Australian Planner

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

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To cite this article: Sarah Gibson & Lisa Law (2023): Barriers and opportunities for medium density housing in small, regional cities: stakeholder perspectives from Cairns, Australian Planner, DOI: 10.1080/07293682.2023.2183225

To link to this article: https://doi.org/10.1080/07293682.2023.2183225

Published online: 22 Mar 2023.

AUSTRALIAN PLANNER
https://doi.org/10.1080/07293682.2023.2183225

Routledge
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Barriers and opportunities for medium density housing in small, regional cities: stakeholder perspectives from Cairns

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ABSTRACT

Medium Density Housing (MDH) is advocated for sustainable urban growth while retaining the amenity and liveability of lower-density urban forms. Despite these advantages, affordable and diverse MDH proves challenging to implement in suburbs with access to employment and services. While scholars do explore barriers and solutions to implementing MDH in Australia, regional city contexts are less understood. Stakeholder perspectives on MDH and its implementation are also limited. This research presents a stakeholder analysis in the regional city of Cairns to address these important gaps. The research employs a case study approach including semi-structured interviews with 19 stakeholders across public and private sectors: developers, architects/building designers, government and industry planners and real estate agents. Stakeholders expressed barriers that are well-documented in the literature–such as the risk-averse nature of the finance sector–but also note key regional differences such as land constraints in world heritage areas, poor public transport, distance from supply chains, soaring insurance costs and susceptibility to cyclones. In the face of these challenges, Cairns stakeholders argue for certain forms of MDH alongside strategic planning, leadership, cross-sectoral and community engagement to support effective MDH infill. These insights are pertinent to other regional cities struggling with MDH in low density contexts.

Practitioner pointers

- MDH needs contextualisation in places outside Australia's capital cities, as demand and supply side issues require nuanced understanding.
- Cross-sectoral conversations are key to understanding the complex barriers and opportunities for MDH in regional cities.
- Strategic planning for where to locate MDH is vital in a context of climate change and coastal hazards.

ARTICLE HISTORY
Received 3 August 2022
Accepted 8 February 2023

KEYWORDS
medium density housing; missing middle housing; stakeholder perspectives; Cairns; Australia; regional; sustainable urban growth

Introduction

Sustainably accommodating population growth in Australian cities poses significant challenges for the country's built and natural environments. Australia's cities face complex and interdependent social, economic and governance issues such as increasing housing unaffordability, socio-economic inequity, traffic congestion, a lack of infrastructure and services at the expanding urban fringes (Moore et al. 2018) and continued urban encroachment on surrounding agricultural land (Sheridan, Larsen, and Carey 2015) and valued ecosystems (Villaseñor et al. 2017). Demographically, Australia's population is ageing, with a rise in couples without children as well as single, single-parent and multi-generational households. Housing preferences in Australia's largest capitals (Sydney and Melbourne) are also beginning to shift. Preference for higher-density dwellings is growing, as they allow people to affordably live in desired neighbourhoods, but these changes require a significant shift in the supply of housing to ensure future viability. Despite these factors, the single, detached dwelling on greenfield land remains the dominant form of housing supply (Kelly and Donegan 2015).

Urban form densification, often referred to as 'urban consolidation' or creating the 'compact city', is defined as increasing the number of 'people or dwellings per area in an urban context' (Hurley, Taylor, and Dodson 2017, 124). A city is considered dense if its ratio of people per hectare is high. But its dwelling density (i.e., how many single-storey buildings to multi-storey high-rise buildings there are) can vary. New York, for example, is defined as 'dense' yet outside Manhattan low-density dwellings dominate. Los Angeles, on the other hand, is a sprawling city but its overall dwelling density exceeds that of New York. Much debate surrounds how densely we

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should live and whether densifying urban form is the most sustainable method for managing population growth. The main argument for densification is that low-density, sprawling and car-centric urban form has created many of the environmental and social issues cities now face (Bunker and Searle 2018; Raynor, Mayere, and Matthews 2018). Higher density can address these issues–although not all scholars consider densification a solution to the complex, interdependent realities of Australia's urban environments.

Medium Density Housing (MDH), sometimes referred to as Missing Middle Housing (MMH) (Parolek and Nelson 2020), is advocated as a type of higher density housing that can help densify existing low-density urban environs. Sustainable densification is the ability to provide more diverse and affordable housing in existing suburbs whilst maintaining high amenity, liveability and quality of life standards. For our purposes here, MDH includes MMH and any semi-attached or attached housing form. MMH often refers to 'lower-rise' housing forms, such as duplexes, but excludes three-storey or taller apartment buildings. However, definitions of MDH within some planning schemes can include dwellings of up to five-storeys. For the research in Cairns elaborated here we embrace this definitional variability and include any form of higher density housing that:

- fits more people per hectare than a detached dwelling;
- meets the needs of diverse demographic and income groups; and
- is built in strategic locations (e.g., as infill, close to jobs and services).

Like any urban issue, housing is dependent on context, and each city, region or state has unique characteristics. Most scholars research MDH from the vantage point of global or national policy or through the perspectives of large capital cities. It is thus not always transferable to the scale and unique contexts of small, regional cities which also face housing and sustainable growth issues. The city of Cairns, from which we write, is a small coastal city hemmed in by world heritage listed rainforests and coral reefs. It is vulnerable to climate change, has impending urban growth constraints, growing traffic congestion and rising housing unaffordability. The potential role of densification and MDH in addressing these challenges is hotly debated and research exploring the role of MDH in Cairns is urgently needed. This paper contributes to these ongoing discussions and explores challenges expressed by key stakeholders (architects/building designers, developers, planners and real estate agents). We explore their perspectives on the social and economic barriers to the implementation and consumer uptake of MDH, but also provide their insights to key solutions and opportunities. But first, we present a review of relevant literature, which is followed by a methodology justifying a case study and stakeholder analysis approach.

Understanding MDH

This section presents a selection of Australian literature surrounding densification and MDH. We identify the significance of MDH in the broad context of densification and outline benefits and limitations to densifying urban form. A key gap is understanding 'how' to implement MDH, so we examine barriers and solutions. As mentioned above, the literature focuses on capital cities and/or discusses MDH at a national level, with a strong focus on addressing community perceptions and opposition. But the biggest barriers to MDH in Cairns are unrelated to community opposition. Perspectives from government and industry are crucial to understand density issues in Cairns but are only briefly addressed in the literature.

