

The housing crisis in Australia and New Zealand: A comparative analysis through policy lenses

Don Amila Sajeevan Samarasinghe, College of Engineering Construction and Living Sciences,
Otago Polytechnic, New Zealand

dons@op.ac.nz

ABSTRACT

Housing affordability is a prominent issue across the world. There is a growing concern that the number of people experiencing homelessness is rapidly increasing. As a solution, many countries, including Australia and New Zealand, have introduced housing policies aimed at providing affordable houses to low-to-medium income families. Over recent years, several affordable housing policies have been introduced in both Australia and New Zealand, including public housing initiatives, rental subsidies, accommodation supplements, state housing programmes and the provision of social housing. New Zealand launched the KiwiBuild programme in 2018 to increase housing affordability. Unfortunately, in 2019, KiwiBuild was unable to deliver its targeted primary objectives set by the Government. This study features a comparative analysis, primarily focusing on comparing and contrasting affordable housing policies in Australia and New Zealand. Subsequently, it discusses the reasons why the KiwiBuild programme failed. It makes recommendations based on policies used in Australia with a view to improving affordable housing policies in New Zealand. This research contributes and adds to the existing body of knowledge about affordable housing policies in both Australia and New Zealand. The recommendations will be helpful for future researchers who wish to develop workable policies to assist with affordable housing-related issues in New Zealand.

KEYWORDS: Housing affordability, Affordable housing policies, KiwiBuild programme.

INTRODUCTION

Housing is a prominent issue of discussion in this fast-developing era. Due to continued economic development and population increases across the world, securing a house has become extremely challenging for low and medium-income families in many countries (Galster & Lee, 2021). However, when ideal housing is unaffordable, these families may consider alternative affordable housing. “Affordable housing” is defined as housing that is deemed as affordable to those with a median household income or lower (Bhatta, 2010; Suhaida, Tawil, Hamzah & Che-Ani, 2011). South Australia provides an example for defining affordable housing in which the regulations set the price points and specify the types of buyers allowed (Milligan, Gurrán, Lawson, Phibbs & Phillips, 2009). Many governments aim to provide effective policies to ensure their citizens have affordable houses in which to live. However, in many places such as Brazil, China, Ghana, Greece, India, Ireland, Italy, Spain, the United States and the United Kingdom, the governments’ housing policies have not functioned effectively (Fields & Hodkinson, 2018).

Despite the fact the construction industry plays a key role in the New Zealand economy (8% contribution to GDP and the fifth largest sector by employment), the industry currently faces issues of low productivity, skill shortages and a lack of innovation (Samarasinghe, 2020). The nature of the construction industry means that it has a very close connection with the housing market. The high cost of construction, together with a tight regulatory environment, significantly contribute to the housing crisis which has, in turn, contributed to social issues such as homelessness (Isogai, 2018). Therefore, the housing crisis needs immediate attention and solutions.

The New Zealand housing crisis is exacerbated by increasing house prices, making even more homes unaffordable. The Real Estate Institute of New Zealand REINZ (2021) reports that the nationwide housing market value year-on-year has lifted by 21.5% (see Figure 1). Therefore, it has been tremendously challenging to provide appropriate levels of housing that are affordable, sustainable and of suitable quality. This situation has resulted in numerous policy interventions by central and local governments. However, despite these interventions, housing provision is still at crisis levels. Nichols and Miller (2017) discussed that 70,000 more houses are needed to meet current shortfalls, with more than half of these required in Auckland alone.

