



# Medium Density Housing Review

**Moreland City Council**

Adopted by Council, 10 October 2018



Moreland City Council

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with the revision on Appendix 3 - Draft Good Design Advice Sheets  
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# Executive Summary

## Why review Medium Density Housing in Moreland?

Moreland's population is growing significantly, with 78,600 people anticipated to be added to Moreland's population by 2036. Thus, Moreland needs an extra 38,000 dwellings over the next two decades. This can only be achieved if the trend to more medium (and high) density housing continues. Expanding the diversity of housing types into the future will respond to the trend for people to live in smaller households.

Medium density units and townhouses are home to 35% of Moreland's population. Medium density housing provides an alternative to separate dwellings and contributes to the range of housing options to suit different budgets and lifestyle needs. For a family on a moderate income, medium density dwellings can be an affordable alternative to separate houses.

Planning for population growth and urban consolidation are persistent areas of concern to both the Moreland community and communities of established areas more broadly, as expressed in objections to planning permit applications and the annual Local Government Victoria Customer Satisfaction Surveys.

One of the key priorities in the Moreland Council Plan 2017-21 is to enhance liveability, affordability and sustainability by guiding growth, and excellence in urban design and development. This Medium Density Housing Review investigates the quality of townhouse and unit development within Moreland and makes recommendations about how it can be improved.

## How the review was undertaken

The key questions explored through this review were:

1. What is medium density housing like to live in?  
*What types of homes are we creating?*
2. What does medium density housing look like?  
*What types of places are we creating?*

To answer these questions, the Medium Density Housing Review undertook the following inputs:

- Research to identify who lives in medium density housing and the role of this type of housing in meeting the Moreland community's housing needs (undertaken by .id Consulting)
- A literature review of best practice medium density guidelines and other literature to examine what others are doing to improve the quality of medium density housing
- A survey of occupants of medium density housing, which attracted over 460 responses
- Extensive Case Study Analysis of approved planning permits for medium density housing, including evaluation of more than 160 developments, involving more than 900 dwellings
- Interviews with Architects and building designers.
- Council Officer workshops and inspections of completed developments
- An audit of planning permit compliance for constructed medium density developments
- External workshops with the community, design professionals and academics
- A review of the quantum and scale of medium density housing planning permit applications considered by Moreland City Council.

The extensive and broad ranging inputs have provided a detailed understanding of what is driving the quality of medium density outcomes and how they can be improved.

## What the review identified, and actions recommended by this review

The review has identified the following actions to improve medium density development:

- Increased tree canopy and improve landscaping outcomes
- Improved exterior appearance and internal amenity
- Work with designers to improve design outcomes
- Investigate ways to incentivise applicants to design fully compliant and improved quality lower density development
- Increase the compliance with planning permit requirements
- Advocate to the State Government to raise the state requirements (ResCode Clause 55).

These actions aim to improve the appearance and quality of medium density housing, for both those who live in this housing, and the broader Moreland community.

# Medium Density Housing in Moreland

## What is Medium Density Housing?

Medium density housing is housing that contains two or more dwellings on a lot where each dwelling has its own entrance at ground level.

Common types are units, townhouses and terraces. Such developments consist of detached, semi-detached and attached housing. They may be single storey, two storey or three storey.

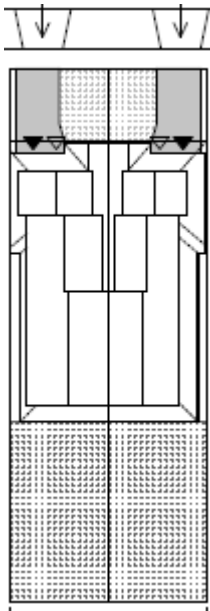
In Moreland there are several building types associated with medium density housing as shown in Figure 1.

The Medium Density Housing Review excludes single dwellings and apartments (dwellings located above the ceiling level or below the floor level of another dwelling).

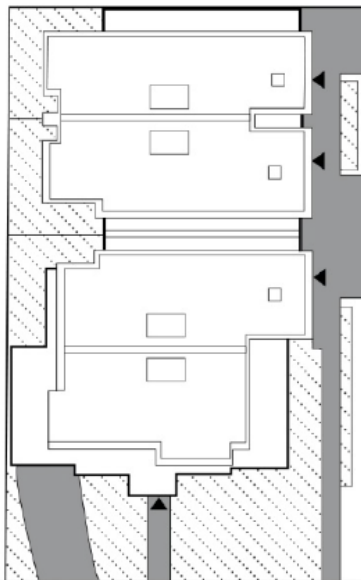
New requirements to improve the quality of apartments have recently been introduced through the State government's Better Apartment Design Standards (Victoria Planning Provisions Clause 58) and the Moreland Apartment Design Code (Local planning policy Clause 22.07, Moreland Planning Scheme). This review focusses on medium density housing as defined in this section of the report.

Figure 1: Medium Density Building Types (prepared by Moreland City Council Urban Design Unit, 2018)

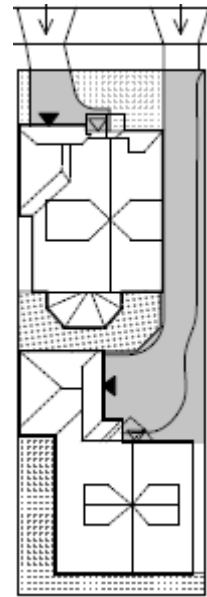
Dual occupancy side-by-side



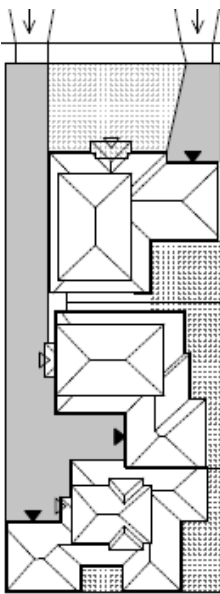
Terraces



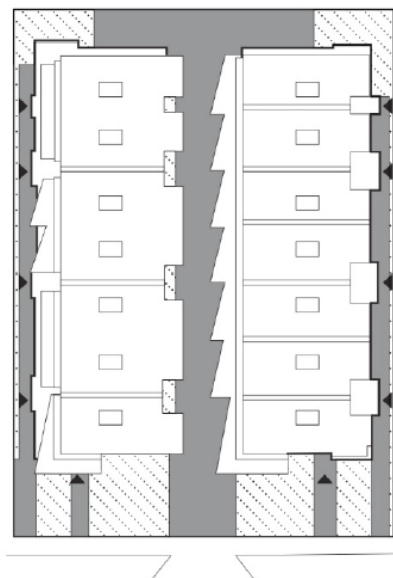
Dual occupancy front and back



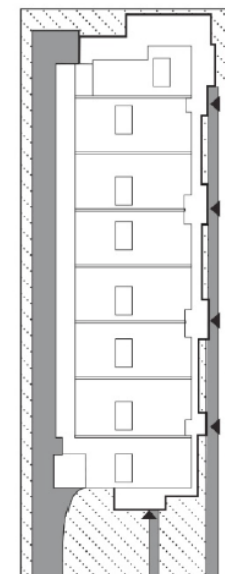
Row semi-detached



Double row townhouses



Row townhouses



## The importance of medium density housing in Moreland

This section provides a summary of the research undertaken about housing in Moreland now and in the future. The research identifies how the need for housing is changing and examines how the housing market is adjusting in response to this change. In particular, the research identifies who lives in medium density housing now and provides evidence about the likely growth in medium density housing in Moreland. Note, further findings of this research are at Appendix 2, A Home in Moreland.

### Household types in Moreland – now and in the future

Like most places in Australia, the most prevalent household type in Moreland is couples with children, totaling 17,508 households and comprising 27.1% of total households. But the way we form households is changing, with an increasing tendency for people around Australia to live alone or as a couple without children. Between 2006 and 2016, the total number of smaller households (lone person and couples without children) in Moreland grew by 4,533 households compared to 2,637 couple with children households. This is the result of a combination of factors, such as an ageing population, changing circumstances (e.g. divorce) and lifestyle drivers.

The shift towards smaller households is expected to continue, with the average household size falling from 2.54 in 2016 to 2.42 in 2036. By 2036, lone person households are forecast to replace couples with children as the dominant household type in Moreland. Families with children are also forecast to increase to 2036, growing by around 9,744 households.

Forecasts by age show that many groups will continue to seek housing in Moreland with growth across all age groups between 2016 and 2036. This forecast growth across all ages, combined with smaller households, has implications for the types of new dwelling stock that is being added to Moreland, and the ongoing need for a diverse range of dwelling types including medium density housing.

### Who lives in what type of housing in Moreland

Household composition from the Census tells us how people live in dwellings, whether it's a family household with one or two parents, a lone person household, or a group household. What we find is that one size does not fit all. Many households, including families, are trading off the traditional large home with a backyard, for a townhouse or unit close to amenities. In 2016, a high proportion of couples without children (36%), lone person (42%) and group (45%) households were living in medium density housing. There was also a relatively high share of family households living in medium density housing (25%).

In 2006, around one in six Moreland families with children lived in medium density dwellings. This proportion rose to one in four by 2016. It is not just families with pre-school aged children living in medium density housing. Around 34% of 0-4 year olds lived in medium density housing in 2016. There was also a large proportion of older children aged 5-19 (19-23%) living in medium density housing. Medium density housing is not a temporary situation for young families, but can provide a genuine alternative to the 'traditional' family home.

## Where is medium density housing occurring in Moreland?

Subject to meeting detailed design requirements, medium density housing is permitted in all residential zones across Victoria. Medium density development occurs in all suburbs of Moreland, influenced by lot sizes, availability of developable lots and land economics.

Over the past 10 years Glenroy and Pascoe Vale and to a lesser extent Coburg, have seen the largest amount of medium density housing built. Suburbs like Glenroy and Pascoe Vale have had in the order of 150-170 units and town houses built each year over the past 10 years. At the other end of the spectrum suburbs like Fawkner and Hadfield have had around 25-30 units and townhouses built each year.

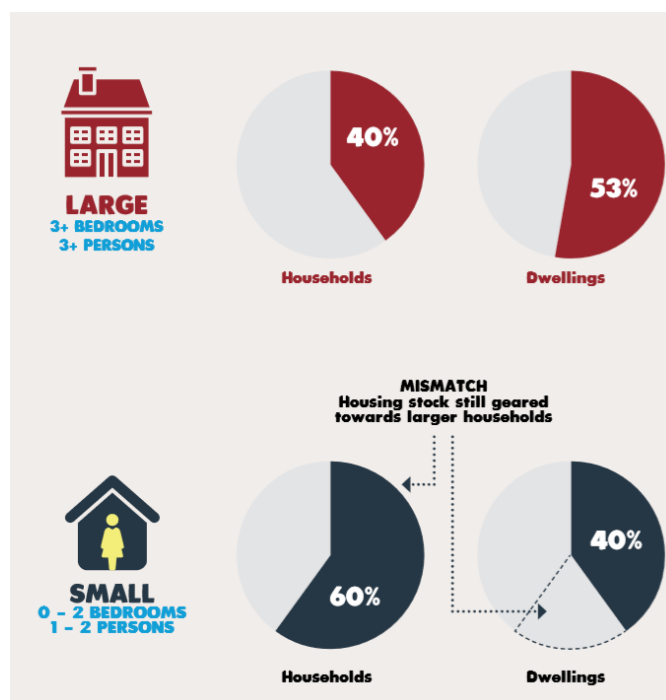
Over the past 10 years Brunswick East and Brunswick have seen 170-180 high density dwellings built each year and Coburg has had around 60 high density dwellings built each year over this period.

The quantum of unit and townhouse development in Glenroy and Pascoe Vale over the past decade is about the same as the quantum of apartment development in Brunswick East and Brunswick.

## Future outlook for medium density housing

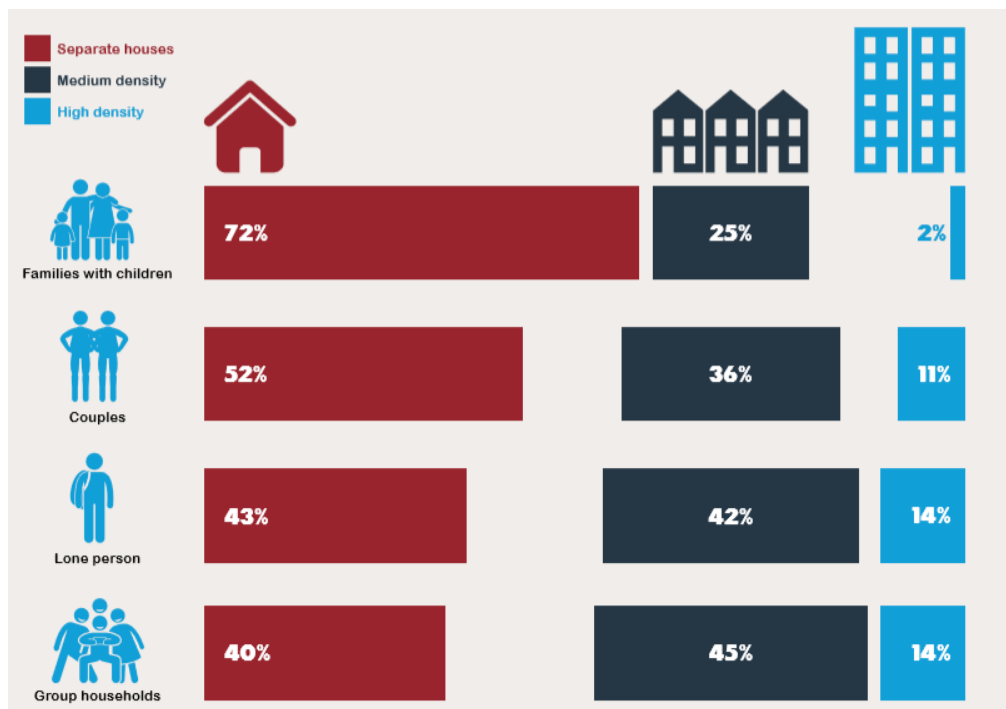
Despite the growth in smaller households, much of the housing stock in Moreland is geared towards the needs of larger households.

Figure 2: Housing Stock is geared towards the needs of larger households



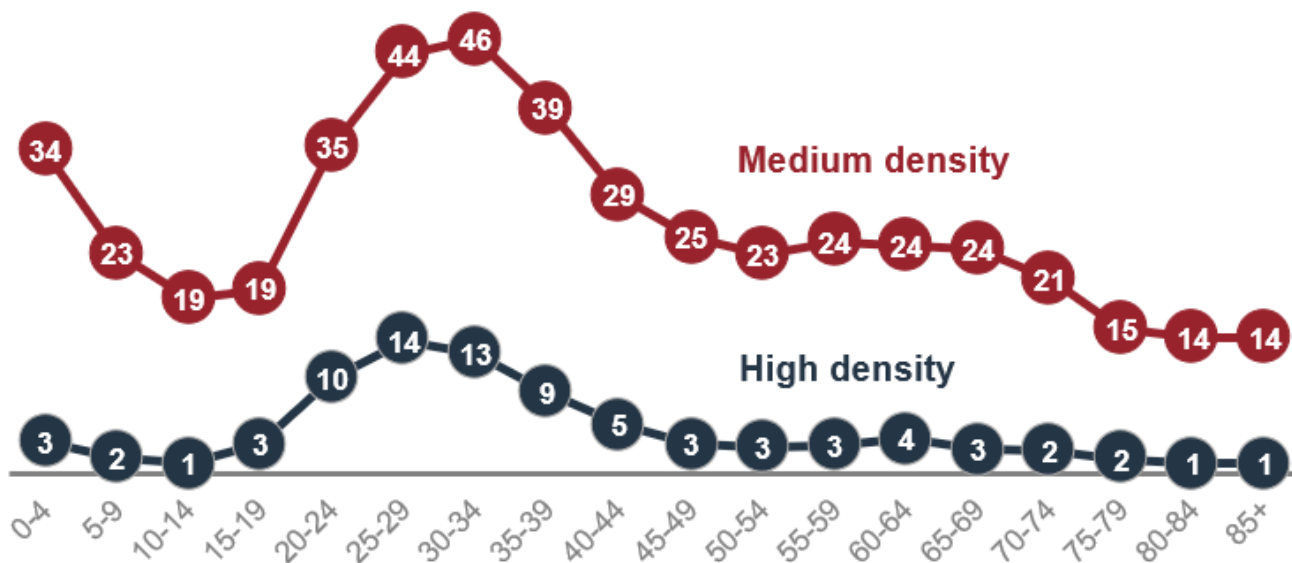
Source: A home in Moreland, 2018.

Chart 1: Who lives in what type of housing – Moreland, 2016  
% of households by type



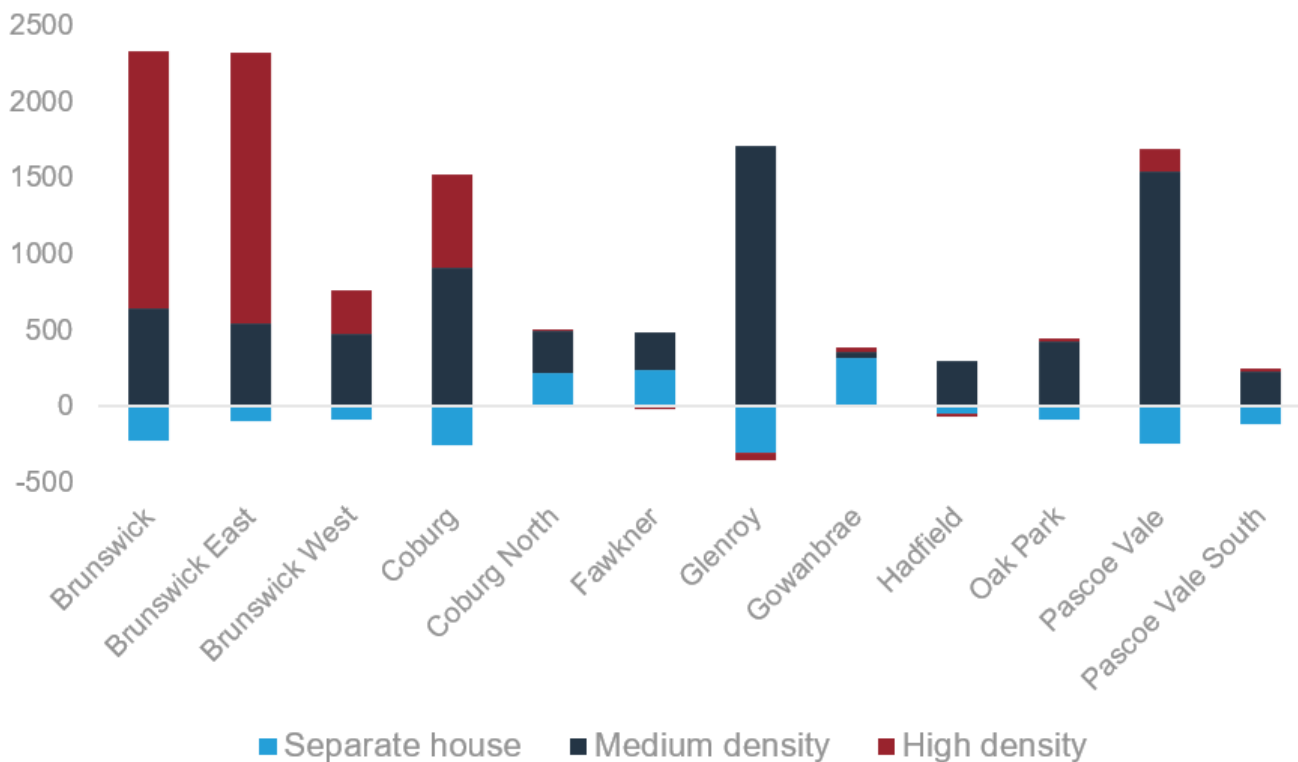
Source: A home in Moreland, 2018.

Chart 2: Proportion of population by age living by selected dwelling type, 2016, Moreland



Source: ABS, Census of Population and Housing (2016)

Chart 3: Net dwelling change by housing type by suburb, 2006-16



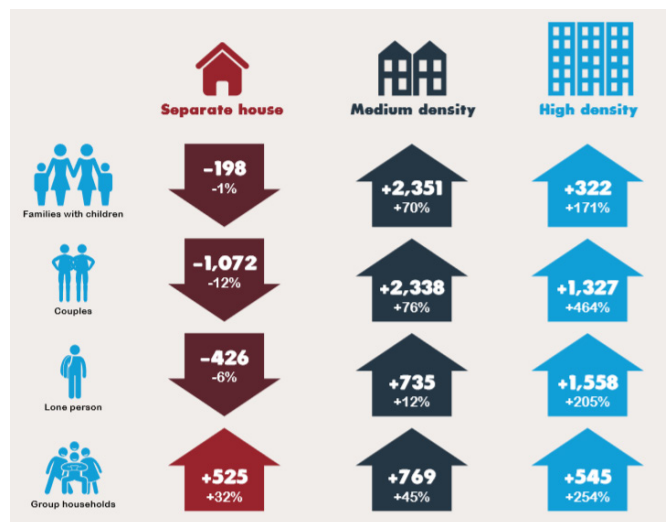
Source: ABS, Census of Population and Housing (2016)

Overall the shift in revealed preferences of households for medium density dwellings in Moreland means there will be continued demand for more units and townhouses, which are suitable for all household types.

Revealed preferences are the types of dwellings that households actually live in, as indicated by the Census and are perhaps the result of a housing choice based on the trade-offs. Expressed preferences are those stated by individuals when surveyed as to what sort of housing they would like to live in given no constraints such as limited stock or affordability. The Grattan Institute's 2011 report, *The Housing We'd Choose*, shows that when households are faced with trade-offs between housing and location, we're prepared to compromise. Contrary to popular belief, Australians want a mixture of housing choices, not just detached houses. It suggests the issue is that the market is not providing enough housing choice in the locations where Australians want them. This potentially means there is latent demand for medium density dwellings and if given more choice, the shift to smaller dwellings in Moreland may be even more pronounced.

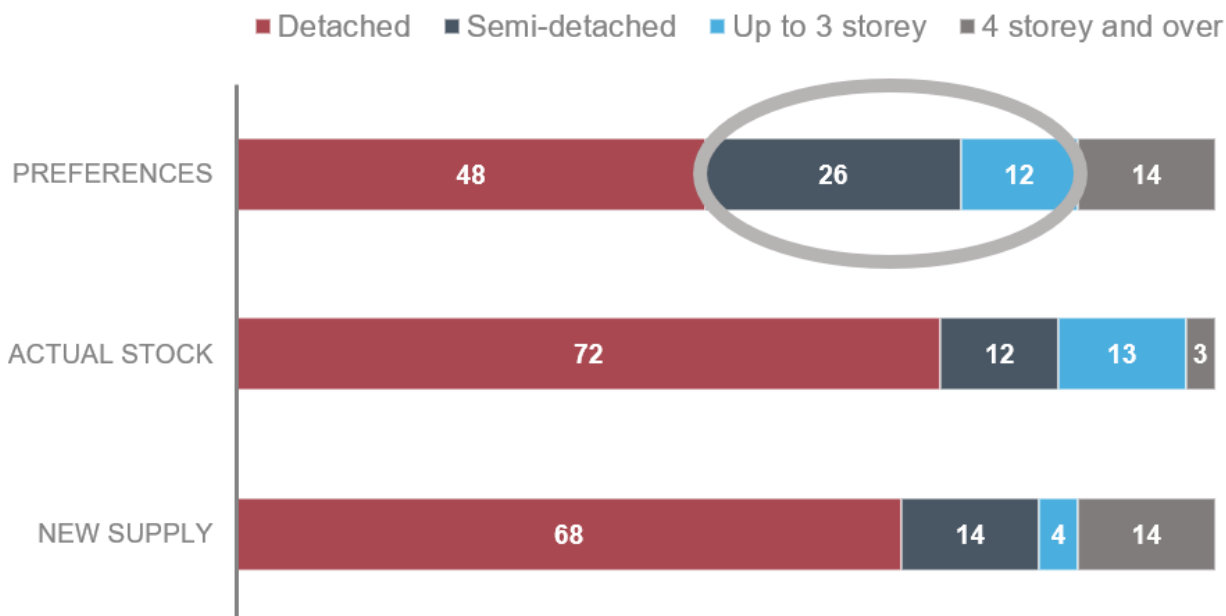
There has been a strong shift in preference towards medium density dwellings from all household types.

Figure 3: Net change in households - Moreland 2006-2016



Source: A home in Moreland, 2018.

Chart 4: Comparison of preferences, stock and supply in Melbourne



Source: Kelly, J.F., Weidmann, B., and Walsh, M., 2011, *The Housing We'd Choose*, Grattan Institute, Melbourne.

## Affordability

Housing affordability is a major issue in Moreland with many households unable to afford market housing or requiring financial assistance to support private rental costs. In 2006, the median house price in Moreland was around \$350,000, about 7.3 times more than the median household income (\$48,300). By 2016, the median house price (\$825,000) in Moreland was 10.6 times the median household income (\$78,000).

This house price escalation has effects across the continuum of households, incomes and tenures, with many households unable to afford market housing or requiring housing assistance to pay private market rent.

Steeply rising house prices put home ownership in Moreland beyond the reach of most very low and low income households. Even families on moderate incomes now face challenges buying a separate house, with prices considerably higher than their budget can stretch to. Although increases in the price of units, townhouses and apartments have also outstripped the growth in household incomes, the difference has not been so stark. This means that for a family on a moderate income, medium density dwellings become an affordable alternative to separate houses.

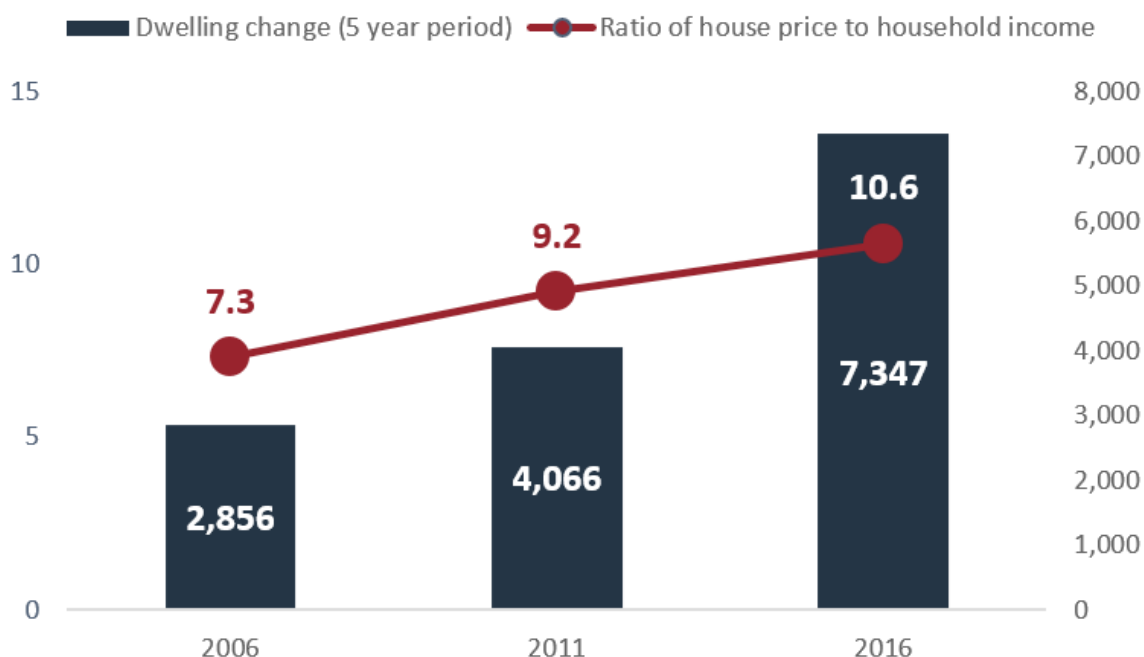
Since 2006, there has been a major shift in the number of families living in medium density housing. The largest increase has been in the number of families living in medium density dwellings with two bedrooms. Many families are choosing to live in medium density housing in Moreland instead of moving to more affordable housing locations and are prepared to compromise on the size of their dwelling to achieve affordability.

### Conclusions from Research for the Medium Density Housing Review

The research quantifies the significant growth in medium density housing in Moreland and establishes that medium density housing is a housing form of choice for many of Moreland's current and future residents.

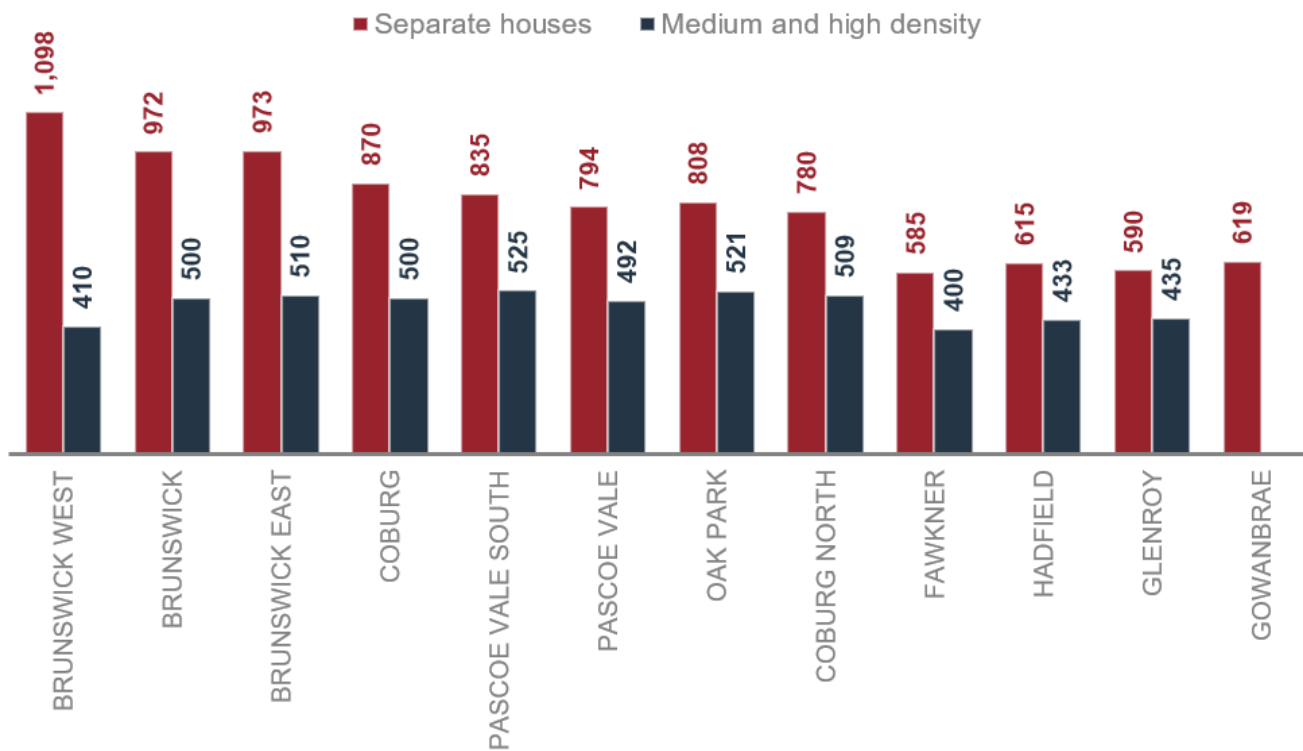
Providing medium density homes that are not only of quality appearance, but also offer a high standard of amenity to occupants, will ensure a quality, diverse housing stock, that meets the needs of Moreland's diverse population.

