2,140 townhouses approved for FY18/19, down from 2,511 in FY17/18.
- Dwelling approvals for apartments were relatively stable, declining by 4% to 238 in FY18/19, which is below the FY16/17 peak of 417.

Hot spots

Only one LGA within Melbourne growth areas had positive dwelling approval results in FY18/19.

- Whittlesea grew in total building approvals by 5% in FY18/19, moving from 2,441 dwelling approvals to 2,555.

Areas showing signs of weakness

The remaining five LGAs within Melbourne's growth areas have experienced a decline in total building approvals in FY18/19 compared with FY17/18.

- The City of Casey experienced the greatest decline in building approvals which fell 25% to 4,061.
- The Cities of Cardinia, Hume and Wyndham experienced a decline in total approvals by between 10% to 12% in FY18/19.
- Dwelling approvals in The City of Melton declined by 3% to 2,643 in FY18/19.

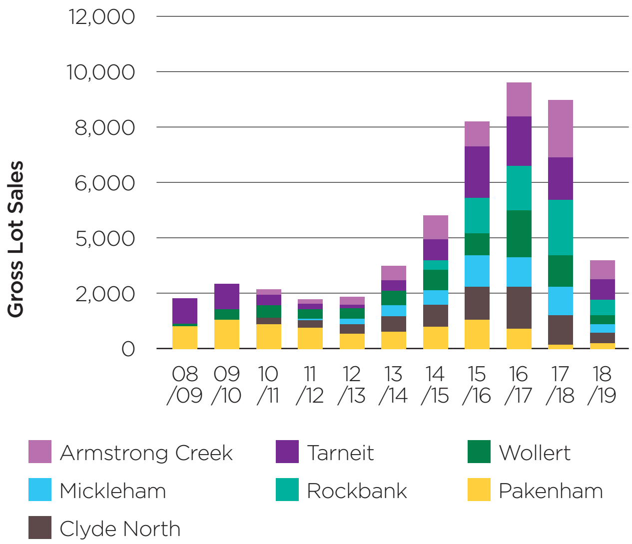
MELBOURNE'S GROWTH AREAS — SALES PERFORMANCE

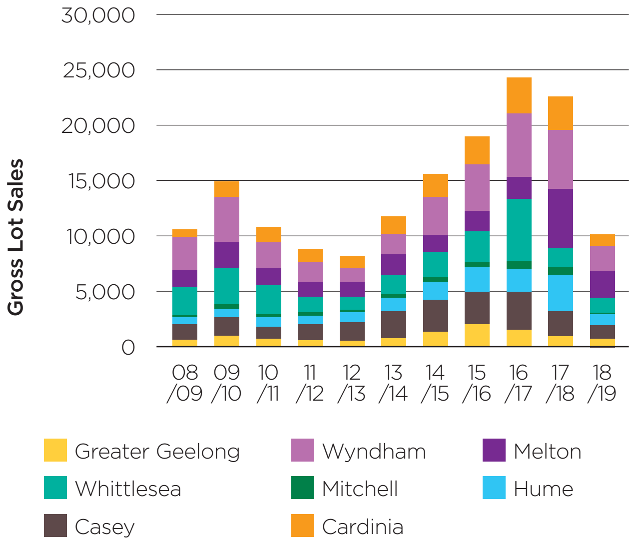
GROSS LOT SALES IN GROWTH AREAS

RPM Real Estate Group, a UDIA Member, has provided updated details of lot sales in Victoria's growth areas.

The trends indicate a significant decline in lot sales across both Local Government Areas and specific suburban regions.

