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Improving outcomes for apartment residents and neighbourhoods

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AHURI undertakes evidence-based policy development on a range of priority policy topics that are of interest to our audience groups, including housing and labour markets, urban growth and renewal, planning and infrastructure development, housing supply and affordability, homelessness, economic productivity, and social cohesion and wellbeing.

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Acronyms and abbreviations used in this report

ABS	Australian Bureau of Statistics
AHURI	Australian Housing and Urban Research Institute Limited
CNSP	City North Structure Plan 2012
DCP	Development Control Plan
DEWLP	Department of Environment, Land, Water and Planning
LEP	Local Environmental Plan
LGA	Local Government Area
PCA	Principal Component Analysis
POPS	Privately Owned Public Space
SA1	Statistical Area 1
SREP	Sydney Regional Environmental Plan
VPA	Voluntary Planning Agreement

Glossary

A list of definitions for terms commonly used by AHURI is available on the AHURI website www.ahuri.edu.au/research/glossary.

Executive summary

Key points

- The number and proportion of Australians living in apartments is increasing. A broad cross-section of Australian society lives in apartments, but lower-income households are over-represented compared to other dwelling types.
- Lower-income apartment residents have a diverse demographic profile. However, there are identifiable lower-income apartment-resident submarkets in Australian cities.
- Lower-income households are disproportionally affected by challenges associated with apartment living, yet most existing research and policy does not consider the impact of living in density for lower-income residents in particular.
- Underpinning the high-density development of Australian cities is a policy orthodoxy that privileges market-led housing delivery and a reduced government role in direct housing provision and management. In this context, policy interventions directed at lower-income apartment residents have been limited.
- Prior research indicates that experiences of apartment living are mediated by the quality and design of the built environment, the nature and quality of service provision, and the demographic profiles and mix of residents at both the building and local area (precinct) scales.
- Research undertaken for this study, focussing on Sydney and Melbourne, demonstrates that the experiences of apartment living for lower-income apartment residents are influenced by planning and infrastructure provision, urban design, building design and management, neighbourhood amenities and facilities, and ongoing place management and community engagement.
- The research identified five main points of tension in delivering high-density buildings and precincts that meet the needs of lower-income residents. There were tensions between the development and operational phases of a new development; at the interface between private buildings and the public domain; over the alignment of infrastructure needs and delivery; at the intersection of local and state government responsibilities; and in meeting the needs of both current and future residents.
- Improving outcomes for lower-income apartment residents will require shifting current priorities in both policy-making and practice. These changes range from relatively simple interventions to proposals requiring significant buy-in from both the private and public sectors.
- Failure to address the needs of lower-income high-density residents risks undermining the prosperity and cohesion of Australian cities in future years.

Key findings

This research project:

- provides new information about the characteristics of lower-income apartment residents and the places where they live
- identifies important issues with how well apartment developments provide for the wellbeing, community and affordability needs of lower-income apartment residents
- considers how these issues can most effectively be addressed in high-density developments at both the building and precinct scale.

The characteristics of lower-income apartment residents

Lower-income apartment residents are defined as those living in households with household incomes of less than $1,499 per week, in the bottom two quintiles of household income Australia-wide. Lower-income apartment residents are more likely to have been born overseas, live in lone-person households, be unemployed or not in the labour force, and be renting their homes than either higher-income apartment residents or households living in other dwelling types. However, lower-income apartment residents have a very diverse resident profile, and also include many people living in households with children (32% of lower-income high-density residents), owner-occupied households (31% of lower-income high-density residents), and Australian-born residents (44% born in Oceania).

There are identifiable submarkets of lower-income apartment residents in Sydney and Melbourne. In Sydney the five main submarkets are:

- international students and millennial renters
- older single public housing tenants
- working migrant families
- older homeowners
- Anglo-European migrants, suggestive of a backpacker or working holiday group.

In Melbourne the four main submarkets are:

- international students and millennials (both renters and owner-occupiers)
- migrant families in public housing
- lower-income workers in private housing
- retiree homeowners and public renters.

The apartment housing stock in Sydney and Melbourne has very different profiles. In Sydney, apartment housing is dispersed across the greater metropolitan area. Older apartment buildings are found not only in the inner ring areas of the lower North Shore and Eastern Suburbs, but also further north (the Northern Beaches), west (e.g. Fairfield) and south (e.g. Sutherland). In contrast, the apartment stock in Melbourne is much more concentrated around the central city area. The different lower-income apartment submarket groups can be found in different parts of Sydney and Melbourne. However, multiple lower-income apartment subgroups can often be found living in the same locations, alongside apartment residents on higher incomes. The diversity of apartment residents living in different areas of these cities is one of the challenges in effectively planning for and delivering these developments.

How well apartment developments provide for the wellbeing, community and affordability needs of lower-income residents

Apartment housing can bring both benefits and challenges to residents, at both the building and neighbourhood scales. Lower-income residents often have less choice and influence over the housing or location in which they live, and fewer resources available to respond to challenges that arise.

The wellbeing, community and affordability needs of lower-income apartment residents are influenced by:

- planning and infrastructure provision
- urban design
- building design and management
- neighbourhood amenities and facilities
- ongoing place management and community engagement.

The research findings highlight the central importance of public infrastructure for lower-income residents—especially open space, libraries and community centres. Support for 'soft' infrastructure, like community engagement programs and community-led activities, was also important. In the high-density areas studied, infrastructure outcomes were uneven, creating an equity issue where lower-income residents have different quality of life, even within the same local government area. An important reason for these uneven outcomes is the insufficiency and insecurity of current public infrastructure funding mechanisms. The reliance on developer contributions and voluntary agreements with developers is particularly problematic.

Similarly, mechanisms to ensure the availability of affordable housing are not delivering sufficient affordable rental housing stock, which is particularly evident in the Melbourne cases. This is likely to contribute to further gentrification and displacement as these areas are redeveloped in coming years. The same pressures have also resulted in commercial gentrification, restricting the availability of affordable, diverse and accessible retail services that are of real value to lower-income residents.

At the building scale, there is much room for further innovation in both the design and management of high-density buildings to improve quality of life for residents, including designing more useful shared spaces and clarifying shared responsibilities. While lower-income residents often live in buildings with few shared spaces, the shared facilities in higher-end buildings are often underutilised. Meanwhile, many public shared spaces in these neighbourhoods are at risk of overuse. These challenges point to the need for new design and management approaches to ensure the private and public shared spaces in high-density neighbourhoods complement each other effectively.

How changes to policy and practice can most effectively address the issues facing lower-income residents in high-density developments

The study provides evidence of the need for a suite of changes to current policy priorities to ensure our cities better meet the needs of lower-income residents. While many of the proposals in this report will improve apartment living for residents across the income spectrum, they will have the most significant impact on lower-income residents, who are disproportionately affected by the negative aspects of high-density living.

The suggestions range from relatively simple interventions to proposals requiring significant buy-in from both public and private sectors. In many cases, the need for the proposed changes in priorities will be familiar to the relevant policy makers, who will recognise that the real challenge comes in funding and implementation. However, these suggestions are offered in the

knowledge that a key step in the process of change is to shift priorities, which can in turn drive a change in resourcing.

The key policy development recommendations are as follows:

- The impact on lower-income residents should be a focal point for policy makers when reviewing development proposals and planning public infrastructure, as these residents are rarely specifically catered to by the private market.
- In particular, a focus on providing access to free or low-cost services and facilities–both in buildings and in the neighbourhood–is essential to support lower-income residents.
- Coordination across levels of government is essential, despite the complexity involved. Quality outcomes like the public spaces in Rhodes show what can be achieved when both levels of government are meaningfully engaged.
- Local Government Areas (LGAs) undergoing densification will need more funding to provide the necessary infrastructure to cater for all residents; developer contributions and voluntary agreements are too uncertain to ensure good results.
- Some key building-level issues can be addressed through policies designed to improve education on apartment living, including the costs and obligations involved, and to ensure that roles and responsibilities are agreed upon at an early stage.
- Design review processes–for both apartment buildings and public facilities–should prioritise flexibility. This includes enabling retrofitting in apartments and adaptation of public space over time, to reflect changing demographics.
- Planning that enables flexibility to meet the needs of future changes in apartment-resident profiles also needs to be a policy priority, including the needs of families with children, older people, pets and extended families—along with part-time visiting family members.

Adopting and adapting to the proposed policy priorities will involve additional costs, for both government and industry. But failure to address these issues will also bear a cost. As Australia fast becomes a nation of apartment dwellers, more urban residents will confront the challenges associated with high-density living in coming years. Failure to cater adequately for this shift—and failure to minimise the inequities faced by lower-income residents—will risk undermining the prosperity and social cohesion of our cities for years to come.

The study

The policy proposals offered in this report are supported by the research, which involved a mixed-methods study designed to provide a multifaceted perspective on who Australia's lower-income high-density residents are, how they live currently, and how the planning, design and management of apartments could be improved to better meet their needs. The project involved three research stages:

- **Stage 1** involved detailed quantitative analysis of the profiles of lower-income apartment residents at three scales, using Census data and strata title registration data. It provides a descriptive analysis of lower-income apartment households across Australia's major cities, a detailed analysis of the submarkets of lower-income apartment residents in Sydney and Melbourne, and a descriptive analysis of strata title buildings in which lower-income households live.
- **Stage 2** involved four case studies across Melbourne and Sydney to identify important issues facing lower-income apartment residents, and to understand how the design, delivery and management of apartment buildings and precincts affect this cohort. The case studies included interviews, focus groups, precinct design audits and document reviews.

- **Stage 3** involved workshops with experts and practitioners in Melbourne and Sydney to identify the best policy and practice approaches for improving wellbeing, community and affordability outcomes for lower-income apartment residents.

While the case studies and policy discussions focussed on Melbourne and Sydney, as the two Australian cities with the greatest amount of high-density development, the findings are relevant to high-density residents Australia-wide.

1 Introduction

- The number and proportion of Australians living in apartments is increasing, driven in part by government support for urban consolidation.
- A broad cross-section of people lives in apartments in Australia, but lower-income households are over-represented compared to other dwelling types.
- Lower-income households—defined as households in the bottom two quintiles of household income, earning less than $1,499 per week—are disproportionally affected by challenges associated with apartment living, yet most existing research does not consider the impact of living at high density for lower-income residents in particular.
- Experiences of apartment living are mediated by the quality and design of the built environment (both buildings and neighbourhoods), the nature and quality of local service provision and the demographic profiles and mix of apartment residents in an area.
- Underpinning the type of high-density development we see in Australian cities has been a policy orthodoxy that privileges the market-led delivery of housing and an associated reduction in the role of government in direct housing provision and housing management.
- Overall, policy interventions directed specifically at lower-income apartment residents have been limited. Most existing efforts have been driven by local governments, rather than at state or federal level.
- This research identifies the wellbeing, community and affordability needs of lower-income apartment residents, and points to ways in which those needs can be better supported through policy and practice.

1.1 Why this research was conducted

In Australia, 10 per cent of the population lives in an apartment (ABS 2017b). These figures are much higher in urban areas, with 85 per cent of apartment residents living in capital city regions (ABS 2017b). These include younger people, lone-person and couple households, renters, people born overseas and households on lower incomes (ABS 2016b; ABS 2017b; Easthope et al. 2018; Liu et al. 2018).

Successive state governments have promoted an urban consolidation agenda for Australia's major cities (Searle 2004), premised in large part on encouraging the development of apartment housing. The result has been a significant increase in the proportion of new attached dwellings[1] commencing construction and, in 2016, construction began on more attached than detached dwellings Australia-wide for the first time (Easthope et al. 2018).

[1] This includes all attached dwellings, including apartments and attached housing (e.g. townhouses).

The result is an increase in the number and proportion of residents living in apartments, a trend that is set to continue in the future. As we know that lower-income residents are over-represented in apartment dwellings, it is important to consider how the needs of lower-income households living in high-density dwellings (defined as buildings with four or more storeys) and precincts (local areas surrounding these buildings) can best be met. This consideration is the focus of our research.

The aim of our research is to improve wellbeing, community and housing affordability outcomes for lower-income apartment residents in Australia. To address this aim, the research answers three interrelated research questions:

- **RQ1:** Where do apartment residents on lower incomes live, what are their demographic characteristics, and what types of buildings and neighbourhoods do they live in?
- **RQ2:** How well do apartment developments provide for the wellbeing, community and affordability needs of the cohort identified in RQ1 at both the building and neighbourhood scale?
- **RQ3:** How could the delivery of apartment buildings and high-density neighbourhoods be improved through changes to policy and practice to better meet the needs of apartment residents on lower incomes?

This project builds upon research completed in 2017 that identified major challenges confronting lower-income and vulnerable apartment residents in Australia (Crommelin et al. 2017; Easthope et al. 2017; Troy et al. 2017). This research found that despite lower-income groups being disproportionally affected by the challenges of apartment living, most existing research does not consider the impact of living at density for lower-income residents in particular.

This research redresses this lack of knowledge by identifying how residents' wellbeing, community and affordability needs can be better supported through policy and practice. This is important because:

- planning policy in all major Australian cities supports densification (Bunker et al. 2017)
- lower-income residents are over-represented in apartment housing
- there is considerable dissatisfaction with apartment living in Australian cities (Kelly et al. 2011), with the problems associated with apartment living most keenly felt by lower-income groups (Troy et al. 2017).

RQ1 and RQ2 contextualise and investigate these issues, covering where lower-income apartment residents live, their demographic characteristics, and how well their wellbeing, community and affordability needs are met. RQ3 identifies opportunities to more satisfactorily meet these needs through changes in policy and practice.

After contextualising the issue within the wider Australian context in Chapter 3, this report then focuses on these issues in the cities of Sydney and Melbourne. These are the two largest cities in Australia by population and 70 per cent of all apartments in the country are in NSW and Victoria (ABS 2017b). Greater Sydney has the highest proportion of apartments of any city in the country at 28.1 per cent of all dwellings (ABS 2017a), while greater Melbourne has seen a rapid growth in apartment building, adding around one-third (30%) to the apartment stock over the 2012–2015 period (Shoory 2016). The two cities also provide an interesting comparison in terms of the location of apartment stock, with Sydney's apartments spread across the metropolitan area, while Melbourne's apartments are concentrated in the central city and inner suburbs (see Chapter 3; see also Shoory (2016).

1.2 Existing research

Previous research has demonstrated the breadth of apartment-resident profiles in Australia, and identified important apartment-resident submarkets, including those dominated by lower-income households. Australian and international research has also demonstrated the challenges associated with apartment living that most affect households on lower incomes.

1.2.1 Research on the characteristics of lower-income apartment residents

Previous research on high-density dwelling distribution and resident profiles in Australia has focussed on households across the income spectrum. Of particular note is Randolph and Tice's (2013) study of apartment-resident submarkets in the cities of Sydney and Melbourne. This work illustrated that there are distinctive differences in both the location and profile of apartment residents across these cities. Randolph and Tice (2013) identified five main submarkets of apartment residents across the two cities, which they named:

- 'economically engaged'
- 'battlers'
- 'achieving education'
- 'residentially retired'
- 'apartment elite'.

The 'battler' and 'achieving education' groups are of direct relevance to this study. The 'battler' group is characterised by families with children, who were engaged in lower-income occupations and had low household incomes, with a high proportion born overseas and a mixture of rental and owner-occupation. This group is found predominantly in the middle suburbs of Sydney and the outer suburbs of Melbourne. The 'achieving education' group is characterised by non-family households, young people (24 years and under), low household incomes, a high proportion born overseas and in private rental. This group is predominantly concentrated around tertiary education institutions in both cities.

This study is important in demonstrating that apartment residents are not a homogenous group, and other studies have also pointed to the importance of recognising the diversity of apartment residents in planning, designing and managing apartment housing in Australia. Woolcock et al. (2010) and Gleeson and Sipe (2006) both criticised child-blind approaches to planning that have accompanied the promotion of urban consolidation policy agendas, while Fincher (2004) notes developers have focussed on a narrative of 'empty nester' and 'young professional' households. Writing 15 years ago, Fincher (2004: 335) was critical of the planning implications of such narratives, arguing that:

> *The high-rise apartment buildings have been built, one by one, without urban planning acknowledging needs other than the extension of transport routes … Demand for foodstores, libraries, extra childcare places and so on will all have to be satisfied at a later date, when the city builders have long moved on from the buildings they sold as the playgrounds of fully-able, affluent couples.*

Easthope and Tice (2011) also demonstrated the importance of recognising different apartment submarkets when developing new apartment housing. Examining a site in the Sydney Olympic Park redevelopment, they identified how the new apartments quickly became home to large numbers of families with children, who had moved from surrounding areas already dominated by older apartment stock and 'battler' households. However, while this local residential shift might have been anticipated, the needs of this group were not properly considered in the development of the new precinct.

Families with children are not the only apartment dwellers whose needs have not been adequately considered. Other research has pointed to the relationship between migration and apartment living in Australia, with overseas-born people over-represented among apartment residents. Liu et al. (2018: 407) identify the implications of this for local social interaction and participation, and call for more consideration of 'the challenges and opportunities associated with culturally diverse high-density residential environments'.

Not only are apartment residents far from a homogenous group, but apartment-resident submarkets are also often contiguous (Randolph and Tice 2013). While particular submarkets might dominate in different parts of cities, it is also common to find apartment households representative of multiple submarkets living in close proximity (Randolph and Tice 2013). This can provide both benefits and challenges, which are discussed further in section 1.3.2.

This research extends on these previous studies by undertaking more detailed analysis of the household profiles of lower-income apartment residents in particular, including their demographic, building and neighbourhood characteristics. The results of this analysis are presented in Chapter 3.

1.2.2 Research on the wellbeing, community and affordability needs of lower-income apartment residents

Apartment housing can bring both benefits and challenges to residents, evident at both the building and neighbourhood scales. While many of these benefits and challenges affect residents of all types, lower-income residents often have less choice and influence over the type and location of housing in which they live, and therefore may be less 'competitive' in accessing locational advantages. Lower-income households also often have fewer resources available to respond to challenges and so are disproportionately affected by them (Easthope et al. 2017). Easthope and Judd (2010: 60-61) explain:

> *Good relations with neighbours and well-designed and constructed buildings have been shown to have positive influences on both the physical and mental health of residents, while poor social relations and poorly designed and constructed buildings can have devastating implications. For example, where social relations are poor, residents can experience isolation, stress, concerns regarding safety … The ability of residents to respond to these concerns differs according to their tenure (owner or tenant), their landlord (public, community or private), their management structure and their income … Tenants of private landlords, who are on low incomes, who have had highly mobile residential histories and are afraid of retaliatory rent increases, have much less power to address the problems that can arise when living in higher density than wealthy owners of apartments who live in buildings with other wealthy owners with similar desires and aspirations for their building and community.*

Many of the challenges and benefits of apartment living relate to the close physical proximity between residents and the need to share responsibility for building upkeep. When people live in close proximity and share services and spaces with their neighbours, this affords more potential for both neighbour annoyance, and incidental interaction (which might be either positive or negative) (Easthope et al. 2017). There is some evidence that neighbour disputes are more common in areas with concentrations of lower-income residents and in areas with higher concentrations of apartments in Australia (Cheshire and Fitzgerald 2015). While debate continues as to why this is, the evidence indicates that experiences of apartment living are mediated by a combination of the quality and design of the built environment (including the apartment buildings themselves and the surrounding neighbourhood), the nature and quality of service provision, and the demographic profiles of apartment residents in the area (Easthope and Judd 2010; Giles-Corti et al. 2012; Power 2015). These factors are interdependent—the

quality and design of the built environment can aid or hinder the development of positive neighbour relations and the provision of useful services (Randolph 2006; Reid 2015; Zhang and Lawson 2009) at the same time as positive social relationships can help to mitigate the effects of poor quality environments (MORI Social Research Institute 2003).

Quality and design of apartment developments

Building quality plays an important role in mediating the lived experience of apartment living. Building quality concerns can be divided into three main categories:

- design quality
- construction quality
- building maintenance.

A range of apartment design issues of particular concern to lower-income households was identified in research focussed on Sydney (Easthope et al. 2017). One of the issues raised was the importance of providing shared facilities in buildings and high-density neighbourhoods. In another study across Sydney and Melbourne, residents reported a stronger sense of community in buildings where open spaces were provided (Henderson-Wilson 2008).

Another important consideration is privacy and noise disturbance. Lower-income households have been found to experience noise problems more acutely (Ureta 2007). This is a concern because noise disturbances can negatively impact health, including exacerbating mental health problems and affecting development of children (Evans 2006), as well as increasing stress, sleep disturbance, tensions between neighbours and dwelling dissatisfaction (Easthope and Judd 2010). As well as concerns with privacy between units, privacy within the dwelling can also disproportionally affect lower-income households, especially as overcrowding is more likely for lower-income people (Easthope et al. 2017).

Other design issues raised in the research include solar access and cross-ventilation, to heat and cool the home naturally while reducing electricity costs (Chester 2014), as well as the importance of providing facilities for children and access for people with a physical disability. Adequate storage is also necessary (particularly for families with children and crowded households), and design features intended to increase security for lower-income households.

In addition to design quality, construction quality is a particular concern in the Australian apartment sector, with major concerns raised about the frequency and severity of construction defects in new apartment buildings (Easthope et al. 2012; Easthope et al. 2017; Johnston and Reid 2019). Lower-income households may be disproportionately influenced by building defects because of incentives to cut corners in the lower end of the construction market. In addition, private tenants have a harder time getting defects fixed, and owner-occupiers on lower incomes may find that the costs of legal action and/or defect rectification leave them unable to keep their property (Easthope et al. 2017: 10).

A major challenge is that the increasing complexity of construction methods goes hand in hand with fragmented responsibilities for decision-making across the design, construction, marketing and operational phases of a building's life cycle (Johnston and Reid 2013). Developers largely divest themselves of responsibility for a building once it has sold, having had little to no engagement with the residents. This creates two issues:

- Responsibility for ensuring good development outcomes is distributed among multiple stakeholders.
- Developers are incentivised to minimise costs rather than maximise design and build quality (Easthope and Randolph 2016).

The issue of minimising costs is exacerbated for lower-cost apartment developments where the majority of residents are renting and therefore have little capacity to shape outcomes through purchasing decisions.

As well as the quality of new buildings, ongoing maintenance of existing apartment buildings and units can be a concern across tenures, with particular concerns raised in public housing, private rental housing and in regards to the maintenance and management of strata-titled properties (Liu et al. 2019; Pawson et al. 2013).

At the neighbourhood scale, evidence suggests densification will have negative effects on health if it results in:

- loss of acoustic and visual privacy
- overshadowing
- insufficient access to green spaces
- road congestion (Giles-Corti et al. 2012).

Comprehensive precinct planning is needed to counter these and other potentially cumulative impacts of apartment development—especially as evidence shows the central importance of shared private and public spaces to apartment dwellers (Nethercote and Horne 2016).

Provision of services and infrastructure

The nature and provision of infrastructure and services is also centrally important to lower-income residents. Both the type of infrastructure and the timing of its provision are important. Crommelin et al. (2017: 9) note:

> *The failure to adequately respond to the increased demand on infrastructure and services created by higher-density development has been a weakness of Australian densification strategies to date.*

While densification has been promoted on the basis that it will bring improved efficiencies through more effective use of spare capacity in existing services and infrastructure (for example, (Property Council of Australia et al. 2016)—especially transport infrastructure—this is not always borne out (Gaigné et al. 2012). In many cases, such spare capacity does not exist (Searle 2004) and there is a need to deliver additional infrastructure to support compact city models. However, insufficient funding is available to many local councils to meet these needs (Allan et al. 2006; City of Stonnington 2003).

Concern has also been raised in the Australian context about planning approaches that require demand to be demonstrated before new infrastructure is approved (Bunker et al. 2017), resulting in a time lag while the infrastructure is planned, financed, approved and built. Crommelin et al. (2017: 9) explain that ‘lower income and vulnerable residents are likely to be particularly hard hit by this time-lag as they may be unable to afford alternative services in the interim (taxi rides, private child care etc.)’ or the required services may not be available at all. Similarly, the replacement of public with private services also disproportionally affects lower-income households (Saunders et al. 2007). Another concern is the possibility of ‘commercial gentrification’, when private services are replaced with ever more expensive options over time as the area gentrifies (Zukin et al. 2009).

This section has reviewed the evidence on where lower-income apartment residents live, and how well their buildings and neighbourhoods provide for their wellbeing, community and affordability needs. The next section considers the policy context within which any improvements to the delivery of apartment buildings and high-density neighbourhoods to improve the needs of residents on lower incomes would occur.

1.3 Policy context

To consider how changes to policy and practice can help to achieve the delivery of apartment buildings and high-density neighbourhoods that meet the needs of lower-income residents, it is important to understand the current policy context in which the delivery and management of high-density neighbourhoods has been realised. Underpinning the type of high-density development we see in Australian cities today has been a policy orthodoxy that privileges the market-led delivery of housing, and an associated reduction in the role of government in direct housing provision and housing management (Gleeson and Low 2000; Milligan and Pinnegar 2010; Troy et al. 2017).

1.3.1 Policy orthodoxy: the political economy of the compact city

To briefly summarise the prevailing policy orthodoxy driving the development of Australia's compact cities, this approach to high-density housing delivery involves:

- a reduction in the role of government in direct housing provision and housing management
- streamlining of planning regulation to facilitate and encourage private housing development, particularly high-density infill development in urban renewal precincts
- the delivery of housing ultimately being reliant on demonstrating project feasibility, which is in turn reliant on sufficient return on investment being achieved, after infrastructure costs.

This policy orthodoxy is not unique to Australia, but has been strongly embraced by governments of both political persuasions. As Troy et al. (2020) argue:

> *Government and markets have long worked in complex and often complementary ways to facilitate development and investment in urban space, and attempts to steward desired market activities through the application of strategic planning frameworks are thus nothing new (Gleeson 2012). However, the extent to which planning leads the market—or vice versa—can fluctuate significantly. As various scholars have argued, in the context of the Australian city, market-led neoliberal logic has often found a particularly willing partner in contemporary strategic planning efforts. For example, Bunker et al. (2017: 396) document a number of ways in which Sydney's strategic and regulatory planning frameworks are indicative of a 'political economy of the compact city [that reflects] the broad influence of neoliberalism'. Similarly, in contemplating the densification and vertical sprawl of central Melbourne—Sydney's rival in the pursuit of Australia's global city crown—Gleeson laments that 'planning has largely been reduced to rezoning to allow redevelopment' (2018: 201). These trends also reflect similar scenarios in the UK, whereby 'planners have to work with market processes and often find that they have to facilitate and promote market-led development' (Rydin 2013: 40), a reflection of the 'market-supportive planning' approach that has come to dominate spatial policy thinking in comparable countries since the 1980s (Allmendinger 2016).*

Similarly, Nethercote (2019: 3409) emphasises that while the large majority of Australian high-density housing is now delivered by private market entities, this outcome is not a result of policy *failure*, but the result of deliberate policy choices designed to enable and encourage the market to take the lead in housing provision. This important observation corrects:

> *the prevailing view echoed by stakeholders that the state has 'given up' or 'given over' to the market, providing developers with free-reign to build skywards as they please. On the contrary, both federal and state governments are shown to intentionally and actively stimulate Melbourne's high-rise production through policy levers and regulatory incentives mobilised across planning, foreign investment, immigration and tax domains.*

1.3.2 Policy orthodoxy in practice

In practice, this prevailing neoliberal orthodoxy has translated into a suite of policy positions:

- A reduction in the provision of new social housing, resulting in increasing social housing waiting lists and a concentration of lower-income households in private rental housing (Australian Institute of Health and Welfare 2016; Martin et al. 2018).
- Efforts to cut 'red tape' in the planning system, reducing the time and complexity involved in gaining planning approval, at least in part by reducing the capacity of local communities and local government to reject planning applications (Ruming 2011; Ruming and Gurran 2014), and using state significant planning powers to bypass or override local-level planning controls (Williams and Williams 2014).
- Increasing reliance on negotiated arrangements to fund infrastructure in redevelopment areas, in which developers agree to provide new infrastructure in return for density uplifts (Taylor 2015).
- Promotion of tenure mix in the redevelopment of ageing public housing estates, in part as a strategy to facilitate market-led high-density redevelopment, with the cost of providing lower-income and public housing underwritten by the profits made on market-rate housing (Bijen and Piracha 2017; van den Nouwelant and Randolph 2016). Limited uptake of mandatory requirements to provide a proportion of affordable housing in new developments—for example, inclusionary zoning (Gilbert and Gurran 2018; Gurran et al. 2018).
- Privatisation of planning certification, to facilitate faster sign-off of developments (Shergold and Weir 2018), and a reduction in the period within which apartment owners can claim on statutory warranties for defective building work (Cooper and Brown 2014).
- In Melbourne prior to 2016, a lack of minimum standards for apartment design (Foster et al. 2020; Keck et al. 2014). This allowed the development of what former Lord Mayor Robert Doyle labelled 'dogboxes in the sky' (Lenaghan 2016), including 'micro apartments' and bedrooms with no windows.[2]

The question is: how do these policy choices influence the lived experience of lower-income residents in high-density areas? Arguably, to the extent these policy approaches are directed towards addressing the needs of lower-income residents, they do so in two main ways:

1. Seeking to improve housing affordability by increasing supply. While this has been a prevailing strategy and justification for facilitating densification (Morrison 2016), academic research has demonstrated that multiple other factors also shape affordability outcomes, including tax and financing settings (Gurran and Phibbs 2015; Gurran et al. 2016; Phillips and Joseph 2017). As such, there is no guarantee that increasing supply alone will improve housing affordability, particularly for those on lower incomes.

[2] While the issue of design quality for apartments first raised its head as a policy debate in Sydney, in the aftermath of the spate of development that occurred in the lead up to the 2000 Olympic Games (Troy 2018), concern over design quality of apartments has recently been more pronounced in Melbourne. In the early 2000s, policy reform in NSW was achieved in the form of State Environmental Planning Policy 65 (SEPP65)—a state planning policy that required developers to meet minimum design standards (NSW Government 2002). This rare example of proactive policy-making is now considered an industry benchmark (DEWLP 2015; Foster et al. 2020; Mould 2011). In Victoria, the Better Apartment Design Standards now apply to all apartment developments (Victorian Government 2016).

2 Seeking to provide improved living experiences and opportunities for lower-income residents through the redevelopment of public housing into mixed-tenure precincts. The effectiveness of this policy strategy is at best unclear (Pawson et al. 2012). While the academic literature is generally in agreement that concentrations of disadvantage have negative effects (Tach et al. 2014), these negative effects have been attributed to a range of factors, including social/behavioural attributes of residents (Arthurson 2010), inadequacies of services and amenities (Galster and Friedrichs 2015) and stigma (Atkinson 2008), and the precise causes of these negative effects are still under debate (see Pawson et al. (2015) Galster and Friedrichs (2015). Meanwhile, evidence suggests that tenure-mixing across an urban area will not necessarily result in meaningful mixing (Jupp 1999). Recent reviews suggest an argument can be made for promoting tenure-mixing overall, on equity grounds (Galster and Friedrichs 2015). Ultimately, however, 'the benefits of mixed tenure strategies depend significantly on how the neighbourhoods are designed, developed and eventually managed' (Crommelin et al. 2017: 5).

1.3.3 The current 'state of play'

Overall, policy interventions directed specifically at lower-income residents have been limited. As Hulse et al. (2019: 10) note in their overview of the current policy landscape, 'policy settings for lower income private renter households have changed relatively little since 1996'. Recent research has also noted the insufficient housing policy attention given to lower-income residents in both younger (Parkinson et al. 2019) and older (Ong et al. 2019) cohorts. (See also Appendix 2 for a list of key literature on policy issues relating to lower-income residents in high density.)

Much of the current momentum towards improving housing affordability, liveability and service provision for lower-income residents is being driven at the local level, rather than by state or federal governments. Both the City of Sydney and the City of Melbourne have been proactive in developing affordable housing policies (see van den Nouwelant et al. (2016), as well as an increasing number of other urban local government areas (LGAs; (AHURI 2020). Some local governments have also used policy levers—including voluntary planning agreements or VPAs—to provide affordable housing, although the effectiveness of this approach has been mixed (Gurran et al. 2018). While these efforts are valuable, relying on local government to deliver affordable housing is unlikely to produce either an adequate or an equitable result. LGAs in general have limited resources available to undertake this work, and there are significant differences across LGAs in both the demand for affordable housing, and the resources available to the LGA to deliver on that demand. The same is true regarding the resources available to local governments to provide local services, and to monitor and enforce the quality of new developments. A more holistic approach is required to ensure sufficient suitable and affordable housing is delivered, in the locations where the community needs it most, alongside appropriate service provision.

To this end, it is clear that much more could be done, particularly at the state government level. At the same time, there is an important role for local government to play in supporting state-led initiatives on the ground, and contributing to the planning and management of the infrastructure and services required to support new housing development. This research is designed to identify the best opportunities for action across the entirety of this policy landscape, and to ensure the particular needs of lower-income residents are adequately identified and addressed.

1.4 Summary

Apartment living is becoming increasingly common in Australia. While a broad cross-section of the population lives in apartments, some demographic groups are over-represented, including lower-income households, people born overseas and private renters.

Experiences of apartment living are mediated by:

- the quality and design of the built environment, which includes both buildings and neighbourhoods
- the nature and quality of local service provision
- the demographic profiles and mix of apartment residents in any given area.

While lower-income households are disproportionally affected by challenges associated with apartment living, most existing research does not consider the impact of living at density for lower-income residents in particular. Policy interventions directed specifically at lower-income apartment residents in Australia have also been limited. Those that do exist have tended to be driven by local governments, who are often working with limited resources. Underpinning the type of high-density development we see in Australian cities has been a policy orthodoxy that privileges the market-led delivery of housing and an associated reduction in the role of government in direct housing provision and housing management.

Within this context, this research provides evidence of how residential density, building design, urban planning, and urban infrastructure and service provision impact on liveability and affordability for lower-income apartment residents. By collecting and disseminating new knowledge about the challenges these residents face, the research better positions stakeholders to plan for apartment development that supports the wellbeing, community and affordability needs of lower-income apartment residents, and maximises social, housing and urban benefits.

2 Research methods

- The research was undertaken in three stages, corresponding to each of the three research questions.
- Stage 1 involved detailed quantitative analysis of the profiles of lower-income apartment residents, at three scales: a descriptive analysis of lower-income apartment households across Australia's major cities; a detailed analysis of the submarkets of lower-income apartment residents in Sydney and Melbourne; and an analysis of strata title buildings in which lower-income households live.
- Stage 2 involved four case studies across Melbourne and Sydney to identify important issues facing lower-income apartment residents, and to understand how the design, delivery and management of apartment buildings and precincts affect this cohort. The case studies included interviews, focus groups, precinct design audits and document reviews.
- Stage 3 involved workshops with experts and practitioners in Melbourne and Sydney to identify the best policy and practice approaches for improving wellbeing, community and affordability outcomes for lower-income apartment residents.
- Together, the mixed-methods research design provides a multifaceted perspective on who Australia's lower-income high-density residents are, how they live currently, and how we could improve the planning, design and management of apartments to better meet their needs.

The research was undertaken in three stages aligned with the three research questions:

- **Stage 1—Integrated data analysis:** Responding to RQ1, we undertook a detailed analysis of Census data, coupled with analysis of the strata title databases in Victoria and NSW.
- **Stage 2—Case studies:** Responding to RQ2, we selected two case-study locations in each city and interviewed key stakeholders involved in the design, delivery and management of apartment buildings and local neighbourhoods, as well as groups working with and representing residents. We also conducted focus groups and interviews with 20 residents in total. In parallel, we assessed the accessibility and quality of key infrastructure and services related to resident wellbeing, community and affordability outcomes. Field research was supplemented by a review of available academic, policy and other 'grey' literature on resident outcomes.
- **Stage 3—Workshop discussions:** Responding to RQ3, we hosted workshops in Sydney and Melbourne to consider the best policy and practice approaches for improving wellbeing, community and affordability outcomes. These participatory workshops brought together experts and practitioners with diverse knowledge, backgrounds and experience. During the workshops, key unmet needs were discussed and a range of possible policy interventions developed.

Table 1 provides a summary of the research questions, data sources and methodology. The scope of the research was delimited by geography, resident profile and building type. The research focuses on:

- greater metropolitan Sydney and Melbourne
- apartment residents in the lower two quintiles of household income by household type
- apartment neighbourhoods containing residents meeting this profile across all tenures.

The integrated data analysis reports on the demographic profiles of all apartment households across Australia's major cities, before a more in-depth analysis of lower-income apartment-resident submarkets across Melbourne and Sydney. The case studies and workshop discussions focussed on issues relating to apartment buildings of four or more storeys, and neighbourhoods characterised by such buildings.

Table 1: Research questions, data sources and methodology

Research question	Data sources	Methodology (including data sources)
RQ1: Where do apartment residents on lower incomes live, what are their demographic characteristics, and what types of buildings and neighbourhoods do they live in?	• ABS Census data 2016 mesh block, LGA and state-level • Consistently defined measures of household type, tenure, age, country of birth, language spoken at home and household income (by quintiles by household type) for residents of flats, units and apartments (all tenures) • Land titles databases for strata-titled properties for Victoria and NSW • Consistently defined measures of age of buildings and number of units	• Descriptive analysis and principal component analysis of ABS Census data • Descriptive analysis of ABS Census data coupled with land titles data
RQ2: How well do recent apartment developments provide for the wellbeing, community and affordability needs of the cohort identified in RQ1 at both the building and neighbourhood scale?	• Document analysis (including planning documents, housing targets, design guides and media) • Interviews • Local government data on location of services • Focus groups • Media articles	• Descriptive analysis of documents • Thematic analysis of stakeholder interviews • Infrastructure and services audit • Thematic analysis of resident focus groups • Review of content of media articles
RQ3: How could the delivery of apartment buildings and high-density neighbourhoods be improved through changes to policy and practice to better meet the needs of apartment residents on lower incomes?	• Expert opinion and analysis identified through key stakeholder workshops	• Thematic analysis of workshop outcomes • Identification and reporting of specific recommendations

Source: authors

2.1 Data analysis

This stage involved analysis of the demographic characteristics of residents living in high density, and the characteristics of the buildings they live in. High density in this analysis was defined to include buildings of four or more storeys. Buildings of four or more storeys were chosen because the Census differentiates between apartments in a four or more storey block, as does the Building Code of Australia, and because buildings of four or more storeys are exempt from the requirement for home owners warranty insurance (NSW Government 2014).

The first stage of analysis provided a summary of the demographic characteristics of apartment residents in Australia from 2016 Census data, including household type, tenure, age, country of birth, language spoken at home, household income (by income quintiles by household type) and household wealth. This provided a national picture of apartment residents and the proportion of apartment households in the lowest two quintiles of household income. The quintiles were disaggregated by household type to ensure lower-income families are included.

The second stage of analysis provided a more detailed description of the demographic characteristics of apartment residents in greater Sydney and Melbourne from 2016 Census data to LGA level. This included a principal component analysis of the most common submarkets for lower-income apartment residents, and their locations. This analysis provides new information on the areas of Sydney and Melbourne where lower-income apartment residents live, and their demographic characteristics.

The third stage of analysis focussed on the apartment buildings themselves across greater metropolitan Sydney and Melbourne. This included a description of apartment properties based on 2016 Census data, including building type and tenure, built up from mesh block level data, overlaid with information from the land title databases for strata schemes in Victoria and NSW. This analysis provides information on the age of buildings and the number of units in each building and enabled us to assess the size and age of the apartment stock across the two cities. This data was then cross-referenced with the data collected in the previous stage to provide information about the size and age of properties in LGAs with high concentrations of lower-income apartment residents.

Further detail on the methods employed for the data analysis is provided in Chapter 3.

2.2 Case studies

The results of the data analysis informed the choice of case-study locations, with two locations selected for each city (more details on case-study selection are provided in section 4.1). The case studies chosen for Sydney are:

- Upper Strathfield, Canada Bay LGA (4 SA1s, 227 lower-income dwellings)[3]
- Rhodes West, Canada Bay LGA (4 SA1s, 833 lower-income dwellings).

