Australian Planner

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rapl20

Suburban densification: unpacking the misalignment between resident demand and investor-driven supply of multi-unit housing in Sydney, Australia

Nicole Cook, Shanaka Herath & Sophie-May Kerr

To cite this article: Nicole Cook, Shanaka Herath & Sophie-May Kerr (2023): Suburban densification: unpacking the misalignment between resident demand and investor-driven supply of multi-unit housing in Sydney, Australia, Australian Planner, DOI: 10.1080/07293682.2023.2197604

To link to this article: https://doi.org/10.1080/07293682.2023.2197604

Published online: 25 Apr 2023.

AUSTRALIAN PLANNER
https://doi.org/10.1080/07293682.2023.2197604

Suburban densification: unpacking the misalignment between resident demand and investor-driven supply of multi-unit housing in Sydney, Australia

Nicole Cook [a], Shanaka Herath [b] and Sophie-May Kerr [c]

[a]Australian Centre for Culture, Environment, Society and Space, University of Wollongong, Wollongong, Australia; [b]Faculty of Design, Architecture and Building, University of Technology, Sydney, Australia; [c]City Futures Research Centre, University of New South Wales, Sydney, Australia

ABSTRACT
In market societies, investors have played a key role in driving suburban densification. However, the concentration of one- and two-bedroom apartments in suburban town centres has raised concerns about the potential mismatch between investor-driven supply and consumer demand. Despite these criticisms, analysis of consumer demand for multi-unit housing rarely considers housing supply in the same locality. Recognising the significance of multi-unit dwellings in housing supply, this paper develops a clearer understanding of consumer demand and market supply of multi-unit dwellings in suburban town centres. In order to integrate consumer preferences and housing data, the paper combines qualitative analysis of the housing preferences of a group of (largely) migrant women with children living in apartments in the suburban town centre of Liverpool, Sydney, Australia, with quantitative analysis of household type, apartment size and dwelling approvals. In so doing, we show that market-led supply creates a mismatch between housing need and type, as housing careers move beyond detached homes towards spacious apartments in suburban town centres. We conclude that calibrating the share of larger apartments in Local Government Development Control Plans with consumer demand will improve housing outcomes in densifying suburbs.

ARTICLE HISTORY
Received 1 October 2022
Accepted 23 March 2023

KEYWORDS
Multi-unit housing; families; town centre; metropolitan planning; Sydney

1 Introduction

Population growth is increasingly accommodated through multi-unit housing in middle and outer suburban neighbourhoods. However, in market societies, the supply of apartments is shaped by a range of market predictions, including developer perceptions of demand, market research, cost constraints and profit margins. It is often observed that these factors produce a misalignment between supply and demand in apartment markets. Key areas of misalignment include the limited availability of larger apartments (three bedroom); and or apartments that through design, attributes or size, accommodate couples, singles, families, or share households throughout the life course. However, housing industry representatives and commentators argue there is limited demand for larger apartments. These arguments are based on an understanding that in suburban nations, apartments are 'stepping-stones' for households en route to detached dwellings (Kerr, Gibson, and Klocker 2018a; Ruming and Fingland 2021). This assumption is widely held within the property development sector (Fincher 2004; Fincher and Gooder 2007) and, along with speculative investment and permissive planning policies (Easthope and Tice 2011; Nethercote 2019; Troy 2018) has underpinned the production of smaller apartments in suburban town centres. Meanwhile, taxation regimes that encourage property investment among individual small investors further incentivise developers to develop multi-unit housing for investment purposes (Cook and Ruming 2021; Troy, Crommelin, and Easthope 2017; Rosewall and Shoory 2017; Hulse and Reynolds 2018) rather than meeting the needs of diverse apartment dwellers.

Despite these trends, many couple and single-parent headed families with children occupy multi-unit housing. In Sydney, the setting of this paper, families with children under the age of 15 comprised 25% of households living in apartments in 2016 (Kerr, Gibson, and Klocker 2018a), a proportion that increases among families in outer suburban town centres (Easthope, Tice, and Randolph 2009; Easthope and Judd 2010; Randolph and Holloway 2005; Randolph and Tice 2013). Qualitative research shows that well-located apartments can offer families advantages via more immediate access to labour markets, schools, lifestyles and social networks (Kerr, Gibson, and Klocker 2018a; Kerr, Gibson, and Klocker 2021; Karsten 2008; 2015). These accounts suggest narratives of apartments as transitional spaces obscure the diversity of households that seek and occupy multi-unit housing. However, the extent to which multi-

CONTACT Nicole Cook ncook@uow.edu.au

unit housing meets diversified demand in specific geographical submarkets remains poorly understood.

While research exploring the perspectives of families is often situated in relation to 'gaps' in aggregate occupancy or supply figures at the metropolitan or national scale, the perspectives of residents within a given locality are rarely examined with respect to housing supply within that same locality. At the same time, densification dynamics in suburban town centres are disguised in aggregate national, metropolitan, (and even Local Government) figures where outside of their town centres, these jurisdictions are dominated by detached dwellings. Our paper addresses these gaps by using qualitative interviews, interleaved with housing and development data to reveal demand and supply dynamics of multi-unit housing at the scale of the suburban town centre. A better understanding of demand and supply in suburban town centres is important, we argue, as when investors develop apartments that are not suitable for the residents in an area, this creates limits in supply, reducing dwelling availability and placing more constraints on residents who have less diversity and range of apartments to rent.

Drawing on a mixed methods study of a rapidly densifying Central Business District (CBD) in the outer suburban Sydney Local Government Area (LGA) of Liverpool, this study therefore aims to examine the demand and supply-side dynamics of suburban densification. The Liverpool CBD, like suburban centres around the world, has been ear-marked for development and intensification of housing, transport and employment. In the paper, we integrate a qualitative demand-side analysis of consumer preferences, plans and aspirations for housing among a small sample of (largely) migrant women with children in apartments with a quantitative analysis of existing occupancy patterns by household type, apartment size (by bedroom) and dwelling approvals in the same neighbourhood. In so doing, we produce a detailed analysis of demand and supply at the scale of the suburban town centre to reveal a misalignment between consumer demand for larger apartments and supply of smaller, investor grade dwellings in a significant outer-suburban node in Sydney's planned housing growth. This new knowledge of the local context is beneficial for land use planning policies in accounting for local demand and supply variation in multi-unit dwelling, a key goal of the New South Wales (NSW) Department of Planning and Environment (2015, 106). This is especially important because the proportion of families living in apartments is highly uneven across space, even within the same Local Government Area (Easthope and Judd 2010; Randolph 2006). Our analysis also moves beyond the 'inner city' and the experiences of middle-class families dominating qualitative analyses (e.g., Karsten 2008), to the high-density markets in densifying outer suburbs that accommodate most families (Easthope and Judd 2010). Integrated analysis of supply and demand in multi-unit housing is timely from policy perspectives as suburbs play a critical role in accommodating population growth for families, particularly in the context of declining housing affordability.