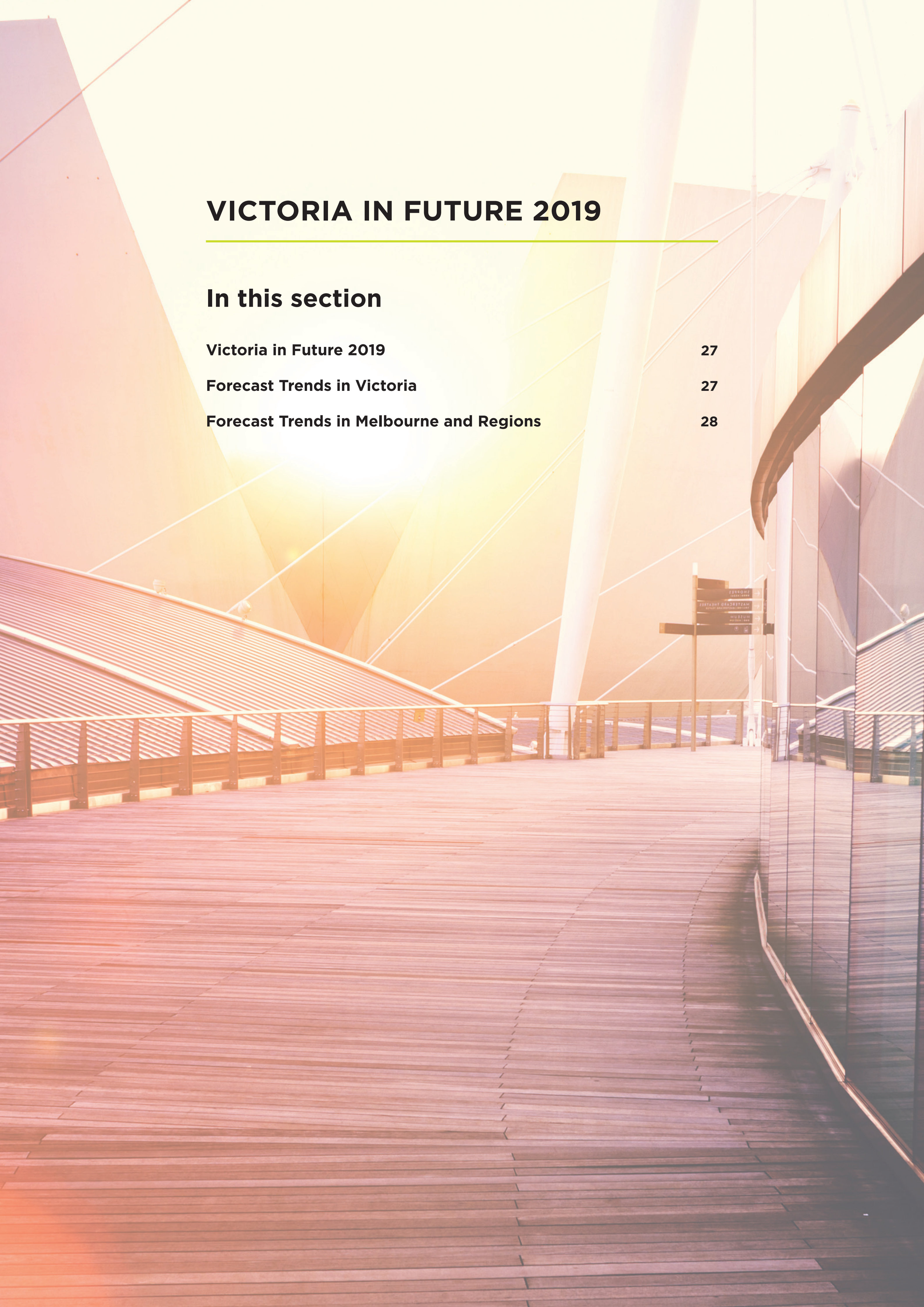
- Year to date gross residential lot sales have fallen between 48% and 62% in all LGAs excluding Cardinia, which fell by 18% compared with the FY17/18 period.
- Median lot prices across growth area LGAs have fallen in Whittlesea, and remained stable in the Cities of Cardinia, Casey and Hume. The City of Greater Geelong experienced an increase in median lot price of approximately 21%.
- Overall, gross lot sales within Melbourne's growth areas are at their lowest since 2012/13.
- There is a delay of between 12 to 24 months between the sale of a residential lot and the settlement of the lot which enables building approval for a dwelling. This is why the data for lot sales and building approvals in any given time period may not align.





VICTORIA IN FUTURE 2019

In this section



VICTORIA IN FUTURE 2019

The Department of Environment Land Water and Planning (DELWP) released the most recent population forecasts for Victoria — Victoria in Future (VIF) — in July 2019. This is the first time these statistics have been released since 2016 and they provide an important indication of the future direction and location of growth in Victoria, Melbourne and key regions.

The forecasts also provide the development sector with insight about where the future market activity is expected, including sub-markets in Melbourne's growth areas and in Victoria's emerging regional markets including Geelong, Ballarat, Bendigo and the Baw Baw — La Trobe Valley corridor.