The case studies chosen for Melbourne are:

- Carlton North, City of Melbourne LGA (5 SA1s, 528 lower-income dwellings)
- South Carlton, City of Melbourne LGA (6 SA1s, 914 lower-income dwellings).

[3] An SA1 is a 'Statistical Area Level 1'—generally the smallest geographical area identified in ABS Census datasets. For more see https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1270.0.55.001~July%202016~Main%20Features~Statistical%20Area%20Level%201%20(SA1)~10013

In each case-study area, we undertook an audit of the accessibility and quality of key infrastructure and services, a document review, stakeholder interviews, and focus groups or interviews with residents.

The audit tool was adapted from a similar tool developed recently by Freestone et al. (2019). Place audits were undertaken in all four case-study areas, including observations during both day and night, an assessment of local services and facilities, and basic morphological analysis.

The document review of relevant planning policies across all four case-study sites focussed on information about the characteristics of apartment buildings housing lower-income residents and how they are delivered, including design and delivery issues and examples of best practice. The documents reviewed included all available planning documents relating to the precincts from the period prior to redevelopment through to the current plans and including both statutory and non-statutory, state and local-level plans. Also included in the analysis were:

- infrastructure contributions plans
- masterplans produced by private consultants
- council minutes and agendas
- development application registers from councils
- land ownership registers
- media documents
- NSW parliamentary papers
- local environment court rulings.

Fourteen interviews were conducted with key experts. The expertise of interviewees is identified in Table 2. Appropriate interviewees were identified through the document review, as well as through initial conversations with local government officers.

Table 2: Interview data sources in Melbourne and Sydney

Stakeholder expertise	Melbourne	Sydney
State government	2	1*
Local government	1	3*
Community group representative		3
Community centre manager	1	1
Strata manager	2	
Developer	1	
Architect	1	
Planning consultant		1*
Residents	7	13^

** Includes three interviews from previous research incorporated into analysis for this research.*
^ Includes three participants in a resident focus group.

The interviews focussed on how well apartment developments have provided for the needs of lower-income residents and how the process of delivering buildings and neighbourhoods unfolded or is unfolding in practice. Interviewees involved in developing, designing or approving apartment buildings were asked to what extent the wellbeing of future residents shapes developments and the impacts of subsequent constraints and negotiations on resident wellbeing. Interviews also discusses the local neighbourhood, including the accessibility and quality of local services and infrastructure. The interviews were transcribed and thematically analysed using open, axial and selective coding utilising NVivo software and following the approach employed by Braun and Clarke (2006). The themes for the coding were developed a priori, based on our review of the academic literature.

During the case-study research, it proved very difficult to recruit interviewees in the Upper Strathfield case-study area. It is possible that this is in part because of the controversy surrounding the precinct, but also because of the time that has elapsed since any new building has occurred in the area. To address this, the research team undertook a systematic review of media articles pertaining to the Strathfield Triangle precinct—of which there are many—within the Upper Strathfield case-study area. We were also able to access transcripts from three interviews previously undertaken by two members of the research team (Crommelin and Troy) for another research project in 2016, which refer to development in the Strathfield Triangle precinct. The ethics approval and participant consent obtained for that project allow for us to reference these interviews in the final report for this project. These interviews were also thematically analysed and reference to them included in this report.

To gain insights into the case-study areas from residents, interviews and focus groups were conducted involving a total of seven local residents in Melbourne and 13 local residents in Sydney (see Table 2). Attempts were made to run focus groups with lower-income residents in all four areas, but this proved unfeasible in three areas because of challenges in finding a convenient time for enough people to attend. Interviews offered residents more flexibility with the timing of their involvement, and thus made their participation in the project viable.

A focus group with lower-income residents was held in one of the Sydney case studies (Upper Strathfield) with three participants, one of whom participated in Chinese with the assistance of an interpreter provided by UNSW. In the second Sydney case-study location (Rhodes West), an opportunity arose to undertake short (10-minute) interviews with 10 residents at a community event as an alternative. In Melbourne, in-depth resident interviews were undertaken with lower-income residents in the two case-study areas (five interviews in Carlton North and two in South Carlton). The focus groups and interviews with residents focussed on what residents most liked and disliked about their local area, as well as discussion of their experiences and expectations of apartment living at the dwelling and neighbourhood scales. The interviews and focus group data were recorded, transcribed and thematically analysed.

2.3 Policy workshops

The third stage of the research methodology involved two policy workshops: one in Sydney (held on 17 October 2019) and one in Melbourne (held on 19 October 2019). The aim of these workshops was to address *RQ3: How could the delivery of apartment buildings and high-density neighbourhoods be improved through changes to policy and practice to better meet the needs of apartment residents on lower incomes?* Table 3 shows the attendees at the two workshops.

Table 3: Policy workshop attendees

Sydney workshop	Melbourne workshop
State government architect/planner	State government planner
State government architect/planner	State government planner
Local government planner	Local government planner
Local government place manager	Local community centre manager
Strata manager	Strata manager
Development manager for a private development company	Architect experienced with high-density development

Source: authors

Both workshops ran for a little over three hours, and included an overview of the research and preliminary findings, followed by an extended discussion with workshop participants. Recordings of the discussions were made, and used to flesh out detailed notes taken by a researcher. The discussion was framed around five 'tension points' that had emerged from the field research. These tension points spoke to key challenges for practitioners trying to improve the quality of life of residents in the case-study areas. For Sydney, the tension points were:

- private building responsibilities / public domain responsibilities
- development phase / operational phase
- infrastructure planning and delivery / infrastructure funding models
- local / state government responsibilities
- current community needs / future community needs.

For Melbourne, the tension points were:

- private building / public domain interface
- development phase / operational phase
- infrastructure needs / infrastructure provision and access
- urban transformation / gentrification
- current housing needs / future housing needs.

In the discussion, participants were asked to focus specifically on how the tension point might best be solved or ameliorated through changes to either policy or practice. At the end of the discussion, participants were asked to choose a top priority for action for each tension point. These priorities were collated and grouped thematically (where similarities existed).

2.4 Summary

The research methods were designed to respond specifically to each of the research questions.

Data analysis including descriptive statistics and principal components analysis was undertaken in response to *RQ1: Where do apartment residents on lower incomes live, what are their demographic characteristics, and what types of buildings and neighbourhoods do they live in?* The results of this analysis are presented in Chapter 3.

Case-study research was employed in response to *RQ2: How well do apartment developments provide for the wellbeing, community and affordability needs of the cohort identified in RQ1 at both the building and neighbourhood scale?* The results of this analysis are presented in Chapter 4.

Workshops with key experts were used to respond to *RQ 3: How could the delivery of apartment buildings and high-density neighbourhoods be improved through changes to policy and practice to better meet the needs of apartment residents on lower incomes?* The results of this analysis are presented in Chapter 5.

Together, the mixed-methods research design provides a multifaceted perspective on who Australia's lower-income high-density residents are, how they live currently, and what could be done to improve the planning, design and management of apartments to better meet their needs.

3 Lower-income households in apartments

- High-density housing is predominantly located in Australia's two largest cities, Sydney and Melbourne, and accounts for 70.5 per cent of dwellings over four storeys.
- Lower-income households are over-represented in high-density housing compared to all other housing types across Australia as a whole.
- Lower-income households in high-density housing are typically younger and more ethnically diverse compared to other high-density households.
- Family households with children are the largest household type of lower-income households in Sydney.
- Private renters are the largest group of lower-income residents living in high-density apartments, at a rate more than double the Australian average.
- The rate of overcrowding in lower-income high-density households is more than double the rate for Australian households as a whole.

3.1 Introduction

This chapter broadly aims to address RQ1, to understand where apartment residents on lower incomes live, what their demographic characteristics are, and what types of buildings and neighbourhoods they live in. This analysis, which draws on data from the 2016 Census, informs the selection of case studies for subsequent parts of the research.

The first part provides a descriptive overview of lower-income households across Australia's major cities, while the second part builds on the methodology developed in Randolph and Tice (2013) and Randolph et al. (2018) and implements a Principle Component Analysis (see 3.3) to generate different lower-income household typologies in Sydney and Melbourne. The final section profiles the building stock itself, based on strata title registrations in the NSW and Victoria property ownership database.

3.2 Apartment residents at Census

This section focuses on profiling lower-income residents of apartments. To extract variables from the Census, an income threshold needs to be set to reflect high and lower incomes. Typically, in housing research, a 40th percentile income is used to delineate lower-income households, with housing stress tests measured against these households only (e.g. Gabriel et al. (2005). Households earning incomes greater than the 40th percentile are thought to be able to exercise more discretion in both their spending and housing choices after satisfying other basic needs, such as food and clothing. Some other measures of housing stress use equivalised incomes to reflect different earning capacity and expenditure requirements of different households. However, as is acceptable practice within housing research in Australia, a total income figure has been used (Gabriel et al. 2005). For this research, we have used the same threshold across the country to show the relative differences in household and income composition across each of the Australia cities. As discussed later, ABS Census income bands mean that the 40th percentile household falls within the same band across most cities.

Similarly, there is no standard definition of what constitutes high-density housing as opposed to medium-density housing. This research project focuses on 'high-density' housing, which is defined as buildings of four or more storeys. Table 4 shows the distribution of high-density dwellings across Australia's capital cities. Around half are located in Greater Sydney, which has two times more than Melbourne. Together, over 70 per cent of Australia's high-density dwellings are found in these two cities. The decision to focus on case studies in Sydney and Melbourne in this research reflects the scale of the difference in the size of these high-density markets compared with the rest of the country.

Table 4: High-density dwellings by capital city, 2016

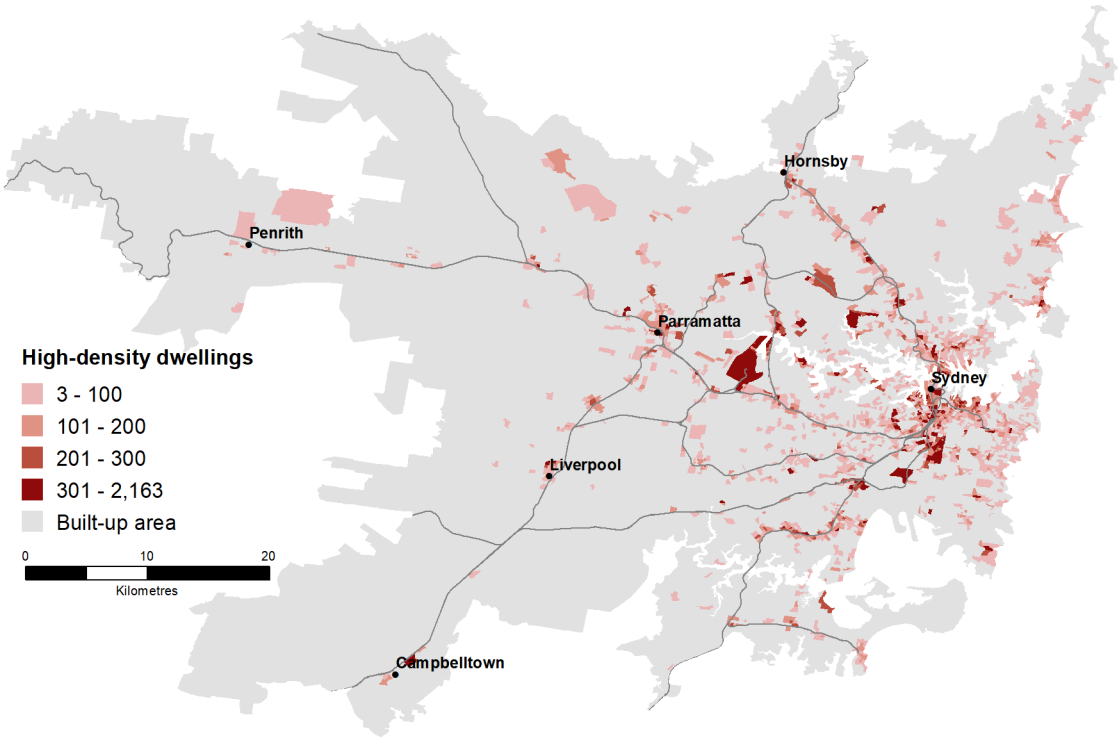
	High-density dwellings	% of Aus total
Greater Sydney	254,878	47.7%
Greater Melbourne	121,803	22.8%
Greater Brisbane	44,350	8.3%
Greater Perth	25,536	4.8%
Australian Capital Territory	12,005	2.2%
Greater Adelaide	7,801	1.5%
Greater Darwin	6,217	1.2%
Greater Hobart	883	0.2%
All non-capital city areas	60,462	11.3%
Australia	533,935	100%

Source: ABS (2016a)

Figure 1 and Figure 2 show the broad geographic distribution of apartments by SA1 across Sydney and Melbourne.[4] What is evident from these maps is the overwhelming concentration of high-density dwellings in central Melbourne and adjacent areas. By contrast, while there is undoubtedly a concentration in areas adjacent to the Sydney CBD, high-density dwellings can be found in substantial numbers right across the metropolitan area, in neighbourhoods with both higher and lower socio-economic profiles. This geographic spread means there may be distinct sets of issues for lower-income households who live in apartments in otherwise high amenity areas, as compared to lower-income households in more disadvantaged locations.

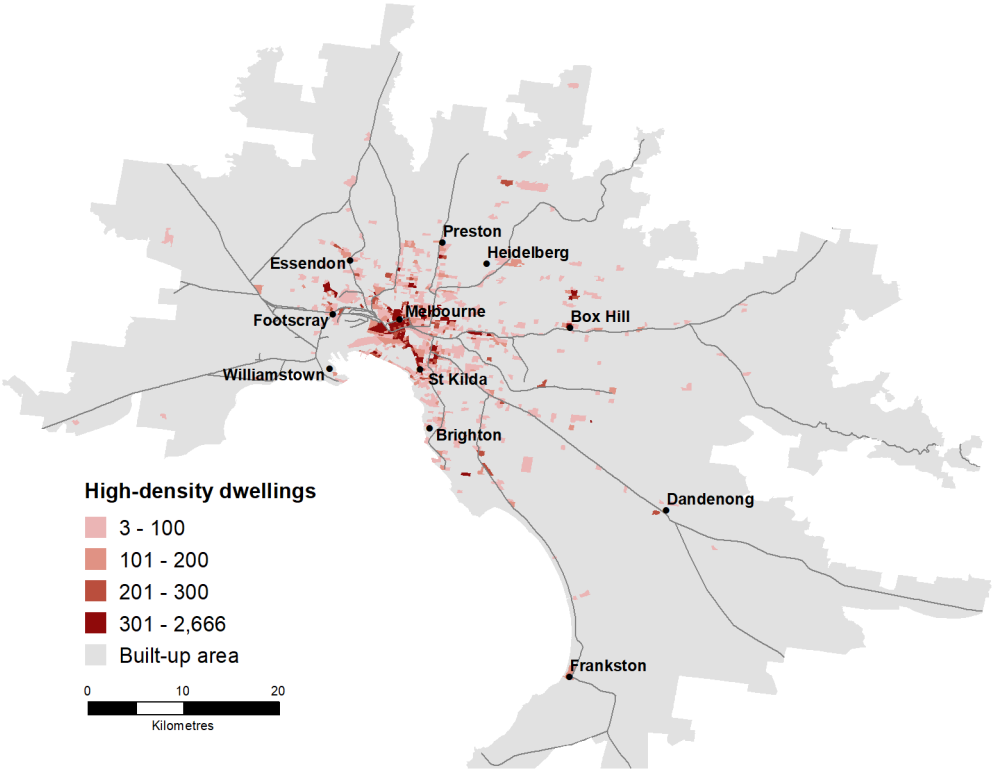
[4] An SA1 is a 'Statistical Area Level 1'—generally the smallest geographical area identified in ABS Census datasets. For more see https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1270.0.55.001~July%202016~Main%20Features~Statistical%20Area%20Level%201%20(SA1)~10013

Figure 1: Distribution of high-density dwellings across Sydney, by SA1



Source: authors, ABS (2016a)

Figure 2: Distribution of high-density dwellings across Melbourne by SA1



Source: authors, ABS (2016a)

3.2.1 Income and housing outcomes

The ABS classifies incomes in bands, making it impossible to find the exact 40th percentile income. In addition, income distributions vary across capital cities. For this research, lower-income households have been defined as those with a maximum household income of $1,499 per week. Table 5 shows the distribution of household incomes of persons living in high density for each capital city and for Australia. It is notable that the 40th percentile is different for each of the cities, which partly reflects the relative differences in wages across those cities, as well as the relative concentration of lower-income households in high-density dwellings. For example, only 35 per cent of households in Sydney earn under $1,499 per week, while in Hobart 64 per cent of households earn under this amount. Nonetheless, this household income threshold of $1,499 per week will be used from here onwards to delineate lower-income households from other households which, based on Australia-wide figures, sits at around the 40th income percentile.

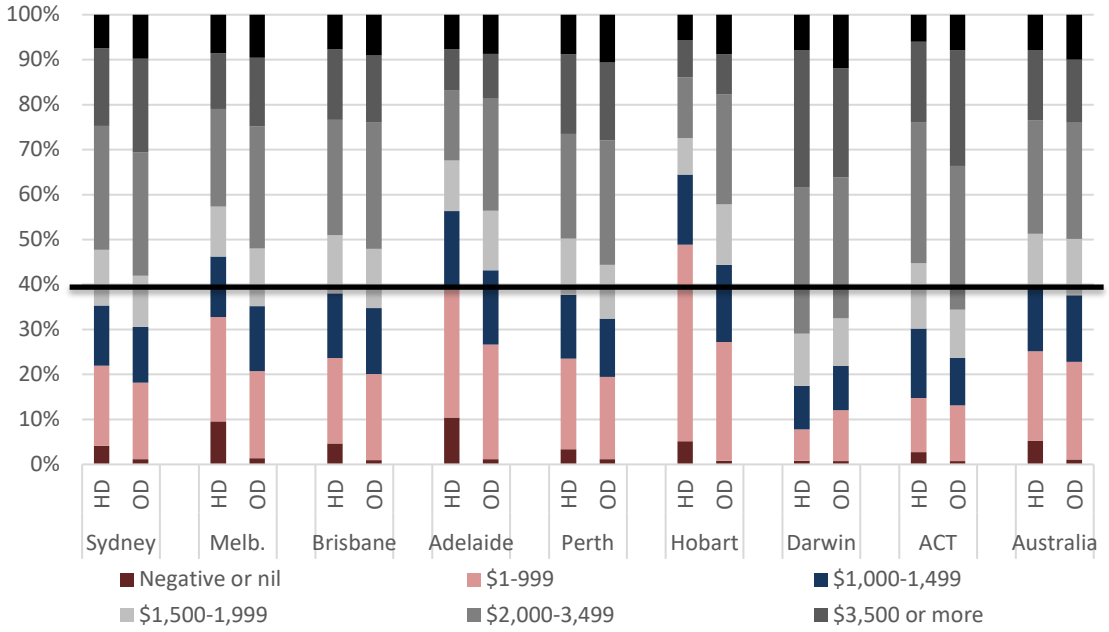
Figure 3 shows the distribution of household incomes for high-density dwellings compared with all other dwelling types across capital cities. Except for Darwin, incomes are generally lower in high-density households.

Table 5: Cumulative distribution of household incomes of persons in high-density dwellings for each capital city, 2016

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	ACT	Australia
Negative or nil	4%	10%	5%	10%	3%	5%	1%	3%	5%
$1-999	22%	33%	24%	39%	24%	49%	8%	15%	25%
$1,000–1,499	**35%**	**46%**	**38%**	**56%**	**38%**	**64%**	**17%**	**30%**	**39%**
$1,500–1,999	48%	57%	51%	68%	50%	73%	29%	45%	51%
$2,000–3,499	75%	79%	77%	83%	73%	86%	62%	76%	77%
$3,500 or more	93%	91%	92%	92%	91%	94%	92%	94%	92%
Not or only partially stated	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: ABS (2016b)

Figure 3: Household income distribution of persons in high-density and all other dwellings, 2016



Source: ABS (2016a)

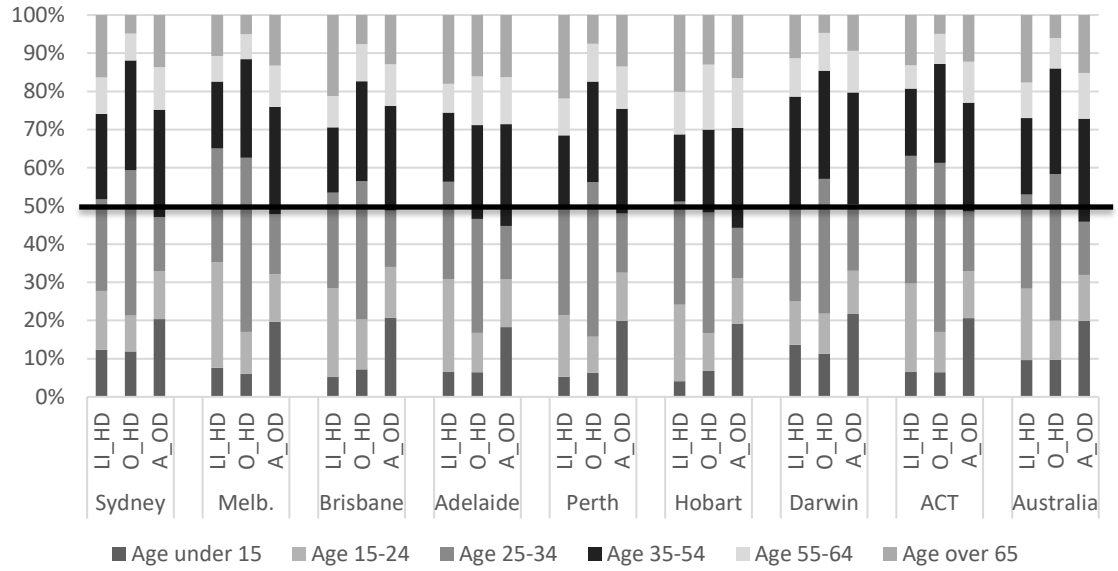
3.2.2 Household profiles

In the following analysis, three analytical categories have been used, reflecting both income- and dwelling-density thresholds:

- **LI_HD:** Lower Income in High Density
- **O_HD:** Other households in High Density
- **A_OD:** All households in Other Dwellings

Figure 4 shows the age distribution broken down by household type across the capital cities. In aggregate, both LI_HD and O_HD households are younger than the A_OD households. This is despite there being much higher rates of people under the age of 15 living in other dwelling types. The 15–24 and 25–34 age categories together comprise over 40 per cent of all lower-income residents in high density, a pattern that is reflected across all capital cities.

Figure 4: Comparison of age distribution of lower-income apartment residents, 2016

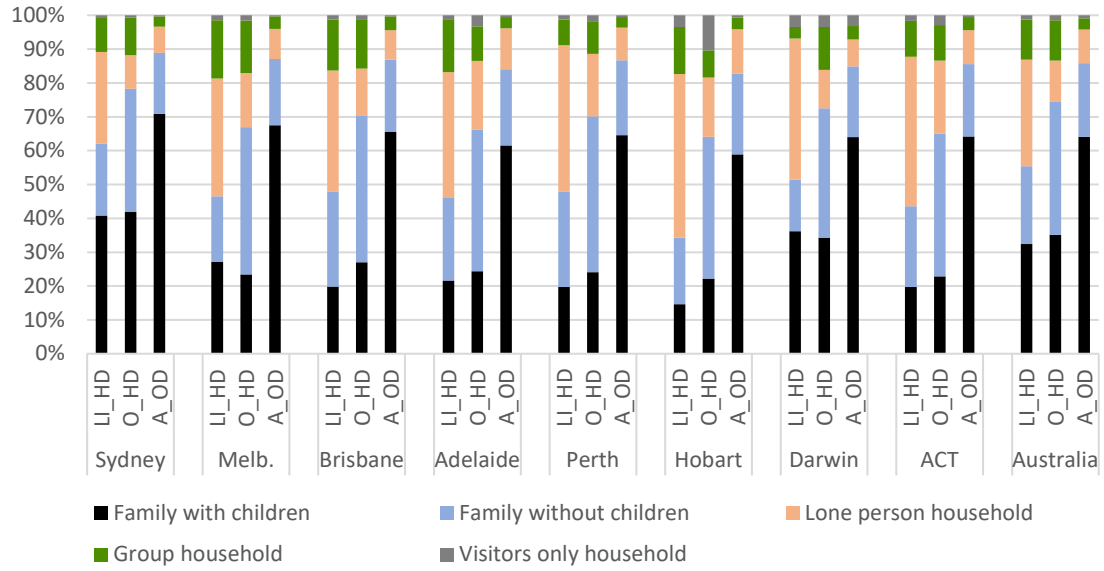


Source: ABS (2016a)

Figure 5 compares household types across the three dwelling categories. In all cities except Sydney, the single-person households are the largest group within lower-income high-density households. This can partly be explained by single-person households only having one income, which means they are likely to be over-represented in the lower-income grouping. The exception to this pattern is Sydney with households with children (41%) being the largest household type. Darwin also has a high rate of households with children (36%) compared with other cities, though it is the second largest grouping in that city. In these two cities there is little difference between lower-income households in high density and all other households in high density, although they are lower than other dwelling types as a proportion of the total. Across all cities, with the exception of Hobart, family households account for at least one in five low-income households in high density.

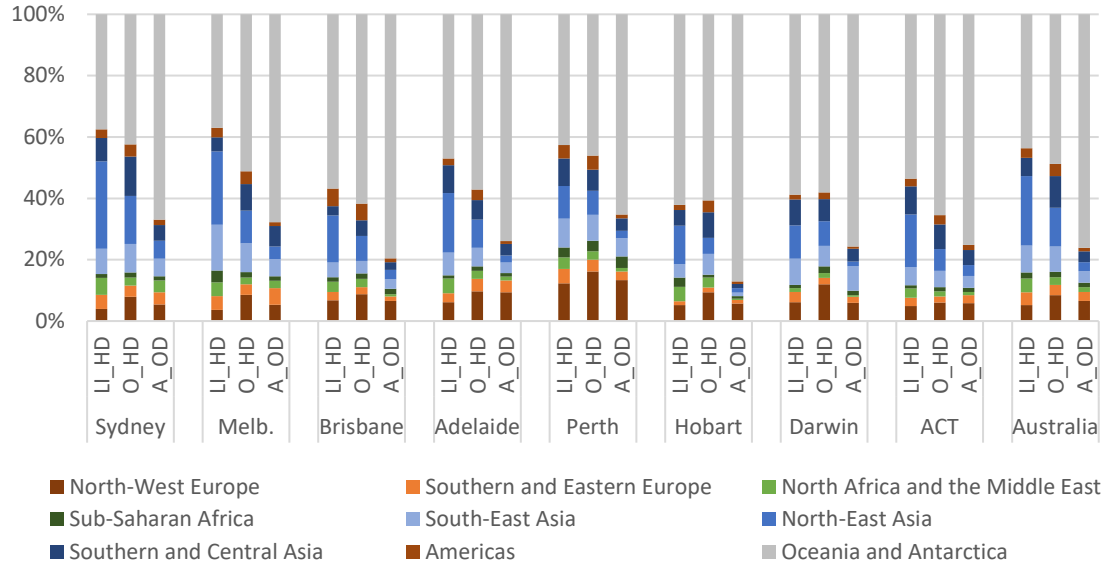
Figure 6 shows that across all cities, high-density-dwelling occupants are more ethnically diverse compared with other dwelling categories. This is most accentuated in Sydney and Melbourne, with overseas-born people accounting for 63 per cent of all lower-income high-density occupants. By comparison, 67 per cent of Australia- or New Zealand-born residents live in other dwelling types.

Figure 5: Comparison of family household composition, counting persons, 2016



Source: ABS (2016a)

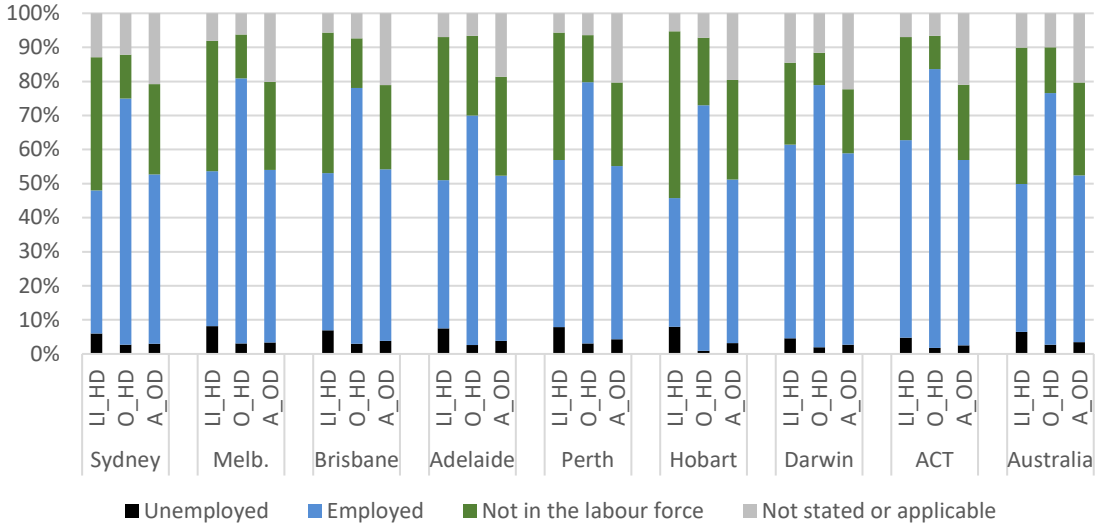
Figure 6: Comparison of country of birth, counting persons, 2016



Source: ABS (2016a)

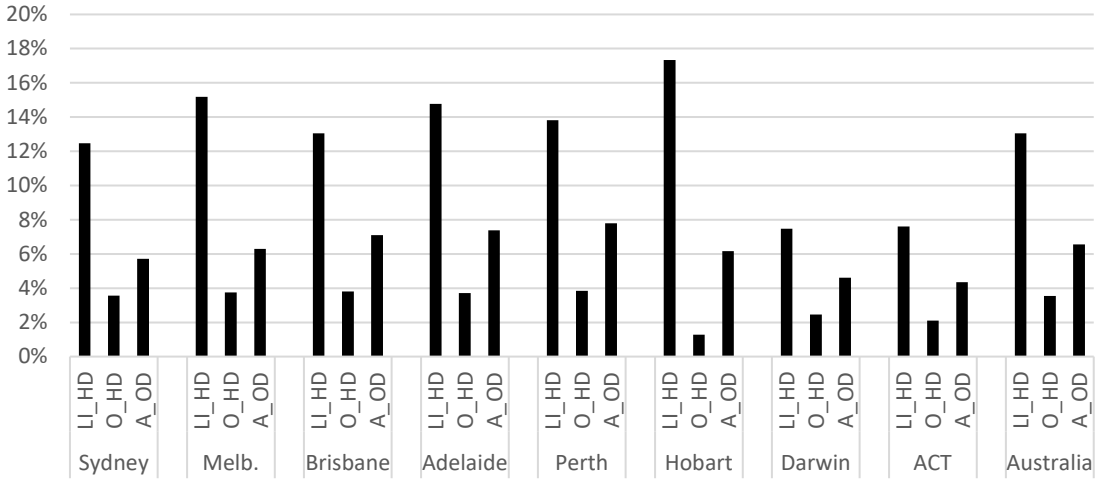
Figure 7 shows labour force status across the three dwelling categories, while Figure 8 shows the unemployment rates by dwelling categories. Lower-income high-density households have similar numbers of employed people as other dwelling categories in each city. However, lower-income high-density households also have a larger number of unemployed people, and much larger numbers of people not in the labour force. This translates to significantly higher unemployment rates among the lower-income high-density households compared with the other two categories. This is partially unsurprising given the low household-income status, but highlights the importance of this research, given the high number of high-density households with lower incomes (either as unemployed or not in the labour force) who are likely to spend a greater share of their time in their dwelling or surrounding areas.

Figure 7: Comparison of labour force status, counting persons, 2016



Source: ABS (2016a)

Figure 8: Comparison of unemployment rates, counting persons, 2016

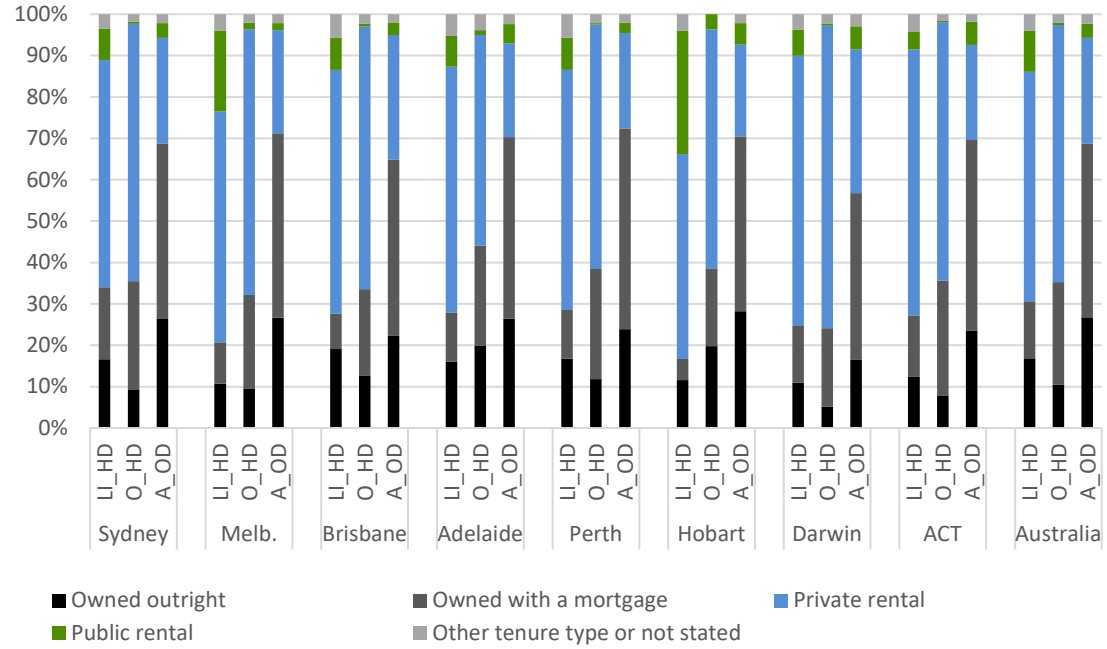


Source: ABS (2016a)

Figure 9 shows the dwelling tenure across the three household categories, with far higher rates of private rental in high-density households generally. The main difference in tenure among the lower-income households across the different cities is due to the variable rates of public rental housing within high density. Melbourne and Hobart have 20 per cent and 30 per cent of their lower-income high-density households in public rental, while all other cities have rates of less than 10 per cent.

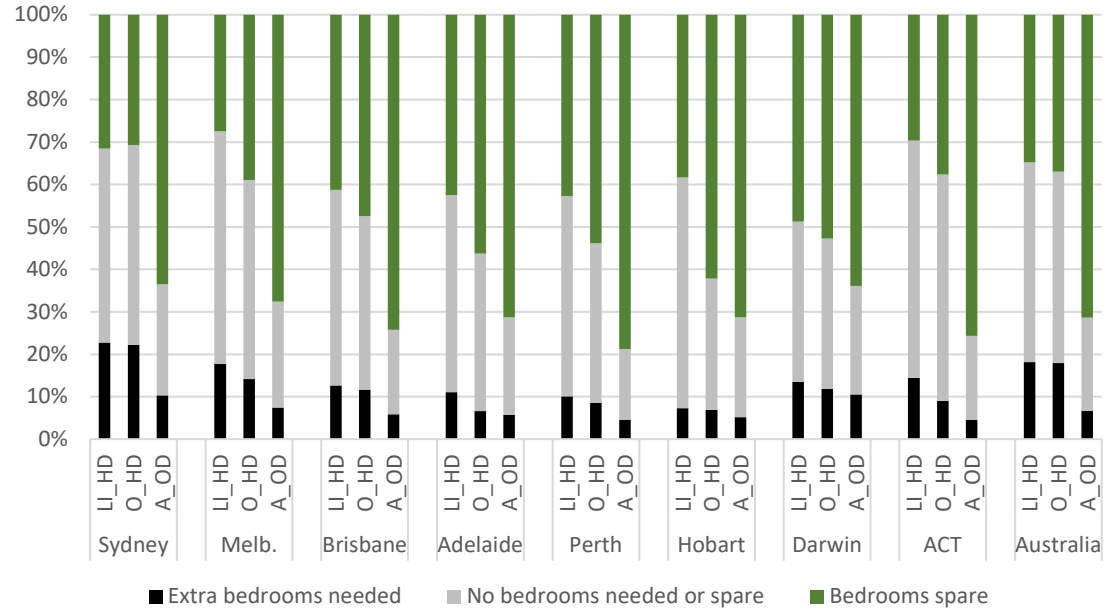
Finally, Figure 10 compares household suitability in terms of the number of spare bedrooms. These figures have been derived from ABS Census tables on household suitability (see ABS (2016a) for methodology), which list households according to whether they have spare bedrooms or require extra rooms. Unsurprisingly, given the relative differences in dwelling size between high-density housing and other housing forms, the rate at which extra bedrooms are needed is more than double that of other dwelling types. Sydney again stands out with 23 per cent of lower-income high-density households in need of additional bedrooms.

Figure 9: Comparison of dwelling tenure, counting persons, 2016



Source: ABS (2016a)

Figure 10: Comparison of household suitability, counting persons, 2016



Source: ABS (2016a)

3.3 Understanding lower-income housing submarkets

Each table in section 3.2.2 illustrates component characteristics of high-density housing, and how lower-income households are represented.

This section combines a range of Census-based variables on lower-income high-density households using a cluster analysis technique called principal component analysis (PCA) to understand how different socio-economic characteristics of households assemble across

different parts of the city. A PCA is a multivariate statistical method that seeks to explain the variance in a set of uncorrelated variables (Manly and Alberto 2016). The output is to produce a set of components, each representing different sets of variables that have the most explanatory value. Therefore the aim of this analysis is to identify different statistical clusters of lower-income high-density households, and which sets of socio-economic variables associate in each grouping.

The focus of this section is on Sydney and Melbourne, which together account for 75 per cent of all high-density apartment stock across Australia. The methodology builds on an analysis developed in Randolph and Tice (2013) and Randolph et al. (2018), which examined the geography of apartment submarkets across these two cities. This analysis differs, as it only applies to lower-income households. Table 6 shows the list of 36 Census variables used in the principal component analysis. Each variable was filtered to included counts of only those people or households who live in high-density dwellings (four or more storeys) and who live in households with incomes up to $1,499 per week.

Table 6: List of variables used in principal component analysis

- Age 15–24
- Age 25–34
- Age 35–54
- Age 55–64
- Age over 65
- Oceania and Antarctica born
- North-West Europe born
- Southern and Eastern Europe born
- North Africa and Middle East born
- South-East Asia born
- North-East Asia born
- Southern and Central Asia born
- Americas born
- Sub-Saharan Africa born
- Full-time employed
- Part-time employed
- Unemployed
- Not in the labour force
- Family households with children
- Family households without children
- Lone-person households
- Group households
- Weekly income below A$400
- Weekly income A$400–799
- Weekly income A$800–1499
- Service, administrative and sales occupations
- Machine operators and labourer occupations
- Managers, professionals and technician occupations
- Additional bedrooms required
- No bedroom needed or spare
- Spare bedrooms
- Owned outright
- Owned with a mortgage
- Privately renting
- Public housing
- Tertiary students

Note: The 'Aged under 15 years' variable was removed from the analysis, as it is strongly correlated with the prevalence of families with children.

Source: authors

The PCA was run separately for Sydney and Melbourne, based on ABS SA1 geographies, and each produced a different set of variable clusters.[5] The outputs for each city are outlined in section 3.3.1 (Sydney) and section 3.3.2 (Melbourne).