Many urbanists, environmentalists and politicians are strong advocates of densification. A dense, compact urban form is touted as creating efficiencies in the provision of infrastructure and accessibility to services like public transport and employment. It is argued that density reduces emissions, increases economic activity, improves urban vitality and quality of life, and prevents the unabated outward sprawl of urban development. Conversely, some critics are sceptical about density as a panacea and indicate flaws in the assumptions and data used by density supporters as well as questioning the economic and social feasibility of implementing density given the continued lack of industry and public support that higher-density housing requires (see Bunker and Searle 2018; Raynor 2017; Hurley, Taylor, and Dodson 2017). Raynor, Mayere, and Matthews (2018) argue these divisions are unhelpful as there are complex, interdependent realities surrounding housing, population growth management and all other issues that Australia's urban environments face. The shortfalls of both low and higher density urban forms need to be better understood and discussions extended into sectors like policy and governance for effective solutions.

MDH is promoted by urbanists and governments as the most suitable housing form to increase housing supply, increase density and achieve sustainable urban growth–while ensuring affordability, diversity and liveability. Despite this, cities struggle to implement the amount of MDH needed, for the demographics that require it (singles, couples, elderly, young, single-parent families, low-income groups) in the locations it would be most beneficial. This MDH

shortage is referred to as the 'missing middle' of MMH (Parolek and Nelson 2020). There are a series of interconnected historical, economic, legislative, political and social barriers hindering MDH implementation.

The physical barriers to MDH have been created by a legacy of previous planning decisions. Kelly and Donegan (2015) suggest that Australia's existing low-density, car-orientated suburban form will persist well into the future and detached housing on greenfield sites will remain the dominant method of housing provision. The most desirable locations for MDH are often where land is likely to be scarce, unsuitable due to constraints or tenure, or, if available, costly (Van den Nouwelant et al. 2015). Revenue is increased when developers can increase the number of dwellings or units on a block of land to increase yield but finding sizable lots in established suburbs for MDH is difficult. This forces developers to purchase multiple lots at once, raising the initial investment price, and therefore the cost to the buyer or investor. Depending on a development's size and type, developers may have to persuade owners to sell, often resulting in a complex, lengthy and costly process if not driven by the landowners themselves (Newton, Meyer, and Glackin 2017). Cost and time efficiencies are more easily achieved on greenfield sites, where large lots of land are available to purchase and build at once (Kelly and Donegan 2015).

Another issue is that construction costs are lower per dwelling for greenfield detached housing than higher-density housing (Kulish, Richards, and Gillitzer 2012). Buildings of four or more storeys incur higher labour costs than single-storey dwellings due to the limited availability of suitably skilled labourers. There are also additional building regulation compliance costs such as installing sprinkler systems. Infrastructure charges can also be significant, increasing costs or rendering a project unfeasible. Sites within existing urban areas may not have sufficient infrastructure to support a larger population created by a higher-density development. As a result, developers can incur significant infrastructure upgrade costs (Rowley and Phibbs 2012).

As a predominantly investor-driven product (Newton, Meyer, and Glackin 2017), MDH faces significant financing issues. Multi-storey apartments face the issue of pre-selling, with banks requiring developers to pre-sell units before financing. Banks and self-financing developers are unwilling to take the risk of construction without pre-sales. Finding multiple buyers at once remains difficult as MDH is not a consumer-driven product. The implementation of MDH is thus driven by 'investor demand and access to finance' (Raynor, Mayere, and Matthews 2018, 1072). Banks prefer lending to developers with good track records, encouraging developers to be risk averse towards new and innovative projects. Innovations are mostly directed toward increasing the efficiency of detached housing construction processes–not toward MDH. If accessing finance for testing new project ideas remains difficult, progress will be slow and innovative projects will remain funded by 'outside mainstream financing avenues for a lower return' (Kelly and Donegan 2015, 90). Due to these finance and risk constraints, smaller developer firms are much less likely to enter the sub-market for higher density dwelling construction. The market thus remains dominated by large construction firms, limiting the amount and diversity of MDH built. As Palmer (2014) argues, by not delivering more diverse, affordable MDH options, we are missing the opportunity for lower to middle-income earners to support MDH-led densification.

Australia's housing construction and planning systems have similarly been shaped by low-density detached housing and struggle to support alternative housing forms. Permissions to build MDH housing in established suburbs is typically expensive, time-consuming and complicated, with applications taking several months to be decided in places like Queensland. Greenfield development undergoes a far shorter approval process (Rowley and Phibbs 2012). Until these systems change, Kelly and Donegan (2015) argue that higher-level policies created by governments supporting infill and greater housing diversity will have little effect.

Planning, zoning and development assessment is a complex regulatory regime (Kelly and Donegan 2015, 85). More restrictive zoning, placing tighter controls on the kinds of housing that can be built (i.e., lot sizes and building heights), can contribute to higher costs of housing if developers pass on increased regulatory costs to the consumer. Daley, Coates, and Wiltshire (2018) question whether the benefits of planning rules like protecting character in specific neighbourhoods justifies the impacts on housing affordability. Blanket rezoning by state governments to encourage MDH can also lead to unintended poor outcomes such as land fragmentation. Rowley, Ong, and James (2017) caution against land fragmentation, suggesting the subdivision of backyards for low-density housing development is not the answer.

Planning decisions, even those critical for long-term sustainability, are often held hostage to short-term political cycles. Community opposition has politicised MDH, leading state government policy on density to be at odds with local governments who appease their voter base (Kelly and Donegan 2015). Often, the places where MDH is best placed are where community opposition is highest. Common objections include traffic, safety, loss of neighbourhood character or amenity, and overshadowing from building heights (McCrea and Walters 2012; Woodcock, Dovey, and Davison 2012). The flexibility of performance-based

planning allows for development outside community expectations, causing confusion and opposition (Raynor, Mayere, and Matthews 2018). On the other hand, studies in Sydney and Melbourne reveal an 'unmet desire' for MDH (up to 3 storeys) driven partially by households' shrinking finances (Palmer 2014). The MDH product available is unable to meet the lifestyle needs of families and if MDH remains primarily an investor-driven product, there will be a continued mismatch between desire and availability.

