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Amped Up:

How energy resilient are Australian homes?

DECEMBER 2024

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“There is a significant difference between modern homes and older homes when it comes to energy efficiency. This stark contrast underscores the advancements in building codes and energy efficiency requirements over the past decade”

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INTRODUCTION

Energy resilience is a critical factor in determining the sustainability and efficiency of homes across Australia. With the increasing focus on reducing greenhouse gas emissions and achieving net-zero targets by 2050, understanding the energy efficiency of residential buildings has never been more important.

This report delves into the energy resilience of Australian homes, highlighting the significant differences between modern and older homes, and the impact of evolving construction standards on energy efficiency.

The typical home built in 2010 or later achieves a median star rating of 5.9 out of 10, compared to a median of just 2.8 stars for homes built prior to 2010. This stark contrast underscores the advancements in building codes and energy efficiency requirements over the past decade.

The National Construction Code (NCC) has played a pivotal role in driving these changes, with the introduction of a minimum 6-star rating for new builds from 2010 and the latest code mandating a minimum seven-star rating.

By examining various factors such as dwelling type, floor area, orientation, building materials, and location, the RapidRate model provides a star rating aligned with the Nationwide House Energy Rating Scheme (NatHERS).

Understanding the energy resilience of homes is not only crucial for homeowners and builders but also for financial institutions. Green lending initiatives and the assessment of mortgage portfolios on greenhouse gas and carbon emissions status are becoming increasingly important as Australia strives to meet its sustainability objectives.

How energy resilient are Australian homes?

The typical home built in 2010 or later achieved a median star rating of 5.9 out of 10, compared with a median of just 2.8 stars for homes built prior to 2010.

There is a significant difference between modern homes and older homes when it comes to energy efficiency. Metrics generated from CSIRO's RapidRate product, which utilises CoreLogic data inputs, show homes built prior to 2010 have a median energy rating of just 2.8 compared with a median of 5.9 for homes built from 2010 onwards. Some regions around Australia with a predominance of newly built homes are showing median star ratings over 6 across all dwellings.

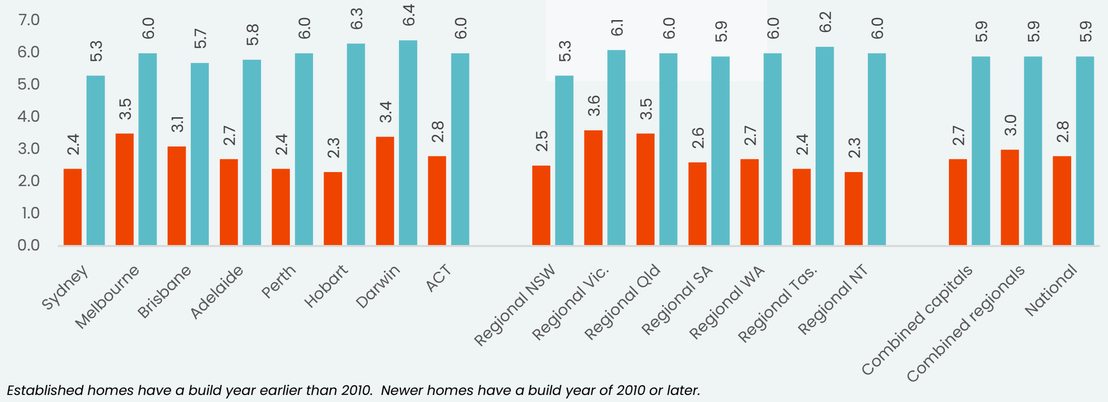
Importantly, this analysis assumes homes built prior to 2010 are unrenovated and don't account for upgrades that may have been added such as insulation or double glazing.

Across the broad regions of Australia, the median star rating for homes built prior to 2010 ranged from 2.3 in Hobart and Regional NT, to 3.6 in Regional Victoria. In contrast, the lowest median star rating for homes built from 2010 or later was 5.3 in Sydney and Regional NSW and as high as 6.4 in Darwin.

The significant difference in energy efficiency between relatively modern homes and older homes can largely be attributed to changes in the National Construction Code (NCC) which has progressively placed more emphasis on energy efficiency requirements for newly built homes. The introduction of a minimum 6-star rating for new builds from 2010 was a key inflection point, but since then the NCC has evolved to include minimum energy equivalence ratings for all newly built homes, with the latest code mandating a minimum seven-star rating for new builds.

It's reasonable to expect median star ratings will continue to increase over the coming years as each state and territory adopts the latest NCC standards for a minimum 7-star rating although there is likely to be some variation depending on the availability of state /territory incentives and programmes.

Median energy star rating, major regions of Australia



Established homes have a build year earlier than 2010. Newer homes have a build year of 2010 or later.

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How energy resilient are Australian homes?

How does the CSIROs' RapidRate model assess a home's energy efficiency? RapidRate is a model that utilises Artificial Intelligence. The RapidRate model was trained using data from historical Nationwide House Energy Rating Scheme (NatHERS) ratings. CoreLogic's comprehensive property data is fed into the RapidRate model to estimate the energy efficiency of individual dwellings, providing a star rating that is aligned with NatHERS. The model uses 12 main inputs including information about the dwelling type and floor area, orientation, building materials and location to produce a star rating as well as heating and cooling load for each property. Each of these data elements includes quality ratings. Learn more in the Methodology section below.

What do the star ratings mean? The NatHERS star rating is on a scale of 0 to 10. In simple terms, the higher the star rating, the higher the energy efficiency of a home.

At the lowest end of the spectrum, a home with a star rating of 0 will be too hot in the summer and too cold in the winter, requiring a lot of energy to keep the home at a comfortable temperature. With a star rating of 7 (which is now the minimum standard for new builds in the NCC), the home will need some mechanical heating and cooling to keep it comfortable, while a 10-star rated home should remain comfortable year-round with limited or no mechanical heating or cooling.

Why is an energy efficiency rating important? According to the Department of Climate Change, Energy, the Environment and Water, residential buildings account for around 24% of Australian energy usage and over 10% of total carbon emissions, with most of this energy used for heating and cooling homes. A more energy resilient home will help to minimise costs associated with keeping a home at a comfortable temperature and support an improvement in greenhouse gas emissions as Australia strives for a net-zero emissions target by 2050.

From a banking and finance perspective, an ability to assess the energy resilience of individual homes will support 'green lending' initiatives and provide a mechanism for evaluating mortgage portfolios on greenhouse gas and carbon emissions status.

Methodology

The RapidRate model estimates how well a home's thermal shell (including the walls and roof) keeps in heat. It uses data about the property to give an energy efficiency rating as well as the heating and cooling load.

This analysis is of detached and semi-detached dwellings (including townhouses), however does not include apartments.

An Input Data Quality Score measures how reliable the data provided by CoreLogic is for this model. It helps to ensure transparency of the data accuracy. The main data inputs include the type of property, floor area, wall and window areas by direction, insulation values, materials used for walls, floors, and roofs, and the postcode.

CoreLogic gets this data from existing sources, calculations or data science models, and proxy values when reliable data isn't available. The Input Data Quality Score considers the importance of the data to the model and the reliability of the data source.

The score ranges from 0 to 1:

- **Low Quality (0 – 0.3):** Limited or no reliable sources for the main data inputs
- **Medium Quality (0.3 – 0.7):** Limited reliable sources for main data such as the type or location of the property.
- **High Quality (0.7 +):** Reliable sources for the main data.

This score helps ensure the data used in the RapidRate Model is used in the most appropriate way, leading to a better understanding of the estimated energy efficiency of a property.

The input quality score is a weighted score between 0-1 which is based on the relative importance a given attribute input is to the RapidRate model, and the source CoreLogic has used. Of the properties rated, the average score is 0.47, however the majority of rateable properties are in the medium input quality score range (between 0.3-0.7). A medium score indicates that some input values to the RapidRate model have been derived or estimates due to the availability of real/observed data e.g. estimates for wall insulation and derivations of roof construction materials based on aerial imagery.

As part of future releases, data will continue to be improved as more sources are integrated to CoreLogic and supplied to the CSIRO RapidRate model.

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A look across Australia

The top 30 regions with the highest median star rating for energy efficiency show a broad geographic distribution but tend to be concentrated in areas with a predominance of newly built housing.

ACT leads the nation
This reflects the importance of minimum standards in the National Construction Code.