Chart 5: Ratio of house price to household income, Moreland



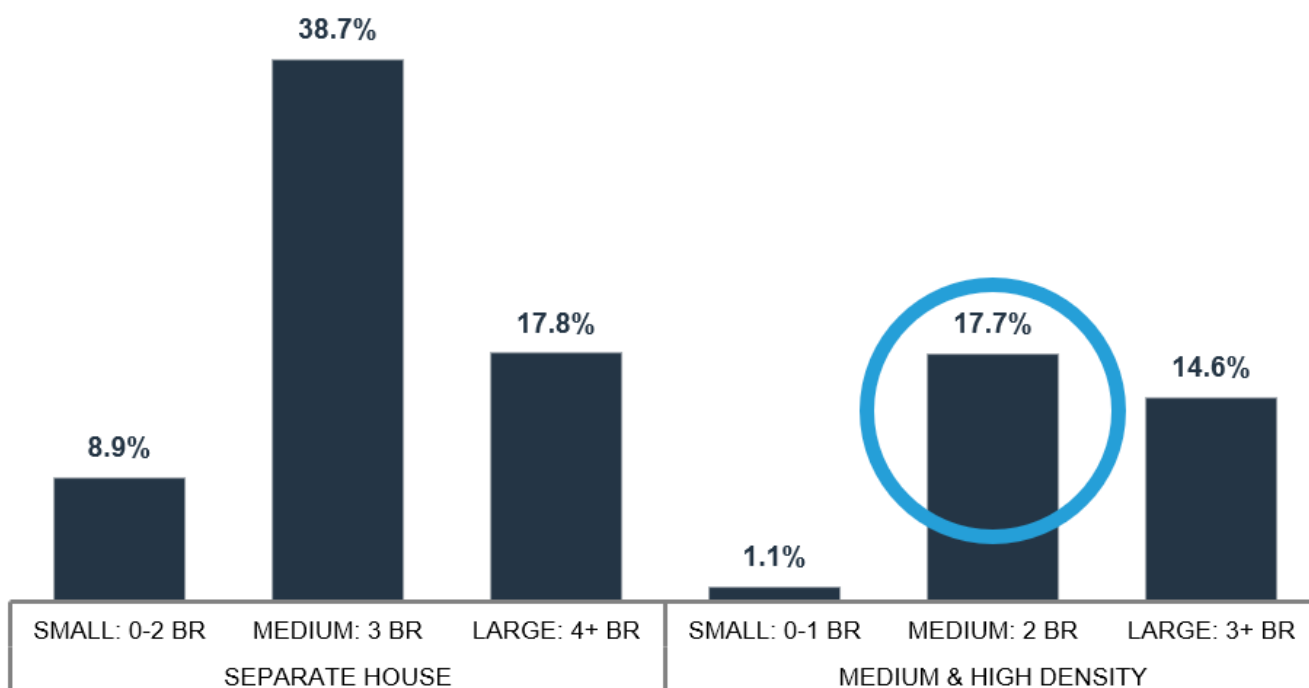
Source: Valuer-General Victoria 2016 and ABS Census of Population and Households

Chart 6 - Median house price by suburb, 2016 (\$'000)



Source: Valuer-General Victoria 2016 and ABS Census of Population and Households

Chart 7 - Couples with children aged 0-15 years by dwelling type – Moreland – 2016 (% of total dwellings)



Source: ABS, Census of Population and Housing (2006, 2011 and 2016)

# Understanding Medium Density Housing in Moreland - The key inputs into the review

The key questions explored through the review were:

1. What is medium density housing like to live in?  
*What types of homes are we creating?*
2. What does medium density housing look like?  
*What types of places are we creating?*

The following section outlines the key inputs into the review, undertaken to help answer the above questions.

## Literature review

A literature review of best practice medium density guidelines and research was undertaken throughout 2018 to examine what Victoria and other municipalities and authorities are doing to improve the quality of medium density housing both locally and internationally.

The following guidelines and research were reviewed:

- Auckland Design Manual, Auckland Council 2015
- Townhouse & Low-Rise Apartment Guidelines, City of Toronto 2015
- AMCORD, Australian Model Code for Residential Development 1997
- Moreland Guide to Good Residential Design, Moreland City Council 1996
- Draft Medium Density Design Guide, NSW Planning & Environment 2016
- Rescode Victoria Planning Provisions Clause 55 – 2001 (as amended)
- The Housing We'd Choose, Grattan Institute 2011
- Getting the Housing we want, Grattan Institute 2011
- Housing Affordability: Re-imagining the Australian dream, Grattan Institute 2018
- Infill Opportunities, Design research report, Monash University Department of Architecture 2011
- Exploring the missing middle & why this is a critical piece in today's housing market - Housing Density & Diversity Conference: Exploring missing middle housing typologies to retrofit suburbia, 19th & 20th June 2018. Keynote presentation by Adjunct Professor David Chandler OAM FAIB.

## Building occupant survey

To inform the review's understanding of what medium density housing is like to live in, a building occupant survey was undertaken by Council's Research Unit in November 2017. The intention of the survey was to gain an in-depth evidence base of things that do and don't work in the design of the building from the perspective of those who live in it.

Nearly 7,000 letters were sent to people living in medium density housing throughout Moreland. Recipients were asked to complete an online survey, with an option to request a paper based survey. A total of 462 households responded to the survey, representing the experiences of 1,029 residents living in medium density housing.

## Case studies

The key input into the review was comprehensive, detailed case study analysis to evaluate the quality of medium density housing, undertaken by Council Officers within the Strategic Planning and Urban Design Units in May 2018.

The constructed outcome was evaluated for 76 planning permit applications, involving 354 dwellings approved in 2015; all of which have been recently completed.

A second case study sample of 49 current planning permit applications from 2018, involving 162 dwellings, was evaluated to allow for comparison of outcomes pre and post the recent introduction of a mandatory 'garden area requirement' into the Residential Zones of the Moreland Planning Scheme.

A third case study sample of 36 developments for larger, more intensive medium density development, involving 408 dwellings, was evaluated to identify issues which can arise in denser medium density developments.

The case study samples were selected to be a robust representation of the geographic distribution, density, number of dwellings on a lot, zoning and typologies of medium density development in Moreland.

## Interviews with Architects and building designers

Architects and building designers with a high volume of medium density applications in Moreland were invited to participate in face to face discussions to understand the factors influencing the quality of medium density from the designer's perspective. Two architects were interviewed by Moreland's Urban Design Unit in November 2017.

## Internal workshop and inspections of completed developments

A workshop in November 2017 was conducted with Moreland City Council Officers involved in the assessment of medium density housing planning permit applications. The purpose of the workshop was to explore their experience in the quality of the medium density proposals they assess.

In addition, a site tour was conducted in November 2017 by a multi-disciplinary team of Council Officers. The sites inspected represent a variety of medium density housing types, issues and densities. The positive aspects of these developments were explored and contrasted against less successful outcomes on other sites.

Audit of Planning Permit Compliance:

As reported to Council in May 2018 (DED24/18 Proactive Planning Enforcement) an audit was undertaken of:

- A small sample of completed medium density developments
- A small sample of developments to assess compliance with environmentally sustainable design requirements
- Developments which required submission of an accessibility report.

The purpose of the audit was to explore which aspects of the quality of medium density development are well dealt with in the planning scheme and decision making but are not being followed through in the on-ground outcome.

How the case studies were scored

Each development was scored on the following factors:

What is medium density housing like to live in?

- Internal amenity
- Environmentally Sustainable Development (ESD)
- Accessibility
- Open space.

What does medium density housing look like?

- Streetscape character
- Site context
- Site layout and design detail
- Visual bulk and appearance from neighbouring properties
- Landscaping
- Car parking.

Each case study was scored on each criterion in the following way:

- 0 - Unacceptable  
(does not meet planning scheme objective / standard)
- 0.5 - Acceptable  
(meets planning scheme objective/standard)
- 1 - Enhanced quality  
(exceeds planning scheme requirement)
- 1.5 - Best Practice  
(significantly exceeds planning scheme requirement)

It is noted that planning permit decision making often involves balancing various aspects of the design. Clause 55 of the Moreland Planning Scheme (ResCode) includes standards that (with the exception of Neighbourhood Character objectives and standards) are discretionary. This means that where a particular aspect of the design may not comply with the planning scheme standard, on balance an overall acceptable outcome can still be achieved when ResCode standards are varied.

The matters considered in the case study analysis are detailed in Appendix 1.

## External Workshops and Forums

Two Quality Urban Development Community Workshops were hosted in September 2016, one in the south of the municipality and one in the north. Surveys were completed by workshop participants to gauge perceptions about the quality of medium density development. The majority of attendees live in separate dwellings, so this input is primarily the perspective of the broader community who do not live in medium density housing. In April 2017 Council resolved to convene a Roundtable Forum to discuss ideas that Council could implement to improve urban development outcomes. The full results of this forum are available as an attachment to Council Report DED25/18 – Better Planning and Development Outcomes.

The Forum recommended that Council work towards incentivising quality development, and that projects should work to Design Quality Guidelines to support and enable Best Practice. The Forum noted the importance of educating community and industry to recognise and appreciate quality, and opportunities to improve the quality of our design process to fast-track design excellence.

## Review of resources allocated to medium density housing

The Planning Scheme Review, adopted by Council in June 2018 recommended identifying ways to streamline zone and overlay controls, to improve useability and reduce planning permits for minor matters and remove simple planning permit requirements. Identifying opportunities to fix, simplify and streamline the scheme would allow Council's planning resources to be focused on issues of most importance and remove low value add assessment requirements.

In this context, as part of the Medium Density Housing Review, a high level review of the average number of medium density permit applications considered by the Urban Planning Unit, and the number of dwellings within these applications was undertaken to assist in understanding the resource implications of medium density housing.



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# Key issues identified by review inputs

## Literature Review

In New South Wales the draft Medium Density Housing Code 2016 sets out the development standards which medium density housing must meet in order to be fast-tracked and exempt from obtaining a planning permit. The document provides multiple diagrams to illustrate compliance as well as best practices examples. In particular, the Internal Amenity section highlights how to tackle issues such as private open space, visual privacy and universal design.

The literature review also identified that there is potential to consider a fast track permit process for low density compliant medium density development. As discussed in the Grattan Institute Housing Affordability: re-imagining the Australian dream 2018, as the research has demonstrated that restrictive planning controls and processes are an important factor in high and rising house prices.

This research discusses the reforms to the planning system in NSW to fast-track some medium density development. Fast-track processes for some medium density development is also discussed in the Grattan Institute Getting the Housing We Want. In particular, this research discusses incentives in the time taken to obtain a planning approval (15 day planning approval with no third party appeal rights) for small scale medium density development which complies with particular requirements.

Adjunct Professor David Chandler in his keynote presentation at the conference Housing Density & Diversity: Exploring missing middle housing typologies to retrofit suburbia highlighted the importance of understanding the type of builders involved in medium density housing. As medium density housing involves smaller scale designers and builders, any approach to achieving design improvement should be developed in consultation with them to suit the reality of their industry. This has informed the approach to finalising the Draft Good Design Advice Sheets through consultation with the development industry.

## Conclusion

The literature review assisted in understanding best practice in medium density development and demonstrated that Rescode is a best practice standard. Many of the specific requirements of Rescode deliver better outcomes than equivalent requirements in other codes.

Common themes within planning codes for medium density development were identified, and these informed the criteria for the case study analysis undertaken as part of this review. The literature review also informed the approach to engage developers in finalising the design sheets.

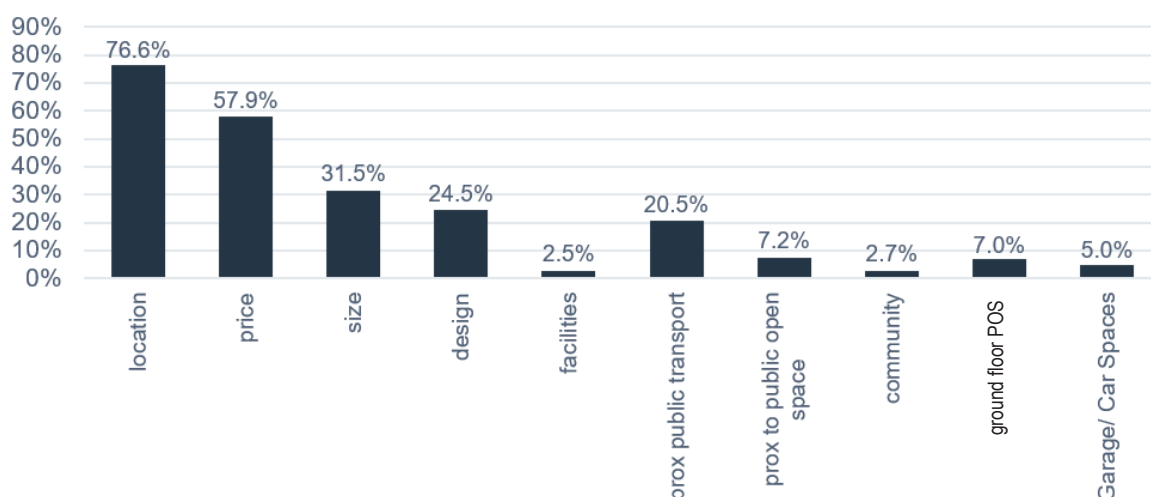
An evaluation of what is particularly effective about other medium density guidelines informed the Draft Good Design Advice Sheets which are a recommended action from this review (at Appendix 3).

## Medium Density Housing Building Occupant Survey

The following provides an overview of the key findings identified in the 462 responses to the medium density occupant survey.

In identifying these key findings, it is noted that most survey respondents are residing in medium density dwellings constructed more than seven years ago. As such, it is likely that some of the areas of concern or dissatisfaction identified by survey respondents would have been addressed in more recent medium density development, given changes to the Planning Scheme since the time of construction.

Chart 8: Why did your household choose to live in this dwelling?



Source: Medium density Housing building occupant survey, 2018  
Moreland City Council

A significant number of residents chose to live in their dwelling because of its location and price. The size of the dwelling was a factor for a smaller number of respondents. Factors relating to the design were less important to residents when choosing where to live.

### ESD

A third (34%) of respondents were dissatisfied with the thermal comfort of their home and identified thermal comfort as an area for improvement. 65% said their home had no external shading to windows (such as awnings, blinds, screens, eaves or trees).

However, in an open ended question less than 2% of respondents identified these matters as areas of concern.

Equal numbers of people made comments about wanting mechanical heating and air conditioning, as those who made comment about passive design. Many respondents equate thermal comfort with having mechanical heating and cooling.

### Open space

More than half (57%) of respondents stated the amount of open space meets their needs but in open ended question around a quarter (27%) of people said the quality of their open space could be improved.

For many respondents, it's not the size of the open space that is an issue to them, so much as how it is designed.

### Site layout and design detail

A third of respondents (32%) said they are dissatisfied with quality of materials and in an open ended question 16% of respondents identified that the quality of materials could be improved.

### Landscaping and Trees

Nearly half (42%) of respondents said there are not enough trees around their development and in an open ended question 16% identified that landscaping could be improved.

### Internal amenity

Three quarters (77%) of respondents stated that the size of rooms meets their needs, indicating that the dwellings are not considered by residents to be too small or have poor internal amenity.

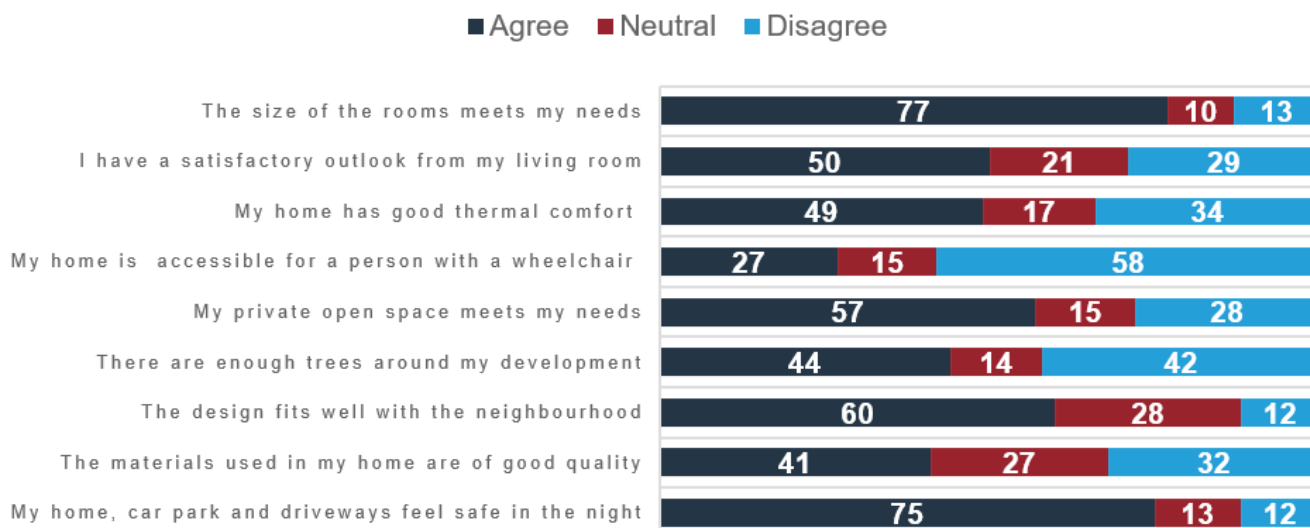
### Accessibility

More than half (58%) of respondents identified that their home is not accessible to a person in a wheelchair but in an open ended question less than 1% of them identified this as an area of concern. Their homes are not accessible, but this is not a requirement for them.

### Conclusion

These key findings have informed the identification of the key issues for medium density housing to be addressed by the actions of this review and considered in the case study analysis.

Chart 9: Agreement ratings on questions asked in the Building Occupant Survey



Source: Medium density Housing building occupant survey, 2018

## Case studies – Analysis of planning permits and constructed development

The case study analysis involved an extensive examination of planning permits approved, developments constructed and permits under consideration, across various time ranges. The case study analysis has provided a strong foundation to identify the factors influencing outcomes for medium density housing, and how they can be addressed.

The analysis of case study permits lodged in 2018 revealed that when scored against a number of factors (described in detail below), the 2018 permits scored significantly higher than the permits approved and constructed in 2015.

It is important to note here the recent changes to the planning scheme approved in 2015 and 2017 that have been identified through the case study analysis to be having a significant positive influence on the quality of medium density development. As these are recent changes to the scheme, the ‘on the ground’ built form outcomes of these changes are not yet obvious as dwellings approved under these changes are not yet constructed.

These recent changes to the planning scheme are more specifically:

- In late 2015 an Environmentally Sustainable Development local policy was introduced into the Moreland Planning Scheme. The policy includes best practice requirements for energy performance, water use, indoor environment quality, stormwater management, transport, waste management and urban ecology.
- In 2017 the Victoria Planning Provisions were amended to introduce a garden area requirement. The garden area requirement applies to all land in the Neighbourhood Residential Zone and General Residential Zone that is 400 square metres or more. It is a mandatory requirement. A minimum percentage of the land must be set aside for garden areas at ground level, with the percentage varying dependent on lot size.

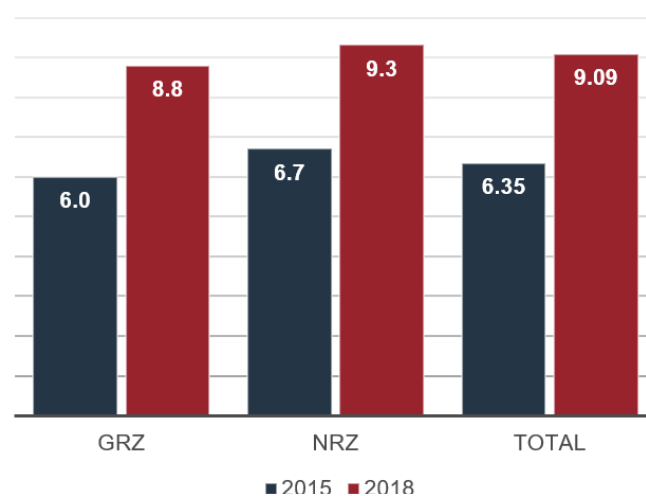
Lot size	Minimum % of a lot set aside as garden area
400 – 500m <sup>2</sup>	25%
501 – 650m <sup>2</sup>	30%
Above 650m <sup>2</sup>	35%

A further case study sample of 36 developments for larger, more intensive medium density development, involving 408 dwellings, was evaluated. This case study sample explored issues which can arise in denser developments.

## Overall quality

In the scoring of the case studies a score of 5 is equivalent to an acceptable outcome on every criteria and a score of 10 is equivalent to an enhanced outcome on all criteria. The average score has increased from 6 in 2015, to 9 in 2018. The introduction of the garden area requirement has been highly influential in improving outcomes across many criteria. The introduction of the garden area requirement has not only increased the amount of open space but has had a significant influence on many inter-related aspects of the design of medium density housing.

Chart 10: Average score of case study, by zone



Source: Moreland Case Study Analysis, 2018

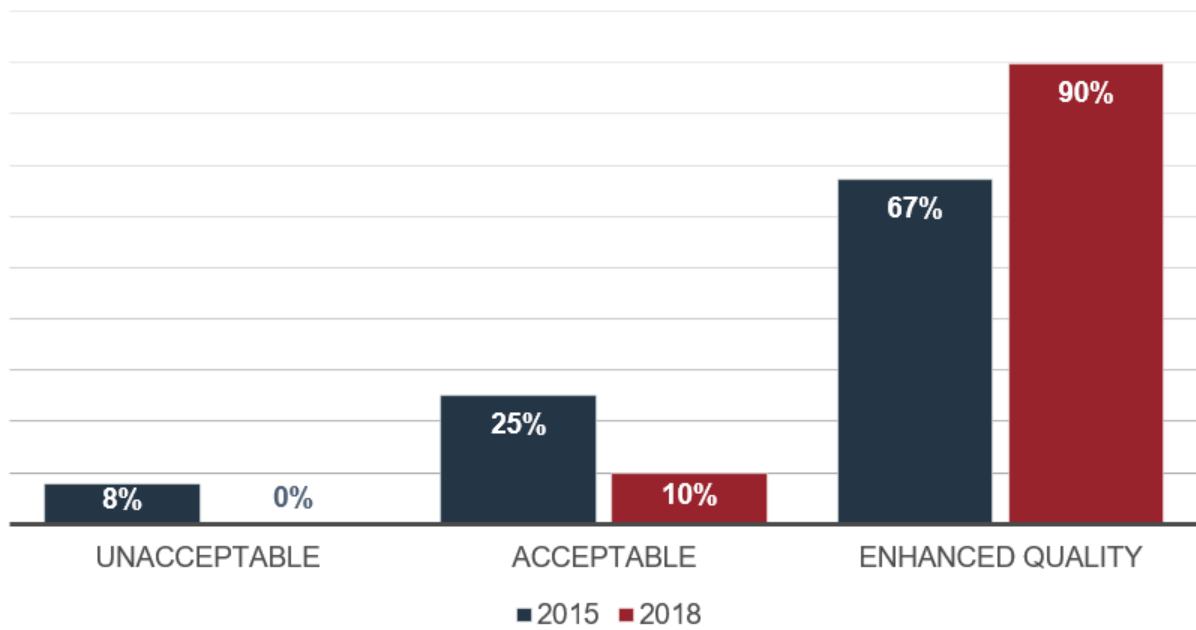
## Internal amenity

The introduction of the garden area requirement has all but eliminated reverse living in the Neighbourhood Residential Zone and General Residential Zone. Reverse living is a dwelling which has its living areas on the first or second storey. Reverse living can be exceptional quality, but in Moreland reverse living townhouses commonly have excessive use of highlight windows, opaque glass and high, solid balcony screening; resulting in little or no outlook from living rooms and other habitable rooms, including bedrooms and kitchens.

The garden area requirement has incentivised provision of the private open space to all dwellings at ground level rather than on a balcony and at the same time has resulted in an increase in the size and dimensions of these private courtyards. It is noted that in March 2018 that the Garden Area definition was amended in the Moreland Planning Scheme to include areas that contain water tanks and other small structures. The effect of this change to the definition will need to be monitored to understand the impacts. It would be appropriate for the Design Advice Sheet drafted in regard to open space to contain guidance as to how to appropriately minimise the intrusion of such services into open space areas.



Chart 13: Internal Amenity in case study dwellings



Source: Moreland Case Study Analysis, 2018

Examples of minimal outlook from upper level windows and balcony



Examples of windows and balconies which limit overlooking while maintaining outlook



## Density

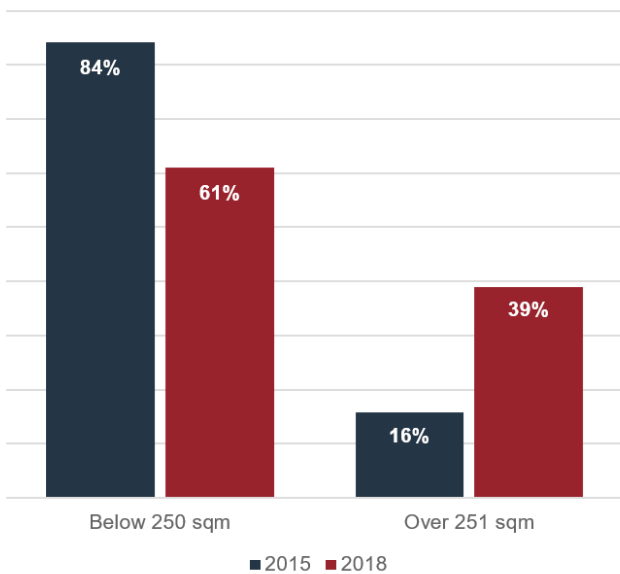
The case study analysis comparison of development in 2015 and 2018 found that the introduction of the garden area requirement has reduced the average density of medium density development in Moreland.

The number of dwellings within medium density developments allocated an allotment of more than 250 square metres in area has more than doubled, with almost 40% of medium density dwellings now at this density. A further 30% are now on sites of more than 200 square metres. There has been a marked reduction in density and significant increase in the average site area for each dwelling as a result of the introduction of the garden area requirement.

Rescode requires that the main living room must open onto the private open space, so the result of the garden area requirement is that rather than some living rooms opening out onto a 1.6 metre wide enclosed balcony or a 3 metre wide ground level courtyard, the outlook from most townhouses is now to a ground level courtyard which is 4-5 metres deep, so living rooms have a much better outlook and better access to natural light.

90% of dwellings in the 2018 case studies exceed the planning scheme requirement for internal amenity, up from 67% prior to the introduction of the garden area requirement.

Chart 11: Area per dwelling over and under 250 square metres



Source: Moreland Case Study Analysis, 2018

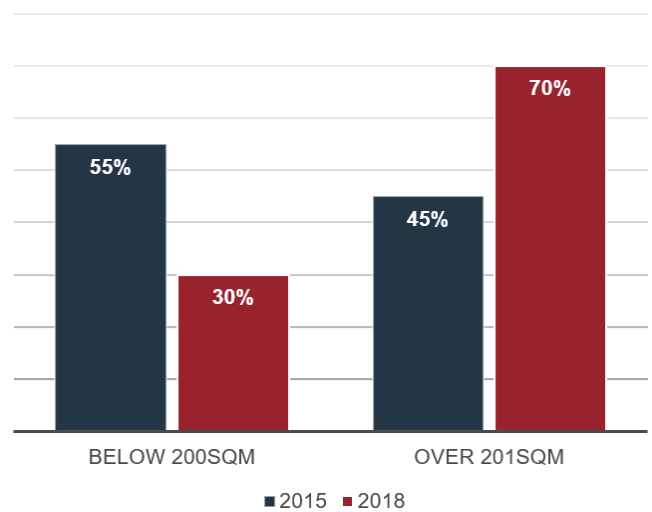
The reduction in the number of dwellings on a lot is illustrated further in the Resources allocated to medium density housing permit assessment section on page 29.

The analysis of the more intensive developments however, identified an over reliance on screening and highlight and opaque windows at first floor level of many medium density developments.

Development should be designed to provide reasonable outlook and visual connection to the external environment from upper levels of new dwellings, whilst at the same time limiting direct views into habitable room windows and private open spaces of neighbouring dwellings. This can be achieved through the layout and orientation of dwellings, and considered location and orientation of windows.

Privacy can be designed into the layout and orientation of the dwelling through the location and placement of windows to avoid the need for privacy screens and highlight and opaque windows. Over reliance on screening and highlight and opaque windows to reduce overlooking is a symptom of design which is not responding to its context, and it is resulting in compromised internal amenity in medium density development.