FORECAST TRENDS IN VICTORIA

A key forecast is the expected growth trajectory for Victoria, including the scale of long-term growth and how the forecast compares with recent activity.

The overall forecast for Victoria extends to 2056 and confirms that the State is expected to have a total population of 11.2 million persons by midway through the century. This is an increase of 4.7 million additional people from today

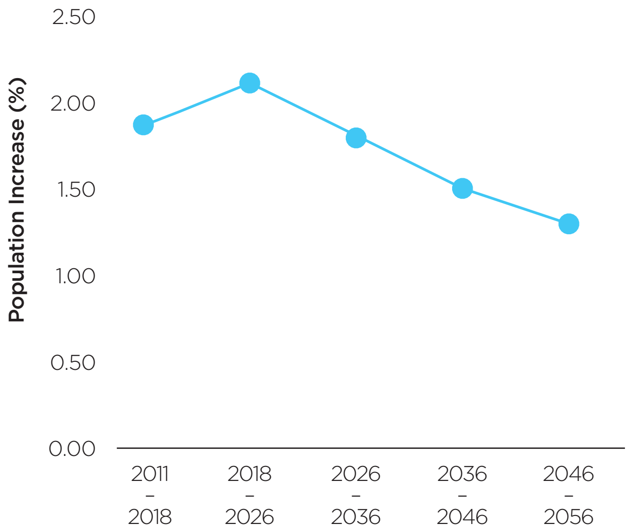
That volume of growth is nearly equivalent to Melbourne's entire existing population of just over 5 million.

Of relevance:

- The average population growth between 2019 and 2056 is expected to be 125,000 persons per annum or 1.5%
- Population growth will be strongest to 2026 at around 2% per annum before declining to 1.5% per annum between 2026 and 2036 and around 1.3% beyond 2036.

The forecast rate of population growth represents a dramatic slowdown from current rates today largely due to an expectation that net overseas migration will decline from around 90,000 per annum to 72,000 per annum and a halving of net interstate migration from around 18,000 per year to 8,000 per year. Natural population increase is expected to be relatively stable.

The figure below depicts the moderation of growth forecasted in the medium to long term.



It is worth noting that even a minor variation to the forecast growth rate will have a significant impact on the overall population increase by 2056. For example, a 0.2% annual variation in growth on average would lead to a population outcome in Victoria in 2056 of 12.1 million persons. This is 900,000 persons higher than the baseline forecast.

This is also more than the entire expected population growth in Melbourne's growth areas over the next 18 years to 2036.

Household mix forecasts and demand for new dwellings

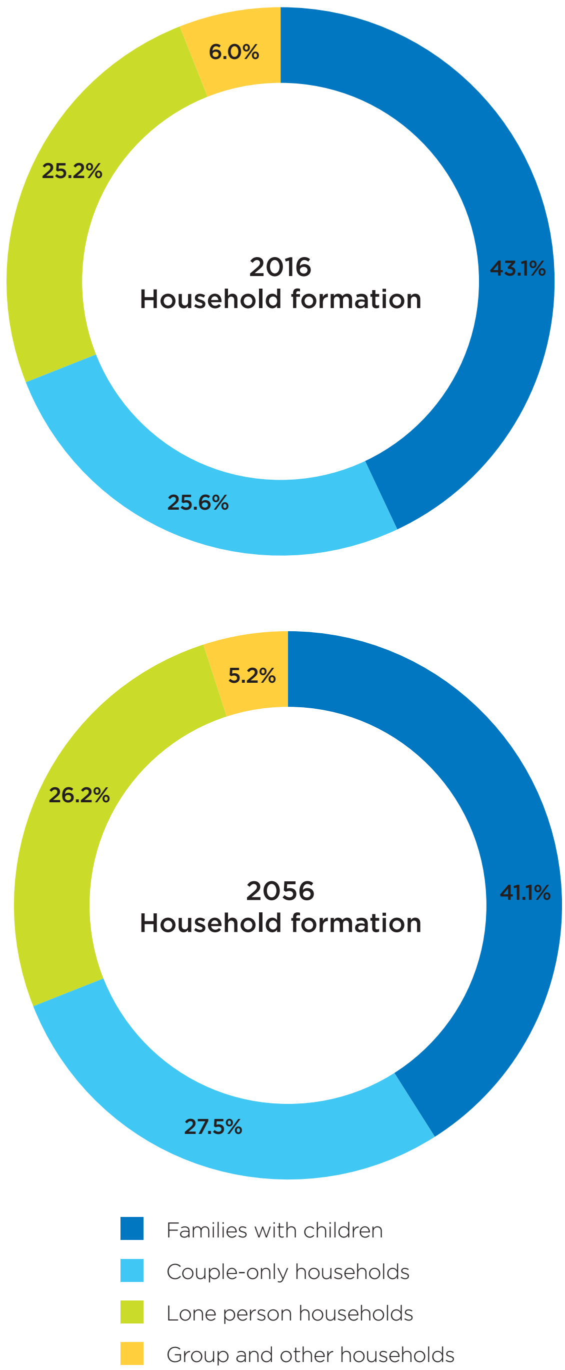
A long-term assessment of the expected change in household composition also provides an indication of how the housing market and typologies may evolve over time.