The ACT is over-represented on the national Top 30 league table for SA3 regions with the highest median star rating, with six of the Territory's eight SA3's featured on the list.

In fact, the western ACT SA3 sub-region of Molonglo tops the nation with the highest median star rating at 6.1; the only SA3 nationally with median star rating of 6 or higher across all dwellings. Molonglo is also the newest housing district of the ACT, with the predominance of newly built homes adding to the high median star rating.

Other factors have contributed to ACT's over representation in the top 30 list, including:

- Early adoption of the National Construction Code's minimum energy rating standards;
- Incentives for high efficiency homes under the Energy Efficiency Improvement Scheme; and,
- Minimum insulation requirements for rental housing since 2023.

Demonstrating a nation-leading path on emissions targets, the ACT has set a target of achieving zero net greenhouse gas emissions by 2045.

A look across Australia

A further nine SA3 regions across the country recorded a median star rating of 5.8. Six of these located in Victoria. This included the Surf Coast-Bellarine Peninsula in regional Victoria, with the suburbs of Armstrong Creek, Curlewis and Mount Duneed all recording a median star rating of 6 or higher. A further five SA3's that recorded a median star rating of 5.8 were in the outer regions of Victoria, including Whittlesea–Wallan, Tullamarine-Broadmeadows, Cardinia, Casey–South and Wyndham.

Sub-regions of Adelaide also had a strong presence on the top 30 table, on par with Melbourne, featuring 5 SA3's. The Port Adelaide–East sub-region recorded the highest median star rating at 5.5.

In Perth, the highest ranking SA3 was Serpentine-Jarrahdale with a median star rating of 5.8, followed by Armadale and Kwinana with a median of 5.6.

In Darwin, the highest median star rated SA3 was Palmerston at 5.8.

The only capital cities that are notably absent from the top 30 league table were Sydney and Hobart. Sydney's Blacktown–North and Bringelly–Green Valley missed the cut by only a few basis points, with both areas recording a median star rating of 5.2.

However, despite Hobart recording one of the highest median star rating for newly built homes at 6.3, sub-regions of Hobart were well down the list based on analysis of all dwellings, with the highest star rating recorded at 2.6 across Hobart–North East. The relatively low star rating across regions of Hobart might be attributable to a larger portion of older housing stock (Tasmania has historically shown one of the lowest dwelling completion to population ratios), heritage restrictions and the heating demand from such a cold climate.

National top 30 SA3 regions: Highest median star rating, all houses

SA3 Name	SA4 Name	GCCSA Name	Median star rating	Median house value
Molonglo	ACT	ACT	6.1	$1,152,107
Surf Coast - Bellarine Peninsula	Geelong	Rest of Vic.	5.8	$977,265
Whittlesea - Wallan	North East	Melbourne	5.8	$737,854
Tullamarine - Broadmeadows	North West	Melbourne	5.8	$690,157
Cardinia	South East	Melbourne	5.8	$748,919
Casey - South	South East	Melbourne	5.8	$766,621
Wyndham	West	Melbourne	5.8	$681,723
Serpentine - Jarrahdale	South East	Perth	5.8	$768,589
Palmerston	Darwin	Darwin	5.8	$533,900
Gungahlin	ACT	ACT	5.8	$1,036,202
North Canberra	ACT	ACT	5.7	$1,347,663
South Canberra	ACT	ACT	5.7	$1,866,068
Ballarat	Ballarat	Rest of Vic.	5.6	$565,390
Cairns - North	Cairns	Rest of Qld	5.6	$733,499
Armadale	South East	Perth	5.6	$704,799
Kwinana	South West	Perth	5.6	$643,808
Jimboomba	Logan - Beaudesert	Brisbane	5.5	$938,772
Port Adelaide - East	Adelaide - North	Adelaide	5.5	$852,613
Baw Baw	Latrobe - Gippsland	Rest of Vic.	5.4	$651,411
Ormeau - Oxenford	Gold Coast	Rest of Qld	5.4	$986,464
Townsville	Townsville	Rest of Qld	5.4	$548,807
Charles Sturt	Adelaide - West	Adelaide	5.4	$1,015,354
West Torrens	Adelaide - West	Adelaide	5.4	$1,093,279
Weston Creek	ACT	ACT	5.4	$937,710
Springfield - Redbank	Ipswich	Brisbane	5.3	$737,354
North Lakes	Moreton Bay - South	Brisbane	5.3	$855,646
Playford	Adelaide - North	Adelaide	5.3	$585,363
Port Adelaide - West	Adelaide - West	Adelaide	5.3	$811,246
Wanneroo	North West	Perth	5.3	$779,578
West Pilbara	WA - Outback (North)	Rest of WA	5.3	$581,131
Belconnen	ACT	ACT	5.3	$887,366

The role of the National Construction Code (NCC) in driving change

Mandatory energy efficiency requirements for housing aren't new in Australia, but the standards have evolved significantly over the past thirteen years or so since the NCC superseded the Building Code of Australia (BCA) in 2011.

By 2022 the minimum NatHERS star rating on a new home had risen from six to seven and includes more focus on insulation levels and glazing performance as well as 'operational energy use'. Examples of this include an emphasis on low energy lighting and higher standards for appliances such as air conditioners and water heaters.

The Code is also more focused on enabling net-zero energy homes with options for solar panels, battery storage and carbon neutral materials to be used in construction.

Additionally, we are now seeing more focus on climate responsive design where construction is sympathetic to local climate and environmental conditions, ensuring homes are more adaptable to extreme weather conditions influenced by climate change.

The path to net-zero

Australia currently has a Paris Agreement target to reduce greenhouse gas emissions by 43% (from 2005 levels) by 2030 and to reach net zero emissions by 2050. The Department of Climate Change, Energy, the Environment and Water estimate residential buildings are responsible for around 24% of Australian energy usage.

Minimum energy efficiency standards for new builds will continue to be important in supporting Australia's greenhouse gas reduction targets, but there is likely to be increasing focus and incentives on established housing where most of the housing stock was constructed prior to recent minimum standards.

Retrofitting older homes with more energy efficient elements such as better insulation and glazing as well as modern energy saving appliances, will support a further increase in energy ratings over time.

The importance of data and technology in measuring energy efficiency

What gets measured gets done. As standards for energy efficient design and construction rise, it's also becoming more important to measure energy resilience in our housing stock.

Energy modelling, such as CSIRO's RapidRate and energy assessment tools are prime examples of blending technology such as AI and machine learning with CoreLogic's comprehensive property data universe to estimate the energy efficiency of housing.

Although Australian property data is comprehensive, standardised and national, there is still a lot of information we don't know about when it comes to energy efficiency of individual homes, especially established homes with an older build date.

Many European countries are well advanced in their data collection and analysis of energy efficiency data, with the European Union Energy Performance of Buildings Directive (EPBD) mandating an Energy Performance Certificate (EPC) must be obtained when homes are built, sold or rented. This is also the case in the United Kingdom and some Scandinavian countries.

EPC's, typically using the NatHERS rating tool, are also mandated in some areas of Australia, but rules lack consistency across the states and territories.

As regulations around minimum energy efficiency standards evolve and mandated disclosure of energy ratings becomes widespread, more data will be available. Subsequently, models designed to estimate energy efficiency of Australian dwellings will continue to improve in their accuracy and level of detail as the underlying data sets become richer.

Measurements of energy efficiency and the 'green financing' sector

Most Australian banks will have sustainability objectives and a target to reach net-zero emissions (typically) by 2050. Green lending financial products and investing in energy efficient assets form an important part of these objectives.

Financial products described as 'green' are those designed to support environmentally sustainable outcomes, with loans that focus on supporting energy efficient or low carbon / environmentally friendly practices.

For the housing sector, this means accessing credit for the purpose of buying, building or renovating a home that meets specific energy efficiency or sustainability standards.

A green loan would typically be on 'better' terms such as offering lower interest rates. The objective is to align financial markets with sustainability objectives such as lower greenhouse gas emissions and working towards net zero targets.

Energy ratings play a key role in helping to determine if a property meets the eligibility requirements of a green loan, such as a minimum star rating.

Energy ratings can also be applied to a lenders mortgage portfolio to assess what portion of loans meet the minimum requirements to be considered energy efficient or environmentally sustainable, helping Australia's banking and finance sector to benchmark their sustainability objectives.