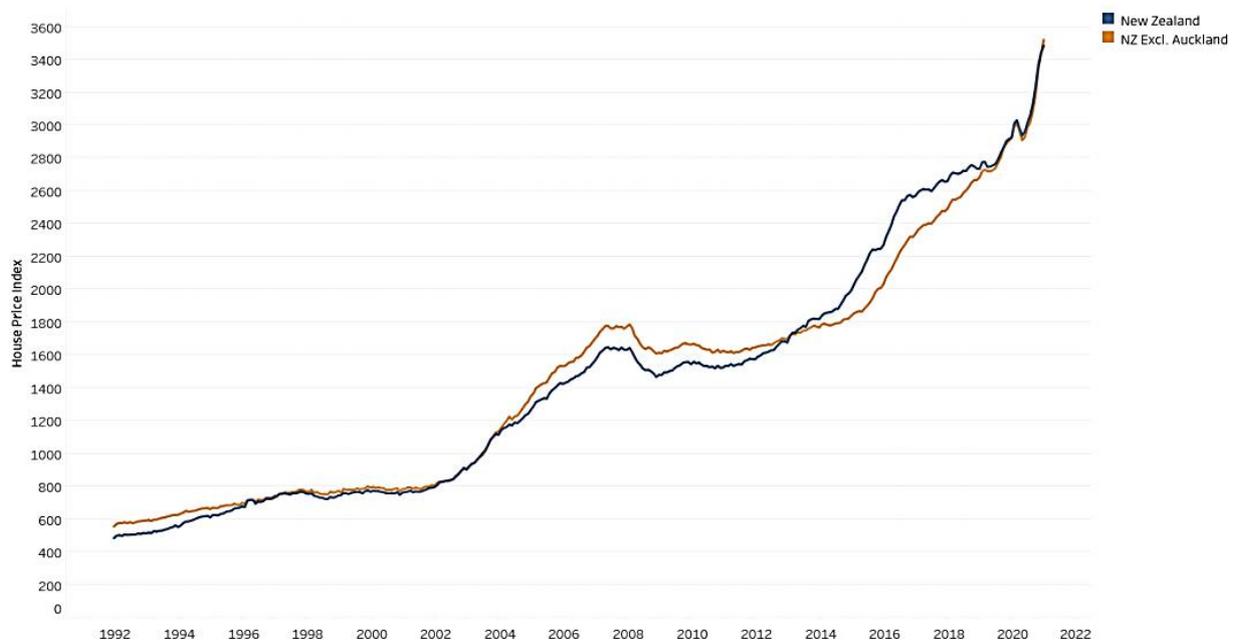


Figure 1: The New Zealand house price index variation (Source: RENZ, 2021)

Housing affordability is one of the important indexes that measure a country's social and economic stability (Baqtaya, Ariffin & Raji, 2016). However, the challenge of providing quality affordable housing that is sustainable has resulted in numerous policy interventions by many governments across the world (Fields & Hodgkinson, 2018).

The History of Affordable Housing Policies in Australia

After Australia's federation in 1901, a burgeoning urban reform movement was informed by ideas emerging from the United Kingdom and the United States (Wright, 2001), although formal town planning legislation was only established in the late 1940s. There was some

housing assistance on offer, but this was focused on providing loans to prospective homeowners rather than subsidies to those of lesser means (Jacobs et al., 2010). The first Commonwealth State Housing Agreement of 1945 was the impetus for providing affordable housing, including loans to fund state public rental housing builds, and legislation for state planning and slum eradication (Gleeson & Low, 2000). After 1949, Australia did not have steady affordable housing initiatives, although the government provided tax subsidies and homeowner grants (Austin, Gurran & Whitehead, 2014). A number of studies have shown that such grants can promote housing demand growth – particularly at the lower price ranges – while also stabilising prices across markets (Kupke & Rossini, 2014; Lee & Reed, 2014; Randolph, Pinnegar & Tice, 2013). As an alternative to increasing social rental provision, the Labor Government of the 1980s extended rent assistance to help low-income Australians meet the cost of private rental properties. Large-scale public housing developments were phased out by the 1990s, and in the 2000s, Australia decided to remove security of tenure in public housing as some states established eligibility reviews and fixed-term tenancy systems. At the same time, there was an increase in grants for new builds and for first-home buyers.

