

# **Influencing urban regeneration through government backed demonstration developments.**

## **Abstract**

Government backed high density infill residential developments are seen as a planning policy tool for engaging the building industry and promoting innovation of built environment design, sustainability, social cohesion and affordability. However, there is limited research into the influence such buildings have on the building industry and urban development outcomes. This paper presents analysis from interviews with 14 leading building industry stakeholders about a State government funded demonstration mixed use development in Melbourne, Australia. The development included innovative elements around governance, affordability, sustainability and construction methods. The analysis found that stakeholders were acutely aware of the development with some innovative elements, such as the modular construction, being followed informally; other elements, such as sustainability, were of nominal interest. Translating informal learnings to own companies was lagging. While it is evident that the government backed development has played a role in influencing the building industry to some extent, more effort is required to communicate practical outcomes and learnings in a formal way if broader innovation of urban development is to be facilitated through the demonstration development planning approach.

**Key words:** Urban development; demonstration developments; high density housing; building industry; sustainability; urban planning.

## **Introduction**

More than half of the world's population now live in urban areas, a percentage which is predicted to increase rapidly in the coming decades (UN, 2014). In Australia, major cities are home to almost 80% of the population (DIT, 2013). By 2041 an additional 3.1 million homes will be required in these Australian cities as the population increases and the average number of occupants per dwelling decreases (McDonald & Temple, 2013). Where and how to locate additional homes is of increasing concern for policy makers, planners, developers, architects and researchers, not only in Australia but globally, particularly in the context of climate change. In order to drive sustainable urban development, there are increasing examples where governments have taken a more proactive role and directly funded innovative demonstration developments in an effort to guide the building industry and consumers and to test planning approaches. There is limited evaluation of these demonstration buildings to date on the influence they have on the wider building industry and urban development, so transferring learnings to policy and planning outcomes or the building industry has been difficult (Femenias, 2004; NHSC, 2013).

This paper begins to address this research gap by providing perspectives from building industry stakeholders about a State Government funded demonstration higher density housing development (known as the Nicholson) in Melbourne, Australia. While there is research evaluating innovative, demonstration higher density housing developments (Femenias, 2004), these are typically focused on one or two innovations (e.g. environmental sustainability) and limited in that they typically focus on the users of the building and/or technical, design and economic elements, rather than influence these elements and outcomes have on wider building industry stakeholders from an urban policy

and planning perspective (Heiskanen *et al.*, 2015; Hu *et al.*, 2014a; Ridley *et al.*, 2013). This paper therefore addresses the question:

*How does a government funded demonstration case study development perform as a model for future urban development and influencing the wider building industry?*

The paper firstly presents an overview of the literature around sustainable developments and innovative demonstration buildings then provides a description of a case study and methods used. The analysis and discussion are then provided around the five key elements from the case study.

### **Shifting to sustainable affordable higher density housing**

Over recent years there has been a shift towards higher density housing in major cities, both in Australia and internationally (NHSC, 2013). This is in recognition from policy makers and planners that cities can no longer afford to continue to spread their boundaries in the search for more affordable land for housing (City of Melbourne, 2013). Evidence is emerging that while greenfields are providing upfront affordable housing provision, they are limited in their ability to provide required housing and associated amenity for a sustainable, social and affordable future (Atkinson *et al.*, 2011; De Sousa, 2002; Giannakodakis, 2013). Higher density housing infill within existing city boundaries, and particularly areas close to key hubs of activities and public transport, is now seen as a more effective housing proposition for many urban areas (City of Melbourne, 2010). However, while there are identified benefits from higher density housing, without considered development design, including the integration into the local community, sustainability, tenure outcomes and constraints of the existing built environment, there can also be significant short and long term problems, both for occupants and the local community (CABE, 2001; Farris, 2001; Kearns *et al.*, 2011; Macmillan, 2006). In Australia numerous plans, policies and initiatives at Federal, State and Local government level have been developed to regulate and guide built environment stakeholders to address these challenges (e.g. City of Melbourne, 2013).

Increasing densification is also occurring against a backdrop of improving environmental performance across the built environment (Garnaut, 2008). Over the past two decades countries such as the UK, USA and Australia have introduced a range of measures, such a minimum building performance requirements, a requirement for renewable energy or 'smart' technologies and providing financial incentives/rebates, aimed at improving the sustainability of the built environment (Moore, 2012). While these approaches have been recognised as having some success in achieving their desired outcomes, current built environment standards in Australia, and many countries, still fall short of requirements to limit climate change impacts.