Families with children are still expected to be the dominant household type in 2056 with nearly 1.88 million of these households — a growth of 850,000 — compared to 2016. This means that there is theoretical demand for at least 21,000 net new homes and townhouses on average every year for the next 40 years.

Couple only families are also expected to grow by 650,000 over the next 40 years. Some of these will age in place as older persons but many will require more suitable accommodation including units, apartments and townhouses.

Lone person households are also expected to increase by 600,000 over the same period together with an additional 100,000 group households.

These household forecasts point to the need for a net supply requirement of at least 55,000 dwellings per annum in Victoria over the entire forecast period. This means that with the demolition of existing stock total building construction will need to average around 66,000 to 68,000 per year based on these relatively conservative forecasts. Of course, as discussed above a small change in the rate of actual population growth — that is, closer to the rates we are currently experiencing — will lead to a dramatic increase in housing requirements.



FORECAST TRENDS IN MELBOURNE AND REGIONS

Melbourne

The VIF dataset provides a forecast for Melbourne and regional Victoria to 2056 which provides several insights into expected long term trends and the relative mix of growth between Melbourne and key regions.

Melbourne's share of Victoria's overall population is expected to increase to 80.3% in 2056 compared to 76% in 2016. This will drive a more centralised Victoria with a reduction in the share of expected development activity in Victoria's regions overall.

This outcome is driven by the expectation that Melbourne will have an average growth rate of 1.6% per annum compared to 1% in regional Victoria.

Forecasts at the LGA level are only available to 2036. Over the 18 years to 2036 activity in Melbourne's growth area LGA's is expected to drive overall growth of 892,000 persons driven principally by municipalities including:

- Hume 119,600 additional persons (a need for approximately 48,000 new dwellings or 2,700 per annum)
- Whittlesea 141,100 additional persons (a need for approximately 56,400 dwellings or 3,130 per annum)
- Cardinia / Casey — 252,000 additional persons (a need for around 100,800 new dwellings or 5,600 per annum)
- Melton — 175,000 additional persons (a need for around 70,000 new dwellings or 3,900 per annum)
- Wyndham — 204,000 additional persons (a need for around 82,000 new dwellings or 4,500 per annum)

Regional Victoria

The forecasts also show significant ongoing growth in the role of Geelong, Ballarat, Bendigo and the role they are likely to play in Victoria's future housing market.

Forecasts for population growth in these markets indicate the extent of dwelling growth and potential ongoing lot sales that are likely. There is also significant upside to these forecasts if the State Government can resolve delivery of an upgraded rail service to Geelong and leverage a future rail link with improved services to Ballarat and Bendigo.

Key forecasts include:

- Greater Geelong population is expected to double from 286,400 as at 2016 to 569,000 in 2056 at a rate of 1.7% per annum which is more rapid than the Victorian and indeed Melbourne averages. This would create a need for around 115,000 dwellings with annual dwelling production of nearly 2,900 per annum.
- Ballarat and Bendigo are both expected to add around 100,000 people each adding 40,000 new dwellings and with housing markets of around 1,000 per annum on average.

LOOKING FORWARD

The forecast activity in Melbourne's growth areas will equate to around 43% of Melbourne's overall growth between 2018 and 2036. This confirms that the State Government's objective of achieving closer to 70% growth in established areas is likely to take time and could be more challenging given recent slowdowns in apartment building approvals in the Inner ring.