From 2008 to 2010, the Government created a National Affordable Housing Agreement (NAHA) framework to regulate commonwealth and state interactions on housing; launched the National Rental Affordability Scheme (NRAS), which was financed by the Commonwealth; and earmarked \$5.8 billion for social housing developments. From 2009, private investors in the rental market were eligible for tax credits (Austin, Gurran & Whitehead, 2014). During 2007 to 2013, six different people in three different governments were responsible for housing portfolios covering homelessness and social housing provision. The Commonwealth-State Housing Agreement was eventually scrapped in favour of the National Affordable Housing Agreement, the National Rental Affordability Scheme (NRAS) and the Social Housing Initiative; though after 2013, appetite for housing reform stalled. Queensland, South Australia and Tasmania introduced the largest ever public housing transfer initiatives between 2012 and 2015 (Martin, Pawson & van den Nouwelant, 2016). Demand for housing has declined in recent years, largely due to an increase in household spending, which is growing faster than household income (Lowe, 2019). Because of this, a majority cannot afford to buy a house and service a mortgage and opt for renting instead. Over time, this may have a detrimental effect on economic development in Australia, and a negative impact on the country's housing market. These factors emphasise the importance of housing affordability. Australia has developed affordable apartments in a bid to mitigate issues such as homelessness, an ageing population, low employment and an imbalance between housing supply and demand (Australian Institute of Health and Welfare, 2018).

The History of Affordable Housing Policies in New Zealand

New Zealand's first Labour Government was in power between 1935 to 1949. It initiated a massive public housing programme to address the country's low housing supply and the impact of housing finance instability during the Great Depression (Schrader, 2005). By the mid-1980s, homeownership rates were as high as 74% and state rentals made up just 5% of all housing stock. By 1991, the administrator of state housing, the Housing Corporation, held 70,000 houses across New Zealand (Murphy, 2004). The fourth Labour Government (1984 - 1990) advocated for the private sector to manage housing supply and offered low-income New Zealanders housing vouchers as targeted rental subsidies (Paul, McArthur, King, Harris, & Figenshow, 2020). Two years later, the Government created a 'tenure neutral' accommodation supplement as part of its strategy to scale back state involvement in housing

provision; this was aimed at elevating the market's role in housing allocation, while empowering tenants in their decision-making. The Government sold a significant number of state houses to property investors who wished to rent them on the open market (Murphy, 2004). The fifth Labour Government (1999–2008) re-established the Income-Related Rent Subsidy (IRRS) and reinstated social aims within the legislation governing the Housing Corporation's activities. In addition, it worked to acquire new housing stock to add to the state housing pool, which lifted state house numbers to 66,000 by 2005. The fifth National-led Government (2008-2017) introduced social housing reform; its objective was to increase the supply of affordable housing through a growing involvement in community housing. Few additional social houses were acquired, which became one of the main reasons for the Government's subsequent moves to requisition motels to accommodate families who urgently needed housing. Between 2008 and 2016, Auckland house prices doubled, driven by an underregulated mortgage lending system and few restrictions for speculators (Paul, McArthur, King, Harris & Figenshow, 2020).

In 2017, the Government published a policy called the KiwiBuild programme, which was expected to build 100,000 high quality, affordable homes for New Zealanders over ten years (Wilkinson, 2019). It was intended to become an effective measure in helping solve the crisis. The New Zealand Herald (2018) reported that over 17,000 people registered interest in these KiwiBuild houses, with \$2 billion dollars to be invested in the project over ten years (Gibson, 2017). The New Zealand Herald (2018) further reported a massive demand for affordable houses in New Zealand, as many people had high hopes and expectations for the KiwiBuild programme. KiwiBuild was to be executed in two ways: by increasing the supply of affordable houses, and by transforming the ways in which houses are built. However, unfortunately, the KiwiBuild programme has been unable to deliver on all its objectives (Wilkinson, 2019). Coughlan (2020) argued that the KiwiBuild programme will take more than 400 years to reach its targeted primary objective of 100,000 affordable homes in a post-Covid-19 environment.