There is a small body of literature presenting solutions, opportunities and recommendations for MDH implementation–although they are typically from metropolitan areas (Melbourne, Sydney, Brisbane, Perth). Potential solutions are discussed briefly below, as they help frame the interviews with stakeholders in Cairns.

Greyfield Precinct Regeneration (GPR) involves acquiring multiple lots of land at once in an existing 'middle' suburb to develop an infill MDH 'precinct' (Figure 1). GPR aims to address the poor environmental and social outcomes that result from piecemeal, market driven MDH implementation. The model faces multiple challenges, but implementation is being explored in Melbourne and Perth (Murray et al. 2015; Rowley, Ong, and James 2017).

Low-rise MDH forms include dwellings that function like a detached home with access to private green space. These include small lot housing (2-bedroom houses on small lots ~200sqm), duplexes and townhouses. Research suggests these offer a flexible and realistic option for densification as it retains aspects of the 'Australian Dream' such as open space with private backyards and individual land titles (Swapan et al. 2020).

Community-led MDH is consumer driven. Examples include co-housing (McGee and Wynne 2015) and collective-lot sales (Newton, Meyer, and Glackin 2017). This method creates housing that meets consumer's lifestyle needs and avoids the financial risks of pre-sales. However, many of these projects in Australia are preliminary and face restrictions in conservative planning systems (Palmer 2014).

Tenure Various models of ownership and co-ownership are being explored that support affordable MDH. These involve private bedrooms with shared living/kitchen spaces to reduce development and living costs (Figures 2–4).

Addressing community opposition Research suggests addressing opposition is an important part of achieving change (Davison et al. 2013), with early, in-depth public engagement essential at the plan-making stage (not the development application stage) (Raynor 2017). Ruming (2014, 264) stresses the importance of community engagement with the planning system *before* promoting the value of higher density housing. Providing best practice examples as precedents can improve its public image (London 2016; McGee and Wynne 2015).

Providing leadership/vision Large-scale changes require cross-sectoral collaboration. Urban advocates have an important role to play in letting the public know that density and liveability are not mutually exclusive. Consistency between local and state government objectives, with research into alternative construction technologies being part of the solution, is also important. Prioritising strategic locations is vital (Crommelin et al. 2017), as are performance-based planning and building codes (Swapan et al. 2020).

Methodology

After reviewing the complex barriers to, and solutions for, implementing MDH, this research solicits 'expert opinions' (MacCallum, Babb, and Curtis 2019, 8). Because the availability of MDH is profoundly shaped by its geographical, political and social context (Allen and Bryson 2018), a case study approach with semi-structured interviews and thematic data analysis was adopted (James Cook University Ethics Approval H8140). A range of stakeholders were selected for their professional involvement in the conception, implementation and uptake of MDH. In total 19 stakeholders were interviewed at the end of 2020: 2 developers, 4 architects, 2 building designers, 6 planners (4 from private practice, 2 from local government, 1 from state government) and 4 real estate agents. Interviews were recorded and transcribed for thematic analysis in NVivo.

Several factors were considered in stakeholder selection. First, stakeholders needed to have direct (e.g., business) or indirect (e.g., influence) involvement in MDH or the housing industry in Cairns. Second, stakeholders needed to have local industry knowledge, often determined from their position in the workplace (i.e., business owner, manager, director) or level/years of experience. Finally, stakeholders had a presence on industry boards, groups or organisations or a public voice in the media. All stakeholders were asked what forms of housing they considered to be medium density; what they understood to be key barriers to implementing MDH in Cairns; and how key barriers might be addressed. Planners were asked additional questions about the role of the MDH zone code, urban sprawl and how to best manage growth. Real estate agents were asked additional questions about the housing market and MDH's place in it, including housing and barriers from a consumer perspective.

Gathering and comparing a range of perspectives enabled in-depth understanding of different types of knowledge relevant to the MDH field. Architects/building designers, developers and planners have been identified as key stakeholders in previous

Figure 1. Types of GPR precinct models (Murray 2011).

research (Raynor, Mayere, and Matthews 2018; Alves 2006; Swapan et al. 2020; McGee and Wynne 2015). Real estate agents have only been recommended as important for their influence on consumers in the housing market (McGee and Wynne 2015; Kelly and Donegan 2015). Targeting stakeholders from four different professional industry groups captured an array of perspectives and ensured each had specific expertise.

MDH in Cairns

Cairns is a coastal regional city located in Far North Queensland, Australia. The city's urban footprint stretches along a thin, narrow strip of low-lying land, between two major environmentally sensitive, culturally and economically important UNESCO World Heritage areas: the Great Barrier Reef and the Wet Tropics Rainforest. The Cairns population has tripled in size since the mid-1970s–from 49,591 in 1976–169,312 in 2021–with key industries including tourism, health, construction, education, agriculture, marine and aviation (Tourism Tropical North Queensland 2021). The Cairns urban footprint consists of four major areas: the Northern Beaches, the Redlynch Valley/Barron River floodplain, the City and Southside Cairns. The Northern Beaches have expanded since the 1970s, growing from small tourist hamlets to suburban areas over the past few decades (Bohnet and Pert 2010). They are predominantly low density residential with some medium density and higher density residential and tourist accommodation along the beachfront. The Redlynch/Barron River floodplain includes inland suburban development stretching from the coast westward along the floodplain and through the valleys. In the 1980s this was predominantly farmland but is now low density residential. The City includes the central business district (CBD) as well as inner-city suburbs and provides the most diverse mix of land uses and densities in Cairns, with medium density and tourist accommodation dominating the central area. Southside Cairns is the southern growth corridor for the city and is predominantly low density residential. Urban sprawl has slowly taken over agricultural land in this area since the 1980s. Across Cairns housing is predominantly low-density, detached dwellings with a backyard, with many master-planned since the 1990s. Cairns does, however, have a larger percentage of higher-density housing forms when compared with other regional cities like Townsville (in Cairns 28.9% of dwellings are medium or high density, compared to 20.1% in the nearby city of Townsville) (idcommunity 2021). Figure 5 provides some insight to what medium density looks like in Cairns.