2 The misalignment between apartment supply and demand in housing and urban research

The trend towards higher residential densities in traditional suburban neighbourhoods characterises middle and outer suburbs in many cities globally. Legislation in France since 2010s has permitted a minimum level of density in proximity to transport networks (Charmes and Keil 2015) with restrictions lifted to incentivise private development in lower value regions and neighbourhoods (Toutai-Morel 2015). Similarly, more compact forms have moved centre-stage in edge city development (in the United States see Dunham-Jones and Williamson [2009]; South Korea see Kim et al., [2018]; and Canada see Young and Keil [2014]). Observations in Australia in the early 2000s that densification in transit-oriented town centres marked a new phase in urban development (Randolph and Holloway 2005) increasingly play out in suburban town centres (Ruming and Fingland 2021). Town centres reveal the diversification of suburban form beyond sprawl to encompass transit-oriented development and integrated residential high-rise with employment and mixed-used development (Charmes and Keil 2015, 590; Kim, Lee, and Kim 2018; Phelps and Wood 2011; Ruming 2018). Captured under the rubric of 'post-suburbanisation', intensification in lower order centres has been characterised by fragmented governance and permissive planning controls impacting housing diversity and affordability (Ruming and Fingland 2021). This includes the displacement of low-income households (Charmes and Keil 2015), conflicting interests between communities and developers (Cook, Taylor, and Hurley 2013; Legacy et al. 2018; Rousseau 2015; Ruming 2014; Taylor, Cook, and Hurley 2016), lack of regulation (Idt and Pellegrino 2021; Kim, Lee, and Kim 2018) and as we demonstrate in this paper, the over-production of smaller apartments relative to consumer demand.

2.1 Supply-side analysis of multi-unit housing in market societies

The decisions of private developers in middle and outer suburbs are critical in market societies where densification is aligned with neoliberal policies through which private investment, and the marketplace play a dominant role in driving urban development and growth (Bunker et al. 2017). Public policy deregulation and performance-based planning has placed more reliance on private enterprise to promote economic efficiency and competitiveness (Graham and Marvin 2001; Troy 2018). Due to the permissive strategic planning environment and the market-driven focus of the residential development industry in Australia, the building of apartments by private developers increased substantially since the introduction of strata title[1] legislation in NSW (Easthope, Hudson, and Randolph 2013). The number of dwelling approvals for apartments across Australia was almost equal to approvals for houses by 2014 (Easthope and Randolph 2016). The patterns were more pronounced in major capital cities, particularly Sydney and Melbourne.

The provision of multi-unit housing in market-based societies is also increasingly shaped by investment logics rather than consumer demand or need. Small investors hold a large proportion of multi-unit housing in Australia, with over 55% of these properties in NSW owned by investors (Troy, Crommelin, and Easthope 2017; Rosewall and Shoory 2017). So long as the attributes of newly developed apartments are defined in terms of meeting the needs of an investor class, the dwellings released to the market will fail to reflect the needs associated with the wider meanings and functions of housing and home (Ruming and Fingland 2021). Indeed, as Kerr, Gibson, and Klocker (2018a) argue, developers typically view apartments as a transitional form of housing for singles and couples in the USA, Canada and Australia. Apartment living is often understood by the development sector as a 'stepping-stone' for younger singles and couples en route to purchasing a detached home or a space for empty nesters to downsize (Fincher 2007; Fincher and Gooder 2007). Developers therefore tend to favour small, inflexible and undifferentiated one- and two-bedroom apartments traditionally targeted at an investor market (Troy et al. 2020). The prevalent discourse of the housing construction industry that 'families' (meaning adults with children) live in low-density suburban environments persists.

From a property development perspective, the construction costs, profit margins and developers' decisions about build quality and design have an important impact on the financial viability of schemes (Easthope and Randolph 2016). In particular, increasing construction costs are a key determinant influencing developers' decision making around size, layout and design of apartments. In the 2018–2019 financial year, the rate of growth in apartment costs was +9.7% in NSW (4.6% higher than the national average). Between 2004–2005 and 2018–2019, the cost of building an apartment increased by 52.6% in NSW, compared to 49.1% Australia-wide (Australian Bureau of Statistics 2020). There has been a corresponding decrease in the average floor area of new apartments of 19.2% in NSW (compared to a decrease of 14.9% nationally) during this period. The high construction costs are reflected in the associated small average size of new apartments. Apartment quality is the subject of a long dialogue over defects, size, flexibility, suitability for larger households and affordability (Cook and Taylor 2023; Nethercote and Horne 2016).

Surprisingly, there is limited empirical data and statistics on the supply of apartments by size. One exception is the data populated by the National Housing Supply Council (NHSC), which the Australian Government established in 2008 to monitor housing demand, supply and affordability in Australia and highlight current and potential gaps between housing supply and demand. The NHSC generated a series of estimates, projections, analyses and policy advice about housing supply, demand and affordability from 2009 to 2013. The reports with relevant statistics on housing supply at capital city, state and national levels were a key resource for policy-makers and researchers until its abandonment in 2013. There are other examples of housing supply analyses at the local scale. For instance, Ruming and Fingland (2021) examine apartment supply by number of bedrooms for two key development sites in Epping in the north-western suburbs of Sydney. Further, the local housing strategy published by the Liverpool City Council focuses on housing demand, supply and preferences (Liverpool City Council 2020a). This strategy reports statistics on different dwelling types and household (family) types separately but it does not analyse the overlap of family types and apartment sizes to better understand the potential 'misalignment'. Standalone analyses on apartment supply without considering demand (see above examples) and a lack of statistics on the extent of supply of apartments limit a clearer understanding of the (mis)alignment between resident demand and market supply of apartments at the local scale.

2.2 Qualitative analysis with apartment dwellers: perspectives on demand

Qualitative research with apartment dwellers suggests that apartment demand is more complex than developer and investor narratives suggest, variegated by family structure, income and age. Easthope, Tice and Randolph (2009) developed a typology of apartment-dwellers for Sydney and Melbourne that revealed the inadequacy of 'empty-nester' and 'stepping-stone' discourses in capturing the significance of apartments for families. The typology identified five submarkets comprising 'battlers' (families with children on low-incomes); 'economically engaged' (no children, singles and couples, through to early middle age with medium to high income); ‘apartment elites’ (couples over 50, high to very high income); ‘residentially retired’ (over 65 singles) and ‘achieving education’ (singles and group households under 25). Of these submarkets, ‘battlers’ (families with children on low-incomes), comprised the largest share of apartment dwellers in the Sydney sample (38%) (compared to 10% of Melbourne). As Randolph and Tice (2013) point out, this group is culturally diverse, occupying the lower-end of the apartment market yet by population size, comprising the predominant share of the higher-density market in Sydney.

While patterns of apartment dwelling are partly shaped by economic factors, qualitative research inspired by feminist and cultural geography reveals the intimate, social and psychological dimensions of apartment dwelling that shapes demand for apartments as family spaces (Nethercote and Horne 2016; Kerr, Gibson, and Klocker 2018a). Through home and neighbourhood tours with households, researchers have identified the ‘time-spatial motivations’ of proximity to work, school and transport that higher-density housing in town centres is seen to offer families (Karsten 2015; Kerr, Gibson, and Klocker 2018a; Kerr, Gibson, and Klocker 2021). These analyses chart a cultural shift in family formation via high-rise dwelling that design, planning and development processes are yet to embrace (Kerr, Gibson, and Klocker 2021). However, the experiences, perceptions and intentions of the majority of apartment-dwelling families in lower-order suburban centres have attracted less attention than inner-city neighbourhoods (although see Easthope et al. 2022). Meanwhile, without analysis of supply relative to demand in the same neighbourhoods, in-depth qualitative research paradoxically abstracts these apartment dwellers from the localised housing markets (and submarkets) in which they are situated.