The KiwiBuild Programme

In response to the growing concern around increased housing demand and rising numbers of homeless people, the New Zealand Government released the KiwiBuild programme to produce affordable, quality houses within the following decade. Under the KiwiBuild programme, the Government planned to build 100,000 affordable houses over ten years with a \$2 billion budget, requiring higher levels of innovation and productivity in construction. However, the New Zealand construction industry is still characterised by low productivity, a lack of innovation, high unemployment, skill shortages and poor quality output, even though it is the largest infrastructure sector in New Zealand and currently in the midst of a construction boom (MBIE, 2020; Mirus, Patel & McPherson, 2018; Samarasinghe, 2020). Due to low productivity, skill shortages and a lack of innovation in construction processes, New Zealand still utilises traditional methods to build houses. This has significantly contributed to the imbalanced ratio of supply and demand in the housing market. This has brought attention to the idea of implementing prefabrication to boost the housing supply (Chen & Samarasinghe, 2020). In announcing KiwiBuild, the Minister for Housing said that half of the affordable houses would be refabricated (Mirus, Patel & McPherson, 2018).

In KiwiBuild, the Government works with private developers and manufacturers to build and increase the supply of affordable houses. When these private developers are selected, the

housing ministry looks at a number of factors – such as financial capacity, price capping and quality standards – to determine developers’ ability to build quality houses within the competitive market (New Zealand Government, 2020). Then, first-home buyers and private developers are connected to ensure that affordable homes are built. Unfortunately, only a year after the KiwiBuild programme was executed, many issues arose. Many people showed a lack of interest in buying KiwiBuild houses due to their locations, building facilities and styles, which have not met public demand. Also, KiwiBuild house prices were not considered as affordable for first-home buyers (Wilkinson, 2019).

It is believed the Government has miscalculated the budget of the KiwiBuild programme and overestimated construction efficiency, resulting in unrealistic plans (Edmunds, 2019). A senior fellow of the New Zealand Initiative and director of Capital Economics said the Government should be required to release the supply of land for residential projects and reduce the construction costs (Wilkinson, 2019). He also claimed that continual building of KiwiBuild houses would increase the number of people renting as well as those owning, rather than increasing homeownership as intended (Edmunds, 2019).

THE SCOPE OF THE COMPARATIVE STUDY

This study will consider the similarities and differences of the affordable housing policies of Australia and New Zealand. It will provide an analysis of the KiwiBuild policy and outline the factors that hindered its success. Golland and Oxley (2004) found that comparative housing research can offer fresh insight into the ways in which housing policy is implemented in response to common issues. In comparative housing research, any analysis should consider the particular governance, policy and institutional considerations of each country (Golland & Oxley, 2004). It is noted that there are few comparative studies on affordable housing policies. For example, a study conducted by Calavita and Mallach (2010) looked at affordable housing policies in the USA, Canada, Ireland, France and Spain. Gurrán *et al.* (2008) compared housing policies in North America, the UK, Ireland, The Netherlands and Australia. Gurrán and Whitehead (2011) studied housing policy outcomes in Australia and England. These three studies defined affordable housing as that priced below market rates for low and moderate-income earners. For the purposes of this study, Australia and New Zealand were chosen because they have many general commonalities, yet also differences in housing policy. This divergence allows this paper to consider what has proved successful and why, in order to help New Zealand identify what may potentially work in future. It will suggest recommendations for the improvement of affordable housing policy in New Zealand in light of successful affordable housing approaches in Australia.

The Comparison

Both Australia and New Zealand are former British colonies. They share many cultural similarities with the United Kingdom, including common legal and administrative practices. Nonetheless, both countries have differences in terms of housing development. New Zealand has a unitary system arranged by both central and local government bodies. Australia has a federal system made up of a central commonwealth government, eight states and semi-autonomous territories, and a less influential layer of local government (Austin, Gurrán & Whitehead, 2014). In New Zealand, housing policy is the domain of central government, while in Australia, the Commonwealth Government provides housing support for states and only indirect input in urban policy and planning. The Australian population is about five times

New Zealand's population, but New Zealand's households were larger in 2020 (Table 1). In both countries, residents are largely concentrated in and around a few main cities (Auckland, Christchurch and Wellington in New Zealand, and eight state capitals in Australia). Both expect continuing positive annual household growth, and they have comparable rates of homeowners and renters – 67% of Australians own or have purchased their own home, as have 64.5% of New Zealanders (Table 1). It is notable that there is a very small social rental sector in both countries.