Regional cities share some similar social, socio-economic, demographic, cultural, economic, environmental and political forces as capital cities (Guaralda et al. 2020). Cairns faces urban growth constraints given its important environmental context between reef and rainforest. It has limited greenfield land, an ageing population, and problems of housing affordability. Cairns is currently facing a rental vacancy crisis, with a 0.5% rate at the time of writing. Even before COVID-19 Cairns was experiencing a housing supply crisis (King 2018), which worsened once the pandemic took hold. Although Cairns did not receive considerable streams of in-migrants, the pandemic stemmed the regular tide of out-migration (Dadpour and Law 2022).

State and local government policies both call for urban densification and more diversity in housing. The Far North Queensland Regional Plan (FNQRP) 2009–2031 (State of Queensland 2009) suggests the need for compact urban form to sustainably accommodate population growth, arguing the need for greater housing choice, diversity and affordability. The Plan advises avoiding detached housing on

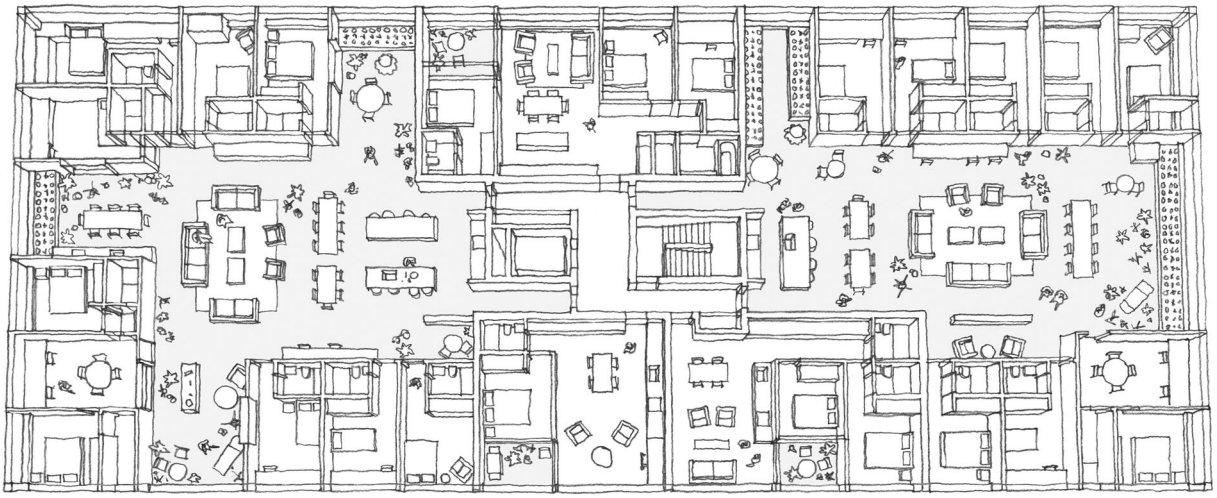

Figure 2. Pixel-pilot project by Alexander Symes, Architect at PANOV – SCOTT (City of Sydney 2020).

smaller lots and instead recommends infill and redevelopment focused on regional activity centres and public transport nodes. Similarly, the Cairns Regional Council's (2018) Cairns 2050 Shared Vision framework supports densification to increase housing affordability and future public transport. It precipitated a feasibility study of MDH in Cairns carried out by Place Design Group (2019), which suggested key barriers as: land acquisition costs; construction costs; sale prices; a low rate of population growth; lasting impacts from the Global Financial Crisis (GFC) on property sales; limited investor interest in purchasing regional MDH; the availability of cheaper, existing MDH stock; and the comparably cheaper cost of purchasing a detached house on a block of land compared to an apartment. Their study argued that smaller lot sizes or taller building heights would not improve MDH feasibility nor be in line with the purpose of the planning scheme's medium density residential zone code. The code aims to 'promote and retain a mixed residential density character and amenity, with access to centres, major transport facilities, open space and recreation activities' and has a 4-storey limit (6.2.12 Medium density residential zone code). Instead, they recommended the development of best practice design guidelines to promote quality MDH in desirable locations, as well as further engagement between Council, the development industry and the finance sector to find solutions for financing and lending challenges. Key opportunities they highlighted included providing boutique MDH in desirable locations that would attract owner-

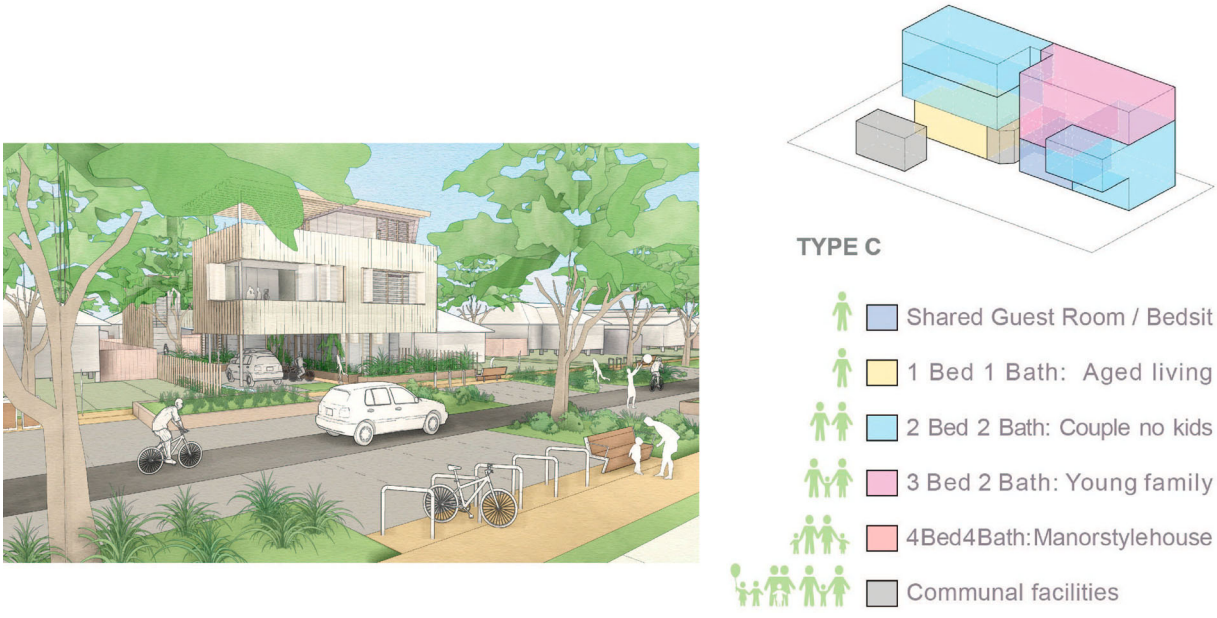

Figure 3. An entry by Gresley Abas Architects (WA) to the Density Diversity Done Well competition (State of Queensland 2019).