Chart 12: Area per dwelling over and under 200 square metres



Source: Moreland Case Study Analysis, 2018

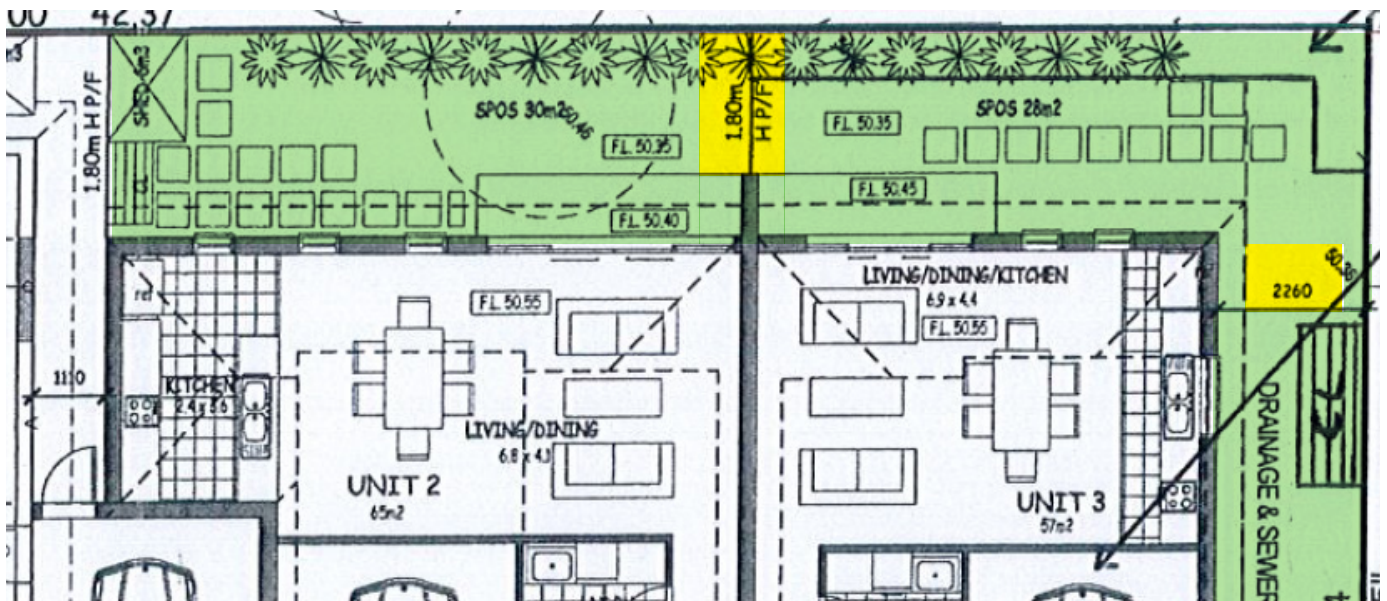
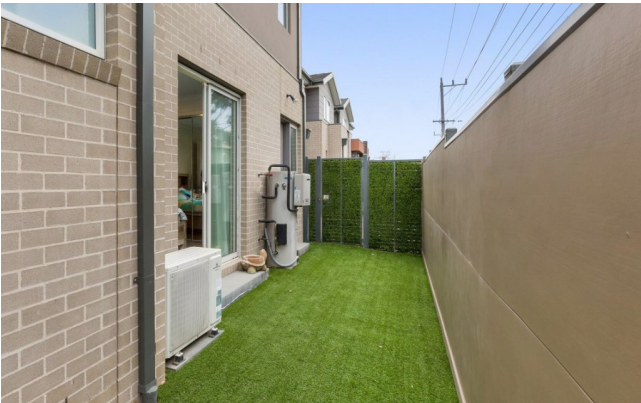
## Open space

The introduction of the garden area requirement has had a dramatic impact on the amount of open space within medium density developments. In 2015 an average of 23% of site area was provided as open space.

In 2018 as a result of the introduction of the garden area requirement, on average, 38% of the site area is now open space.

Not only has the amount of open space increased, but the size of the private open space (courtyard) has also risen dramatically. The Rescode requirement for ground level private open space is 25 square metres with a minimum dimension of 3 metres. In the evaluation of 150 dwellings with ground level private open space in the 2018 case studies, the average size of private courtyards was 47 square metres and courtyard dimensions have increased so that almost all now have a minimum dimension of 4 - 5 metres or more.

### Examples of a narrow, small courtyard



Examples of a larger, wider courtyard

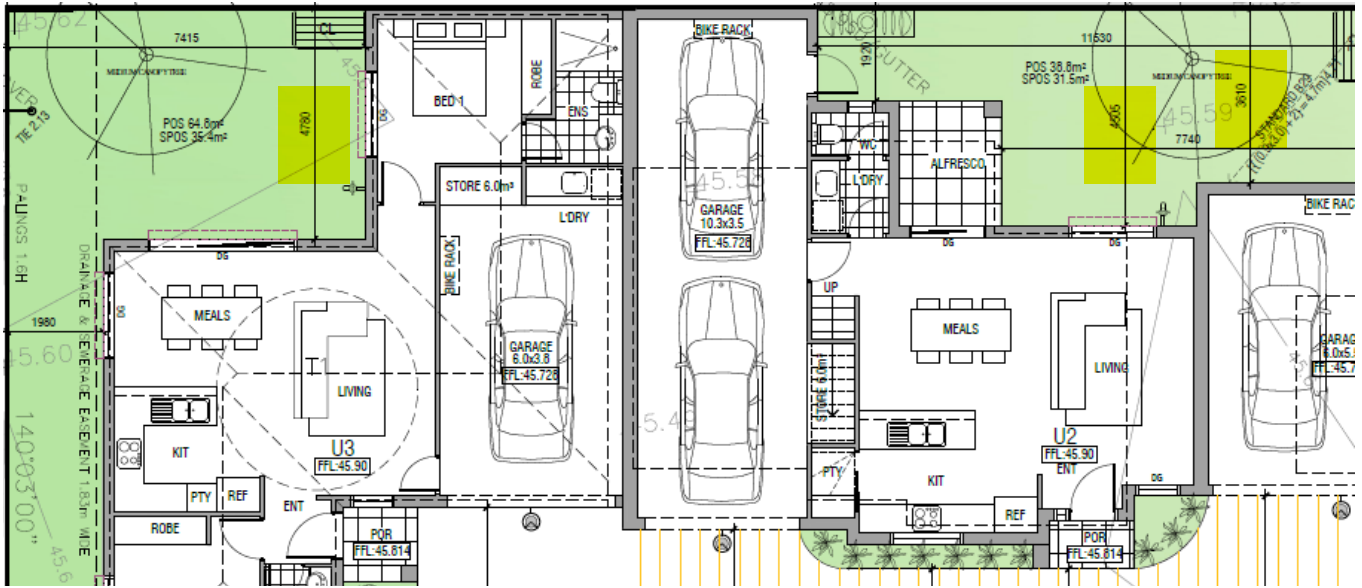
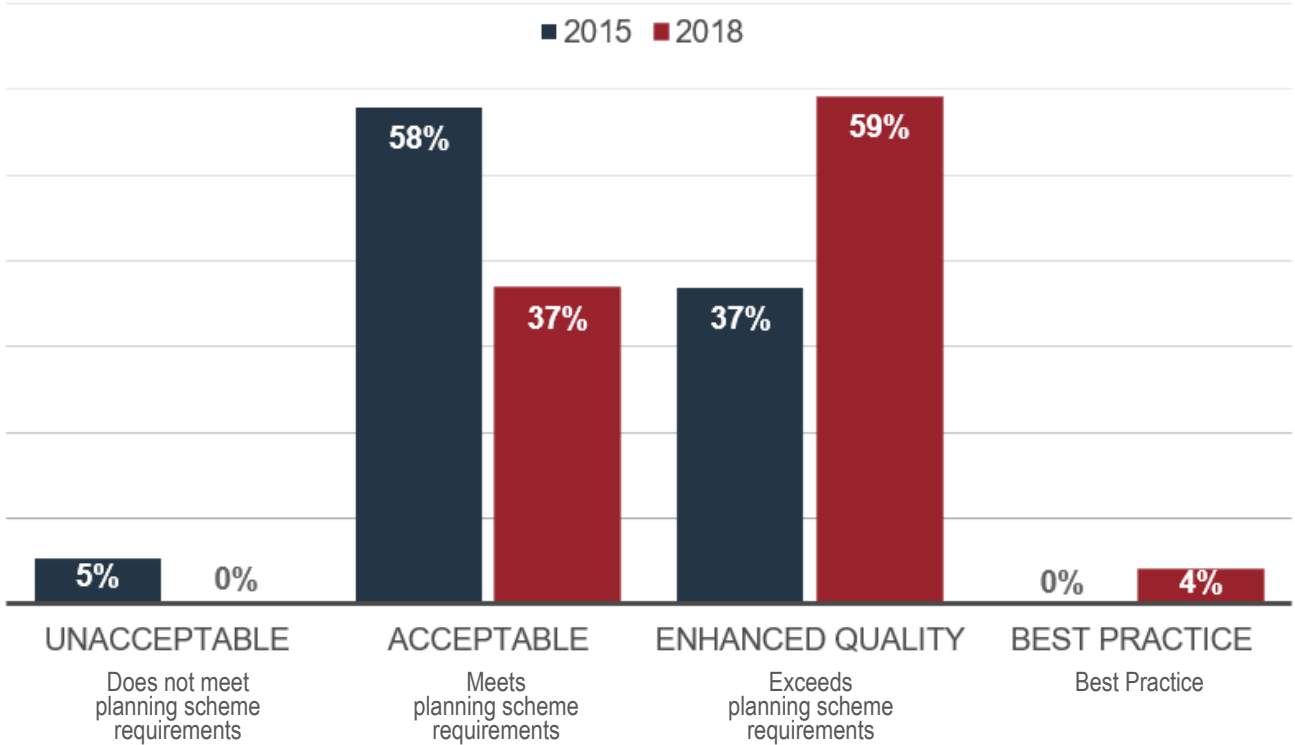


Chart 14: Open Space provision in case study developments



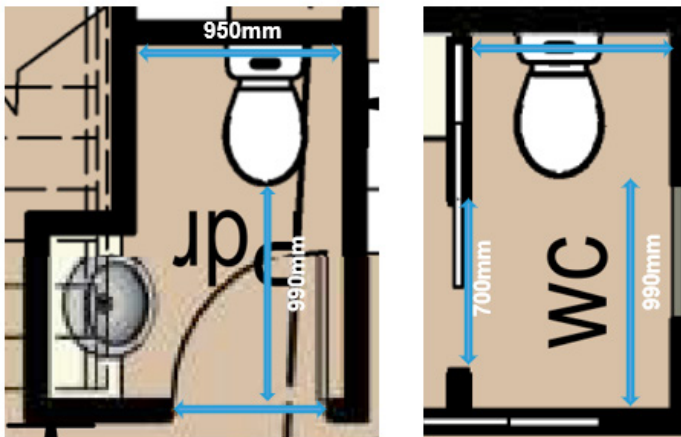
Source: Moreland Case Study Analysis, 2018

## Accessibility

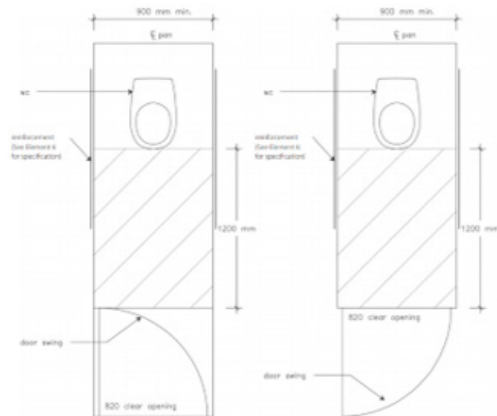
The dramatic reduction in reverse living has also resulted in almost all dwellings in the 2018 case studies having a ground level living room, kitchen and toilet and a significant proportion (57%) also having a bedroom and bathroom at ground floor level.

These dwellings however are not meeting the specific dimension requirements of the Municipal Strategic Statement Clause 21.03 Objective 9 to enable a person with altered mobility to access the dwellings. With wider doorways and marginally larger toilets and bathrooms 88% of medium density dwellings could be visitable or livable for a person with mobility disability.

Dimensions of typical toilet

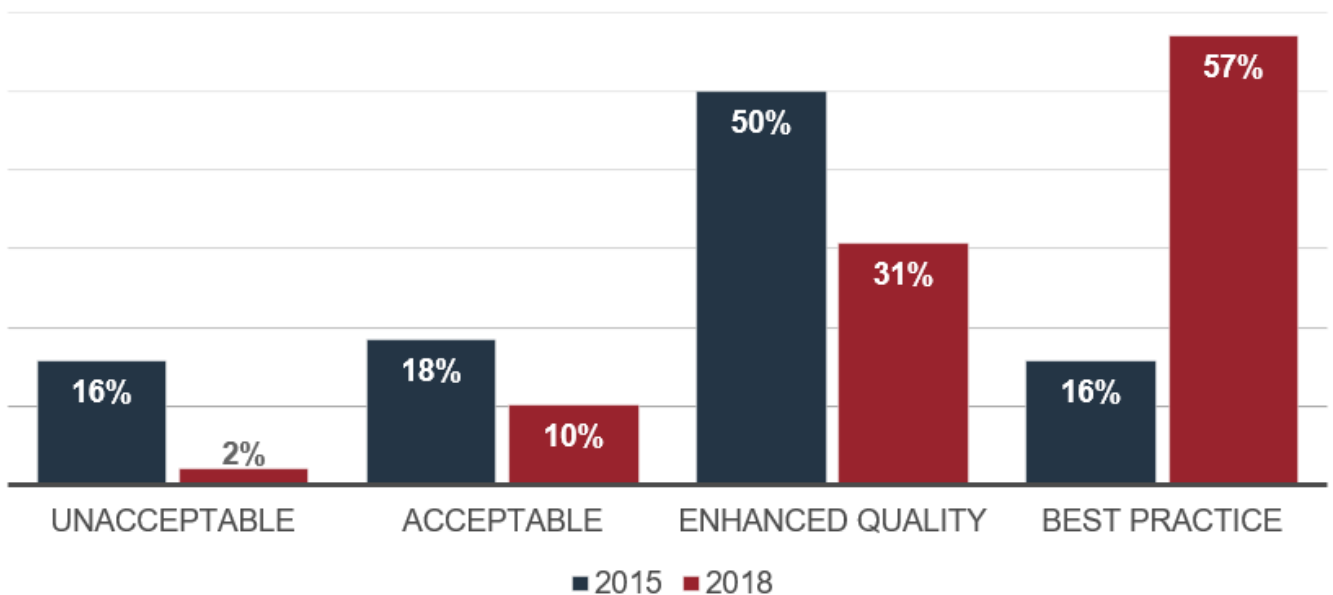


Dimensions of an accessible toilet



If doorway swings outwards or slides, the doorway needs to be 15cm wider and the cubicle needs to be 20cm longer and 30cm wider for a typical toilet cubicle to be accessible.

Chart 15: Accessibility in case study dwellings



Source: Moreland Case Study Analysis, 2018

## Streetscape appearance and site context

There has been no change to the planning scheme in recent years relating to streetscape appearance and there is little difference between the 2015 and 2018 case studies on this criteria. In all cases the outcomes comply with the planning scheme.

The 'Enhanced quality' indicates that the development provides a positive contribution compared to the previous building such as additional street activation to a lane or a side street from multiple dwellings.

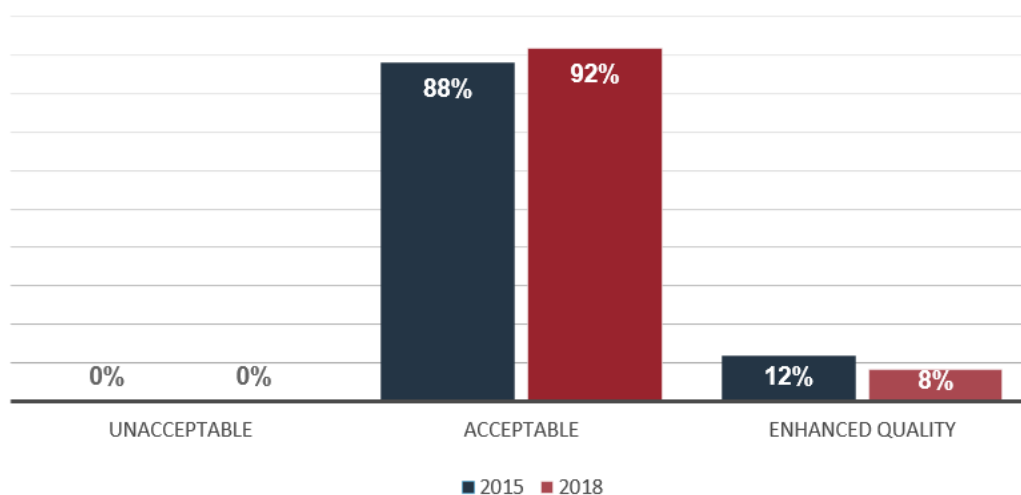
Some common issues include poor overall proportions, poor roof articulation, blank walls on the upper level, poor location and appearance of services such as post box and utilities boxes and poor materiality quality and the way materials are utilised.

## Site layout and design detail

In relation to site layout, the garden area requirement has contributed to a dramatic improvement in the site layout of medium density housing. In 2015 only 20% of medium density dwellings exceeded the planning scheme requirement on this criteria.

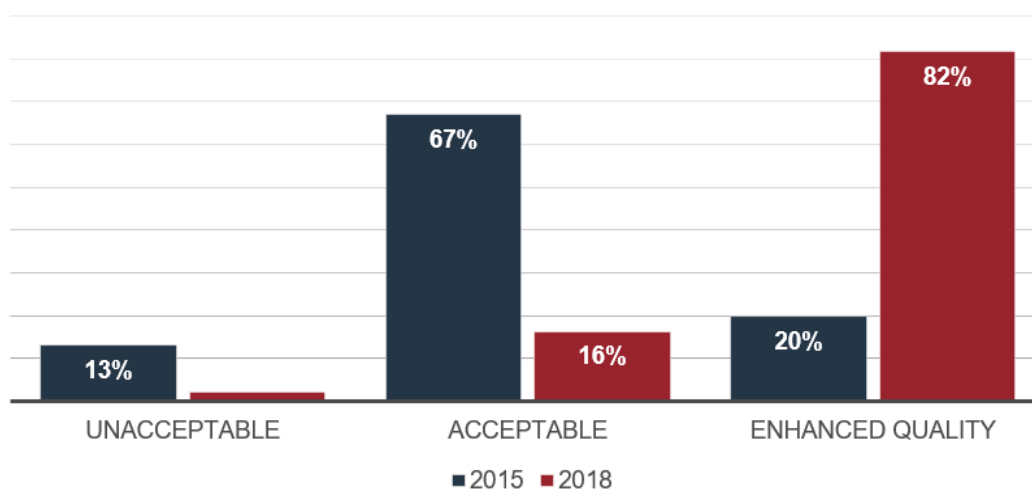
Since the introduction of the garden area requirement, more than 80% of medium density dwellings exceed the planning scheme requirement. The increase in the amount of open space has resulted in improved layout of dwellings within the site, achieving greater levels of internal amenity.

Chart 16: Streetscape appearance and site context in case study dwellings



Source: Moreland Case Study Analysis, 2018

Chart 17: Site Layout and Design Detail in case study dwellings

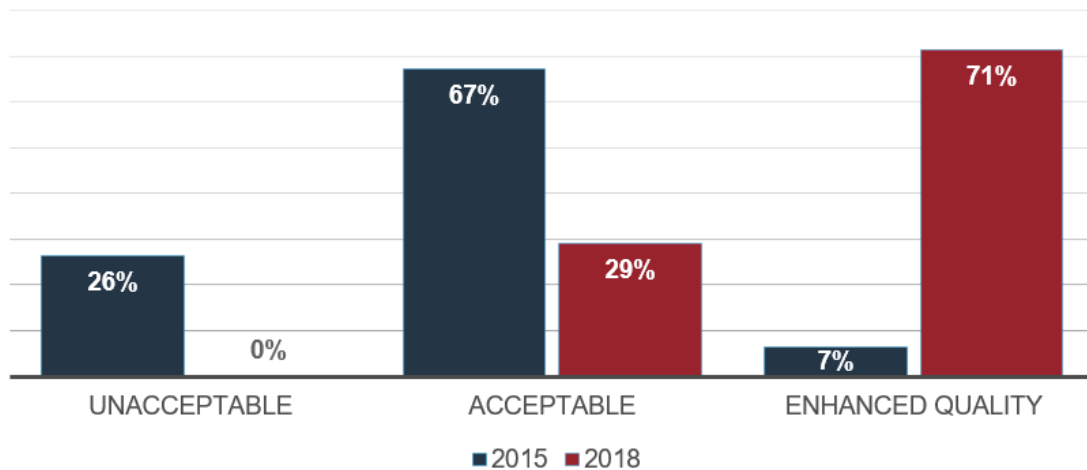


Source: Moreland Case Study Analysis, 2018

## Landscaping

The evaluation of 2015 built case studies showed that in 26% of instances trees indicated on landscape plans had not been planted. In the 2018 case studies, as a result of the increased amount and dimension of open spaces and the new requirement for canopy trees to be planted contained in the GRZ and NRZ schedule, canopy trees in excess of the scheme requirement were indicated on the landscape plan in 71% of applications.

Chart 18: Landscaping in case study dwellings

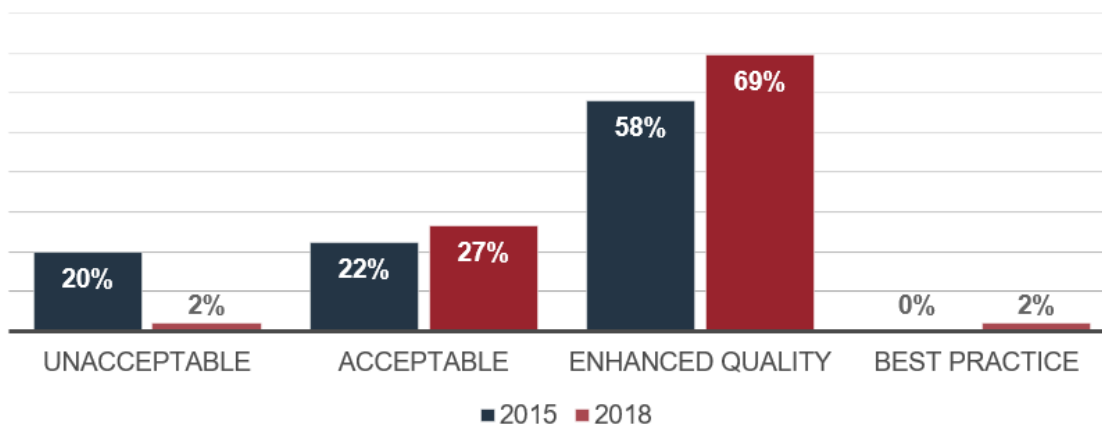


Source: Moreland Case Study Analysis, 2018

## Car parking

This criteria relates to the way in which car parking is integrated into the design of the development. There has been no change to the planning scheme between 2015 and 2018 in this regard, but the reduction in reverse living, which can result in a dominance of car parking at ground level, has resulted in a small improvement in outcomes.

Chart 19: Car parking in case study dwellings



Source: Moreland Case Study Analysis, 2018

## Conclusions from the Case Study analysis

The case study analysis has clearly demonstrated the positive impact of the garden area requirement on many aspects of medium density development, particularly the private open space provision and internal amenity and layout. These positive impacts will become apparent in the community as developments approved after 2017 with the garden area requirement are constructed.



## Interviews with Architects and Designers

The following is a dot point list of the key feedback provided to Council Officers through the interviews with two architects and designers:

### Accessibility

- Interviewee's advised that some Councils have a requirement for 1 dwelling in 3 being accessible, even for small unit developments
- The Better Apartment Design Standards could be applied to medium density development as they provide clear instructions.

### Open space

- The minimum dimensions of Rescode leads to inadequate Private Open Space
- Garden area requirement within the Neighbourhood Residential Zone and General Residential Zone is a game changer
- Rainwater tanks could be put either under floor, under garage or under the stairs to allow better use of private open space.

### Streetscape character and site context

- Moreland is too conservative in how it considers contemporary design
- There should be a zone review as some of the zones are too restrictive for the location
- Neighbourhood character policy is too restrictive and does not lead to contextual design
- There is a lack of flexibility to new design language especially where there is no clear streetscape character or a mixed building stock.
- In relation to neighbourhood character, it's a guessing game in knowing what Council actually wants.

### Site layout and design detail

- The layout of the dwellings is a consideration, but the yield leads to compromise
- The client's financial expectation is the driver of the design and the project
- Contemporary facades are preferred
- Articulation should be through form, not by materials
- Materials choice influenced by cost
- Air conditioners should not be visible from the street
- Utilities have to be located to the frontage, but they should be enclosed.

### Visual bulk and appearance from neighbouring properties

- Need to encourage smarter ways to prevent over-looking (angled balconies, fins, tilted balustrade, planter boxes).

### Landscaping

- Landscaping is critical to success of development
- Screen planting should be used for both screening the building and shading.

### Conclusion from Interviews

The interviews demonstrate the importance of understanding medium density development outcomes from the perspective of the designer of the buildings and the parameters guiding the proposed design.

It highlights the need to ensure the Draft Good Design Advice Sheets are finalised with the input of designers and regular permit applicants, to ensure the conversations commenced as part of the Medium Density Housing Review can be continued and expanded, to better understand how to address the feedback obtained.

## Internal workshop and inspections of completed developments key issues

The following is a dot point list of the key observations from the workshops and inspections:

### Internal amenity

- Screening is over used.

### ESD

- Insufficient shading to windows.
- Accessibility
- Dwellings should be visitable, with a living room and toilet at ground level
- Barriers – sloping sites and reverse living
- The cost of incorporating the changes isn't significant
- It would be good to have a guide to let applicants know what is required early on in the application process
- Banyule has a successful policy around encouraging accessibility.

### Design detail

- Details are important – down pipes, balustrade, window proportions
- Upstairs windows frosted to 1.6m – no outlook from upstairs
- Gas and electricity metres are not being considered as an integrated part of the design
- Articulation is often achieved through materials rather than building form
- Quality of materials often poor.

### Landscaping

- When removing established trees, replacement trees should be specified
- Need to ensure tree planting undertaken
- Dimensions requirements is an easier conversation for canopy tree
- Very little landscaping
- Could have more landscaping in the front setback.

### Process

- Pre-application meetings for medium density development are not common
- Applications are currently not usually referred to the Urban Design Unit for comment.

### Conclusion from workshops

The findings from the workshops indicate the content that should be included in the Draft Good Design Advice Sheets, and the most effective way for these sheets to be integrated into Council's process for planning permit assessment.

## Planning Permit Compliance Audit

In 2018 an audit was undertaken to assess the degree of compliance (or non-compliance) with planning permit conditions and endorsed plans. This audit found that the on ground/built outcome often does not reflect of the detailed requirements of the planning approval. Specifically the Audit found that:

### ESD

- 70% non-compliance with ESD requirements.

### Accessibility

- 86% non-compliance with permit condition requiring an expert access consultant to confirm that the accessibility outcomes on the endorsed plans and access report have been achieved.

### Design detail

- 60% have utilities and services installed in locations which differ from the approved plans.

### Landscaping

- 60% of developments haven't planted or maintained landscaping shown on the endorsed landscape plan.

### Materials

- 61% of developments have some degree of non-compliance with the approved materials schedule.

### Overlooking

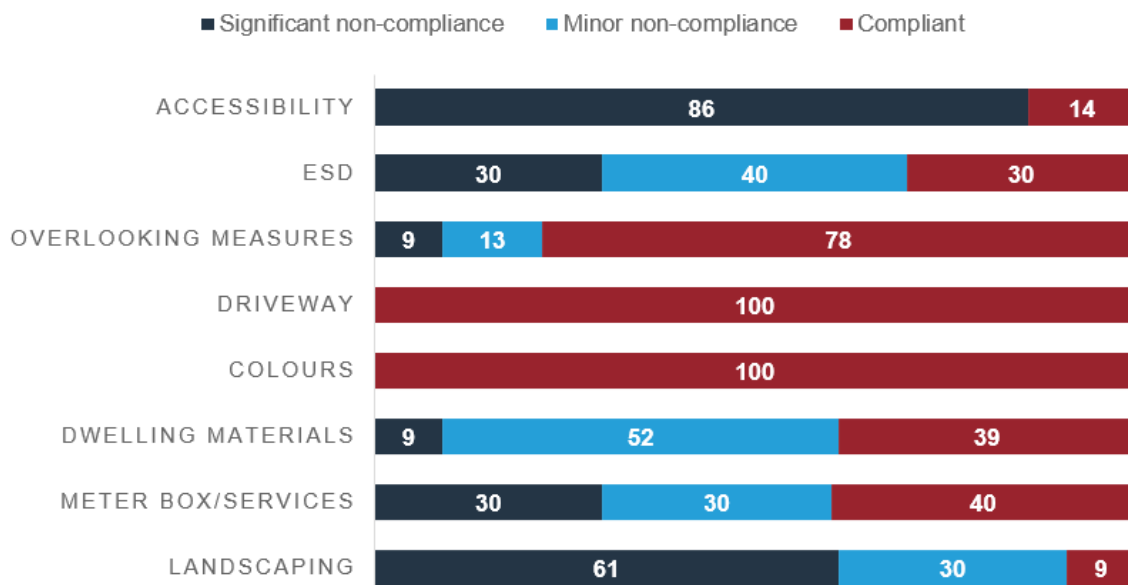
- 22% of developments have some degree of non-compliance with measures to limit overlooking.

### Conclusions from Compliance Audit

The audit demonstrates that in many instances short comings with constructed medium density development in Moreland is not as a result of deficiencies in the planning scheme but relates to whether the development is undertaken in accordance with the approved planning permit.



Chart 20: Degree of compliance with planning permit



Source: 2018 Compliance Audit

## External Workshops

Key issues raised at the Improving the Quality of Urban Development Outcomes in Moreland - Roundtable Forum included:

- New dwellings should be equally good inside and out – for the residents and for the people that walk past / community
- New development looks tacky tacky
- Quality of materials and design needs improvement
- Develop Draft Good Design Advice Sheets to support best practice and a forum to engage the development community
- Need a triage system where simple, low risk applications can be fast tracked to free up resources to negotiate better outcomes for more complex applications
- Design to cater for variety of needs
- Zero car parking will be required in a driverless car future.