As outlined above, the long-term forecasts and potential scale of impact are highly sensitive to small variations in growth rates. The State could easily face an additional 1 to 1.5 million people over the forecast period if population growth persists at rates closer to the current averages.

The impact of conservative population growth forecasts can be extensive, including:

- inadequate service planning,
- inaccurate strategic planning across Victoria; and
- wider impacts on infrastructure planning including business cases that potentially 'under estimate' project benefits driven by demand moderate demand estimates.

For example, proposed large infrastructure projects including the Suburban Rail Loop, major road projects and hospital upgrades could be delayed if future needs are under estimated.

ECONOMIC IMPACT OF THE RESIDENTIAL DEVELOPMENT SECTOR

In this section

CONTRIBUTION TO VICTORIAN ECONOMY

The total expenditure in the new residential construction sector (inclusive of the sector for four or more storey buildings) in FY18/19 amounted to just over $20 billion. This is equivalent to almost 5% of the Victorian economy and indicates that roughly one in every $20 of activity is driven by the sector.

Based on the economic value add measure, this expenditure generated a further $24.6 billion for the Victorian economy.

Of this, around $6 billion was directly generated by the residential development sector.

Current trends in the residential construction sector show a 21% fall in the number of residential dwelling approvals and a 15% reduction in the total value of approvals in FY18/19. This slowdown is largely attributable a 46% fall in the approval of four or more storey residential buildings.

TABLE 1: EXPENDITURE ($M, JAN 2019, REAL), TOTAL RESIDENTIAL CONSTRUCTION

	FY16/17	FY17/18	FY18/19
Expenditure ($m)	**$20,370**	**$24,658**	**$20,860**

TABLE 2: ECONOMIC VALUE ADD ($M, JAN 2019, REAL), TOTAL RESIDENTIAL CONSTRUCTION

	FY16/17	FY17/18	FY18/19
Direct value add ($m)	$5,887	$7,126	$6,028
Indirect value add ($m)	$18,149	$21,970	$18,586
Total value add ($m)	**$24,036**	**$29,096**	**$24,615**

Note:

*Expenditure has been updated to reflect prices as of 1 January 2019.

** Total values may not be the sum of direct and indirect values due to rounding.

*** The input/output multipliers used to calculate economic activity are from the 2017–18 financial year.

CONTRIBUTION TO EMPLOYMENT

The residential development sector was estimated to sustain almost 190,000 jobs in Victoria in FY18/19. This figure includes jobs sustained directly in the sector as well as in support industries such as property and business services, financial services, transport and distribution, manufacturing and other sectors.

This equates to a 15% decline from FY17/18 due to reduced building approvals and the expected impacts on construction activity. The precise timing of the impact will depend on the delivery of projects through FY18/19 and FY19/20.

It is important to note that these estimates of impact and revenue do not include the contribution that the residential development sector makes to the Victorian Government's own source tax collections. State taxes, including stamp duty and land tax, are supported by the sector. While off-the-plan stamp duty concessions will apply to first home buyers and those residing in new properties, it is important to note that developers fund large stamp duty and land tax collections as part of the land acquisition and development process.

Other charges, including open space contributions and developer levies also provide State and Local Government with a diversity of revenue streams to fund capital projects and services.

TABLE 3: JOBS (FULL TIME, PART TIME AND CASUAL), TOTAL RESIDENTIAL CONSTRUCTION

	FY16/17	FY17/18	FY18/19
Direct jobs creation	40,739	49,315	41,720
Indirect jobs creation	142,587	172,603	146,018
Total jobs	**183,326**	**221,918**	**187,738**

IMPACT OF DECLINE IN APARTMENT ACTIVITY

Total expenditure in the new residential construction sector for four or more storey buildings amounted to over $4 billion in FY18/19. This is roughly 20% of the total contribution of the residential construction sector. Based on the economic value add measure, this expenditure generated a further $4.8 billion into the Victorian economy.

Current trends in the construction market for four or more storey buildings show a 46% slowdown in the number of approvals and a 40% reduction in the total value of approvals in the most recent financial year.

The construction of four storey plus buildings sustained over 36,000 jobs in Victoria in FY18/19. This figure includes jobs sustained directly in the sector as well as in support industries such as property and business services, financial services, transport and distribution, manufacturing and other sectors. This figure was far lower than FY17/18 (which was over 60,000).