Figure 4. Gen Y Project as part of the White Gum Valley infill precinct (DevelopmentWA 2020).

occupiers at a higher price-point and providing MDH that could attract investors as Cairns has good rental returns. Despite the potential applicability of these findings, the study remains to be formally endorsed by the Council and publicly distributed. The housing crisis continues.

Stakeholder perspectives on barriers to MDH

This section of the paper reports on stakeholder perspectives on the barriers to MDH in Cairns, highlighting both supply and demand side issues. Some of the key barriers involve the specific history of constructing MDH in Cairns, environmental and land constraints and the usual obstacles such as financing and consumer uptake. A few of these are well-documented in the literature, such as the risk-averse nature of the banking and finance sector, which negatively shapes the provision and diversity of housing. But others, such as the city's distance from supply chains, high insurance costs and susceptibility to cyclones, are unique regional challenges and specific to Cairns. We elaborate some of these issues below.

Most stakeholders argued the Cairns housing market is currently averse to developing MDH, especially multi-storey unit apartments. Interviewees expressed how the development of MDH, particularly walk-up apartments to multi-storey units, was prevalent before the GFC in 2007/08. Following the GFC many developers went broke, and the few remaining were not involved in unit development. The current viability of MDH is affected by the availability of this existing, cheaper MDH stock. Stakeholders suggested its low value causes the undervaluation of potential new projects. The sale price required for a developer to make a return is not competitive with existing stock and is therefore unattractive to buyers. Banks thus see new projects as less able to sell and are less willing to lend. Stakeholders suggested this deters developers as they must contribute out-of-pocket costs to financing the construction themselves, often at huge risks for small returns.

Banking and finance are not the only barriers, however. The limited amount of land suitable for MDH was also raised as an obstacle to the feasibility of higher-rise, multi-storey forms. Land scarcity is due to the city's unique ecological context – hemmed in by world heritage listed rainforests to the west, the Great Barrier Reef to the east, and the city's diminishing farmland in the floodplain to the south. Stakeholders agreed that rainforest-clad hillslopes are a valuable amenity asset and should remain protected from development, and that farmland in the southern floodplain should only be developed with sustainable built form in mind. Additional constraints resulting from climate change were also raised, with coastal hazards like sea-level rise and storm surge posing serious risk to land available for residential development. Far North Queensland has exorbitant insurance

Figure 5. Examples of MDH in Cairns (authors own).

rates four times the national average (Seeto 2022) and some properties near the coast are already too costly to insure. This is also true for residential development in the inner city. As a high-risk location for flooding and storm surge, the CBD will most certainly require hard-engineering solutions to protect the key infrastructure and essential uses. As residential dwellings are classed as a 'non-essential use', one stakeholder sees adding more residents to the CBD as placing unnecessary risk to more people. Indeed, there is a paradox of land constraints and costs in places where MDH is best located.

Interviewees were keenly aware of the need for densification due to impending land shortages and the costs of outward growth. But most believed unless market conditions supported MDH, low-density sprawl would continue. Despite general acceptance that an ultimate shortage of land will prompt the market to implement MDH, planners expressed the missed opportunities for the strategic planning of remaining greenfield land. Planners used the example of a large block of farming land (~90 hectares) in the southern growth corridor originally envisioned as a site of mixed-use, transit-oriented development that responded to the tropical climate (Law and Musso 2020) that is now being developed with low-density housing. One planner described this as 'criminal'.

Legislation and regulation are also perceived as a barrier, adding to the cost of development and construction which is ultimately passed on to the consumer. Specific planning and building regulations stakeholders thought hindered MDH development included accessibility requirements, requirements for fire sprinklers in buildings four storeys and above and parking. One interviewee argued taller height allowances in the MDH zone code would enable developers to incorporate more parking in apartment blocks without sacrificing unit numbers and therefore feasibility. Another suggested the additional cost to provide car parking for additional floors of units would not be feasible. This interviewee suggested that until Cairns had sufficient public transport, MDH development will need to provide at least one car park per dwelling.

Infrastructure capacity studies and character overlays were also raised. One developer suggested an unfair imbalance in costs incurred by the developer versus the local government. A planner similarly argued that Council should undertake infrastructure capacity studies and upgrade outdated and already at (or over) capacity networks rather than have this be part of development applications seeking to densify suburbs in inner-city areas. In this way, potential infrastructure capacity shortages are an issue when

proposing MDH projects and can hinder their development by dramatically increasing costs. Stakeholders also lamented additional expenses associated with character overlays in inner city character areas–particularly in areas where MDH is desirable and zoned for in the planning scheme. Some complained of unnecessary costs and delays associated with receiving approval for MDH within a character area, even though many of the existing traditional Queenslander-style housing in the inner city are poor examples of character and long past the point of restoration.

Although the costs of constructing higher-density housing in comparison to detached housing is raised in other studies (Kelly and Donegan 2015; Rowley and Phibbs 2012), Cairns faces even higher construction costs due to distinct regional and locational factors. These include the city's distance from supply chains, the lack of a crane at the port (materials are offloaded in Townsville or Brisbane and driven to Cairns), a lack of appropriate skills and competition in the construction labour market and tropical hazards like cyclones that require tie downs/straps and anchors to stabilise buildings during high winds. One architect suggested building costs in Cairns can be upwards of fifteen percent higher than in Brisbane.

The negative influence of politics and political structures on long-term planning decisions are also relevant to the provision of MDH. Stakeholder views were mixed regarding Council decision-making, the planning scheme and Council's political position on MDH. Interviewees generally agreed there was confusion among the private sector about why certain MDH developments were approved and others not, with one planner likening Council decisions to 'grey corruption'. Indeed, some questioned the motives behind Council's lack of communication regarding MDH, referencing the unreleased MDH feasibility study commissioned by Council in 2019:

> They only provided a copy to select people that were on the committee. They didn't provide it to the other planners in Cairns … I had to get my copy from someone else … they commission these things with rate payers' money and don't make things public. So, what are the motives behind that? Is it to protect the vested interests of Councillors who have clear conflicts of interest with the friends and political donors to facilitate the existing shape and form of development in Cairns?