The role of governments in relation to the development of the built environment is typically through the setting of minimum performance regulations and the development of strategic land-use planning regulations. In Australia minimum performance requirements of residential dwellings is set by the Federal Government (Moore, 2012), however State and local governments have the ability to require improved performance or other design/occupation outcomes through planning requirements which can be tailored for different regions. For example the approval of a residential development site at a specific location might be contingent on the inclusion of a certain amount of retail space, although this may not be a requirement for proposed developments in another area in the same area. There is evidence which identifies that the building industry is unlikely to voluntarily

achieve improved environmental performance or design/amenity outcomes as they believe that consumers will not pay for what is perceived as a limited benefit (Crabtree & Hes, 2009) and they are unwilling to take risks to trial more innovative outcomes (Femenias, 2004). In this context, demonstration projects allow for the advancement of innovations in the built environment.

This is explicitly reflected upon by the former Victorian State Planning Minister, who states in the 2014 *Plan Melbourne metropolitan planning strategy* that the governments land development authority (Places Victoria) ‘will continue to play a vital role in developing key government land holdings, as well as other sites, where appropriate’ (DTPLI, 2014, p. III) if Melbourne it to achieve a predicted growth of an additional 1.6 million dwellings and 3.4 million people by 2051 within increasing spatial, affordability and sustainability constraints.

Around the world, there are an increasing number of innovative higher density housing developments which have attempted to address housing quality, sustainability, affordability and social improvements as a way of promoting and advancing urban regeneration outcomes. While not always getting the outcomes right, these exemplar buildings are moving the policy, planning and research discussion forward. See Table 1 for leading exemplar residential buildings

Table 1 Global Examples of Exemplar Residential Buildings

Name and Location	Dwellings	Const. (year)	Features
BedZED, Sutton, London, UK	82 Units with GF work space	2002	Designed to be carbon neutral, protecting the environment and supporting a more sustainable lifestyle. The project was pioneering local authority sold land at below market value to make sustainable economically development viable.
Printworks, Southwark, London, UK	94 flats with GF offices	2010	A 9 story residential block using modern methods of construction in a highly restricted urban location. Features include prefabricated bathroom pods, and multi-utility heating networks and grey-water recycling.
Twelve West, Portland, Oregon, USA	273 Units with 5 levels of commercial space	2009	The 23 storey sustainable mixed-use development with ground floor retail space, four floors of office space and 18 floors of residential apartments. It is an urban high-rise building to successfully integrate roof top wind turbines.
zHome, Issaquah, Washington, USA	10 townhouse over 3 levels	2012	zHome is a project designed to achieve zero net energy, as well as a number of other environmental benchmarks including heat and natural cooling recovery ventilation, energy feedback monitors and deep daylighting design features.
TaiGe Serviced Apartments, Shenzhen, China	230 Units with commercial component	2004	First LEED certificated commercial development in China. This demonstration project included many green building features including water and energy saving, water recycling and improve indoor environment.
K2 Apartments, Windsor, Melbourne, Australia	96 Units with onsite GF parking	2007	Developed to set a new benchmark in ecologically sustainable, the 8 storey medium density public housing in Melbourne, Australia. The four connected buildings are oriented to allow for maximum northern sun exposure with public and private courtyard spaces.
The Commons, Brunswick, Melbourne, Australia	24 Units with GF commercial space	2013	Inner-city, vertical eco-village with no car spaces. Public transport and shops are in close vicinity. The extensive green roof with sweeping CBD views with an “intensive green roof” featuring raised vegetable boxes and hardy native plants that filter stormwater run-off from the building and act as an insulating blanket on the apartments below.

Source: Various

Whilst research is typically focused on evaluating technical performance or elements, occupant satisfaction levels and direct lessons learnt (Berry *et al.*, 2014; Heiskanen *et al.*, 2015; Ridley *et al.*, 2013; Zero Carbon Hub, 2014). There is limited research, both in Australia and internationally, which looks into the influence on the wider building industry from these demonstration developments as an urban planning tool (Femenias, 2004). The following outlines a case study and evaluation which begins to address this research gap.