Key issues raised through the Quality Urban Development Workshops were:

### Internal amenity

70% of participants consider that the internal layout of new dwellings should be improved.

### Landscaping

90% agreement that there should be more landscaping and greenery.

### Accessibility

95% agreement that new dwellings should be accessible for people with limited mobility, reinforced in comments 'Accessible housing is very important'.

### Open space

75% agreement that garden spaces should be bigger. Comments included 'greater allowance for green/com-munal space'.

### Site layout and design detail

70% of respondents consider that there are too many dwellings on each site, supported by the comment 'new developments should not take up the whole site'. All respondents consider that building quality should be improved and observe 'They don't seem to be designed with aesthetics in mind'.

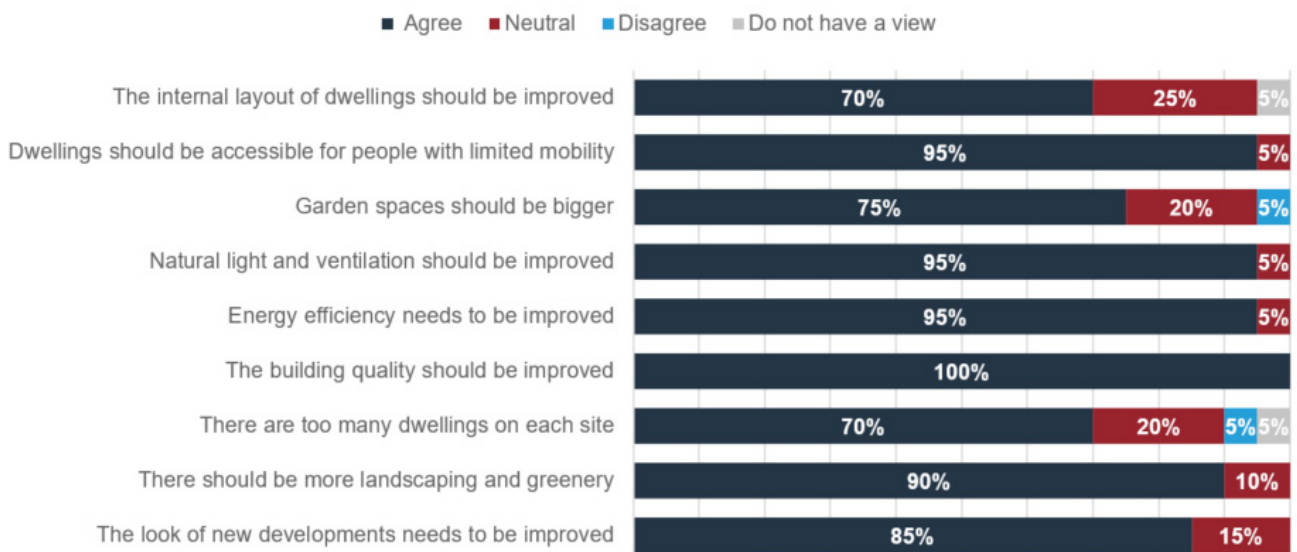
### ESD

95% of participants considered that energy efficiency and natural light and ventilation needs to be improved. Comments included the opinion that new developments have poor energy efficiency with reliance on air conditioners and that Moreland should be a leader in environmental sustainability.

## Conclusion from the External Workshops

The external workshops have provided important content direction for the Draft Good Design Advice Sheets, and the content and topics for these guides.

Chart 21: Agreement rating for questions asked of Quality Urban Development Workshop Participants



Source: Moreland External Workshop 2018

## Resources allocated to medium density housing permit assessment

Moreland City Council determines on average approximately 480 medium and high density dwelling planning permit applications each year. Approximately 400 of these applications are for medium density development (as defined within the scope of this review). This represents almost a third of all planning applications. The below table provides information specific to the 2017/18 financial year.

Table 1: Type of permits issued by Moreland City Council, 2017/18 Financial Year

Application categories for permits issued	Number of applications
Change or extension of use	71
Alterations to a building, structure or dwelling	253
Extension to an existing dwelling or structure associated with a dwelling	37
Extension to an existing building or structure (other than a dwelling)	10
One or more new buildings	58
Single dwelling	56
Multi-dwelling	424
Other buildings and works (including septic tanks, dams, earthworks)	67
Demolition	14
Native vegetation removal	3
Other vegetation removal	2
Consolidation	1
Subdivision of land	317
Subdivision of buildings	16
Subdivision - Change to easement and/or restrictions	6
Subdivision - Removal of covenant	1
Subdivision - Realignment of boundary	0
Liquor license	9
Waiving of parking requirement	20
Signage	23
Telecommunications facility	0
<b>Total</b>	<b>1388</b>

In 2017 three quarters (65%) of medium density applications were for two or three dwellings on a lot. To demonstrate the influence of the introduction of the garden area requirement, for 2018 year to date, the proportion of applications for two or three dwellings on a lot has increased to 70%. The proportion of dual occupancy applications has increased from 33% in 2017 to 40% for 2018 year to date (January – August 2018).

Of course the number of dwellings on a lot varies for different suburbs, dependant on the land economics, lot sizes and dimensions in that suburb and level of service of public transport. Table 1 gives the average across the municipality. To illustrate this for selected suburbs:

**Table 2: Medium Density Applications in selected suburbs, 2018 Year to Date (January – August) \* Percentage of medium density applications**

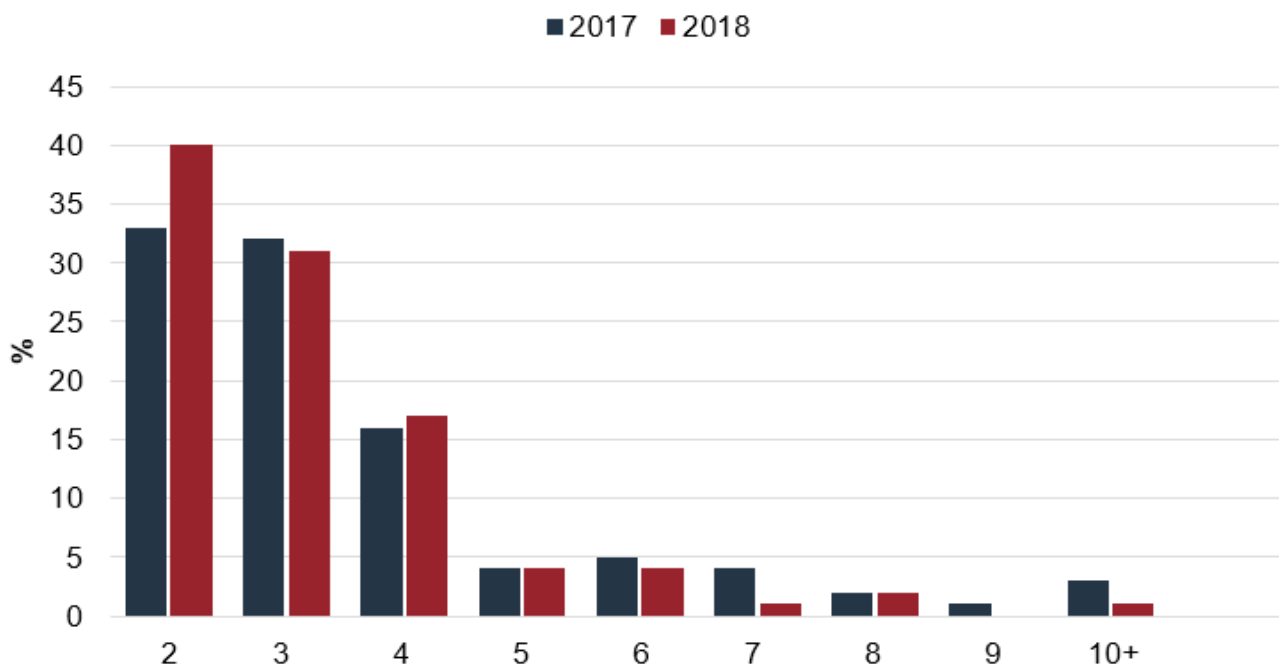
	2 dwellings on a lot	3 dwellings on a lot
Fawkner	43%	43%
Glenroy	19%	51%
Pascoe Vale South	55%	30%
Hadfield	47%	27%
Coburg North	54%	23%

Almost forty percent of the dual occupancy applications to date in 2018 were to construct one new dwelling behind or beside an existing dwelling which is being retained, so only one of the dwellings is new. This proportion is unchanged by the introduction of the garden area requirement (in 2017 39% of dual occupancy permits retained an existing dwelling).

The medium and high density development applications are recognised as consuming the greatest extent of officer resources, through pre-application meetings, requests for further information, public notice, consideration of objections, planning consultation meetings, consideration at the Planning & Other Related Matters Council Meeting and in VCAT applications for review.

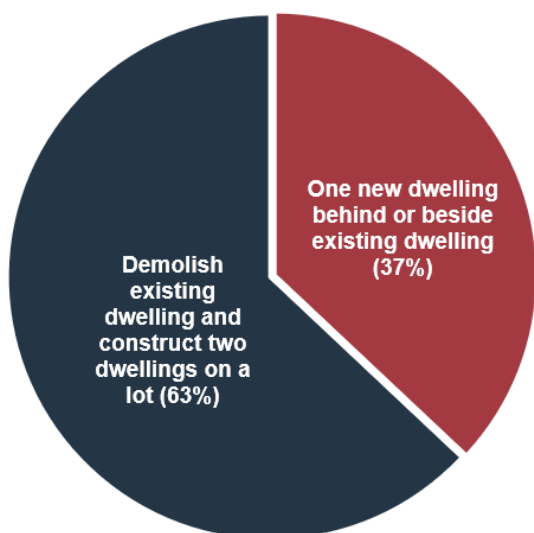


Chart 22: Percentage of dwellings on a lot in Planning Permits issued in 2017 and 2018 year to date (January – August)



Source: City of Moreland 2018

Chart 23: Proportion of dual occupancy planning permit applications that retain an existing dwelling (January – August 2018)



Source: A home in Moreland 2018

### Conclusions from the resource allocation investigation

This investigation shows the significant amount of resources that are invested into assessment of dual occupancy applications for Moreland’s Planning Department, and how the garden area requirement has resulted in a greater number of dual occupancy applications. This highlights the opportunity to explore this trend further including how Council might incentivise better quality dual occupancy development that satisfies planning scheme policy and controls. Exploring an easier process for those who choose to submit a fully compliant and improved quality dual occupancy permit applications could allow greater resources to be expended on more complex applications.



# Review Recommendations - How to improve medium density housing in Moreland

## The recommendations explained

For an overall view of recommendations, please see Table 3. The text below provides an introduction to Table 3 on Page 37.

### 1. Increase tree canopy and improve landscaping outcomes

There was a consensus from all review inputs that medium density development in Moreland should contain more canopy trees and landscaping. Building occupants stated that they want more trees. Building designers say that landscaping is critical. The external workshop participants indicated that more landscaping is desirable.

The 2015 case studies found that canopy tree planting required by a planning permit has not been planted or maintained in many developments and the enforcement audit found that landscaping has not been planted in more than half of developments. So what is observed throughout Moreland's suburbs is not reflecting the requirements of the planning scheme or planning approval.

The recent introduction of the mandatory garden area requirement has substantially increased the amount of open space within medium density developments, creating space to plant more canopy trees and wider garden beds. None of the post garden area developments have been built as yet, so the positive influence of this planning scheme change cannot be observed on the ground. The 2018 case studies found that the introduction of the garden area requirement has created space to plant meaningful canopy trees.

Council Action Plan Item 35 seeks to undertake further work to improve outcomes for Medium Density Development. This further work will be in the form of implementing change to the Moreland Planning Scheme to improve medium density development by increasing tree planting in the private realm in response to Council's adopted Urban Heat Island Action Plan, the Urban Forest Strategy and the findings of this review.

### 2. Improve exterior appearance and internal amenity of dwellings, including reducing the use of screening devices

The review found that there is significant scope for the external appearance of medium density development and the quality of materials to be improved.

Many building occupants are dissatisfied with quality of materials. Building designers and internal and external workshop participants all highlighted numerous ways that the appearance of development could be improved.

Building occupants generally consider that the size of rooms meets their needs but the internal workshop and higher density case studies indicated that screening and opaque and highlight windows are being overused.

Draft Good Design Advice Sheets that illustrate how to improve external appearance, internal amenity and how to limit views into habitable room windows and private open space of existing dwellings have been prepared (at Appendix 3).

### 3. Improve design outcomes for people with limited mobility

Building occupants indicated that they do not require accessible homes however external workshops highlighted that accessibility is considered very important by the broader community.

The case studies showed that the garden area requirement has dramatically reduced reverse living, and that accessibility requirements within the MSS could be applied to majority of applications without significant cost and design implications. Interviews with building designers revealed that other Councils are requiring a proportion of medium density housing to be accessible.

#### **4. Improve the amenity of private open space areas**

Building occupants are generally satisfied with amount of open space but consider that the design of open space could be improved. The case studies demonstrated that the garden area requirement has dramatically increased the amount of open space, resulting in more generous landscaping areas in communal areas and bigger, deeper courtyards.

Interviews with designers confirmed that the garden area requirement is a game changer and that the outcomes of current planning permit applications will be very different to developments which have been built. A Design Sheet to illustrate how open space can be designed to optimise its usability would be beneficial in ensuring these larger spaces are useable and ensuring that any negative impacts resulting from the change to the definition of the Garden Area are minimised.

#### **5. Work with designers to improve design, and increase Urban Design Unit input into permit consideration**

One of the weakness of Rescode compared with other best practice medium density guidelines, is an absence of images and illustrations. Much of the medium density development in Moreland is designed to meet the numerical standards of Rescode but with insufficient regard to the context or design detail.

A series of Draft Design Sheets have been prepared (included at Appendix 3) to illustrate how particular objectives of the Moreland Planning Scheme can be applied to deliver better quality design for buildings. These Draft Design Advice Sheets will be used to illustrate what is preferred and expected. These Draft Design Advice Sheets will be finalised in partnership with regular applicants, designers, builders, State government and other Councils.

At present Council's Urban Design team provides input into planning permit applications for larger developments of more than 3 storeys or more than 20 dwellings.

The 2018/19 Council Action Plan (item 22) funds an Urban Design Officer for a 12 month period to provide advice on an increased proportion of development applications and upskill developers and other Council staff. The involvement of a Council Urban Designer in negotiating better quality outcomes for medium density development will operate in conjunction with the Draft Good Design Advice Sheets.

#### **6. Increase Planning Permit Compliance**

As an outcome of the Enforcement Audit, in the 2018/19 budget Council has funded two additional Planning Enforcement Officers to increase proactive planning enforcement. A substantial proportion of the municipality's residential development will be the subject of proactive enforcement to contribute to better development outcomes by ensuring in particular that commitments relating to ESD, accessibility and landscaping are delivered.

## **7. Incentivise high quality design excellence and create an easier process for high quality applications and**

## **8. Incentivise applicants to design fully compliant and improved quality lower density development**

The Council Action Plan, CAP 2018/19 (item 22), sets out that Council will improve the quality of development by preparing a high and medium density Quality Development Scorecard. Council Report DED25/18 – Better Design and Development Outcomes, resolved to test feasibility and develop an appropriate way forward for a Design Excellence Scorecard. Council Officers are currently preparing a draft Scorecard, to be tested against live development applications and further discussed with the Urban Environment Committee, in accordance with timeframes and budget set out in the CAP.

The review found that Moreland City Council receives in the order of 400 medium density planning permit applications per year and processing these applications requires a significant investment of resources. Almost 40% of medium density applications are for dual occupancies (two dwellings on a lot).

If these low density applications were streamlined it could potentially incentivise dual occupancy development and free up resources to negotiate improved outcomes in more complex, more intensive, development proposals.

This review recommends that an investigation be undertaken to explore the potential to streamline lower impact, Rescode compliant, dual occupancy applications through a more straightforward/streamlined application process (such as the VicSmart process). Classes of application could be identified in the planning scheme as being VicSmart and have specified requirements for information, assessment processes and decision guidelines. The key features of VicSmart include a 10-day permit process, applications are not advertised, and a delegate of the Chief Executive Officer decides the application.

While assessment of applications is still needed, there is a resource benefit through reduced need to negotiate proposals back to planning compliance and in respect to community consultation and VCAT hearing as applications meet and improve upon the planning scheme requirements at lodgement. This would enable resources to be redirected towards improved quality planning outcomes for the Moreland community on more complex planning proposals.

## **9. Raise the State standard requirements for medium density housing**

In places Rescode and the Better Apartment Design Standards contain inconsistencies, i.e. where the objectives are the same but the requirements are different.

By way of example, where private open space is provided as a balcony Rescode requires a balcony of 8 square metres with a minimum width of 1.6 metres.

The apartment design standards by contrast, include the following balcony dimensions:

- Studio or 1 bedroom dwelling 8 square metres 1.8 metres
- 2 bedroom dwelling 8 square metres 2 metres
- 3 or more bedroom dwelling 12 square metres 2.4 metres.

Another example is that Rescode seeks to limit views into existing secluded private open space and habitable room windows, with no regard to internal amenity of new dwellings. Whereas the apartment design standards seek to limit views into habitable room windows and private open space of new and existing dwellings whilst at the same time providing a reasonable outlook from new dwellings and a visual connection to the external environment from upper levels of new dwellings.



The table below highlights the key findings and solutions that have been developed through the Medium Density Housing Review.

**Table 3: Key findings and solutions**

Issue No.	Issue	Action	Relevant Council adopted documents	Timing
1	Increase tree canopy and improve landscaping outcomes	<p>Amendment to the Moreland Planning Scheme to increase tree canopy (supported by Urban Forest Strategy and Urban Heat Island Action Plan)</p> <p>Create an online “tree selection tool” to improve selection of appropriate trees for a space, and increase use of indigenous species</p>	<p>Moreland Urban Heat Island Action Plan 2016</p> <p>Moreland Urban Forest Strategy 2017</p> <p>Moreland Council Action Plan – CAP18/19 Item 35</p> <p>Medium Density Housing Review – Action No. 2</p>	<p>Budget bid secured for 2018/19 financial year to progress the planning scheme amendment (CAP 35)</p> <p>Online tree selection tool finalised following consultation</p>
2	Improve exterior appearance and internal amenity of dwellings, including reducing the use of screening devices	Prepare Good Design Advice Sheets		Draft Good Design Advice Sheets included at Appendix 3, to be completed following consultation in 2019.
3	Improve design outcomes for people with limited mobility	Prepare Design Advice Sheet	Existing Municipal Strategic Statement Objective 21.03 - 9	Draft Good Design Advice Sheets included at Appendix 3, to be completed following consultation in 2019.
4	Improve the amenity of private open space areas	Prepare Site Layout and Amenity Design Advice Sheets		Draft Good Design Advice Sheets included at Appendix 3, to be completed following consultation in 2019.

5	Work with permit applicants to improve design, and increase Urban Design Unit input into permit consideration	Increase Urban Design Unit resources (as per CAP Item 22)	Council Report DED25/18 (Better Design and Development Outcomes)  Moreland Council Action Plan – CAP18/19 Item 22 Better planning and development outcomes - Action No. 1	Urban Designer commenced September 2018 (As per CAP18/19 Item 22 Timeframes)
6	Increase planning permit compliance	Employ two new proactive Planning Enforcement Officers (as per CAP item 23)	Moreland Council Action Plan - CAP Item 23 Improved Planning Services - Action No. 2	Recruitment of two Planning Enforcement Officers commenced July 2018 (as per CAP18/19 item 23 Timeframes)
7	Incentivise high quality design excellence and create an easier process for high quality applications	Develop a Design Excellence Scorecard (as per CAP item 22)	Council Report DED25/18 – Better Design and Development Outcomes -resolved to test feasibility and develop an appropriate way forward for a Design Excellence Scorecard  Council Action Plan Item number 22 – Better Planning and Development Outcomes – Action no. 2	Undertaken in accordance with CAP18/19 Item 22 timeframes and budget allocation
8	Incentivise applicants to design fully compliant and improved quality lower density development	Undertake further work to investigate the potential to incentivise better quality two dwelling on a lot permit applications through a more straight forward permit process	Planning Scheme Review Report, July 2018	Commence investigation 2018 and present findings to Council
9	Advocate to raise the State standard requirements for Medium Density Housing	Write to the Minister for Planning to advocate that Rescode be reviewed to ensure consistency between equivalent standards in Rescode and the Better Apartment Design Standards	Medium Density Housing Review, 2018	Commence advocacy 2018 following Council endorsement of the Medium Density Housing Review.

# Conclusion

The Moreland Medium Density Housing Review is a collation of inputs of various types, which have considered medium density housing in Moreland from multiple angles. With inputs ranging from occupant surveys, to interviews, to permit case studies, this review provides a thorough evidence-base to understand medium density development in Moreland.

The recommendations of this review are as varied as its inputs and have been developed following thorough analysis of the evidence base. From human resources, to Good Design Advice Sheets, to changes to the planning scheme and education – the review actions will positively influence the many factors that contribute to quality homes for Moreland's growing population.



21  
Blue Waters

# Appendix 1 - Case study analysis

The case study analysis considered the following detailed matters:

## What are they like to live in?

### Internal amenity

- Does the shape and size of rooms meet their intended purpose?
- Is there an outlook from living rooms and balconies?
- What is the quality of the outlook; is outlook to a fence 3 metres away or is the private open space more generous in proportion and outlook to a more usable courtyard?

### ESD

- What is the thermal performance of the building?
- Does each dwelling have a 3000 litre rainwater tank?
- What is the heating and cooling load of the dwelling?
- Does the development include water sensitive urban design features?
- Is there provision for clothes drying outdoors?
- Does each dwelling have vegetable garden beds?
- Does the development have passive design features to minimise the need for mechanical heating and cooling?
- Does each dwelling have natural ventilation?
- Is there sun shading to north and west facades?

### Accessibility

- Could a person using a wheelchair visit?
- Do all dwellings have ground level living and toilet?
- Does the ground level have split floor levels with steps?
- Is there level access from car park to front door?
- Could a person using a wheelchair live in it?
- Do all dwellings have ground level kitchen, bedroom and bathroom?

Specific design standards such as doorway widths and bathroom design were not considered, as the assessment was seeking to explore how readily these detailed standards could be applied in future.

### Open space

- How much open space is there overall?
- What is the size of the private open space (courtyard or balcony) to each dwelling?
- What are the dimensions of the private open space?
- Is the private open space is encumbered with utilities or is it usable?

## What do they look like?

### Neighbourhood character and site context

- Does the development create a place with a locally inspired or otherwise distinctive character?
- Are buildings positioned to define and enhance streets and internal spaces to respond to site context?

### Site layout and design detail

- Does it look like a quality outcome from the street?
- Are site services integrated into the design?

### Visual bulk from neighbouring properties

- Are upper level elements broken up rather than one continuous mass?
- Does the façade contain three-dimensional articulation?
- How far are upper level elements setback?
- Does the façade contain windows to break up wall mass?
- How visible is the new development from within the neighbour's rear yard?

### Landscaping

- Is there adequate space for canopy tree planting in front setback and common areas?
- Is there space for trees in private open space?
- Have the trees been planted?
- Are the selected species realistic for the size of the space?
- Have garden beds been provided for landscaping to soften driveways and buildings?

### Car parking

- How dominant is car parking in the design?
- How much of the front façade is car parking – single vs double garage doors?
- Is the garage set back further than façade?
- If there are two garages facing the street are they separated rather than joined together?
- Are garage doors within the site visible down the driveway from the street?
- Where garages are visible down driveways are they broken up with dwelling entries, habitable spaces and articulation?

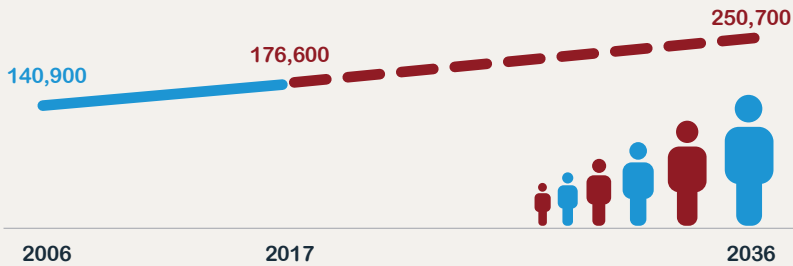
For each case study details of lot size, density, number of bedrooms, open space area and zone were recorded to enable detailed cross tabulation evaluation.

# **Appendix 2 - A Home in Moreland**

# A HOME IN MORELAND

## THE HOUSING WE NEED NOW AND IN THE FUTURE

### OUR POPULATION IS CONTINUING TO GROW



Moreland is becoming an increasingly popular place to live. Our rate of population growth is in line with Melbourne's rate of population growth.

### WE NEED MORE HOMES



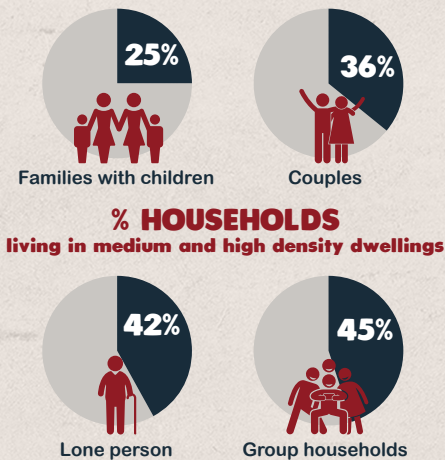
Over the past ten years about **1150** new homes have been built each year.



We will need **1,900** homes to be built each year over the next twenty years. (38,000 in total by 2036.)

### WE NEED MORE SMALLER HOMES

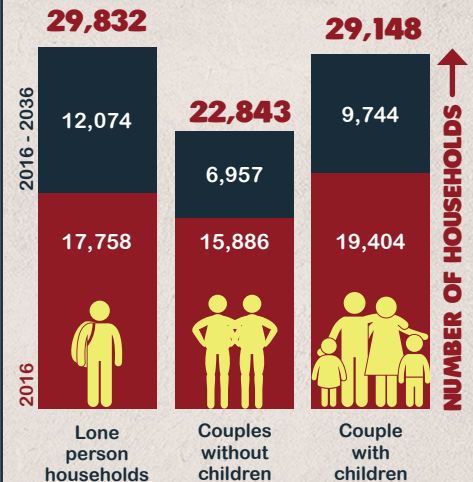
When faced with real world trade-offs between housing type and size, price and location, a significant number of us are choosing units, townhouses and apartments in Moreland.



But even with the shift to smaller households, much of our housing is geared towards the needs of larger households.

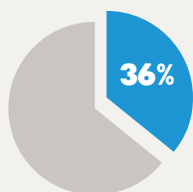


In twenty years' time there will be more of us living alone than as families with children. This will increase the demand for smaller dwellings.

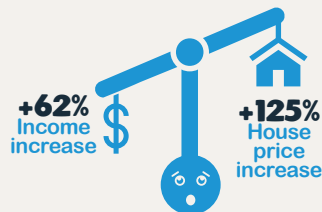


### WE NEED MORE AFFORDABLE HOMES

**MANY OF US ARE UNDER HOUSING COST STRESS AND MORE OF US ARE RENTING**



Households renting in 2016.



Declining affordability over the past 10 years.

**TO MEET OUR NEED FOR AFFORDABLE HOUSING, OVER THE NEXT TWENTY YEARS**



We will need **350** new affordable homes each year, (7,000 in total by 2036.) This will involve multiple stakeholders and levels of government.

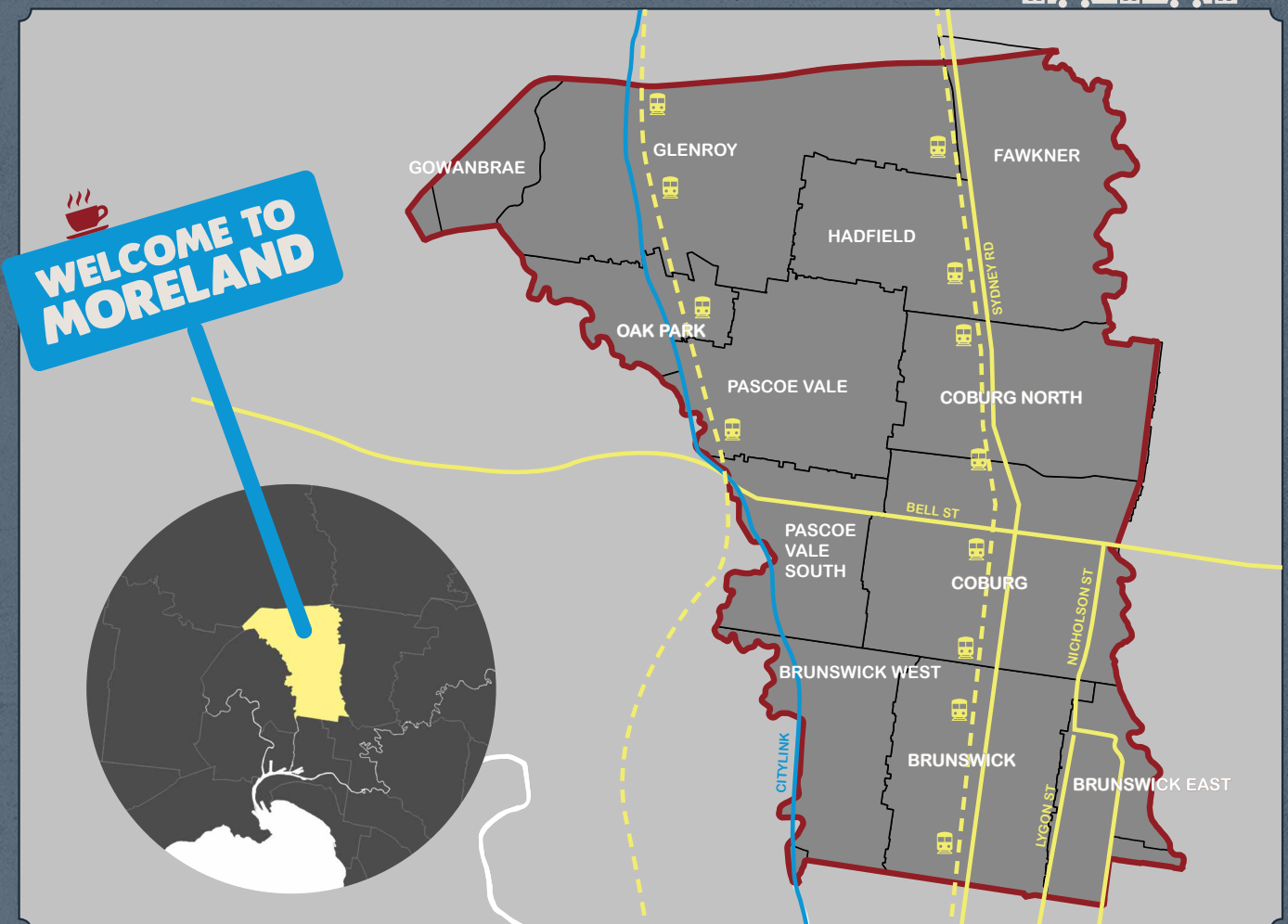
18% of new homes would need to be affordable. 80% of this need is for very low and low income households in rental stress.