3 The setting: the city of Liverpool, Sydney, Australia

To address this gap, this paper takes as its focus the housing plans and aspirations of current apartment dwellers, as well as analysis of housing supply in the Local Government Area (LGA) of Liverpool, Sydney, Australia. Located approximately 35 km from the Sydney CBD, Liverpool LGA (population 204,326) is a key node in Sydney’s population expansion expected to grow by 108% between 2016 and 2041, comprising a 125% increase in households (NSW Department of Planning Industry and Environment 2016). A significant proportion of Liverpool’s growth will occur in its 25-hectare CBD (population 27,084) (Figure 1), where through the provision of high-rise housing development, the resident population, including families, will double by 2036 (Liverpool City Council 2019).

Aggregate data showing that Liverpool LGA is dominated by detached dwellings (i.e. stand-alone houses), obscures the densification of the Liverpool CBD. For example, in The Western City District,[2] where Liverpool is located, 81% of the housing stock in 2016 comprised of detached houses, 11% medium density houses and 8% apartments (Greater Sydney Commission 2018a). In contrast, data for the Liverpool CBD, one of 42 suburbs that make up the LGA of Liverpool, shows the reverse trend: apartments comprised 60% of the housing stock, compared to 29% detached dwellings and 11% semi-detached (common wall) housing (ABS 2016). So while detached dwellings still dominate in the larger LGA (74.3%), the opposite is true of the Liverpool CBD (29%).

Consistent with the process of post-suburbanisation where the ‘attributes of centrality’ are found in the suburbs (Charmes and Keil 2015, 590), Liverpool also features prominently in new investment through the federally funded Western Sydney airport. Whilst the Western City is expected to be an opportunity for economic and new infrastructure growth for Liverpool (Troy, Crommelin, and Easthope 2017), studies in nearby areas show that densification does not always meet supply, is of poor quality and caters to investors rather than renters and owner-occupiers (Randolph and Holloway 2005; Ruming and Fingland 2021).

4 Mixed methods research in densifying suburbs

In order to better understand whether and how resident housing demands are met by apartment supply in densifying outer suburbs, we deploy a mixed methods approach to better account for place-specific dynamics (cf. Davidson and Ward 2022) and household experiences (Moore, Strengers, and Maller 2016). Qualitative in-depth data collected through home and neighbourhood tours with participants living in apartments with families in the Liverpool CBD provided insights into demand among this market segment, who comprise the largest submarket of apartment dwellers in Sydney (Easthope 2019). These results are interleaved with quantitative analysis of current occupancy patterns to better understand the types of apartments occupied by particular types of families. This analysis in conjunction with qualitative results, offers a new perspective on whether families in Liverpool town centre are occupying apartments they find desirable, while estimating the mismatch between dwelling size and household size (i.e. ‘empty bedrooms’) and, using informational data on building

Figure 1. Residential densification in Liverpool CBD, Sydney, Australia.

approvals, further estimating whether these apartment types were likely to be available in the market.

4.1 Qualitative methods

Qualitative data are drawn from a subset of ten interviews and apartment tours undertaken as part of a study examining the lived experience of apartment dwellers in the Liverpool CBD. Participants were recruited through letter-box drop and social media advertising. The complete home and neighbourhood tour interviews probed households' apartment and neighbourhood preferences and experiences (Cook et al. 2020). In this present paper, we draw on participants' discussion of housing choice and rationales, the suitability of their current apartment (likes and dislikes) and housing aspirations over the longer term to develop insights into demand-side variables. Interviews were audio recorded, transcribed and anonymised (including the use of pseudonyms). Property data provided by RPData were used to understand the context of the interviewee responses (via their apartment attributes). This analysis provides a snapshot of apartment demand in Liverpool from the perspective of diverse family households.

As shown in Table 1, all participants lived in the CBD of Liverpool. We sought to achieve diversity in terms of households, tenure, ethnicity, age and family type. However, those most likely to opt into the study were women in households with children (seven out of ten participants) and one young adult living in an apartment with her mother and three siblings. Given apartment demand among families in outer suburbs is poorly understood, we draw exclusively on transcripts from the seven participants with families. All seven participants were women, none worked full-time and five out of seven were born overseas (in Cameroon, Iraq, China, Iran and Bangladesh). This reflects the cultural diversity of the town centre more broadly where 69% of residents were born overseas (compared to 43% overseas born for Greater Sydney and 35% for the State of NSW). The sample therefore throws light on a critical subsection of the apartment market identified by Easthope (2019, 10) as low-income, culturally diverse families in outer suburbs. Recognising the significance of this cohort, qualitative analysis draws on participant interview transcripts to develop a better understanding of the aspirations, rationales and experiences of the women and families driving apartment demand in suburban town centres.

Table 1. Participant profiles.

Pseudonym	Age	Household members	Country of birth	Tenure	Bedrooms	Year built
Naomi	30–34	Couple household four children	Australia (husband born in England)	Owning	2 bedrooms	2016
Sigrid	40–44	Couple household four children	Cameroon	Renting	3 bedrooms	1976
Maaria	15–19	Single parent household four children	Iraq	Renting	3 bedrooms	2005
Amy	40–44	Couple household two children	China (husband born in New Zealand)	Owning	3 bedrooms	2007
Mahgol	35–39	Single parent household one child	Iran	Renting	2 bedrooms	2000
Sarah	30–34	Couple household one child	Australia (husband born in Australia)	Owning	2 bedrooms	2018
Ayasha	30–34	Couple household one child	Bangladesh	Renting	2 bedrooms	2017
Somy	20–24	Couple household	Sri Lanka (partner born in India)	Renting	1 bedroom	2015
Marion	60–64	Living alone	Australia	Renting	2 bedroom	1970
Rob	40–44	Living alone	South Africa	Renting	1 bedroom	2017

4.2 Quantitative analysis

Qualitative analysis of interview transcripts is interleaved with Australian Bureau of Statistics (ABS) Census data in 2011 and 2016 to dissect and extrapolate themes emerging in qualitative analysis. This includes a consideration of the proportion of apartments in Liverpool CBD occupied by families; and household (family) types and the apartment sizes they occupy in Liverpool. This provides one indication of whether particular households are occupying desirable apartments with respect to the preferences identified in qualitative analysis by the 'Liverpool CBD' families. We then combine monthly building approval data provided by ABS to calculate the annual trends over the same period to ascertain how the current building approvals reflect future supply side constraints and possibilities. The latter allows an enquiry into whether the predicted growth of apartments (by size) in Liverpool LGA and CBD is set to accommodate projected household types based on current occupation patterns (the former).

NSW Department of Planning, Industry and Environment (DPIE) develop projections of households and 'implied dwelling requirements' for 5-year periods for the state classified by LGA. These projections include the number and type of households that would form if the current demographic trends continue and if assumptions about living arrangements are met over the projection period. They also include the likely number of private dwellings[3] needed to accommodate the future population-driven demand. However, these dwelling projections simply assume that one household occupies a dwelling and do not consider what type of a dwelling that might be or its size. While the above data is available for Liverpool LGA until 2041, the absence of dwelling numbers by size inhibits a clearer understanding of the mismatch between demand and supply.[4]

5 Multi-unit housing demand among 'Liverpool CBD' families

Multi-unit dwelling is the most prominent form of housing occupied by the Liverpool CBD families. Comparisons by apartment-dwellers between the centrality of suburban CBD high-rise and detached housing illuminate high-rise as a distinctive submarket. The experience of Amy, who had lived with her husband and two children in a three bedroom apartment in Liverpool's CBD for ten years, is indicative. Living in Liverpool's CBD meant her husband was closer to work, while proximity to her children's school and childcare, along with culturally diverse retailers and communities made her life as full-time parent and settlement in Australia 'easier' (cf. Ghosh 2014). While conceding that 'maybe a townhouse or some sort of house' could accommodate a 'growing family', this would depend on location relative to her husband's work, convenience of culturally diverse services and communities, and crucially, affordability. In weighing-up a detached dwelling in the suburbs compared to living in Liverpool CBD, Amy – like six out of seven Liverpool CBD families – lands on the side of the Liverpool CBD: 'I think this is the best spot for us'.