Energy ratings across Australia's capital cities

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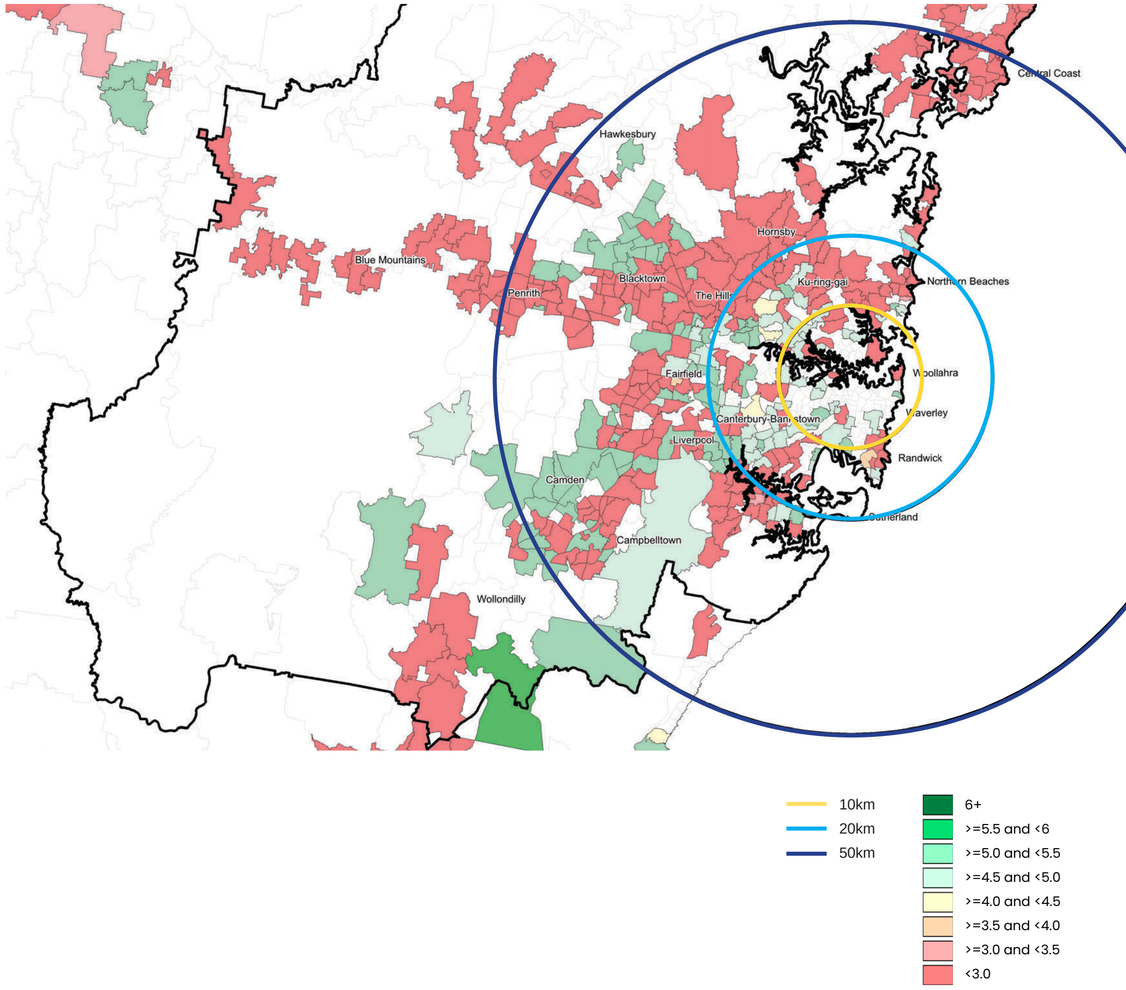
Top 20: Sydney | Highest median star ratings by suburb

Suburb name	SA3 Name	SA4 Name	Median star rating	Median house value
Appin (NSW)	Wollondilly	Sydney - Outer South West	5.4	$1,139,366
Austral	Bringelly - Green Valley	Sydney - South West	5.4	$946,552
Marsden Park	Blacktown - North	Sydney - Blacktown	5.4	$1,204,977
Menangle Park	Campbelltown (NSW)	Sydney - Outer South West	5.4	$1,105,388
Pemulwuy	Mount Druitt	Sydney - Blacktown	5.4	$1,298,542
Ropes Crossing	Mount Druitt	Sydney - Blacktown	5.4	$907,436
Spring Farm (NSW)	Camden	Sydney - Outer South West	5.4	$1,039,952
The Ponds	Blacktown - North	Sydney - Blacktown	5.4	$1,589,405
Wadalba	Wyong	Central Coast	5.4	$905,886
Bungarribee	Blacktown	Sydney - Blacktown	5.3	$1,141,358
Caddens	Penrith	Sydney - Outer West and Blue Mountains	5.3	$1,127,376
Carnes Hill	Bringelly - Green Valley	Sydney - South West	5.3	$1,206,464
Catherine Field	Bringelly - Green Valley	Sydney - South West	5.3	$1,194,015
Cobbitty	Bringelly - Green Valley	Sydney - South West	5.3	$1,122,803
Colebee	Blacktown - North	Sydney - Blacktown	5.3	$1,360,716
Denham Court	Campbelltown (NSW)	Sydney - Outer South West	5.3	$1,257,759
Edmondson Park	Liverpool	Sydney - South West	5.3	$1,290,844
Elizabeth Hills	Bringelly - Green Valley	Sydney - South West	5.3	$1,279,897
Gables	Rouse Hill - McGraths Hill	Sydney - Baulkham Hills and Hawkesbury	5.3	$1,540,552
Gledswood Hills	Bringelly - Green Valley	Sydney - South West	5.3	$1,298,366
Grantham Farm	Blacktown - North	Sydney - Blacktown	5.3	$1,125,132
Greenhills Beach	Cronulla - Miranda -	Sydney - Sutherland	5.3	$3,351,053
Gregory Hills	Bringelly - Green Valley	Sydney - South West	5.3	$1,099,530
Jordan Springs	Penrith	Sydney - Outer West and Blue Mountains	5.3	$1,037,047
Melonba	Blacktown - North	Sydney - Blacktown	5.3	$1,214,068
Middleton Grange	Bringelly - Green Valley	Sydney - South West	5.3	$1,187,689
Nirimba Fields	Blacktown - North	Sydney - Blacktown	5.3	$1,330,753
Oran Park	Bringelly - Green Valley	Sydney - South West	5.3	$1,200,252
Pitt Town	Rouse Hill - McGraths Hill	Sydney - Baulkham Hills and Hawkesbury	5.3	$1,847,078
Schofields	Blacktown - North	Sydney - Blacktown	5.3	$1,292,546
South Wentworthville	Merrylands - Guildford	Sydney - Parramatta	5.3	$1,288,840

Thematic map of median star ratings by suburbs (all houses)