3.3.1 Sydney

In total, five components were identified in Sydney. Table 7 shows the rotation sums of squared loadings and variance explained by each component for Sydney, with cumulated total of 81.7

[5] For both Sydney and Melbourne, a minimum eigenvalue of 1 was used to determine the number of components, which were then subject to a varimax rotation to produce a component matrix.

per cent of the variance in the dataset explained by the five components. Table 8 shows the component loadings for each of the factors.

Table 7: Total variance explained for Sydney PCA (rotation sums of squared loadings)

Component	Total	% of variance	Cumulative %
1	13.227	36.742	36.742
2	5.576	15.488	52.230
3	5.414	15.039	67.269
4	3.249	9.026	76.295
5	1.963	5.452	81.747

Source: authors

Table 8: Rotated component matrix with varimax rotation of five component socio-economic variables for Sydney

	Component				
Variables	1	2	3	4	5
Age 15–24	**.944**				
Tertiary students	**.925**				
Group households	**.916**				
North-East Asia born	**.869**			.308	
Additional bedrooms required	**.856**		.361		
Age 25–34	**.843**		.400		
Part-time employed	**.843**				
Privately renting	**.796**		.505		
Service, administrative and sales occupations	**.786**		.358		
Managers, professionals and technician occupations	**.751**		.327	.397	
Unemployed	**.747**		.418		
Weekly income A$800–1499	**.739**		.514	.373	
South-East Asia born	**.726**				
Family households without children	**.726**			.451	
No bedroom needed or spare	**.702**	.321	.452		
Full-time employed	**.663**		.492	.379	
Owned with a mortgage	**.648**		.438	.443	

Variables	Component				
	1	2	3	4	5
Weekly income A$400–799	**.588**	.563	.422		
Public housing		**.908**			
Age over 65		**.802**		.456	
Southern and Eastern Europe born		**.714**			
Weekly income below A$400	.623	**.712**			
Lone-person households	.387	**.691**			.423
Not in the labour force	.612	**.673**			
Age 55–64		**.660**	.366	.353	
Spare bedrooms		**.604**	.338	.541	
Oceania and Antarctica born		**.513**	.473	.469	.325
Family households with children	.467		**.770**		
Southern and Central Asia born			**.722**		
Age 35–54	.499	.340	**.657**		
North Africa and the Middle East born			**.655**		
Machine operators and labourer occupations	.530		**.623**		
Sub-Saharan Africa born			**.394**		
Owned outright				**.809**	
Americas born	.308				**.740**
North-West Europe born		.322		.314	**.702**

Note: Major loadings for each factor are in bold; where a variable loaded strongly (0.3 or higher) onto more than one variable, the highest loading was associated with that component.

Source: authors

Based on the five components identified above, lower-income households living in high density in Sydney can be characterised as follows.

Component 1: International students and millennial renters

This group is strongly characterised by younger people aged 15–34, who are students and living in group households. The component loads highly on people who were born in North-East Asia or South-East Asia, with incomes in the upper end of the lower-income spectrum. Renter households with additional bedrooms needed or no bedrooms spare also loaded strongly into this component, while a variety of employment statuses displayed, included being employed and unemployed, commensurate with the student status of many households. Overall this component suggests a clustering of millennial renters, who are likely to be international students.

Component 2: Older single public housing tenants

This component loaded highly on public housing tenants who were 55 years and older, with many not in the labour force, suggesting retirement status of the over 65s. Residents were often lone-person households and had at least one spare bedroom. Households with incomes of less than $799 per week were a strong feature, which again is indicative of households living on aged pensions (or equivalent).

Component 3: Working migrant families

Component 3 displays high multicultural qualities, with people born in Southern and Central Asia, North Africa and the Middle East, and Sub-Saharan Africa, as well as Australian-born residents. Households displayed a mix of renters and owners with a mortgage and working in full-time employment. Ages ranged from 25 to 64, while this component loaded most strongly on family households with children.

Component 4: Older homeowners

This component was the only one to load strongly onto outright homeowners, with aged 55 and over being an important variable. Full-time employment was also a feature across a range of employment types. The component is mixed and does include some family households with children; however, overall it denotes an older demographic either in or nearing retirement living in private housing as homeowners.

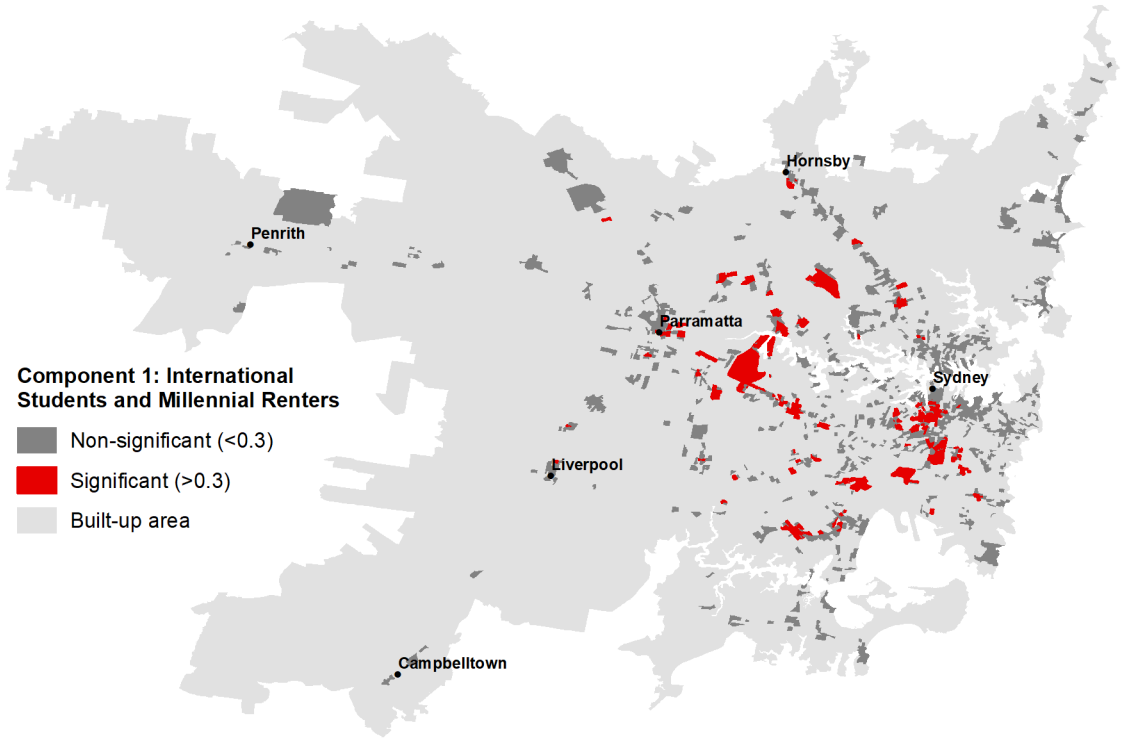
Component 5: Anglo-European migrants

Few variables loaded into this component—however, the strongest were American or North-West European born, while lone-person households were the only other significant variable. This component is suggestive of a /working holiday grouping. However, there is no specific age cohort that loads strongly onto this component. This is further explored spatially below and aligns with amenity landscapes in the Sydney region. However, only 5.4 per cent of the variance in the dataset is explained by this component, so it accounts for a fairly small part of the overall picture of lower-income households in high density.

The spatial distribution of each of the components across the Sydney region is illustrated in Figure 11 to Figure 15. Components are shown as statistically significant by SA1 if the component score for each SA1 is above 0.3. This highlights areas that are statistically significant in terms of each of the components. Those with lower or negative scores are shown in grey, suggesting no statistical significance for that component. In other words, areas shown in red in Figure 11 reflect areas that are represented by concentrations of international students and millennial renters. Areas of dark grey show SA1s of lower-income households in higher density but are not statistically significant in representing these particular cohorts.

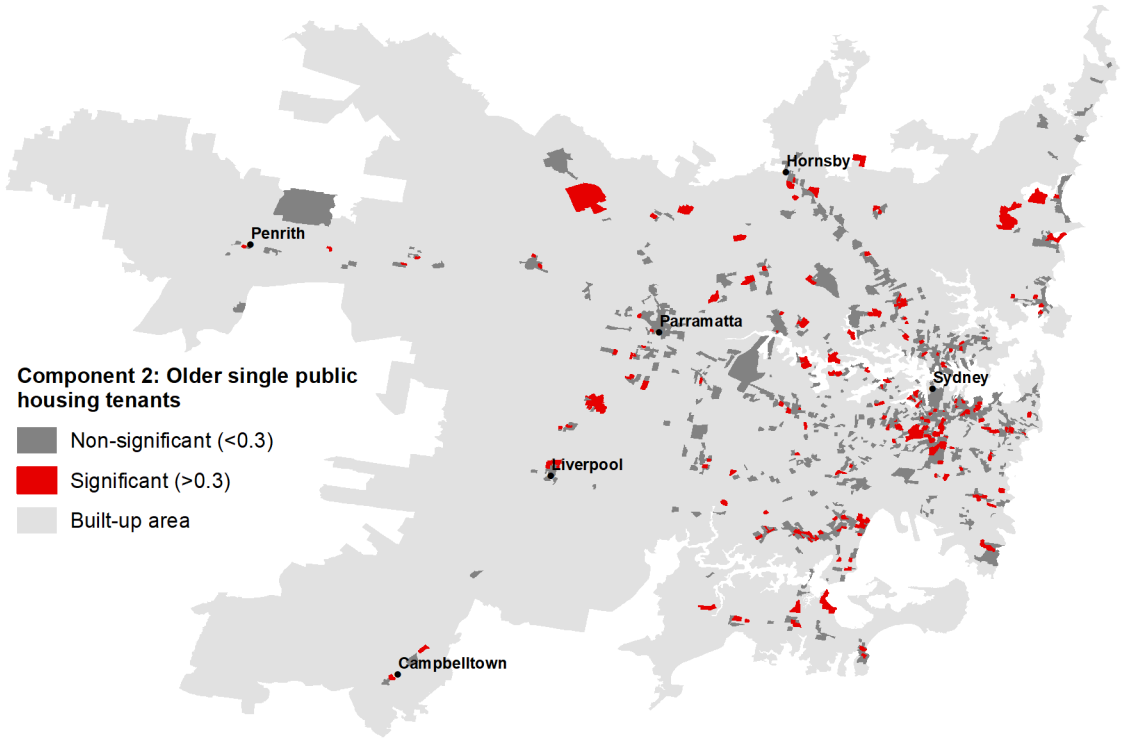
Figure 11 shows that areas of newer apartment developments in southern Sydney (Green Square and Mascot) as well as Wentworth Point and Rhodes Peninsula show concentrations of international students and younger renters. Figure 12 shows locations represented by older renters in public housing. These locations align with areas of significant concentrations of public housing and—given the overall profile of public housing tenants, which skews to older single-person households—explains the prevalent demographic profile. Figure 13 shows concentrations of working migrant families, which broadly aligns with Sydney's lower-value private older high-density housing stock. Figure 14 shows concentrations of older homeowners and clusters along the harbour and Northern Beaches and Sutherland areas. Figure 15 picks up concentrations of Anglo-European migrants and aligns with inner-city and coastal lifestyle areas.

Figure 11: Distribution of Component 1 for Sydney by SA1



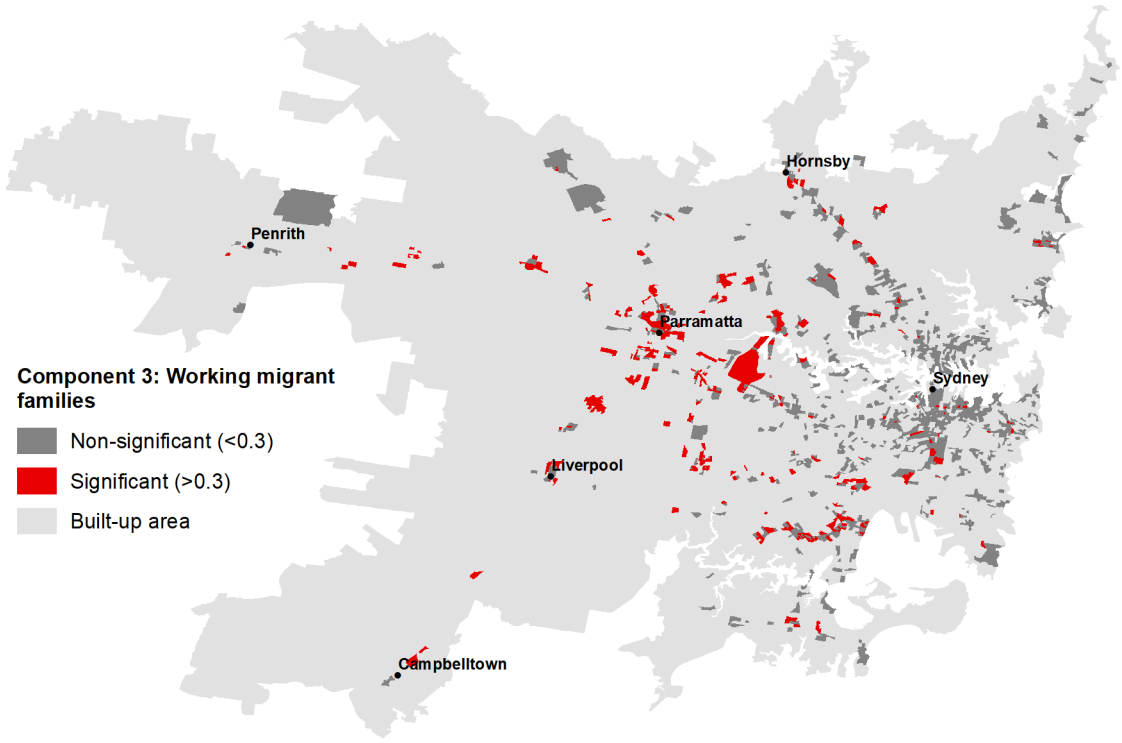
Source: authors

Figure 12: Distribution of Component 2 for Sydney by SA1



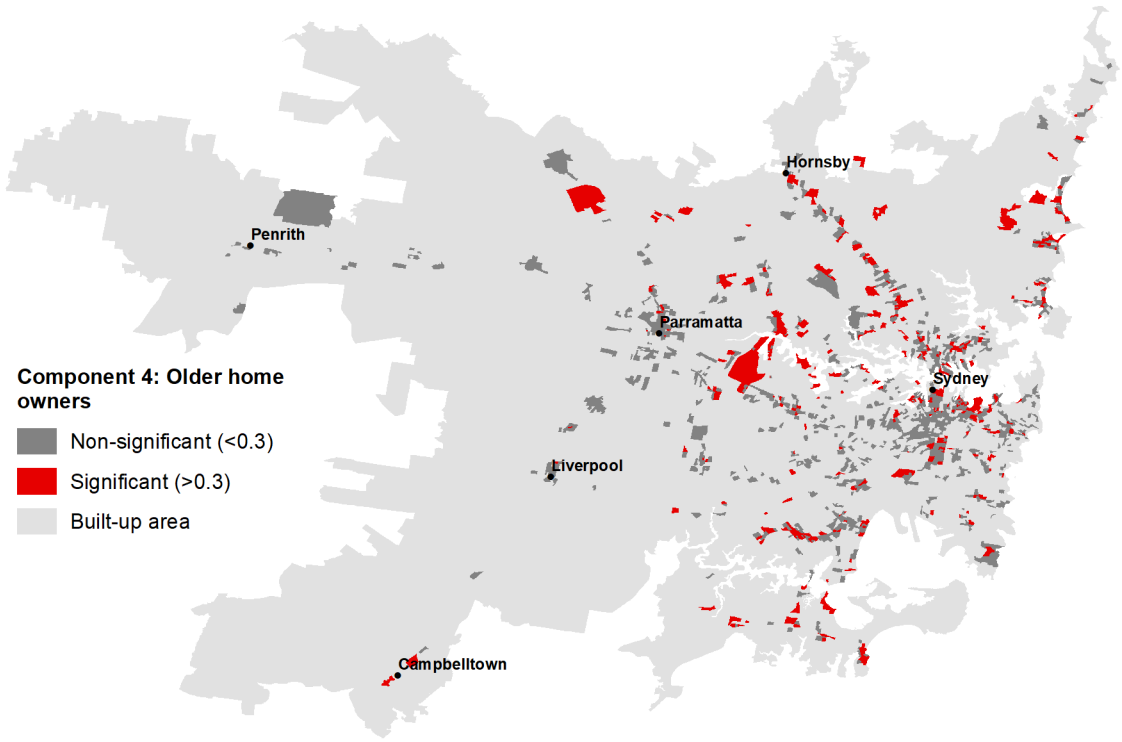
Source: authors

Figure 13: Distribution of Component 3 for Sydney by SA1



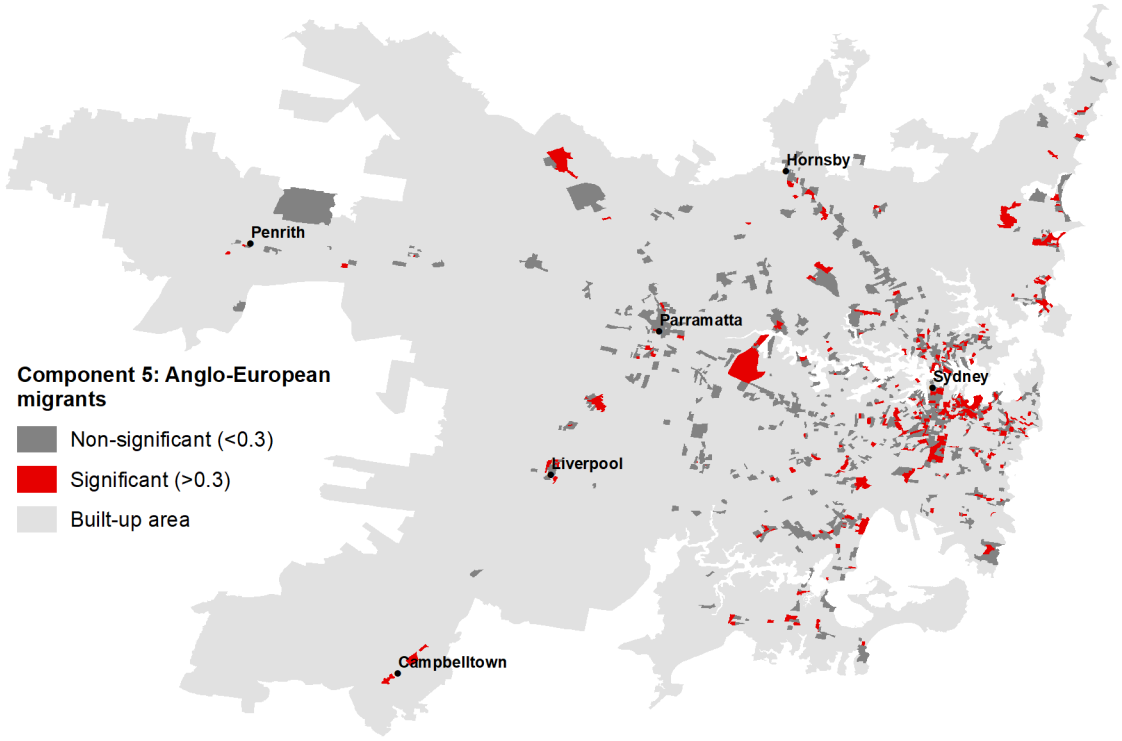
Source: authors

Figure 14: Distribution of Component 4 for Sydney by SA1



Source: authors

Figure 15: Distribution of Component 5 for Sydney by SA1



Source: authors

3.3.2 Melbourne

A total of four components were identified in the Melbourne dataset based on a minimum eigenvalue of 1. Table 9 shows a rotation sums of square loadings and variance explained by each of the components. In total, 87.1 per cent of the variance in the dataset could be explained by four components. Table 10 shows the component loadings for each of the factors.

Table 9: Total variance explained for Melbourne PCA (rotation sums of squared loadings)

Component	Total	% of variance	Cumulative %
1	14.514	40.316	40.316
2	6.605	18.348	58.664
3	6.587	18.299	76.963
4	3.653	10.148	87.111

Source: authors

Table 10: Rotated component matrix with varimax rotation of five component socio-economic variables for Melbourne

Variables	Component			
	1	2	3	4
Group households	**.949**			
Age 15–24	**.947**			
Tertiary students	**.930**			
North-East Asia born	**.926**			
South-East Asia born	**.850**	.319		
Privately renting	**.829**		.538	
Part-time employed	**.824**		.489	
Additional bedrooms required	**.806**	.452		
Unemployed	**.781**	.424	.350	
Weekly income below A$400	**.766**	.471		.359
Age 25–34	**.760**		.597	
Not in the labour force	**.745**	.453		.450
No bedroom needed or spare	**.743**	.373	.425	
Service, administrative and sales occupations	**.722**		.622	
Weekly income A$800–1499	**.719**		.608	
Family households without children	**.715**		.570	
Owned with a mortgage	**.714**		.565	
Machine operators and labourer occupations	**.678**	.523	.331	
Weekly income A$400–799	**.630**	.617		.356
Owned outright	**.597**		.433	.341
Lone-person households	**.591**		.557	.402
Spare bedrooms	**.474**	.454	.402	.466
Southern and Central Asia born	**.428**		.415	
Sub-Saharan Africa born		**.901**		
Family households with children	.312	**.874**		
Public housing		**.861**		.427
North Africa and the Middle East born		**.755**	.305	
Age 35–54	.323	**.727**	.424	.323
Oceania and Antarctica born		**.611**	.572	.412

Variables	Component			
	1	2	3	4
Full-time employed	.528		**.805**	
Managers, professionals and technician occupations	.655		**.721**	
North-West Europe born			**.670**	.462
Americas born	.536		**.599**	
Age over 65		.309		**.878**
Southern and Eastern Europe born				**.719**
Age 55–64		.581		**.662**

Note: Major loadings for each factor are in bold; where a variable loaded strongly (0.3 or higher) onto more than one variable, the highest loading was associated with that component.

Source: authors

Based on the four components identified above, lower-income households living in high density in Melbourne can be characterised as follows.

Component 1: International students and millennials

This component loads strongly with a range of variables that partly reflects the concentrated geography of high-density development in Melbourne compared with Sydney. However, like Sydney, this group is strongly characterised by younger people aged 15–34, who are students and living in group households. The component loads highly onto people who were born in North-East Asia or South-East Asia, with incomes across the lower-income spectrum. The component also picks up employed people who are both renters and homeowners. Overall, this suggests a clustering of international students, combined with millennials either purchasing or renting.

Component 2: Migrant families in public housing

The second component loaded strongly onto people who were born in Africa and the Middle East, as well as Australia. Family households with children in public housing were also significant features of this component. There were also a number of other variables with significant though weaker loadings in Component 2, including unemployed and incomes below $400 per week.

Component 3: Lower-income workers in private housing

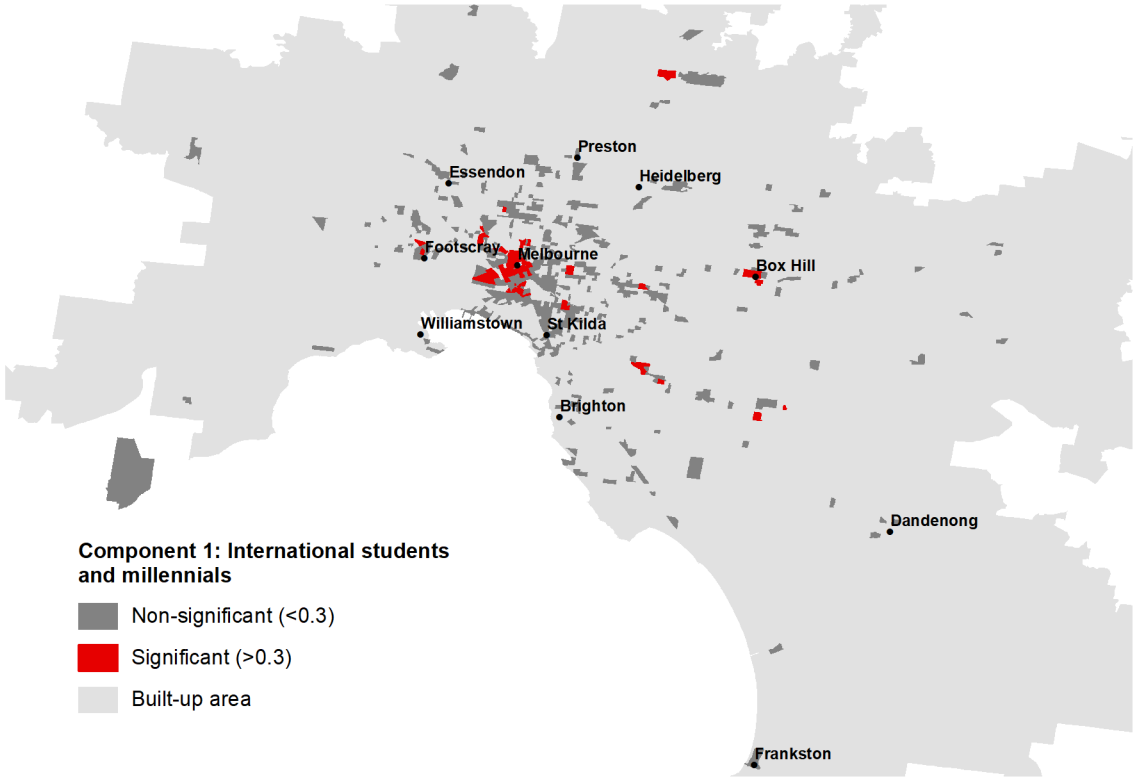
The third component loads strongly onto persons who are full-time employed and of a North-West European and Americas background. This component picks up on a range of other variables that cover a number of household types, occupations and incomes within the lower-income threshold. Overall, this component reflects family households in private housing, both owned and rented.

Component 4: Retiree homeowners and public renters

The final component loads strongly on people over the age of 55 and mixed between public rental and owning outright. This component, though also showing significance across other variables, reflects a retired or near retired cohort, who are on lower incomes because they are outside the labour force.

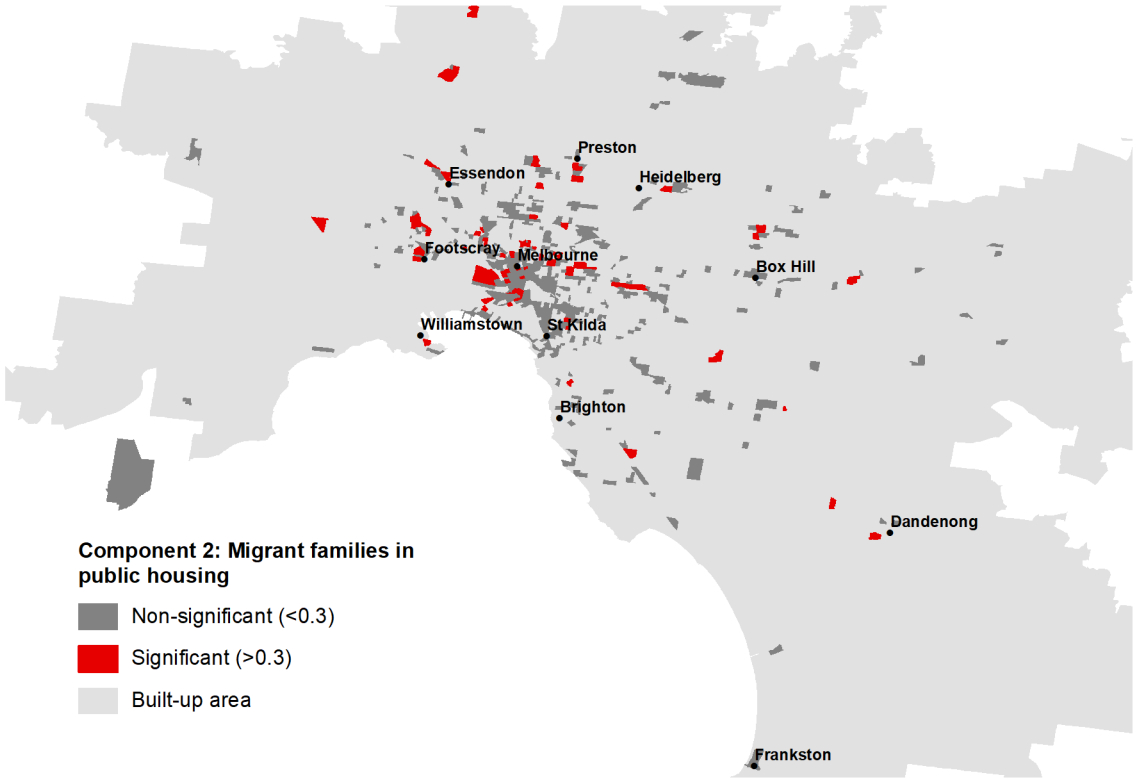
The spatial distribution of each of the components across the Melbourne region is illustrated in Figure 16 to Figure 19. Components are shown as significant by SA1 if the component score for each SA1 is above 0.3. Those with lower or negative scores are shown in grey, suggesting no statistical significance for that component. Figure 16 shows concentrations of international students and millennial renters, and overwhelmingly concentrates into central Melbourne. Figure 17 shows migrant family households in public housing and reflects both the location of public housing and demographic profile of public housing tenants. Figure 18 reflects areas of newly built higher-density housing occupied by employed people. Figure 19 represents an older cohort of homeowners and public housing renters, and indicates the increasing amount of high-density housing targeted at retired downsizers being built in the city's eastern suburbs. Figures 16, 18 and 19 also highlight the significant growth of high-density development in the Melbourne CBD in recent years.

Figure 16: Distribution of Component 1 for Melbourne by SA1



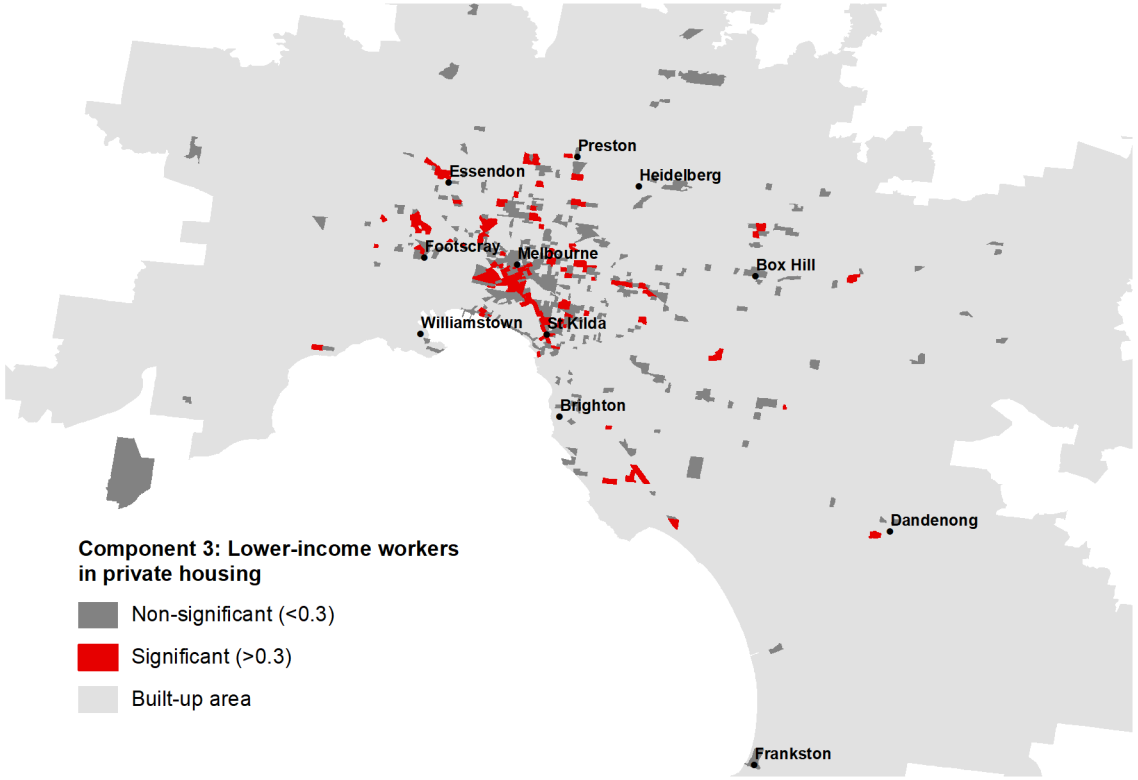
Source: authors

Figure 17: Distribution of Component 2 for Melbourne by SA1



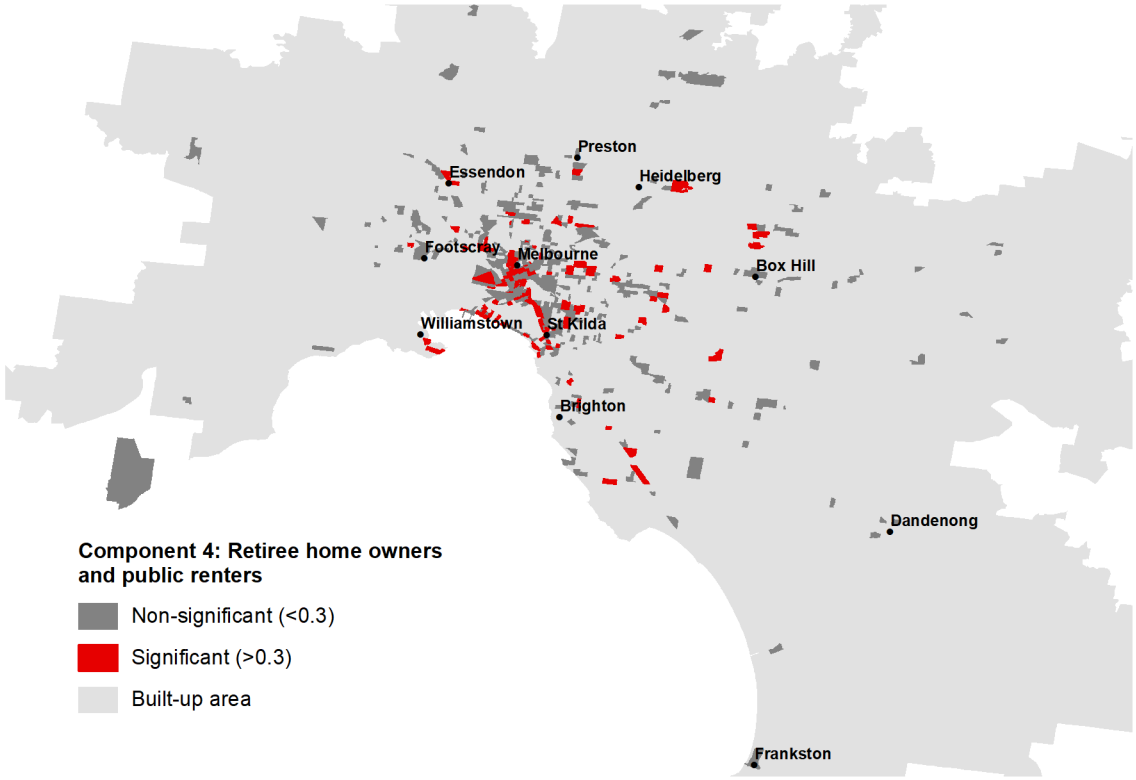
Source: authors

Figure 18: Distribution of Component 3 for Melbourne by SA1



Source: authors

Figure 19: Distribution of Component 4 for Melbourne by SA1



Source: authors

3.4 Apartment buildings in Sydney and Melbourne

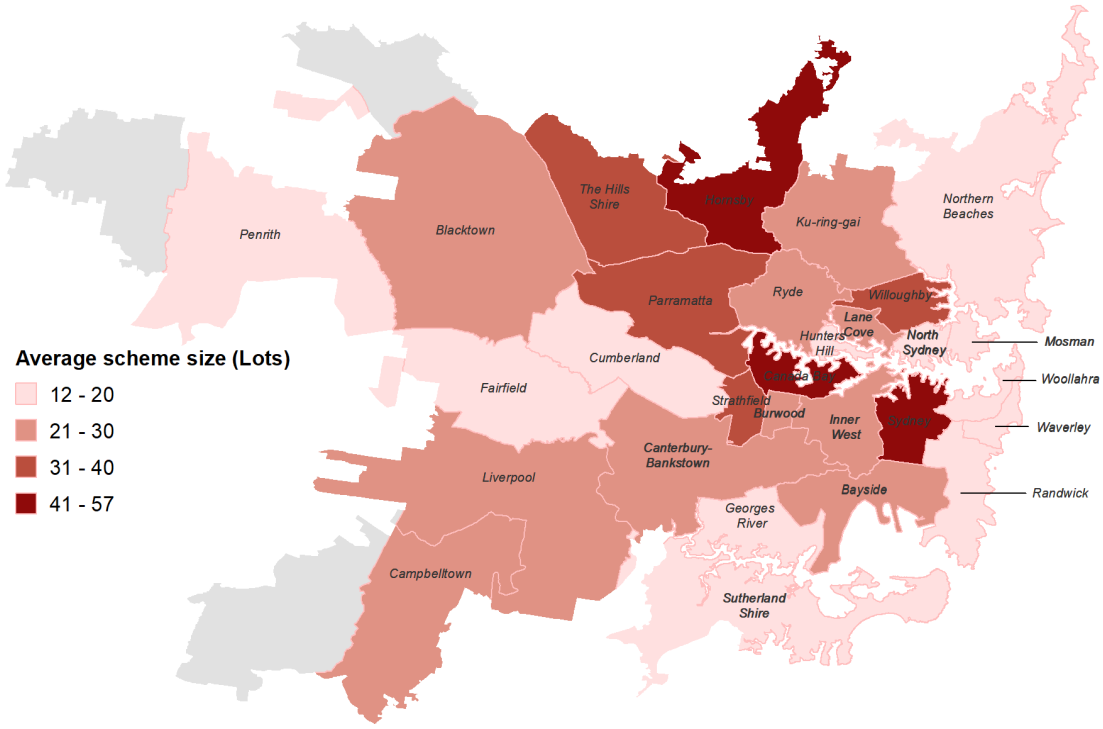
One of the critical dimensions shaping the experiences of different households in high density is the typology of buildings they occupy. We have used a threshold of buildings of four or more storeys in the first part of this analysis, but beyond this, the Census offers no clues on the overall size, age or quality of buildings these households occupy. What the Census data does show is that the vast majority of apartment dwellings in Australia are either owned outright or rented privately, with only 8.5 per cent of flats and apartments rented from a state or territory housing authority or a housing cooperative, community or church group in 2016 (ABS 2016a). Of these private apartment dwellings, the vast majority are strata-titled, as there is a very small purpose-built rental market in Australia (Pawson et al. 2019). This section gives a broad overview of the age and size of apartment buildings across Sydney and Melbourne. This analysis has been based on strata title records in each state. These records have been compiled to a building level to give an indication of size based on the number of units in a scheme, and age based on the date the scheme was first recorded. Average scheme sizes and ages are based on all strata-scheme registrations in each area and included buildings of any size. Sizes themselves do not correspond to building heights so, unlike the above Census analysis, will include buildings that are under four storeys.

As noted earlier in this chapter, high-density dwellings are dispersed across Sydney, with substantial concentrations in mid-ring locations. Figure 20 shows that on average, strata schemes are larger in the City of Sydney LGA, as well as Canada Bay and Hornsby LGAs. The eastern suburbs and Northern Beaches areas, which have considerable numbers of apartment buildings, have some of the smallest schemes on average.

Figure 21 shows the average age of strata schemes, which shows that the eastern suburbs, lower North Shore and Northern Beaches areas have an older stock profile compared with the rest of Sydney. However, some parts of Sydney that are well outside the central zone, like Fairfield in the west and Sutherland in the south, also have a similarly aged stock profile. This spatial profile is distinctive; other Australian cities have historically had limited apartment development outside of the urban core.