Discussions with Liverpool CBD families about their housing preferences also reveal how income constraints blur the boundary between choice and necessity, augmenting traditional 'choice-based' analysis. Detached dwellings, for all but one family in the study, were out of financial reach. Even though the remaining participants conceded that detached dwellings would be more 'spacious', demand for the idealised 'family home' was weak due to the increased costs of housing and transport, including the costs of owning a second car. As Ayasha (couple family, two children) figured, the financial burden of increased transport costs associated with detached dwelling, were outweighed by the locational benefits of Liverpool CBD:

> most important is the location … I can get everything in a very short distance … We are paying $50 more than in our last apartment but if I had to own my own car that would cost me more.

Mahgol, who lived with her mother in a two-bedroom apartment, similarly described housing choice in terms of walkability to 'public transport, the shops and library' within the context of considerable 'financial constraints', while Naomi, who lived with her husband and four children in a two-bedroom apartment with a mortgage, described her apartment as 'what we could afford, close to the train station … and within close proximity to the shops' where 'we didn't have to have a second car'.

However, demand for centrally-located dwellings was not only about navigating financial constraints. For example, even though Sigrid, who lived in a three-bedroom home with her husband and four children, described co-location of home, school, libraries and transport as the 'first indicator' in their housing choice, followed by 'constraints in terms of money', she also connected walkability to parenting roles and capacities (cf. Clement and Waitt 2017). This included the affordances of walkability that supported parenting through minimising stress, where as Sigrid noted:

> we looked for a specific location that would be easy for the kids to be going to school without pressure for me being forced to pick them up, that was the priority, being close to the station

Like many first generation migrants (Kerr, Klocker, and Waitt 2018b) the prospect of driving was not desirable for Sigrid, described in terms of 'pressure' and 'worry'. Paying attention to these affects, as Bissel (2018) argues, can reveal the wider geographies

Table 2. Different family types in apartments, Liverpool CBD and LGA, 2016 and 2011.

	Liverpool CBD		Liverpool LGA	
Family type	2011	2016	2011	2016
Couple family with no children	690 (17.2%)	867 (17.9%)	1064 (15.8%)	1292 (16.6%)
Couple family with children	1372 (34.1%)	1650 (34%)	1772 (26.2%)	2153 (27.7%)
One parent family	620 (15.4%)	790 (16.3%)	1030 (15.2%)	1185 (15.3%)
Other family	68 (1.7%)	92 (1.9%)	97 (1.4%)	133 (1.7%)
Lone person household	1133 (28.2%)	1260 (26%)	2557 (37.9%)	2699 (34.7%)
Group household	136 (3.4%)	193 (4%)	235 (3.5%)	308 (4%)
Adj total	**4019**	**4852**	**6755**	**7770**

Source: ABS Censuses 2011 and 2016.
Notes: The totals in Table 2 do not match the totals in Table 3 due to 'not stated' category.

through which mobility and housing cultures diversify. Demand for more multi-unit housing in suburban town centres is not therefore a simple question of 'choice' but a sociocultural process encompassing centrality, mobility, income constraints and parenting responsibilities. But how widespread is this demand across families in the Liverpool CBD?

Apartment occupancy data, shown in Table 2, provides one indication. Focusing first on the bottom row, Table 2 shows that there were 4852 occupied apartments in Liverpool's CBD in 2016 comprising 62.4% of the total 7770 apartments in the LGA. Of the Liverpool CBD apartments, 50.3% were occupied by families, counting both couple families with children (34%) and single parent families (16.3%). This is double the proportion of families occupying apartments in Greater Sydney in 2016 (cf. Kerr, Gibson, and Klocker 2018a) and a slight increase in the proportion of families occupying apartments in the Liverpool CBD since 2011 (49.5%). In contrast, just one in four apartments in 2016 were occupied by lone person households in Liverpool CBD (26%) – half the proportion of CBD apartments occupied by families – and a proportion that has decreased since 2011 (28.2%).

It is worth comparing the composition of family types in the Liverpool LGA with those in the Liverpool CBD to see that families with children comprised 43% of the apartment market in the LGA in 2016. Together, these data challenge understandings of apartments as housing for childless singles and couples, supporting the steer in the qualitative interviews that apartment living in the Liverpool CBD is a significant option for families with children.

6 From stepping-stone to family home: the demand for spacious apartments in suburban town centres

While the finding that the Liverpool CBD families see multi-unit dwelling as the 'best' option challenges the traditional interpretation of apartments as stepping-stones towards detached dwellings, the central role of high-rise in meeting the needs of participants as their families grow, hints at a more fundamental shift in apartment dwelling over the life course. Qualitative interviews suggest that as families embrace apartment living, the differences *within* apartment markets become more significant. The demand for spacious apartments as families grew was indicative. Consider for instance, the central place of finding a large apartment in Amy's plans to form a family. Amy (couple household two children, three-bedroom apartment) describes buying the largest apartment she could afford to accommodate their family over the life course:

> (w)e knew that later we would need more and more space because we knew we were going to have family, we thought we might as well get it now than later [laughs] when you need to move, then the price would probably be up again.

Similarly, for other participants, the birth of their children triggered the search for a larger apartment rather than demand for detached housing. This included Ayasha's decision to leave the 'tiny' one-bedroom apartment she rented with her husband to find a new rental with two 'spacious' bedrooms when her second child was due. Similarly, constrained by the costs of detached dwellings, with her second pregnancy, Naomi and her husband (couple family, four children) moved from a two-bedroom rental in a nearby suburb, to a larger, off-the-plan two-bedroom apartment in Liverpool CBD. Sarah and her partner too, bought a larger two-bedroom apartment in Liverpool CBD, rather than a detached suburban home, ahead of the birth of their first child. Apartments also dominated in future housing plans. While acknowledging the 'ideal' of detached dwelling as 'more spacious', it was a nearby apartment that Amy was planning to buy: 'we already like the thought of one that is under construction here. So we were just planning with our real estate'.

These discussions reveal the everyday housing decisions around which high-rise family living has become normalised in Sydney's suburban town centres. As Ayasha noted '95 per cent of my daughter's classmates are brought up in apartments' while Sigrid, who migrated to Australia from Cameroon noted that 'here in Liverpool, there are so many buildings, most of the city dwellers do live in apartments and units so you just accept the way it is'. These images contrast with the detached dwellings that have dominated understandings of Sydney's western suburbs (Greater Sydney Commission 2018b) and that still attract significant policy support and public investment.

Despite demand for spacious apartments in amenity-rich suburban centres, the experiences of the

Liverpool CBD participants also point to supply-side gaps (cf. Kerr, Gibson, and Klocker 2021). This includes the small size of bedrooms in new apartments, that as Naomi pointed out, are designed for one bed, rather than two single beds for children to share a room, leaving no space 'between the two beds and the wardrobe'. Common areas in her building too, lacked sufficient space for prams and bikes. At the scale of the building Naomi astutely calculated that:

> on our floor, there are ten apartments: there's two one-bedroom apartments, there's one three-bedroom apartment and then there are seven two-bedroom apartments. So in terms of ratio of apartments, there's really only one family that could live across these ten apartments, which is pretty low.