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- 15 Growth and change is forecast to continue
- 16 Growth and change will influence the housing we need in the future
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- 20 The cost of housing affects all household types
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# MORELAND IS DIVERSE AND GROWING

If you walk the streets of Moreland you see a vibrant community, characterised by diversity. Change is evident in new development projects, but there is also continuity in historic buildings and streetscapes that reveal the city's past.

Like Moreland's buildings, the residents are a mix of old and young. Some have lived here all their lives, others are more recently arrived.

Since the start of the 21st century Moreland's population has been growing quickly. As more residents move in and make Moreland home, new businesses pop up to serve their diverse needs and tastes - especially when it comes to food and drink. There are cafes, bakeries and specialist groceries catering to every possible type of cuisine. Greek cake shops, Turkish restaurants and Italian social clubs established decades ago by post-war European migrants nestle beside newer businesses set up by more recent arrivals from India, Pakistan and China.

The variety and vibrancy of the retail outlets reflects the changing settlement patterns in Moreland. One in three Moreland residents was born overseas in more than 100 different countries.



## A HOME IN MORELAND

The cultural and linguistic backgrounds of the people who make a home in Moreland shape the social mix but equally influential are the occupations, skills and income levels of local residents. These are shifting too, along with the changing nature of Melbourne's economy and labour market. Thirty years ago, many Moreland workers laboured in factories, workshops and warehouses; these days they are more likely to be found in offices, clinics and classrooms.

All of these factors — cultural diversity, employment, income, education, age and household size — have an influence on the quantity and type of housing that Moreland needs today and in the future.

**THIRTY  
YEARS  
AGO**














**AROUND  
1991**



**TODAY**



**Figure 1: Moreland's population is diverse**  
Selected indicators for selected suburbs, 2016

	Brunswick East	Coburg	Pascoe Vale South	Fawkner	Glenroy
<b>Population diversity</b>					
Population aged 65+ 	10%	13%	14%	17%	16%
Households renting 	51%	33%	20%	27%	34%
Families with children 	24%	41%	51%	50%	43%
University attendance 	12%	9%	6%	5%	6%
University qualification 	49%	36%	30%	20%	22%
Median household income 	\$1,747	\$1,605	\$1,859	\$1,080	\$1,258
Born overseas 	30%	30%	20%	46%	42%
Socio-Economic indexes for areas (SEIFA) 	1066	1024	1057	916	949
<b>Location diversity</b>					
Medium density (2016) 	40%	29%	16%	15%	37%
High density (2016) 	31%	7%	0%	0%	1%
Median house price (2017) 	\$1,187,500	\$812,000	\$853,000	\$633,000	\$612,000

Source: ABS Census of Population and Housing (2016), Valuer-General Victoria 2016



# POPULATION AND HOUSEHOLDS ARE CHANGING

Population clocked in at 177,000 in 2017. Resident numbers have been increasing by about 2.6 per cent per year, which is roughly in line with Melbourne's overall rate of population growth.

Two connected factors drive population growth: migration and new births. It helps to look at each in turn and then at the link between them.



POPULATION =  
177,000



MIGRATION



NEW BIRTHS



In the post-war years, international migrants mostly came from Europe, especially Italy. **Matty**, for example lives with his wife and son in a Brunswick West house that his Italian grandparents originally bought brand new in the 1950s. His Irish mother grew up in the housing estate next door. *'My parents literally met over the back fence,' says **Matty**. 'Dad could tell whether Mum was home or not by looking out the window to see if her bedroom light was on.'* Italian remains the second most common language spoken at home in Moreland after English, but this may not be true for much longer.

## A HOME IN MORELAND

These days migrants are more like to come from Asia or the Middle East than Europe. Over the past decade, Arabic has overtaken Greek as the third most common language spoken at home, and Urdu has replaced Turkish at number four. Mandarin is steady at number five.



Meet Irfan



He is from Pakistan



He migrated to Australia



Settled



Got married



Bought a house



Had 2 children



Since migrants tend to be younger, they feed into the second driver of population growth: new births and growing families. Take Irfan for example, an electrical engineer and telecom systems designer originally from Pakistan. Irfan migrated to Australia seven years ago and has lived in Moreland almost since the day he arrived. Initially he rented with friends, but then he got married and he and his wife, who also migrated from Pakistan, bought a house in Fawkner in 2015. Now they have two Australian-born children. *‘With a growing family you need open space for kids to roam around,’ says Irfan. ‘We are next to a park with soccer fields and tennis courts, the sort of thing you expect in a posh suburb.’*

# A HOME IN MORELAND

Not all 'migrants' come to Moreland from overseas of course. Some come from interstate. Take empty nesters Barbara and Kevin. They moved from Brisbane for work, expecting to stay a year at most, but got a taste for a style of inner city living that enables them to walk almost everywhere they want to go. 'We really got hooked on the culture,' says Barbara. After initially renting, Barbara and Kevin bought a one bedroom apartment in the Tip Top development and have settled into new lives in Brunswick East.



**Figure 2: More births and a magnet for overseas migration**  
Components of population change, Moreland – 2006 - 2016 (Number of persons)



**+11,834**  
Births



**-5,787**  
Deaths



**-634**  
Net internal  
migration



**+12,431**  
Net overseas  
migration (inferred)

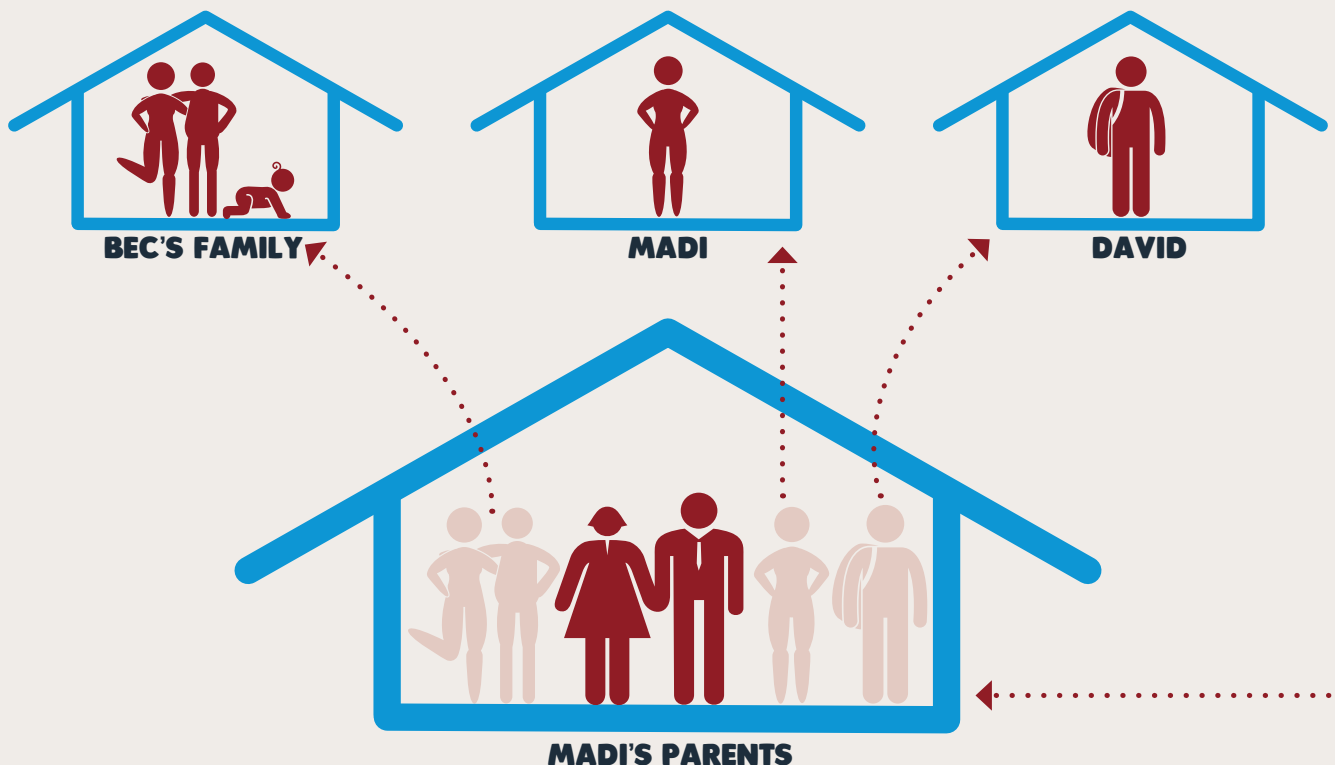
Source: ABS, .id

Migration and births are not the only factors increasing demand for housing. Also important is household size. If more people live alone or — like Barbara and Kevin — as couples without children, then more housing will be needed to accommodate everyone even if the population remained the same.



An example helps to illustrate this issue. Madi is 20 years old and has always lived in the same family home in Coburg. Until recently it was a household of six made up of Madi, her parents, her older brother David, her twin sister Bec and Bec's boyfriend Julian. But Bec and Julian recently married and moved to a rented townhouse in Glenroy. Now Madi is planning to leave home too and she is determined to stay in Moreland. As twins, Madi and Bec have a special bond, 'Being nearby is a big thing,' she says. 'My sister has just had a baby. It's a crucial time. I want to be close.'

**Figure 3: Madi's household lifecycle story**  
When one household becomes four

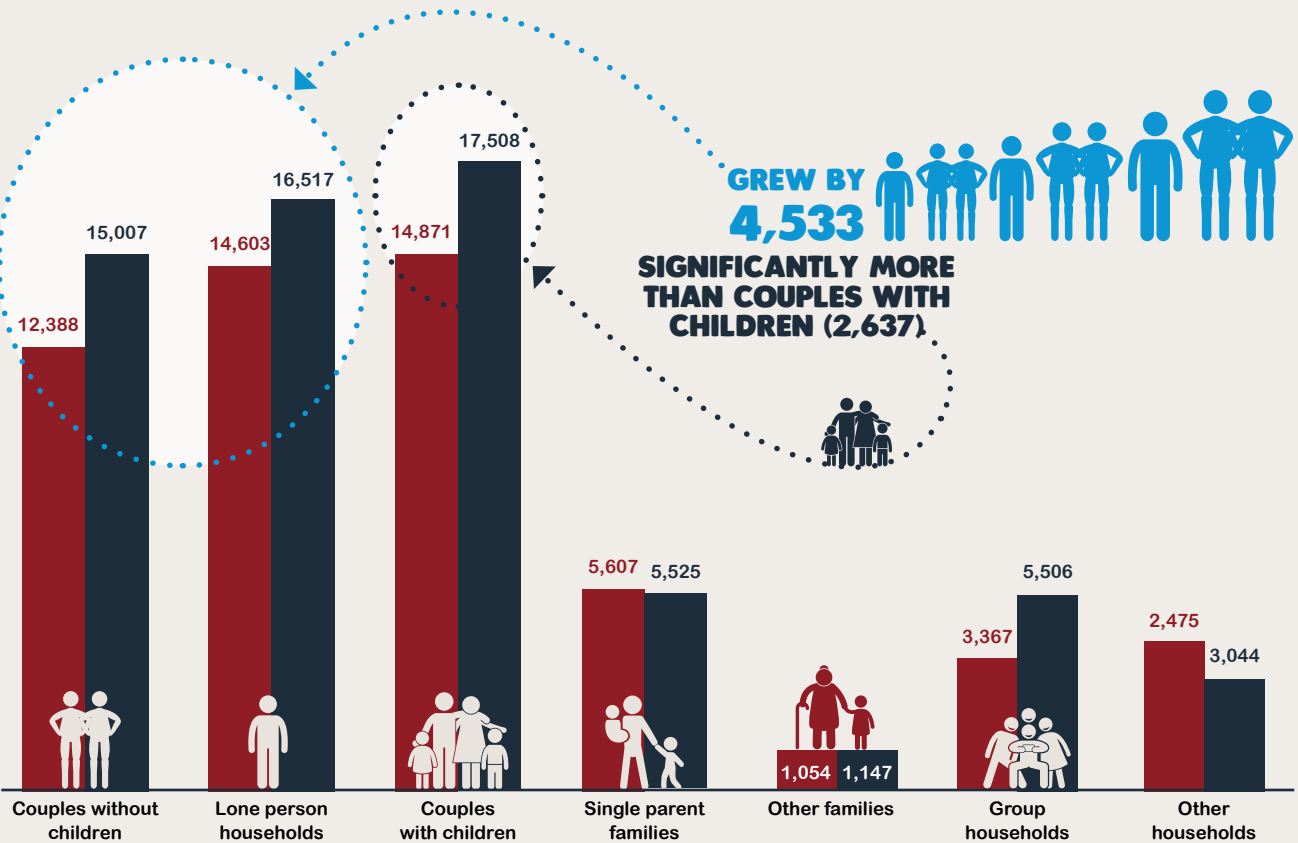




The story of Madi's family is indicative of a clear shift towards smaller households, although the growth in smaller households in Moreland was driven primarily by young couples without children, rather than older empty nesters. The number of people living alone also grew. At the other end of the spectrum, there are more group households than in the past, and they tend to be getting bigger, perhaps because people are sharing more in an effort to cope with rising housing costs.

**Figure 4: Growth in smaller households outstrip larger households**  
Household types, Moreland – 2006 - 2016 (Number of households)

2006  
2016



Source: ABS, Census of Population and Housing (2016)

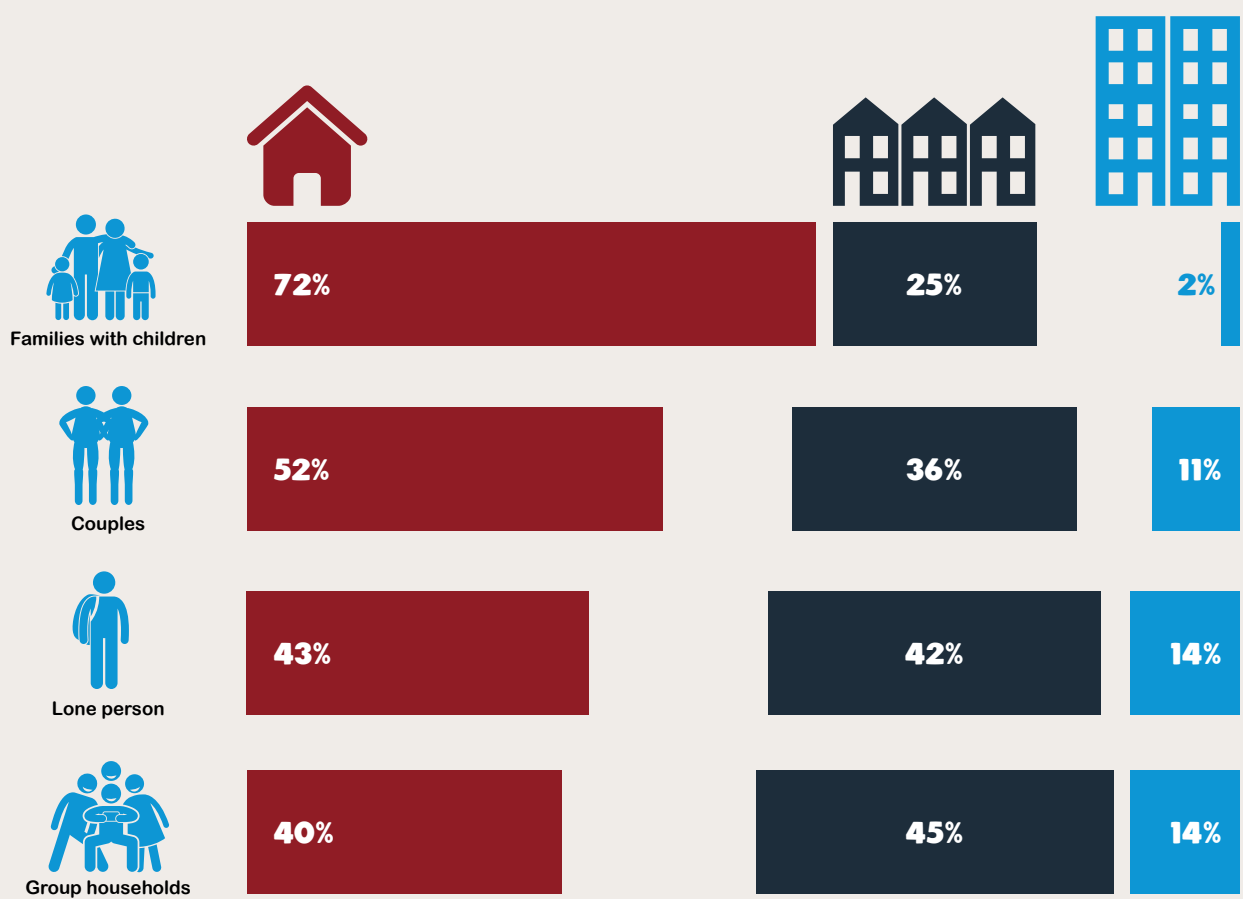


You might think that families with children would primarily live in larger separate houses, while singles and couples would opt for smaller units and apartments. You might anticipate too, that people would choose to downsize to smaller housing as they age, and as children leave home. But the number of people in a household, and the age profile of its members, does not match neatly onto the type of housing they live in, or the number of bedrooms in their home. In Moreland, all sorts of households live in all sorts of housing.



**Figure 5: All sorts of households live in all sorts of housing**  
 Who lives in what type of housing – Moreland, 2016 (% of households by type)

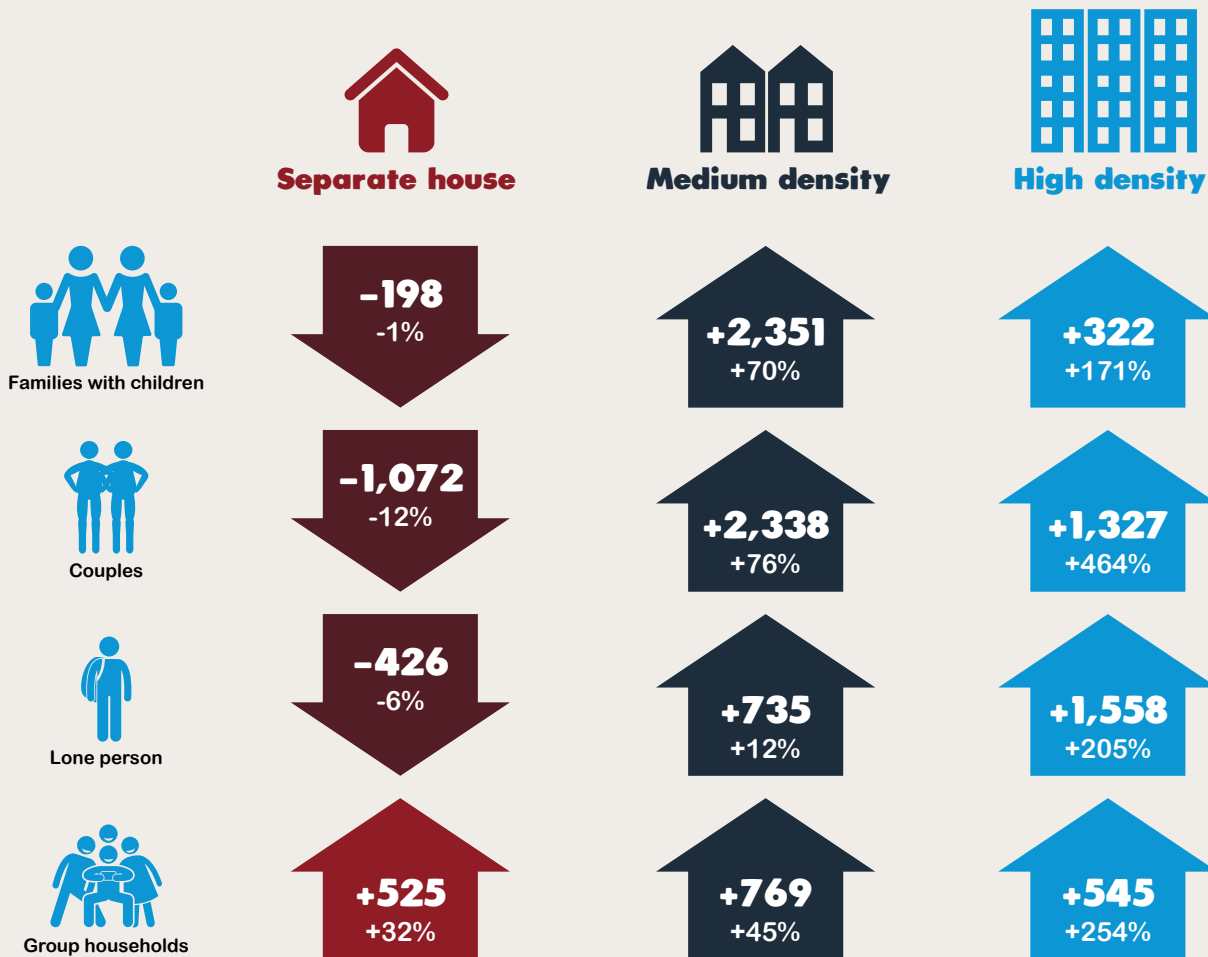
- Separate houses
- Medium density
- High density



Source: ABS, Census of Population and Housing (2016)

In 2006, around one in four couples without children lived in medium and high density dwellings. Now it is closer to one in two. The share of people living alone in medium and high density housing is also significant and growing.

**Figure 6: Households trading off the traditional large home with a backyard for a townhouse or apartment**  
 Net change in households – Moreland 2006 – 2016



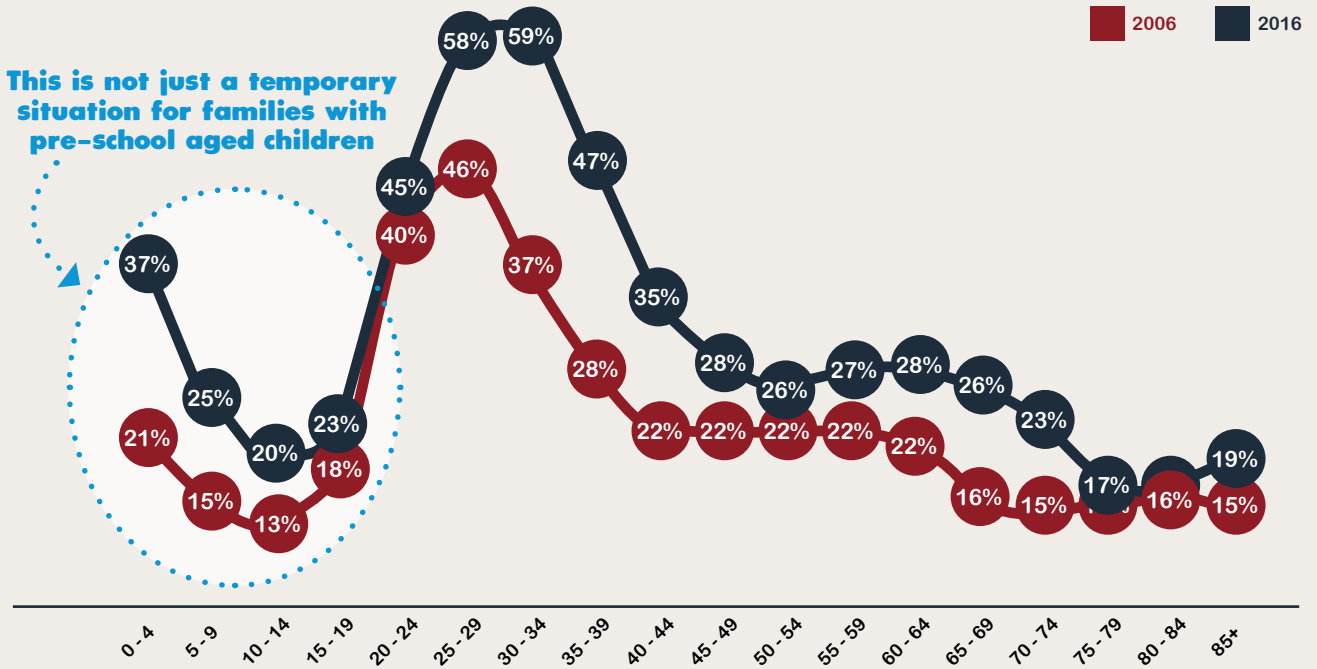
Source: ABS, Census of Population and Housing (2016)

Medium density living is also the norm for an increasing number of families. **About a quarter of all families with children live in medium density housing.** This is unlikely to be a temporary situation as families with young children save up to buy or rent a bigger place, since around one in five persons aged 10 to 19 are living in medium density housing.



**Figure 7: More Moreland family households are living in medium and high density housing**

Proportion of population by age living in medium or high density housing, Moreland (% of total population)



Source: ABS, Census of Population and Housing (2016)

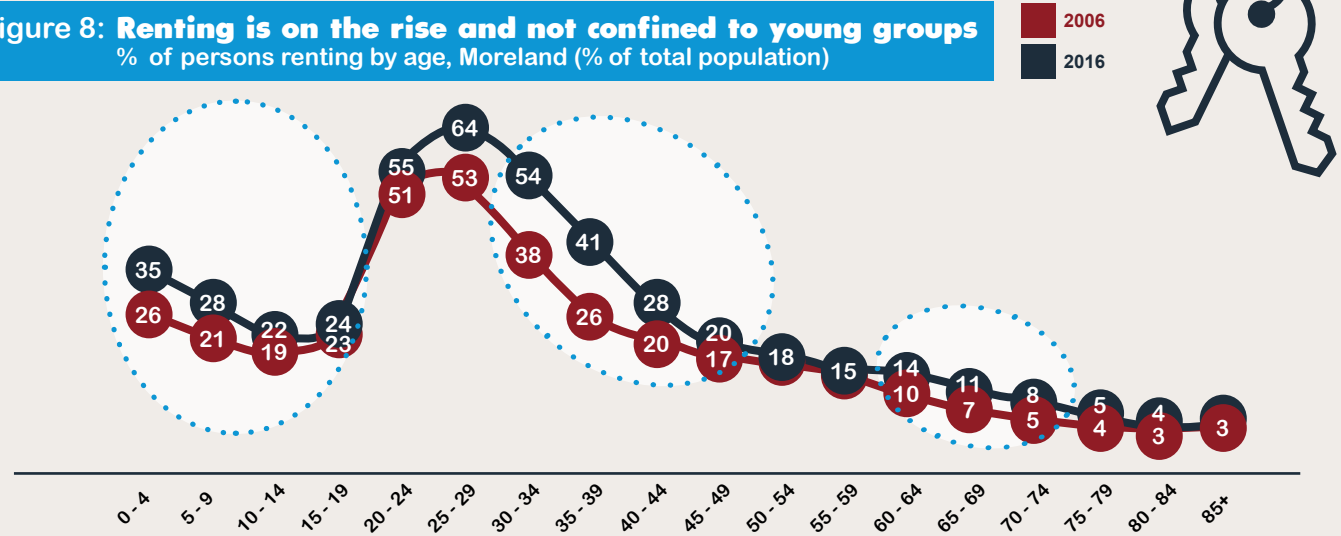
Another noticeable shift in housing in Moreland over the past decade is the increase in renting. This trend is relevant to all age groups but is particularly noticeable amongst young adults and people approaching retirement age. Ten years ago, young adults living in Moreland were just as likely to be paying off a mortgage as paying rent; these days there is a much greater chance that they'll be tenants than homeowners.

There was also a large increase in the number of school-aged children living in rental accommodation over this period, which indicates that fewer families own their own homes in Moreland than in the past.



**Figure 8: Renting is on the rise and not confined to young groups**

% of persons renting by age, Moreland (% of total population)



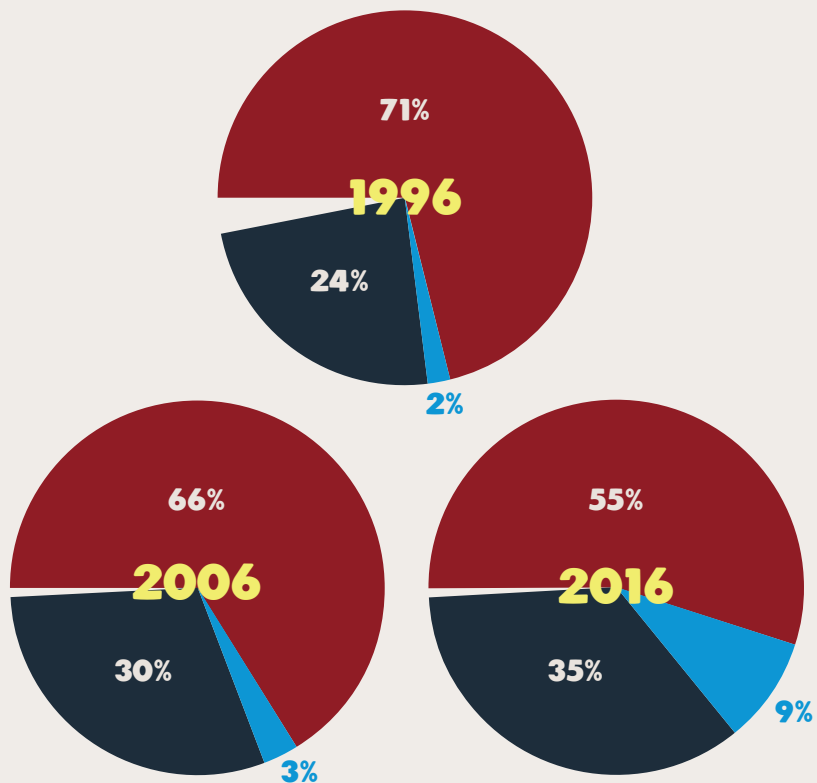
Source: ABS, Census of Population and Housing (2016)



# HOUSING IS CHANGING TO MEET THE NEEDS OF RESIDENTS

A shifting pattern of residential development — from detached houses to townhouses, units and apartments — means today’s Moreland offers residents a greater diversity of dwelling types than in the past. This diversity can help households to stay living in Moreland as their circumstances and needs change.