### ***Case Study – the Nicholson development***

The Nicholson development is a graduated three to nine-storey residential apartment and retail complex 7km from Melbourne’s CBD. It was developed by Places Victoria (the Victorian Government property development agency) at a cost of AUS\$56 million as a commercially-replicable demonstration project of an innovative mixed use, mixed tenure apartment development offering high density affordable living in a well-connected location (Places Victoria, 2015). Initial (2011) purchase prices for the apartments ranged from AUS\$230,000 to AUS\$510,000 with an average of AUS\$367,000. This being substantially below the REIV Melbourne June 2011 apartments medium AU\$474,500 price. The Nicholson won the 2011 Urban Development Institute of Australia Judges’ Award and was a finalist in the Property Council of Australia’s Innovation and excellence awards (Places Victoria, 2015). Places Victoria hoped the development would influence the wider building industry to engage with some or all of the innovative elements in the development.

The Nicholson contains over 1,900m<sup>2</sup> ground floor commercial/retail space and 199 one and two bedroom apartments comprising:

- i. 110 privately owned apartments with 60% of purchasers owner-occupiers, of which 82% were first home buyers.
- ii. 58 apartments purchased by HomeGround Services (a registered affordable housing provider) under the Australian Federal Governments Nation Building Social Housing Initiative to be rented by low-income tenants at a maximum of 30% of tenant’s income or less than 74.9% of market rent.
- iii. 31 apartments provided as affordable rental dwellings under the National Rental Affordability Scheme (NRAS). Low to moderate income earners occupy these dwellings at a 20% discount to market rent.

In addition to being a model of mixed-use, mixed-tenure and affordability, The Nicholson is distinguished by innovative environmental, construction and governance characteristics (Places Victoria, 2015). While individually none of these elements are all that novel, combined, they represented significant innovation in the Melbourne housing market at that time.

- i. *Environmental:* The Nicholson was designed to a 6-star Nationwide House Energy Rating Scheme thermal energy rating (heating and cooling load of 114 MJ/m<sup>2</sup>.annum) which at the time was above the 5-star minimum requirement and features roof-mounted solar panels to deliver solar-boosted hot water for residents. It has gas heating/appliances, recycled and treated rainwater water systems, and is in close proximity to bike paths, train stations and tram/bus routes.
- ii. *Construction:* The Nicholson was the largest development in Victoria to utilise modular construction; with more than 340 individual modules built in a Melbourne factory. This resulted in the Nicholson being built 50% faster than traditional construction approaches.

- iii. *Governance*: The onsite place management model involves one entity (Urban Communities Limited) managing all owners' and corporation property matters and tenancy management services for affordable rental and social housing dwellings. The onsite place manager also provides property management services for private investor owners. Typically these elements would be handled for separate off-site managers.

Marketed during a time of stalled property sales in Melbourne, the above features resulted in faster than expected private sales and significantly higher than average owner occupation rates, according to Places Victoria (Higgins & Moore, 2015; Places Victoria, 2015). As a result, the Nicholson project indicates the potential for such developments to be successfully adopted more broadly throughout the building industry and as an approach to strategically influence the building industry. The question is, has it?

## Methods

To address the research question semi-structured interviews were conducted with 14 key Melbourne building industry stakeholders including bankers, investors, developers, valuers, property managers and housing researchers. Table 2 provides the characteristics of the stakeholders interviewed. Interview participants were identified by building upon the authors' own networks and conducting a desktop review of leading building industry stakeholders who were active in the high/medium density residential infill in the Melbourne region. The personal contacts provided the access to senior managers which would not of been available otherwise. Many of the stakeholders also operated nationally, giving the research a more holistic perspective. The proposed list of stakeholders was then reviewed by colleagues of the authors to ensure a representative sample was selected. The stakeholders who were interviewed were all external to the stakeholders who had worked on the design and construction of the project, as per the client brief for the research project.

Code for analysis	Position	Type of organisation
Stakeholder 1	Director/Owner	Private developer/advisor – medium density infill
Stakeholder 2	Managing Director	Private property developer – high/medium density infill
Stakeholder 3	Senior Development Manager	Private developer – high/medium density infill
Stakeholder 4	General Manager, Residential, Victoria	Listed developer – high/medium density infill and land developments
Stakeholder 5	General Manager, Apartment Developments	Listed developer – high/medium density infill
Stakeholder 6	Fund Manager	Superannuation fund developer – high/medium density infill and land developments
Stakeholder 7	Director – Property Risk	National bank – all areas of property development
Stakeholder 8	Director –Independent Borrowers Advocate	Independent finance broker – all areas of property and development
Stakeholder 9	Manager – Government Valuations	Public valuer – all areas of property and development
Stakeholder 10	Director – Residential	Private valuer – all areas of residential property and