TABLE 4: EXPENDITURE ($M), 4+ STOREY BUILDINGS

	FY16/17	FY17/18	FY18/19	FYoY Growth
Expenditure ($m)	**$5,213**	**$6,720**	**$4,045**	**-39.8%**

TABLE 5: ECONOMIC VALUE ADD ($M), 4+ STOREY BUILDINGS

	FY16/17	FY17/18	FY18/19	FYoY Growth
Direct value add ($m)	$1,507	$1,942	$1,169	
Indirect value add ($m)	$4,645	$5,987	$3,604	
Total value add ($m)	**$6,151**	**$7,929**	**$4,773**	**-39.8%**

TABLE 6: JOBS (FULL TIME, PART TIME AND CASUAL), 4+ STOREY BUILDINGS

	FY16/17	FY17/18	FY18/19	FYoY Growth
Direct jobs creation	10,426	13,440	8,090	
Indirect jobs creation	36,492	47,039	28,316	
Total jobs	**46,918**	**60,479**	**36,407**	**-39.8%**

METHOD AND DATA SOURCES

In this section

METHOD OF CALCULATING ECONOMIC IMPACTS

We have utilised ABS dwelling approval data (value estimates) to calculate estimated expenditure in the new residential construction sector and employment generation.

Economic contribution is a measure comprising all market related expenditure generated by a specified industry or an activity. Economic contribution studies do not consider the substitution impacts to other industries (i.e. what might happen to expenditures if the specific industry or activity were lost). As such economic contribution is a gross measure rather than a net measure.

To estimate economic contribution, this study adopts an input/output approach to calculate the direct and indirect (wider) economic impacts. REMPLAN1 was engaged to develop input/output multipliers that reflect the specific characteristics of the Victorian economy.

REMPLAN is essentially an input/output model of the Australian economy and regional economies. Input/output models trace the revenue and expenditure flows that link industries and workers within and outside economic regions. For instance, an increase in output in one industry (the "direct impact") would give rise to demand for inputs from other industries (industrial effect) as well as labour (consumption effect). In turn, these support industries would demand further inputs, labour, and so on. This may be referred to as the multiplier or indirect effect.

REMPLAN modelling provides the ability to calculate the value of gross regional product. REMPLAN's key advantage over other input/output models or "off the shelf multipliers" is that it is region specific.

Three common indicators of an industry or economic size or value are:

- **Gross industry output** — Market value of goods and services produced, often measured by turnover/revenue. Gross output is also referred to as 'gross economic contribution' or 'gross expenditure'
- **Value added (Gross State/Regional Product)** — Market value of goods and services produced, after deducting the cost of goods and services used.
- **Jobs** — Number of jobs generated by an industry or attraction.

Based on the expenditure estimates, it is possible to estimate the value add to an economy from the construction of new dwellings as well as the number of jobs sustained by this industry.

DATA SOURCES AND GLOSSARY

Abbreviations	
ABS	Australian Bureau of Statistics
EY	Ernst & Young
BA	Building Approvals
DA	Development Approval
LGA	Local Government Area
UDIA	Urban Development Institute of Australia
VIF	Victoria in Future
DSG	Demand and Supply Gap
RDI	Residential Development Index
DBA yield	Estimated yield of dwellings to building approvals (used to forecast supply)
Census	Census of population and housing
DTF	Department of Treasury and Finance (Victoria)
DELWP	Department of Environment, Land, Water, and Planning (Victoria)

Study Areas and Usage of Data

The following assumptions were made regarding building approvals:

1. Each geographical catchment has been referenced against defined LGA's.

2. For the Melbourne geographical catchments (also shown on the following page's map):

   - **Inner Ring //** This term throughout the Report refers to Melbourne's inner ring LGA's (<10km from CBD). LGA's within inner ring Melbourne include; Melbourne, Port Phillip, Yarra, Maribyrnong and Stonnington.
   - **Middle Ring //** This term throughout the Report refers to Melbourne's middle ring LGA's (10–20 kms from CBD). LGA's analysed within middle ring Melbourne include; Moreland, Darebin, Banyule, Boroondara, Glen Eira, Manningham, Whitehorse, Monash, Bayside, Kingston, Moonee Valley, Brimbank and Hobsons Bay.
   - **Outer Ring //** This term throughout the Report refers to Melbourne's established outer ring LGA's (>20kms from CBD). LGA's analysed within outer ring Melbourne include; Nillumbik, Maroondah, Knox, Greater Dandenong and Frankston.
   - **Growth Areas //** This term throughout the Report refers to the defined Melbourne growth areas. LGA's analysed within Melbourne growth areas include; Hume, Whittlesea, Mitchell, Casey, Cardinia, Melton and Wyndham.
   - **Regional Victoria //** This term throughout the Report refers to parts of Victoria excluding metropolitan Melbourne.
   - **Greater Capital City Statistical Area //** Metropolitan Melbourne local government areas.