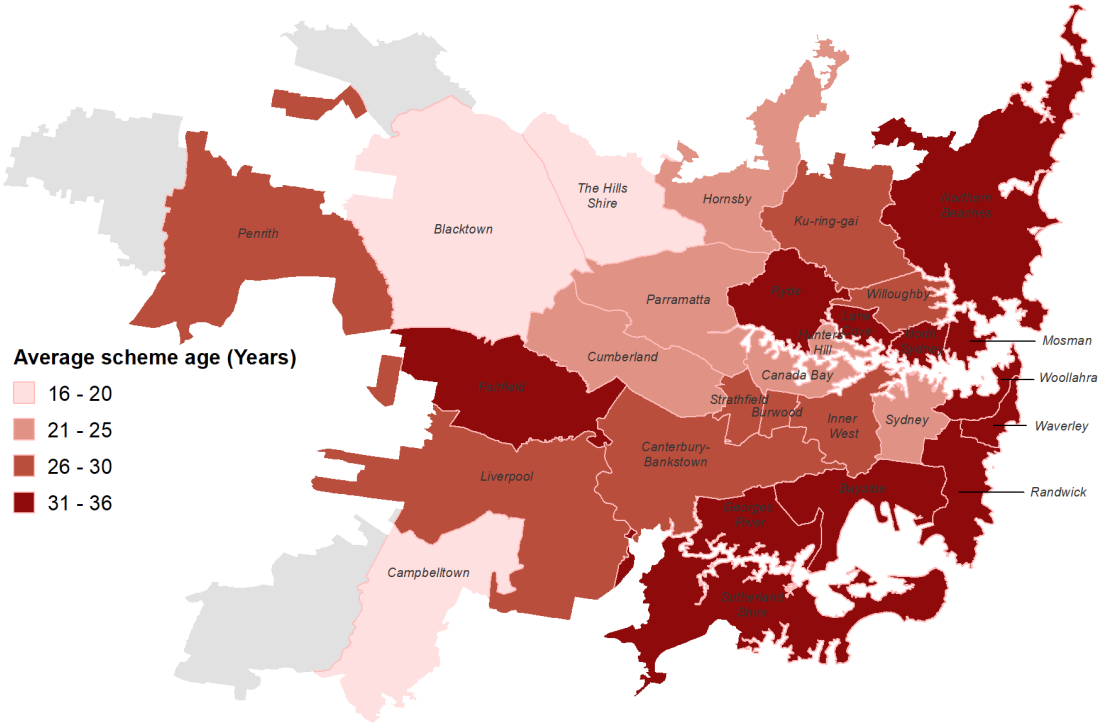
Unlike Sydney, Melbourne's stock profile (Figure 22 and Figure 23) reflects the relatively concentrated geography of apartment development (shown earlier in Figure 2), with the largest buildings located in Melbourne LGA. While some peripheral areas to the west show some larger than average scheme sizes, this is partly a reflection of the low building numbers in these areas. The age profile of strata shows an older stock profile forming a ring around the eastern edge of the Melbourne central area, from Port Phillip, up through Stonnington and Boroondara LGAs.

Figure 20: Average strata-scheme size by local government area for Sydney



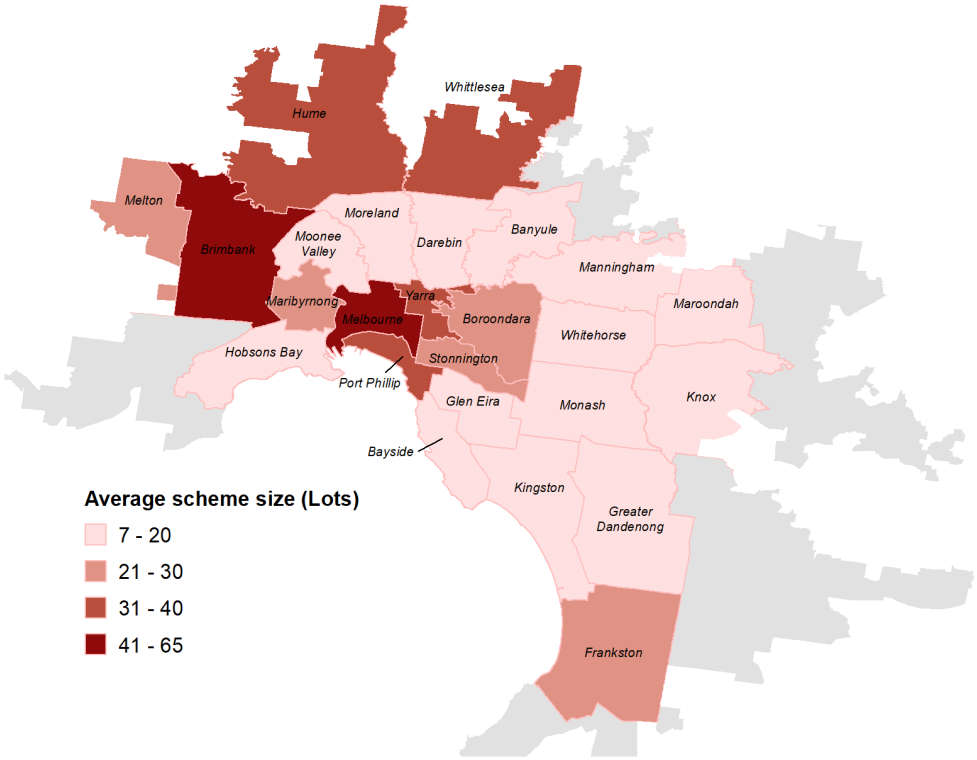
Source: authors. Data obtained from NSW Land Registry Services with registration information up to 2018, and includes both residential and non-residential community title and strata schemes

Figure 21: Average strata-scheme age by local government area for Sydney



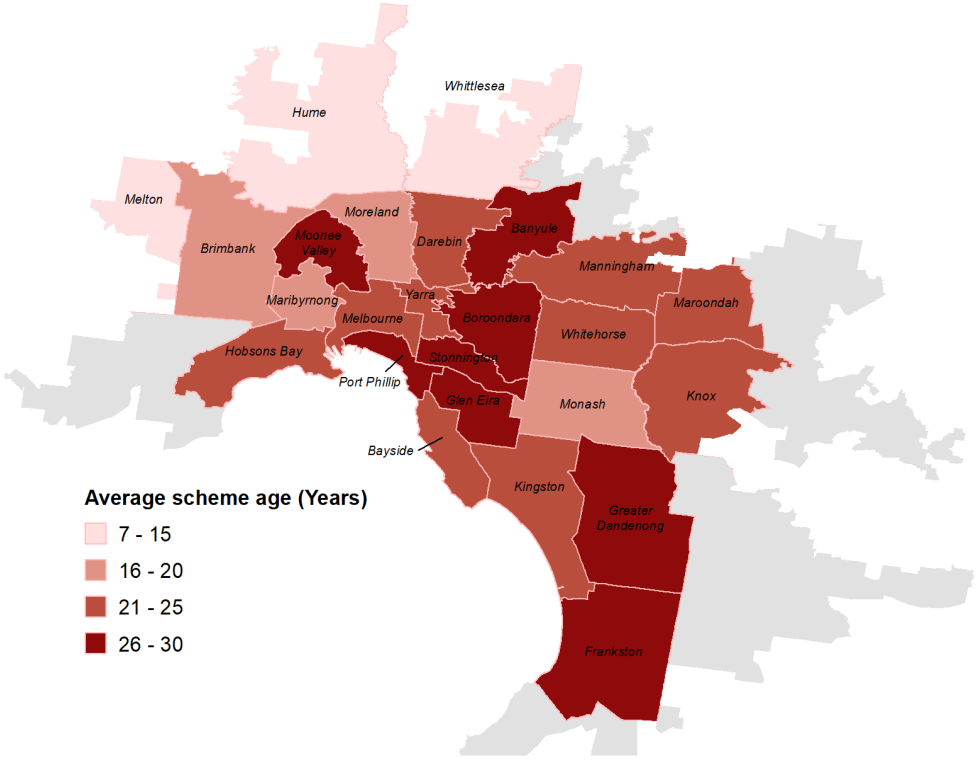
Source: authors, Data obtained from NSW Land Registry Services with registration information up to 2018 and includes both residential and non-residential community title and strata schemes

Figure 22: Average strata-scheme size by local government area for Melbourne



Source: authors. Data obtained from Land Use Victoria with registration information up to 2015, and includes both residential and non-residential community and strata schemes

Figure 23: Average strata-scheme age by local government area for Melbourne



Source: authors. Data obtained from Land Use Victoria with registration information up to 2015 and includes both residential and non-residential community and strata schemes

3.5 Conclusion

This chapter principally addresses RQ1: Where do apartment residents on lower incomes live, what are their demographic characteristics, and what types of buildings and neighbourhoods do they live in? The focus of the chapter and the wider report is on high-density housing (four storeys or more) and shows that nearly half of all high-density dwellings in Australia are concentrated in Sydney. When including Melbourne, these two cities account for nearly three-quarters of all high-density dwellings. Apart from providing a foundation for the empirical focus of the later stages of the project, it illustrates the qualitatively different housing contexts in these two cities.

When examining who lives in high density and the profile of lower-income households in high density, it is evident that households typically have lower incomes, are more ethnically diverse and the apartments are dominated by rental tenures. This observation is particularly relevant to the wider research in this report, as it addresses capacities of lower-income households to exercise control of their living spaces and immediate surrounds.

Overall, there are lower rates of families with children living in high density compared with the wider Australian context. The exception here is Sydney, in which these household types make up the largest component of households, and which perhaps provides an indication of where other Australian cities may be heading if compact city policies remain the dominant planning paradigm.

Finally, the lower-income housing submarket analysis shows that there is a complex picture of tenant profiles emerging across different parts of both Sydney and Melbourne. While Melbourne's apartment profile is spatially highly concentrated, both cities demonstrate that the dominant narrative of empty-nester and younger dual-income couple households being the predominant drivers of these types of developments does not reflect reality. While these cohorts are present, there is also evidence of other groupings that reflect broader socio-economic divisions and cultural diversity in these cities.

4 Issues facing apartment residents

- All four case studies highlight the central importance of public infrastructure, especially open space, libraries and community centres. Across the case studies, even within the same LGA, overall infrastructure outcomes are uneven, creating an equity issue where lower-income residents have different quality of life.
- Current public infrastructure funding mechanisms are insufficient and insecure, as evidenced by the failed developer contribution scheme in the Strathfield Triangle precinct in the Upper Strathfield case-study area, but also the lack of secure funding for Carlton's popular community centre.
- Similarly, mechanisms to ensure the availability of affordable housing are not delivering sufficient stock—this is particularly evident in the Melbourne cases.
- Affordable, diverse and accessible retail services are of real value to residents; in Melbourne commercial gentrification is a challenge for lower-income residents, while in Rhodes the shopping centre is an important community facility.
- There is much room for further innovation in both the design and management of high-density buildings to improve quality of life for residents, including designing more useful shared spaces and clarifying shared responsibilities.
- The consequences of poor infrastructure planning or urban design were evidently understood by decision-makers in government. But the capacity to address them was sometimes constrained for financial or other reasons.

This chapter provides detailed case studies of the four locations selected based on the analysis in Chapter 3. The aim of these case studies is to examine in some depth how well apartment developments provide for resident wellbeing, community and affordability, particularly for lower-income residents.

4.1 Case-study selection

The analysis in Chapter 3 aimed to understand broad characteristics of lower-income residents living in high-density housing across Australian cities, and in more detail for Sydney and Melbourne. The second and third research questions for this project focus on understanding in more detail how well apartment developments provide for resident wellbeing, community and affordability. This stage of the research is based around two case studies in each of Melbourne and Sydney. The case studies focus on areas where there are identifiable resident clusters based on the PCA outlined in section 3.3. The chosen case studies meet the following criteria:

- Both case studies in each city are in the same LGA. This allows for an in-depth analysis of relevant local government plans and policies, and how these might affect local areas in different ways.
- All case studies include multiple lower-income apartment-resident components.
- The two case studies in each city demonstrate some differences in resident profile.

- In one city the case studies are in the central city area, while in the other city the case studies are in a more suburban area.

The case studies chosen for Sydney are:

- Upper Strathfield, Canada Bay LGA (Components 1, 3 and 4)
- Rhodes West, Canada Bay LGA (Components 1, 3 and 4)

The case studies chosen for Melbourne are:

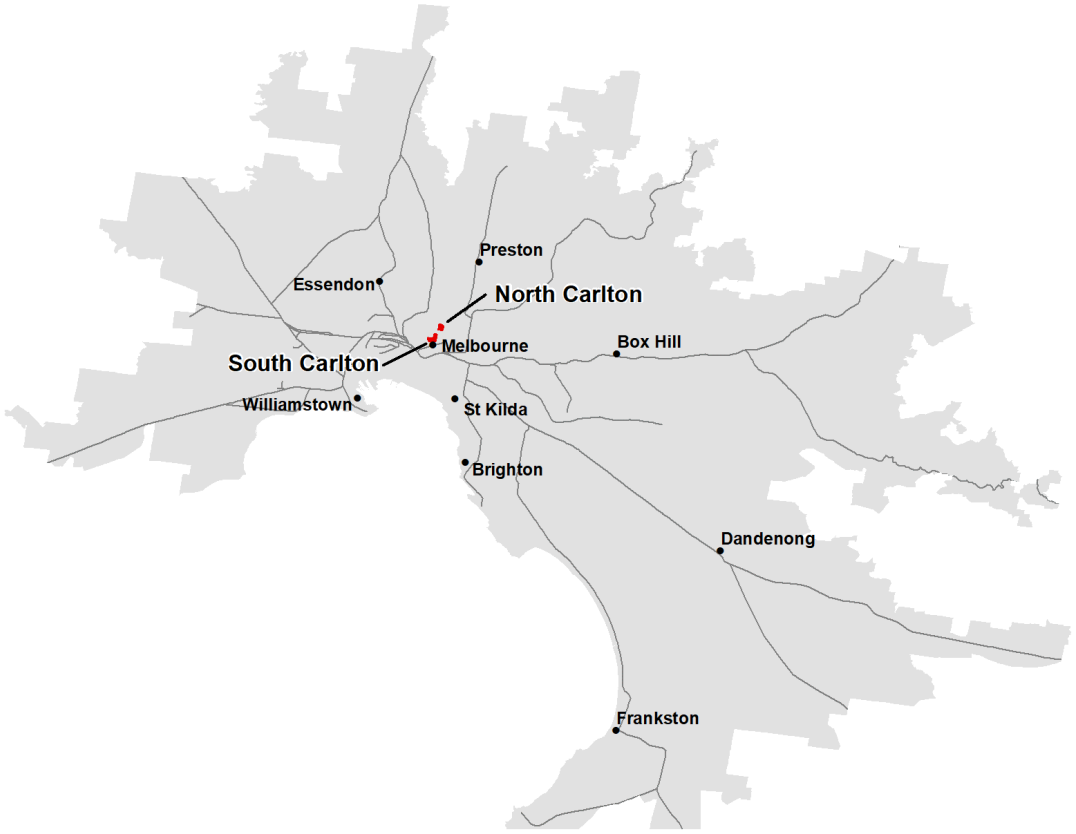
- North Carlton, City of Melbourne LGA (Components 1, 2 and 4)
- South Carlton, City of Melbourne LGA (Components 1 and 4)

Figure 24 and Figure 25 show the case-study locations in Sydney and Melbourne respectively. Appendix 3 provides detailed population statistics for the four case-study areas.

Figure 24: Location of Sydney case-study SA1s

Source: authors

Figure 25: Location of Melbourne case-study SA1s



Source: authors

As discussed earlier, the chosen precincts are home to a number of different lower-income resident cohorts, most notably:

- international students and millennials (all four cases)
- migrant families in public housing (Carlton North)
- lower-income workers in private housing (Rhodes West and Upper Strathfield)
- retirees (all four cases).

A mix of data and methods were used to analyse case studies, including document analysis (e.g. Census data, planning scheme documentation), neighbourhood audits, and interviews with local residents and stakeholders (see Chapter 2 for more detail). For each case, in addition to some concluding thoughts, the analysis covers five key issues:

1. precinct context
2. planning process
3. urban design
4. building design, facilities and management
5. ongoing place management and community engagement.

4.2 Case study 1: Rhodes West

4.2.1 Precinct context

The case-study precinct forms part of the Sydney suburb of Rhodes, in the Canada Bay LGA. The suburb is located on a narrow peninsula bounded by the Parramatta River to the north, and Homebush Bay and Brays Bay to the west and east respectively. The peninsula is mostly flat, with some gently sloping parts, and at its widest point is about one kilometre from west to east. A significant portion of the land in Rhodes West has been reclaimed, with the shoreline extended westwards through industrial backfilling in the twentieth century. Rhodes is connected by train to West Ryde and Epping to the north, and to Sydney CBD through Strathfield to the south. The six-lane A3 arterial road runs north–south through the peninsula and there is also a bridge connecting Rhodes with Wentworth Point to the west. However, this bridge is for use by buses, cyclists, pedestrians and emergency vehicles only. To the south of the peninsula is a large shopping centre with a major supermarket, an IKEA store, a cinema and a selection of banks and smaller retailers. The rail line effectively divides the peninsula into two. The case-study precinct is on the western half of the peninsula, which has undergone wholesale transformation in the last 20 years. The eastern half of the peninsula is the subject of proposals for similarly major transformation at the time of writing. Figure 26 shows the case-study precinct.

In 2016, Rhodes West had a population of 6721 people. Relative to NSW and Australia, residents living in the case-study precinct are younger, tend to live in smaller households and are much better educated. They are also less likely to drive to work or to own their home. Compared with NSW and Australian averages, many more residents are of Asian ancestry and far fewer are of European ancestry, or were born in Australia. The proportion of lower-income households is similar to the state / country, but a greater proportion of households are on high incomes. Median personal income is also well above the state / country averages. As noted in Chapter 3, the lower-income residents living in Rhodes West are primarily international students and millennials, lower-income workers living in private housing, and retirees.

Figure 26: Aerial photo of case-study precinct, showing boundaries

Source: authors

4.2.2 Planning process

The early stages of redevelopment

For much of the twentieth century, Rhodes West, along with the rest of the western half of the peninsula, was dominated by heavy industrial uses, including chemicals production. Although these heavy industrial uses were gradually phased out from the 1980s, ceasing entirely by the 1990s, they left a legacy of serious soil and waterway contamination. Remediation works were therefore needed before residential and commercial redevelopment could take place. These works were undertaken over many years by the NSW Government and private landowners, with the remediation of some sites not complete until well into the 2000s.

The first planning framework for the redevelopment of Rhodes West was gazetted in 1999, as part of the *Sydney Regional Environmental Plan No. 29—Rhodes Peninsula* (the SREP). This was a statutory plan that established planning principles and controls for 43 hectares of land on the peninsula. It was produced by the NSW Government and given effect by the Minster for Planning, rather than the local council that was the planning consent authority. This shifting of planning responsibility from a local council to the NSW Government is common in NSW for projects of significant scale. The gazettal of the SREP followed a series of earlier discussions between private landowners and local and state authorities about the potential redevelopment of former industrial sites in Rhodes, as well as initial planning work by the local council (Concord Council, later to become part of the Canada Bay Council) and the production of a planning strategy in 1998 by a working party of major landowners and various local and state government agency representatives.

The 43 hectares covered by the SREP were split into three large holdings[6] , one of which was owned by the NSW Government's Waterways Authority (Standing Committee on State Development 2002). Reflecting metropolitan planning policy at the time, the SREP sought explicitly to establish a development form and land use mix at Rhodes West that would encourage travel by public transport, rather than car, and contribute to the achievement of a more compact Sydney. Development densities also needed to be set at a level that would enable developers to meet any ongoing site remediation costs while still turning a profit.

Accompanying the SREP and assisting with its interpretation were three non-statutory plans providing more detailed guidance relating to:

- built form and public realm outcomes
- community development
- transport.

Regarding built form, the SREP permitted a maximum of 543,750 square metres of floorspace across the redevelopment site, equivalent to a floor space to site area ratio of approximately 1.3:1. This was to be accommodated predominantly in low-rise buildings, with buildings of 10 storeys permitted in certain locations. Public access to the full extent of the foreshore was to be protected, with buildings close to the water being no more than four storeys. A small amount of local retail and commercial use was to be permitted within new residential areas to the west and north of the peninsula, but non-residential uses were otherwise to be concentrated close to the rail station and in a major new retail centre to the south. The SREP also required the provision of roads and public transport infrastructure to the satisfaction of the consent authority and

[6] Confusingly, the development area is commonly called 'Rhodes West'. To be clear, 'Rhodes West' in this report refers to the case-study area, which is approximately the northern half of this wider development area.

offered floorspace incentives where private developers agreed to dedicate land for public open space.

By the mid-2000s, the retail centre had been completed, along with several blocks of residential development to the south and centre of the peninsula. Infrastructure contributions had been secured for this development through a bespoke Renewing Rhodes Contributions Framework (2001) prepared by private consultants on behalf of the NSW Government. This framework set out detailed requirements for developer contributions towards streets and public transport infrastructure, community facilities and public open space, with indicative figures set out for each of the major landowners / developers at the time.

Permitted development densities and developer contributions are increased

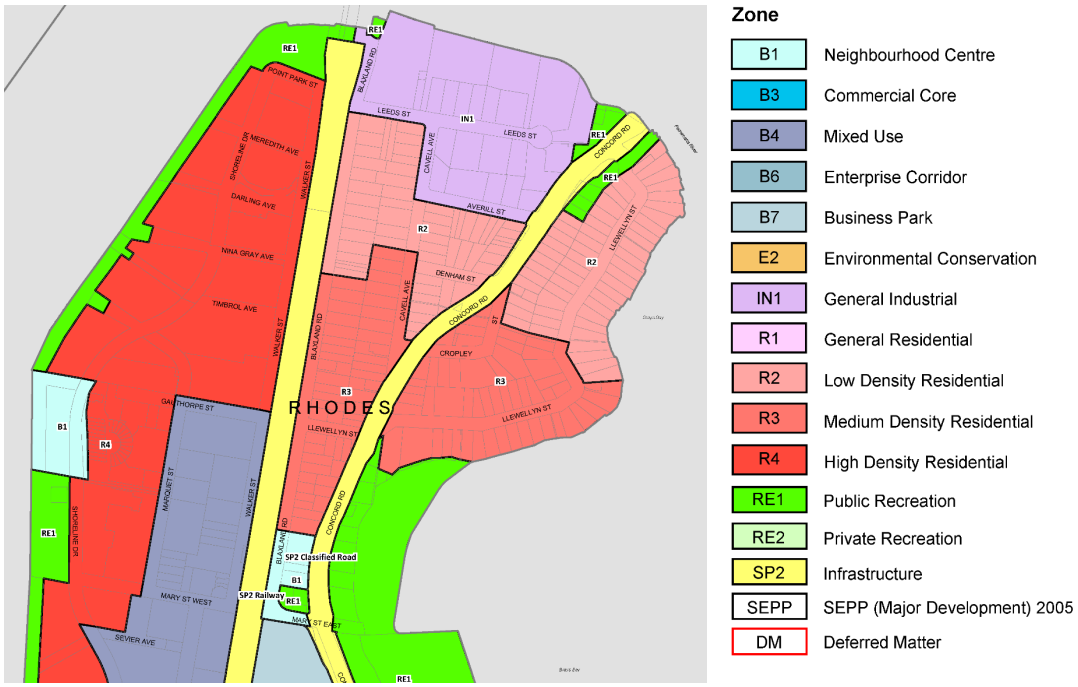
In 2007, Canada Bay Council was reinstated as consent authority for development across the peninsula (except in relation to the remediation of contaminated land), and this set the scene for significant amendments to be made to the planning controls for Rhodes West. The council reported that about 20 per cent of the development in the area covered by the SREP was complete by 2007, with the remaining sites also having outline planning approvals in the form of masterplans. However, there was concern at the council about the levels of infrastructure provision established for the redevelopment area through the existing planning controls and contribution framework. Specifically, it was felt that the planned public open space and communal space within property developments was inadequate, given the high population densities, and that the size of the new community centre, to be funded partly by developer contributions, would not fully meet the needs of the projected population. The council commissioned a study by private consultants to ascertain whether these concerns were justified, which indicated that a community centre of more than double the proposed size would be needed.

Council staff began to investigate how to address concerns about future infrastructure deficits, and expressions of interest were received from developers wishing to help fund a larger community centre. In negotiation with the council, a consortium of the four major developers, including those within the case-study precinct, prepared a joint masterplan that envisaged significant increases in permitted development densities and building heights on their sites, in exchange for commensurate increases in developer contributions towards community infrastructure. The plans were prepared in the expectation that they would ultimately be formalised through amendments to the statutory planning controls and the establishment of bespoke voluntary planning agreements (VPAs) between the council and each developer. The council first formally considered the developer consortium's masterplan proposal in April 2009, with independent advice subsequently being sought on the public benefits being offered. A few months later, the council resolved to allow the masterplan proposal to be publicly exhibited. Once the exhibition period had closed, further discussions took place with the NSW Government's Department of Planning and a workshop was held with councillors. In October 2010, the council resolved that the proposed amendments to the planning controls should be adopted and that the VPAs should be entered into with developers. The amended plans were subsequently forwarded to the NSW Government's Department of Planning, with a request that they be 'made'. They became part of Canada Bay Council's statutory plans in April 2011.

These amendments to planning and infrastructure arrangements for Rhodes West were an important juncture in the planning and development process, although much of the redevelopment area had already been built-out by the time they became part of the statutory planning framework in 2011. The amendments were only to affect outcomes on those sites that remained undeveloped. The amendments involved an increase of 8 per cent on the gross floor area permitted by the SREP across the redevelopment area (City of Canada Bay 2010), along with significant increases in permitted building heights, minor changes to street layouts and the provision of three additional public open spaces. Whereas developments completed up until this

point had mostly been low-rise, with some buildings of 10 or 12 storeys, the approved amendments permitted a number of taller buildings, including towers of up to 25 storeys close to the rail line. The justification offered was that a low-rise built form necessitated high levels of site coverage in perimeter block forms, with taller buildings enabling an increase both in public open space and in communal space within developments. The council reported (City of Canada Bay 2010) that the VPAs with developers were worth $18m to the council in cash contributions, plus 23,195m2 in open space dedications and a further $980,000 towards roads and toilets.

Figure 27: Current zoning for Rhodes West



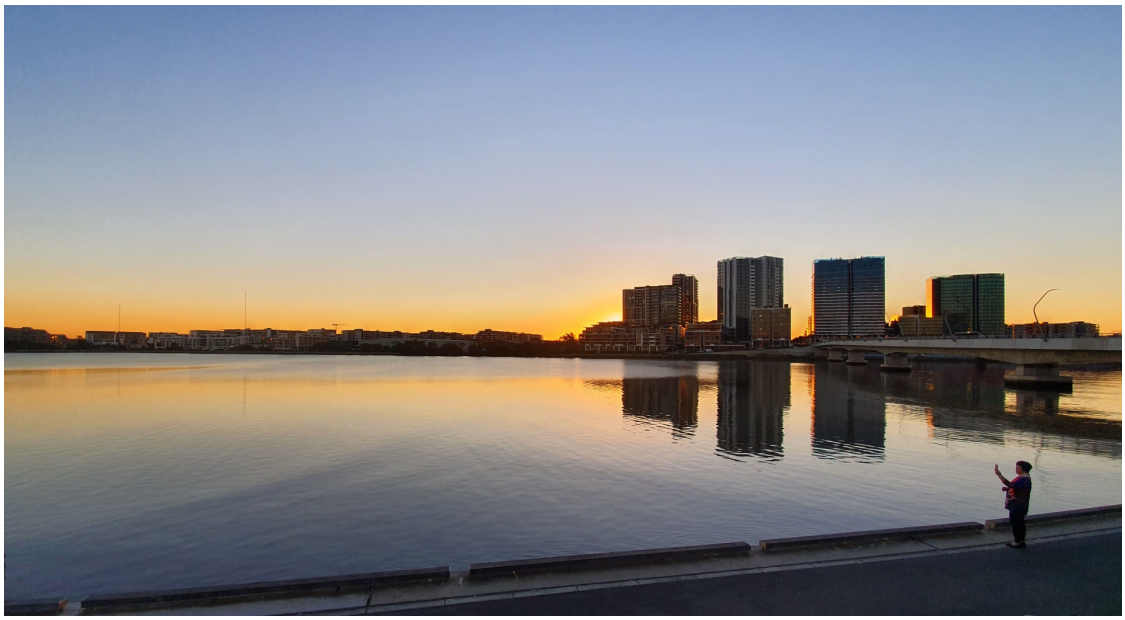
Source: City of Canada Bay LEP 2013

4.2.3 Urban design

Now completely built-out, Rhodes West has a high level of physical coherence overall and benefits from a variety of public open spaces and a spectacular waterfront setting (see Figure 28). Although development densities are very high by Australian standards, with quite a few buildings rising over 20 storeys, the open space and plentiful water views provide the precinct with a sense of spaciousness. Except for a few of the very largest buildings, most buildings within the precinct maintain a positive connection with their streets and provide a high level of passive surveillance. Wide roadways and footpaths ensure a comfortable scale in streets (see Figure 29) even where buildings are tall. However, the tall buildings do cast significant shadows over the public realm (see Figure 30) and wind flows are noticeably higher in the precinct than in surrounding low-rise areas. Footpaths are smooth and obstacle-free and there are many places to sit. There was little traffic at the various times the research team visited. Buildings, streets and open spaces are all well maintained and there are few signs of disorder in the form of litter or graffiti. As noted in the next chapter, there was an evident problem of shopping trolleys being left in public parks.

In terms of opportunities for enjoyment within Rhodes West, the foreshore open space is heavily used for jogging, cycling, fitness training and walking. There are also several playgrounds, a dog-walking park and a community garden. There are also a small number of cafes, restaurants and shops, as well as a multi-functional community facility.

Figure 28: Rhodes West as viewed from Wentworth Point



Source: authors

Figure 29: Rhodes West foreshore and development

Source: authors

Figure 30: Overshadowing of public space in Rhodes West

Source: authors

4.2.4 Building design, facilities and management

Resident interviewees were generally happy with their buildings, highlighting the architectural 'variety' across the precinct, with each development 'having its own character' (Rhodes West community group representative 1). They appreciated the common spaces and facilities provided in developments, though noting that courtyard spaces and facilities such as swimming pools tended to be underutilised and that their presence increased strata fees significantly. One issue raised by council staff concerned a perceived ambiguity in the management responsibilities for certain spaces within Rhodes West. They highlighted examples of grass verges and streets provided as part of development projects. The question of whose responsibility it is to maintain some verges and streets has been unclear for both council and strata and building management.

Some resident interviewees were strata committee members and one had experienced major defects in their building. They described the complex process of dealing with these, including through legal proceedings, as a case of 'learning on the job' (Rhodes West community group representative 2). In other words, this interviewee and their neighbours had needed to react to management situations as they arose, often without a great deal of expert guidance or direction and, in many cases, making avoidable mistakes. Beyond those construction defects, retrospective work had been necessary in some buildings to increase the security of mailboxes and car parks, and there were some problems with waste collection. In particular, building managers have reported that a large amount of bulky household waste is generated by short-term residents who 'dump the furniture' once their lease comes to an end (Canada Bay Council staff member 2). In discussing defects and problems in their buildings, some owner-occupier interviewees expressed a sense of resentment towards investor-owners (and their tenants), who they believed were less active than owner-occupiers in the life of buildings and less concerned about resolving any building-related problems that arose.

4.2.5 Neighbourhood amenity and facilities

Resident interviewees believed that Rhodes West offered them a high level of everyday amenity, with the foreshore a particular 'selling point' (Rhodes West community group representative 1) in the decisions of most to move there. Also important was the convenience provided by the proximity of the shopping centre and rail station. The multi-functional community centre on the foreshore, known as the Connection, was also said to be a major and well-used asset (see Figure 31). Overall, the precinct was seen to be a safe, quiet, attractive and enjoyable place to live and not one of our resident interviewees was unhappy to be living there. Interviewees from the council claimed that residents, on the whole, 'love living in Rhodes' and have a 'real sense of pride' in the place (Canada Bay Council staff member 2). Much of this can be attributed to the attractive water views and wide range of recreational activities afforded by the foreshore open space, which adds to both the amenity and the status of Rhodes West. The other open spaces in the precinct, including those created following the planning amendments described earlier (in section 4.2.2), are not as popular as the foreshore. Interviewees indicated that some of these open spaces were not heavily utilised for much of the year because of their shadiness and windiness. The precinct appraisals supported this suggestion.

Figure 31: The Connection community centre at Rhodes West

Source: authors

Despite a general positivity among interviewees regarding the planning and development of Rhodes West and the quality of life it offers, certain problems were identified through interviews and precinct appraisals. First and foremost among these was the absence of a nearby primary school—as the catchment primary school is two kilometres away. Interviewees also pointed to the lack of sports fields and programs such as playgroups for pre-school children. Others highlighted the inadequate support for non-English speaking residents, especially seniors, with these groups sometimes becoming isolated due to language barriers and their unfamiliarity with Australian governance systems. Traffic was also a cause for concern for some resident interviewees, though less so for interviewees from the council. Residents complained that the areas around the shopping centre and foreshore frequently became congested and that visibility was poor for drivers in parts of Rhodes West because of the curved streets and on-street parking.

Further problems stemmed from the success of the public open spaces, which led to conflicts between different user groups. The competing demands of high- and low-speed cyclists and walkers had apparently created tensions on the foreshore, while the use of open spaces for dog walking , skateboarding and sports had angered some other users and nearby residents—because of the noise and people's failure to remove dog waste.

4.2.6 Ongoing place management and community engagement

At the time of writing, there are proposals for major change and densification in the eastern half of the peninsula. This change is expected to include a primary school that will become the catchment school for children living in the case-study precinct. Although this should address what is arguably the principal shortcoming of the precinct at the present time, other problems remain. A wider range of local sports facilities is needed and there are ongoing challenges in service delivery for non-English speakers and the management of conflicts between users of different public spaces. Some interviewees also felt that further work was necessary to help bridge cultural gaps between different groups in the Rhodes West community.

We were told by interviewees of several community-led initiatives that have recently been put in place to address these challenges, and it appears that Rhodes West benefits from the presence of a proactive and highly engaged community. One way this is realised is through the existence of the Rhodes Community Committee—a seemingly unique forum in the Canada Bay LGA, which provides the opportunity for community members to discuss strategic issues related to their area directly with council representatives. Formed in 2014, the committee replaced an earlier and similarly purposed group established by the council in 2005. Resident interviewees told us of the longstanding and positive relationship between the council and the Rhodes West community. Although the committee members interviewed felt that their committee was primarily a means for the council to distribute information to community members, not having 'a lot of teeth to it' (Rhodes West community group representative 3) in terms of influence or decision-making powers, they were also quick to point out various occasions when the council had proactively engaged with them and others in the local community regarding planning and development. Similarly, another unusual but advantageous feature of the governance arrangements for Rhodes West is the presence of a dedicated place manager within the council. Resident interviewees expressed how important the place manager had been in maintaining the liveability of the area. As one explained, it also made them 'feel like I had a voice and there was somebody … looking out for us and paying attention to us' (Rhodes West community group representative 2).

4.2.7 Concluding thoughts

It is clear that Rhodes West has benefited from some good planning and design decisions—most notably the protection of the public foreshore, as well as maintaining lower building heights near the water, and wide streets giving the precinct a comfortable scale, particularly where buildings are tall. Residents seem to be happy with the decision to concentrate much of the density in towers, thereby maximising open space. The design of the shopping centre could be improved, and some of the open spaces are not entirely successful—but overall this is density done quite well.

Planning the 43-hectare site as a single entity seems to have made it easier to achieve visual and physical coherence and ensure an orderly development process, as well as to justify the need for more significant community infrastructure. Importantly, having only a small number of landowners to deal with likely made it easier for the council to successfully negotiate a plan to increase density in exchange for more community infrastructure. This would have been far less straightforward with a larger number of developers, or with speculative landholders involved. However, while the newer infrastructure (like the Connection) is a valuable addition to the area, it could have been better designed and integrated with the existing development; this may have

been possible if the plan for higher densities (and associated higher developer contributions) had been in place at the outset.

While the beautiful waterfront setting is a significant factor in the precinct's popularity, the other clear success story is the strong and proactive community in the area, which has played an important role in achieving good outcomes for residents. Dedicated mechanisms to facilitate engagement between the community and the local government—the Rhodes Community Committee and the place manager—clearly help to ensure the community feels its engagement efforts are worthwhile.

Of the challenges facing Rhodes West, perhaps the most significant is the potential for conflict over the use of public space, particularly along the foreshore. This will be a challenge faced by all high-density areas, particularly as densities increase. Identifying strategies to mitigate these conflicts will be particularly important for lower-income residents, who rely disproportionately on the use of these spaces, as they often have less private recreational space available to them.

4.3 Case study 2: Upper Strathfield

4.3.1 Precinct context

Upper Strathfield is located at the southernmost extent of Canada Bay LGA and lies roughly midway between the Sydney and Parramatta CBDs (approximately 12 kilometres from each). It is separated from the rest of the LGA by the six-lane Parramatta Road arterial and is bounded to the south and west by railway corridors. Directly to the south of the precinct is Strathfield rail station and immediately south of the rail station is Strathfield commercial centre. There are many metropolitan and inter-city rail connections available from Strathfield station and the Sydney and Parramatta CBDs can each be reached within 15 minutes. The Strathfield commercial centre is classified as a 'Local Centre' in the Greater Sydney Commission's Eastern City District Plan. It is home to a medium-sized shopping centre with over 50 units, including a major supermarket, as well as a variety of shops, restaurants, banks and offices in surrounding streets. The eastern portion of Upper Strathfield—from Leicester Avenue to Swan Avenue—is dominated by freestanding homes, with a few low-rise multi-unit developments scattered throughout. This portion of the precinct includes many 1930s homes, some of which are listed as heritage items. The western portion was similarly dominated by freestanding homes until the 2000s, but significant change has occurred since then. To the north, close to Parramatta Road, several large apartment buildings of up to 10 storeys have been developed. To the south and west, many original houses have been demolished and their sites cleared. Aerial imagery indicates that many of these sites, many of which have development approval for apartment blocks, have been vacant for more than 10 years. Figure 32 shows the case-study boundary.

As of 2016, 2,734 people were living in the case-study precinct. Relative to NSW and Australia, residents in the precinct are younger, tend to live in slightly larger households and are better educated. Many more people are of Asian ancestry and far fewer are of European ancestry. People are also much less likely to drive to work, more likely to live in an apartment, and less likely to own their property. Median personal income is lower than the equivalent figures for NSW and Australia, but median household incomes are higher. This points to a significant number of households in the case-study precinct having multiple lower-income residents. As noted in Chapter 3, the lower-income residents living in Upper Strathfield are primarily international students and millennials, lower-income workers in private housing, and retirees.

Figure 32: Aerial photo of Upper Strathfield, showing boundaries and coverage of Strathfield Triangle development control plan

Source: (l) authors and (r) Strathfield Triangle DCP 2014

4.3.2 Planning process

The early stages of change

Apart from some commercial premises along Parramatta Road and a small number of 2–4-storey apartment blocks, Upper Strathfield was dominated by single-storey freestanding homes at the turn of the twenty-first century. By this time, however, the western portion had already been earmarked by local and state authorities as an area with significant development potential; newspaper articles were reporting that it could potentially accommodate up to 1,000 new residential units through redevelopment and densification (Grennan 2000). In 2002, Canada Bay Council adopted a non-statutory development control plan (DCP) to guide the redevelopment of this western portion of the case-study precinct[7]. A Contributions Plan was also adopted in 2002, imposing an additional levy on development covered by the DCP. Applying to the area bounded by Parramatta Road, Leicester Avenue and the rail line, the DCP envisaged the amalgamation and redevelopment of lots. Building heights of up to 10 storeys were to be permitted in certain areas, with maximum heights scaling down to six and then four storeys closer to the low-rise residential streets to the east. Sympathetic design was to be encouraged in new development located close to the numerous heritage-listed buildings in the precinct, and minimum requirements were to be applied for the provision of communal open space within developments.