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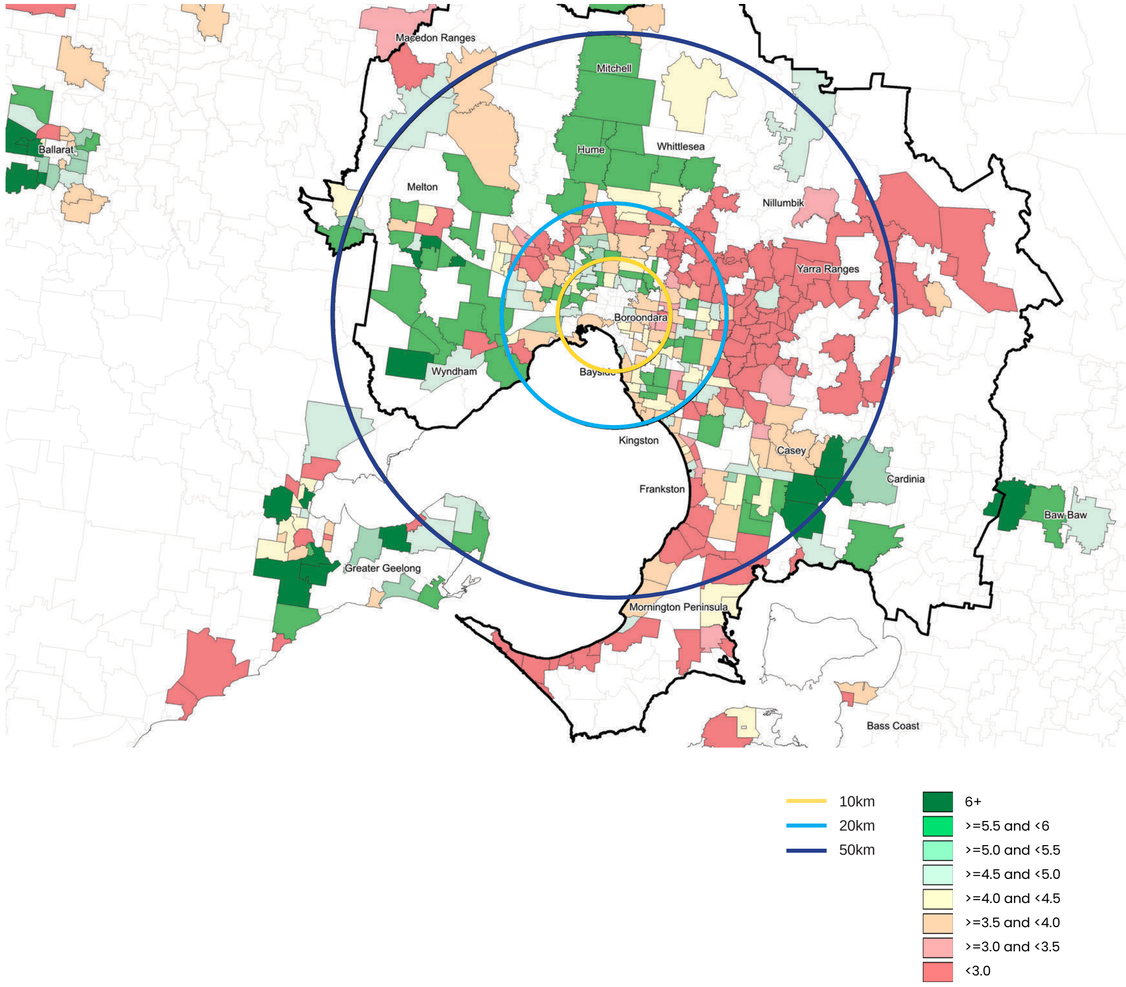
Top 20: Melbourne | Highest median star ratings by suburb

Suburb name	SA3 Name	SA4 Name	Median star rating	Median house value
Clyde (Vic.)	Casey - South	Melbourne - South East	6.00	$737,781
Clyde North	Casey - South	Melbourne - South East	6.00	$782,386
Cobblebank	Melton - Bacchus Marsh	Melbourne - West	6.00	$637,250
Mambourin	Wyndham	Melbourne - West	6.00	$653,891
Officer	Cardinia	Melbourne - South East	6.00	$779,120
Officer South	Cardinia	Melbourne - South East	6.00	$813,146
Rockbank	Melton - Bacchus Marsh	Melbourne - West	6.00	$636,625
Weir Views	Melton - Bacchus Marsh	Melbourne - West	6.00	$571,813
Alphington	Darebin - South	Melbourne - Inner	5.90	$2,055,133
Beveridge	Whittlesea - Wallan	Melbourne - North East	5.90	$704,017
Bonnie Brook	Melton - Bacchus Marsh	Melbourne - West	5.90	$703,771
Botanic Ridge	Casey - South	Melbourne - South East	5.90	$911,327
Cranbourne East	Casey - South	Melbourne - South East	5.90	$752,216
Cranbourne South	Casey - South	Melbourne - South East	5.90	$835,030
Cranbourne West	Casey - South	Melbourne - South East	5.90	$724,194
Diggers Rest	Sunbury	Melbourne - North West	5.90	$653,738
Donnybrook (Vic.)	Whittlesea - Wallan	Melbourne - North East	5.90	$704,163
Greenvale (Vic.)	Tullamarine - Broadmeadows	Melbourne - North West	5.90	$939,282
Harkness	Melton - Bacchus Marsh	Melbourne - West	5.90	$584,748
Junction Village	Casey - South	Melbourne - South East	5.90	$803,203
Kalkallo	Tullamarine - Broadmeadows	Melbourne - North West	5.90	$692,391
Keysborough	Dandenong	Melbourne - South East	5.90	$986,890
Maddingley	Melton - Bacchus Marsh	Melbourne - West	5.90	$640,948
Mernda	Whittlesea - Wallan	Melbourne - North East	5.90	$726,273
Mickleham	Tullamarine - Broadmeadows	Melbourne - North West	5.90	$715,948
Moorabbin	Kingston	Melbourne - Inner South	5.90	$1,232,499
Strathtulloh	Melton - Bacchus Marsh	Melbourne - West	5.90	$662,133
Tarneit	Wyndham	Melbourne - West	5.90	$685,461
Thornhill Park	Melton - Bacchus Marsh	Melbourne - West	5.90	$637,872
Truganina	Melton - Bacchus Marsh	Melbourne - West	5.90	$693,445
Wollert	Whittlesea - Wallan	Melbourne - North East	5.90	$735,320

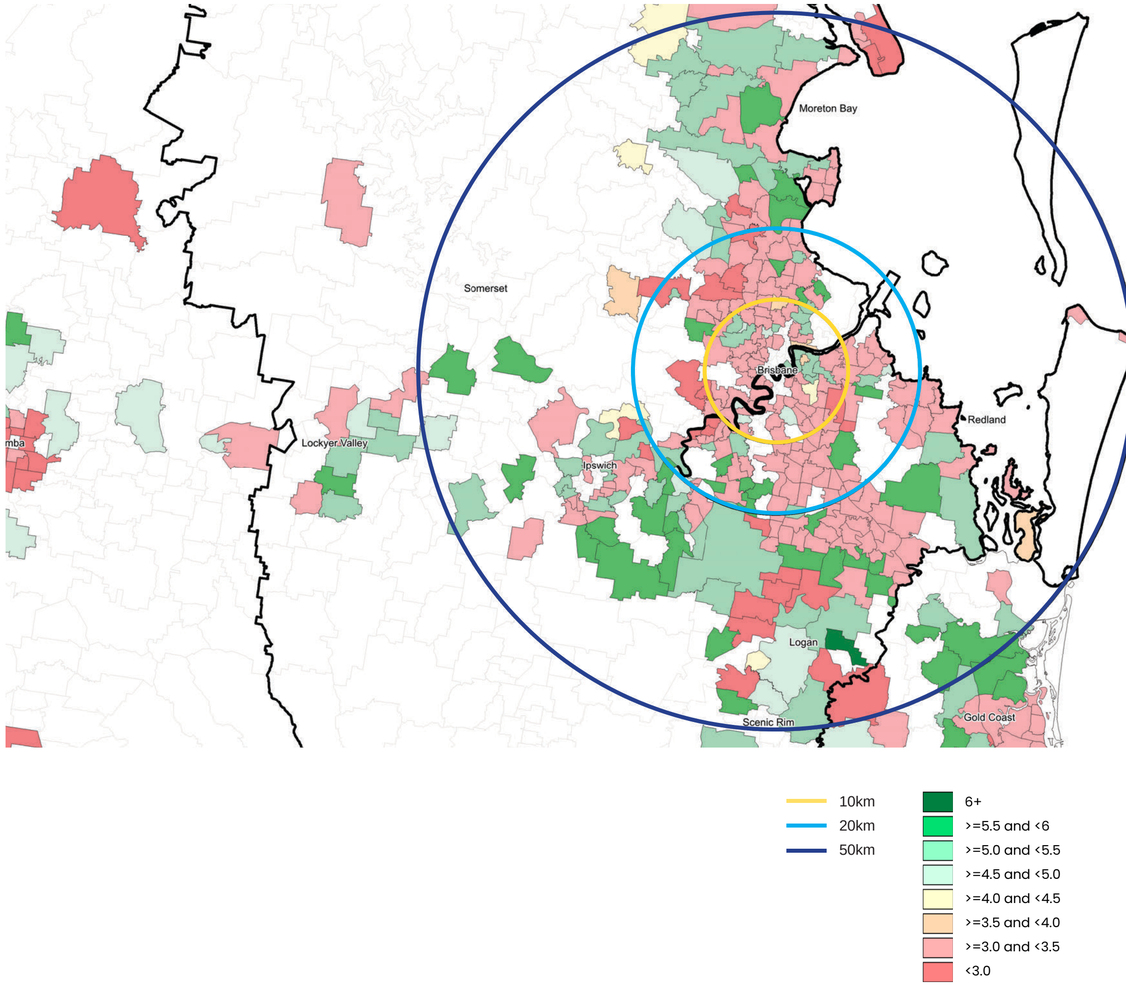
Thematic map of median star ratings by suburbs (all houses)