Table 1: Selected characterises, Australia vs New Zealand (Source: ABS, 2020; StatsNZ, 2020)

COMPARISION CRITERIA	AUSTRALIA	NEW ZEALAND
Population (millions) in 2020	25.7	5.1
Household size in 2020	2.5	2.8
Annual household growth projected (millions) in 2040	12.6 – 13.2	2.2
Homeownership (%) in between 2016 and 2018	67	64.5
Private rental (%) in between 2016 and 2018	32	32
Social rental (%)	6 in 2018	5 in 2010
Housing-related assistance 2010 (%)	17	22

Household growth continues to rise in both countries, although housing stock has not kept up with this demand. As a result, each has a significant annual housing deficit. Housing affordability is another key issue common to both Australia and New Zealand. One important indicator is a decrease in home ownership rates. In New Zealand, these are at their lowest in close to seven decades, and now, fewer younger people are homeowners. A recent report from StatsNZ (2020) noted that home ownership was at its highest in the late 1990s, when 74% of New Zealanders were in that category. By 2018, however, this figure fell to 65%. Over the past decade in Australia, there has been a small decline in home ownership (ABS, 2020). A decrease in social housing has heightened affordability issues in both countries, with pressure mounting on the private rental sectors as many long-term tenants are left with no other option but to continue renting.

Similar to the Australian housing market, the housing market in New Zealand showed healthy development until 2016 when the average house price in Auckland peaked; after that time, it decreased slightly. During the past 20 years, the New Zealand housing market has experienced massive demand from overseas buyers. One suggested response to this was to significantly reduce foreign housing investment in order to reduce housing demand (Kennedy, 2009). As of mid-2019, after the New Zealand Government published the overseas property purchase restriction policy (Land Information New Zealand, 2018), house price increases have started to slow.

It is clear the existing New Zealand housing supply is not sufficient to meet housing demand (Samarasinghe, Huang & Hou, 2020). In contrast, the New Zealand Institute of Economic Research (NZIER) (2014) reported that the New Zealand construction industry is small and conventional, characterised by a shortage of skilled workers, fragmentation and a lack of innovation, leading to inadequate housing supply. As a demand-side solution, the New Zealand Government proposed changes to property investment regulations to reduce the

attractiveness of rental investment. From a supply-side perspective, it implemented urban intensification to improve housing affordability in New Zealand (NZIER, 2015). A shift from conventional construction to more innovative practices such as off-site manufacturing, BIM and 3D printing technologies are also widely regarded as the way forward in terms of housing provision (Hargreaves, 2018).

DISCUSSION AND RECOMMENDATIONS

The study found that housing policies in Australia have many similarities with the policies in New Zealand. In the past ten years, the housing policies of both countries aimed to provide safe and comfortable houses for low- and medium-income people. Both countries provide a subsidy for local people who wish to purchase their first home. Australia has a stringent housing policy for foreigners. Houses purchased by foreigners can only be used for self-occupation rather than renting out. The Australian Government significantly taxes foreigners when they purchase houses.

Looking at housing policies across New Zealand, it is evident that there are similar issues to address elsewhere in the country. The first is that there can be undesirable implications of increasing homeownership rates, such as higher mobility costs, less ability to move into better employment or to obtain other opportunities, and an inflexible national economy (McCarthy, Rohe & Zandt, 2001). The second issue is the difficulty of controlling the supply of affordable housing to make sure those in medium- and low-income households are able to buy houses. For example, the New Zealand Government has published a public housing plan to increase affordable public housing (New Zealand Government, 2018). The third issue is the challenge of limiting free-up regulatory constraints on new housing developments (Department of Building and Housing, 2010).

The New Zealand Government initiated the KiwiBuild programme in 2018, which aimed to provide 100,000 houses for first-home buyers over 10 years within a \$2 billion budget. Many people believed the policy would provide them with the opportunity to own a house. However, based on the KiwiBuild eligibility criteria (including that eligible couples can collectively earn a maximum of \$180,000 per year), some still find it difficult to buy a KiwiBuild house, leading to public disappointment with the Government's affordable housing policy. Due to high KiwiBuild mortgages, Subject Matter Experts (SMEs) believed the KiwiBuild programme did not adequately provide for low-income families who could afford their first home loan. The delayed KiwiBuild programme was characterised by low productivity and over-budgeting. It was recommended that the Government reviews the whole project and makes necessary amendments to make sure that the project can progress in the right direction.