It should be noted not all stakeholders had negative MDH experiences, with some architects having few difficulties developing dual townhouse developments on small lots (200 sqm). They suggested that to achieve more outcomes like this Council should be willing to work with industry to develop precedents or to champion precedent projects. The 2016 revisions to the Council's planning scheme have made duplex approvals easier.

In addition to supply-side barriers, stakeholders suggested demand-side barriers that are also interlinked. Consumer preferences influence what is in demand, which then affects what banks, builders, and agents support and advertise to consumers to purchase or build. Consumer preference is not always clearly related to housing supply, however. One architect argues the market is as much to blame as those who feed it.

> What are elderly, retired couples going to do with a four-bedroom house and a media room? I've met [elderly and retired] people who've built project homes through builders. They said, 'the builder told us we had to have four bedrooms, otherwise it's high-risk and we'd never be able to sell it'. There's something fundamentally wrong with that.

Studies of consumer preference for detached housing often use cultural and lifestyle arguments rather than economic ones (Palmer 2014). But MDH is perceived as more expensive when compared to a house and land package in Cairns. Detached housing is more economically attractive for owner-occupiers, even if they would prefer an apartment.

The competition in purchase price between multi-storey MDH unit apartments versus a detached house on a block of land was consistently raised by interviewees. Two architects expressed that new multi-storey MDH (and even some existing stock) is as expensive, or more expensive, than a house and land package–making MDH unappealing. In Cairns the crucial benefits that make new MDH more attractive than detached housing, such as affordability, are absent. Therefore, multi-storey MDH will remain attractive only to the select few in higher-income brackets. Detached housing remains the choice for most buyers, with multi-storey MDH remaining most attractive as a rental product. Similar views were expressed by planners:

> People do want to come back to the city … But if I can sell you a four-bedroom, two-bathroom house at Mount Peter for $400,000 or $420,000 on your own block of land, and I offer you a two-bedroom, two-bathroom apartment with one car parking space for around about the same price … we're going to keep going to low density, urban areas.

In addition to high purchase prices for new MDH products, purchasers also have the costs of yearly body corporate fees. These fees are most common in apartment complexes but can exist in any development with shared open space and facilities. Body corporates are an annual fee and range from the low thousands to low twenty thousands per year. This is a barrier in addition to sale price–especially for lower income groups. Body corporate fees are influenced by insurance and maintenance costs. As one architects suggested:

> The body corporate structures are super expensive … people are scared of the ongoing costs, so it seems more attractive to buy a house on a small lot and not have any ongoing costs … So, until that changes, I think no-one will want to be developing or living in the city [in MDH/units].

Despite these supply and demand side barriers, stakeholders also expressed a range of opportunities for Cairns.

Stakeholder perspectives on opportunities for MDH

Few scholars focus on solutions to the barriers of implementing MDH. When discussed, emphasis is placed on specific barriers (like community opposition) or models of implementing MDH (like greyfield precinct regeneration) in metropolitan centres. This section of the paper outlines opportunities stakeholders raised to address barriers to MDH in Cairns. These opportunities revolve around different types of MDH (units, duplexes, small lot housing), and elaborate who is attracted to MDH (renters vs owner-occupiers, retirees, downsizers, single women) and where. In general, stakeholders argued for more strategic planning and zoning to enable different solutions at different sites. These are outlined in turn below.

Real estate agents shared detailed housing market insights in terms of who demands what forms of MDH and where. They drew insightful comparisons between the rental and owner-occupier markets of MDH, a difference not raised in the literature. Real estate agents understand what forms of multi-storey MDH are attractive to the owner-occupier, reflecting expensive insurances and body corporates. All agents suggested smaller complexes with no elevators and small maintenance areas are desirable for long term affordability. These complexes have cheaper body corporates and are still insurable and affordable. The ability to insure and therefore finance and/or sell a property is an important long-term viability consideration when constructing new MDH for both investors and owner-occupiers.

Stakeholders also discussed the demand for low-rise MDH forms like duplexes and small lot housing. Agents and architects supported these MDH forms as an attractive alternative to multi-storey units. As one real estate agent expressed:

> Duplexes have no body corporates and really cheap insurance … [that comes] under the Community Title Scheme … So my home insurance is about $3,200 a year but for my half duplex I pay $500 … Homeowners can [also] have pets … [and] their own fenced space. So, duplexes are really popular. They don't come up for sale often and they sell well … And when financial struggle times come … really anything over 550,000, 600,000 [is affected]. But nothing ever affects the $300,000 sales because there's always going to be buyers for them … If I had money, I would be buying our older homes on our bigger blocks and looking to [develop] dual occupancy. Because for me as an agent I can sell them every day of the week.

Small one- to two-bedroom, one-bathroom, single lock-up garage houses built on small blocks were also deemed popular. Real estate agents and developers suggest that although small lot housing is unattractive to many, they are attractive for downsizers, those with small budgets and those moving from metropolitan areas where small block sizes are the norm. The rising costs of insurance for units has also made small lot development more popular, as they offer the benefits of apartment living without the body corporates. Small lot housing also has similar benefits to duplexes but is even more suited to a market favouring detached housing. As one agent expressed:

> One guy that I know … has just built maybe seven 2-bed, 1 bath little houses, selling them for $240-250K and he's got them all sold already in White Rock. They probably only have a little hundred square metre backyard … Just for the downsizers that still want their garden and their pets and grandkids to run around.

Real estate agents explain that for retirees or empty nesters, small lot housing can be a more affordable alternative for those that do not need or desire the services and amenities of a retirement village.

Other stakeholders questioned the demand for smaller lot housing, asking whether people used to lots up to 800sqm would be ready or want lots as small as 100sqm, when the smallest lot sizes now being constructed for detached housing are around 450sqm. As one architect commented:

> I don't believe in just cutting the land smaller and smaller … and I know [a major local freestanding home builder] says 'well we're just building what the market wants' … well no, it's not really what the market wants. It's just the only thing available at the moment for them to buy … they don't have a choice [when comparing the high cost of units as compared to detached housing forms] … I don't think Cairns really needs [400 or 250sqm blocks] at the moment.