	Valuations	development
Stakeholder 11	General Manager – Operations	Not-for-profit property manager – Community Housing Association – high/medium density housing
Stakeholder 12	Senior Property Manager	Private property manager – high/medium/low density housing
Stakeholder 13	Manager – Strategic Consulting	Real estate consultant – global multi-disciplinary property organisation, all areas of property and development
Stakeholder 14	Head of Research	Real estate researcher – local multi-disciplinary property organisation

**Table 2: Characteristics of key stakeholders interviewed.**

The interviews were undertaken across May and June 2014 at the interviewee’s place of work and lasted approximately 60 minutes. The interviews were audio recorded and transcribed then thematically coded. Interview questions related to the stakeholders organisation, property market conditions and trends since the construction of the Nicholson in 2011, covering mixed use, mixed tenure, sustainability features, modular construction, onsite building management, design and cost. Stakeholders were initially asked questions in a broader context for the Melbourne development industry, and then more specifically of the implications from, and for, the Nicholson. Interviews allowed a more detailed exploration of themes could occur and allowed questions to be tailored for the different stakeholder groups, compared to conducting a survey which is more limited in this regard (Yin, 2010).

A limitation of the research is the focus on only one building. However, it provided an opportunity for providing quick policy feedback from the wider building industry in Melbourne as to the influence of a state government backed demonstration development. The benefit of detailed studies on limited numbers of buildings has been identified elsewhere in the literature (Ridley *et al.*, 2014).

## **Results and discussion**

This section presents the analysis and discussion from the interviews across the five key elements in the Nicholson; mixed use, mixed tenure, modular construction, sustainability and governance. The analysis and discussion also includes wider industry influences where identified by stakeholders.

### ***Mixed use***

Mixed use apartment developments (a mix of residential and retail/commercial premises) were viewed with caution from the stakeholders, particularly developers. Such developments have become standard in Melbourne’s housing in recent years driven by local councils wanting to activate street frontages and ensure local amenity for residents. Generally mixed use was seen as a beneficial and even desired inclusion, if delivered with due consideration; although the feeling was there are too many cafés going into developments across Melbourne which may not be financially viable in the longer term which may result in future planning issues. The Nicholson property manager stated that mixed use is important, not only for the convenience which the shops can provide, but the local employment opportunities and community forming they can provide.

*“There are probably not many developments which don’t offer this now. Purchasers want it and they will seek out options which have this, creating that village lifestyle where they can pop down and grab a coffee or something to eat.” (Stakeholder 7)*

The key issues identified by the stakeholders against including retail with residential were noise (both from the shops but also increased traffic), trucks entering/exiting the area to deliver goods/take away rubbish and increased pedestrian numbers. One stakeholder said that knowing what they do about the negatives of mixed use developments, they would not buy into one.

The stakeholders, while having various views of mixed use, did not look to the Nicholson as a case study of how to achieve this – in fact they mentioned other recent developments around Melbourne as examples of both good and bad mixed use developments. This may be due to the fact that retail spaces at the Nicholson remained unoccupied (except for an independent supermarket) at the time of the research. The empty retail space was identified by some of the stakeholders as having the potential to impact on sales/rents of apartments. It would be beneficial then for the owners of the retail space to consider lowering their rent prices, or allowing some pop up shops to utilise the space, in order to generate an active street frontage, which in turn may help to attract longer term tenants. From a developers perspective it is important to get some commitment to the retail spaces before completion of construction. Perhaps because retail is more challenging than the residential spaces in the development, developers are starting to question the value of retail space in apartment developments, even with the recognised community benefits.

### ***Mixed tenure***

The provision of mixed tenure housing in Australia is not a new concept and efforts to foster mixed tenure housing have been occurring since the 1950s (Arthurson, 2008). However mixed tenure has not been as actively promoted in recent years and the Nicholson represents a return to such development. Of all the demonstration elements in the Nicholson, the inclusion of mixed tenure provided the most divisive discussion point amongst the stakeholders which is not surprising considering the contestation in the wider literature (Arthurson, 2010; Bond *et al.*, 2011; Joseph & Chaskin, 2010; Sautkina *et al.*, 2012). While many stakeholders believed that mixed tenure was a good thing in principle, some stated that it was not something they would want to encourage or live in themselves. Many of the stakeholders were aware that the Nicholson contained mixed tenure accommodation. In fact it was quite a talking point amongst the wider property industry and many of the stakeholders felt that Places Victoria demonstrated significant leadership and bravery in funding a mixed tenure development. In this context the Nicholson was seen as an exemplar development which the building industry could learn from and stakeholders were monitoring outcomes in an informal way although they recognised the substantial public sector commitment to delivering this, support which may not be available to other developments.