Many SMEs believed that the New Zealand Government has not carefully planned the KiwiBuild programme. The Government has primarily focused on increasing the housing supply, which has not resulted in affordable houses. KiwiBuild house prices are increasing faster than the wider market, an effect far removed from the concept of affordable house prices. Therefore, the KiwiBuild programme has not delivered the expected project outcomes of its first year. SMEs say that high land and construction costs have led to an increase in house prices. Many experts have provided their views on ways to improve the KiwiBuild programme and to deal with the housing crisis in New Zealand. A lecturer in urban economics at the University of Auckland says providing more land and houses does not provide

affordable houses. Many experts, including the members of the Real Estate Institute, economists, university lecturers and members of the Auckland Council, have warned that increasing building fees (building control and resource consent fees) would significantly contribute to increasing housing prices. Edmunds (2019) reported that according to the solutions provided by experts, the Government needs to reduce house manufacturing and construction costs by cutting down the price of land through appropriate regulations, fixing the infrastructure funding model and promoting prefabrication.

It is recommended that the Government re-plans urban land to make more land available for residential use (Bassett & Malpass, 2013; Fernandez, 2019). Lower interest rates on loans must be provided to help private developers build affordable houses. As implemented in the USA and Australia, financial support provision for investors by way of tax credits and financial products needs to be considered in New Zealand (Welfare Expert Advisory Group, 2018). Another suggestion is to adopt more construction innovation to help the construction industry develop and progress rapidly. For example, prefabrication would provide high production efficiency with increased construction quality. In addition, lean construction needs to be promoted as an innovative construction process to reduce unnecessary expenditure and reduce construction costs. Application of design buildability in residential construction is another way to increase the productivity of the New Zealand housing sector (Li & Samarasinghe, 2020). Small and medium construction companies should be encouraged to join the design and construction stages of the KiwiBuild programme. Affordable alternative materials such as Papercrete could to be introduced to increase the weathertightness of residential buildings (Sinyakova & Samarasinghe, 2020).

The SMEs suggest the Government take consideration of financial assistance provisions, the current supply chain and the current state of the construction industry to rectify the major issues with the KiwiBuild programme. It is suggested the New Zealand Government looks to the successful affordable housing policies implemented in Australia to carefully define the concept of affordable housing.

The Government must work in partnership with the housing supply chain and the construction industry to reduce construction costs. When a supply chain evolves from a transactional to a collaborative state, the opportunities for value co-creation are greatly enhanced via information exchange and interdependent relationships (Schindler, Dionisio & Kingham, 2020; Samarasinghe, 2014; Samarasinghe, Tookey & Rotimi, 2013; Samarasinghe, Tookey, Rotimi & Windapo, 2012). Rather than focusing on optimising sub-systems, developing firm, integrated supply chains reduces interface waste and promotes knowledge-sharing that leads to improved end-consumer service and enhanced overall efficiency. More efficient supply chains have the potential to reduce the cost of housing and waste. Through better aligned processes, material wastage can be reduced, as can the turnaround time of construction projects. For example, the New Zealand construction industry needs to promote implementing lean construction practices, which can increase productivity and construction cost savings.

It is important the Government redirects its focus from the number of affordable houses to an affordable housing policy with a sustainable vision. As successfully implemented in Australia, the Reserve Bank of New Zealand (RBNZ) must reduce the Official Cash Rate (OCR) of interest, which leads the banks to charge lower interest rates on borrowers. RBNZ needs to encourage and give preferential policies for developers to build affordable houses. At

the same time, an affordable housing policy should continue to exclude foreign buyers, enabling affordability for first-home buyers in New Zealand.