Figure 9: Moreland’s housing has changed significantly over the past 20 years  
Dwelling structure, Moreland (% of total occupied dwellings)



Source: ABS, Census of Population and Housing (1991 to 2016)



# GROWTH AND CHANGE IS FORECAST TO CONTINUE



In twenty years' time, it's anticipated that Moreland's population will be almost half as big again as it is now, with a net gain of 78,600 people. Household size is also expected to keep declining. By 2036, people living alone will replace couples with children as the most common type of household in Moreland.



Figure 10: Demographic, social and economic drivers all point to continued growth  
Forecast summary – Moreland, 2016 to 2036



**POPULATION FORECAST TO GROW  
BY 78,596 ADDITIONAL PEOPLE  
TO 2036 (1.9% PER YEAR)**



**+38,387  
DWELLINGS  
TO 2036**



**+35,234  
HOUSEHOLDS  
TO 2036**



**2.42  
HOUSEHOLD  
SIZE IN 2036  
DOWN FROM  
2.54 IN 2016**

Source: .id SAFI



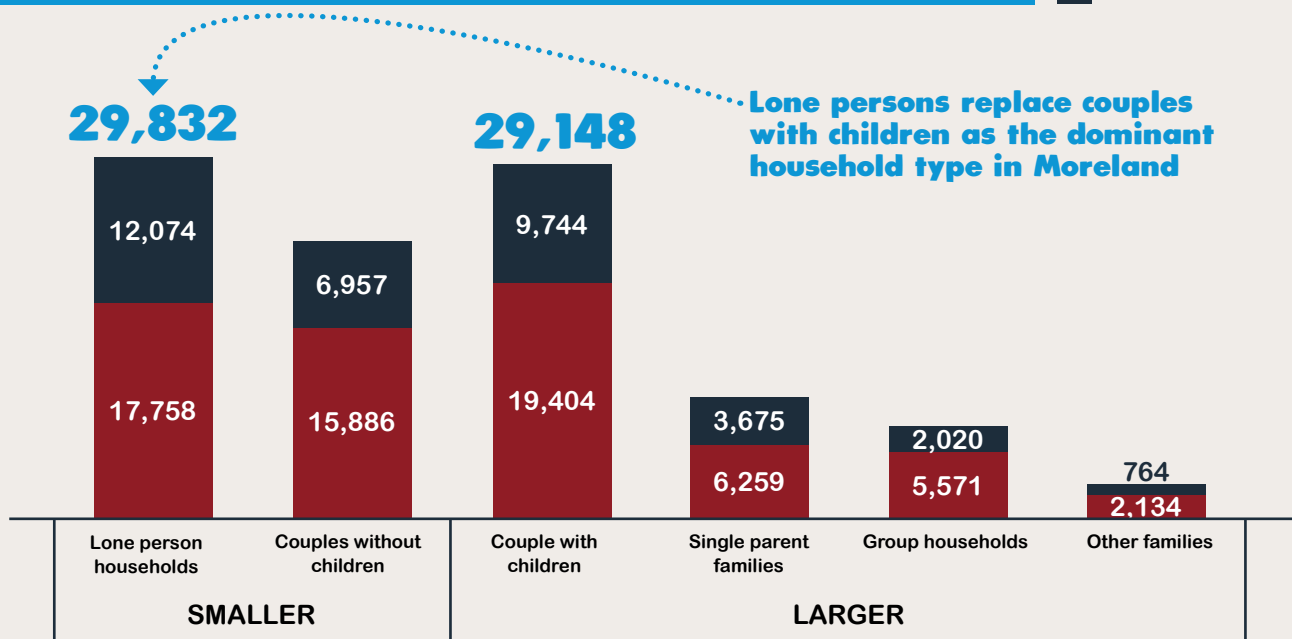
# GROWTH AND CHANGE WILL INFLUENCE THE HOUSING WE NEED IN THE FUTURE

Accommodating this growth and change in household size means Moreland needs an extra 38,000 dwellings over the next two decades. In other words, to keep up with demand Moreland has to add at least 1,900 new dwellings to its housing stock every year. Over the past 10 years about 1,150 new homes have been built per year, so this can only be achieved if the trend to more medium and high density housing continues.

**Figure 11: Forecasts show strong growth in smaller household types**

Change in the number of household, 2016 – 2036, Moreland

■ Current (2016)  
■ Forecast (2016 - 2036)

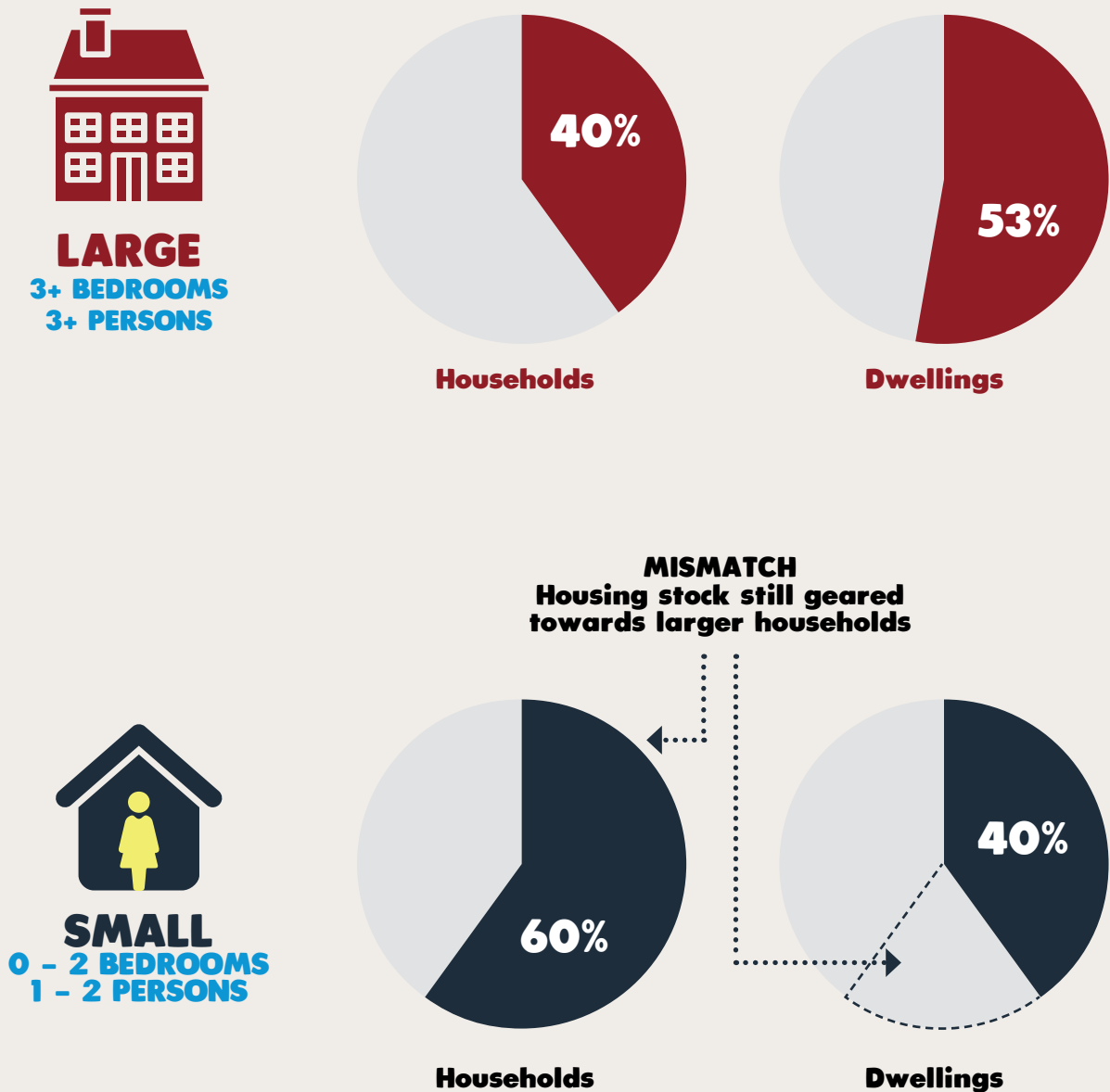


Source: id SAFI



Even though the average size of households in Moreland is declining, with more people living alone and in couples, much of the housing stock in Moreland is still geared towards the needs of larger family-type households. Maintaining and expanding the diversity of housing types into the future will respond to the trend for people to live in smaller households.

**Figure 12: Housing stock is still geared towards the needs of larger households**  
% of all dwellings (2016)



Source: ABS Census of Population and Housing (2016)

# THE COST OF HOUSING IN MORELAND IS RISING



Historically, Moreland has been a more affordable place to live than other parts of the inner Melbourne. But the shift of work from manual work to office and essential service jobs has seen employment growth concentrate in the inner city.

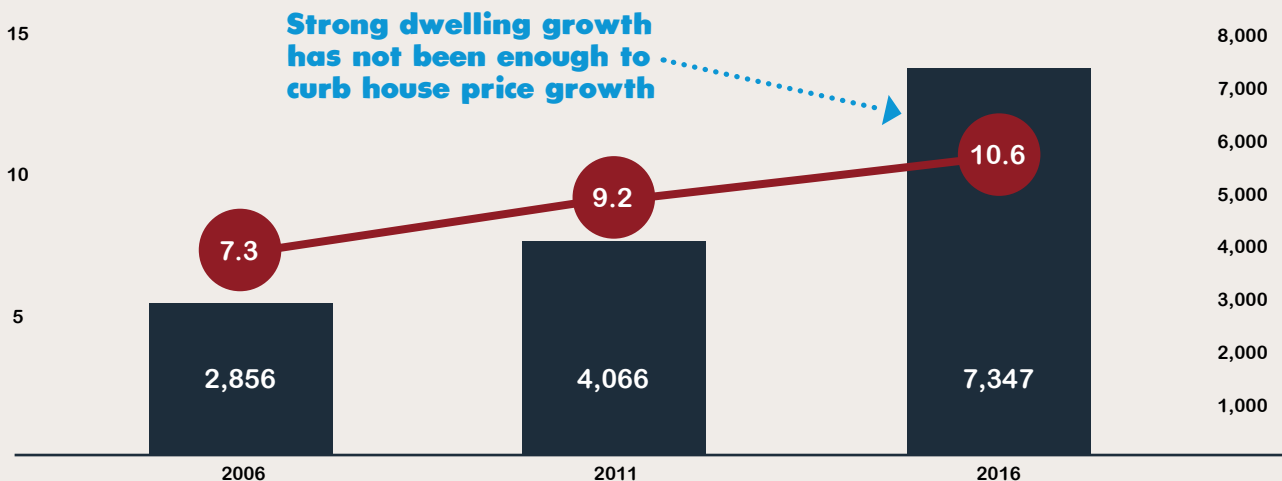
The past two decades show that strong rates of new residential development has not been enough on its own to curb the escalation in Moreland's house prices. In fact, housing costs have outstripped income growth which means households now need a relatively high income and the ability to save a significant deposit in order to be able to afford to buy a house.



Take professional actors Luke and Kellie, for example, who rent in Pascoe Vale. Ultimately, they want a bigger place because they hope to have two children, but as much as they love Moreland, they can't see themselves ever buying a house there. 'For people who already own, the housing boom is a great thing' says Luke. 'For people who don't it's terrifying.'

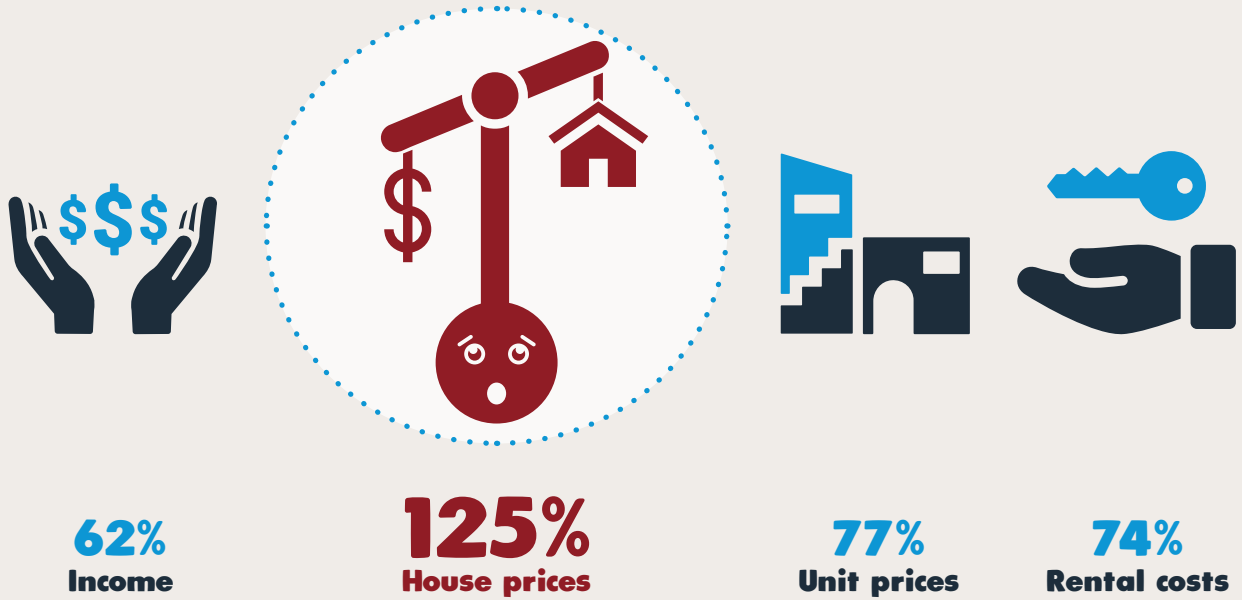
**Figure 13: House price escalation effects all households**  
Affordability and dwelling change, Moreland

■ Ratio of house price to household income  
■ increase in number of dwellings



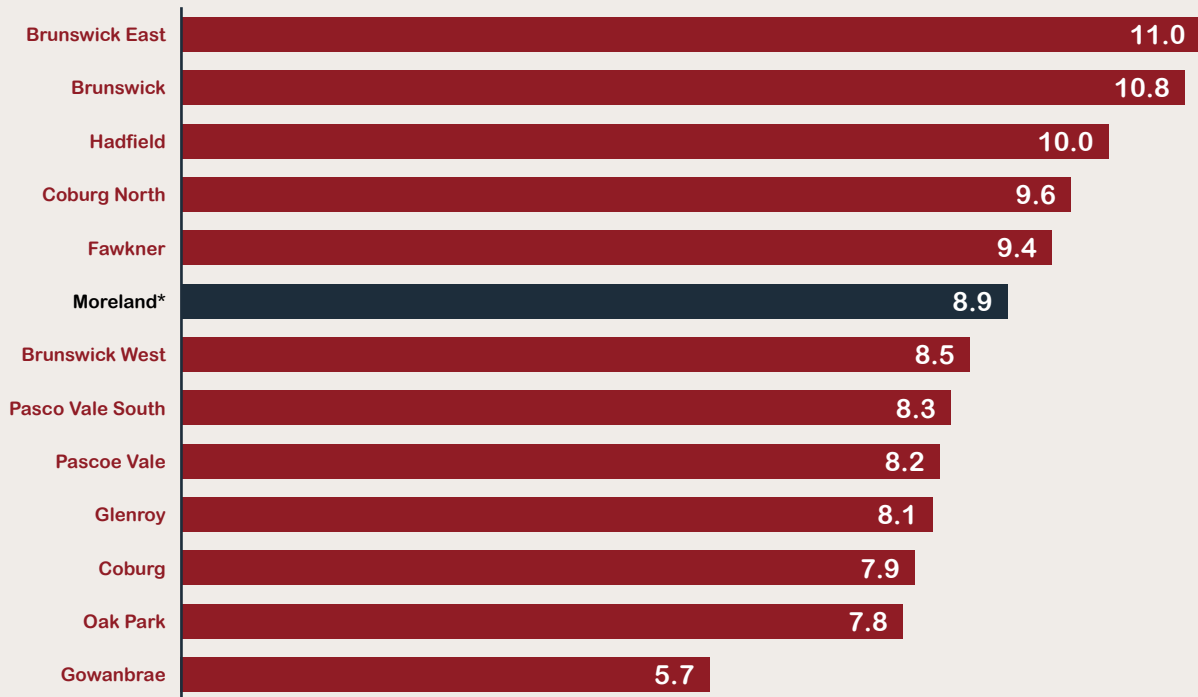
Source: Valuer-General Victoria 2016 and ABS Census of Population and Households (2016)

**Figure 14: Housing cost growth outstrips income growth**  
Income growth and housing cost growth - % change 2006 to 2016 – Moreland



Source: ABS, Valuer-General Victoria 2016, DHHS

**Figure 15: House prices have grown significantly across most suburbs of Moreland**  
House price growth by small area, 2006 - 2016 (Average annual price growth %)



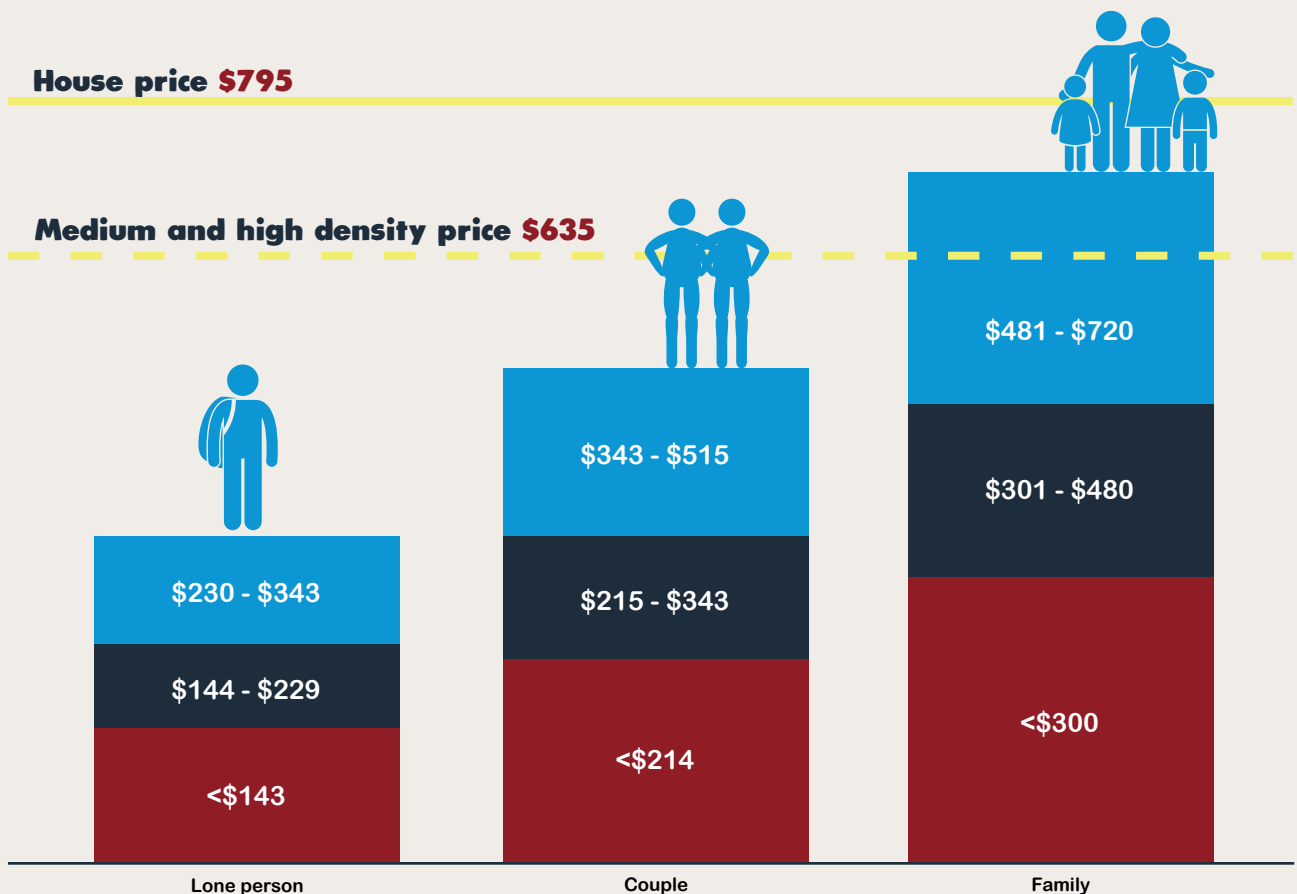
Source: Valuer-General Victoria 2016

# THE COST OF HOUSING AFFECTS ALL HOUSEHOLD TYPES

Steeply rising house prices put home ownership in Moreland beyond the reach of most very low and low income households. Even families on moderate incomes now face challenges buying a separate house, with prices considerably higher than their budget can stretch to. Although increases in the price of units, townhouses and apartments have also outstripped the growth in household incomes, the difference has not been so stark. This means that for a family on a moderate income, medium and high density dwellings become an affordable alternative to separate houses.

**Figure 16: Home ownership is beyond the reach of most**  
What households can afford to buy ('\$000) by household income group

Very low income Moderate income  
Low income



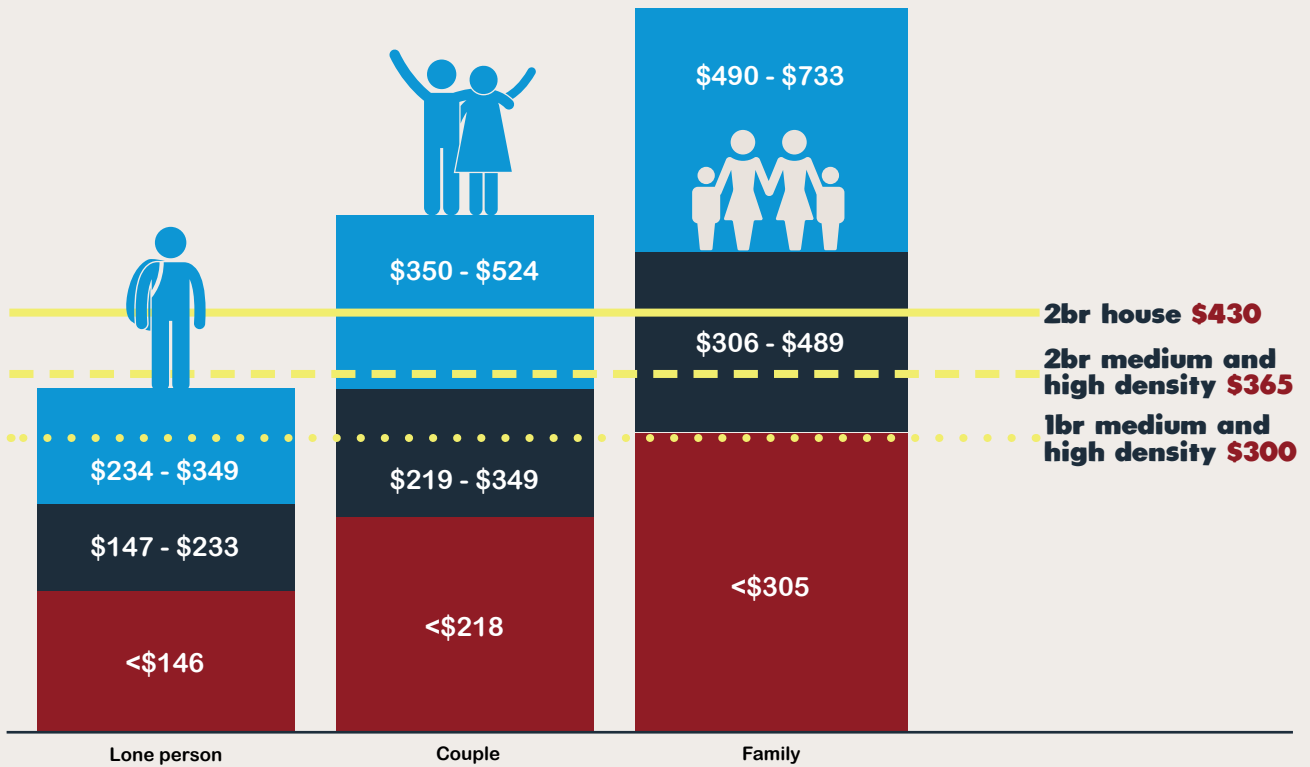
Source: .id based on Valuer-General Victoria 2016 and ABS Census of Population and Housing

The rapid growth in house prices is a big factor in explaining the strong growth in the number of rental households in Moreland over the past decade.

Again, rents have risen faster than incomes, but the gap is not nearly as large as the gap between incomes and house prices.

**Figure 17: Renting is a more affordable alternative**  
What households can afford to rent ('\$pw) by household income group

Very low Moderate  
Low

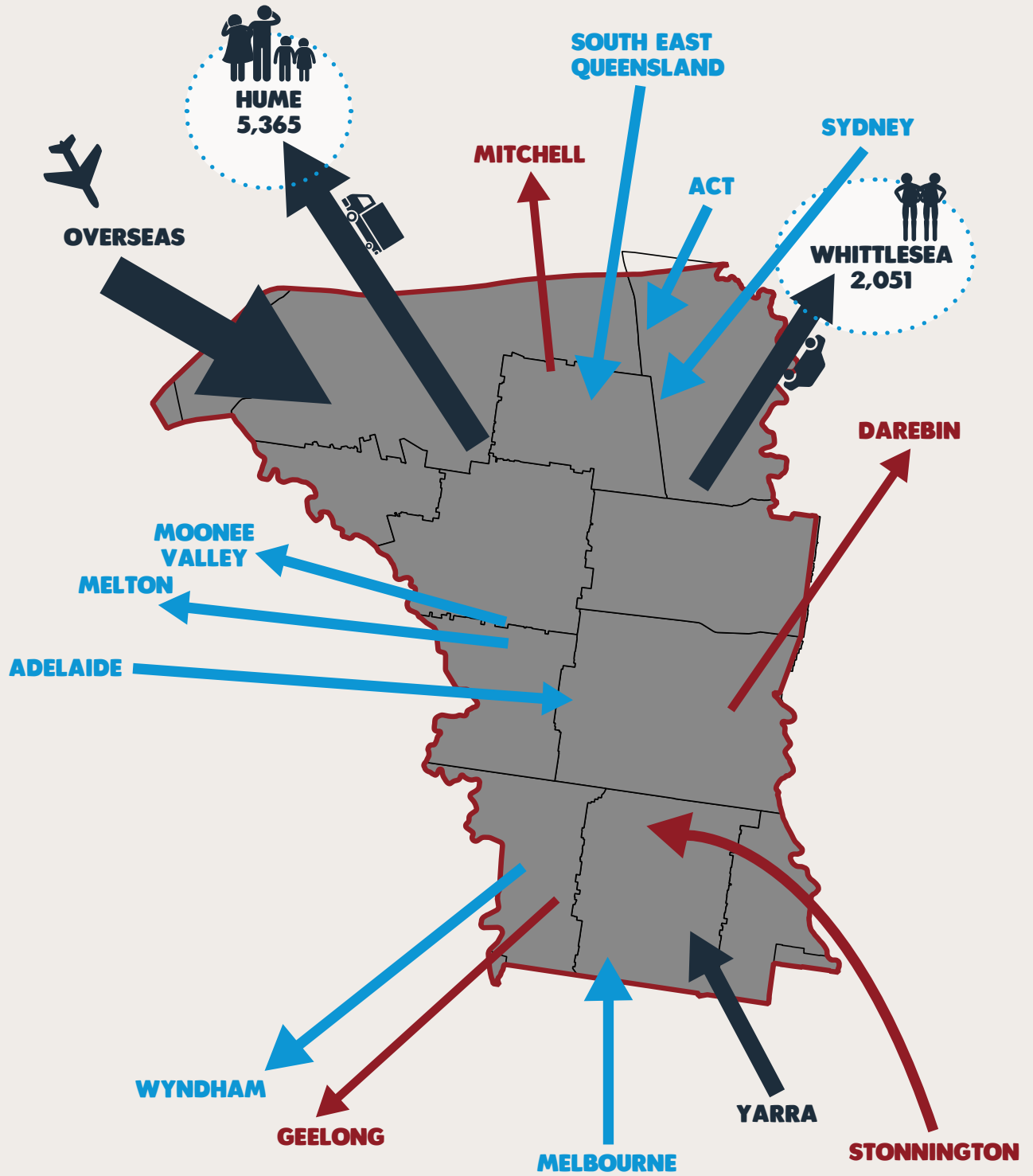
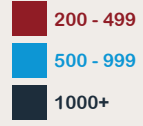


Source: .id based on DHHS Quarterly median rents by local government area and ABS Census of Population and Housing

It appears that higher housing costs could be pushing increasing numbers of households out of Moreland to more affordable locations like Hume and Whittlesea. If this trend continues, then it threatens to remove the opportunity to live in Moreland from those who need it most, by seeing residents on very low to moderate incomes moving further away from job opportunities, services and access to public transport.