Most of the stakeholders felt that public or affordable housing has stigma attached to it. The perception was that such housing attracts a lower quality of occupant and this can impact on liveability and ultimately on property values. This stigma was not really based on any real evidence but is more a longer term cultural issue in Australia. As highlighted in the literature, there is limited evidence which demonstrates the actuality of perceived stigmas (Arthurson, 2010; Ruming, 2013). The Nicholson property manager said that they had no evidence from across their multiple residential sites, both in Melbourne and Adelaide, that there was any real stigma attached to mixed tenure accommodation. In fact they believe that because the Nicholson was mixed tenure they had a high level of interest for both public and private occupants to live there.

*“The ideal scenario is you want no form of community or social housing in the building...there is a smell associated with it...if I had a choice between one that had it and didn’t – I would be choosing the one that didn’t have it.” (Stakeholder 14)*

Evidence from the initial sale of the Nicholson apartments would indicate that the inclusion of mixed tenure accommodation had less impact on value than first thought. The community housing was purchased off the plan with the agreement that prices would be adjusted once the private market had purchased apartments. Once the private market had purchased sufficient number of the Nicholson apartments, the community housing had its price adjusted upward by \$20,000 an apartment by the Victorian Valuer General, reflecting that the private owners valued the apartments more highly than initially predicted.

There was also a split in opinions between those who thought salt and pepper (affordable apartments integrated alongside private apartments) was the best way to have mixed tenure housing, while others felt that siloed tenure options were better with separate public and private buildings side by side. The siloed approach was not so much to keep tenants from mixing but to control building costs and assist with keeping cost of living lower for affordable housing tenants. There is limited evidence that demonstrates significant social benefits from mixing tenure within a development (Arthurson, 2010; Bond *et al.*, 2011; Joseph & Chaskin, 2010).

*“What Places Victoria did with the salt and pepper was very courageous. As a developer we wouldn’t do it as a matter of course because we think that is leading with their chin. We are curious to the research into the development.” (Stakeholder 4)*

While the provision of affordable housing was seen as a required housing type from the stakeholders, there was a clear sense that there is still a significant way to go if mixed tenure accommodation is to be accepted both in the building industry and by the general public. Much of the issues centre around the perception/stigma of affordable housing and improved education could help to address this. The Nicholson was recognised as being innovative by demonstrating a salt and pepper mixed tenure accommodation and the industry is keeping an informal eye on it to see how it works out over the longer term. At this stage they have not engaged more in mixed tenure housing, although they are now more aware of such housing.

### **Modular construction**

The majority of the stakeholders interviewed were aware about modular construction methods and that the Nicholson was a modular construction development. There was mixed reaction to modular construction amongst the stakeholders. Some stakeholders felt that modular construction was an attractive proposition for developers and consumers, while others felt the opposite.

*“The industry is very aware of this development and this product...This is a market leading product, I think no one could disagree that this is quite a good looking development and has demonstrated that modular construction is no longer a novelty but it is a realistic option.” (Stakeholder 5)*

These mixed views were related primarily to the cost of construction. Some stakeholders believed that modular construction costs more than traditional construction and that it was not yet economically viable for the wider building industry. However, other stakeholders thought that the

construction costs were now roughly in line with traditional building approaches, particularly when time efficiencies were factored in both for developers and consumers.

The main challenge around modular construction for the building industry in 2011 was around how to get banks to finance this type of construction whereby they were making progress payments for a product which was offsite – whereas they would traditionally pay for stages they could see onsite. While the Nicholson development helped banks to understand the process of modular construction and develop alternative funding processes, this still remains a significant hurdle preventing modular construction becoming more mainstream.