[7] The DCP calls this western portion of the case-study area ‘Strathfield Triangle’, whereas our case-study area, Upper Strathfield, is defined by Census tracts.

In 2008, Canada Bay Council consolidated and updated its planning controls as part of a new local environmental plan (LEP). The same year, the council also resolved to undertake a review of the 2002 Strathfield Triangle DCP. According to council meeting minutes, this review was necessary because of the age of the existing DCP, as well as a perceived need to explore opportunities for:

- increasing development potential
- providing a public park
- delivering other necessary infrastructure improvements
- reviewing existing heritage conservation arrangements (City of Canada Bay 2008).

By this time, a small number of apartment developments had been completed to the north and west of Upper Strathfield, the tallest of which was 10 storeys. Due to the involvement of the Canada Bay Council in legal proceedings relating to land sales and property development in the Strathfield Triangle precinct (discussed in more detail later), that area was included as a deferred matter in the 2008 LEP. In effect, this meant that the statutory plan applying to that part of the precinct remained the *Concord Planning Scheme Ordinance 1969*. Meanwhile, the eastern portion of Upper Strathfield was zoned for medium-density residential uses in the 2008 LEP, permitting the development of apartment buildings, with a maximum building height of 8.5 m applying across most properties.

The legal proceedings were the subject of considerable media interest in 2007 and 2008. The proceedings centred on claims by local residents and property owners that a particular property developer had repeatedly received preferential treatment from local planning authorities, including by being given the opportunity to acquire various properties in the Strathfield Triangle precinct, among them a road and two parks, without any formal public tender process (Besser (2007); F & D Bonaccorso Pty Ltd v City of Canada Bay Council (No 2) [2007] NSWLEC 537; F & D Bonaccorso Pty Ltd v City of Canada Bay Council (No 5) [2008] NSWLEC 235). In addition, the media reported claims from several Strathfield Triangle residents that they had been threatened and intimidated by the developer as he had sought to persuade them to sell him their properties (Besser and McClymont 2007). Part of the reason that this developer received so much attention from local residents and the media at this time was the scale of his involvement in the Strathfield Triangle precinct: his companies were reported to have more than 30 land holdings in the area (Besser and McClymont 2007).

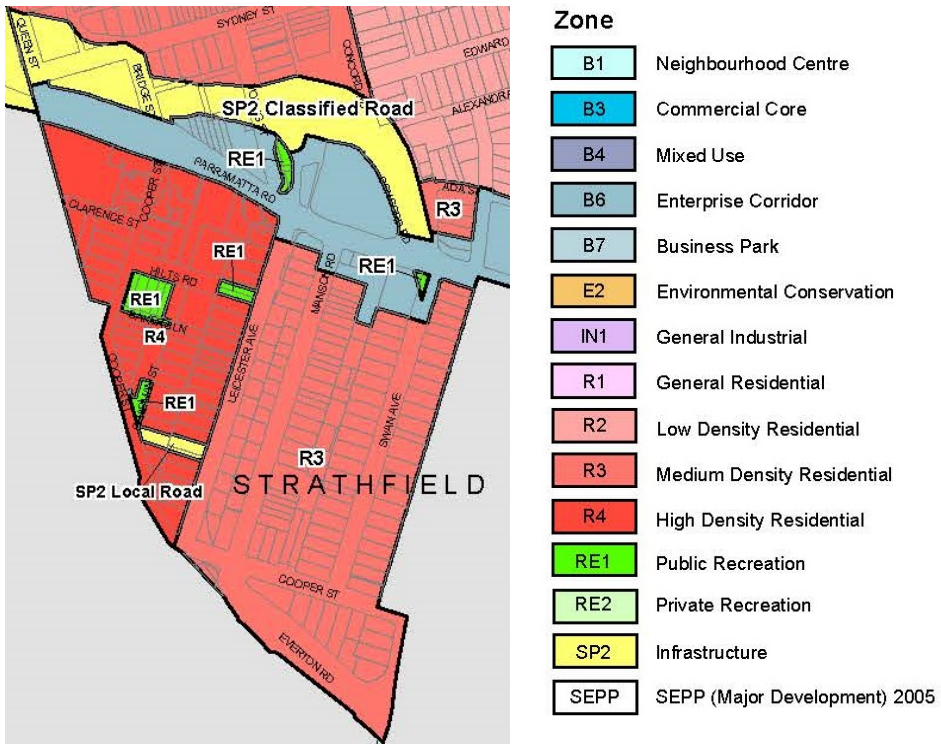
A new City of Canada Bay LEP was gazetted in 2013 and an amendment (Amendment 1) to this LEP in 2014 included planning controls for Upper Strathfield. In these controls, all developable land in western part of Upper Strathfield was zoned for high-density residential uses, with the maximum building heights ranging between 17 m and 59 m. Maximum building heights were greatest close to the rail line and Parramatta Road. Fifteen items in the Strathfield Triangle precinct that had previously been heritage listed were de-listed in the 2013 LEP (City of Canada Bay 2013), which meant that there were no longer any heritage items in the high-density area. Alongside the inclusion of the previously deferred Strathfield Triangle precinct in the 2013 LEP, a new DCP, Public Domain Plan and Contributions Plan for the area came into effect in 2014. The DCP and Public Domain Plan together established a series of principles and controls intended to improve the amenity of the Strathfield Triangle precinct while guiding its redevelopment for medium-density and high-density residential uses. In addition to an amalgamation plan and a series of controls relating to the design of buildings and spaces, the plans proposed the creation of two small parks, the re-alignment and widening of Cooper Street and the development of a new laneway running parallel to Leicester Avenue. Council expected these public domain improvements to be realised over a period of 15 years through a combination of land acquisitions and disposals by the council itself, alongside development contributions and dedications of land from developers.

Current planning arrangements for the case-study precinct

The City of Canada Bay LEP and Strathfield Triangle DCP (2014) continue to be the key plans guiding development activity in the case-study precinct. However, several other recent planning initiatives are likely to have some bearing on the area's future. Upper Strathfield falls within the areas covered by the NSW Government's Parramatta Road Corridor Urban Transformation Strategy (2016) and 'Burwood Strathfield Homebush' Planned Precinct. These state-led initiatives seek to provide clearer strategic direction for areas where significant population growth and physical change is expected in future years. They involve more proactive involvement of state government planners in the formulation of planning policy and controls. While having statutory effect, the Parramatta Road strategy was a unique state government approach to planning with no agency claiming carriage of it at the time of writing. Preparation of a precinct plan for the Burwood to Homebush area was being prepared by the NSW Government, with input from local councils. It was in the early stages, though, and had somewhat stalled at the time of writing. This is likely because a new station, part of the Sydney Metro West, was announced to be located at North Strathfield.

A further relevant plan was also adopted by the Canada Bay Council in 2019. The council's *Draft Local Strategic Planning Statement* identifies Upper Strathfield as a precinct likely to experience significant renewal in the future. It highlights the need for high quality design to be achieved in new developments in the area, for improvements to the public domain, including through the provision of a new park, and for appropriate funding mechanisms to be in place to deliver other necessary local infrastructure.

Figure 33: Current zoning for Upper Strathfield



Source: City of Canada Bay LEP 2013

4.3.3 Urban design

Apart from two new 4–6-storey apartment developments on Parramatta Road and a small number of low-rise multi-unit developments elsewhere, the eastern portion of Upper Strathfield remains dominated by freestanding homes and has changed little since 2000. This portion of the precinct is representative of a typical middle-suburban Sydney setting (Figure 34).

Figure 34: Eastern portion of Upper Strathfield

Source: authors

The freestanding houses provide a high level of passive surveillance and our site visits suggest that there is a moderate amount of pedestrian activity throughout the day and into the evening—no doubt influenced by the proximity of Strathfield rail station and commercial centre. Walking along Mosely Street, Manson Road and Swan Avenue feels safe, even after dark. Footpaths are generally standard in size and obstacle-free, while tree cover is variable. The two major roads bounding the eastern portion of the case-study precinct to the north and west—Parramatta Road and Leicester Avenue—are heavily trafficked and unpleasant to walk along. However, there is otherwise very little traffic in the eastern portion of the case-study precinct. A good degree of variety in homes and front gardens provides visual interest at street level. Close to the station there are a few cafes and restaurants, and a small area of public seating at a roundabout.

Meanwhile, the western portion of Upper Strathfield has experienced significant change in the past 20 years, with houses, car parks and commercial premises to the north replaced by apartment buildings of nine and 10 storeys (Figure 35).

To the south and west, many freestanding homes were demolished in the 2000s, with their sites subsequently cleared. As noted, no new development has occurred in the Strathfield Triangle precinct within the Upper Strathfield case-study area since the new planning controls for the area came into effect in 2014. Currently, there are vacant sites totalling approximately 1.2 hectares in the area covered by the Strathfield Triangle DCP. All these sites have been vacant since 2014 or earlier. The numerous vacant lots and buildings in this part of Upper Strathfield give the area an uncared for and run-down feel (Figure 36).

Figure 35: Apartment developments on northern edge of the Strathfield Triangle precinct

Source: authors

Figure 36: Vacant property in Strathfield Triangle

Source: authors

These vacant lots and buildings also result in low levels of passive surveillance along several streets to the west and south. There is a considerable amount of low-quality graffiti around the vacant lots, and the quality of lighting is variable. Although there is significant pedestrian activity on the streets throughout the day and into the evening—especially with people walking to and from Strathfield rail station and the commercial centre along Cooper Street—certain streets do not feel safe after dark. There is limited shade for pedestrians during the daytime and no public seating or purposeful public open space. The area of high-density apartment blocks to the north lacks any sense of design coherence and its buildings provide little or no visual interest or

activation at street level. Overall, the public domain does not offer a positive pedestrian experience.

Although Upper Strathfield is just across the rail line from the Strathfield commercial centre, pedestrian access is awkward and involves passing through an unappealing underpass beneath the rail line. The closest purposeful open spaces to the case-study precinct are around a kilometre away, while the local primary school is two kilometres away.

Figure 37: Pedestrian underpass to Strathfield commercial centre

Source: authors

4.3.4 Building design, facilities and management

When asked about the quality of their buildings in the Strathfield Triangle precinct within the Upper Strathfield case-study area, residents participating in the research pointed to several problems. One was nuisance noise from constant heavy traffic, rowdy neighbours, night-time freight trains and a nearby train repair workshop; residents felt that their apartments should have better soundproofing given the proximity of the rail line. Another problem was a lack of adequate communal space for meeting, gathering and recreation. The internal rooms within apartment buildings were not large enough to accommodate strata meetings and, in one case, there was just a small area of outdoor space that was rarely used. Aerial imagery of the Strathfield Triangle precinct indicates that levels of site coverage in new apartment buildings are extremely high, with some buildings appearing to have little or no outdoor space. Given that there are no nearby parks, this is problematic. The various other building-related problems

identified by residents were concerned with management issues. Two residents were members of a single building's strata committee and recounted their problems with people smoking in the building, blocking rubbish chutes, dumping household waste, and not cleaning up after their dog in communal spaces. Sometimes these problems were related to the high levels of occupancy within buildings—with it apparently being common for two couples to share a two-bedroom apartment. The residents also explained that they had initially had difficulties dealing with strata issues due to the unresponsiveness of their strata managers. The unresponsive strata management company had apparently been contracted to the building for three years at the first strata meeting and the committee had been unable to remove them until their contract had concluded. Despite these early problems, coupled with a reported unwillingness from the many investor-owners to involve themselves in strata issues, resident interviewees appeared to have resolved many management-related problems through measures such as a pet ownership register and the monitoring of CCTV footage in refuse disposal areas. However, they did say that membership of the building strata committee had involved a steep learning curve, with none of them having a 'background' (Upper Strathfield resident 1) in this area.

4.3.5 Neighbourhood amenity and facilities

Resident interviewees all lived in the high-density developments in the Strathfield Triangle precinct within the Upper Strathfield case-study area. They believed that the main strength of their area as a place to live was that 'everything's very convenient' (Upper Strathfield resident 2); there is easy access to a wide variety of train services from Strathfield station, plenty of buses, local shops nearby at Strathfield commercial centre and a larger shopping centre and cinema at Burwood, about 1.5 kilometres away. This convenience, and the affordability of housing in the area relative to other parts of Sydney, was seen to make the precinct good 'value for money' (Upper Strathfield resident 1) for working families. However, the area also had many perceived weaknesses. Foremost was the lack of public open space or community infrastructure:

- the closest parks and children's playgrounds are about a kilometre away
- there is no community centre
- the nearest library facilities are at Burwood
- the closest primary school is two kilometres away.

Related to this, there was seen to be nowhere to 'hang around' (Upper Strathfield resident 1) in the local area—no 'third places', where locals could potentially build relationships outside their home or work. Coupled with the lack of adequate communal spaces within apartment buildings, this meant that there was no 'place to meet or to talk' (Upper Strathfield resident 1) with other community members. Another problem identified by residents was the heavy and constant traffic on Leicester Avenue and Parramatta Road, which both lengthened their car journeys and made walking around the area unpleasant. In discussing this issue, residents also highlighted a need for more pedestrian crossings, with walking journeys to Strathfield station lengthened significantly by the unavailability of safe and convenient crossing locations.

4.3.6 Ongoing place management and community engagement

The inclusion of the entire case-study precinct within the NSW Government's 'Burwood Strathfield Homebush' Planned Precinct would suggest that significant change is probable in future years. Upper Strathfield is identified in all of the relevant plans as an area where further high-density residential redevelopment is supported, and it seems entirely possible that greater densities will also be encouraged in the south-eastern portion of the precinct, close to the rail station. Interestingly, this appears to have the support of many of the residents in the area, according to a recent submission to the Greater Sydney Commission (Name withheld 2017). The area around the rail station in neighbouring Burwood has already undergone a major

transformation towards high-density living—although this has not been without its problems—and plans to redevelop the Strathfield commercial centre have also been mooted.

Canada Bay Council's DCP and Public Domain Plan for Strathfield Triangle anticipate the creation of a small park between Hilts Road and Bakers Lane. The location of this proposed park is currently occupied by four freestanding houses. The Council's *Draft Local Strategic Planning Statement* reaffirms the plan, envisaging the creation of a park with a minimum area of 0.25 hectares.

The new park and the various other public domain improvements proposed in the Strathfield Triangle DCP and Public Domain Plan are certainly much needed. However, even if these measures are implemented, they will only go a small way towards addressing what are quite serious deficiencies in the range of services and facilities available to residents locally. As interviewees from Canada Bay Council recalled, the various studies supporting the development of the Council's *Draft Local Strategic Planning Statement* have shown that there are no council-owned facilities in Upper Strathfield (Canada Bay Council staff member 1). The nearest sports facilities, libraries, community centres and schools are all some distance away—with Parramatta Road, Leicester Avenue and the rail line all acting as significant physical and psychological barriers to any residents wishing to access them by foot. There are also no local shops, with the ground floor commercial units in new apartment buildings currently either vacant or occupied by offices (Figure 38).

Figure 38: Parramatta Road streetscape

Source: authors

In addition, there is little or no communal open space in some of the new apartment buildings, certainly much less than required by the Strathfield Triangle DCP, and internal communal spaces in some buildings appear also to be inadequate—not even being able to accommodate strata meetings. The lack of community facilities and spaces in Upper Strathfield appears to have worked against the formation of relationships among local residents. For while there appears to be active engagement in planning issues among residents in the low-density eastern portion of the case-study precinct, resident interviewees told us that there are no community groups or networks in Upper Strathfield, and that they knew very few locals, even within their buildings. As one interviewee said: 'So we know some people in [our] building but … just when we happen to bump into those people. There's no formal or proper place to meet or to talk to those people really' (Upper Strathfield resident 1).

Both resident and council interviewees recognised serious deficiencies in the facilities and services available to Upper Strathfield residents, and this needs to be addressed as the area's population grows in coming years. Resident interviewees felt that Upper Strathfield's location, at the southernmost extent of Canada Bay LGA, abutting the Strathfield and Burwood LGAs, meant that they 'get forgotten sometimes' (Upper Strathfield resident 1). A similar view has recently been expressed publicly by a Canada Bay councillor, Andrew Ferguson. He claimed that Upper Strathfield has been neglected because it is 'out of sight, out of mind' and described the area as a 'no man's land' (quoted in Bastians (2019). In the same article, the council's mayor pointed to the lack of recent development activity in the Strathfield Triangle precinct as the cause of the area's infrastructure deficiencies. He argued that the new infrastructure proposed in the DCP and Public Domain Plan would have been delivered had the expected development—and associated contributions—materialised. Whether or not this is true, the lack of development on vacant lots has undoubtedly blighted the area, and contributed to people's feeling that it has been 'neglected' and 'forgotten'. While it is unclear why no development has occurred, interviewees suspected that the owner was holding off in the hope or expectation that the permissible development densities would be increased. With the area now included in the NSW Government's 'Burwood Strathfield Homebush' Planned Precinct, with future re-zonings foreshadowed—and given that previous planning amendments have increased permissible densities—property speculation in the area would hardly be surprising.

4.3.7 Concluding thoughts

While Canada Bay Council aspires to achieve 'density done well' in its new draft Local Strategic Planning Statement, it is hard to argue that Upper Strathfield currently achieves this goal. The case study demonstrates the importance of public facilities and services, particularly in densifying areas. When development and population densities increase without commensurate increases in public infrastructure, the result is areas with serious deficiencies. Residents recognise these deficiencies, and are unhappy about them. While Upper Strathfield does have good access to public transport, this is not enough—residents also need spaces and facilities in easy walking distance, where recreational time can be spent and relationships formed. Both the buildings in Upper Strathfield and the neighbourhood as a whole are deficient in this regard.

Most importantly, the case study highlights the problems with relying on developer contributions to fund public infrastructure, as it means that the realisation of public benefit depends on the decision of a private market entity. The failure to develop empty sites in the Strathfield Triangle precinct has resulted in a poor living experience for all residents of the precinct, irrespective of the contributions the developers of their buildings made. This highlights the risks associated with a strategy of pooling contributions to fund infrastructure, should some of the developers involved fail to follow through with their development.

While it is important that proposed infrastructure development is announced publicly ahead of time, the Strathfield Triangle precinct also highlights the risks of doing so when funding has not been secured. Residents were told about the plans for a park, and did not understand why it was yet to be built. Explaining why this has occurred—especially when new public infrastructure has been built in the meantime in other parts of the LGA—is not necessarily straightforward.

The lack of public infrastructure is not the only issue with the high-density development in Upper Strathfield. The design quality of the completed apartment buildings is also quite poor, and their location hard up against Parramatta Road—a major arterial—creates issues with noise, pollution and walkability. The lack of private facilities in these buildings—for example, communal spaces and open spaces—compounds the problems of lack of public infrastructure in the precinct.

The case also highlights the importance of geography. Upper Strathfield's location means that there is little strategic benefit for Canada Bay Council to build significant public infrastructure in

the area, as it is not easily accessible for most LGA residents. However, at the same time, the facilities and services in Strathfield LGA are not easily accessible to Upper Strathfield residents, because of the rail line. Addressing these accessibility issues—possibly in part through a collaborative approach between the two LGAs—should have been a prerequisite to allowing significant densification of the area.

Finally, there is a question of why community engagement processes like those adopted in relation to Rhodes—the Rhodes Community Committee, and a dedicated place manager—have not been employed in Upper Strathfield. Given the area has undergone multiple rounds of changes to local planning controls, and is recognised in state-led planning processes as being of strategic importance, this discrepancy seems hard to justify. One possible factor is that while Rhodes West was a master-planned 'brownfield' site, Upper Strathfield is effectively an infill development area, involving multiple separate land parcels—although in practice, a single developer owns most of the properties. This may result in different expectations from local government about how development is likely to proceed, and the extent to which community can have meaningful input. However, whatever the reason, the lack of engagement with community in Upper Strathfield has exacerbated residents' disappointment about how the precinct has been planned and managed.

4.4 Comparison of the Sydney cases

The contrast between outcomes in the two Sydney cases is striking: density done (quite) well in Rhodes West, and density done poorly in Upper Strathfield. The key differences are outlined here.

- The difference in amenity provided by the physical setting: the beauty of Rhodes West's open waterfront location compared to Upper Strathfield's location wedged between major infrastructure corridors, which act as both physical and psychological barriers to accessing services and facilities in neighbouring areas.
- The larger precinct size and the wholesale development of Rhodes West as a planned neighbourhood with extensive community infrastructure, compared to the incremental development proposed—and yet to be delivered—in Upper Strathfield, reflecting the fragmented land ownership.
- The willingness of the private developers involved to contribute to good public amenity outcomes for residents, depending on their business model.
- The level of ongoing engagement between the community and the council.
- A difference in building quality and design, as well as the availability of private facilities within building complexes.

Unsurprisingly, given the differences in amenity and lived experience, there is a difference in price point between the two case-study precincts[8]. Yet while a nicer apartment will inevitably cost more in the private market, this does not mean that there must necessarily be a difference in services and facilities available to residents in lower and higher cost areas. However, in practice, the two case studies highlight why this is often the outcome. The prime location of Rhodes West undoubtedly helped to attract Tier 1 developers to the project, who were willing to work with local and state government to achieve positive outcomes, including significant public infrastructure. The proactive approach adopted by local government also likely reflected the

[8] December 2019 Corelogic data indicate the median apartment price in the suburb of Rhodes is some $150,000 (or 20%) more than in the suburb of Strathfield.

high-profile nature of the site, and underpinned the decision to allocate significant resources to ensuring good planning outcomes. The decision at Rhodes to preserve public access to the entire waterfront also highlights the capacity of government to mandate good public outcomes, irrespective of the cost, when it is considered sufficiently important to do so. This same approach has been notably absent in Upper Strathfield.

While Upper Strathfield is probably not large enough to justify its own community centre like Rhodes, the case studies highlight just how important shared places like the Connection are to people feeling a sense of togetherness and place, and to facilitating community engagement. It is also interesting to note the apparent difference in attitudes of nearby residents in the two case studies. In Rhodes, residents of the established neighbourhood in the eastern part of Rhodes played an important role in shaping the development of Rhodes West, pushing for quality infrastructure to be included in the plan. In Strathfield, however, many residents in the low-rise eastern portion of the precinct seem to be pushing for high-density rezoning to occur, presumably so that they could sell to developers at a significant profit. The reasons for these differing levels of community engagement are unclear, but may have also played a part in shaping the different outcomes in the two case-study precincts.

Ultimately, the differences between the two case-study precincts highlight an equity issue—which is particularly striking, given both precincts are within the one LGA. While many parties have contributed to the different outcomes—including the developers, local and state government, and the local community—the result is a significantly different quality of life for residents in the two case-study precincts. And while lower-income residents live in both precincts, overall Rhodes West is higher earning and better educated. In Upper Strathfield, meanwhile, it is the lower-income residents who are most likely to bear the brunt of the poorer outcomes. Ultimately, it is hard to justify why residents of Rhodes West should enjoy high quality public services and infrastructure, while residents of Upper Strathfield cannot. The inequity of these outcomes highlights why improved policy responses, applied consistently across our cities, are greatly needed.

Possible policy responses to achieve more equitable outcomes will be the focus of Chapter 5. First, however, this chapter turns to the outcomes evidence in our Melbourne case-study precincts.

4.5 Case study 3: South Carlton

4.5.1 Precinct context

The South Carlton case-study precinct (see Figure 39) forms part of the suburb of Carlton, in the Melbourne LGA. Both the suburb and precinct directly adjoin the northern end of Melbourne's CBD. The built form of Carlton is characterised by medium- to high-density development, including a mix of private and public housing, student accommodation, Victorian-era attached and semi-detached terrace houses, as well as mixed-use buildings. Carlton has one of the highest concentrations of university students in Australia, containing parts of both the RMIT University and University of Melbourne campuses, as well as significant cultural and historical landmarks, such as the Royal Exhibition Building, Trades Hall, Melbourne Museum and Lygon Street. The suburb is also home to several Victorian-era 'garden squares', including Carlton Gardens, University Square, Lincoln Square and Argyle Square. Carlton is serviced by two main tram routes that run north–south along Swanston Street (terminating at the University of Melbourne) then Lygon Street, continuing through to Carlton North and beyond. Melbourne Central Station, in the adjoining CBD, is the suburb's closest train station.

Figure 39: Aerial map of precinct boundary

Source: authors

In 2016, the population of South Carlton was 5,226 people. Relative to Victoria and Australia, residents in the precinct are younger, tend to live in smaller households and are much better educated. More people are of Asian ancestry (with fewer people of European ancestry), and a relatively small proportion were born in Australia. Residents are far less likely to drive to work, less likely to own their property outright/with a mortgage and are overwhelmingly more likely to live in an apartment (97% of dwellings are apartments, compared with 12% and 13% at the state and national levels, respectively). Households in the precinct are almost three times as likely to be lower-income households—that is, earning less than $650 per week—and median weekly personal and household incomes are almost 4.5 and 3.5 times higher at the state and national levels.

4.5.2 Planning process

The planning documents relevant to South Carlton apply at three different 'levels':

- the wider Melbourne LGA
- all urban renewal areas within the Melbourne LGA
- the City North urban renewal area specifically (which includes South Carlton).

The current zoning for South Carlton is shown in Figure 40.

Melbourne LGA

Within the Melbourne Planning Scheme, the *Municipal Strategic Statement* outlines the vision and strategies for development and land use management in the Melbourne LGA as a whole, as well as providing strategies specific to local areas—including Carlton. The strategic statement supports further residential development along busy corridors, such as Swanston Street, and the (continued) accommodation of a range of education, commercial, retail, medical

and research land uses to service the area, while maintaining a connection with the fine-grain nature of Carlton's heritage context.

All urban renewal areas in the Melbourne LGA

The *Homes for People: Housing Strategy (2014–2018)* focuses on new housing needs in the urban renewal areas of the Melbourne LGA, identifying that key issues facing these areas are insufficient affordable housing for vulnerable populations (including lower-income groups) and a lack of housing diversity. The policy specifies that at least 1,721 affordable homes—that is, subsidised—for lower-income households should be provided by 2024. The strategy identifies that the use of development bonuses—such as incentivising developers to deliver affordable housing in exchange for increased discretionary height controls and additional apartments—is often an effective means of achieving such goals, while also acknowledging that their use may be somewhat limited due to the municipality's lack of strong height and density controls. The strategy therefore suggests that strengthening height controls should be considered, by using the discretionary height as a limit that can only be surpassed in exchange for affordable housing.

In 2012, Melbourne Council endorsed the updated *Open Space Strategy* and associated *Open Space Contribution Framework*. The *Open Space Strategy* provides an overall direction for proposed new public open spaces and enhancement objectives for existing public open spaces. The contribution framework is the result of *Planning Scheme Amendment (C209)* specifying that the (then) current public space contribution rate of 5 per cent should be increased to 8 per cent for urban renewal areas in the municipality to ensure adequate open space is provided.

City North urban renewal area (including South Carlton)

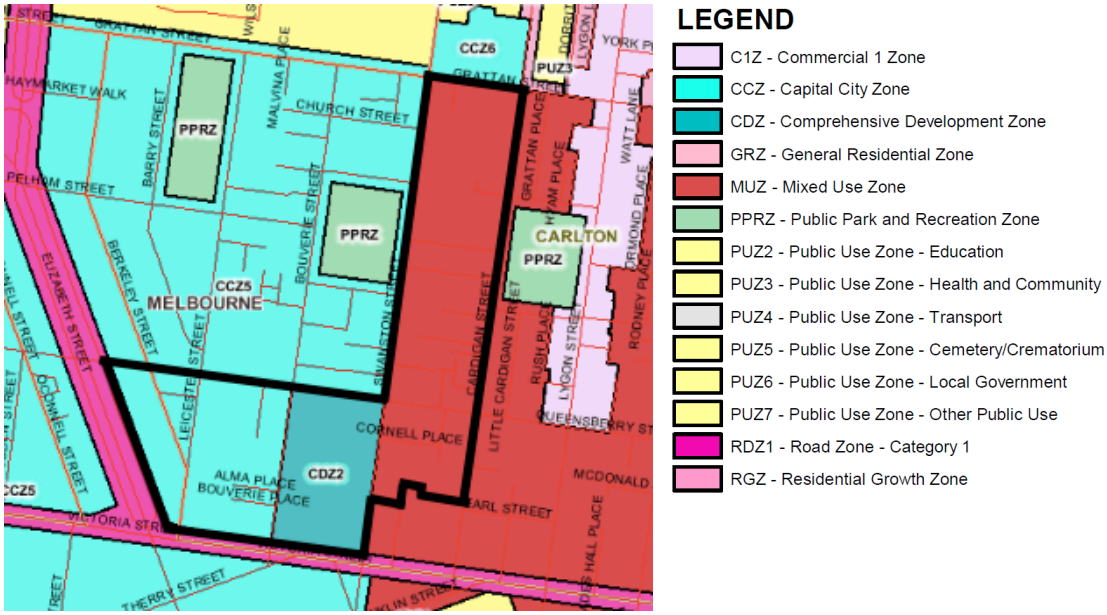
South Carlton forms part of one of the Melbourne LGA's several urban renewal areas—City North—under state-level strategic planning. The City North urban renewal area is expected to accommodate a significant amount of growth over the next 20 years, and is considered to be an underutilised area given its relatively low level of activity and prime geographic position between the Melbourne CBD and Parkville/university precinct.

The *City North Structure Plan 2012* (CNSP) provides a 30-year framework (2011–2040) to guide the area's renewal as an extension of the CBD. To support greater activity, the plan proposes rezoning parts of the area from 'mixed-use' to 'capital city' zones to give equal weighting to residential, commercial and retail land uses, creating new local activity hubs, and ensuring that key transport corridors such as Swanston Street and Victoria Street contain a minimum of 80 per cent active street frontage at ground floor to encourage active travel. In terms of building height, the CNSP emphasises the importance of conserving the area's heritage fabric while also allowing for growth. For some areas in City North, a reduced height control of 24 metres (down from 32 metres) is proposed at the street edge to maintain existing character, with an increased height limit (40 metres, rather than 32 metres) proposed behind the street edge. To better promote the public realm, the integration of smaller local open spaces is recommended throughout City North, as well as the enhancement of existing open spaces—for example, Lincoln Square in South Carlton—via the expansion of greenery, activation of edges, and improved linkage with adjoining streets with new large canopy trees to act as 'green spines'. In terms of community infrastructure, increasing the shared use of existing facilities and resources is encouraged—for example, university facilities, such as libraries, galleries, recreational facilities; and community health services. Improving access to education facilities through the provision of new schools—preferably co-located with early-years services, arts programming and recreation facilities—is also identified as a key need for families in the area.

Also of note is the *Planning Scheme Amendment C208*. This was a contribution plan that required developers to contribute to the cost of providing new infrastructure in City North. This amendment was drafted but later scrapped on the recommendation of Planning Panels Victoria,

due to differing opinions on the proposed methodology for calculating the developer contribution rates. The Melbourne Council consequently had to rely on other funding options for its growth areas. For example, the schedule to clause 66.04 of the *Melbourne Planning Scheme* stipulates that planning applications for developments with a gross floor area exceeding 25,000 square metres in Capital City Zones (which will apply to a large section of the City North area after rezoning) must be referred to the Melbourne Council as a referral authority body. This allows developers and government to negotiate development contributions on a case by case basis for all large developments, whether they be social infrastructure contributions, or the provision of affordable housing units. Moreover, in 2018, section 173 of the Planning and Environment Act was amended to facilitate voluntary, negotiable agreements between local councils and developers for the provision of affordable housing as part of development applications, as it was determined that the absence of clear and transparent criteria to guide negotiations had been hampering the delivery of affordable housing. The decision to make negotiations voluntary has been met with some critique, as there is a concern that rather than allowing for flexibility and creativity in negotiations, it will actually generate uncertainty and possibly inequitable outcomes in comparison to systems where contributions are enforced or properly incentivised.

Figure 40: Current zoning for South Carlton



Source: Melbourne Planning Scheme (as at February 2020)

4.5.3 Urban design

The built form of South Carlton is quite diverse. At the southern end of the precinct, high-density apartment blocks, student housing and office blocks dominate the streetscape (see Figure 41), while the northern end is more 'human scale', featuring medium-density apartments, Victorian-era terrace houses and single-storey or double-storey retail/commercial tenancies (see Figure 42). Some of the buildings are quite distinctive in terms of design, materials and colours. Overall, the precinct does not look particularly cohesive visually.

Figure 41: Southern end of South Carlton

Source: authors

Figure 42: Northern end of South Carlton

Source: authors

Buildings, streets and open spaces are generally well maintained, with minimal litter and almost no graffiti or dilapidation. The active street front—including many third spaces, overlooking buildings and lots of pedestrian activity—provides a high level of passive surveillance to the area, although the eastern side of the precinct is less active and less well-lit in the evening. While the footpaths are well maintained and generally free from obstacles, there is little shelter or shade for pedestrians. Many parts of the precinct also have a constant, heavy traffic

presence, creating considerable fume and noise-related nuisance. In terms of leisure opportunities, there are several cafes, restaurants, shops and community facilities—for example, language and cultural centres—as well as several libraries and two public open spaces that border the precinct (Argyle Square on the eastern side and Lincoln Square on the western side). Argyle Square features an Italian-style piazza and a stage for events, while Lincoln Square contains a small playground, and both squares offer plenty of attractive greenery, shade and seating options (see Figure 43).

Figure 43: Lincoln Square in South Carlton

Source: authors

4.5.4 Building design, facilities and management

Most of the South Carlton residents who participated in the research lived in older, poorly maintained apartments. They were generally dissatisfied with their living situation. In terms of building design, poor insulation was a common complaint—residents reported being ‘really cold’ in winter and ‘baking hot’ in summer (South Carlton resident 3). Noise pollution from nearby construction sites, night-time garbage collections, surrounding restaurants and neighbouring apartments caused significant annoyance, with one resident claiming that they had ‘lost [their] mental health through lack of sleep’ (South Carlton resident 1). Residents also faced issues within their apartments. Some residents reported an increase in vermin related to the Metro Tunnel construction work, including recent mice infestations in kitchen pantries. Other residents complained of dust mites in their carpet that caused itchiness and discomfort. Some residents who were required to drive for work found parking particularly challenging, as car spaces were not provided in their building and they had to ‘fight over’ street parking in busy areas, such as. Lygon Street. Elderly residents living in older style ‘walk-up’ apartments were bothered by the inaccessibility of their units. One resident who had had multiple hip/knee operations commented on the difficulty of accessing their apartment via four flights of stairs, while another resident worried about the ongoing suitability of their home as they aged.

Residents’ views on building facilities, management and security issues were mixed. The residents interviewed lived in buildings with little communal amenity, with shared property

tending to be purely functional—for example, shared stairwells or small entrance lobbies—in contrast with the much higher level of shared amenity provided in more expensive apartment buildings. One resident lived in an apartment building with a small shared garden but was unsure of how often it was used. Residents' status as tenants also contributed to these frustrations. Some residents' requests for upgrades or retrofits—such as dishwasher installation or new carpets free of dust mites—were continually refused, with one resident stating: 'we cannot have any permission, we cannot do anything' (South Carlton resident 4). Another resident felt that 'the onus is on the tenant' to deal with issues, and that the mentality of management was 'if you can't cope, you can't live here' (South Carlton resident 1).

Sometimes experiences were more positive. A few residents were pleased with their building manager's initiative in starting a campaign to improve recycling practices and their decision to install security gates following several break-ins by trespassers. They felt that the security gate 'completely eradicated the problem' (South Carlton resident 3). Overall though, there appeared to be tensions between residents' responsibilities and building managers' responsibilities, with residents feeling unsure of their rights and that they ultimately needed to take it upon themselves to address issues.

Three professional interviewees—a developer, an architect and a strata manager—discussed their roles and considerations when delivering or managing apartment developments in South Carlton. In terms of apartment amenity, the developer described looking to the broader neighbourhood area to assess what amenities were already available and what they could add to attract purchasers. The developer noted that in a weaker market they focussed far more on providing very high levels of amenity and, by contrast, reported 'shying off' from such high levels of amenity provision in a market boom. Their business strategy was to differentiate their product from local student housing offerings by 'bring[ing] a higher level of accommodation to the area' (South Carlton developer), engaging with architects to deliver greater architectural quality (which they also used as a justification for increasing the building height of one development from the design and development overlay-specified eight levels to a discretionary 15 levels). When reflecting on their experiences working with developers, the architect corroborated the need to provide a 'brand' or point of difference for their clients. In one development, they trialled—and successfully sold—flexible or 'dual key' apartment designs. These involved designs whereby, at the ground level, there were a sunken and upper level that could be accessed independently of one another to allow for flexible living arrangements—for example, operating a business on the sunken level and living upstairs, or intergenerational living with elderly relatives on the lower level.

A key point the strata manager highlighted was the divide between tenants and owners in their approach to building-related issues. They perceived owners to be more invested in the building and 'knowing the drills' in terms of following rules and reporting issues. Tenants were viewed as more problematic, being:

- less aware of rules
- less concerned with reporting damage
- less invested in the building generally.

However, the most common issue dealt with was short-stay apartments, such as Airbnb. Owners often complained about the issues the temporary residents caused when using—and over-using—common facilities, and the way they treated the building 'like a hotel'. The strata manager also acknowledged the lack of a sense of community in the apartment buildings they managed, noting that the role of 'more progressive' strata managers was shifting towards 'managing the people and the community rather than managing the site' (South Carlton strata manager) and citing examples of facilitating social events for residents if onsite facilities were amenable to gatherings.

4.5.5 Neighbourhood services and facilities

Resident interviewees tended to view neighbourhood amenity in South Carlton positively. There was a sense of feeling 'close to everything' (South Carlton resident 4), with residents appreciating the convenience of public transport, libraries, museums, university facilities, hospitals and health services, cafes, shops and parks. Several residents spoke of using the local green spaces for relaxation, reading, spending time in nature and in the sunshine. They described Carlton Gardens as a place that 'lifts you' and praised improvements to Lincoln Square that ensured skateboarders no longer dominated the space as they were perceived to do previously (South Carlton resident 3). The Carlton Library and the Kathleen Syme Library were viewed particularly favourably. Residents used the library facilities and services frequently—for example, for a community room or computer hire—and saw them as places where everyone, no matter their background, could gather and mingle, making them a cornerstone of the community. Another key component of the local social infrastructure was Lygon Court. Residents valued the combination of the cinema, cafes, Woolworths, a new (bulk-billing) medical health clinic and recently improved bike infrastructure (with more bike racks provided near the shops).

Despite these perceived benefits among interviewees, certain issues within South Carlton and the wider area were also identified. One resident felt that tall buildings overshadowed the area and dominated the skyline, causing undesirable overshadowing and leading them to seek out the sun in parks rather than around their home. Some residents spoke of being unable to access local amenities such as cafes or the local Woolworths supermarket because they were too expensive. Consequently, they were forced to travel outside Carlton to neighbouring suburbs to access cheaper food and, in doing so, lost some of the convenience that inner-city living offers other households. As one resident summarised: 'the city is expensive, but you have to find some solution to make it something cheap' (South Carlton resident 5).

4.5.6 Ongoing place management and community engagement

Given its position within the City North urban renewal area, South Carlton has entered into a period of rapid urban change and is highly susceptible to the processes of gentrification. Lower-income residents are at risk of finding themselves priced out of the housing market, or experiencing difficulties accessing local amenities and services that were previously accessible to them.

Some lower-income residents are already experiencing these effects. As described earlier, residents viewed the cost of local neighbourhood amenities—such as the Woolworths supermarket—as too high, and even prohibitive, leading them to seek out cheaper options further from home, with all the inconveniences and time-costs this entailed. In terms of access to housing, most of the residents we spoke to live in the oldest and most dilapidated housing in the neighbourhood. Housing affordability was identified as a key challenge with households, with rents perceived as too high and utilities costs also cited as expensive.