Top 20: Brisbane | Highest median star ratings by suburb

Suburb name	SA3 Name	SA4 Name	Median star rating	Median house value
Yarrabilba	Jimboomba	Logan - Beaudesert	6.00	$696,284
Bannockburn (Qld)	Beenleigh	Logan - Beaudesert	5.90	$946,752
Ellen Grove	Forest Lake - Oxley	Ipswich	5.90	$651,919
Park Ridge	Browns Plains	Logan - Beaudesert	5.90	$772,912
Richlands (Qld)	Forest Lake - Oxley	Ipswich	5.90	$760,053
Bahrs Scrub	Beenleigh	Logan - Beaudesert	5.80	$820,240
Berrinba	Browns Plains	Logan - Beaudesert	5.80	$743,552
Heathwood	Rocklea - Acacia Ridge	Brisbane - South	5.80	$989,982
Holmview	Beenleigh	Logan - Beaudesert	5.80	$748,154
Laidley North	Ipswich Hinterland	Ipswich	5.80	$608,408
Pallara	Rocklea - Acacia Ridge	Brisbane - South	5.80	$933,630
Dakabin	North Lakes	Moreton Bay - South	5.70	$787,021
Doolandella	Forest Lake - Oxley	Ipswich	5.70	$886,552
Fitzgibbon	Sandgate	Brisbane - North	5.70	$769,174
Logan Reserve	Browns Plains	Logan - Beaudesert	5.70	$747,452
Nudgee	Nundah	Brisbane - North	5.70	$1,152,560
Redbank (Qld)	Springfield - Redbank	Ipswich	5.70	$713,176
Rochedale	Mt Gravatt	Brisbane - South	5.70	$1,615,001
South Ripley	Ipswich Inner	Ipswich	5.70	$788,319
Augustine Heights	Springfield - Redbank	Ipswich	5.60	$1,003,998
Deebing Heights	Ipswich Inner	Ipswich	5.60	$776,299
Griffin	North Lakes	Moreton Bay - South	5.60	$856,234
Gumdale	Capalaba	Brisbane - East	5.60	$1,647,054

Thematic map of median star ratings by suburbs (all houses)

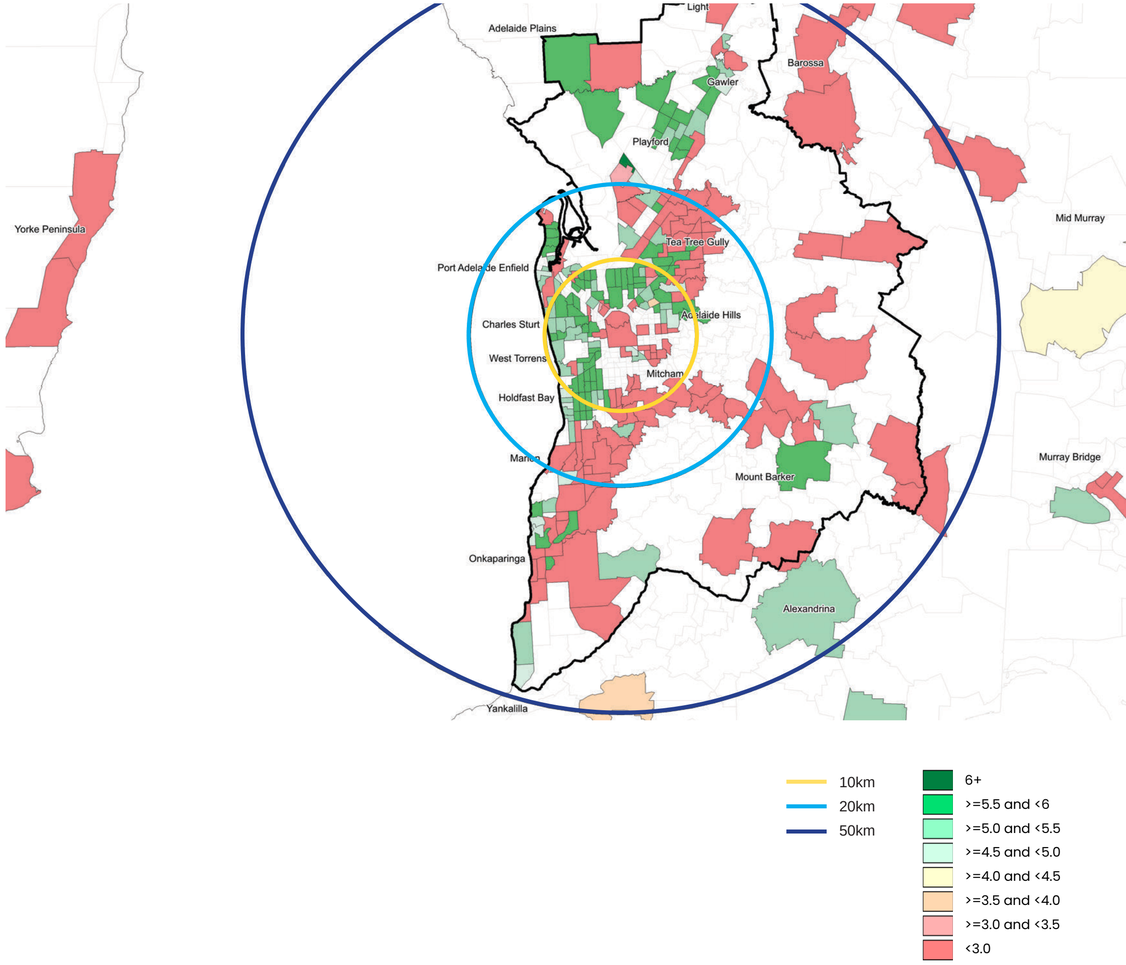


Top 20: Adelaide | Highest median star ratings by suburb

Suburb name	SA3 Name	SA4 Name	Median star rating	Median house value
Direk	Salisbury	Adelaide - North	6.10	$627,154
Lightsview	Port Adelaide - East	Adelaide - North	5.90	$758,894
Brahma Lodge	Salisbury	Adelaide - North	5.80	$633,392
Croydon Park (SA)	Port Adelaide - West	Adelaide - West	5.80	$858,344
Devon Park (SA)	Port Adelaide - West	Adelaide - West	5.80	$844,360
Evanston Gardens	Gawler - Two Wells	Adelaide - North	5.80	$597,678
Evanston South	Gawler - Two Wells	Adelaide - North	5.80	$679,939
Eyre	Playford	Adelaide - North	5.80	$629,678
Mansfield Park	Port Adelaide - West	Adelaide - West	5.80	$757,193
Marleston	West Torrens	Adelaide - West	5.80	$939,375
Munno Para	Playford	Adelaide - North	5.80	$596,117
Plympton Park	Marion	Adelaide - South	5.80	$983,116
Seaford Meadows	Onkaparinga	Adelaide - South	5.80	$768,335
Woodforde	Adelaide Hills	Adelaide - Central and Hills	5.80	$1,033,620
Woodville West	Charles Sturt	Adelaide - West	5.80	$928,852
St Clair (SA)	Charles Sturt	Adelaide - West	5.75	$875,933
Athol Park	Charles Sturt	Adelaide - West	5.70	$768,636
Blair Athol (SA)	Port Adelaide - East	Adelaide - North	5.70	$838,871
Elizabeth Park	Playford	Adelaide - North	5.70	$548,090
Enfield (SA)	Port Adelaide - East	Adelaide - North	5.70	$834,066
Findon	Charles Sturt	Adelaide - West	5.70	$943,954
Flinders Park	Charles Sturt	Adelaide - West	5.70	$1,007,058
Greenacres	Port Adelaide - East	Adelaide - North	5.70	$888,697
Holden Hill	Tea Tree Gully	Adelaide - North	5.70	$795,549
Ingle Farm	Salisbury	Adelaide - North	5.70	$733,403
Largs Bay	Port Adelaide - West	Adelaide - West	5.70	$982,448
Morphettville	Marion	Adelaide - South	5.70	$972,219
Munno Para West	Playford	Adelaide - North	5.70	$648,217
Northfield	Port Adelaide - East	Adelaide - North	5.70	$825,202
Oaklands Park	Marion	Adelaide - South	5.70	$887,567