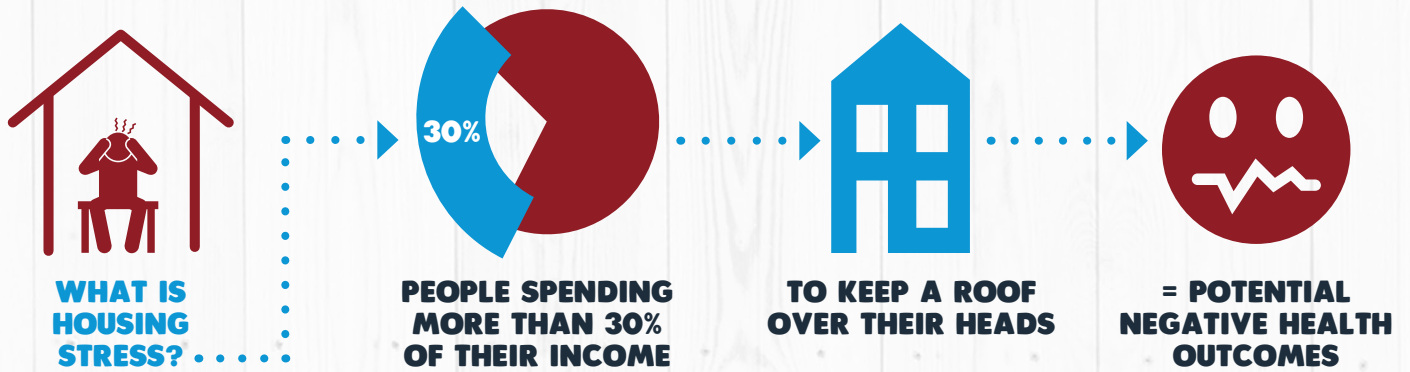


**Figure 18: Many households are seeking more affordable locations**  
Major net migration flows, 2011 - 2016, Moreland

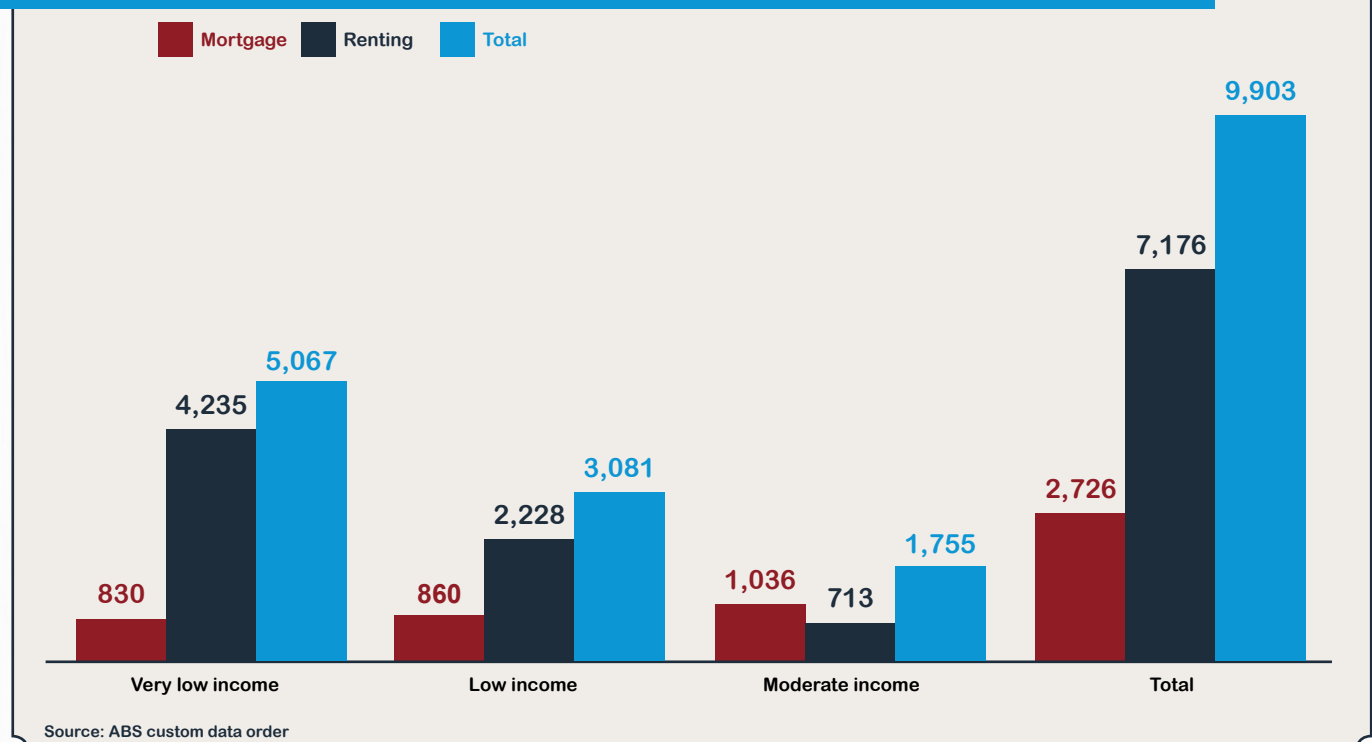


Source: .id based on ABS Census of Population and Housing (2011 and 2016)

There are around 10,000 lower income households in Moreland living in what is called housing stress and most of them are renters. Housing stress is when the people in a household spend more than 30 per cent of their income on keeping a roof over their heads. Housing stress constrains the ability to live a good life, because after covering their housing costs residents don't have enough money left over to pay for other essentials like food, heating, healthcare, and education. In the long term, rental stress can damage physical and mental health, reduce educational attainment and limit lifetime opportunity and prospects.



**Figure 19: Housing stress is limiting the ability to live a good life in Moreland**  
 Housing stress by income group, Moreland 2016 (Number of households)



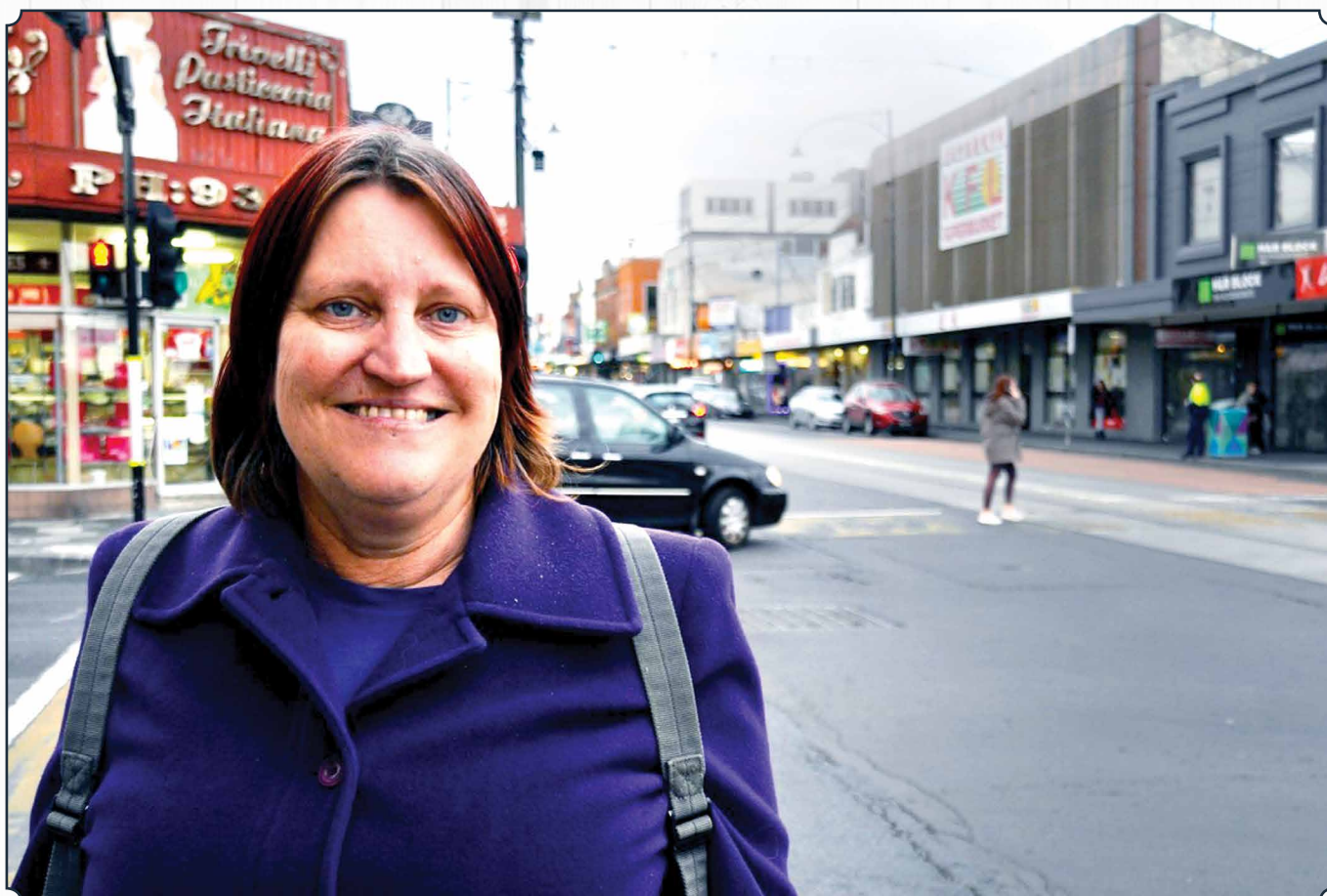
## A HOME IN MORELAND

Unless the supply of affordable housing in Moreland increases, then the options for many households are limited — they may be forced to live with a level of housing stress that could damage their wellbeing or could be pushed out of Moreland to somewhere that is cheaper, but is not so well connected to jobs, transport, education and services.

In the worst case scenario, they may find themselves homeless. When people have safe and affordable housing, it makes a huge difference to their lives.

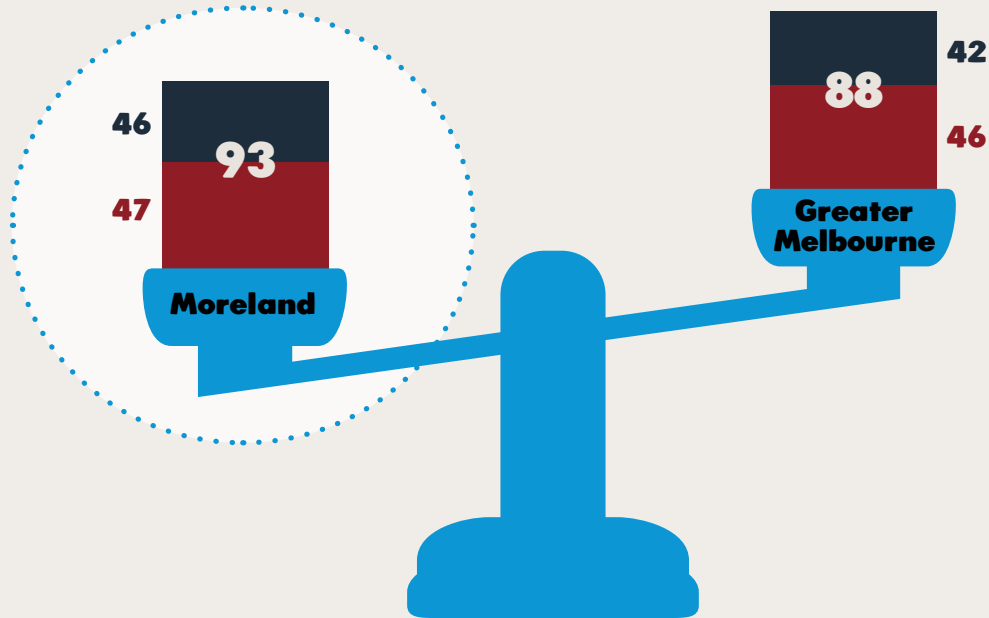
Six months ago, Helen moved into a new social housing development, where her rent is fixed at an affordable 25 per cent of her income.

At last she has a place to call home. *'I have a lounge room, a bedroom and a balcony,' she says. 'I can invite people over. I can lie down and have a nap in the afternoon without noise or interference. I have privacy.'* Before this, Helen had endured six years of insecure and unstable housing. *'At first I didn't classify myself as homeless,' she says.* Like many others, she thought the term only applied to people who were sleeping rough. Now she understands that homelessness can take many forms, including severe overcrowding, couch surfing or living in temporary and often unsafe accommodation like motels and boarding houses.



**Figure 20: Homelessness in Moreland is above the metropolitan average**  
Homeless rate (per 10,000 people)

■ Homeless persons  
■ Other marginal housing



Source: 2049.0 - Census of Population and Housing: Estimating homelessness, 2016



People with disability can be especially at risk of experiencing housing stress and homelessness. Elderly renters are also extremely vulnerable to housing stress. The number of people in both of these categories is likely to increase significantly in the next two decades.

**Figure 21: Accessing housing is often difficult for people with disability**  
Number of persons who require some form of assistance, Moreland



Source: .id

**Figure 22: Increasing rents can place many elderly renters into stress**  
Older lone person households in rental stress, 2016

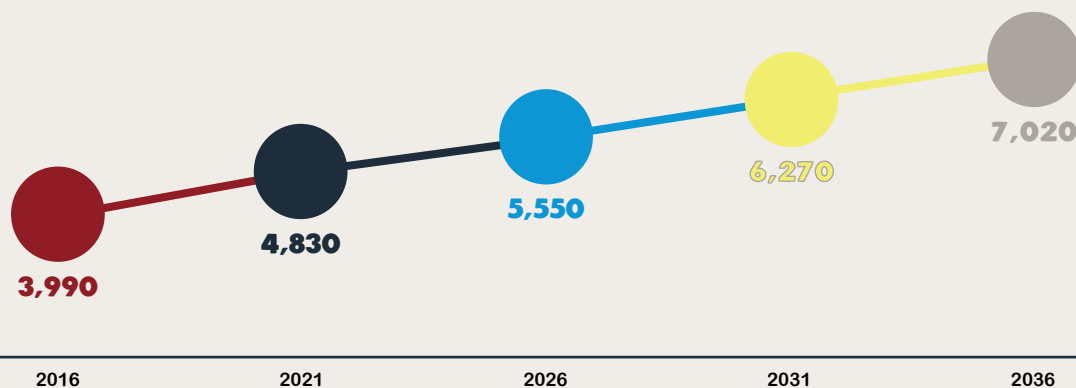


Source: ABS Census of Population and Housing, 2016

Moreland needs more social and affordable housing. Affordable housing is housing that is appropriate for very low, low, and moderate income households. Around 4,000 households were estimated to have an unmet need for affordable housing in 2016. In other words, there were 4,000 fewer affordable dwellings than required. Even if this shortfall were met, that would do nothing to meet the new need that is sure to emerge over the next two decades. On current trends, the gap between affordable housing supply and affordable housing need is expected to exceed 7,000 households by 2036.

The delivery of new affordable housing in well serviced locations and adaptable for people living with disability will enable a diverse range of households to live locally and independently and take advantage of the opportunities that Moreland offers in terms of jobs, education, transport and social support.

**Figure 23: Need for affordable housing continues to grow in Moreland**  
Affordable housing need forecasts, Moreland



Source: .id, using SAFi forecasts

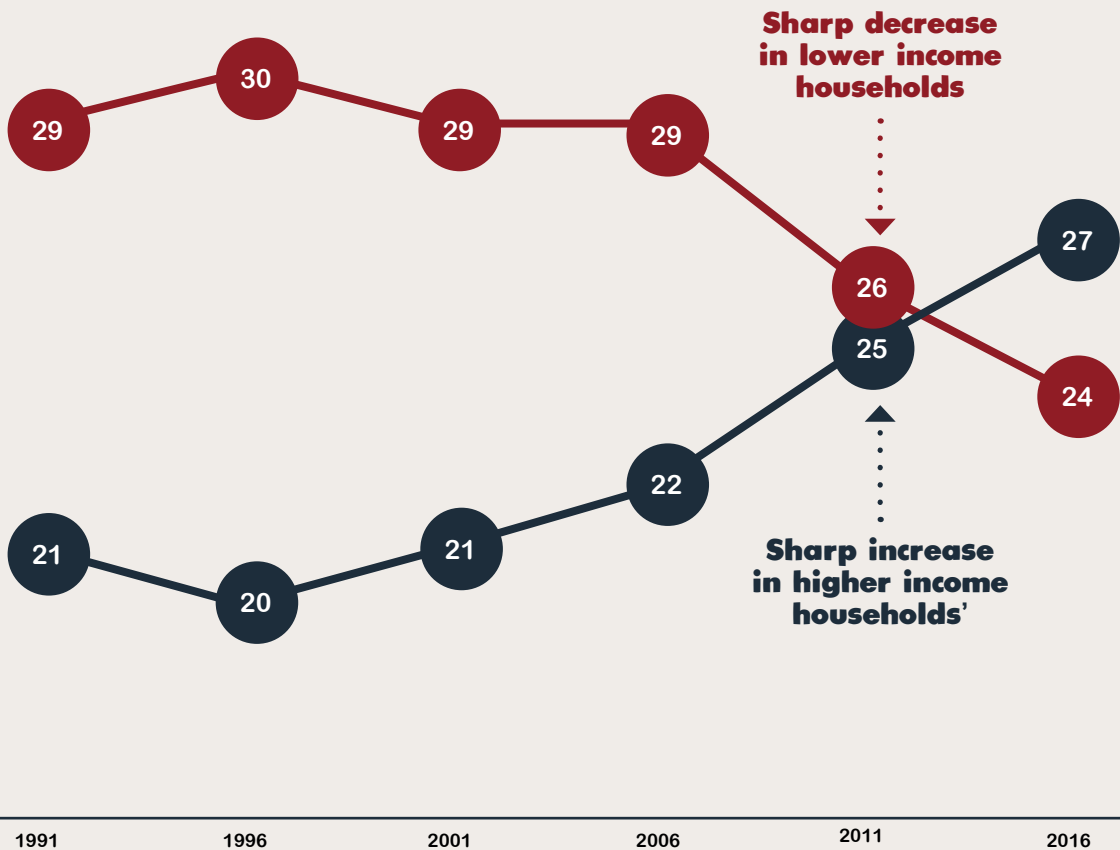


The lack of affordable housing could undermine the diversity and vibrancy that has been Moreland's traditional strength. Increasing housing costs in Moreland go hand-in-hand with increasing inequality.

While this means Moreland is richer overall, it means that low income residents face added cost pressures and risk living in higher levels of stress or being pushed out of the area or potentially into homelessness. Rising house prices and increasing inequality don't just have an impact on the poor and the vulnerable though. These factors can also make life tougher and more challenging for the average household. The concern is not just with household budgets, but with living in a community that is cohesive and inclusive and doesn't leave people behind.

Figure 24: Household income quartiles, Moreland  
% of households

Lowest group  
Highest group



Source: ABS Census of Population and Housing (1991, 1996, 2001, 2006, 2011 and 2016)

# ACHIEVING A DIVERSE FUTURE MORELAND

The trends outlined here provide an insight into the type of housing that the residents of Moreland will want and need in the future. Responding to the findings of this research is a complex and multi-faceted exercise that will involve multiple stakeholders and levels of government. *A Home in Moreland* explains the housing we have in Moreland now, and the houses we will need in the future.

The most successful places support diversity through increased housing options. This gives residents greater choice and helps meet the shifting needs and preferences of households as they mature and change.

Given the right settings, Moreland's journey of growth and diversity can continue into the future.



## Moreland Language Link

有關摩爾蘭德市政廳的詳情請致電	9280 1910	要进一步了解Moreland市政府的信息，请拨打	9280 0750
Per informazioni sul Comune di Moreland telefonare a	9280 1911	मोरलैंड सिटी कौमल घाटे रूपेरी नारुवारी लरी रूपा वरवे डेल वरे	9280 0751
Για πληροφορίες σχετικά με το Δήμο Moreland τηλεφωνήστε στο	9280 1912		
للحصول على معلومات عن بلدية مورلاند اتصلوا على الرقم	9280 1913		
Moreland Belediyesi hakkında bilgi almak için aranabilecek telefon	9280 1914		
Nếu muốn biết thêm chi tiết về Hội đồng Thành phố Moreland, xin quý vị gọi số	9280 1915		
मोरलैंड सिटी काउंसिल के बारे में जानकारी प्राप्त करने के लिए फोन करें	9280 1918		
		<b>All other languages</b>	
		including ភាសាខ្មែរ, Croatian, Tagalog, Indonesia, Polski, Español,	
		አማርኛ, اردو	9280 1919

Moreland City Council acknowledges Moreland as being on the traditional lands of the Wurundjeri people. Council pays its respects to the Wurundjeri people and their Elders, past and present.



Managum by Judy Nicholson, Wurundjeri Artist

**CLICK HERE**  
TO READ OUR FULL REPORT



# **Appendix 3 - Draft Good Design Advice Sheets**



**RESCODE REFERENCE:**

**55.02 Neighbourhood Character & Infrastructure**

- 1 - Neighbourhood character objective
- 5 - Integration with the street objective

**55.03 Site layout & building massing**

- 1 - Street setback objective
- 2 - Building height objective
- 3 - Site coverage objective
- 6 - Open space objective
- 8 - Landscaping objective

**OTHER REFERENCES:**

- Moreland Tree Planting Manual
- Moreland Online Tree Selection Tool

**WHY IS THIS IMPORTANT?**

A good site layout responds to site context. It optimises usability, privacy and opportunities for social interaction, respect for neighbour's amenities and provides for practical daily living.

An important element of Site Layout is landscape design, which can enhance a development's environmental performance; retaining existing natural features, coordinating irrigation, maximising solar access and tree canopies, producing positive micro-climates and preserving/enhancing existing broader green networks.

The building massings within a site's layout should have an appropriate public-private interface to the streets, neighbouring dwellings, and public spaces, contributing to a safer and more welcoming neighbourhood.

DRAFT

**Design Response**

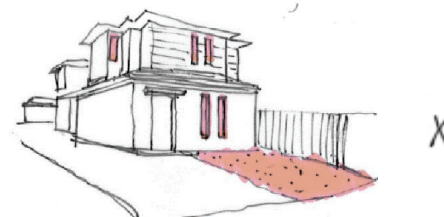
Enhance the streetscape's character (primary streets: wide front setbacks)

- Ensure landscaping of the front setback sufficiently softens the interaction with the street
- Use medium or large size tree canopies appropriate for wide front setbacks
- Ensure bedrooms located closer to the street are appropriately buffered with landscaped area
- Ensure rooms located on the corners of the buildings allow for passive surveillance to the driveway.

**Avoid**

- Narrow/opaque windows facing the street
- Large expanses of blank facade facing the street
- Insufficient or sparse landscaping within the front setback area
- High side fences within the front

**Illustration**



**Design Response**

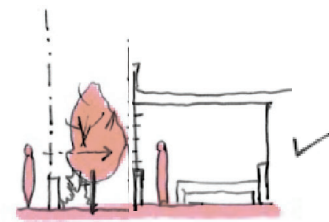
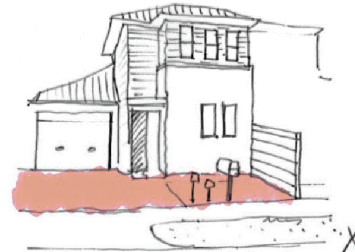
**Avoid**

**Illustration**

Enhance the streetscape's character  
(secondary streets: narrow front setbacks)

- Use the optimum size tree canopies appropriate for narrow front setbacks
- Use visually attractive garage door(s) material and details such as from natural timber or garage door with window details
- Ensure bedrooms directly fronting the street are appropriately buffered with landscaped area or is slightly elevated.
- Pedestrian path should be integrated with the landscaping where sufficient space is available
- Ensure fences are used to clearly delineate public-private areas and to conceal utilities metres.

- Providing no fences
- Front setbacks that are more than 50% hard-paved.



**Gaps between buildings**

- Ensure buildings are set back from one or both side boundaries according to the streetscape character and neighbouring developments
- Constrained sites that do not allow side setbacks should consider a built form response with setbacks to areas closest to the street.

- Not providing gaps between buildings, unless appropriate to the existing character



**Park edges**

- Provide pedestrian paths along edges fronting public green space, within private properties with multiple entrances
- Ensure large sites are provided with a paper road along the edges to the park
- Provide upper level activation and outlook provisions with balconies oriented towards the public green space
- Ensure landscaping is incorporated to the boundary edges (such as in front of fences, or in balcony integrated planter beds).

- High fence to the public park
- Lack of upper level activation (balcony) to the park



## Design Response

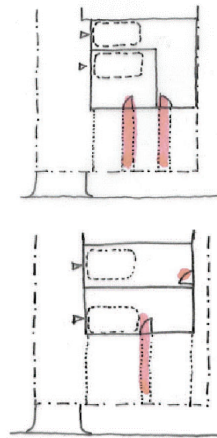
## Avoid

## Illustration

Improving street activation through multiple entries

- Ensure the number of units fronting the street is maximised to achieve better street activation. In this example, two units front the street instead of just one.

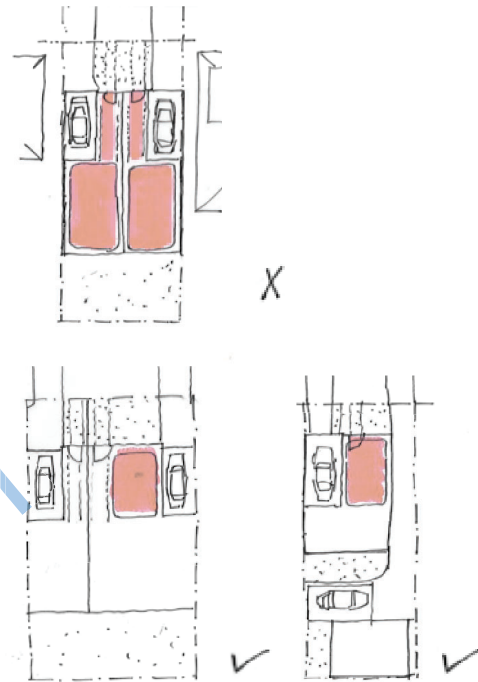
- Orientating the 'side' of the building towards the street. They tend to create a horizontal expressions which increases visual bulk.



Provide habitable room(s) towards the street on the ground floor

- For dual occupancy developments, provide a good activation to the street from at least a bedroom or a living room (not only foyers or corridors) across the two dwellings.
- Ensure that narrow lots with 'dual occupancy' development use a 'front and back' layout, instead of sideways facing the side neighbours.

- Side-by-side dual occupancy developments with two 'transient' rooms (foyers or corridors) which have low-level activation to the street.



Soft landscaping

- Ensure front gardens are dominated by soft landscaping.

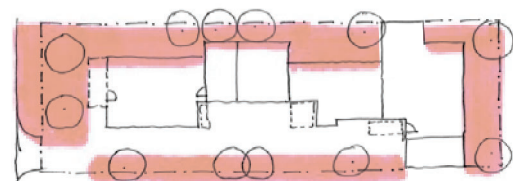
- Installation of plastic turf
- Excessive use of gravel
- Excessive paved areas.



Provide the appropriate trees in the appropriate spaces

- Ensure that the site layout optimises opportunities to plant trees. Trees in medium density dwellings can be located within the front setback, vehicle accessway, private open space (side and rear), and other specific areas for visual softening, canopy coverage and screening bin and utility areas.

- A site layout that doesn't allow space for medium/large canopy trees to be planted
- Using trees species unsuitable to the location



## Design Response

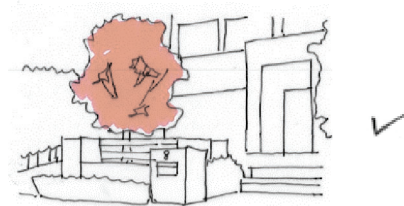
## Avoid

## Illustration

### Front setback

- Ensure front setbacks can accommodate large and medium-sized trees. These areas should be more spacious and contribute to the streetscape and neighbourhood character.

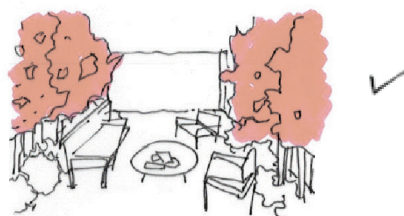
- Using tree species which are too small/unsuitable to the location



### Courtyard

- Prioritise the use of deciduous trees to maximise solar access in winter months and shady, dappled light in summer. This is especially important in small areas such as courtyards
- Ensure trees in containers have uninhibited access to the soil below, to allow roots to continue to grow.

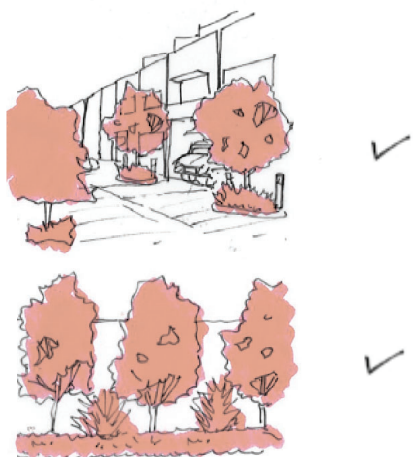
- Using tree species which are unsuitable for a tight space



### Vehicle accessway

- Ensure asphalted and concreted areas are shaded, to prevent overheating
- Stormwater runoff can feed into adjacent planting beds to provide sustainable passive irrigation
- Provide understorey planting below trees to layered/blended greenery and heightened visual interest.

- Locating planter beds around non-deciduous trees to avoid plant/turf failing due to low light levels.
- Not providing tree canopy to shade the vehicle accessway



### Softening facade with integrated landscaping

- Low-maintenance, integrated plantings are encouraged. As plants will require time to grow, the materials behind them should look good by themselves. Consider the use of downpipes for stormwater irrigation
- Provide planter beds on the building's upper-levels for cascading plants (such as Dichondra 'silver falls' or Convolvulus) which drop down to the lower levels and can contribute to a greener streetscape in restricted space.



# Exterior Appearance 2

## RESCODE REFERENCE:

### 55.02 Neighbourhood Character & Infrastructure

- 1 - Neighbourhood character objective
- 3 - Dwelling diversity objective
- 5 - Integration with the street objective

### 55.03 Site Layout & Building Massing

- 1 - Street setback objective
- 2 - Building height objective

### 55.06 Detailed Design

- 1 - Design detail objective
- 2 - Front fences objective
- 3 - Common property objective

## WHY IS THIS IMPORTANT?

The exterior appearance of medium density developments plays an important role in producing high quality streetscape and respond to neighbourhood character.

There are two key aspects of *Exterior Appearance*:

### 1. 'Architectural Form'

'Architectural Form' describes a building's three-dimensional form when viewed from various vantage points along the street.