In relation to alternative models of implementing MDH to achieve better outcomes, many suggested the Cairns community is 'not ready'. Alternative models include grey precinct regeneration and collective-lot sales, community-led development and share- and co-housing concepts. One architect did make a case for the amalgamation of lots for better outcomes:

> Get two lots that might have two houses already on them, whether you keep one, push another one over, and redevelop it as a more efficient, smaller type of housing with communal spaces … It just takes a different approach … build a business case

> … work out the practicalities … is it going to be a group title? Are you going to freehold really tiny lots that have shared access? Or do you do cohousing? … The building architecturally could look like an average house but in terms of tenure it could be structured in a number of different ways.

An interesting hybrid/share-housing model could be an idea for how density and demand could be met to achieve the best outcomes in the current market.

> I've observed of people younger than myself, in response to the affordability question, people are willing to co-share a share house … [they] are willing to take out a big lease on an older, big house with a big yard so that they can afford it and get people to come in and help pay the rent. How can you put some structure to that as a typology, a residential design that supports self-contained private spaces and shared common areas, like food preparation, laundry and so on? … What can a house be to make people well and happy and healthy, and environments happy and healthy too?

These stakeholder insights into different forms of MDH highlight the different needs and wants of people in the MDH market. In contrast to young people experimenting with co-sharing, a real estate agent commented on the demand for MDH:

> [It's easy] to narrow down who likes them. They are the retiree, downsizers … probably not too many first homeowners. And [for] renters you have the young professional couples or young couples renting them. Investors like them [too] because they're low maintenance … [and] you get a nice quality tenant generally [as] you don't have any kids trashing the joint [and] you don't have to worry about yard maintenance or whatever else.

The way these MDH preferences play out also has a geography. For MDH in the Northern Beaches suburbs, agents suggested demand for 'lifestyle apartments' by single women over 50 and the 'southern demographic' consisting of professionals, semi-retired and self-funded retirees. Cheaper, older stock is not necessarily attractive to these lifestyle seekers, but attractive for investors to rent out. Several stakeholders also differentiated demand for MDH in the CBD/inner-city. Apartments that are close to the waterfront and have low body corporates are most popular. These apartments are close to the city's services and amenities and avoid some of the economic negatives of retirement villages like high entry and exit costs and the inability to pass on the asset. Seven to eight storey units in the CBD are also becoming popular, with three-storey units popular with families moving into the CBD to situate themselves within the Cairns High School catchment.

Many stakeholders had detailed opinions on where MDH should be placed. Deeming multi-storey MDH unfeasible at least in the foreseeable future, some suggested densifying inner-city neighbourhoods by dual occupancy, battle axe subdivision, with one or two houses at the back of big lots. Others argued strongly for more residents within the CBD, touting the potential economic benefits:

> I do think that there's a reason to have secondary centres like Edmonton and Smithfield, but there's no doubt that the convenience of having those has taken business away from the Cairns CBD … I've spoken to a lot of people who have not been in the city for months and months … COVID has shown that the CBD is not really used by the locals for their permanent residence … I think there are a lot of empty lots that could be developed, but I think at the moment there's also a lot of upper-storey tenancies that may be zoned commercial that could be redeveloped back into residential or at least be opened up to be flexible.

Some architects see an opportunity to make MDH more feasible by targeting the higher-income retiree demographic for 'lifestyles apartments' on the esplanades of the Northern Beaches suburbs. There is also some support for taller MDH, up to eight-storeys (in opposition to the zone code's four-storey limit), as this could improve feasibility and achieve higher density within a smaller footprint. This approach could make small pockets of MDH feasible, and with minimal land zoned for MDH along various esplanades, the beaches would not be too adversely impacted. Most interviewees, however, supported the four-storey MDH zone code height limit. As one developer and one architect suggest:

> Once you get past four levels, the whole interchange between living and connecting at ground level changes … I think where we could benchmark ourselves is that sort of the four-story limit. To me it's really the maximum height from a medium density style and that's pretty much what Cairns is anyway.

> The idea of increasing heights randomly throughout the city is really problematic … I'm happy to see more residential high-rise in the city. And I don't mind some suburban infill, increasing density in the suburbs here and there … in a managed way.

The southern corridor was also put forward as a safer, more suitable area for growth considering future climate change impacts to vulnerable areas like the CBD and Northern Beaches. Areas surrounding Smithfield Shopping Centre were also suggested as more suitable for MDH than the coastlines in the Northern Beaches. These are areas of high social infrastructure (near shops and services), not areas of high amenity like the coastal suburbs.

Stakeholders noted a lack of consistent strategic direction and cross-sectoral collaboration guiding where MDH might be best placed in Cairns. Multiple interviewees stressed the need for strategic planning for MDH forms the market supports now and the MDH that will be supported in the future. Strategic

planning is one of the significant ways that local governments can provide clarity and direction for those who implement MDH. Stakeholders pointed to the development of the last greenfield sites, and the need for improved infrastructure capacity planning for infill development. Despite the well-intentioned strategic planning outcomes for housing developments in Cairns, they are often not met. Stakeholders suggested local and state government should be firmer with developers to negotiate better outcomes. Long-term strategic planning might have resolved problems such as the underdevelopment of Mount Peter as the last major greenfield site in Cairns.

In terms of directly facilitating MDH, there were mixed views about ways forward. Some saw potential to make trade-offs between site cover and height in the MDH zone code to incentivise better quality buildings. For example, smaller building footprints could allow for more green open space. Some saw an opportunity for a design guideline including models of code-assessable, pre-approved MDH designs on hypothetical sites. These designs would then be purchased by developers at a reduced price and fast tracked through the development approval process reducing costs and time. The designs would be developed by a brain trust of architects and planners, creating a code that reflects what can be built. Others disliked this idea, however, arguing it could quickly become the rule.

Finally, the blanket zoning under Cairns Council's MDH zone code in the planning scheme was criticised for its lack of clarity and strategic direction in terms of what MDH forms it supports and where. Stakeholders argued the code is unreflective of the unique diversity of individual suburbs and their varied urban form, amenity and demographics. One architect suggested the code has worked in some areas (e.g., in Earlville, near a shopping centre) but not in the Northern Beaches where aspects like site cover and the four-storey limit need updating. Several called for a suburb-specific planning approach for MDH in Cairns – quite the opposite to Brisbane's approach to neighbourhood planning (Raynor, Mayere, and Matthews 2018). These stakeholder views were in opposition to the Cairns MDH Feasibility Study recommendation for no changes to the MDH zone code (Place Design Group 2019).