Residents interviewed mentioned various strategies they used to manage the financial burden of living in Carlton—many of which have a range of concerning implications. Some residents reported illegally subletting space in their apartment to backpackers or students to offset the high cost of renting—a finding with concerning implications for overcrowding and safety. Several households also suggested that they made significant compromises in terms of housing quality as a 'trade-off' for more manageable rent charges. For example, there were cases reported of landlords charging tenants cheaper rents in lieu of providing adequate heating or cooling in their apartment. Other residents faced insecure tenure, seeing it as a matter of 'when', not if, they would be asked to vacate. They were aware of the high land value of their building, given its prime location in South Carlton, and lived with the ongoing threat that their building would be

purchased and earmarked for redevelopment—as one resident put it: ‘our days are numbered’ (South Carlton resident 2).

4.5.7 Concluding thoughts

It is clear South Carlton is an area in transition, where strong neighbourhood attributes (proximity to the CBD, transport accessibility, and a diversity of land uses) are serving as a catalyst for change. These change processes are being driven both by the government, through rezoning, and the private market through redevelopment. The experiences of residents interviewed portray the classic ‘rent gap’ scenario (Smith 1996) that drives gentrification, describing a precinct characterised by poor quality housing but high levels of neighbourhood amenity. The decision to rezone the area to Capital City status formalises the gentrification processes that are already underway, which are perhaps most clearly evidenced in the changing retail characteristics of the area.

While efforts have been made to secure adequate levels of affordable housing in the redeveloped neighbourhood, the mechanisms adopted—such as voluntary agreements and density bonuses in zones with no height limits—are limited. As such, it seems highly likely that lower-income residents will struggle to remain in the case-study precinct as redevelopment proceeds, and older, poor quality housing stock is replaced by high quality, market-rate apartments. This outcome, even in an LGA with a dedicated housing policy that acknowledges the needs of lower-income residents, highlights a key reason why high-density housing in Australian cities often fails to meet the needs of lower-income residents—under the current market-led system, it is simply not being built for them. The discussion with developers and architects about their efforts to deliver new housing as a luxury ‘brand’ in inner-city areas like South Carlton supports this conclusion. As such, it is unsurprising that the particular needs of lower-income residents are often overlooked in both building and precinct design and operation.

4.6 Case study 4: Carlton North

4.6.1 Precinct context

The Carlton North case-study precinct (see Figure 44) forms part of the suburb of Carlton, in the Melbourne LGA. See 4.5.1 for an overview of the suburb.

As of 2016, the population of Carlton North was 2,661 people. Relative to Victoria and Australia, precinct residents are younger and tend to live in slightly smaller households. The proportion of people holding a bachelor’s degree or higher is on par with state and national levels. The majority of residents are of Asian ancestry, followed by Somalian and English ancestry, with a relatively small proportion born in Australia. People live exclusively in apartments (100% of dwellings are apartments, compared with 11.6% and 13.1% at the state and national levels) and are far less likely to own their property outright/with a mortgage. Households in the precinct are three times as likely to be lower-income households, with median weekly personal and household incomes being over double and triple at the state and national levels respectively.

Figure 44: : Aerial map of precinct boundary

Source: authors

4.6.2 Planning process

The planning documents relevant to Carlton North apply at the state and local government level. The current zoning for Carlton North is shown at Figure 45.

Victorian Government

The state government's *Submission to the Legal and Social Issues Committee: Inquiry into the Public Housing Renewal Program* details the background to the Carlton housing redevelopment project (Victorian Government n.d.). Approved in 2007, the key driver behind the redevelopment included 'aged' buildings in poor condition and the resultant lack of amenity and comfort they provided to residents. The successful tenderers for the project were the Living Carlton Consortium (comprising Australand Carlton and Citta Property Group). Three public housing sites were selected for redevelopment, including the Lygon/Rathdowne Street site bounded by Lygon Street, Princes Street, Drummond Street, Neill Street and Rathdowne Street (i.e. Carlton North). Before redevelopment, the site had 136 three-bedroom walk-up dwellings and 648 high-rise dwellings. The construction of an additional 84 public dwellings and 90 private dwellings was completed in June 2011.

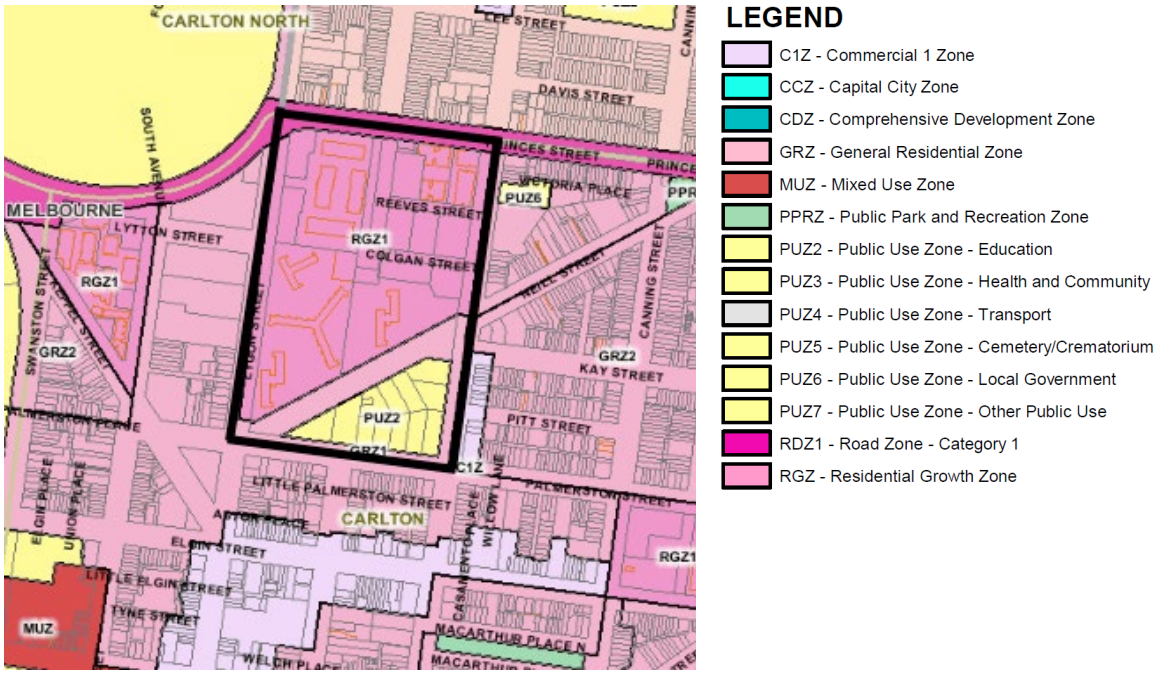
As part of the Carlton housing redevelopment, additional private units and aged-care facilities have also been constructed in several other areas in and around Carlton North. As of January 2018, the Carlton housing redevelopment has delivered 246 new public housing dwellings and 663 new private dwellings, with a further 184 private dwellings still yet to be delivered. The estimated completion date for the entire redevelopment project is November 2020. Moreover, 818 high-rise public housing dwellings on the three public housing estates have been retained and upgraded. However, there has been a reduction in the provision of three-bedroom dwellings, as such household sizes were no longer perceived to match community need, with provision for smaller household sizes—one-bedroom and two-bedroom dwellings—deemed more appropriate.

Melbourne LGA

The *Municipal Strategic Statement* provides limited specific guidance regarding the ongoing development of Carlton North, although it stipulates that existing levels of public housing on the Lygon/Rathdowne Street site be 'retained', and high-density student housing accommodation in the north-west section of Carlton North should continue to be 'supported'. The *Community Infrastructure Development Framework 2014* identifies early-years services, libraries and recreation facilities as key community infrastructure needs for the Melbourne LGA and nominates Carlton as being in particular need of more early-years services.

The Melbourne Council's *Open Space Strategy*, published June 2012, provides direction for the provision of additional open spaces and open space enhancements in Carlton North. A new small local open space has been created alongside the Australian Unity site development, while Neill Street Reserve—a public open space intersecting the Lygon/Rathdowne Street public housing estate—has undergone an extensive upgrade. Completed in 2015, the park now includes two additional sports courts, a community square, upgraded or additional play equipment for children, and informal areas for sitting and relaxing. Additional landscaping—new trees, plants and lawn areas—were also provided, along with improved lighting and pathways.

Figure 45: Current zoning for Carlton North



Source: Melbourne Planning Scheme (as at February 2020)

4.6.3 Urban design

The built form of Carlton North consists of large multi-storey public and private apartment complexes in the centre, with double-storey Victorian terrace houses lining the outer boundary line along Princes Street, Rathdowne Street and Palmerstone Street. The newer (private) apartment buildings and terrace houses represent relatively more fine-grained, colourful and visually diverse urban fabric (see Figure 46) than the neighbouring, older, modernist-aesthetic public housing blocks (see Figure 47).

The street front is relatively inactive; there are few third spaces such as cafes or restaurants, and apartment blocks are often large and offer little interest at the ground level. However, the apartment blocks do provide a high level of passive surveillance to the area, although the southern side of the precinct is less well-lit and active in the evening. While the footpaths are

well maintained and generally free of obstacles, there is little shelter or shade available. Many parts of the precinct also have a constant, heavy traffic presence, creating considerable fume and noise-related nuisance (particularly along Princes Street, at the northern end of the precinct). Neill Street Reserve is a public open space that cuts through the centre of the public housing development and is an aesthetically pleasing element of the precinct. The grounds are well maintained, amenities are in good condition and—given the relatively small precinct size—there is a good variety of spaces and facilities available—such as park seating, a basketball court, a soccer pitch and multiple playground areas (see Figure 48).

Figure 46: Private apartment blocks in Carlton North

Source: authors

Figure 47: Public housing in Carlton North

Source: authors

Figure 48: Neill Street Reserve

Source: authors

4.6.4 Building design, facilities and management

Resident interviewees from the public housing development in Carlton North cited several issues with living on the estate. Problems with neighbours were common. One resident complained of the disturbance caused by noisy neighbours who played loud music throughout the night—an issue that 'went on for years' (Carlton North resident 1). The resident was also troubled by a neighbour who pursued them (and other residents) for friendship and had a 'terrible temper' when he was avoided (Carlton North resident 1). These unwanted interactions were viewed as an imposition on residents' privacy, especially when the neighbour would wait in the common foyer area in an attempt to engage with residents.

Another resident who had grown up on the estate had more positive experiences. They appreciated that their friends were 'all in the one building', making it easy to visit and play with one another when they were children (Carlton North resident 2). However, they also noted that they would occasionally walk past other residents taking drugs and leaving paraphernalia in common areas, such as stairwells, during that era. The interviewee did not feel particularly threatened by this behaviour, feeling that 'they were friendly', although they did report that their parents had held concerns (Carlton North resident 2).

In terms of building design, facilities and management, a community manager from the local area reported a dire lack of large three-bedroom apartments, citing the difficulties migrant or lower-income families face in finding housing suitable for large, intergenerational households. One resident wished for a communal study space for young adults and adolescents at their public housing estate, emphasising the difficulty of studying at home because of the overcrowded conditions, with many siblings living in one small dwelling. They would often go to the local library to escape the noise, but it wasn't always open when needed. Residents also reported negative experiences with building management—such as the Office of Housing—explaining that 'you can't make any headway', and they suggested feedback or complaints were generally ignored (Carlton North resident 1). Another resident felt that there was insufficient support for rent delays, explaining that 'everyone complains' about communications being 'alarmist' and 'uncalled for', and that they lacked appropriate forewarning or explanation (Carlton North resident 2).

A strata manager who manages a private apartment development in Carlton North reported that the issues they dealt with on a daily basis tended to be 'people-based, rather than building maintenance issues' (Carlton North strata manager 1). Regarding building issues, such as security, overcrowding or engagement between residents, there was a sense of powerlessness. For example, incidents of break-ins and theft were described as 'chronic,' despite the presence of CCTV, fob/keypad access and letterboxes being behind internal doors. Break-ins often resulted from outsiders tailgating residents into the building via the main entrance or carpark—a behaviour that the manager perceived to be outside their control.

Similarly, when relating an anecdote of an overcrowded housing situation—which was not in their building—with 15 beds inside a three-bedroom apartment, the strata manager explained those issues 'do happen but, as far as my jurisdiction goes, I can't do anything about it', viewing it as the council's responsibility. The lack of a sense of community within the building, along with the majority of residents displaying 'apathy' towards building upkeep or maintenance, were perceived to be the result of there being a small (about 10%) owner-occupier population, but were not thought to be major issues that required 'impetus from [the owners' corporation] side'.

While these 'people-based' issues were more commonly dealt with, the strata manager was also troubled by ongoing operational or maintenance issues within the building. These issues seemed to develop from a lack of consideration of 'practicalities' during the design and build phases. For example, access to the sump pumps in one apartment development was from within a private lot (unit)—meaning that the strata manager had to request access from the lot owner every time the pumps needed maintenance work. Another instance involved a large,

architectural light fixture in the common stairwell that required an expensive replacement bulb and was so difficult to access that scaffolding and a hired cherry picker was necessary. These costs were then passed onto apartment owners.

Tensions between delivery and operation of the building stemmed from a sense that developers or builders were meeting standards but taking things 'right to the edge of the envelope' and doing as little as they could get away with. The strata manager felt that 'sometimes what you get and what you're managing is not what was signed off on' (Carlton North strata manager 1), citing examples of:

- compromised noise transfer between apartments
- visitor car parking spaces allocated in planning documents but not being available for residents because the developers kept them to lease out privately.

Some of the disconnect perceived between the building as designed versus the building as delivered was linked to the privatisation of building surveyors. This was explained in terms of leaving 'the fox to guard the henhouse', with surveyors reliant on developers and builders for their ongoing work. The strata manager also spoke of feeling pressure from developers when setting up strata titles—with developers still owning 100 per cent of the building at that stage—to ensure that the strata fees were kept as low as possible to appeal to potential new apartment owners. This left strata managers with 'a very conservative lean budget' that did not reflect the true costs of running the building, meaning fees ultimately had to be 'hiked up', which was met with resistance and frustration from owners.

4.6.5 Neighbourhood amenity and facilities

Resident interviewees felt the neighbourhood offered them a high level of amenity and convenience. They tended to use the public space—rather than their apartment building—for social engagement, liking:

- the 'mix of people' and peacefulness of the area (Carlton North resident 1)
- the area's strong community presence.

Residents enjoyed the proximity to libraries, gyms, sports facilities, universities and the CBD, as well as having 'little to no transport costs' associated with accessing these facilities due to their walkable central location (Carlton North resident 2). It was also noted that bicycle infrastructure in the area had undergone extensive upgrades and improvements in recent years. The local churches—which bordered the case-study precinct—appeared to have a long history of supporting the public housing estate. One resident recalled the excellent services and activities they provided, including a homework club, camping trips and legal aid. The Carlton Neighbourhood Learning Centre was also seen as a vital neighbourhood institution, particularly for the public housing estate. One resident used it frequently, and described the job-seeking support services, language education classes and various lunches and morning tea events it hosted as 'really valuable … it's a beautiful community', as it provided vulnerable groups such as the elderly, ethnic minorities and disabled people with connections and support (Carlton North resident 1).

A professional interviewee from a local community centre spoke of its position as a neighbourhood house and registered training organisation that aims to 'connect people, create opportunity and challenge disadvantage' across the Carlton area and surrounding suburbs. Their centre formed part of the Melbourne Council-funded Carlton Local Agencies Network (CLAN), which is a 'network of education, social welfare, youth, recreation, and aged entities, where the needs of the suburb are viewed and managed and supported on a regular basis by all the stakeholders', including local council, churches, the Carlton Baths, and co-health agencies.

The interviewee reported that the local community centre largely services disadvantaged or marginalised local residents (with the majority from the Carlton public housing estate), though more recent projects at the centre, such as a community garden, compost hub and chicken coop, have served to engage a wider range of residents—including more advantaged residents from Carlton North. The centre offers a range of services to support their clientele, including case work assistance and financial counselling, as well as education, health and legal services. The centre also runs an outreach service for migrants to put them 'in a better position to seek employment'. The interviewee perceived job-seeking migrants to be 'pushed' into any form of employment rather than into jobs that would support their capacity to integrate socially or relate to their skill set or training, so the centre provides English language services and cultural integration support to address this gap.

In terms of neighbourhood amenity outside the centre, the local community centre interviewee noted some 'tangible benefits to the community' following the redevelopment of Carlton in recent years, such as new bike paths and upgrades of public space and green space — including basketball courts and skating areas at Neill Street Reserve, which intersects the public housing estate—all of which are highly appreciated and utilised by local residents. However, they also noted the absence of a large community town-hall space in Carlton for large groups of residents to congregate—for example, for a wedding—without spending large sums of money, and the lack of more 'large' community/neighbourhood centres given the high level of disadvantage in the area.

4.6.6 Ongoing place management and community engagement

Diversity is a defining feature of the case-study precinct—whether it be related to residents' age, culture, ethnicity or socio-economic status. While some of the residents interviewed appreciated this diversity, their interactions with neighbours were generally superficial and brief. When speaking of the African residents on the estate, one resident stated: 'they don't have a lot in common with me … they have their own communities' (Carlton North resident 1). A local community manager explained that the area's development had not supported social integration, as investors had taken over the housing market—which resulted in a predominance of students and short-term renters who did not have a commitment to the local area. The manager felt that '[those] fears have been realised; there is a social divide', citing an example of high walls being put around a communal garden in a private apartment development adjoining the public housing estate to 'protect the private tenants' from public tenants viewing or accessing it.

Residents, too, felt the stigma associated with the public housing estate, and some considered it to be one of the biggest challenges they faced in living there. One resident spoke with a neighbour about this issue, who said 'there are a lot of lovely people living in these buildings and that's what people don't realise. It gets a reputation from the drugs' (Carlton North resident 1). The resident recalled a period years ago when an attempt was made to implement a social-mix policy. The resident took offence to the initiative, viewing it as a condescending approach aiming to control the public tenants and 'encourage [them] to be more motivated in pursuing higher paying jobs', when in their view, what was more important was 'understanding who you are and being confident about where you live' (Carlton North resident 1).

As was found with South Carlton precinct residents, affordability of housing and amenities was a challenge for residents in this case-study precinct. The local Woolworths supermarket was deemed 'extremely overpriced', with residents having to resort to cheaper alternatives further away from their homes, such as Aldi (Carlton North resident 2). Regarding housing affordability, one resident felt that 'if you're looking for work or just on Newstart, it's definitely not affordable' (Carlton North resident 2). Several residents also cited the new, high-end retirement housing (part of Carlton public housing redevelopment) as an example of new housing stock not being inclusive, as it was thought to be unlikely to accommodate ageing lower-income residents.

Finally, a lack of financial resourcing and insecure tenure for the local neighbourhood house—an integral part of the community's infrastructure and support system for lower-income residents—were identified as key problems. The community manager explained that the (maximum) five-year lease period for the property was an ever-present anxiety. Moreover, they felt that a high level of competition against other services providers applying for grants from an already limited pool of funding 'is time and time again what stops us from providing the services for our community'. For example, they experienced great difficulty trying to keep up with demand for English language and employment assistance programs, estimating that they could only realistically address a quarter of the demand in the limited remaining time for which those programs were funded. When reflecting on what the neighbourhood house needed most, the manager felt that a $1 million government grant would make a huge difference to boosting their capacity, as it could allow them to open a much larger community centre with increased service provision on the Carlton estate to better support the local community. They ultimately concluded that such possibilities or changes—that is, more funding—were unattainable in the current landscape, as 'there isn't goodwill from government'.

4.6.7 Concluding thoughts

A distinctive feature of Carlton North is the significant public housing estate, which occupies a large part of the precinct. However, despite this difference, the issues raised by residents in Carlton North are much the same as those mentioned in South Carlton. While the residents interviewed were generally satisfied with the neighbourhood services and amenity (particularly the upgraded parks and the local community centre), the quality of available housing was often poor, with challenges including overcrowding, inadequate building facilities and poor building management.

At the neighbourhood level, commercial gentrification was once again evident, with lower-income residents needing to leave the area to shop affordably. Similarly, the private retirement housing in the precinct is unlikely to be affordable for lower-income residents—meaning that their capacity to stay in the neighbourhood long-term is likely to depend on the appropriateness (and availability) of public housing. As such, it is clear that even in a neighbourhood where much of the housing is specifically targeted at lower-income residents, pressures from gentrification and redevelopment are still present. Similar pressures face the local community service providers, with ongoing funding streams uncertain or unavailable, despite the clear value these services provide for lower-income and migrant residents.

4.7 Comparison of the Melbourne cases

As might be expected—and in contrast to the Sydney case studies—there are not major differences between the two Carlton case sites. The most notable difference is the larger public housing population in Carlton North. Interestingly, however, residents of the public housing estate raised many of the same concerns as lower-income residents in private housing across the suburb.

A further difference between the two Carlton case-study sites is that only one sits within the City North Structure Plan. However, for the time being at least, the impacts of this strategic plan are not so confined geographically as to create noticeable differences in the lived experiences of lower-income apartment residents living within this zone. Likewise, where improvements in amenity are provided through the CNSP, it seems likely that these will be favourable for residents in both case sites, in most instances.

In both precincts, the most pressing issue facing lower-income residents seems to be the ongoing availability of affordable housing, given the existing affordability pressures and the redevelopment plans afoot. While the Melbourne Council's *Homes for People* strategy sought to

encourage the provision of affordable housing, mechanisms in the Melbourne Planning Scheme have not delivered affordable housing at the level of need documented (City of Melbourne 2019). The current voluntary framework enables landowners to negotiate provision of affordable housing during the planning process. However, since legislative reforms in June 2018, there have been no such voluntary agreements entered into in the Melbourne LGA. This strategy is currently under review, and Melbourne Council intends to update or replace this with an Affordable Housing Strategy.

Beyond this proposed new strategy, there are also other indications that the Melbourne Council is taking affordability issues seriously. Late in 2019, the council's Future Melbourne Committee endorsed the council's submission to the Victorian Government's Ministerial Advisory Committee on Planning Mechanisms for Affordable Housing. This endorsement has signalled the council's commitment to support mandatory inclusionary zoning mechanisms (at a rate to be confirmed, or fees in lieu). This should facilitate increases in inclusionary zoning both within Melbourne LGA and beyond (City of Melbourne 2019).

Similarly, the Melbourne Council acknowledges the need for more amenity, although not necessarily specific affordability pressures like commercial gentrification. However, more work needs to be done to address exactly what's 'missing' for lower-income residents, including questions of access equity.

4.8 Summary

The four case studies:

- are at different stages of development and redevelopment
- demonstrate different approaches to delivering high-density housing
- provide evidence of a diversity of both positive and negative outcomes for lower-income residents.

Despite this diversity, the analysis identified some commonalities in terms of lessons for future policy and practice. The following chapter further develops these overarching lessons, based on the workshops with experts. This section therefore briefly summarises those themes emerging from the case-study analysis, in a structure paralleling that analysis.

While the case studies provide a relatively rich picture of the benefits and challenges of living in high density, the difficulties encountered in recruiting participants are worth reiterating as a limitation of the case-study findings. Additional engagement with local residents in these areas would be particularly valuable in highlighting specific issues to be addressed in each location. For this reason, the focus on these overarching themes for the remainder of the report is appropriate, as they reflect issues that appear to affect high-density living more broadly.

Planning processes

There were notable differences in the outcomes of urban redevelopment that was coordinated and redevelopment that was incremental. For example, infrastructure to support redevelopment was delivered in a timely way in coordinated, major developments—such as the bike lanes in Carlton North and the Community Centre in Rhodes West. Upper Strathfield, in contrast, has suffered from long delays in both private development and public domain upgrades. However, in both scenarios there was a common theme of the difficulty in securing funding (both the needed amount and the timing of it being available) for necessary infrastructure. This was particularly the case when tied to developer contributions or voluntary/negotiated agreements with private developers.

There was also a common theme of complex governance arrangements hindering effective planning. While there were some suggestions of different state government agencies or sections of a local council lacking the necessary coordination, the most evident issue was the interaction of state and local governments with each other. State intervention had a double-edged impact. On one hand, state intervention:

- enabled better coordination among developers
- opened sources of funding for infrastructure or remediation
- strengthened the planning system's ability to protect or secure public benefits.

On the other hand, state intervention:

- resulted in patchy coordination with the council that would ultimately service the community, resulting in a lack of much-needed local input.

There were also mixed findings about the interaction of planning authorities and landowners. The desire of planning authorities to ensure developments were both publicly beneficial and privately profitable was challenging to achieve. While there was evidence of positive development outcomes, there was also evidence of speculative activity, inflated property values and associated displacement, with developers overpaying for land then reducing quality to recoup costs. There is clearly value in flexible planning controls, but ongoing changes in policy settings—including the shifting in responsibility between local and state government discussed earlier—was generally detrimental.

Urban design

The relationship between building density and car usage was shown to be far from straightforward. Despite following well-founded urban design principles, the case studies all suffered from parking shortages and traffic congestion. Despite the case-study precincts favouring public and active transport, they were situated in contexts that favour car use because of:

- adjacency to arterial roads
- broader metropolitan jobs geographies that necessitated car use.

The combination of high densities and high car use was often cited as a negative neighbourhood feature, with noise and low air quality meaning that even those not affected by congestion were adversely impacted.

A similar challenge of fitting high-density urban typologies into existing streets and blocks meant overshadowing and sub-optimal building massing. Even the relative 'blank canvas' of Rhodes West, with wider streets, larger blocks and new open spaces still had some overshadowing, which limited the value of some open spaces. In South Carlton and Upper Strathfield, differential height controls, which provided more control over building massing, had mixed success. Relatedly, the interface of private buildings and the public realm had a significant impact on the potential for passive surveillance and the user experience of public spaces. Public spaces were also coming under increased strain as surrounding development increased demand. Conflicts between different users of public spaces, given the diverse communities, were also anticipated.

Building design, facilities and management

Uncertainty remained over the expectations of—and need for—shared spaces in apartment buildings. Insufficient shared spaces in buildings were identified as a problem for lower-income residents, especially where there are also few public spaces or facilities locally. However, shared spaces in higher-income buildings are often underutilised. Some participants speculated that developers were focussed on amenities that increased sale price, not necessarily on amenities that were needed by the residents.

Design for profit maximisation in private housing was problematic for lower-income residents in other ways too. Strata fees were often not set at a level commensurate with the costs of maintaining the building, and ongoing operations and maintenance were not always adequately considered in the design and development phases. Worse yet, building quality was sometimes poor, resulting in high maintenance or remediation costs for owners. Building management arrangements were also a challenge for some lower-income residents:

- for renters—processes for requesting maintenance were not clear
- for owners—strata governance processes were difficult to understand and navigate, especially where time or English skills were limited.

The management of highly mobile resident groups—such as short-term letting, or tenants who were international students—was also a challenge across the case studies. It inhibited building a sense of community and increased the wear and tear on communal facilities.

Neighbourhood amenities and facilities

All four case studies highlighted the fundamental importance placed on local community facilities and spaces—libraries, community centres, parks—that were accessible to those on lower incomes. The effect that high levels of visual and recreational amenity can have on people's wellbeing and satisfaction with their neighbourhood was clearly evident, either through positive findings—such as the Rhodes West foreshore or Neill Street Park in South Carlton—or negative findings—such as the absence of amenity in areas like Upper Strathfield.

Upper Strathfield's proximity to a train station (and thus access to job markets) likely dictated development feasibility there, and so dictated it being earmarked for strategic redevelopment. But access to public transport networks was not sufficient to meet the needs of the community. The case study thus highlights the importance of local social and community infrastructure within walking distance, and makes a strong case for precincts being excluded from strategic growth plans until such infrastructure can be provided.

Ongoing place management and community engagement

Across all case studies, there was evidence of the limited ability of planning undertaken during the development phase to guarantee positive social outcomes post-occupation. One of the most effective strategies to overcome this was the presence of ongoing community engagement and place management. The dedicated place manager in Rhodes West helped to connect the community with the local government and increase responsiveness to community concerns, as well as ensuring demographic changes translated to changes in the programming of public spaces and facilities. It was cited as one of the best aspects of the Rhodes West development.

The cases also revealed the role of government in facilitating and funding other actors to build a sense of place. This included through third parties—such as community centres, church groups, multicultural groups and migrant services—as well as environmental initiatives. It also included community members themselves helping to coordinate resident or community committees. In the absence of such 'soft' infrastructure, there was little sense of community.

5 Improving outcomes: policy and practice responses

- The impact on lower-income residents should be a focal point for policy makers when reviewing development proposals and planning public infrastructure, as these residents are rarely catered to by the private market.
- In particular, access to free or low-cost services and facilities–both in buildings and in the neighbourhood–is essential to support lower-income residents.
- Coordination across levels of government is complex but essential. Despite the challenges involved, quality outcomes like the public spaces in Rhodes show what can be achieved when both levels of government are meaningfully engaged and have well-defined roles.
- LGAs undergoing significant densification will need more funding to provide the necessary infrastructure to cater for all residents; developer contributions are too uncertain to ensure good results.
- Some key building level issues can be addressed through policies designed to improve education on apartment living, including the costs and obligations involved, and to ensure roles and responsibilities are agreed upon at an early stage.
- Design reviews–for both apartment buildings and public facilities–should prioritise flexibility. This includes enabling retrofitting in apartments and adaptation of public space over time to reflect changing demographics.
- Planning for future changes in apartment-resident profiles also needs to be a policy priority, including the needs of families, older people, pets and visiting family members.

The aim of this chapter is to identify approaches to policy-making and practice that could be prioritised in order to help address the key issues identified in Chapter 4, and in doing so improve resident wellbeing, community and affordability outcomes. The chapter draws primarily on the data from the two workshops held in Sydney and Melbourne in October 2019, involving a dozen policy makers and practitioners (see section 2.3 for details).

To give some structure to the workshop discussions, the issues identified through the case studies were grouped into 'key tension points', identified through the analysis of the case-study outcomes. These tension points were all boundaries of some kind—conceptual, temporal, regulatory or spatial—where the needs, responsibilities and interests of different groups intersect. As such, these were identified as points where processes tend to break down, things fall through the cracks, or conflicts arise.

For the Sydney workshop, the tension points were:

1 Development phase / operational phase

2 Private building responsibilities / public domain responsibilities

3 Infrastructure planning and delivery / infrastructure funding models

4 Local / state government responsibilities

5 Current community needs / future community needs

For Melbourne, the tension points were:

1 Development phase / operational phase

2 Private building / public domain interface

3 Infrastructure needs / infrastructure provision and access

4 Urban transformation / gentrification

5 Current housing needs / future housing needs

While these topic headings provided a starting structure for the discussions, there were often overlaps in the issues raised throughout the workshops. In particular, discussions related to tension points 4 and 5 from the Melbourne workshop overlapped closely with discussions in Sydney related to tension point 5. For this reason, these topics—*urban transformation / gentrification, and current / future housing needs*—are reported here as sub-sections of tension point 5: *current / future community needs*.

5.1 Tension point 1: Development phase / operational phase

Decisions made during the development phase of a residential project can have an important impact on how effectively the building or neighbourhood functions—but the flow-on effects of these decisions are not always fully appreciated or acknowledged at the time. Similarly, the order and timing of development can be influential. Notably, a number of concerns identified by residents in the case studies could be addressed in future developments by ensuring certain events occurred earlier in the development process.

5.1.1 Poor development decisions affecting building operations

A particularly striking example of this was the building in Melbourne where scaffolding was required to change a lightbulb in the foyer (see section 4.6.4). Building defects were also raised as an issue with long-term ramifications, with new apartment owners discovering they are liable for significant repairs, which can be prohibitively expensive for lower-income owners (Easthope et al. 2017).

As a local government representative noted in the Melbourne workshop, most planning system checks occur either prior to or during the development phase. While local governments can require building repairs to be made—for example, via development control orders in NSW—this is generally limited to issues involving a safety risk. Otherwise there is limited capacity to intervene during the operational phase if an issue arises that was overlooked during development. Similarly, while both NSW and Victoria provide mechanisms for apartment owners to have defective building work rectified, these regimes have limits, and many owners find it difficult to claim back the costs of repairing building defects.

However, even during the development phase, it can be difficult for governments to ensure that the decisions made will result in good long-term outcomes for residents. For example, in Melbourne the local government representative described the challenge of convincing a developer to change a building design to provide better communal facilities, where these were not included in the original design:

> *If the developer hasn't got that in mind from day one, trying to retrofit the building and say, 'No, you've got to do this', in my experience is pretty difficult … negotiation ad hoc is just so time-consuming, and people just put their hands up and say, 'Oh, just take the easiest route out.'*

At the same time, however, making too many changes along the way can also result in poor outcomes. As the same local government representative explained, this is particularly an issue when multiple modifications are made to development approvals as development proceeds:

> *[It happens] gradually, so individual modifications become a cumulative impact, you are sort [of] downgrading what was approved and what might have been negotiated from a good design position, to one that's not great.*

This is a particularly significant concern if public infrastructure like open space is to be completed last, and may therefore undergo significant changes as a result of the incremental impact of other development modifications.

If good outcomes are to be achieved, it is evident that a clear vision of public infrastructure needs and goals is necessary from the earliest stages of redevelopment planning. This vision may still need to allow some flexibility in terms of the precise outcomes, as the next section will explore. Nonetheless, having the expectation from day one that high quality, integrated public facilities will be a development outcome may help to avoid some of the challenges described here. Of course, this will be easier to achieve in some cases than others—as one Melbourne participant noted, 'it's possibly easier in a master-planned estate, not an infill situation like Carlton'. While recognising this, there are things that can be done in both redevelopment contexts—such as the appointment of a dedicated place manager—that could help to achieve more coordinated outcomes.

The other challenge to ensuring good outcomes in the operational phase is the need for sufficient funding for maintenance. This can be costly given that public infrastructure in high-density areas is often extremely well utilised. Workshop participants suggested that while transferring ownership of privately-funded public infrastructure to local government might be the best approach for ensuring public access is maintained, the maintenance can become a significant cost burden for councils. To mitigate this risk, contractual arrangements could be put in place during the development process to support adequate maintenance into the future (City Futures Research Centre 2008).

5.1.2 The timing of infrastructure delivery

The delayed delivery of public facilities in large developments was raised by workshop participants as a concern, with the first wave of residents often moving in before much of the essential infrastructure is delivered. As well as poor amenity for residents, this timing creates a risk that the public facilities might be subject to cost cutting, as the Sydney developer representative pointed out:

> *We've thought a lot about how the delivery of amenity and infrastructure will happen throughout the life cycle [of our multi-year project] … That's at the forefront of our design and considerations at the beginning. Making sure you're delivering public amenity in parcels so that your big park isn't delivered at the end and you can't afford to do it … It's all about … making sure you're considering these things up-front.*

However, a staged approach may be preferable to delivering all the public benefits early on in the project. Delivering the infrastructure in stages ensures first-wave residents have access to key infrastructure, while also being able to have greater input into the other infrastructure and services provided. This occurred in Rhodes, where the shopping centre at the south end of the peninsula was delivered early in the development process, providing a focal point for the residents to gather and become more engaged in the community. It also served as the venue for community consultation about subsequent facilities. This consultation contributed to shaping the design for the expanded community centre, which the council facilitated by bringing together multiple VPAs. This level of public input into the terms of VPAs seems to have been unusual,

but was seen as central to the positive outcomes achieved, as a local council representative explained:

> *In Rhodes, council did engage the community in the VPA and master-planning process. People understand and lobby for the things that are yet to be delivered … that's brilliant. It shows how engaged they are and it's very place-based.*

This outcome was itself only achievable because a meeting space was already available. As the council officer noted, 'without a space that you can come together in, I think it's impossible to develop any of those social bonds'.

The important role adequate meeting rooms play in enabling community engagement was also raised in Melbourne, where it was noted that most strata buildings did not include big enough spaces. As such, additional public facilities are essential. It is also important that the public facilities provided early on are flexible—for example, multipurpose meeting rooms. This would allow use by different parts of the community while they wait for other infrastructure to be completed, with adaptable designs able to meet the community's changing needs over time. As the council officer noted:

> *Flexible development would be much better than no development: 'Let's [just] wait and see what people want.' I really think we should be futureproofing buildings and not overdesigning everything.*

Another option for enabling public participation throughout development—not just after completion—is by engaging existing residents in nearby neighbourhoods. This also occurred in Rhodes, with East Rhodes residents acting as 'proxies' to represent West Rhodes before it was populated. In the Sydney workshop, the developer representative agreed that they have found the involvement of community reference groups of nearby residents valuable for ensuring the outcomes of large-scale development projects are appropriately tailored to the community.

There was also discussion of some cooperative development models in Europe, where projects will employ someone to bring together residents and developers to work through these issues. Importantly, this role straddles the development and operational phases, rather than the developer finishing up their involvement once construction is complete. This may be more challenging in the strata context, where owners traditionally have minimal involvement prior to completion. Workshop participants discussed whether developers and councils might engage more effectively with off-the-plan buyers in the development phase, although the success of this would depend on how engaged these buyers are—and possibly whether they are investors or owner-occupiers. On a broader scale, the appointment of a dedicated place manager in Rhodes West has proven valuable, providing a repository of long-term, embedded local knowledge. Having a role like this established before significant redevelopment begins—in both master-planned and infill contexts—would help to address many of the issues that arise as a result of the transition from the development phase to the operational phase.

5.2 Tension point 2: Private building / public domain interface

High-density development blurs the boundaries between private and public space in a number of ways. To begin with, for strata developments with shared space like courtyards, it is not always clear where the boundaries of the communal private property lie and where the public space recommences. There is also the further complexity of privately owned public spaces (or POPS) where the public is legally entitled to access privately owned property. These arrangements can facilitate efficient sharing of resources and increase public access to valuable facilities—but can also create significant challenges for owners and residents.

5.2.1 Unclear responsibilities and uneven expectations

Maintenance of open space and shared facilities was identified as a particular challenge. In part, this arises from the initial design of these spaces, as one Sydney local government officer noted:

> *The people who manage things don't plan things, and the people who plan things don't manage things, so while the developer's there selling the properties it looks fantastic, but once it's left to self-fund it crumbles a bit.*

One issue is that building designers have actively sought to minimise the visibility of legal boundaries in recent years—for example, designing communal private gardens merging into a public park. As the council officer explained:

> *It's called blurring the lines of public / private domain in 'planning speak' and it looks fantastic on a plan: this seamless extension of open space from what's owned by the strata to what's owned by council. But then you try mowing that or maintaining that or resolving a dispute on that … management-wise it's an operational challenge.*

The Sydney strata manager made a similar point, noting that while the division of responsibility was actually often well known, there were different expectations involved:

> *The delineation is often well understood, at least at a management level. The problem arises in the inconsistency in what an expectation around maintenance is, because council will do it once a quarter or once every 6 months, but the residents' expectation will be weekly, particularly during the summer months.*

One possible solution is to make sure detailed information about building boundaries and responsibilities is easily available to residents and strata managers. This information is often provided to initial purchasers after settlement, but the extent of the information varies. However, even this may be too late, as buyers are already locked in after settlement. Meanwhile, they have received little relevant information at the time of sale. As the Melbourne architect noted, this is an issue with the current approach to off-the-plan sales, which mean that

> *the consumer doesn't see [maintenance costs] as important because it hasn't been promoted during the selling phase. Everyone sees beautiful apartments, beautiful everything, and often it's a skin-deep approach.*

As the Melbourne strata manager argued, buyers need detailed knowledge of the ongoing costs associated with owning an apartment:

> *Maybe there's an avenue for requiring greater documentation up-front, and sinking costs, the building life cycle, so people have a greater understanding. They're not entering into these things without a good knowledge of what that's going to cost them.*

This information also needs to be appropriately curated to ensure it is not overly technical. Otherwise, it may be of limited value, and could create a system where lower-income residents might be disadvantaged, as one Sydney state government participant noted:

> *Having such long and lengthy documents and relying on the ability of the individual to research what they're buying into is going to be negatively impacting on lower-income residents, who may also be less well educated.*

This risk could be reduced by developing standardised templates setting out the information in an easy-to-read format, as well as the creation of a centralised online portal where this information is stored for future residents and strata managers to access. Currently, there is no

system to ensure the information provided to initial owners at settlement is passed onto subsequent owners, or to tenants if required.