Given these ratios, Naomi questioned the commitment to ensuring housing supply for families. As she saw it:

> I don't think the buildings are ready for families. I think that Liverpool Council sell off the land but they don't really then ensure that building developers are creating apartment spaces that are practical for families.

These accounts therefore challenge the norm that a detached home is the only appropriate housing form for families, against which all apartments – regardless of the size of those apartments – are inadequate. As families embrace apartment-dwellings, the differences within apartment markets become significant. In particular, from the perspective of the Liverpool CBD participants, spacious apartments in suburban town centres are highly sought after.

How common then, are larger apartments in Liverpool CBD? Breaking-down the total number of occupied apartments in the Liverpool CBD by number of bedrooms, Table 3 shows that a majority of apartments in 2016 were two-bedroom apartments (76%), followed significantly smaller proportions of three bedroom (15%) and one-bedroom apartments (8%).

Table 3. Size of occupied apartments in Liverpool CBD, 2011 and 2016.

	Liverpool CBD	
Occupied apartment size	2011	2016
None (includes bedsitters)	38 (1%)	22 (0.5%)
One bedroom	251 (6.4%)	355 (7.5%)
Two bedrooms	3028 (77%)	3604 (76.4)
Three bedrooms	591 (15%)	712 (15.1%)
Four bedrooms	19 (0.5%)	18 (0.4%)
5 bedrooms or more	3 (0.1%)	4 (0.1%)
Total	**3930**	**4715**

Source: ABS Censuses 2011 and 2016.
Notes: The totals in Table 3 do not match the totals in Table 2 due to 'not stated' category.

These figures are in line with Naomi's estimation and, given that around 50% of all apartments in the Liverpool CBD are occupied by families but only 15% of these apartments have three or more bedrooms, there appears to be an under-supply of larger apartments in Liverpool CBD. To interrogate this further, Figure 2 compares family type and apartment size. It shows that among couple families with children in Liverpool CBD, around three quarters live in two-bedroom apartments and one quarter in three-bedroom apartments. As shown through qualitative analysis, despite many couple families with children living in two-bedroom apartments, they create challenges for families in terms of space. Moreover, looking at lone person households, nearly two-thirds lived in two-bedroom apartments. While issues such as shared parenting or part-time caring for grandchildren or other family members make this housing necessary and appropriate for lone person households (Tervo and Hirvonen 2020), the occupation of two-bedroom households by lone persons place some pressure on two-bedroom apartments that are occupied by the majority of families.

7 Building approvals: reflections on future supply

We have so far examined resident insights about demand for spacious, multi-unit housing through occupancy, size and household data. In this final section, we focus on whether future supply is likely to continue to produce a shortfall in larger apartments. To do this, we focus on new building approvals of apartments to dissect specific apartment sizes that are expected in the market. Thus, this section interrogates whether the projected apartments (by size) can accommodate the projected household types based on current occupation patterns. While there are limitations in estimating housing supply from building approval data (as an approval does not always result in construction), using building approval data had the advantage of providing estimates beyond the census period.

Specifically considering new 'other residential buildings' (of which overwhelming majority are apartments), our extrapolation shows almost all the new stock comprises two-bedroom apartments, and only a few other sizes in the Liverpool CBD (see Figure 3). About 3700 new 2 bedroom apartments are projected in Liverpool CBD over the five years from 2014 to 2018 (compared to 3600 occupied 2 bedroom apartments in 2016), suggesting an efficient pipeline of new apartments of this size. However, in response to the question 'are current building approvals in these suburbs set to accommodate projected household needs?', we observe a persistent pattern of a large number of two-bedroom apartments and only a few

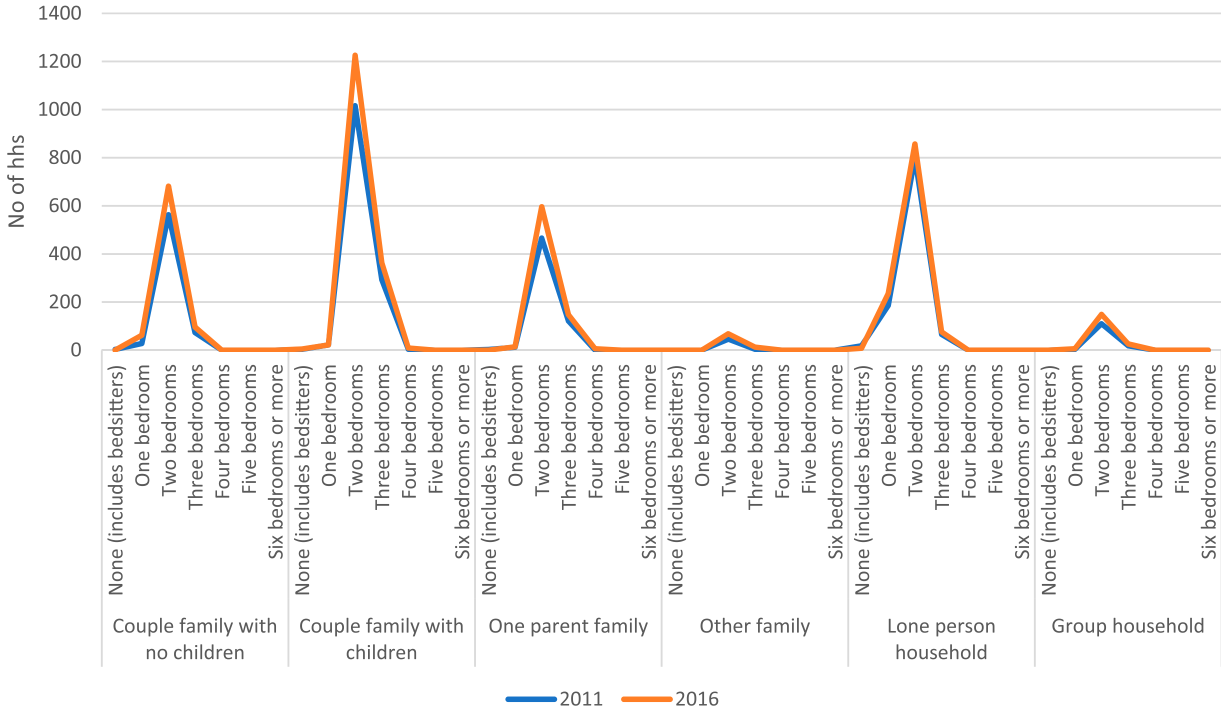

Figure 2. Family types and apartment size, Liverpool CBD, 2011 and 2016 Source: ABS Censuses 2011 and 2016.
Notes: The totals in Figure 3 do not match the totals in Table 2 due to 'not stated' category