+ 11 additional suburbs with a median rate of 5.7: Park Holme, Plympton, Seaford Heights, Smithfield Plains, South Plympton, St Marys (SA), Taperoo, Virginia (SA), Warradale, Woodville North, Woodville South

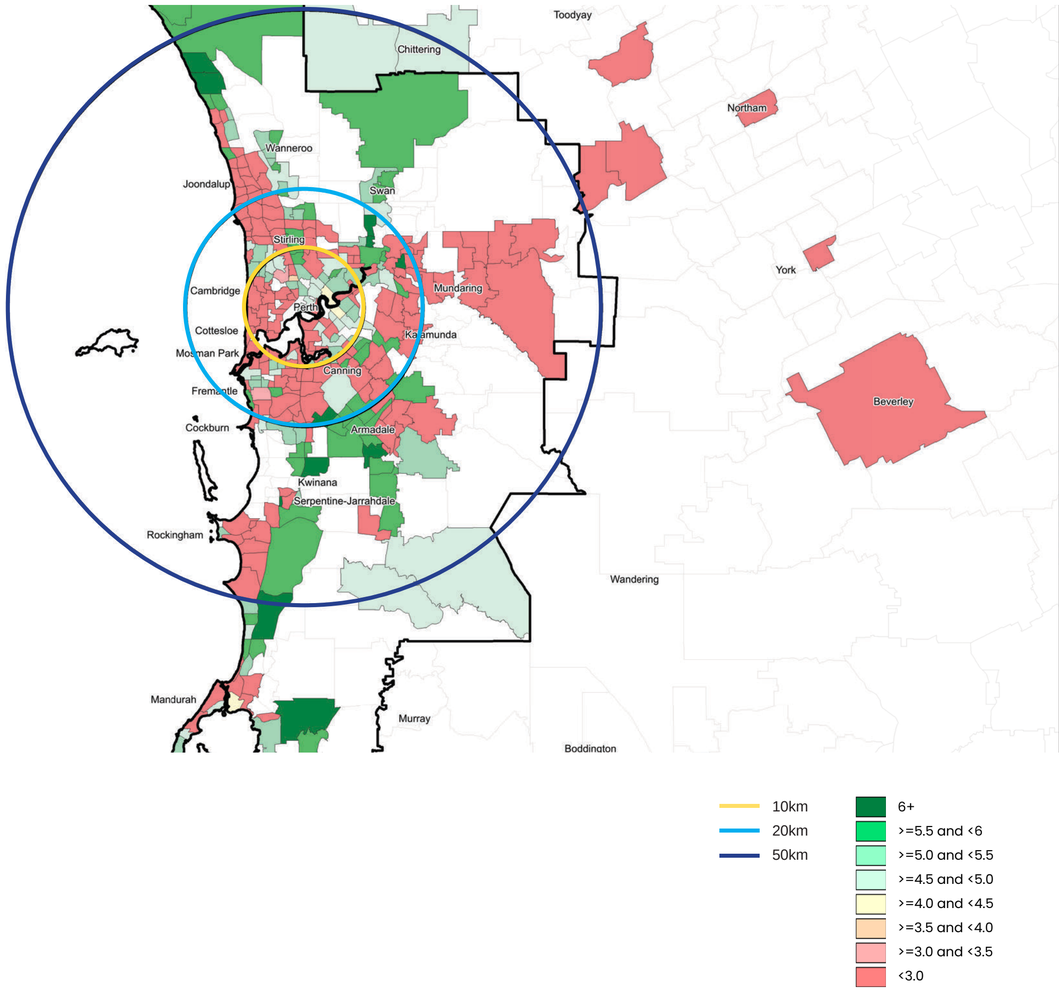
Thematic map of median star ratings by suburbs (all houses)



Top 20: Perth | Highest median star ratings by suburb

Suburb name	SA3 Name	SA4 Name	Median star rating	Median house value
Dayton	Swan	Perth - North East	6.20	$703,272
Kwinana Town Centre	Kwinana	Perth - South West	6.20	$534,811
Ravenswood (WA)	Mandurah	Mandurah	6.20	$685,759
Brabham	Swan	Perth - North East	6.10	$727,210
Treeby	Cockburn	Perth - South West	6.10	$886,363
Alkimos	Wanneroo	Perth - North West	6.00	$714,545
Eglinton (WA)	Wanneroo	Perth - North West	6.00	$704,337
Hilbert	Armadale	Perth - South East	6.00	$607,202
Karnup	Rockingham	Perth - South West	6.00	$695,352
Midvale	Mundaring	Perth - North East	6.00	$621,222
Wandi	Kwinana	Perth - South West	6.00	$759,473
Aveley	Swan	Perth - North East	5.90	$764,200
Banksia Grove	Wanneroo	Perth - North West	5.90	$719,296
Bushmead	Swan	Perth - North East	5.90	$894,870
Byford	Serpentine - Jarrahdale	Perth - South East	5.90	$744,355
Caversham	Swan	Perth - North East	5.90	$761,991
Coolbellup	Cockburn	Perth - South West	5.90	$801,596
Hammond Park	Cockburn	Perth - South West	5.90	$850,017
Harrisdale	Armadale	Perth - South East	5.90	$902,992
Jindalee (WA)	Wanneroo	Perth - North West	5.90	$922,352
Lynwood (WA)	Canning	Perth - South East	5.90	$732,799
North Coogee	Cockburn	Perth - South West	5.90	$1,680,819
Piara Waters	Armadale	Perth - South East	5.90	$892,141
Wellard	Kwinana	Perth - South West	5.90	$701,736
Whitby	Serpentine - Jarrahdale	Perth - South East	5.90	$739,247

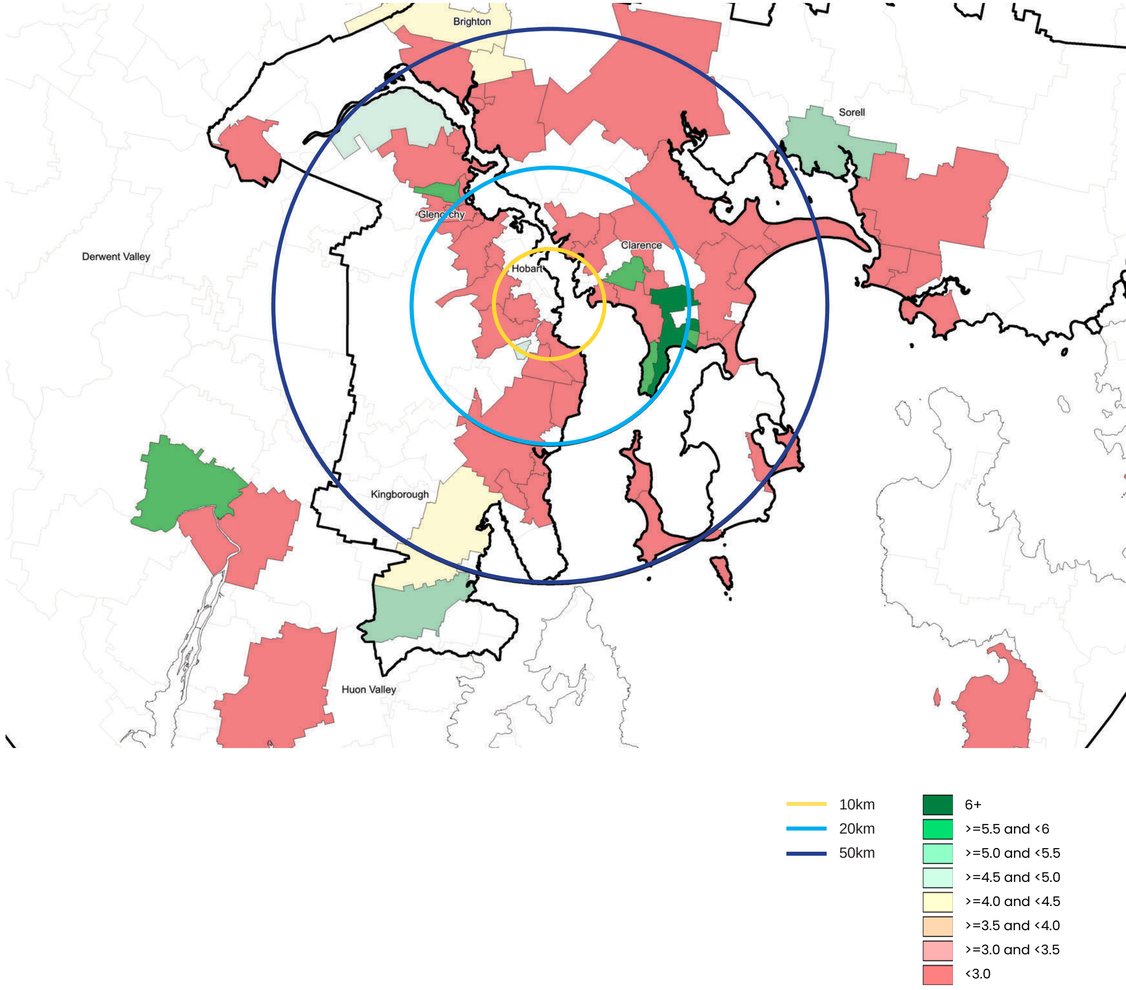
Thematic map of median star ratings by suburbs (all houses)