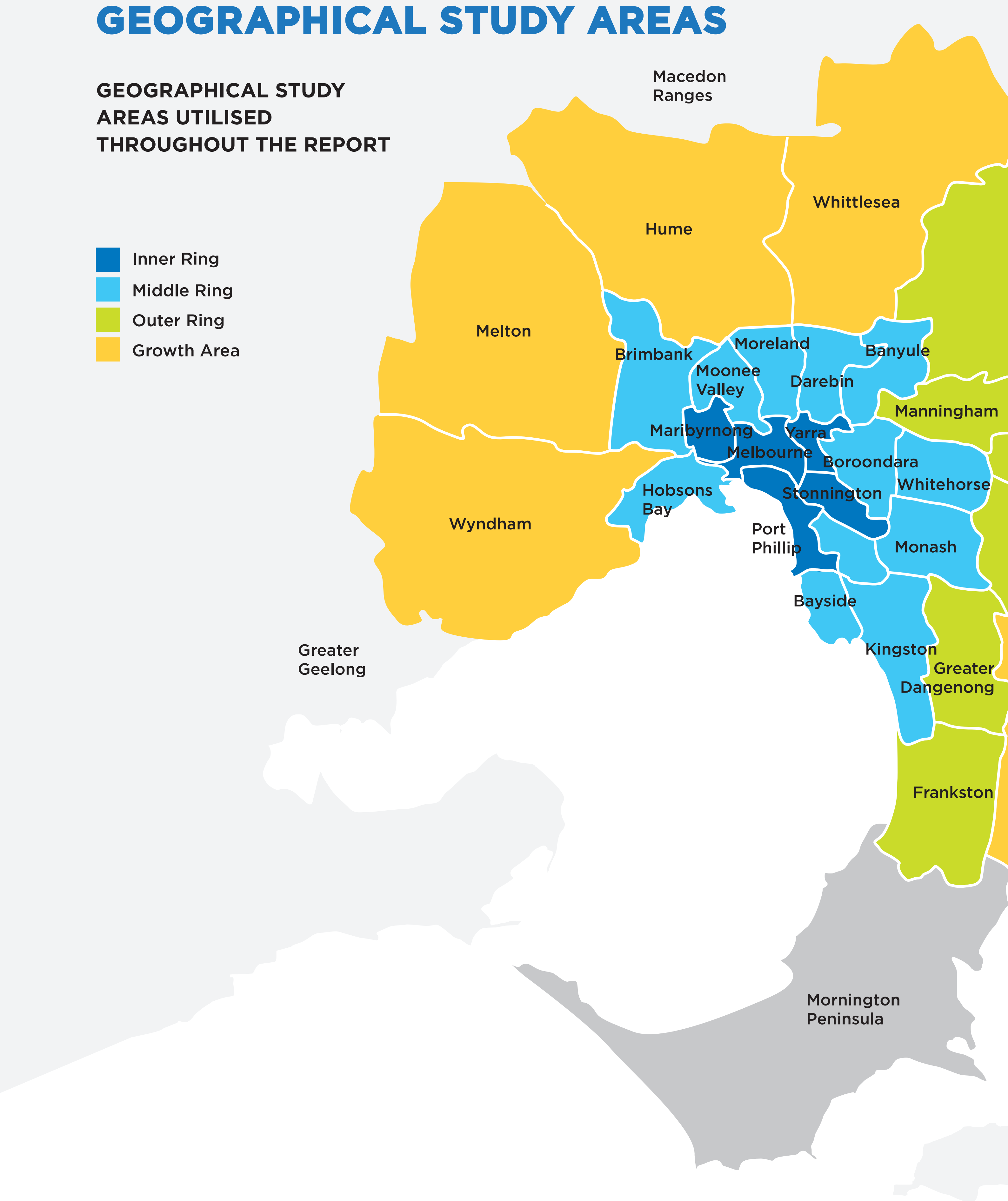
Data and Information Sources

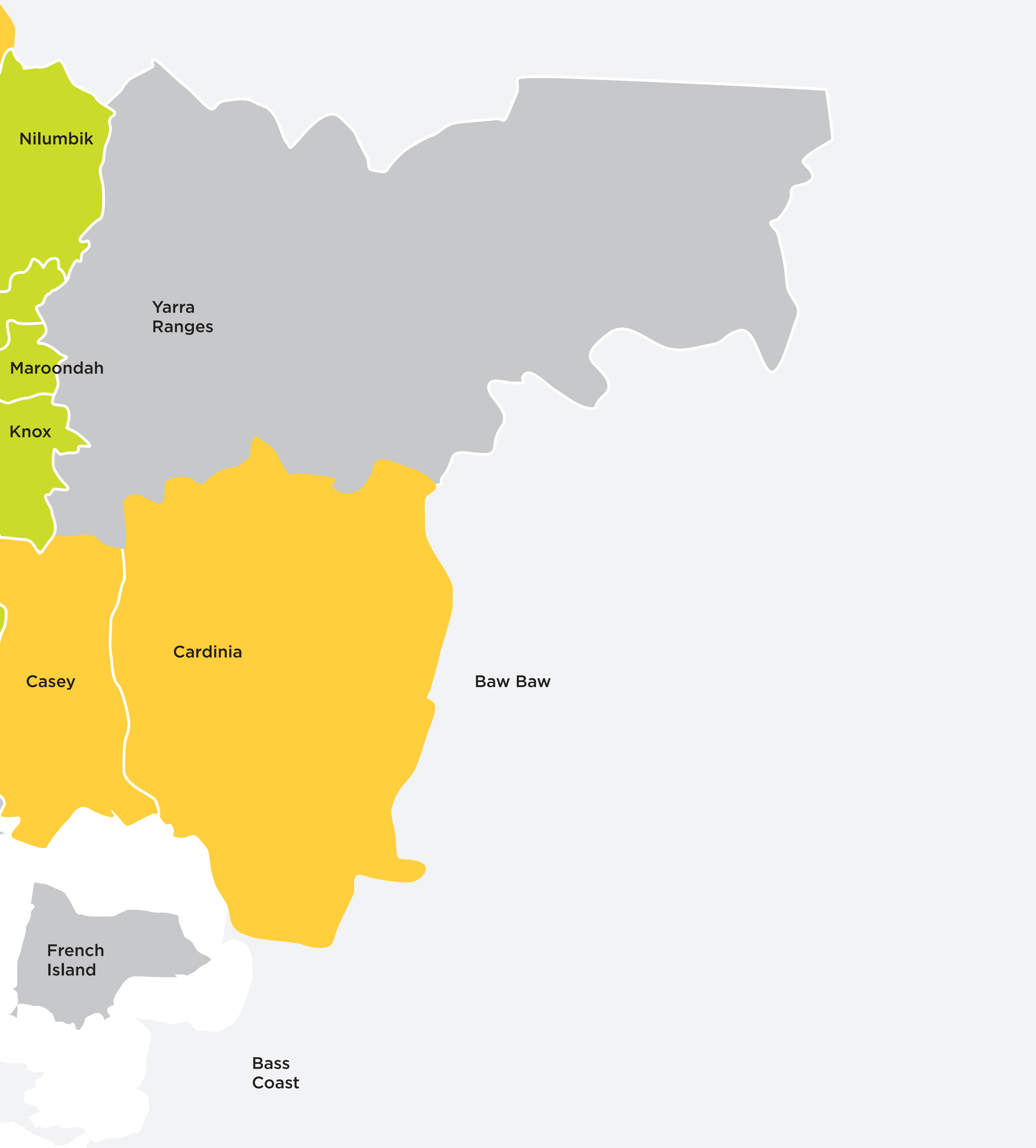
In completing components of this report, we have utilised existing sources of data including the following:

- Australian Bureau of Statistics.
- DTF Budget Papers including forecasts of population and employment.
- EY proprietary data and research.
- RPM — UDIA Member
- VIF 2019

GEOGRAPHICAL STUDY AREAS

GEOGRAPHICAL STUDY AREAS UTILISED THROUGHOUT THE REPORT




Nilumbik
Yarra Ranges
Maroondah
Knox
Casey
Cardinia
Baw Baw
French Island
Bass Coast

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