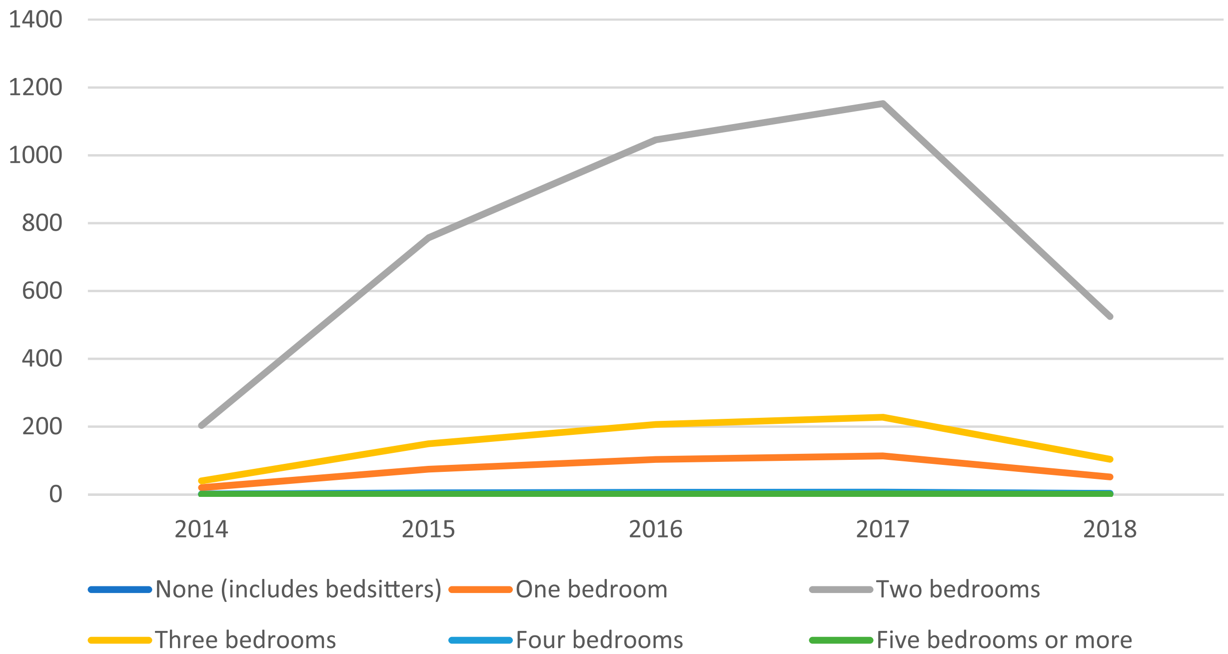

Figure 3. Projected 'other residential buildings' by bedroom size, Liverpool CBD (2014–2018). Source: ABS (2011) 8731.0 Building Approvals, Australia.
Notes: (i) Other residential buildings include flats, units, apartments, semidetached, row, terrace and townhouses. (ii) SA2 is synonymous with suburb/CBD. (iii) Boundary of Liverpool SA2 changed in 2016: Data from 2014–16 are for 2011 Liverpool - Warwick Farm (127031525) SA2. Data from 2017–2018 are for 2016 Liverpool (127031598) SA2.

other sizes. This indicates supply over the next several years will add a disproportionate number of two-bedroom apartments into the apartment stock. This analysis is useful to ascertain the picture of the post-census period.

8 Conclusions

Suburban town centres around the world are diversifying through processes of landuse intensification. However, post-suburbanisation is an uneven process shaped by market-oriented policy (Charmes and Keil 2015) that has important implications for housing diversity (Ruming and Fingland 2021). For example, a large share of multi-unit housing stock in the Australian context is developed for individual and small-scale investors that coupled with construction costs and permissive planning controls, tends towards the production of smaller apartments (Nethercote 2019; Troy et al. 2020). Given that a significant proportion of multi-unit dwellings in suburban town centres are occupied by families (Easthope, Tice, and Randolph 2009; Randolph 2006), there is a potential misalignment between housing supply and demand in these neighbourhoods.

Mixed method, place-based approaches that consider both resident demand and multi-unit housing supply, reveal suburban town centres as dynamic sites of densification. In housing submarkets where apartments play an increasing role in family life, the suitability of multi-unit housing stock is an important policy issue (Kerr, Gibson, and Klocker 2021). These questions are of singular importance in middle and outer suburbs enlisted in policies of private-sector led renewal (Ruming and Fingland 2021). As our analysis of the Liverpool CBD in Sydney's south western suburbs illustrates, the idea of low-density and car-dependent suburbia fails to capture the multi-unit character of suburban town centres. Here, in the context of rising housing costs, privatised transport burdens and employment barriers, residents seek CBD apartments that can address the 'time-geography' demands of family life. Our analysis of dwelling structure by family type in Liverpool reflects the ongoing significance of multi-unit dwelling in lower-order town centres for families (e.g. Randolph and Holloway 2005). We show that in 2016, 50% of high-rise apartments in Liverpool CBD were occupied by families, compared to just 26% of apartments occupied by singles. High-rise apartments in Liverpool's town centre are therefore more than transitional housing options, a point reinforced by the Liverpool CBD families. These accounts suggest housing demand in outer suburban town centres is diversifying beyond detached housing in car-dependent suburbs to include spacious apartments in suburban town centres. While it might be tempting to consider suburban densification as the solution to the ills of sprawl, the experiences of the families who make suburban high-rise home reveal distinctive market shortfalls and policy gaps.

Our research highlights an opportunity for Liverpool City Council to revise Development Control Plans to achieve a higher ratio of three-bedroom apartments relative to two bedroom and one bedroom homes. This is especially as ratios of three-bedroom apartments in the current Development Control Plan for Liverpool CBD (Liverpool City Council 2020b, 26) are set at 10%, even though, as we have seen, families occupied 50.3% of the apartment stock in 2016. While increasing the supply of larger apartments could be achieved through density bonuses (Fidler 2015), experiments elsewhere, such as the adoption by the Hills Shire Council (2016) of a 20% ratio of three- and four-bedroom apartments in key development corridors, flag the potential for diversification in planning controls (see also Kerr, Gibson, and Klocker 2021). There is also a need for analysis of housing demand and supply at the scale of the suburban town centre, because as we have shown, the proportion of families living in apartments in town centres such as Liverpool, is twice the metropolitan average. Without targeted, place-based analysis of suburban town centres, the dynamics of housing demand in these rapidly transforming places remain invisible in planning research, practice and policy. The risk is that even in relatively affordable housing submarkets, there is unmet demand and poor market response.

Correcting misalignment in supply and demand lies at the core of successful densification. This includes multi-unit housing that is fit-for-purpose that encompasses evolution in housing careers and that underpinned by further research, responds to even more recent trends in the post-pandemic reconfiguration of home and work (e.g. Gibson et al. 2022). The development and construction of high-rise buildings has a long-term impact on housing markets. Misalignment has the potential to exacerbate existing shortfalls in housing submarkets, drive scarcity, fuel house-price increases and lock populations into ill-fitting and inefficiently priced housing for decades to come. By bringing the cultural geographies of home into dialogue with the economics of housing, resident experiences and sociocultural change can be integrated into urban development planning. As this research demonstrates, apartment-size is an important dimension of densification where tensions between market-led development and public policy responsibilities manifest.

Notes

1. Strata title is the most common system for owning units and townhouses in Australia, which generally have a combination of private residences as well as communal spaces. Someone buying into a strata plan buys a 'lot', which may include the main unit area and possibly a balcony, garage or even storage area. Other parts of the property – such as a foyer, stairways and driveways – are usually common property (https://www.lawsociety.com.au/for-the-public/know-your-rights/strata-title)
2. The Western City District defined by the Greater Sydney Commission (2018b) [now the Greater Cities Commission] includes eight Sydney Local Government Areas: Blue Mountains, Camden,

Campbelltown, Fairfield, Hawkesbury, Liverpool, Penrith and Wollondilly
3. Private dwellings include homes, apartments, mobile homes and other substantial structures but exclude boarding houses, nursing homes and prisons
4. This reflects a relatively long history of development and application of new methods for projection of population and demographic trends, household types and dwelling types in Australia - see McDonald (2003). Projection of dwellings by size has not been of interest so far.