CONCLUSION

The nature of the construction industry means that it has a very close connection with the housing market. The high cost of construction, together with a tight regulatory environment, significantly contribute to the housing crisis. While the Australian state-based planning system emphasised zoning, New Zealand has gone for a strict zoning approach. The limited land-use zoning in both countries has further contributed to housing unaffordability. The limited availability of infrastructure also explains the challenges around affordable housing supply. Australia has successfully implemented affordable housing programmes such as rental allowances and capital grants allowing first-time lower-income buyers to increase homeownership. Such grants have helped in stimulating housing demand in the affordable housing sector as well as controlling house prices in broader housing markets.

New Zealand requires a balanced approach to the objectives of affordable housing policies and their outcomes. More effective processes in property, planning and public policy need to be in place to provide greater alignment with the deep-rooted economic and financial issues of affordable housing and housing affordability. Unpacking these economic and financial causes in affordable housing, via a property-planning-policy lens, will provide a full view as to how New Zealand could well-establish affordable housing policies. The New Zealand Government's active contribution to resolve this issue is vital as there is a strong need for investing in infrastructure requirements. Infrastructure investment could uplift the value of less in-demand land and help facilitate the construction of affordable houses in less dense areas in New Zealand. However, the Government alone will not be able to provide affordable houses for New Zealanders. Members of the construction industry across the housing supply chain need to work collaboratively with the Government. More broadly, they should establish a large-scale development driven by simplicity, standardisation, innovative methods in the construction process, regulations and the consenting process. Through this kind of public and private sector partnership, a wide range of houses can be built to address the affordable housing crisis.

Note: An earlier version of this paper was presented and published in the proceedings of the 6th New Zealand Built Environment Research Symposium (NZBERS), Auckland, New Zealand. February 2020.

REFERENCES

- ABS. (2020). *Housing variables*. Retrieved from <https://www.abs.gov.au>
- Austin, P. M., Gurrán, N., & Whitehead, C. M. E. (2014). Planning and affordable housing in Australia, New Zealand and England: Common culture; different mechanisms. *Journal of Housing and the Built Environment*, 29(3), 455-472. doi:10.1007/s10901-013-9356-3
- Australian Institute of Health and Welfare. (2018). *The housing market and the economy*. Retrieved from <https://www.nzherald.co.nz>

- Baqutaya, S., Ariffin, A. S., & Raji, F. (2016). Affordable housing policy: Issues and challenges among middle-income groups. *International Journal of Social Science and Humanity*, 6(6), 433.
- Bassett, M., & Malpass, L. (2013). *Priced Out: How New Zealand lost its housing affordability*. Wellington, New Zealand: New Zealand Initiative.
- Bhatta, B. (2010). *Analysis of urban growth and sprawl from remote sensing data*. Springer Science & Business Media.
- Calavita, N., & Mallach, A. (2010). *Inclusionary housing in international perspective: Affordable housing, social inclusion, and land value recapture*. WA: Lincoln Institute of Land Policy.
- Chen, H., & Samarasinghe, D. A. S. (2020). The factors constraining the adoption of prefabrication in New Zealand residential construction sector. *Paper presented at the New Zealand Built Environment Research Symposium (NZBERS)*, Auckland, New Zealand.
- Coughlan, T. (2020). *KiwiBuild will take more than 400 years to reach original target*, Stuff. Retrieved from <https://www.stuff.co.nz>
- Department of Building and Housing. (2010). *New Zealand housing report 2009/2010: Structure, pressures, and issues*. Wellington, New Zealand: Department of Building and Housing.
- Edmunds, S. (2019). *KiwiBuild 'almost no chance of success' in current form*. Retrieved from <https://www.stuff.co.nz>
- Fernandez, M. A. (2019). *An exploration of affordable housing policies in Auckland*. Retrieved from <https://knowledgeauckland.org.nz>
- Fields, D. J., & Hodgkinson, S. N. (2018). *Housing policy in crisis: an international perspective*, 28 (1), 1-5, doi: 10.1080/10511482.2018.1395988
- Galster, G., & Lee, K.O. (2021). Introduction to the special issue of the Global crisis in housing affordability. *International Journal of Urban Sciences*, 25(1), 1-6. doi:10.1080/12265934.2020.1847433
- Gibson, A. (2017). *Phil Twyford reveals \$2b KiwiBuild housing scheme*. Retrieved from <https://www.nzherald.co.nz>
- Gleeson, B., & Low, N. (2000). *Australian Urban Planning: New Challenges, new agendas*. Melbourne: Allen and Unwin.
- Golland, A., Oxley, M. (2004). Housing development in Europe. In A. Golland & R. Black (Eds.), *Housing development: Theory, process and practice*. London, United Kingdom: Routledge.
- Gurran, N., & Whitehead, C. (2011). Planning and Affordable Housing in Australia and the UK: A Comparative Perspective. *Housing Studies*, 26 (7-8), 1193-1214. doi:10.1080/02673037.2011.618982
- Gurran, N., Milligan, V., Baker, D., Bugg, L., & Christensen, S. (2008). *New directions in planning for affordable housing: Australian and international evidence and implications*. Retrieved from <https://www.ahuri.edu.au>
- Hargreaves, D. (2018). The Government's decision to have a 'significant' portion of the KiwiBuild houses prefabricated is logical, but risky. Retrieved from <https://www.interest.co.nz>
- Isogai, S. (2018). The way forward Te Ara I Mua: An overview of current homelessness and social housing workforce development in Aotearoa New Zealand. *Parity*, 31(5), 30.
- Jacobs, K., Atkinson, R., Colic-Peisker, V., Berry, M. & Dalton, T. (2010) *What future for public housing? A critical analysis*, Melbourne, Australia: Australian Housing and Urban Research Institute Limited.