*“We did consider it for project we completed in South Melbourne but on a cost-benefit analysis it wasn’t going to improve the outcome for us. We were swayed in the end by the banks who hadn’t quite got their heads around it. We are told the banks are more comfortable with this now.” (Stakeholder 6)*

Overall though, considering that the Nicholson was an early Australian example of large scale modular construction, many of the stakeholders thought it had influenced the wider building industry. It was a well-known example in the building industry and had provided a platform for further innovation in modular construction and the financing mechanisms to support it. Developers in particular seemed to be moving closer to accepting modular construction approaches, with many having looked at the costs and trailing the inclusion of modular elements such as bathrooms within new developments.

### ***Sustainability***

Improving the environmental sustainability of developments above minimum building codes was broadly recognised by stakeholders as the right thing to do from the perspective of reducing environmental impacts. However, stakeholders felt that improving the environmental performance above minimum standards had to be done within existing and constrained financial structures. The perception was that improved environmental sustainability impacted on upfront affordability for both the building industry and consumers and that the general purchasing market did not value such outcomes currently.

According to the stakeholders, sustainability requirements placed behind price, location, number (and size) of rooms and local amenity in the decision making process. This has also been found in other Melbourne and international apartment research (Moore *et al.*, 2014). For the apartment market, the ongoing challenge regarding sustainability is the perceived additional upfront cost and limited understanding about the through-life benefits for owners and occupants. Several stakeholders were adamant that consumers were more concerned with price points as a number one priority. If a development fit within a consumers budget and had higher sustainability outcomes then that was seen as a bonus, but not a requirement.

*“Are they going to pay more for a 6 star energy rating? I wouldn’t.” (Stakeholder 14)*

There were different opinions about engagement by consumers to environmental sustainability. Some stakeholders stated that they had never had a potential purchaser come up to them and ask questions about environmental sustainability. However, other stakeholders highlighted the fact that consumers are becoming increasingly savvy and understand what exactly they are purchasing with

their money. They felt that a recent change was that consumers were translating rising living costs (e.g. utilities) to design and purchasing outcomes from their apartment. The complexity of the purchasing public with regards to knowledge about sustainability and other value/benefits of good design has been found elsewhere (CABE, 2001; Carmona, 2013; Macmillan, 2006).

Developers indicated that that they would offer improved sustainability outcomes if the market demanded it, as they try to match their product as closely with buying preferences as possible. The stakeholders also thought that owner-occupiers were also more likely to value sustainability features over investors who were more concerned with maximising return on investment.

*“Most customers, no matter what generation, if you give them a choice between improved finish or a more sustainable product...they will generally go with improved finish.”  
(Stakeholder 5)*

However, while some of the stakeholders spoke of providing a product for a market, there is significant discussion in the wider literature about market failures and sustainable housing (CABE, 2001; Hu *et al.*, 2014b; Moore *et al.*, 2014; Nevin & Watson, 1998). Market failures are evident even from these interviews where it was generally perceived that consumers are not valuing improved sustainability. Allowing the market to determine value relies on consumers having sufficient information about the true upfront and through-life costs and benefits about improved environmental sustainability outcomes. The stakeholders felt there was a lack of education and understanding about the through-life implications of design choices for consumers although the stakeholders on the other hand said they were developing what consumers wanted.

The impact of sustainability is difficult to gauge as the minimum building requirements have changed since the construction of the Nicholson and what was once innovative, is now regulated through minimum building standards. In this regard the Nicholson demonstrated that higher standards were possible, and that developments could include elements such as solar and rain water recycling. However the building also highlights the challenges of increasing sustainability with the water treatment plant still not operational due to issues around water testing and costs which have not yet been resolved, although this did not appear to be known amongst the stakeholders. It was clear from the interviews that it will take more than one off demonstration buildings to improved environmental sustainability in new apartment developments.

### ***Governance***

Unlike the above elements, the stakeholders were unaware about the onsite management approach implemented at the Nicholson. Onsite management is not yet a widely adopted development approach in Australia. There was some consensus amongst the stakeholders that this was because it was market dependent. There are a large percentage of apartment purchasers (i.e. investors) who currently do not value onsite place management and do not understand how it could improve their bottom line (return-on-investment); therefore it is not something that is desired. However, the stakeholders did recognise that the owner-occupier market did value onsite management. Stakeholders also felt that onsite management was more valued at the higher end of the market where owners expect more inclusions and level of care.