Top 20: Hobart | Highest median star ratings by suburb

Suburb name	SA3 Name	SA4 Name	Median star rating	Median house value
Rokeby (Tas.)	Hobart - North East	Hobart	6.20	$522,852
Chigwell	Hobart - North West	Hobart	5.80	$487,961
Oakdowns	Hobart - North East	Hobart	5.80	$620,452
Mornington (Tas.)	Hobart - North East	Hobart	5.70	$559,212
Tranmere (Tas.)	Hobart - North East	Hobart	5.50	$1,045,988
Snug	Hobart - South and West	Hobart	5.40	$696,348
Sorell	Sorell - Dodges Ferry	Hobart	5.20	$646,074
Tolmans Hill	Hobart Inner	Hobart	4.70	$1,083,138
Granton	Hobart - North West	Hobart	4.50	$745,888
Margate (Tas.)	Hobart - South and West	Hobart	4.45	$796,153
Brighton (Tas.)	Brighton	Hobart	4.30	$591,058
Honeywood	Brighton	Hobart	4.25	$835,062
Howrah	Hobart - North East	Hobart	2.70	$729,825
New Norfolk	Hobart - North West	Hobart	2.70	$468,363
Cambridge (Tas.)	Hobart - North East	Hobart	2.60	$859,340
Forcett	Sorell - Dodges Ferry	Hobart	2.60	$866,386
Kingston (Tas.)	Hobart - South and West	Hobart	2.60	$727,644
Midway Point	Sorell - Dodges Ferry	Hobart	2.60	$614,737
Old Beach	Brighton	Hobart	2.60	$619,409
Opossum Bay	Hobart - North East	Hobart	2.60	$765,152

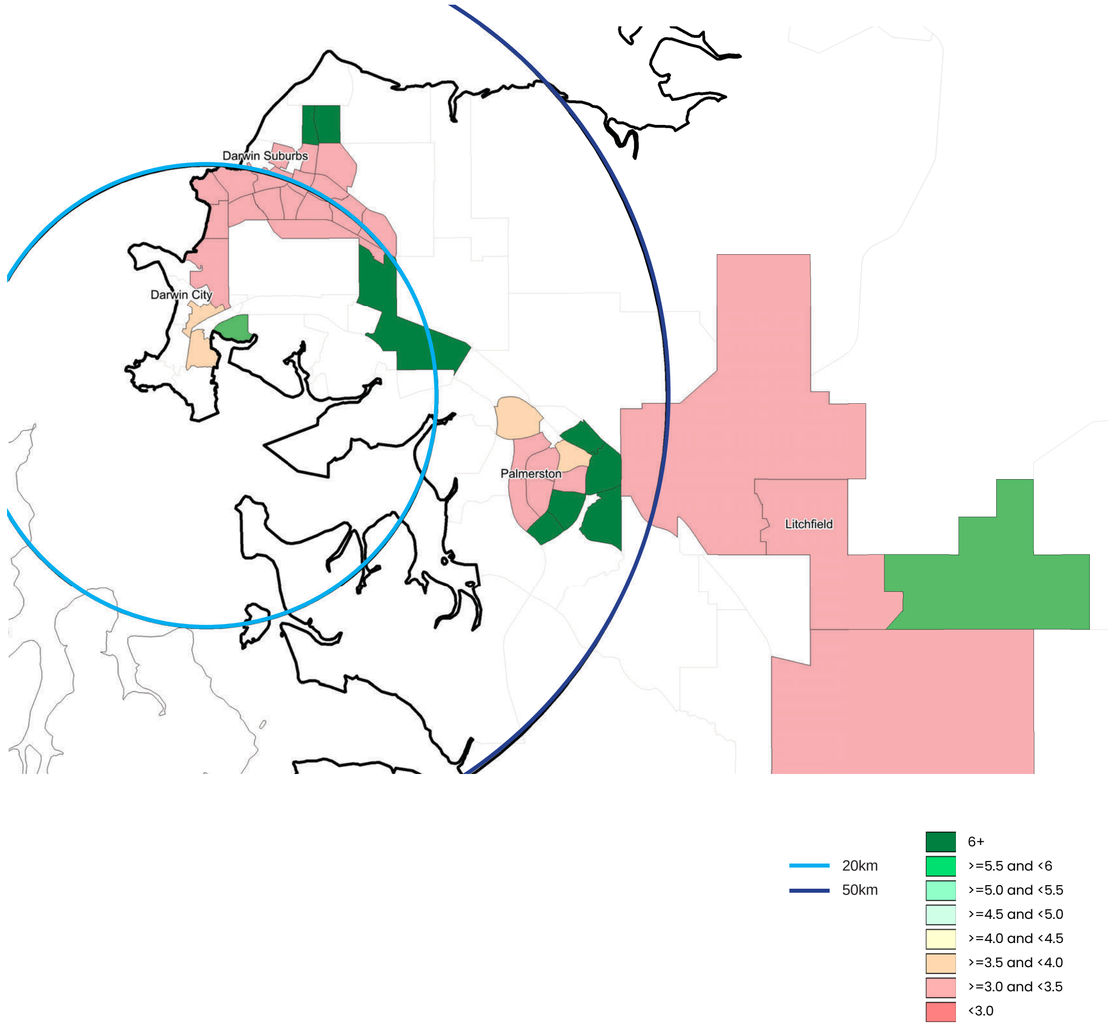
Thematic map of median star ratings by suburbs (all houses)



Top 20: Darwin | Highest median star ratings by suburb

Suburb name	SA3 Name	SA4 Name	Median star rating	Median house value
Bellamack	Palmerston	Darwin	6.50	$606,643
Johnston	Palmerston	Darwin	6.50	$630,819
Berrimah	Darwin Suburbs	Darwin	6.40	$425,747
Lyons (NT)	Darwin Suburbs	Darwin	6.40	$780,216
Muirhead	Darwin Suburbs	Darwin	6.40	$696,239
Zuccoli	Palmerston	Darwin	6.40	$587,798
Farrar	Palmerston	Darwin	6.20	$587,097
Rosebery (NT)	Palmerston	Darwin	6.20	$585,371
Bayview (NT)	Darwin City	Darwin	5.60	$868,822
Herbert	Litchfield	Darwin	5.60	$662,459
Durack (NT)	Palmerston	Darwin	3.70	$576,093
Gunn	Palmerston	Darwin	3.60	$529,699
Parap	Darwin City	Darwin	3.60	$779,500
Stuart Park	Darwin City	Darwin	3.60	$811,813
Bakewell	Palmerston	Darwin	3.40	$481,893
Girraween (NT)	Litchfield	Darwin	3.40	$704,165
Humpty Doo	Litchfield	Darwin	3.40	$622,434
Moil	Darwin Suburbs	Darwin	3.40	$524,563
Moulden	Palmerston	Darwin	3.40	$386,494
Alawa	Darwin Suburbs	Darwin	3.30	$525,548
Anula	Darwin Suburbs	Darwin	3.30	$488,459
Coconut Grove	Darwin Suburbs	Darwin	3.30	$724,872
Driver	Palmerston	Darwin	3.30	$419,726
Gray (NT)	Palmerston	Darwin	3.30	$384,055
Jingili	Darwin Suburbs	Darwin	3.30	$620,102
Ludmilla	Darwin City	Darwin	3.30	$731,531
Malak	Darwin Suburbs	Darwin	3.30	$522,577
Millner	Darwin Suburbs	Darwin	3.30	$547,370
Rapid Creek	Darwin Suburbs	Darwin	3.30	$791,045
Wagaman	Darwin Suburbs	Darwin	3.30	$523,060
Wanguri	Darwin Suburbs	Darwin	3.30	$610,755
Woodroffe	Palmerston	Darwin	3.30	$432,787
Wulagi	Darwin Suburbs	Darwin	3.30	$544,911