Acknowledgements

We are grateful for the time and generosity of participants in this study in sharing their experiences and perceptions. Our thanks also to two referees and the journal editors whose insightful feedback has helped to streamline this paper.

Disclosure statement

No potential conflict of interest was reported by the author (s).

Funding

This work was supported by the Global Challenges Program, University of Wollongong.

ORCID

Nicole Cook http://orcid.org/0000-0003-3008-3719
Shanaka Herath http://orcid.org/0000-0002-7958-3274
Sophie-May Kerr http://orcid.org/0000-0001-6977-0298

References

ABS (Australian Bureau of Statistics). 2011. "Census of Population and Housing." www.abs.gov.au/websitedbs/censushome.nsf/home/historicaldata2011?opendocument&navpos = 280.

ABS (Australian Bureau of Statistics). 2016. "Census of Population and Housing." www.abs.gov.au/websitedbs/censushome.nsf/4a256353001af3ed4b2562bb00121564/census.

ABS (Australian Bureau of Statistics). 2020. "Characteristics of New Residential Dwellings - A 15 Year Summary." www.abs.gov.au/articles/characteristics-new-residential-dwellings-15-year-summary.

Bissel, D. 2018. *Transit Life: How Commuting is Transforming our Cities*. Cambridge: MIT Press.

Bunker, R., L. Crommelin, L. Troy, H. Easthope, S. Pinnegar, and B. Randolph. 2017. "Managing the Transition to a More Compact City in Australia." *International Planning Studies* 22 (4): 384–399. doi:10.1080/13563475.2017.1298435.

Charmes, E., and R. Keil. 2015. "The Politics of Post-Suburban Densification in Canada and France." *International Journal of Urban and Regional Research* 39 (3): 581–602. doi:10.1111/1468-2427.12194

Clement, S., and G. Waitt. 2017. "Walking, Mothering and Care: A Sensory Ethnography of Journeying on-foot with Children in Wollongong, Australia." *Gender, Place and Culture* 24 (8): 1185–1203. doi:10.1080/0966369X.2017.1372376.

Cook, N., S.-M. Kerr, C. Hendrigan, and S. Herath. 2020. "Apartment Dwellers' Perceptions of Densification in Liverpool CBD: A Pilot Study." Global Challenges Seed Project, University of Wollongong.

Cook, N., and K. J. Ruming. 2021. "The Financialisation of Housing and the Rise of the Investor-Activist." *Urban Studies* 58 (10): 2023–2039. doi:10.1177/0042098020931320

Cook, N., and E. J. Taylor. 2023. "Assembling Imperceptibility: The Material, Financial and Policy Dimensions of Combustible Cladding in Residential High-Rise." *Housing Theory and Society* 40 (1): 113–129. doi:10.1080/14036096.2022.2099460

Cook, N., E. J. Taylor, and J. Hurley. 2013. "At Home with Strategic Planning: Reconciling Resident Attachments to Home with Policies of Residential Densification." *Australian Planner* 50 (2): 130–137. doi:10.1080/07293682.2013.776982

Davidson, M., and K. Ward. 2022. "Post-great Recession Municipal Budgeting and Governance: A Mixed Methods Analysis of Budget Stress and Reform." *Environment and Planning A: Economy and Space* 54 (4): 634–652. doi:10.1177/0308518X211068051

Dunham-Jones, E., and J. Williamson. 2009. *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs*. New Jersey: Wiley.

Easthope, H. 2019. *The Politics and Practices of Apartment Living*. Cheltenham: Edward Elgar.

Easthope, H., L. Crommelin, S. M. Kerr, L. Troy, R. van den Nouwelant, and G. Davison. 2022. "Planning for Lower-Income Households in Privately Developed High-Density Neighbourhoods in Sydney, Australia." *Urban Planning. Ahead of print*. doi:10.17645/up.v7i4.5699.

Easthope, H., S. Hudson, and B. Randolph. 2013. "Urban Renewal and Strata Scheme Termination: Balancing Communal Management and Individual Property Rights." *Environment and Planning A: Economy and Space* 45 (6): 1421–1435. doi:10.1068/a4598.

Easthope, H., and S. Judd. 2010. *Living Well in Greater Density*. Sydney: City Futures Research Centre, University of New South Wales.

Easthope, H., and B. Randolph. 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* 48 (9): 1829–1847. doi:10.1177/0308518X16650894.

Easthope, H., and A. Tice. 2011. "Children in Apartments: Implications for the Compact City." *Urban Policy and Research* 29 (4): 415–434. doi:10.1080/08111146.2011.627834.

Easthope, H., A. Tice, and B. Randolph. 2009. *The Desirable Apartment Life?* Sydney: City Futures Research Centre, University of New South Wales.

Fidler, E. 2015. "DC Proposes and Inventive for 3 Bedroom Apartments." Greater, Greater Washington. https://ggwash.org/view/37492/dc-proposes-an-incentive-for-three-bedroom-apartments.

Fincher, R. 2004. "Gender and Life Course in the Narratives of Melbourne's High-Rise Housing Developers." *Australian Geographical Studies* 42 (3): 325–338. doi:10.1111/j.1467-8470.2004.00278.x.

Fincher, R. 2007. "Is High-Rise Housing Innovative? Developers' Contradictory Narratives of High-Rise

Housing in Melbourne." *Urban Studies* 44 (3): 631–649. doi:10.1080/00420980601131894.

Fincher, R., and H. Gooder. 2007. "At Home with Diversity in Medium-Density Housing." *Housing Theory and Society* 24: 166–182. doi:10.1080/14036090701374530

Ghosh, S. 2014. "Everyday Lives in Vertical Neighbourhoods: Exploring Bangladeshi Residential Spaces in Toronto's Inner Suburbs." *International Journal of Urban and Regional Research* 38 (6): 2008–2024. doi:10.1111/1468-2427.12170

Gibson, C., C. Brennan-Horley, N. Cook, P. Mcguirk, A. Warren, and P. Wolifson. 2022. "The Post-Pandemic Central Business District (CBD): Re-Imagining the Creative City?." *Urban Policy and Research* 1–13. doi:10.1080/08111146.2022.2155130.

Graham, S., and S. Marvin. 2001. *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*. 1st ed. New York: Routledge.

Greater Sydney Commission. 2018a. "Metropolitan Context of the Western City District. Greater Sydney Commission." https://greatersydneyliving.com.au/local-living/metropolitan-context-of-the-western-city-district.

Greater Sydney Commission. 2018b. "Our Greater Sydney 2056 Western City District Plan – Connecting Communities." Greater Sydney Commission. https://www.greater.sydney/western-city-district-plan.

Hills Shire Council. 2016. "More Family-Friendly Apartments Now in the Mix for the Hills." https://www.thehills.nsw.gov.au/News-Publications/More-family-friendly-apartments-now-in-the-mix-for-The-Hills.

Hulse, K., and M. Reynolds. 2018. "Investification: Financialisation of Housing Markets and Persistence of Suburban Socio-economic Disadvantage." *Urban Studies* 55 (8): 1655–1671. doi:10.1177/0042098017734995.

Idt, J., and M. Pellegrino. 2021. "From the Ostensible Objectives of Public Policies to the Reality of Changes: Local Orders of Densification in the Urban Regions of Paris and Rome." *Land Use Policy* 107: 1–14. doi:10.1016/j.landusepol.2021.105470.