This also points to the need for ongoing public education about the nature of the rights and responsibilities of strata owners. While many local governments (including Canada Bay) offer courses in strata basics, it is clear that many owners do not fully understand how strata works.

Furthermore, it is important to ensure that strata levies are set at a level that allows for required maintenance to be adequately funded. As workshop participants noted, it is not uncommon for developers to underpitch strata levies in order to sell apartments more easily. However, once the strata is in operation, this leaves strata managers and owners with insufficient budgets to undertake the work required (Easthope et al. 2012). Where levies are subsequently increased significantly to account for this shortfall, this can cause financial distress to lower-income owners. If levies are not increased, this may be a particular point of frustration for tenants, who may suffer a reduction in their quality of life yet have little capacity to push for change. A requirement for independent review of strata levies prior to sales being finalised may help to minimise this risk.

One option for minimising maintenance issues is to incorporate more input from maintenance experts into the planning and design process, to ensure challenges and costs are factored in up-front. Clear delineation of maintenance responsibilities and expectations should also be outlined early. Design features—such as changes in tiling and garden beds—could be used in some cases to delineate between private and public property, reducing the need for physical walls or fences to break up space. The appropriateness of different hard or soft approaches to marking boundaries should be considered, as the case studies show some hard boundaries were appreciated by residents—such as security gates—while others were viewed as exclusionary—such as walling off gardens. Workshop participants also suggested that councils may find it valuable to work with strata managers and committees to ensure the standards of public domain maintenance set out in the LGA's public domain strategy are widely understood.

5.2.2 Privately owned public space

Privately owned public spaces (POPS) arise when a developer or subsequent landowner agrees to allow public access to their property, usually in return for a benefit from the planning authority. These arrangements often arise through VPAs, where the developer will agree to public access in return for additional development rights. After completion, responsibility for the POPS is handed to the new owners—usually an owners' corporation—which is when the challenges begin. POPS can be confusing for owners, as the Sydney strata manager explained:

> *Strata owners have a real issue understanding publicly accessible private land because they haven't had anything to do with the formation of it or the transition or the delegation of responsibility, but all of a sudden their meeting room, their swimming pool … is accessible … and they really struggle with it and it's a constant conflict.*

POPS are inherently complex, involving contractual arrangements, and possibly a burden on the legal title (such as an easement). POPS can also seem like an unfair burden to strata owners, who now have to pay to maintain and insure the space, despite the extra costs associated with allowing public access. As a result, many owners' corporations seek to limit public access as much as possible, as the Sydney strata manager noted:

> *They are disastrous to manage and the strata committee will try and circumvent it as best they can and limit access, provide lockdowns and make sure it's not there for the intended purpose.*

This reaction is understandable, given that the strata owners are unlikely to have benefited from the arrangement under which the POPS was created—it is the developer who reaps the benefits in the form of additional development rights. It is also one further layer of complexity added to a task that is already challenging—the management of a large, sophisticated building. As the Melbourne strata manager pointed out, this is a lot to ask, given that a committee often consists of '12 people who have no idea what they're doing, who have no management knowledge, building knowledge, structural knowledge, taking over a site'.

As a result of these issues, workshop members suggested that the creation of POPS be avoided wherever possible. Instead, public space provided by a developer under a VPA should be dedicated to the council, along with an arrangement to cover ongoing maintenance costs, which might include part co-payments from property owners to enable a higher level of service than would otherwise be provided.

5.2.3 Street activation challenges

Another point of public/private interface in high-density buildings is the ground floor retail. While mixed-use development is desired by planners as a way to activate the streetscape, finding suitable tenants can be difficult. Developers are not always incentivised to actively manage the retail spaces, as they have already made their required returns off the residential component of the development.

Meanwhile the spaces provided often require significant modifications to function as anything other than basic commercial, such as convenience stores (see Figure 49). As the Sydney strata manager noted:

> *[The retail spaces are] just an ad hoc add-on … and [developers will] sit on it as long as possible because the bank won't value it and they've got no utility in it, they'll wait until someone comes along and the only person who comes along is the local convenience store.*

The result is a poor public domain outcome, and a lack of diversity in available commercial offerings, which may result in less competition to provide affordable goods and services.

Figure 49: Streetscapes in Rhodes West and Carlton North, with convenience stores

Source: authors

This issue was broadly acknowledged by workshop participants, and a Sydney state government representative noted that it is now being actively addressed in design reviews. The aim is to ensure proponents have actually thought carefully about what might go into ground floor spaces (and designed them accordingly), not just offered a cookie-cutter statement that, 'Oh, that will be retail'. For example:

> *We've observed … in some of the precinct planning reviews, that typically supermarkets and franchises tend to suck the life out of some of those small-scale fine-grained retail strips and there's also broader social factors and economic factors that [mean] small business is really hard … but then the counter is that it's possible to design two-storey maisonettes that still provide some activation to streets and don't rely on thousands of acres of ground floor space to be tenanted out. So, there are opportunities there. But also to think about how those ground floor units could be used in multiple ways … so it may be a two-storey apartment or maybe it's a home office live/work scenario.*

Where retail space does end up empty, a number of other solutions were offered by workshop participants. First, a scheme could be set up to provide these spaces to local community groups for gatherings and events. As a Sydney council officer explained:

> *In my experience, there's lots of user groups out there who want free communal space, but there's no free communal space. The only place you can go for free is the library. So every community that I've ever worked with wants a library because that's the kind of place where you can just go … they all want to do that but the minute you charge for the space the demand disappears. So all of those empty spaces in buildings could be really active … if you give them away and can run them for relatively little … There's a need for space in these apartment blocks particularly for birthday parties, community gatherings, hobby groups or whatever, there's a real need for space, but the affordability and access to that space is really difficult to deliver … We could fill our community centre three times in Rhodes, we can't build more but we could fill the vacant places in private buildings.*

The council officer made a number of suggestions of how this imbalance could be addressed:

> *We need to re-think some of the input funding from developers into making some sort of revolving fund or community loan, or there's a shop and the income from that is invested into the community space, like a co-op …*

One example of a model of this kind is Renew Australia, which facilitates the temporary use of empty retail space by small-scale creative organisations. Another option is to institute a dormant site tax, to incentivise developers to ensure retail space is activated, and to provide government revenue to support other local area initiatives.

5.3 Tension point 3: Infrastructure needs / outcomes

As the earlier discussions indicate, the quality of infrastructure—both social and physical—plays a key role in determining the quality of life of residents in our case-study areas. However, despite its significance, the planning, delivery and operation of infrastructure continues to prove challenging for both local and state governments. In many cases, where poor outcomes have occurred, workshop participants attributed this to funding challenges: either shortfalls, or the complexities associated with key mechanisms used to fund infrastructure—development contributions in both states, and VPAs in NSW. Even once public infrastructure was in place, however, challenges remain in making sure this space works equally well for all residents.

5.3.1 Development contributions

One of the key issues with relying on development contributions to fund public infrastructure is that it requires development to actually occur, which in turn requires favourable market and business conditions to prevail. However, if the market turns, development may stall and infrastructure may be delayed indefinitely. This risk has materialised in the Strathfield Triangle precinct in Upper Strathfield, where a single developer owns a large share of the land but has held off developing it for many years. While the resulting vacant sites are a blight, the lack of public infrastructure—which was to be funded by contributions tied to the stalled development—is even more detrimental to the neighbourhood. As a result of this funding model, those residents already in the area are left with little by way of infrastructure or services. As a Sydney council officer noted, the impact of these poor outcomes tends to affect lower-income residents more:

> *If you think of great developments—Rhodes they built infrastructure first ... in Breakfast Point they put in most of the infrastructure first ... People with choice buy into places that have got things that are going on for them. Where this [doesn't occur], there is a need either for direct government intervention—simply providing the required infrastructure using a different funding stream—or a mechanism to incentivise the developer to proceed with development, including the proposed public infrastructure.*

This prompted a further discussion of the possibility of recalibrating land tax settings to further disincentivise leaving land undeveloped, drawing on examples from overseas—for example, Pennsylvania in the USA (see Vincent 2019).

The other challenge associated with development contributions was the complexity of coordinating contributions across a broader redevelopment area to ensure coherent planning outcomes. The different levels of government involved, and the different contribution types—both cash and infrastructure—meant outcomes were sometimes piecemeal. And while some developers proposed innovative schemes, this isn't always the case, as a Melbourne state government planner noted:

> *Community infrastructure for some developers means roads. Bit of gardens. It doesn't mean a community space. We learned that the hard way.*

In this respect, the planning system may be partly to blame for a lack of clarity on what the contribution scheme should provide. As a Melbourne local government planner noted:

> *There's no definition of what community benefit might be in the planning system, there's the term 'community benefit' but there's no definition. That's caused a whole lot of issues.*

To achieve a more coordinated approach to using development contributions to provide high quality public infrastructure, participants agreed that government needs to play a lead role. As a Melbourne state government planner argued:

> *Getting the money just as a contribution through the planning scheme, all up-front, transparently, and the council or whoever it is having the oversight role and the ongoing management of it and a strategic plan behind that, to me it's the best way we have at the moment to try and deliver those things.*

Similarly, a NSW Government representative noted that work was underway to improve how development contributions were collected and used, but this was still in its early stages:

> *There is an attempt to coordinate … contributions in a better way, but then that sits with state and I'm not sure that the interaction with local government … I think*

that's rolling out how that's supposed to get resolved at the minute. There's definitely room for improvement there.

Hopefully, these changes will make it easier to aggregate and coordinate development contributions in a way that allows for more strategic planning of infrastructure outcomes.

5.3.2 Voluntary planning agreements

Voluntary planning agreements (VPAs) were a particular point of focus in the Sydney workshop, where discussions highlighted both positive and negative aspects of VPAs as a mechanism to fund public infrastructure. This is unsurprising, as VPAs have long been controversial (Kaldas 2018; PIA n.d.).

VPAs involve developers negotiating specific agreements to provide public facilities or services, linked to a decision to allow density increases in an associated development. VPAs have been used to provide valuable infrastructure, including public transport links, parks and libraries, but the process raises concerns. VPAs are negotiated on an ad hoc basis, sometimes quite late in the planning process, which can create uncertainty for communities already living in redevelopment areas. The contracts can be highly complex, and the negotiation process often lacks transparency. In addition, outcomes are dependent on the negotiating capacity and resources of the local council. As a result, this process can produce public infrastructure that does not reflect the local community's preferences or best interests. Also, infrastructure developed under VPAs is often used as a marketing tool by developers, creating an incentive to fund projects that are a selling point for market-rate housing, rather than services and infrastructure designed for lower-income and vulnerable residents.

As noted in section 4.2.3, the development at Rhodes West relied heavily on VPAs to fund public infrastructure, particularly in the latter phase of the development. Of particular note was the decision to coordinate and aggregate VPA contributions associated with multiple developments, to enable the provision of more significant infrastructure. While the negotiated nature of VPAs allows this kind of flexible outcome, it also creates risks. Achieving good outcomes relies on councils being well resourced and skilled, as well as a developer being willing to cooperate. As a Sydney state government official explained,

> *In the instance of Rhodes it worked well because you had buy-in at a precinct scale, but that relationship was based on the ability of council to be well informed in the negotiation space and for those developers, too, to be trying to drive a good outcome. But those abilities vary in different instances in councils' ability to be across what needs to happen and developers also having different levels of ability.*

While Rhodes West is a VPA success story, it is important not to underestimate the effort required to achieve a positive outcome for the community. Because of the scale of the redevelopment area, the effort directed to it was unusual, as a Sydney council officer noted:

> *Rhodes has a lot of focus and a lot of resources … where there's a level of leadership there's a level of resourcing. And where there's a level of resourcing, you can actually facilitate the good outcomes.*

Yet even with the best government resourcing available, the very nature of VPAs creates uncertainty in the planning process, as the local council officer noted:

> *A VPA is voluntary. Council can say, 'Well this is what we need', and the developer can go away and do the numbers and say, 'Well, this is what we're going to offer.' It's a negotiation that the developer can walk away from. A number of suggestions emerged for strategies to ensure the best possible outcomes from VPAs. First, VPAs were seen to have greatest value for the community if carefully coordinated by government, with multiple agreements brought together to provide large-scale,*

flexible infrastructure that might otherwise be difficult to fund. This process should also involve direct community input into the negotiation process. This was viewed by participants as a better approach than using VPAs to fund multiple, small-scale infrastructure works associated with individual building developments. Second, participants noted the need for ongoing capacity-building for government staff in the negotiation and implementation of VPAs, to ensure the best possible outcomes are achieved for the community.

Ultimately, however, even when the outcomes of VPAs are considered successful, a degree of disquiet about their use is likely to remain. This reflects an underlying concern that they involve compromise by their very nature—a trade-off between public and private interests. The same Sydney council officer encapsulated this discomfort neatly, noting that:

It's Sydney for sale, isn't it? It's great at Rhodes and … I'm very positive about it, but equally, isn't planning meant to be about the vision and not the sale?

5.3.3 Making shared space work in high density

Moving from the planning to the operational phase, both workshops considered the challenges of managing public infrastructure in high-density areas. This is an issue of particular relevance to lower-income residents, who tend to use public space for a broad range of purposes. For example, in the Carlton case studies, participants noted 'really heavy reliance on public and non-private spaces around Carlton, especially for their social interaction.' One reason for this is the 'stark difference' in amenity and facilities provided in lower-income buildings, compared to higher-income buildings. For example, in a Melbourne case study a participant raised the issue of a poorly designed courtyard in a lower-income building that was rarely used on a day-to-day basis. The only time the space was used was on rare occasions when large groups would congregate, which was perceived by some other residents as threatening. This highlights the importance of good design and integration of spaces into high-density buildings, to make them as welcoming as possible to all residents, and to encourage a diverse range of uses.

In Sydney, discussions focussed around the role of passive surveillance in shaping how public space is used in high-density areas. Interestingly, while Rhodes West residents felt the level of passive surveillance was reasonably high, workshop participants were more critical. Shopping trolleys being abandoned in public spaces (see Figure 50) was offered as an example of the issues resulting from this lack of passive surveillance, and the greater anonymity associated with high-density living. However, at the same time, workshop participants noted that this issue was also a result of current planning approaches, which a council officer suggested only work well for residents with higher incomes:

Even trolleys, if you're quite well off you drive, you put [your shopping] in your car and you take it up in the lift and there's no issue. But then when you don't drive and you don't have the car … you push your trolley and then you've got kids to pick up and stuff to do and so you just leave it, because no-one's going to know it's you and there's no community censorship to discourage this behaviour.

So while one solution would be to encourage greater community engagement and a sense of collective responsibility for public spaces, another would be to provide better services to enable lower-income residents to transport shopping home without a car.

Tensions over incompatible uses of public space were also mentioned in the Sydney workshop, including clashes between cyclists and joggers or walkers, and over dog owners not picking up after their pets. A Melbourne state government planner suggested that one way to deal with issues that require community engagement would be to 'get a champion in every apartment building'—potentially something the council could coordinate. In some respects this is not significantly different from the Rhodes Community Council, which has proven to be a successful

model for engagement between residents and local government over ongoing place-management issues.

In both cities, issues had also arisen with the use of public space in a way that disrupted local residents' capacity to enjoy their private space. In Melbourne, the issue of noise in public space was raised as a common concern. One solution was to ensure services taking place in public space were well coordinated. For example, initially each building had organised its own rubbish collection, which meant multiple trucks coming and going throughout the night. However, this issue was minimised once the council intervened and coordinated garbage removal.

Figure 50: Abandoned shopping trolleys in Rhodes West and Carlton North

Source: authors

5.4 Tension point 4: Local / state government responsibilities

The need to redesign and expand the Rhodes West community centre—using VPAs as a funding mechanism—arose partly from insufficient engagement between local and state government over the original masterplan design. This highlights the issues that can arise from the division of responsibilities between different levels of government. While local governments generally have better precinct-level knowledge of the places being redeveloped and the communities that will use them, state government needs to ensure local changes fit effectively within the broader metropolitan structure. Recent changes to NSW planning legislation to better integrate local strategic planning into the broader planning system will reshape this relationship between local and state again—the effect of which is not yet known. One Sydney state government representative noted that challenges remain, including:

> *the burden on councils to rezone or review the zoning across their whole area in these intensive periods of review every five years, rather than a process that may have councils focusing on particular areas and staging re-zonings across their council area in a more strategic way—identifying where priorities are and having the ability to engage residents in that particular community to focus on one area at a time, and that may better reflect the capacity of local councils to attend to those smaller tasks.*

If the case studies of Rhodes West and Upper Strathfield are indicative, strong leadership at the local government level does seem to be key to achieving positive outcomes. While Rhodes West was an area of significant focus for the City of Canada Bay, Upper Strathfield has received less attention, and the difference in outcomes is notable. This is despite the fact that Upper Strathfield has been included in a number of major recent state-led strategic planning

efforts, including the Parramatta Road Corridor Urban Transformation Strategy (2016) and 'Burwood Strathfield Homebush' Planned Precinct.

To facilitate this strong local input, workshop participants suggested:

- additional leadership training for local councillors, council staff and key community leaders
- strategies to ensure a consistency of personnel working on large-scale redevelopment projects over multiple years, to avoid the loss of institutional knowledge, and to maintain connections with the community. This may include reconsidering funding allocations and staffing approaches
- improvements to local government funding streams. The insufficiency of local government funding for local infrastructure provision and maintenance has been widely recognised (Allan et al. 2006; City of Stonnington 2003), and is partly responsible for driving the increased reliance on VPAs. In particular, workshop participants suggested an increase to (or removal of) the caps that limit local government funding.

In addition to potential tensions between local and state governments, a Melbourne Council officer noted that intra-government tensions can also create challenges, but may not be as well recognised. The participant described a scenario where different teams within local government will disagree on public infrastructure goals:

> *On the one hand, you've got half of council wanting to get community infrastructure. You then get it. And then you get another part of council going, 'We can't manage that. We can't afford to manage that.'*

These internal tensions highlight the effects of limited funding in local government for infrastructure maintenance, which undermines the potential for good outcomes for apartment residents.

5.5 Tension point 5: Current / future community needs

While most of the workshop discussions focussed on pressing current needs, the final tension point provided the opportunity to consider future populations, and the extent to which their needs would differ. This prompted discussion regarding the ways in which apartment buildings could adapt to take advantage of technological change, as well as the changes required to adapt to the changing demographics of apartment residents, including family and multigenerational living in apartments.

5.5.1 Urban transformation / gentrification

The issue of gentrification was a particular focus in the Melbourne workshop, given the nature of the case study communities and the ongoing redevelopment plans. Case-study residents had spoken of their concerns about increasing housing costs, relaying stories of tenants asking landlords to keep rents low, and agreeing not to request essential repairs in return.

As a policy response to the pressure on lower-income residents, workshop participants pointed primarily to the need for more mandated public and/or affordable housing to be included in the redevelopment, as well as more flexible apartment design to allow more effective sharing of space. Build-to-rent—that is, the development and ongoing management of rental housing by large institutional investors—was also raised as a possible mechanism for producing lower-cost housing in neighbourhoods undergoing urban transformation.

While these kinds of mechanisms are widely discussed in academic and policy circles, achieving them in practice has often proven difficult (Gurran et al. 2018). Interestingly, one workshop participant recounted the story of a private sector development manager who got a

job in local government later in his career, where he helped to get more housing for middle-income women approved and built. In his view, many of the commercial skills needed to get these kinds of developments off the ground were not widespread in local council, which was making good outcomes harder to achieve. This suggested that more cross-fertilisation of knowledge and skills between the public and private sectors could yield valuable results, and also provide interesting opportunities for private sector employees.

Beyond the need for more public and affordable housing, workshop participants also stressed that the issue of gentrification goes beyond housing, and reshapes the kinds of businesses and services communities can access. As mentioned at 4.5.6 and 4.6.6, lower-income residents found shopping in the Carlton case-study areas increasingly unaffordable, and were forced to leave the area to buy groceries. This is a classic example of the process of commercial gentrification documented by Zukin et al. (2009).

The need for public services such as community centres and libraries was also high in these neighbourhoods, as residents were less likely to be able to afford to use other forms of 'third spaces' such as cafes. A number of strategies for facilitating the provision of the required services were raised, including efforts being undertaken by the City of Melbourne to ensure a diversity of retail spaces are provided in new developments (at a mix of price points). More directly, participants raised the possibility of governments retaining ownership of some commercial spaces to ensure government services are still available, or to lease them at below-market rates to NGOs or other lower-cost providers. Alternatively, incentives could be provided to commercial landlords to achieve a similar outcome.

5.5.2 Future housing needs

Given the much larger numbers of existing residents in the Melbourne case-study areas, there was also particular interest in the question of what kinds of housing would be provided in these areas, post-redevelopment. This discussion touched again on the need for lower-cost housing, and the impact that short-term letting platforms like Airbnb were already having on affordability—and would likely have in future. A state government planner also observed that, 'We're not thinking about tenants when we're planning buildings, necessarily'—an issue of particular concern here, given many lower-income residents are tenants.

Most notably, however, the conversation turned to how perceived shortcomings in the design of apartments in Melbourne could be improved in future, so as to improve the living experience of residents of high-density areas. There was a general sense that many of the inner-city residential towers built to date had design flaws, and that planning needed to do more to address this issue. Although design standards and guidelines have now been introduced, participants felt more was necessary. As a state government planner noted:

> *Planning controls have to be flexible, but they also have to provide a pretty big stick sometimes, to get somebody to do something—like the noise example, if there's no regulations about the maximum noise levels you might have in an inhabitable room, then good luck trying to get a developer to do anything [to improve it], and get that upheld at VCAT. It's a constant battle if [there's] not … a good minimum standard.*

Without these minimum standards in place, it is left to the architect or the developer to want to provide a good design outcome. As the Melbourne architect explained, the main strategy available to drive a good design outcomes would be to

> *rely on a good architect to try and influence the developer, if they're not great, or maybe a good developer, to really understand who they're developing for, and then the designers to really do the work and create a really great space. The regulations … they're better than they were five or 10 years ago—because they actually*

require certain amounts of direct sunlight to be provided, they give specific direction on where they should be located. But good design in my experience can make all the difference in whether it's usable, whether it will create some better social cohesion and community within that development.

The problem is that this approach is more likely to work at the higher end of the market, thus leaving lower-income residents with buildings that simply meet the minimum standards. As the architect noted, however, even in higher-end buildings, opportunities for really great design are still missed. To achieve this, we should be asking:

Can we take some of the things that are good about living in streets and bring those into apartment [buildings]—so, daylight into [the] level 39 lift lobby, and a place to sit and talk, breakout space, things like that? So people can build community among 15 apartments on level 39?

Participants in both the Sydney and Melbourne workshops also discussed the changes needed to apartment complex design, and to neighbourhood design, as the next two sections explore.

5.5.3 Technological change

Anticipated changes in transport use prompted a discussion in Sydney about whether the strata model could adapt to provide more flexibility. As a state government representative pointed out:

We don't really understand the choices that are going to be available to people in five or 10 years, whether it's around different modes of transport—electric bikes and car shares—and also [changes in how] the parking that's delivered is associated with the title of the apartment above … So are you going to sell the car parking separate to the apartment? It might be more affordable as a place to live.

The strata manager noted that a few buildings already use a valet-style service for parking, rather than each lot owner having a dedicated parking spot, and suggested that a leasing system for apartment parking is likely to become more commonplace. As noted earlier, however, it is important that neighbourhood design also means that residents taking this option—particularly lower-income residents—are not then disadvantaged in their capacity to access important services. So while changes in strata planning and management might well lead the charge on this issue, it is important that neighbourhood design also adapts to an increase in car-less residents.

5.5.4 Children in density

Participants noted that the increasing number of children living in high-density neighbourhoods has not been well predicted by policy makers (Nethercote 2017; Sherry and Easthope 2016), and many neighbourhoods are still struggling to catch up in providing the required facilities. As noted, the lack of a primary school in Rhodes remains a significant issue for local residents, and one that is likely to affect lower-income residents more deeply, as travelling further afield may be a greater challenge—particularly for those without a car. At the same time, lack of planning for children in high-density neighbourhoods is also having an impact on the services schools in these areas can provide, as a Sydney state government representative pointed out:

[We need to think more about] households with children and the phases they go through over time. I think children and density is something that we can only continue to talk about and do better and better in terms of urban childhoods becoming more common now. Even if you look at the way schools are developing to cope with the increased densities and increased populations around their catchments, the schools are developing the sites that they have with more

> *buildings to have more classrooms, so there's less open space in the schools as well …*

Schools often provide a source of public space for the broader community, so the loss of open space in these facilities does not just affect the children who attend.

While changes to cater to children's needs are important, equally important are the needs of the support networks that help to care for children, including extended family, neighbours and paid care centres. The role of extended family members—often visiting from overseas—was a point of particular focus in the Sydney workshop, given the highly multicultural nature of the Rhodes West and Upper Strathfield communities. Workshop participants noted that current approaches to apartment design do not always cater well for family or friends visiting for extended periods of time—an issue also identified in the academic literature (Nethercote and Horne 2016). Greater flexibility and variety in apartment layouts and sizes would be welcome, with options like dual-key apartments potentially going some way towards addressing this need. Similarly, the design of both private and public open space should address the need for children to have spaces to play outside their private living space, which might be quite limited. Research has shown this to be an issue in apartment buildings, particularly in relation to noise (Kerr et al. 2018). In both cities—but particularly in Melbourne, where apartment design standards have lagged—greater consideration of the noise impacts and open-space needs of children would be a valuable improvement to apartment design policies and regulations—for example, SEPP65.

Also worth noting was a council officer's observation that the experiences of visiting extended family members is likely to be underacknowledged in formal planning analysis, as these visitors tend not to be identified in the Census or other official population analysis. Nonetheless, they play a significant role in the community and may be frequent users of services and public space. As such, local governments may want to think about other mechanisms for identifying the number and frequency of such visits, so this additional population can be brought into future planning processes. While these visitors may add to the strain on local services and infrastructure, they also play a valuable role. As the local council officer noted, part of the reason the Rhodes West community could be so engaged in the planning process was the availability of an extended network for childcare and assistance, thus freeing up residents' time to attend community meetings and offer their views on planning decisions.

5.5.5 Ageing in density

As with children, the needs of ageing residents are not always well catered for in high-density developments and neighbourhoods (Farrelly 2014; Judd et al. 2010).This is somewhat surprising given that the development industry has long promoted the idea of apartments as an appealing living option for 'empty nesters' and 'downsizers'. However, as the Sydney strata manager explained, current efforts tend to target specific market segments:

> *Ageing in place is one of the biggest issues in strata … there seems to be an appeal for age-in-place amenity for higher incomes, because all of the services that get provided … are not low socio-economic services. You know, to have an on-call service, or the amenity to provide for someone, or the ability to downsize or upsize as necessary, they're very difficult to provide in lower-income areas.*

This aligns with the development seen in the North Carlton case study, where the high-density private retirement housing being developed is unlikely to be affordable for lower-income residents. To minimise this divide, it is important for policy makers to identify options for providing additional services required by ageing lower-income residents, or to incentivise private developers or service providers to do so. In addition, planning for high-density neighbourhoods should be conscious of the needs of this cohort, particularly in relation to the accessibility of public spaces.

On a broader note, one recommendation highlighted the need for governments to retain flexibility in how they can use and repurpose space over time. This would allow retrofits and reallocation of spaces to respond to changes in demographics, such as an ageing population or an increase in children. In particular, this relates to the dedication of space under the kinds of arrangements discussed in section 5.2.3. However, it may also relate to the design of public spaces, if redesign proves too expensive or too disruptive to neighbours. A further option is the government maintaining ownership (or even purchasing) strategic parcels of land and property in urban renewal locations (see Sherry and Easthope (2016).

Similarly, more flexibility and diversity in apartment design would be a valuable improvement. As the Melbourne community representative noted, it is not only children and the elderly for whom current apartment designs are not always well suited. International students were identified as another cohort for whom current apartment designs might not be ideal:

> *The international students in College Square, there are too many suicides, there's too much self-harming, and they don't have a family, they don't have a connection … they find it hard to make friends.*

This participant suggested that more co-living arrangements—such as three-bedroom apartments with some private and some shared spaces—might provide better social outcomes.

5.5.6 Pets in density

Another common feature of contemporary high-density living is the prevalence of pets. Once again, planners and developers have sometimes been slow to adapt (Power 2016). In Rhodes, for example, council staff noted that there are now thousands of registered dogs, and good planning has been necessary to accommodate their needs, most notably through the provision of fenced exercise spaces. These facilities are particularly important in high-density areas, as few residents will have a backyard to exercise their pets. Failure to provide adequate spaces is likely to cause further tension in high-density areas, resulting in dogs barking and being exercised in inappropriate locations. Recent changes to strata regulations in NSW reduce the barriers to apartment residents owning pets (Power 2016), while new changes to rental laws in Victoria make it easier for tenants to own pets (Consumer Affairs Victoria 2019). This means that the number of pets in high-density areas is only likely to increase in coming years.

5.6 Summary

The discussions at both the Sydney and Melbourne policy workshops were wide ranging and nuanced, reflecting the complexity of planning and managing large-scale high-density redevelopments and neighbourhoods. The specific policy changes proposed during these discussions will be recapped in the next chapter, but it will be helpful to summarise a few of the bigger-picture themes here.

To begin with, it is clear that lower-income residents need to be prioritised more explicitly by policy makers throughout the planning and development process, as these residents are diverse, are well represented in high-density areas across our cities, and are rarely catered to by the private market. Two of the most important policy approaches to achieve better outcomes for this cohort are strategies to address housing affordability concerns, such as mandatory inclusionary zoning, and strategies to increase the availability of free or low-cost services and facilities—both in buildings and in neighbourhoods—as these services are relied on most heavily by lower-income residents.

More broadly, it was clear from the discussions that refinements to the policy-making process are needed to achieve good outcomes across all aspects of the high-density redevelopment process.

First, coordination across levels of government was shown to be complex but essential. Despite the challenges involved, quality outcomes like the public spaces in Rhodes show what can be achieved when both levels of government are meaningfully engaged and have well-defined roles.

Second, resourcing is currently a barrier, and LGAs undergoing significant densification will need more funding to provide the necessary infrastructure to cater for all residents. This will allow the needs of residents to shape infrastructure outcomes, rather than the availability of developer contributions dictating what can be provided.

Third, policy makers need to continue refining the timing and order of the redevelopment process, while balancing the desire for certainty with the need for flexibility. In particular, more planning issues should be addressed early in the process—but in ways that allow flexibility to adjust outcomes as redevelopment proceeds, such as through retrofits and adaptive design strategies. This flexibility is particularly important given the rapidly changing profile of apartment residents in our big cities.

Finally, the policy discussions highlighted the need for ongoing public engagement and education, to allow residents to help shape their living arrangements, and to understand the specific rights and responsibilities that come with high-density living. The best planned and designed neighbourhood in the world will fail to meet residents' needs if they feel their particular concerns and desires are ignored, or if they do not understand how to make high-density living work—both for themselves and for their neighbours.

6 Policy priorities

The breadth and complexity of issues raised in the policy workshops highlights the challenges facing policy makers looking to improve outcomes for lower-income residents living in high density. Without wishing to oversimplify these challenges, it is nonetheless helpful to summarise the key policy recommendations emerging from these discussions. These range from relatively simple interventions to proposals that would require significant buy-in from both public and private sectors.

Many of the proposals would improve apartment living for residents across the income spectrum, but will have the most significant impact on lower-income residents because of their:

- reduced choice in living arrangements
- increased reliance on public services
- reduced ability to access private options if public or affordable options are unavailable.

In many cases, these suggestions will be familiar to the relevant policy makers, who will recognise that the real challenge comes not just in identifying the change required, but in working out how to fund and implement it. We acknowledge the significant difficulties involved in bringing some of the proposed changes to fruition. However, we also recognise that a key step in the process of change is to shift priorities, which can in turn bring about a change in resourcing. This was evident in the case of Rhodes West, where the repeated prioritisation of the precinct by local government helped to ensure positive outcomes for residents. Therefore, by recapping the key policy proposals here, we are making a case for these goals to be prioritised in redevelopment processes and practices, to ensure our high-density cities better meet the needs of lower-income residents in future.

The policy priorities have been organised using the thematic structure set out in the case studies:

- planning
- urban design
- building design and management
- public facilities and services
- community engagement.

This is not a clear delineation—as many priorities spanning policy domains—but it is nonetheless helpful in highlighting which parties are likely to be primarily responsible for seeing these recommendations implemented. In addition, the table in Appendix 1 summarises the same priorities, categorising them by:

- phase—planning, funding, design, management and capacity-building/education
- key players involved—government-led, government working with the development industry, government working with the strata industry.

6.1.1 Planning priorities

- Increasing the supply of public and affordable housing—key mechanisms include mandatory inclusionary zoning requirements, and potentially facilitation of build-to-rent.
- Planning a staged process for infrastructure provision in a major redevelopment project.
- Coordinating multiple VPAs, through strategic policy and by bringing multiple agreements together to fund large-scale, flexible infrastructure projects at neighbourhood scale, rather

than funding multiple, small-scale infrastructure works linked to individual building developments.

- Engaging the local community during the VPA negotiation process.
- Enabling ongoing capacity-building for government staff on negotiating and implementing VPAs and other negotiated outcomes.
- Avoiding the creation of POPS where possible. Instead, public space provided by developers under a VPA should be dedicated to council, with a contractual arrangement in place to cover ongoing maintenance costs.
- Reconsidering current land tax settings, to ensure they adequately incentivise development of vacant land and activation of retail space, and to provide government revenue to support other local area initiatives.
- Ensuring the role and experiences of extended family members (particularly those visiting from overseas) is factored into formal planning analyses.
- Exploring options for more cross-fertilisation of knowledge and skills between government and the development industry.
- Providing additional leadership training for local councillors, council staff and key community leaders.

6.1.2 Urban design priorities

- Incorporating flexibility into the design of public infrastructure provided early in a major redevelopment process, and allowing it to adapt throughout the development process as the community determines its needs, and as neighbourhood demographics change over time.
- Ensuring the noise impacts, overshadowing impacts, wind tunnel effects and other impacts that will reduce community use of open space are given adequate consideration in neighbourhood design policies and regulations.
- Ensuring the noise impacts and open-space needs of children are given adequate consideration in neighbourhood design policies and regulations.
- Ensuring that neighbourhood design is inclusive of car-less residents—for example, ensure residents can transport shopping home without a car.
- Ensuring detailed planning for retail space activation is incorporated into the design review process.
- Ensuring planning for open space—both private and public—involves expert design review, as well as coordination with a public domain strategy for the LGA.
- Ensuring input from maintenance experts is incorporated into the planning and design process to ensure the costs and challenges are factored in from the beginning.
- Incorporating design strategies—such as tiling and garden beds—to help delineate between private and public property, without the need for physical walls or fences.

6.1.3 Priorities relating to building design, facilities and management

- Encouraging more flexibility and diversity in apartment design—for example, dual-key apartments, design for multigenerational families, play spaces for children, co-living arrangements, etc.
- Ensuring the noise impacts and open-space needs of children are given adequate consideration in apartment design policies and regulations.

- Improving the passive surveillance qualities of building design.
- Ensuring that strata levies are set at a level that allows for adequate maintenance.
- Ensuring maintenance responsibilities and expectations relating to the standard of upkeep are clearly delineated for the strata from the beginning.
- Encouraging collaboration between councils and building managers or residents to ensure the standards of maintenance set out in the public domain strategy are widely understood.
- Developing standardised templates setting out key strata information in an easy-to-read format, appropriately curated to ensure it is not overly technical—for example, building boundaries, maintenance responsibilities, likely current and future costs.
- Creating a centralised online portal where this information is stored for future residents and strata managers to access.

6.1.4 Priorities relating to neighbourhood services and facilities

- Retaining flexibility for governments in how they can use and repurpose public infrastructure over time.
- Increasing the focus on providing additional services for lower-income residents, including migrants, families and ageing residents.
- Increasing the funding streams to local government to improve infrastructure and service provision—for example, by lifting rate caps.
- Assessing the accessibility of public spaces to take ageing of resident population into account.
- Negotiating government ownership of some commercial spaces or providing incentives to commercial landlords to lease them at below-market rate to government, NGOs or other lower-cost providers.
- Implementing a scheme to provide empty retail spaces to local community groups to use for gatherings and events.

6.1.5 Priorities for ongoing place management and community engagement

- Appointing a dedicated place manager as a repository of long-term, embedded local knowledge, put in place before a large redevelopment project begins and continuing on in the role after the development is operational.
- Enabling public participation throughout the development of new master-planned areas—not just after completion—by engaging existing residents in nearby neighbourhoods (while balancing their interests with those of future residents).
- Implementing a community engagement model like the Rhodes Community Committee, which provides the opportunity for community members to directly discuss strategic issues with council representatives.
- Exploring options for developers and councils to engage more effectively with off-the-plan buyers in the development phase.
- Ensuring adequate meeting rooms are available for enabling community engagement early in the redevelopment process, even if other public infrastructure is provided later—ideally, these facilities should have a flexible design for multipurpose use.
- Developing strategies to improve consistency of personnel working on large-scale redevelopment projects over multiple years, to avoid the loss of institutional knowledge and

maintain connections with the community. This may include reconsidering funding allocations and staffing strategies.

- Ensuring coordination of private services—such as garbage collection—taking place in public spaces, to minimise disruption to neighbours.
- Providing ongoing public education about the rights and responsibilities of strata owners.

6.2 Final remarks

While these policy proposals are important, and their prioritisation would have a real impact on the experiences of lower-income residents, it is equally important that they are not viewed in isolation. Instead, the need for such policy proposals should be seen as evidence of the broader inequities created by current market-led approaches to housing provision—both high-density and low-density. The problems identified in this report are not inherent to high-density living, but are features of the privatised housing model that underpins Australia's compact city planning policies. For as long as this system of funding and delivering housing prevails, lower-income residents will be at risk of disadvantage, given their reduced capacity to compete for the best properties and locations. As a result, governments will need to work harder to address this imbalance, prioritising the needs of lower-income residents to even the playing field as best as possible.

While there are policy mechanisms available to government to achieve this—notably mandatory inclusionary zoning to increase affordable housing supply, and the strategic use of available funding (including VPAs) to provide free public services and infrastructure—the case studies highlight the difficulty of implementing these mechanisms efficiently and effectively. None of the precincts studied has seen meaningful increases in affordable housing, while only in Rhodes West were significant improvements in public facilities achieved. This outcome required a concerted effort and dedicated resourcing over many years. Meanwhile, the contrasting outcomes in the Strathfield precinct shows that even a local government with the capability to produce quality outcomes may still struggle to achieve uniformly good results in the current policy and market context.

Nonetheless, the outcome in Rhodes shows that 'density done well' is possible, if sufficient resources are dedicated to the task. Adopting and adapting to the proposed policy priorities will involve additional costs, for both government and industry. But failure to address these issues will also bear a cost—albeit one that is less easily quantified at this point in time. Australia is rapidly becoming a nation of apartment dwellers, meaning more and more urban residents will confront the challenges associated with high-density living in coming years. Failure to cater adequately for this shift, and to minimise the inequities faced by lower-income residents, will risk undermining the prosperity and social cohesion of our cities for the new decade and beyond.

References

ABS *see* Australian Bureau of Statistics

Australian Bureau of Statistics ABS (2016a) *2900.0–Census of population and housing: understanding the census and census data,* Australian Bureau of Statistics, Canberra, https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/2900.0Main+Features101422016?OpenDocument, Accessed 9 March 2020.

ABS (2016b) *Census of Population and Housing,* Australian Bureau of Statistics, Canberra, http://www.abs.gov.au/websitedbs/D3310114.nsf/Home/Census?OpenDocument&ref=topBar, Accessed 11 June 2018.