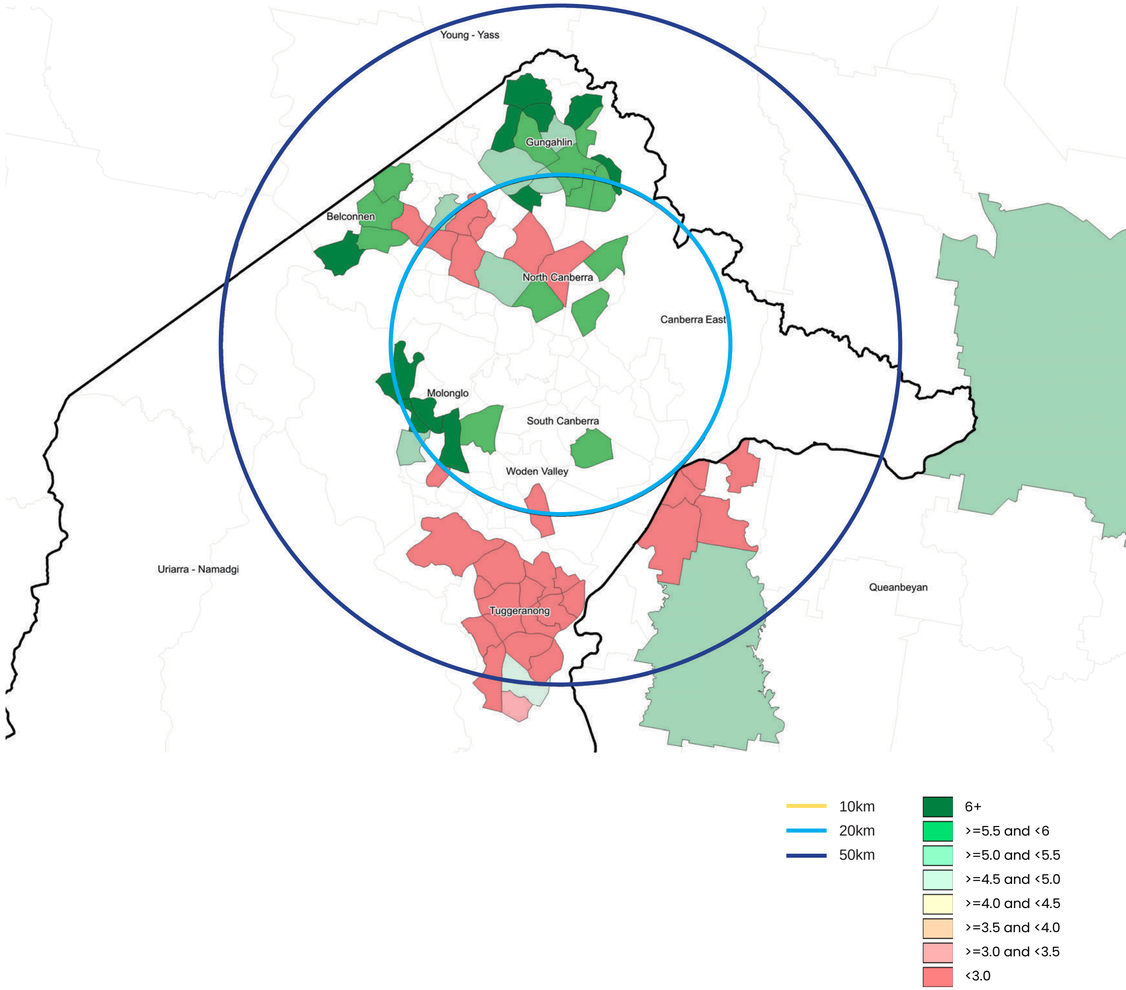
Thematic map of median star ratings by suburbs (all houses)



Top 20: Australian Capital Territory | Highest median star ratings by suburb

Suburb name	SA3 Name	SA4 Name	Median star rating	Median house value
Coombs	Molonglo	Australian Capital Territory	6.10	$1,112,546
Throsby	Gungahlin	Australian Capital Territory	6.10	$1,124,158
Wright	Molonglo	Australian Capital Territory	6.05	$1,117,541
Bonner	Gungahlin	Australian Capital Territory	6.00	$1,028,945
Casey	Gungahlin	Australian Capital Territory	6.00	$982,118
Crace	Gungahlin	Australian Capital Territory	6.00	$1,150,335
Denman Prospect	Molonglo	Australian Capital Territory	6.00	$1,186,328
Moncrieff	Gungahlin	Australian Capital Territory	6.00	$995,820
Strathnairn	Belconnen	Australian Capital Territory	6.00	$900,927
Taylor	Gungahlin	Australian Capital Territory	6.00	$1,114,185
Weston (ACT)	Weston Creek	Australian Capital Territory	6.00	$906,694
Curtin	Woden Valley	Australian Capital Territory	5.90	$1,350,417
Forde	Gungahlin	Australian Capital Territory	5.90	$1,159,136
Franklin (ACT)	Gungahlin	Australian Capital Territory	5.90	$1,088,457
Macgregor (ACT)	Belconnen	Australian Capital Territory	5.90	$783,699
Ainslie	North Canberra	Australian Capital Territory	5.80	$1,520,494
Harrison	Gungahlin	Australian Capital Territory	5.80	$1,033,174
O'Connor (ACT)	North Canberra	Australian Capital Territory	5.80	$1,560,021
Watson	North Canberra	Australian Capital Territory	5.80	$1,064,344
Gungahlin	Gungahlin	Australian Capital Territory	5.70	$1,005,108
Narrabundah	South Canberra	Australian Capital Territory	5.70	$1,466,442

Thematic map of median star ratings by suburbs (all houses)



DISCLAIMER

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While the software has been created with due care, the information used to train the software will continue to develop over time, and there is no warranty or representation that the star rating or other outputs are free from errors or omissions or generated with appropriate or accurate assumptions.

The star rating and other outputs are estimated based on certain inputs and assumptions, and no claim is made as to the accuracy, completeness, reliability, currency, suitability or otherwise of the star rating or other outputs, especially where CoreLogic Input Data is based on assumptions.

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CoreLogic

About CoreLogic

ONE PURPOSE

We help people build better lives by providing rich property insights that inform the best property decisions.

CoreLogic Asia Pacific (CoreLogic) is a leading, independent provider of property data and analytics. We help people build better lives by providing rich, up-to-the-minute property insights that inform the very best property decisions.

With an extensive breadth and depth of knowledge gathered over the last 30 years, we provide services across a wide range of industries, including Banking & Finance, Real Estate, Government, Insurance and Construction. Our diverse, innovative solutions help our clients identify and manage growth opportunities, improve performance and mitigate risk. We also operate consumer-facing portals - onthehouse.com.au and properytvalue.com.au - providing important insights for people looking to buy or sell their home or investment property.

We are a wholly owned subsidiary of CoreLogic, Inc – one of the largest data and analytics companies in the world with offices in Australia, New Zealand, the United States and United Kingdom.

Our Construction Products:

RP Data Professional
RP Data can help those in the construction industry identify target properties to purchase, create automatic valuations for more informed insights into pricing, verify information and ownership status, and conduct valuable research.

CordellConnect
Cordell Connect is an online leads generation and business development tool, providing you with timely details on construction, infrastructure and other building projects across Australia.

Know what projects are being planned or what stage of development the project is in, plus the relevant stakeholder contact details.

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