Karsten, L. 2008. "Housing as a way of Life: Towards an Understanding of Middle-Class Families' Preference for an Urban Residential Location." *Housing Studies* 22 (1): 83–98. doi:10.1080/02673030601024630

Karsten, L. 2015. "Middle-Class Households with Children on Vertical Family Living in Hong Kong." *Habitat International* 47: 241–247. doi:10.1016/j.habitatint.2015.01.023

Kerr, S.-M., C. Gibson, and N. Klocker. 2021. "From Backyards to Balconies: Cultural Norms and Parents' Experiences of Home in Higher-Density Housing." *Housing Studies* 36 (3): 421–443. doi:10.1080/02673037.2019.1709625

Kerr, S.-M., C. Gibson, and N. Klocker. 2018a. "Parenting and Neighbouring in the Consolidating City: The Emotional Geographies of Sound in Apartments." *Emotion, Space and Society* 26: 1–8. doi:10.1016/j.emospa.2017.11.002.

Kerr, S.-M., N. Klocker, and G. Waitt. 2018b. "Diverse Driving Emotions: Exploring Chinese Migrants' Mobilities in a Car-Dependent City." *Transfers* 8 (2): 23–43. doi:10.3167/TRANS.2018.080203

Kim, H., N. Y. Lee, and S. N. Kim. 2018. "Suburbia in Evolution: Exploring Polycentricity and Suburban Typologies in the Seoul Metropolitan Area, South Korea." *Land Use Policy* 75: 92–101. doi:10.1016/j.landusepol.2018.03.033

Legacy, C., N. Cook, D. Rogers, and K. Ruming. 2018. "Planning the Post-Political City: Exploring Public Participation in the Contemporary Australian City." *Geographical Research* 56 (2): 176–180. doi:10.1111/1745-5871.12285

Liverpool City Council. 2019. *Planning the Future*. Liverpool, NSW https://www.liverpool.nsw.gov.au/development/planning-the-future.

Liverpool City Council. 2020a. *Draft Liverpool Local Housing Strategy*. Liverpool, NSW. https://listens.liverpool.nsw.gov.au/_media/documents-on-exhibition/draft-liverpool-local-housing-strategy.

Liverpool City Council. 2020b. *Liverpol Development Control Plan Part 4: Development in Liverpool City Centre*. file:///Users/ncook/Downloads/LDCP%202008%20Part%204%20Liverpool%20Cit_e%20(Amendment%2033)%206%20May%202020%20V2.PDF.

McDonald, P. 2003. "Medium and Long-Term Projections of Housing Needs in Australia: Final Narrative Report." AHURI Final Report No. 38. Australian Housing and Urban Research Institute, AHURI: Melbourne.

Moore, T., Y. Strengers, and C. Maller. 2016. "Utilising Mixed Methods Research to Inform low-Carbon Social Housing Performance Policy." *Urban Policy and Research* 34 (3): 240–255. doi:10.1080/08111146.2015.1077805

Nethercote, M. 2019. "Melbourne's Vertical Expansion and the Political Economies of High-Rise Residential Development." *Urban Studies* 56 (16): 3394–3414. doi:10.1177/0042098018817225

Nethercote, M., and R. Horne. 2016. "Ordinary Vertical Urbanisms: City Apartments and the Everyday Geographies of High-Rise Families." *Environment and Planning A: Economy and Space* 48 (8): 1581–1598. doi:10.1177/0308518X16645104.

New South Wales Department of Planning and Environment. 2015. "Apartment Design Guide." https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/apartment-design-guide-2015-07.pdf?la = en.

New South Wales Department of Planning Industry and Environment. 2016. "NSW 2019 Population Projections." https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections.

Phelps, N. A., and A. M. Wood. 2011. "The New Post-Suburban Politics?" *Urban Studies* 48 (12): 2591–2610. doi:10.1177/0042098011411944

Randolph, B. 2006. "Delivering the Compact City in Australia: Current Trends and Future Implications." *Urban Policy and Research* 24 (4): 473–490. doi:10.1080/08111140601035259.

Randolph, B., and D. Holloway. 2005. *A Social Profile of Households in Higher Density Housing in Fairfield*. Sydney: City Futures Research Centre, Univeresity of New South Wales.

Randolph, B., and A. Tice. 2013. "Who Lives in Higher Density Housing? A Study of Spatially Discontinuous Housing Sub-markets in Sydney and Melbourne." *Urban Studies* 50 (13): 2661–2681. doi:10.1177/0042098013477701.

Rosewall, T., and M. Shoory. 2017. *Houses and Apartments in Australia*. RBA Bulletin, Reserve Bank of Australia, June, p. 1-12. https://www.rba.gov.au/publications/bulletin/2017/jun/pdf/bu-0617-1-houses-and-apartments-in-australia.pdf.

Rousseau, M. 2015. “Many Rivers to Cross: Suburban Densification and the Social Status quo in Greater Lyon.” *International Journal of Urban and Regional Research* 39 (3): 622–632. doi:10.1111/1468-2427.12197

Ruming, K. 2014. “Urban Consolidation, Strategic Planning and Community Opposition in Sydney, Australia: Unpacking Policy Knowledge and Public Perceptions.” *Land Use Policy* 39: 254–265. doi:10.1016/j.landusepol.2014.02.010

Ruming, K. 2018. *Urban Regeneration in Australia: Policies, Processes and Projects of Contemporary Urban Change*. Oxon: Routlegde.

Ruming, K., and S. Fingland. 2021. “Delivering Transit-Oriented Development in Lower Order Centres: The Case of Epping Town Centre, Sydney.” *Australian Planner* 57 (3-4): 161–176. doi:10.1080/07293682.2021.2017990

Taylor, E. J., N. Cook, and J. Hurley. 2016. “Do Objections Count? Estimating the Influence of Residents on Housing Development Assessment in Melbourne.” *Urban Policy and Research* 34 (3): 269–283. doi:10.1080/08111146.2015.1081845

Tervo, A., and J. Hirvonen. 2020. “Solo Dwellers and Domestic Spatial Needs in the Helsinki Metropolitan Area, Finland.” *Housing Studies* 35 (7): 1194–1213. doi:10.1080/02673037.2019.1652251

Toutai-Morel, A. 2015. “Hard and Soft Densification Policies in the Paris City-Region.” *International Journal of Urban and Regional Research* 39 (3): 603–612. doi:10.1111/1468-2427.12195.

Troy, L. 2018. “The Politics of Urban Renewal in Sydney’s Residential Apartment Market.” *Urban Studies* 55 (6): 1329–1345. doi:10.1177/0042098017695459.

Troy, L., L. Crommelin, and H. Easthope. 2017. “Equitable Density: The Place for Lower Income and Disadvantaged Households in a Dense City: Report 3, Metropolitan Scale.” City Futures Research Centre, University of New South Wales, Sydney. https://cityfutures.ada.unsw.edu.au//research/projects/equitable-density-place-lower-income-and-disadvantage-households-dense-city/.

Troy, L., B. Randolph, S. Pinnegar, L. Crommelin, and H. Easthope. 2020. “Vertical Sprawl in the Australian City: Sydney’s High-Rise Residential Development Boom.” *Urban Policy and Research* 38 (1): 18–36. DOI: 10.1080/08111146.2019.1709168.

Young, D., and R. Keil. 2014. “Locating the Urban in-Between: Tracking the Urban Politics of Infrastructure in Toronto.” *International Journal of Urban and Regional Research* 38 (5): 1589–1608. doi:10.1111/1468-2427.12146