Housing affordability, diversity and sustainable urban growth

To summarise, stakeholders have identified key barriers and opportunities for MDH in terms of how they help address Cairns' key urban development challenges. These are recapped here in bullet points to distil the key issues. Although some are specific to the Cairns context, we believe they offer insights to MDH in other regional places.

- Banks are reluctant to lend for housing that is not the standard 3- to 4- bedroom, 2-bathroom, double garage dwelling with a backyard. This feeds a risk-averse culture that seeps down to builders and real estate agents, further encouraging 'traditional' forms. Local government can play a role in supporting pilot projects through incentives like infrastructure waivers. But community-led projects would require a cultural shift and critical mass of like-minded innovators.
- MDH is more attractive to rent than purchase due to high purchase prices of new MDH and body corporates. Existing, cheaper MDH stock makes yields for new MDH stock unattractive for investors. Attracting investors to create more MDH for rent could increase housing prices in the sales market. Population growth and skills upgrading are needed to attract new and innovative investment in housing.
- Climate change poses increased coastal hazard risks to Cairns' urban areas, including the CBD and Northern Beaches suburbs. More multi-stakeholder discussion is required around the costs/benefits of placing MDH in these areas, including mitigating and adapting to the risks. How to ensure the best outcomes if development is to be encouraged in the southern corridor must also be included in conversations.
- Council and industry could take a holistic approach to the short and long-term economic and infrastructure costs of sprawl vs infill MDH. Otherwise, the market will continue to favour greenfield development until it is no longer available.
- Low-rise MDH forms including small lot housing and duplexes include the benefits of detached housing and increased density (e.g., individual land titles, private open space). They should be adequately planned for but not relied upon to avoid land fragmentation which reduces lot sizes suitable for higher-rise MDH-forms.

  Small apartment complexes of between 3–4 storeys and 8–9 units that avoid resort-style infrastructure have lower insurance and body corporate fees for owner-occupiers. They are attractive to retirees seeking alternatives to retirement housing, maintain a better connection to the street and avoid impacting the city's valued tropical character. Unfortunately, they are not currently deemed financially viable.

  There are opportunities to foster alternative and innovative forms of MDH housing and tenures, including co-housing models or community-led projects that are feasible to build in the current market. These can be incorporated into existing low-density suburbs, meet consumers' housing preferences and increase density.
- Infill MDH plays an important role in inner-city suburbs with access to employment and services.

Before implementing MDH at these sites, infrastructure capacity analysis is required to ensure MDH can be supported and is feasible. The Planning Scheme's Neighbourhood Character Overlay areas also needs revisiting to form a balance between protecting character and encouraging MDH.

- Council needs to provide leadership, strategic planning and changes to the MDH zone code, so it responds to the contexts of different suburbs. A long-term engagement plan around MDH is needed, so when MDH becomes critical, and the market supports it, so does Council, industry and the community.
- Living in mixed-use, higher-density housing in Cairns is a cultural shift in a regional city of low-density forms. Using incentives to address consumer barriers to make MDH more financially attractive than detached housing could assist.

These summary points are unique to Cairns, but the issues and concerns raised are relevant to other regional towns and cities struggling with the availability and consumer demand for MDH. Regional places struggle with issues such as distance from supply chains; a lack of specialist developers and builders; poor public transport – although Far North Queensland uniquely suffers the problem of expensive insurance. Some of these issues are more easily resolved than others: adding a crane to the Cairns port would be simpler than solving public transport in a city dominated by cars. Sharing solutions across regional contexts could produce new ideas and concepts.

Conclusion

Through key MDH-involved stakeholder perspectives, this research examines what role MDH can play in addressing urban development challenges in regional contexts. Many of our findings mirror those in the literature, such as feasibility barriers, but they also suggest key differences – highlighting the importance of contextualising MDH in places outside Australia's capital cities. While scholars agree that compact urban form creates efficiencies in terms of providing infrastructure, for example, these issues are much more challenging in sprawling regional cities with poor public transport to begin with. Add to this the cost of transporting building supplies to 'remote' locations, a lack of skilled building trades, and soaring insurance costs that make body corporate fees unaffordable – these all make the single, detached dwelling on greenfield land the choice of many developers and homeowners (even if they would prefer an apartment). Regional Australia's low-density, car-oriented suburban form looks set to persist well into the future without a strategic change in policy direction.

Cairns is a coastal city situated directly beside rainforest-clad mountains and bordering beaches and farmland. The stakeholders interviewed for this research are conscious of the need for densification due to impending land shortages and accept that these shortages will prompt the eventual implantation of MDH. It is against this background that they advocate certain forms of MDH suited to the Cairns regional context – even suggesting the need for strategic planning for the specificity of MDH at a suburban scale. They recognise that the unique social and physical geography of places shapes distinct needs and wants in terms of MDH. In Cairns this means a demand for MDH on beachfronts and in the city centre, places that also make MDH vulnerable to climate change. Calls for a suburb-specific strategic planning for MDH in Cairns echoes broader sentiments about the need for regional nuance and understanding.

MDH has an important role to play in addressing regional urban development challenges, but barriers to its development are nuanced and are more acute in regional places with a culture of low-density sprawl. Vision and foresight for how to urgently address urban densification and diversity in regional areas needs to happen across local and state governments through strategic planning, leadership and cross-sectoral engagement to support effective MDH infill. These visions need embedding in current regional plans and planning schemes, although the current plans/schemes demonstrate this is not the only answer. Moreover, and especially in light of COVID-19 migration to regional areas, it is important to keep in sight the risks of growing regional towns and cities without nuanced policies and strategies that are sensitive to local realities. As Guaralda et al (2020:1) suggest in a related context: 'superimposing planning and development policies meant for metropolitan cities could simply result in transferring the ills of capital cities to regions and exacerbate unsustainable development and heightened socioeconomic inequalities'. These insights are pertinent to other regional towns and cities aiming for sustainable urban form and growth, especially in the context of COVID-19 regional migration.

Disclosure statement

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

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