It is defined by the building's external shapes (roofs, walls, etc.), the proportions and configurations of these shapes, the voids between them and their combined relationship to other buildings in the streetscape (comparative proportions, configuration, silhouettes, repetitive patterns, spaces between them etc.)

### 2. 'Facade Design Articulation'

'Facade Design Articulation' describes the finer details which provide additional visual interest and reinforce the intentions of the 'Architectural Form'. It provides articulation of building elements and materials.

*Common design terms:*

*'Fine grain materials': Materials that provide a variation in size, density, colour or texture, and create a high level of visual and tactile interest at human scale (e.g. natural timber, salvaged brick).*

*'Commercial materials': Materials which are often used in wide-span commercial buildings. These materials often lack detailing unless designed appropriately.*

DRAFT

## Design Response

## Avoid

## Illustration

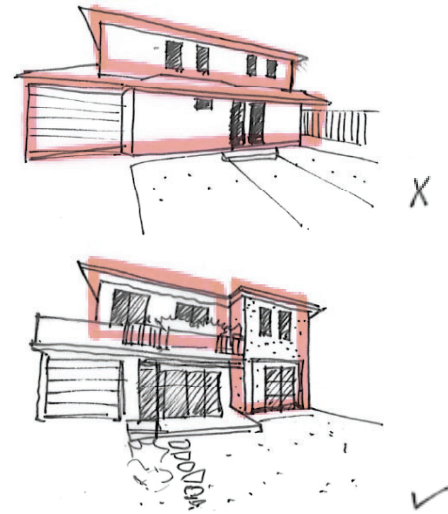
Provide a good response to the street character

- Ensure that neighbouring architectural forms are acknowledged. Appropriate development responses can take the form of a subtle addition to the streetscape character, or a new complementary architectural identity.
- Unsuitable/distracting architectural forms and material palettes.



### Overall proportions

- Ensure overall proportions are well considered, and broken down into several related built forms
- Ensure a balance of solid and transparent facade treatments is achieved (glazing)
- Follow a design approach which expresses a residential dwelling use.
- Long horizontal proportions which creates larger visual bulk
- The use of too many materials, which distracts from the overall proportions
- Large expanses of blank wall
- Large expanses of cheap, lightweight construction.



### Facade articulation




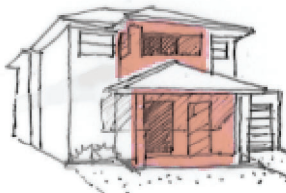

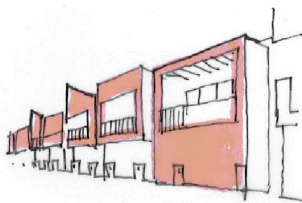

- Ensure the articulation of building elements which create transition between different materials
- Provide transition to windows by providing mullions or recesses.
- Flat facades where windows and different materials are on the same flush plane.



### Symmetrical design

- Provide asymmetrical design which has a good overall proportion.
- Avoid symmetrical (mirror) appearance which increases the visual bulk



Design Response	Avoid	Illustration
<ul style="list-style-type: none"> <li>Provide diversity in the appearance of each dwelling within consolidated lots fronting the street.</li> </ul>	<ul style="list-style-type: none"> <li>Identical designs for both lots, which often emphasises the driveway in the middle.</li> </ul>	
<b>Roof Forms</b>	<ul style="list-style-type: none"> <li>Mismatching, complicated roof forms</li> <li>Roof forms which result in complex downpipe appearances.</li> </ul>	
<b>Materials</b>	<ul style="list-style-type: none"> <li>Using excessive commercial-looking cladding.</li> </ul>	
<b>Intermediary structures</b>	<ul style="list-style-type: none"> <li>Porch area which is too small an not providing weather protection</li> <li>Not using the opportunity for upper level balcony to the street (on appropriate context).</li> </ul>	 
<b>Reducing the impact of long buildings</b>	<ul style="list-style-type: none"> <li>Monotonous long facade without any variety or visual interest</li> </ul>	 

## Design Response

- Providing voids along very long, upper-level built forms is often necessary to reduce their dominance over adjacent spaces
- While side and rear facades are not visible from the street's public realm, the continuous length of the building may need to be broken up to allow mid-block planting, provide solar access and to respond to surrounding building patterns.

## Avoid

- Very long building without any upper-level gaps

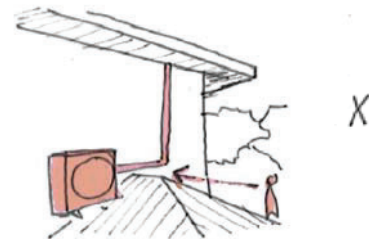
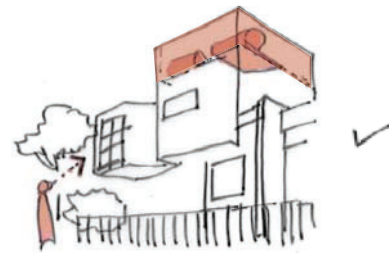
## Illustration



### Utilities integration / concealment

- If downpipes have to be visible from the street, their appearance should be well-considered as part of the overall facade
- While solar panels and solar water heaters are encouraged, they should not be dominantly visible from the street by utilising the design of the roof. In a highly constrained site, solar panels can still be visible from the public realm.
- Air conditioning units should be hidden from streets and park.

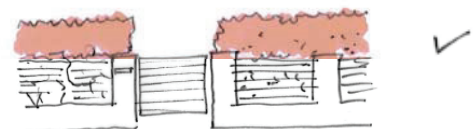
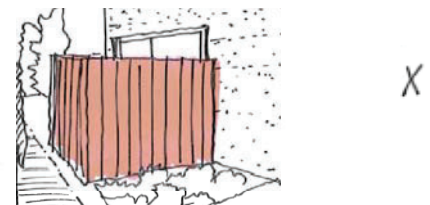
- Locating air-conditioning units in places that make them dominantly visible from streets and parks.



### Street fence design

- Fence design fronting a street should relate to the overall building design, connecting upper level design elements to the street level
- Lower fences are generally preferred, as they are perceived to be more welcoming, visually aesthetic and provide passive surveillance, whilst still being able to achieve privacy
- Provide some sections which are transparent for the fence. It can be by using semi-transparent materials (such as timber slats/perforated metal) or few transparent gaps in between solid walls.
- Variations of height and materials of the fence provides visual interest to the street and reduce horizontal effects.

- High, solid fences without any transparent elements



# Communal Access Areas 3

**RESCODE REFERENCE:**

**55.02 Neighbourhood Character & Infrastructure**

- 1 - Neighbourhood character objective
- 3 - Dwelling diversity objective
- 5 - Integration with the street objective

**55.03 Site Layout & Building Massing**

- 1 - Street setback objective
- 2 - Building height objective

**55.06 Detailed Design**

- 1 - Design detail objective
- 2 - Front fences objective
- 3 - Common property objective

**WHY IS THIS IMPORTANT?**

Communal areas that are designed to prioritise people instead of vehicles can vastly improve streetscape appearances, public-private interfaces and provide a greater sense of ownership for residents.

An integrated approach to vehicle accessways and pedestrian paths can allow them to function as communal areas. Considering landscaping, interaction to built forms and safety can result in significant improvements. These considerations not only improve the immediate development, but the surrounding areas' street safety and neighbourly interactions.

**Design Response**

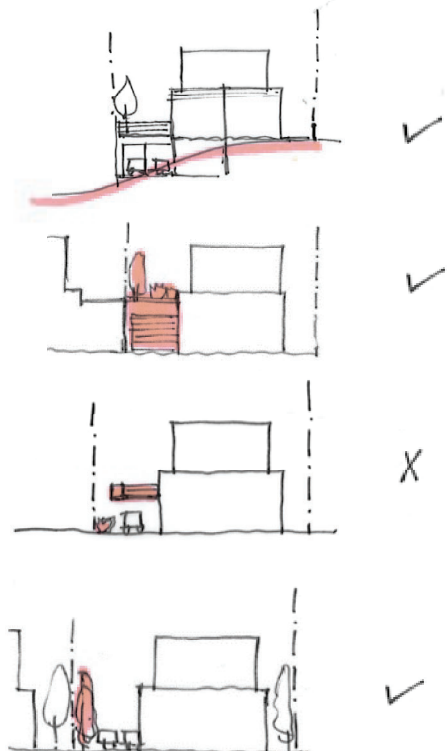
**Avoid**

**Illustration**

Considering the visual elements of car parking amenities

- Choose between a fully concealed vehicle access way with high quality surface materials and landscaping or a fully exposed vehicle accessway with high quality garage door and landscaping
- Fully concealed car parking rooftops can provide additional planting opportunities as part of the private open space
- Basements or semi-basements can often be achieved on sites with a slope without expensive excavation. Basement car parking allows much of the ground floor to be used as private open space or communal space instead of a long driveway.

- Half-open under-crofts or lightweight structures over driveways which prevent trees and landscaping to be integrated into the vehicle access area.



## Design Response

## Avoid

## Illustration

### Creating shared pedestrian and vehicle access

- Co-locating access, vehicle and pedestrian areas encourage residents to use the driveway as a communal area, rather than an underutilised single-use vehicle area
- Sites located adjacent to public open space however, greatly benefit from a separated walkway entry along the edge to the public open space, providing important activation
- Provide appropriate high quality material finishes to driveway areas to enhance the sense of pedestrian priority
- Low-level lighting (such as bollard lighting), landscaping and outdoor furniture (such as bench and play equipment) can further enhance the communal feel and prioritise pedestrian use in these shared areas
- Legible signage should be provided for large developments to allow way-finding to each dwelling
- Communal mailboxes can be integrated with the street address and integrated with the landscaping of pedestrian areas.

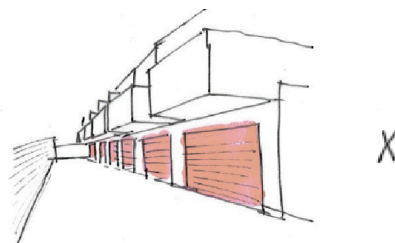
- Separated walkways which otherwise could be turned into private open spaces
- Poor quality lighting
- Poor quality materials and finishes for driveway surfaces.



### Providing passive surveillance to the driveway

- Garage doors should be intercepted by entries and windows to provide surveillance to the driveway. Upper level(s) should provide activation to the lower level using balcony or window.
- High quality, 'fine grain materials' should be used for garage doors, to improve the sense that the space is intended primarily for people, not vehicles
- Garage door design should also incorporate some transparency (such as using window or perforated/slatted material) to aid passive surveillance and access to natural light
- Lighting should be either integrated on the building wall or as part of the landscaping design, using bollard lighting or similar.

- Garages which are continuous and restrict the widths of pedestrian entry foyers
- No lighting or the use of spotlight lighting.



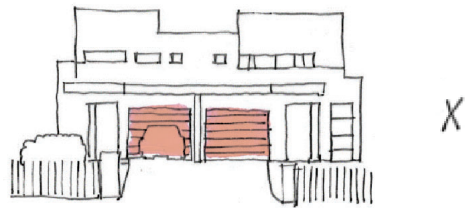
## Design Response

## Avoid

## Illustration

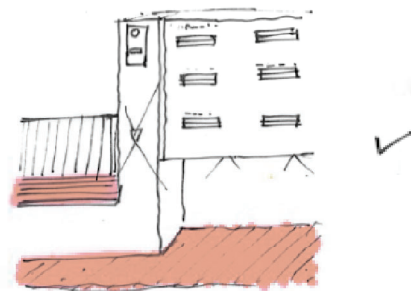
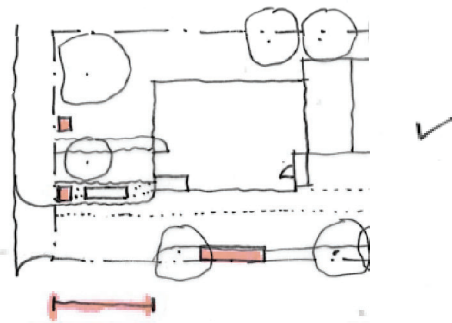
### Reducing the visual dominance of vehicle areas

- For side-by-side duplexes, driveway or carport should be located on the far sides, and setback from the front facade to be visually recessive
  - The width of the garages and outdoor carports should not be more than half of the building frontage to the street
  - Locate driveway from the rear lane whenever possible. Communal car parking should also be considered.
- Centrally locating the driveway in relation to the building facade.



### Integrating utilities and services into overall design

- A recessed area should be provided for communal mailboxes. The mailbox area should be low-height to blend with the landscaping
  - Combine the mailbox area with some amenities such as lighting, benches and landscaping to create a pleasant spot for communal interaction
  - Locate gas and water metres to be integrated with the fence or behind the line the building line
  - Locate high utility box behind the building line, integrated with the building's wall or with the side fence
  - Individual units which have a direct street entry should have a separated concealed area for mailboxes, metres and bins as part of the fence and entrance design
  - Consider the use of individual or communal intercom systems for efficient delivery of post packages. This is especially important for large developments and for units without a secure front terrace.
- Locating mailboxes in areas at risk from moving cars
  - Locating high utility boxes within the front setback.



## Design Response

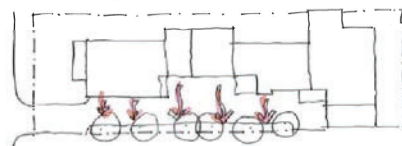
## Avoid

## Illustration

### Stormwater and passive irrigation

- Stormwater and garden irrigation should be included in the landscape plan to minimise water usage and ongoing maintenance
- Consider the use of water run-off from the vehicle accessway fed into a strip of landscaping to provide treatment for the water run-off.
- Consider harvesting roof water from the downpipe into a planter bed to irrigate plants. Refer to the Downpipe diversion and raingarden instruction sheets from Melbourne Water
- Stormwater overflow drainage will be required.

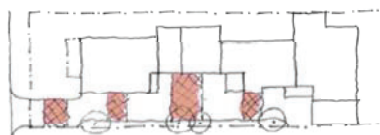
- Large hard paved areas without landscaping and porous paving.



### Porous Paving

- Provide areas of porous paving as part of open hard surfaces such as driveways. Materials can include loose gravel, structural gravel, structural grass, masonry pavers or engineered pavers
- Provide appropriate construction details to ensure the permeability of porous paving. Refer to the porous paving instruction sheet from Melbourne Water.

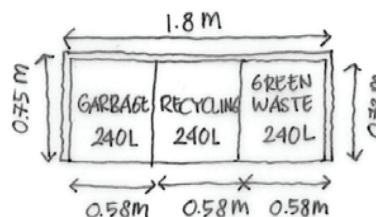
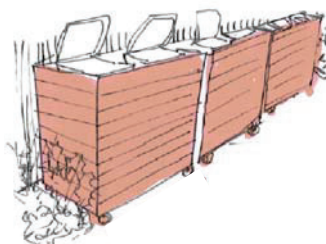
- Poorly constructed porous paving which is impermeable.



### Waste areas

- Locate bin areas behind the building line combined with the building's wall or with the side fence. Landscaping should be utilised to improve the appearance of these areas
- Provide bin enclosures to conceal bins with the size fitting Moreland Council's bin sizes.
- Provide an additional bin space for future on-site green waste bin.
- Provide an additional space for a communal compost bin or a communal wormfarm.

- Designating no space for communal bin areas
- Poor appearance of bins, visible from the street.





# Amenity

4

**RESCODE REFERENCE:**

**55.03 Site Layout & Building Massing**

- 7 - Safety objective
- 9 - Access objective
- 10 - Parking location objective

**55.04 Amenity Impacts**

- 5 - Overshadowing open space objective
- 6 - Overlooking objective
- 7 - Internal views objective

**55.05 On-site Amenity and Facilities**

- 4 - Private open space objective
- 5 - Solar access to open space objective

**WHY IS THIS IMPORTANT?**

All habitable areas in medium density housing should receive adequate amenities such as daylight, outlook and privacy. Different rooms may require different levels of amenity. Living rooms and bedrooms for example will require higher quality amenities than bathrooms and circulation spaces.

Visual privacy allows residents within medium density housing and adjacent properties to enjoy their private space without being overlooked, and without being to overlook others. Balance the need for views and outlook with the need for privacy is critical, as is appropriately responding to immediate surroundings to optimise usability.

Properly considered amenity design at the siting and building stage will help reduce the likelihood for future design reconfigurations. Consider an initial pre-application meeting with Council to identify and avoid major issues early on.

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**Design Response**

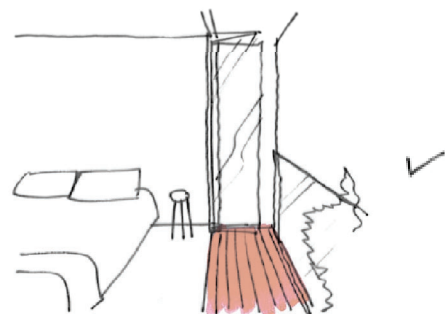
**Avoid**

**Illustration**

**Private Open Space**

Providing a combination of private open spaces in a dwelling

- Provide a combination of ground floor areas available to have convenient access from the habitable areas
- Provide balconies for rooms on the upper levels. Even a Juliet balcony can contribute greatly to natural daylight and ventilation
- Consider rooftop gardens or areas for future conversion to green roofs.



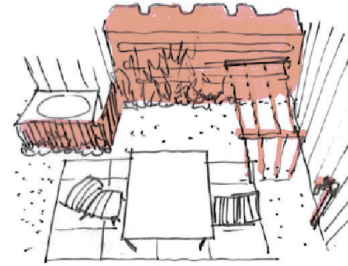
## Design Response

## Avoid

## Illustration

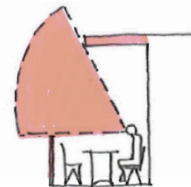
### Providing a good courtyard space

- Tree planting should be encouraged in courtyards. Decking can maximise space usage underneath the tree. In small courtyards, a deciduous tree provides summer shade and solar access in winter
  - Courtyards do not always need to be at the back of the building. They can be located off the common walkway, provided a good buffer between the communal area and the living room is present
  - Utilities should be consolidated in one area and screened. The design of the space should daily activities occurring in the courtyard, such as drying clothes and watering plants as easy as possible
  - Rainwater tanks can be hidden underneath the decking, as part of the planter bed tanks (as shown in the image). Alternatively, vertical slimline water tanks can also be screened with landscaping
  - Integrated, flexible utilities (collapsible clothes lines, slimline water tanks etc) greatly maximise the usability of private open space
  - Storage should be located below eaves to maximise landscaping area which are open to sky.
- Placing utilities (water tanks, washing lines, hot water services, air conditioning, etc.) within useable private open spaces in ways that would compromise their usability and visual appearance.
  - Narrow spaces which are unusable



### Providing a good balcony space

- Provide a usable space on a balcony that allows the convenient arrangement of table and chairs
  - If a balcony is screened above the standard balustrade height, opportunities for planting should be provided by creating a bigger space.
  - Mechanical equipments should be concealed to reduce the visual impact and the noise impact. Consider also placement in other areas more suitable than the balcony.
- Narrow balconies with screening.
  - Locating air-conditional fan units and other equipment within usable balcony space

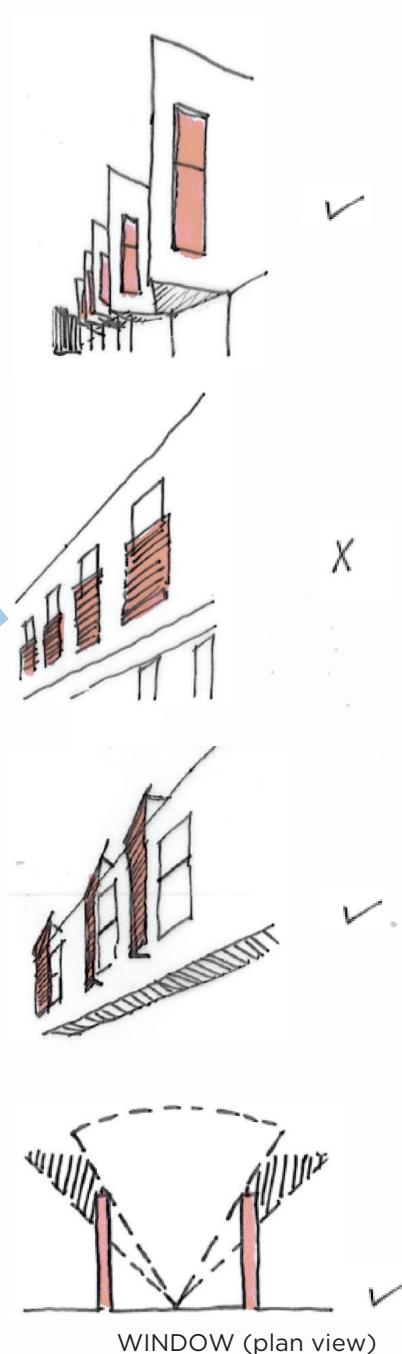


**Visual Privacy**

- Design the building and its internal spaces to have the necessary visual privacy which is balanced with the need for views and outlook. The use of screenings should be minimised and if applied, should be designed appropriately.
- Excessive use of fixed screenings

**Achieving visual privacy without screening (from windows)**

- Adjustable screens allow changes by the building occupant. They can be manually operated or motorised
- Vertical screens can be used to limit the view-cone away from sensitive areas
- Angled screens divert the view away from next door neighbours, while ensuring there is enough solar access to the room
- Applying vertical fins on both or one side of the window can narrow the view cone horizontally
- Vegetation is also a good option for screening by selecting narrow form or screening specific shrubs and trees.
- Fixed screens on windows that create poor internal amenity and do not allow flexibility by the user.



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## Design Response

### Achieving visual privacy without screening (from balconies)

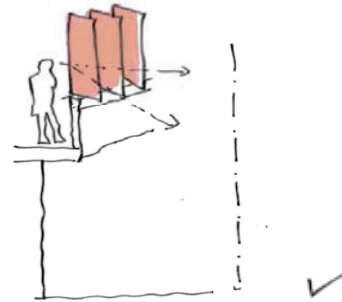
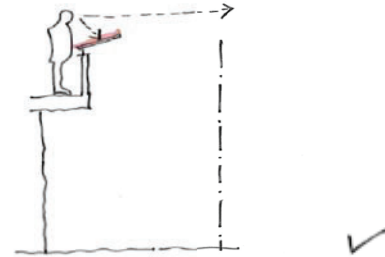
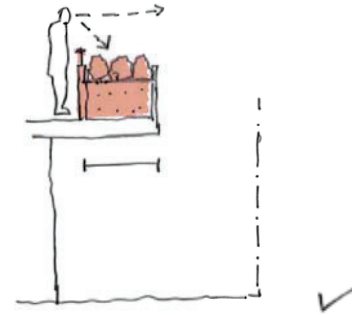
Downward or sideways visual privacy to neighbours can be mitigated using:

- Wide planter beds with suitable vegetation
- Wide ledges or balustrade panes (Note how the view cone downward is improved as the width of the planter beds are increased)
- Large, angled vertical fins
- Appropriately specified and positioned ground level vegetation.

## Avoid

- Fixed high screening on balustrades, particularly on small, narrow balconies.

## Illustration

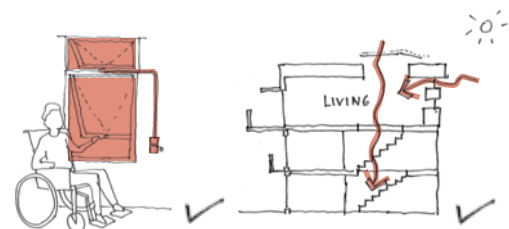
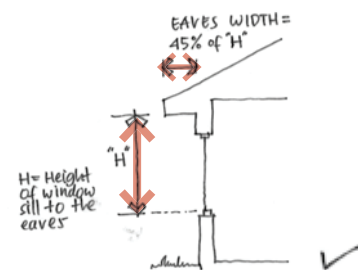
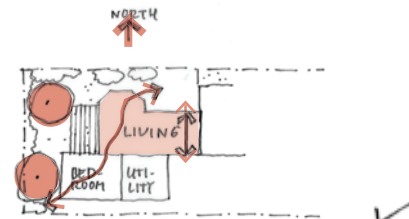


## Passive Design

Provide passive design principles which reduce the need of mechanical equipment for heating and cooling.

This can be done with:

- north facing living areas
- dual aspect dwellings
- shallow room depth
- appropriately sized window and shading (45 degrees projection)
- easily openable window (for natural ventilation)
- appropriate windows and skylight (to minimise artificial lighting and optimise natural ventilation)
- planting tree and vegetation in the courtyard to create a good microclimate



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# Internal Layout

# 5

**RESCODE / MSS REFERENCE:**

- 55.04 Amenity Impacts  
 4 - North-facing windows objective  
 6 - Overlooking objective  
 7 - Internal views objective

- 55.05 On-site Amenity and Facilities  
 1 - Accessibility objective  
 2 - Dwelling entry objective  
 3 - Daylight to new windows objective  
 6 - Storage objective

MSS (Municipal Strategic Statement)  
 21.03-3 - Livable Housing

**WHY IS THIS IMPORTANT?**

The internal layout of the dwelling should provide sufficient space and allow seamless function of different rooms, connected by reasonable circulation spaces.

A good internal layout should provide the flexibility to change the room use in the future, allowing families to grow and accommodating the needs of older family members.

Livable housing design can future proof a home to ensure comfort and safety now and in the future, as occupants age or if an illness or injury limits mobility.

**Design Response**

**Circulations Spaces**

- Use sliding door for restricted spaces
- Provide adequate space at the primary dwelling entrance and staircase areas
- Create multi-functional rooms instead of small, separated rooms, such as laundries combined with linen storage.

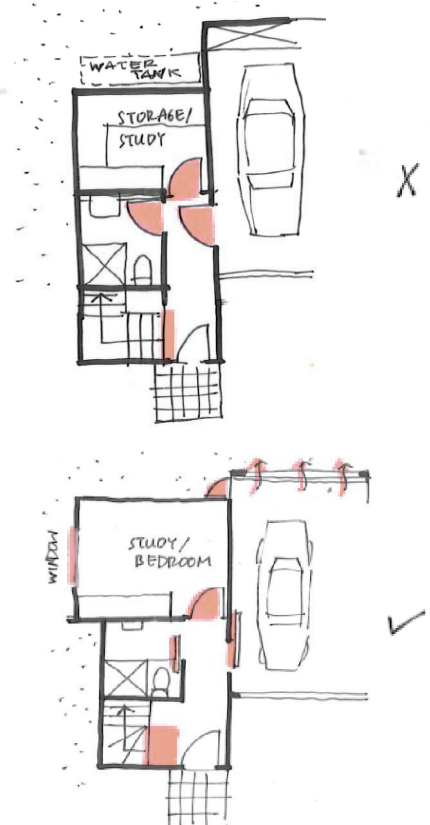
**Flexibility:**

- Allow the future conversion of rooms on the ground floor to become bedrooms (allow for adequate window, inbuilt furniture layout and access to the outdoor private open space)
- Create a zero-level change between terraces and adjacent internal areas utilising decking
- Allow the future conversion of different section of the house into separated granny flats by adding an additional door

**Avoid**

- Locating hinged doors near one another
- Tight circulation space at the entry and staircase area.

**Illustration**



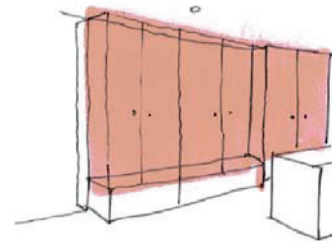
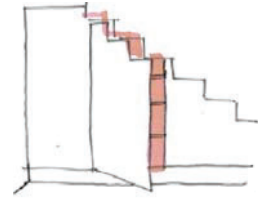
## Design Response

## Avoid

## Illustration

### Optimise internal storage by:

- Providing extra cabinetry on blank walls
  - Consider storage space below staircases
  - Provide storage below the roof space
  - Create storage by increasing ceiling heights, such as kitchen cupboards
  - Create storage in the garage, above car bonnets.
- External storage design which compromises the quality of outdoor amenity spaces such as courtyards.



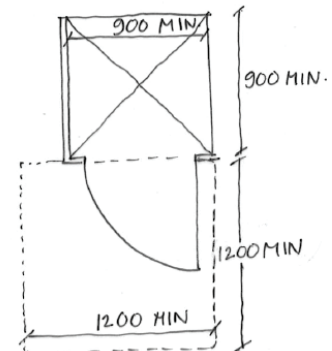
### Designing for people with limited mobility

- Provide an accessible path from the street and car park areas to a level entry
- Provide minimum width of 850mm for doors and 1000mm for hallways at entry level
- Whenever practicable and reasonable, provide a bedroom, living area, kitchen, private open space, bathroom and toilet which can be efficiently adapted for people with limited mobility on entry level.
- For further information refer to the Livable Housing Design Guidelines [www.livablehousingaustralia.org.au/library/SLLHA\\_GuidelinesJuly2017FINAL4.pdf](http://www.livablehousingaustralia.org.au/library/SLLHA_GuidelinesJuly2017FINAL4.pdf)

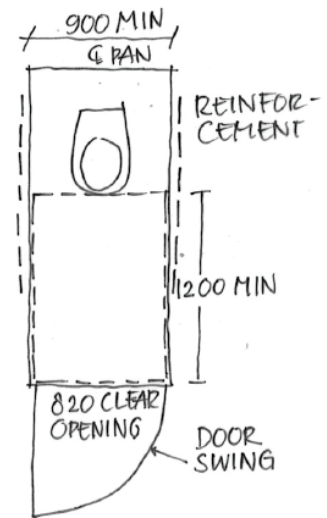
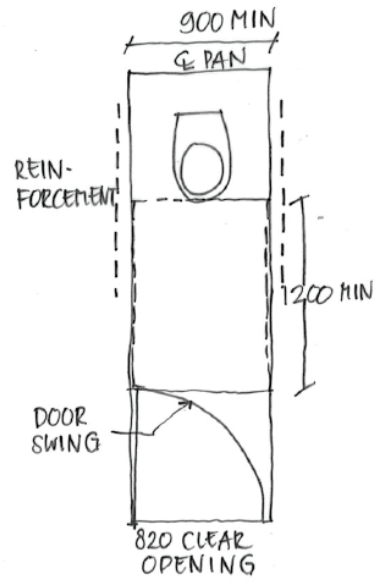
### Doorway width:



### Shower recess



Toilet layout



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