*“So your generic investor/renter, that’s not going to be an attraction for them, whereas if it is predominantly owner occupier [they appreciate that]. We are starting to see that more*

*where there is a concierge desk onsite where they have someone there 24/7.” (Stakeholder 7)*

Some of the developers have recently started to engage more with management as an opportunity to have a one-stop-shop for owners. While more geared towards management of rental apartments, this demonstrates that stakeholders are looking to find ways to add value to their products. One developer believed that going down the path of providing management (albeit off-site) was about branding for them and ensuring they had an additional hook to get consumers to purchase their product. In this context the engagement with management by developers was still in its infancy compared to organisations servicing public sector housing as their core job.

### ***A model for urban development?***

The interviews identified that the Nicholson was well known amongst the wider building industry as an innovative building and is considered to be replicable for some innovation elements; an outcome which addressed part of the aim of the government developer. The majority of stakeholders were aware of the demonstrative elements included in the building and had mixed views on the impact the development had on their businesses. The most significant influence on the wider building industry has been from the mixed tenure element and the use of modular construction. Critically the development had allowed these elements to move from concepts to a tangible case study which provided real world feedback and market testing for stakeholders without them having to take the financial and reputational risk. There was evidence that the stakeholders were now engaging with modular construction and investigating it as a more feasible construction option as a direct result of the Nicholson development, both in terms of the results of the onsite construction achieved, but also from changes to financing structures by banks of such developments. The mixed tenure demonstration had also increased consideration of incorporating such tenure type into other developments, although there were still some challenges around accepting this, particularly by developers who still felt there was a negative stigma attached to such housing.

The mixed use, sustainability and onsite governance elements were not well known from the Nicholson development, and remain an ongoing challenge for the building industry to engage with. These elements are still viewed as market specific in that they are not included unless stakeholders believe there is a market who wishes to pay for such features. In a contested affordable higher density housing market, as is the case in Melbourne (Higgins & Moore, 2015), there is a hesitance to include features which are perceived to drive up purchase price. However, such elements contribute to wider good design outcomes, not only for the immediate development and occupants, but also the wider community. The Nicholson demonstrates how challenging it can be to capture these benefits, for example the retail spaces remained predominately empty in the short term. Furthermore, the development demonstrates the importance of timing, with the innovative sustainability performance becoming the regulated minimum performance before the construction of the development had been complete.

Overall the financial involvement of the Victorian Government to deliver an innovative development to help guide the broader building industry has had some qualified success and highlights the important role that State Governments can play in guiding the building industry in Australia and internationally towards a more sustainable built environment future. The analysis suggests that key stakeholders are on the precipice of embracing some of the innovative elements in the Nicholson, an

outcome which may have not resulted if not for the involvement by the Victorian Government. However, the outcomes could be enhanced if the Government improved dissemination of learnings to the building industry. This information should be disseminated through peak industry bodies and building industry events to maximise coverage. E.g. a detailed case study on the costs, benefits and challenges of undertaking a modular construction development. These lessons are applicable to cities around the world who are trying to achieve improved sustainability and liveability within building industries who are reluctant, or slow, to embrace innovation if there are risks involved.

## **Conclusion**

It is evident by this research, and the wider property industry awards it has won, that the Nicholson has played a role in influencing certain elements in the building industry in Melbourne and that the aim of the Victorian Government in funding this development as an approach for wider urban development change has been partially successful. However, it is also clear from this case study that a demonstration project is not a panacea to fix all challenges within the building industry. For example, the innovative elements which were most engaged with by developers were ones which they believed could help improve their bottom dollar. In addition, the environmental innovation (which was more of an incremental improvement rather than a radical change) became the standard practice before the completion of the development due to changes to minimum building performance regulations by the Federal Government, which greatly reduced the influence that the dwelling had on the wider industry in regards to environmental sustainability. This highlights the importance and challenges around timing for demonstration projects.

To improve learning outcomes and influence the building industry from government backed demonstration projects such as the Nicholson, more effort is required to communicate the outcomes and engage the wider building industry in a more formal and coordinated way (e.g. through peak industry bodies) to learn from case studies and in particular, draw links to how they could incorporate these innovative features into their own developments. The stakeholders had relied on word-of-mouth informal discussions with colleagues and outcomes of industry awards to learn about the project, an ad-hoc approach at best.

There is scope for future government backed developments to have increased influence by ensuring that outcomes and learnings from such developments are shared with the wider building industry; which this paper is in part addressing. While focused on Melbourne, the findings provide a valuable understanding for future urban development and regeneration projects, not only in Australia but internationally where many cities are facing similar development and urban planning challenges.

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