ABS (2017a) *2016 Census QuickStats: Greater Sydney,* Australian Bureau of Statistics, Canberra, https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/1GSYD, Accessed 3 February 2020.

ABS (2017b) *Census of Population and Housing: Reflecting Australia - Stories from the Census, 2016,* cat. no. 2071.0, Australian Bureau of Statistics, Canberra, https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~2016~Main%20Features~Apartment%20Living~20 Accessed 3 February 2020.

AHURI (2020) *What role can local government play in delivering affordable housing?* [Online], AHURI, https://www.ahuri.edu.au/policy/ahuri-briefs/What-role-can-local-government-play-in-delivering-affordable-housing, Accessed 31 January 2020.

Allan, P., Darlison, L. and Gibbs, D. (2006) *Are Councils Sustainable? Final Report: Findings and Recommendations. Independent Inquiry into the Financial Sustainability of NSW Local Government* Local Government and Shires Associations of NSW (LGSA), Sydney, https://www.lgnsw.org.au/files/imce-uploads/35/final-report-findings-and-recommendations.pdf, Accessed 31 January 2020, ISBN 0-646-46036-6.

Allmendinger, P. (2016) *Neoliberal spatial governance*, Routledge, Oxon.

Arthurson, K. (2010) 'Operationalising Social Mix: Spatial Scale, Lifestyle and Stigma as Mediating Points in Resident Interaction', *Urban Policy and Research,* vol. 28, no. 1: 49-63.

Atkinson, R. (2008) *Housing Policies, Social Mix and Community Outcomes,* AHURI Final Report No. 122, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/122, Accessed 31 January 2020, ISBN: 1 921201 35 5.

Australian Institute of Health and Welfare (2016) *Housing assistance in Australia 2016* [Online], AIHW, Australian Government, https://www.aihw.gov.au/reports/housing-assistance/housing-assistance-in-australia-2016/contents/summary, Accessed 31 January 2020.

Bastians, K. (2019) Time to fix forgotten Triangle. *Inner West Courier*, 12 February 2019, p.5.

Besser, L. (2007) Council biased towards developer, court finds. *Sydney Morning Herald*, 5 September.

Besser, L. and McClymont, K. (2007) How to do business his way. *Sydney Morning Herald*, 13 June.

Bijen, G. and Piracha, A. (2017) 'Future directions for social housing in NSW: new opportunities for 'place' and 'community' in public housing renewal', *Australian Planner,* vol. 54, no. 2: 153-162, DOI: 10.1080/07293682.2017.1361456.

Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative research in psychology,* vol. 3, no. 2: 77-101.

Bunker, R., Crommelin, L., Troy, L., Easthope, H., Pinnegar, S. and Randolph, B. (2017) 'Managing the transition to a more compact city in Australia', *International Planning Studies,* vol. 22, no. 4: 384-399, DOI: 10.1080/13563475.2017.1298435.

Cheshire, L. and Fitzgerald, R. (2015) 'From Private Nuisance to Criminal Behaviour: Neighbour Problems and Neighbourhood Context in an Australian City', *Housing Studies,* vol. 30, no. 1: 100-122, DOI: 10.1080/02673037.2014.933783.

Chester, L. (2014) 'Energy Impoverishment: Addressing Capitalism's New Driver of Inequality', *Journal of Economic Issues,* vol. 48, no. 2: 395-404, DOI: 10.2753/JEI0021-3624480213.

City Futures Research Centre (2008) *Common Ground: The Costs and Provision of Community Infrastructure in Community Title Schemes in NSW,* Report to the Urban Development Institute of Australia, NSW, Sydney, https://cityfutures.be.unsw.edu.au/documents/25/UDIACommunityTitleFINAL.pdf, Accessed 31 January 2020.

City of Canada Bay (2008) Minutes of the Committee of the whole meeting of the City of Canada Bay Council 4 March 2008.

City of Canada Bay (2010) Council Meeting Agenda 19 October 2010.

City of Canada Bay (2013) *Planning Proposal: Canada Bay Local Environmental Plan 2008 (Amendment No. 2 - Strathfield Triangle),* http://edas.canadabay.nsw.gov.au/dwroot/datawrks/stores/default/default/orig/docid/108371416/dw_get, Accessed 31 January 2020.

City of Melbourne (2019) *Report to the Future Melbourne Planning Committee: Submissions to Ministerial Advisory Committee on Planning Mechanisms for Affordable Housing,* https://www.melbourne.vic.gov.au/about-council/committees-meetings/meeting-archive/MeetingAgendaItemAttachments/878/15660/NOV19%20FMC1%20AGENDA%20ITEM%206.5%20SUBMISSIONS%20TO%20MINISTERIAL%20ADVISORY%20COMMITTEE%20ON%20PLANNING%20MECHANISMS.pdf, Accessed 9 March 2020.

City of Stonnington (2003) *Cost Shifting Enquiry. Discussion Paper: Federal/State Funding to Local Government,* Parliament of Australia, Canberra, https://www.aph.gov.au/Parliamentary_Business/Committees/House_of_Representatives_Committees?url=efpa/localgovt/submissions/sub238.pdf, Accessed 9 March 2020.

Consumer Affairs Victoria (2019) *Renting laws are changing* [Online], https://www.consumer.vic.gov.au/housing/renting/changes-to-renting-laws, Accessed 3 February 2020.

Cooper, B. and Brown, K. M. (2014) *Dealing with Defects: Final Report,* City Futures Research Centre, Sydney, https://www.be.unsw.edu.au/sites/default/files/upload/CopperBrownCity%20Futures%20Report%20Dealing%20With%20Defects_published.pdf, Accessed 9 March 2020.

Creagh, S. (2008) Council fines with one hand, gives with other. *Sydney Morning Herald*, 7 March.

Crommelin, L., Easthope, H. and Troy, L. (2017) *Equitable Density: The place for lower income and disadvantaged households in a dense city: Report 2, The Neighbourhood Scale,* City Futures Research Centre, Sydney, https://cityfutures.be.unsw.edu.au/documents/418/Equitable_Density_-_Neighbourhood_Scale.pdf, Accessed 6 August 2018.

Easthope, H., Buckle, C. and Mann, V. (2018) *Australian National Strata Data 2018,* City Futures Research Centre, Sydney, https://cityfutures.be.unsw.edu.au/documents/492/Australian%20National%20Strata%20Data%202018.pdf, Accessed 6 August 2018.

Easthope, H. and Judd, S. (2010) *Living well in greater density,* Shelter Brief 42, City Futures, Shelter NSW, https://www.be.unsw.edu.au/sites/default/files/upload/pdf/cf/research/cityfuturesprojects/shelter/Living_Well_in_Greater_Density.pdf, Accessed 31 January 2020, ISSN 1448-7950.

Easthope, H. and Randolph, B. (2016) 'Principal–agent problems in multi-unit developments: The impact of developer actions on the on-going management of strata titled properties', *Environment and Planning A: Economy and Space,* vol. 48, no. 9: 1829-1847, DOI: 10.1177/0308518x16650894.

Easthope, H., Randolph, B. and Judd, S. (2012) *Governing the Compact City: The role and effectiveness of strata management*, City Futures Research Centre, Sydney.

Easthope, H. and Tice, A. (2011) 'Children in Apartments: Implications for the Compact City', *Urban Policy and Research,* vol. 29, no. 4: 415-434, DOI: 10.1080/08111146.2011.627834.

Easthope, H., Troy, L. and Crommelin, L. (2017) *Equitable Density: The place for lower income and disadvantaged households in a dense city: Report 1, The Building Scale,* City Futures Research Centre, Sydney, https://cityfutures.be.unsw.edu.au/documents/417/Equitable_Density_-_Building_Scale.pdf, Accessed 6 August 2018.

Evans, G. W. (2006) 'Child Development and the Physical Environment', *Annual Review of Psychology,* vol. 57, no. 1: 423-451, DOI: 10.1146/annurev.psych.57.102904.190057.

Farrelly, L. (2014) Room for the future: Will Australia's apartments today work for the ageing population of tomorrow? *Architecture Australia* [Online]. Available: https://architectureau.com/articles/room-for-the-future/ [Accessed 9 March 2020].

Fincher, R. (2004) 'Gender and Life Course in the Narratives of Melbourne's High-rise Housing Developers', *Australian Geographical Studies,* vol. 42, no. 3: 325-338, DOI: 10.1111/j.1467-8470.2004.00278.x.

Foster, S., Hooper, P., Kleeman, A., Martino, E. and Giles-Corti, B. (2020) 'The high life: A policy audit of apartment design guidelines and their potential to promote residents' health and wellbeing', *Cities,* vol. 96: 102420, DOI: 10.1016/j.cities.2019.102420.

Freestone, R., Davison, G. and Hu, R. (2019) *Designing the Global City : Design Excellence, Competitions and the Remaking of Central Sydney*, Palgrave Macmillan, Singapore.

Gabriel, M., Jacobs, K., Arthurson, K., Burke, T. and Yates, J. (2005) *Conceptualising and measuring the housing affordability problem,* AHURI Research Paper No. NRV3-1,

Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/nrv-research-papers/nrv3-1, Accessed 31 January 2020, ISBN: 1 902941 76 2.

Gaigné, C., Riou, S. and Thisse, J.-F. (2012) 'Are compact cities environmentally friendly?', *Journal of Urban Economics,* vol. 72, no. 2: 123-136, DOI: 10.1016/j.jue.2012.04.001.

Galster, G. C. and Friedrichs, J. (2015) 'The Dialectic of Neighborhood Social Mix: Editors' Introduction to the Special Issue', *Housing Studies,* vol. 30, no. 2: 175-191, DOI: 10.1080/02673037.2015.1035926.

Gilbert, C. and Gurran, N. (2018) 'Planning for Diverse and Affordable Housing Supply? A Survey of 200 Australian Planning Schemes', *Journal of Planning Education and Research,* vol. tba, DOI: 10.1177/0739456x18818278.

Giles-Corti, B., Ryan, K. and Foster, S. (2012) *Increasing density in Australia: Maximising the health benefits and minimising harm,* Melbourne, Report to The National Heart Foundation of Australia, https://www.heartfoundation.org.au/images/uploads/publications/Increasing-density-in-Australia-Evidence-Review-2012-trevor.pdf, Accessed 9 March 2020.

Gleeson, B. (2012) ''Make No Little Plans': Anatomy of Planning Ambition and Prospect', *Geographical Research,* vol. 50, no. 3: 242-255, DOI: 10.1111/j.1745-5871.2011.00728.x.

Gleeson, B. (2018) The Metropolitan Condition, in S. Hamnett and R. Freestone (eds), *Planning metropolitan Australia*, Routledge, Abingdon, 76-100.

Gleeson, B. and Low, N. (2000) 'Revaluing planning: Rolling back neo-liberalism in Australia', *Progress in Planning,* vol. 53, no. 2: 83-164, DOI: 10.1016/S0305-9006(99)00022-7.

Gleeson, B. and Sipe, N. (2006) *Creating child friendly cities*, Routledge, London.

Grennan, H. (2000) River Corridor Boom. *Sydney Morning Herald*, 2 March 2000, p.2.

Gurran, N., Gilbert, C., Gibb, K., van den Nouwelant, R., James, A. and Phibbs, P. (2018) *Supporting affordable housing supply: inclusionary planning in new and renewing communities,* AHURI Final Report No. 297, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/297, Accessed 31 January 2020, DOI: 10.18408/ahuri-7313201.

Gurran, N. and Phibbs, P. (2015) 'Are Governments Really Interested in Fixing the Housing Problem? Policy Capture and Busy Work in Australia', *Housing Studies,* vol. 30, no. 5: 711-729, DOI: 10.1080/02673037.2015.1044948.

Gurran, N., Randolph, B., Phibbs, P., Ong ViforJ, R. and Rowley, S. (2016) Affordable housing policy failure still being fuelled by flawed analysis. *The Conversation* [Online]. Available: https://theconversation.com/affordable-housing-policy-failure-still-being-fuelled-by-flawed-analysis-92993 [Accessed 31 January 2020].

Henderson-Wilson, C. (2008) Inner city high-rise living: a catalyst for social exclusion and social connectedness? *3rd Annual Australasian Housing Researchers' Conference*, RMIT University, Melbourne.

Hulse, K., Reynolds, M., Nygaard, C., Parkinson, S. and Yates, J. (2019) *The supply of affordable private rental housing in Australian cities: short-term and longer-term changes,* AHURI Final Report No. 323, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/323, Accessed 9 March 2020, doi:10.18408/ahuri-5120101.

Johnston, N. and Reid, S. (2013) 'Multi-owned developments: a life cycle review of a developing research area', *Property Management,* vol. 31, no. 5: 366-388, DOI: doi:10.1108/PM-01-2013-0003.

Johnston, N. and Reid, S. (2019) *An examination of building defects in residential multi-owned properties,* https://www.mopresearchhub.org/archives/research/examination-building-defects-multi-owned-properties.

Judd, B., Olsberg, D., Quinn, J., Groenhart, L. and Demirbilek, O. (2010) *Dwelling, land and neighbourhood use by older home owners,* AHURI Final Report No. 144, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/144, Accessed 31 January 2020, ISBN: 978-1-921610-34-9.

Jupp, B. (1999) *Living together: Community life on mixed tenure estates*, Demos, London.

Kaldas, N. (2018) *Review of Governance in the NSW Planning System,* Department of Planning and Environment, Sydney, https://www.planning.nsw.gov.au/-/media/Files/DPE/Reports/Assess-and-Regulate/compliance/review-of-governance-of-decision-making-in-the-nsw-planning-system-report-2018-12-18.pdf, Accessed 31 January 2020.

Keck, B., Demaio, G. and Holland, Q. (2014) The Great Apartment Design Debate. *Assemble Papers* [Online]. Available: http://assemblepapers.com.au/2014/09/19/the-great-apartment-design-debate/ [Accessed 17 August 2015].

Kelly, J.-F., Weidman, B. and Walsh, M. (2011) *The housing we'd choose,* Grattan Institute Cities Program, Grattan Institute, Melbourne, https://grattan.edu.au/wp-content/uploads/2014/04/090_cities_report_housing_market.pdf, Accessed 6 August 2018.

Kerr, S.-M., Gibson, C. and Klocker, N. (2018) 'Parenting and neighbouring in the consolidating city: The emotional geographies of sound in apartments', *Emotion, Space and Society,* vol. 26: 1-8, DOI: 10.1016/j.emospa.2017.11.002.

Lenaghan, N. (2016) 'Shameful': Melbourne mayor slams 'dog boxes in the sky'. *Australian Financial Review*, 10 March.

Liu, E., Easthope, H., Ho, C. and Buckle, C. (2018) 'Diversity and participation in private apartment buildings: a review of the literature', *Geographical Research,* vol. 56, no. 4: 401-409, DOI: 10.1111/1745-5871.12282.

Liu, E., Martin, C. and Easthope, H. (2019) *Poor-quality housing and low-income households: Review of evidence and options for reform,* Shelter Brief No. 63, City Futures Research Centre, Sydney, http://www.shelternsw.org.au/uploads/1/2/1/3/121320015/poor_quality_housing_report_2019.pdf, Accessed 3 Feburary 2020.

Manly, B. F. and Alberto, J. A. N. (2016) *Multivariate statistical methods: a primer*, CRC Press, Boca Raton.

Martin, C., Hulse, K. and Pawson, H. (2018) *The changing institutions of private rental housing: an international review* AHURI Final Report No. 292, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/292, Accessed 9 March 2020, doi:10.18408/ahuri-7112201.

Milligan, V. and Pinnegar, S. (2010) 'The Comeback of National Housing Policy in Australia: First Reflections', *International Journal of Housing Policy,* vol. 10, no. 3: 325-344, DOI: 10.1080/14616718.2010.506747.

MORI Social Research Institute (2003) *Neighbour Noise: Public Opinion Research to Assess its Nature, Extent and Significance,* Department for Environment, Food and Rural Affairs (DEFRA), UK, https://www.ipsos.com/sites/default/files/migrations/en-uk/files/Assets/Docs/Archive/Polls/defra.pdf, Accessed 3 February 2020.

Morrison, K. (2016) *Housing supply and housing affordability* [Online], Property Council of Australia, https://www.propertycouncil.com.au/Web/Content/Opinion_Pieces/National/2016/Housing_supply_and_housing_affordability.aspx, Accessed 3 February 2020.

Mould, P. (2011) A review of the first 9 years of the NSW State Environmental Planning Policy No. 65 (SEPP 65). *Architecture Australia* [Online], 100. Available: http://architectureau.com/articles/stepp-65/.

Name withheld (2017) *Private Submission to the NSW Greater Sydney Commission RE: Strathfield Station - optimising land use around suburban Sydney's best serviced train station,* https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/s3fs-public/submissions/NameWithheld431_Open_Submission.pdf, Accessed 31 January 2020.

Nethercote, M. (2017) 'When Social Infrastructure Deficits Create Displacement Pressures: Inner City Schools and the Suburbanization of Families in Melbourne', *International Journal of Urban and Regional Research,* vol. 41, no. 3: 443-463, DOI: 10.1111/1468-2427.12509.

Nethercote, M. (2019) 'Melbourne's vertical expansion and the political economies of high-rise residential development', *Urban Studies,* vol. 56, no. 16: 3394-3414, DOI: 10.1177/0042098018817225.

Nethercote, M. and Horne, R. (2016) 'Ordinary vertical urbanisms: City apartments and the everyday geographies of high-rise families', *Environment and Planning A: Economy and Space,* vol. 48, no. 8: 1581-1598, DOI: 10.1177/0308518X16645104.

NSW Government (2002) *State Environmental Planning Policy No 65—Design Quality of Residential Apartment Development* [Online], New South Wales Government, Sydney, https://www.legislation.nsw.gov.au/#/view/EPI/2002/530, Accessed 3 February 2020.

NSW Government (2014) *Home Building Regulation 2014, s56* [Online], https://www.legislation.nsw.gov.au/#/view/regulation/2014/811/part6/div6/sec56, Accessed 3 February 2020.

Ong, R., Wood, G., Cigdem-Bayram, M. and Salazar, S. (2019) *Mortgage stress and precarious home ownership: implications for older Australians,* AHURI Final Report No. 319, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/319, Accessed 31 January 2020, doi:10.18408/ahuri-8118901.

Parkinson, S., Rowley, S., Stone, W., Amity, K., Spinney, A. and Reynolds, M. (2019) *Young Australians and the housing aspirations gap,* AHURI Final Report No. 318, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/318, Accessed 31 January 2020, doi:10.18408/ahuri-5117101.

Pawson, H., Davison, G. and Wiesel, I. (2012) *Addressing concentrations of disadvantage: policy, practice and literature review,* AHURI Final Report No. 190, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/190, Accessed 31 January 2020, ISBN: 978-1-922075-04-8.

Pawson, H., Hulse, K. and Cheshire, L. (2015) *Addressing concentrations of disadvantage in urban Australia,* AHURI Final Report No. 247, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/247, Accessed 31 January 2020, ISBN: 978-1-922075-97-0.

Pawson, H., Martin, C., van den Nouwelant, R., Milligan, V., Ruming, K. and Melo, M. (2019) *Build-to-rent in Australia: product feasibility and potential affordable housing contribution,* Landcom, Sydney, https://apo.org.au/sites/default/files/resource-files/2019/07/apo-nid246516-1371801.pdf, Accessed 9 March 2020.

Pawson, H., Milligan, V., Wiesel, I. and Hulse, K. (2013) *Public housing transfers: past, present and prospective,* AHURI Final Report No. 215, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/215, Accessed 31 January 2020, ISBN: 978-1-922075-43-7.

Phillips, B. and Joseph, C. (2017) *Regional housing supply and demand in Australia,* CSRM Working Paper No. 1/2017, ANU Centre for Social Research & Methods, Canberra, http://csrm.cass.anu.edu.au/sites/default/files/docs/CSRM_1-2017_HOUSING_SUPPLY.pdf, Accessed 3 February 2020.

PIA (n.d.) *Voluntary Planning Agreements (VPAs),* PIA Policy Paper, Planning Institute of Australia, Sydney, https://www.ahuri.edu.au/research/final-reports/215, Accessed 31 January 2020, ISBN: 978-1-922075-43-7.

Power, E. R. (2015) 'Placing community self-governance: Building materialities, nuisance noise and neighbouring in self-governing communities', *Urban Studies,* vol. 52, no. 2: 245-260, DOI: 10.1177/0042098014525242.

Power, E. R. (2016) With the rise of apartment living, what's a nation of pet owners to do? *The Conversation* [Online]. Available: https://theconversation.com/with-the-rise-of-apartment-living-whats-a-nation-of-pet-owners-to-do-58738 [Accessed 31 January 2020].

Property Council of Australia, Office of Senator Scott Ludlam, CODA Architecture and Urban Design and Curtin University Sustainability Policy Institute (2016) *#designperth: a joint vision for a connected, liveable and sustainable Perth,* The Australian Greens, Perth, https://greens.org.au/sites/greens.org.au/files/DESIGN_PERTH_FINAL_REPORT.pdf, Accessed 3 February 2020.

Randolph, B. (2006) 'Delivering the Compact City in Australia: Current Trends and Future Implications', *Urban Policy and Research,* vol. 24, no. 4: 473-490, DOI: 10.1080/08111140601035259.

Randolph, B., Eslami Afrooz, A. and Pettit, C. (2018) Residential Intensification and Housing Demand: A Case Study of Sydney, Brisbane and Melbourne, in R. R. and P. C. (eds), *Real Estate and GIS: The Application of Mapping Technologies*, Routledge, London, 12–35.

Randolph, B. and Tice, A. (2013) 'Who lives in higher density housing? A study of spatially discontinuous housing sub-markets in Sydney and Melbourne', *Urban Studies,* vol. 50, no. 13: 2661-2681.

Reid, S. (2015) 'Exploring social interactions and sense of community in multi-owned properties', *International Journal of Housing Markets and Analysis,* vol. 8, no. 4: 436-450, DOI: doi:10.1108/IJHMA-02-2015-0006.

Ruming, K. (2011) 'Cutting red tape or cutting local capacity? Responses by local government planners to NSW planning changes', *Australian Planner,* vol. 48, no. 1: 46-57, DOI: 10.1080/07293682.2011.530588.

Ruming, K. and Gurran, N. (2014) 'Australian planning system reform', *Australian Planner,* vol. 51, no. 2: 102-107, DOI: 10.1080/07293682.2014.896065.

Rydin, Y. (2013) *The future of planning: Beyond growth dependence*, Policy Press, Bristol.

Saunders, P., Naidoo, Y. and Griffiths, M. (2007) *Towards new indicators of disadvantage: Deprivation and social exclusion in Australia,* Social Policy Research Centre, Sydney, http://library.bsl.org.au/jspui/bitstream/1/6119/1/Saunders_etal_towards_new_indicators_of_disadvantage_deprivation_and_social_exclusion.pdf, Accessed 31 January 2020, ISBN: 978 0 7334 2572 1.

Searle, G. (2004) 'The limits to urban consolidation', *Australian Planner,* vol. 41, no. 1: 42-48, DOI: 10.1080/07293682.2004.9982332.

Shergold, P. and Weir, B. (2018) *Building Confidence: Improving the effectiveness of compliance and enforcement systems for the building and construction industry across Australia,* Building Ministers' Forum, https://aibs.com.au/Public/News/2018/ShergoldWeir.aspx, Accessed 31 January 2020.

Sherry, C. and Easthope, H. (2016) 'Under-supply of schooling in the gentrified and regenerated inner city', *Cities,* vol. 56: 16-23, DOI: 10.1016/j.cities.2016.02.008.

Shoory, M. (2016) *The Growth of Apartment Construction in Australia,* RBA Bulletin, Reserve Bank of Australia, Sydney, https://www.rba.gov.au/publications/bulletin/2016/jun/pdf/bu-0616-3.pdf, Accessed 19 February 2019.

Smith, N. (1996) *The new urban frontier: Gentrification and the revanchist city*, Routledge, London.

Tach, L., Pendall, R. and Derian, A. (2014) *Income mixing across scales: Rationale, trends, policies, practice, and research for more inclusive neighborhoods and metropolitan areas,* The Urban Institute: What Works Collaborative, Washington DC, https://www.urban.org/sites/default/files/publication/22226/412998-Income-Mixing-across-Scales-Rationale-Trends-Policies-Practice-and-Research-for-More-Inclusive-Neighborhoods-and-Metropolitan-Areas.PDF, Accessed 3 September 2018.

Taylor, L. (2015) *Voluntary Planning Agreements in NSW – Ten Years On* [Online], Lindsay Taylor Lawyers, https://www.lindsaytaylorlawyers.com.au/in_focus/voluntary-planning-agreements-in-nsw-ten-years-on/, Accessed 3 February 2020.

Troy, L., Crommelin, L. and Easthope, H. (2017) *Equitable Density: The place for lower income and disadvantaged households in a dense city: Report 3, The Metropolitan Scale,* City Futures Research Centre, Sydney, https://cityfutures.be.unsw.edu.au/documents/419/Equitable_Density_-_Metropolitan_Scale.pdf, Accessed 6 August 2018.

Troy, L., Randolph, B., Pinnegar, S., Crommelin, L. and Easthope, H. (2020) 'Vertical Sprawl in the Australian City: Sydney's High-rise Residential Development Boom', *Urban Policy and Research,* vol. 38, no. 1: 18-36, DOI: 10.1080/08111146.2019.1709168.

Ureta, S. (2007) 'Noise and the Battles for Space: Mediated Noise and Everyday Life in a Social Housing Estate in Santiago, Chile', *Journal of Urban Technology,* vol. 14, no. 3: 103-130, DOI: 10.1080/10630730801933044.

van den Nouwelant, R., Crommelin, L., Herath, S. and Randolph, B. (2016) *Housing affordability, central city economic productivity and the lower income labour market,* AHURI Final Report No. 261, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/261, Accessed 31 January 2020, ISBN: 978-1-925334-23-4.

van den Nouwelant, R. and Randolph, B. (2016) *Mixed-tenure development: Literature review on the impact of differing degrees of integration,* City Futures Research Centre, Sydney, https://cityfutures.be.unsw.edu.au/documents/463/Mixed-communities-for-FPA-Final.pdf, Accessed 9 March 2020.

Victorian Government (2016) *Better apartments design standards* [Online], DEWLP, Melbourne, https://www.planning.vic.gov.au/__data/assets/pdf_file/0024/9582/Better-Apartments-Design-Standards.pdf, Accessed 9 March 2020.

Victorian Government (n.d.) *Submission to the Legal and Social Issues Committee Inquiry into the Public Housing Renewal Program,* https://www.parliament.vic.gov.au/images/stories/committees/SCLSI/Public_Housing_Renewal_Program/Submissions/S172-Government_submission.pdf, Accessed 9 March 2020.

Vincent, J. (2019) Non-Glamorous Gains: The Pennsylvania Land Tax Experiment. Available: https://www.strongtowns.org/journal/2019/3/6/non-glamorous-gains-the-pennsylvania-land-tax-experiment [Accessed 31 January 2020].

Williams, P. and Williams, A. (2014) 'Planning law reform and fast-tracking development in Australia', in A. B. Raiden and E. Aboagye-Nimo (eds), 30th Annual ARCOM Conference, Portsmouth, UK, 1-3 September, Association of Researchers in Construction Management, 495-505, https://cris.brighton.ac.uk/ws/portalfiles/portal/406696/PubSub1262_Raiden.pdf#page=509.

Woolcock, G., Gleeson, B. and Randolph, B. (2010) 'Urban research and child-friendly cities: a new Australian outline', *Children's Geographies,* vol. 8, no. 2: 177-192, DOI: 10.1080/14733281003691426.

Zhang, W. and Lawson, G. (2009) 'Meeting and greeting: Activities in public outdoor spaces outside high-density urban residential communities', *Urban Design International,* vol. 14, no. 4: 207-214.

Zukin, S., Trujillo, V., Frase, P., Jackson, D., Recuber, T. and Walker, A. (2009) 'New Retail Capital and Neighborhood Change: Boutiques and Gentrification in New York City', *City & Community,* vol. 8, no. 1: 47-64, DOI: 10.1111/j.1540-6040.2009.01269.x.

Appendix 1: Table of policy priorities by phase and sector

Phase	Government-led	Government working with development Industry	Government with strata industry
Planning	• Increasing supply of public and affordable housing via mandatory inclusionary zoning and possibly build-to-rent • Strategic staging of infrastructure in major redevelopments • Ensuring public participation in early stages of redevelopment process by engaging existing residents in nearby areas • Increasing focus on services required and accessibility of public spaces for lower-income ageing residents • More planning focus on experiences of extended family • Providing meeting rooms early in redevelopment for community engagement, with flexible design for multipurpose use/reuse	• Prioritising coordinated VPAs, with multiple agreements used to fund large-scale, flexible infrastructure at neighbourhood scale • Engaging local community in VPA negotiations • Avoiding POPS; dedicating public space to council, with arrangements to cover maintenance costs	• Developing standard handover pack templates for key strata info (e.g. building boundaries, maintenance responsibilities, future costs) • Creating centralised online portal to store this information for future residents and strata managers
Funding	• Increasing local government funding streams to improve infrastructure and services • Reconsidering land tax settings to incentivise development of vacant land and activation of retail space	• Ensuring sufficient ongoing maintenance funds through contractual arrangements to cover upkeep of public spaces	• Ensuring strata levies are set at sufficient levels for adequate maintenance
Design	• Prioritising flexible design for public infrastructure provided early in redevelopment, to allow adaptation as community needs emerge • Ensuring neighbourhood design is inclusive of car-less residents	• More flexibility and diversity in apartment design, e.g. dual-key apartments, design for multigenerational families, etc. • More consideration of noise impacts and open-space needs of children in apartment design	

Phase	Government-led	Government working with development Industry	Government with strata industry
	• Focussing on noise impacts and open-space needs of children in neighbourhood design policies and regulations • More focus on retail activation plans during design review	• More co-living arrangements, e.g. 3-bed apartments with private and shared spaces • Improving passive surveillance in building design • Incorporating design features to delineate private/public property, e.g. tiling, garden beds • More input from maintenance experts into planning and design to ensure costs and challenges are factored in • More engagement with off-the-plan buyers in design and development	
Manage-ment	• Appointing a place manager before redevelopment begins, to remain and provide management once development is operational • Ensuring coordination of private services to minimise disruption, e.g. garbage collection • Considering an ongoing engagement model like Rhodes Community Committee, for community to raise operational issues directly with council • Retaining ownership of some retail or incentivise private leasing below-cost to government, NGOs and low-cost providers	• Implement scheme to provide empty retail space to local community groups to use	• Clearly define maintenance responsibilities and expectations for owners from start
Capacity-building and education	• Leadership training for councillors, staff and community leaders • Capacity-building for government staff re: negotiating and implementing VPAs and other negotiated outcomes	• Strategies to improve retention of personnel on large-scale projects over multiple years • Supporting cross-fertilisation of knowledge and skills between government and industry	• Ongoing public education about rights and responsibilities of apartment owners • Education for strata managers and owners on maintenance standards in public domain strategy

Source: authors

Appendix 2: List of key policy literature relevant to lower-income residents in high density

Current policies relating to affordable housing supply

Gurran, N., Gilbert, C., Gibb, K., van den Nouwelant, R., James, A. and Phibbs, P. (2018) *Supporting affordable housing supply: inclusionary planning in new and renewing communities,* AHURI Final Report No. 297, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/297, doi: 10.18408/ahuri-7313201

Current local government affordable housing policy approaches

AHURI (2020) *What role can local government play in delivering affordable housing?* [online], AHURI Brief, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/policy/ahuri-briefs/What-role-can-local-government-play-in-delivering-affordable-housing

Current policies relating to lower-income private renters

Hulse, K., Reynolds, M., Nygaard, C., Parkinson, S. and Yates, J. (2019) *The supply of affordable private rental housing in Australian cities: short-term and longer-term changes*, AHURI Final Report No. 323, Australian Housing and Urban Research Institute Limited, Melbourne, https://www.ahuri.edu.au/research/final-reports/323, doi: 10.18408/ahuri-5120101

Current policies relating to older lower-income residents

Ong, R., Wood, G., Cigdem-Bayram, M. and Salazar, S. (2019), *Mortgage stress and precarious home ownership: implications for older Australians*, AHURI Final Report No. 319, Australian Housing and Urban Research Institute Limited, Melbourne, http://www.ahuri.edu.au/research/final-reports/319, doi: 10.18408/ahuri-8118901

Current policies relating to for younger lower-income residents

Parkinson, S., Rowley, S., Stone, W., Amity, K., Spinney, A. and Reynolds, M. (2019) *Young Australians and the housing aspirations gap*, AHURI Final Report No. 318, Australian Housing and Urban Research Institute Limited, Melbourne, http://www.ahuri.edu.au/research/finalreports/318, doi: 10.18408/ahuri-5117101

Current policies relating to apartment design

Foster, S., Hooper, P., Kleeman, A., Martino, E. and Giles-Corti, B. (2020) 'The high life: A policy audit of apartment design guidelines and their potential to promote residents' health and wellbeing', *Cities,* vol. 96: 102420, doi: https://doi.org/10.1016/j.cities.2019.102420

Appendix 3: Case-study areas: key population statistics

Each case-study area contains multiple SA1s. The tables below provide key statistical information about the population living in each SA1 in each case-study area.

Rhodes West Case Study

SA1	People	Median age	Average people per household	Level of highest educational attainment: % people with Bachelor degree level and above	Ancestry, top 3 responses: %	% born in Australia	% people who travelled to work by car	Dwelling structure: % that were flats / apartments	Occupied private dwellings: owned outright or with a mortgage	Household income less than $650 per week	Household income more than $3000	Median personal income: $	Household median weekly income: $
1138441	1127	29	2.5	56.1	Chinese (47.3); Korean (6.6); Indian (6.0)	16.8	42.9	99	38.10	20.6	24.3	732	1840
1138445	1579	29	2.3	55.2	Chinese (47.1); Korean (11.8); English (6.9)	17.8	35.7	100	31.0	19	21.3	795	1730
1138456	3197	28	2.3	56	Chinese (46.6); Korean (10.1); Indian (7.0)	14.7	38.4	99.3	27.8	23.1	16.3	739	1618
1138458	818	29	2.3	51.9	Chinese (47.6); Korean (7.7); English (5.9)	16.9	38.6	96	37.6	18.3	19.9	751	1661
Total/Av.	*6721*	*28.75*	*2.35*	*54.8*		*16.55*	*38.9*	*98.575*	*33.625*	*20.25*	*20.45*	*754.25*	*1712.25*
NSW	–	38	2.6	23.4	English (23.3); Australian (22.9); Irish (7.5)	65.5	64.6	19.9	64.5	19.7	18.7	664	1486
Australia		38	2.6	22	English (25); Australian (23.3); Irish (7.6)	66.7	68.4	13.1	65.5	20	16.4	662	1438

Source: ABS 2016b

Upper Strathfield Case Study

SA1	People	Median age	Average people per household	Level of highest educational attainment: % people with Bachelor degree level and above	Ancestry, top 3 responses: %	% born in Australia	% people who travelled to work by car	Dwelling structure: % that were flats / apartments	Occupied private dwellings: owned outright or with a mortgage	Household income less than $650 per week	Household income more than $3000	Median personal income: $	Household median weekly income: $
1138412*	73	30	2.9										3124
1157505	708	28	2.9	47.3	Chinese (31.7); Korean (18.9); Indian (12.2)	10.8	25.4	100	22.2	15.3	23.5	646	1760
1157509	1123	27	2.6	49.7	Chinese (44.3); Korean (15.9); Indian (14.0)	10.9	29.5	94.1	27.8	23	17.3	583	1556
1157519	830	29	3.1	37	Chinese (23.2); Korean (16.4); Indian (8.5)	22.3	27.9	53.9	32.5	18.8	23.5	531	1720
Total/Av.	*2734*	*28.5*	*2.875*	*44.67*		*14.67*	*27.6*	*82.67*	*27.5*	*19.033*	*21.433*	*586.67*	*1678.67*
NSW	-	38	2.6	23.4	English (23.3); Australian (22.9); Irish (7.5)	65.5	64.6	19.9	64.5	19.7	18.7	664	1486
Australia		38	2.6	22	English (25); Australian (23.3); Irish (7.6)	66.7	68.4	13.1	65.5	20	16.4	662	1438

** Some data unavailable due to small SA1 population.*

Source: ABS 2016b

South Carlton Case Study

SA1	People	Median age	Average people per household	Level of highest educational attainment: % people with Bachelor degree level and above	Ancestry, top 3 responses: %	% born in Australia	% people who travelled to work by car	Dwelling structure: % that were flats / apartments	Occupied private dwellings: % owned outright or with a mortgage	% Household income less than $650 per week	% Household income more than $3000	Median personal income: $	Household median weekly income: $
2111729	377	24	1.9	48.8	Chinese (44.5); English (10.4); Italian (3.9)	23.7	20.0	97.7	20.6	49.7	9.8	379	687
2111728	616	23	1.8	47.1	Chinese (66.7); English (4.4); Australian (2.9)	6.4	18.8	100	24.9	58.7	7.4	0	350
2111733	674	23	1.6	46.6	Chinese (56.8); English (6.1); Australian (4.3)	10.7	13.7	99.1	12.3	69.6	4.9	30	58
2111735	381	25	1.9	55.1	Chinese (30.5); Indian (11.7); English (9.4)	16.4	18.3	90.6	10.2	43.7	8.5	485	931
2111710	796	22	1.8	32.4	Chinese (61.5); English (4.6); Indonesian (4.2)	5.4	15.1	96.9	15.0	68.8	3.5	0	34
2111707	2382	23	2	40.8	Chinese (63.1); English (4.5); Indonesian (3.8)	6.3	11.8	98.4	20.6	59.2	4.1	17	371
Total/Av.	*5226*	*23.3*	*1.83*	*45.13*		*11.48*	*16.28*	*97.12*	*17.26*	*58.28*	*6.36*	*151.8*	*405.2*
VIC	–	37	2.6	24.3	English (22.6); Australian (21.1); Irish (7.6)	64.9	68.3	11.6	67.6	20.3	15.5	644	1419
Australia		38	2.6	22	English (25); Australian (23.3); Irish (7.6)	66.7	68.4	13.1	65.5	20	16.4	662	1438

Source: ABS 2016b

Carlton North Case Study

SA1	People	Median age	Average people per household	Level of highest educational attainment: % people with Bachelor degree level and above	Ancestry, top 3 responses: %	% born in Australia	% People who travelled to work by car	Dwelling structure: % that were flats / apartments	Occupied private dwellings: % owned outright or with a mortgage	% Household income less than $650 per week	% Household income more than $3000	Median personal income: $	Household median weekly income: $
2111719	578	23	1.6	51.5	Chinese (47.4); English (7.6); Indian (6.2)	12.3	15.9	100	0	61.5	7.7	86	169
2111721	244	33	1.3	35.6	Chinese (35.4); English (10.1); Indian (6.7)	14.7	27.0	100	3.6	80.6	0	290	346
2111723	456	21	3.9	7.8	Somalian (38.4); Eritrean (7.9); Australia (7.7)	37.6	47.7	100	0	41.2	3.5	292	716
2111722	321	33	2.3	9.4	Somalian (12.3); Ethiopian (10.2); Chinese (8.6)	36.5	44.6	100	0	68.0	0	329	472
2111718	1062	31	2	26.3	Chinese (15.3); English (10.2); Australian (8.1)	32.7	28.4	100	9.5	49.9	3.3	400	669
Total/Ave	*2661*	*28.2*	*2.22*	*26.12*		*26.76*	*32.72*	*100*	*2.62*	*60.24*	*2.9*	*279.4*	*474.4*
VIC	–	37	2.6	24.3	English (22.6); Australian (21.1): Irish (7.6)	64.9	68.3	11.6	67.6	20.3	15.5	644	1419
Australia		38	2.6	22	English (25); Australian (23.3); Irish (7.6)	66.7	68.4	13.1	65.5	20	16.4	662	1438

Source: ABS 2016b

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