- Kennedy, S. (2019). *New Zealand housing market at risk of crash, Bloomberg research shows*. Retrieved from <https://www.nzherald.co.nz>
- Kupke, V., & Rossini, P. (2014). The first homeowner decade: Distribution and impact of the first homeowner grant 2000 to 2013. *Pacific Rim Property Research Journal*, 20(1), 75-87. doi:10.1080/14445921.2014.11104388
- Land Information Zealand (2018). *New law restricts overseas people from buying residential land*. Retrieved from <https://www.linz.govt.nz>
- Lee, C.L., & Reed, R.G. (2014). The relationship between housing market intervention for first-time buyers and house price volatility. *Housing Studies*, 29(8), 1073-1095. doi:10.1080/02673037.2014.927420
- Li, H., & Samarasinghe, D.A.S. (2020). Analysis of factors affecting design Buildability in New Zealand construction Projects. *Paper presented at the New Zealand Built Environment Research Symposium (NZBERS)*, Auckland, New Zealand.
- Lowe, P. (2019). *The housing market and the economy*. Retrieved from <https://www.rba.gov.au>
- Martin, C., Pawson, H., & van den Nouwelant, R. (2016). *Housing policy and the housing system in Australia: An overview*. Retrieved from <https://researchdirect.westernsydney.edu.au>
- MBIE. (2020). *National construction pipeline report 2020*. Retrieved from <https://www.mbie.govt.nz>
- McCarthy, G.W., Rohe, W.M., & van Zandt, S. (2001). *The economic benefits and costs of homeownership: A critical assessment of the research*, VA: Research Institute for Housing America.
- Milligan, V., Gurran, N., Lawson, J., Phibbs, P., & Phillips, R. (2009). *Innovation in affordable housing in Australia: Bringing policy and practice for not-for-profit housing organisations together*. Retrieved from: <https://www.ahuri.edu.au>
- Mirus, A., Patel, Y., & McPherson, P. (2018). Prefabrication: New Zealand's golden ticket?. In P. Rajagopalan (Ed.), *Meeting the challenges of higher density: 52nd International Conference of the Architectural Science Association*, Australia.
- Murphy, L. (2004). To the market and back: Housing policy and state housing in New Zealand. *Geo Journal*, 59(2), 119-126. doi:10.1023/B:GEJO.0000019970.40488.d5
- New Zealand Government (2018). *Public housing plan 2018-2022*, Wellington, New Zealand: Ministry of Social Development.
- New Zealand government. (2020). *KiwiBuild*. Retrieved from <https://www.kiwibuild.govt.nz>
- Nichols, L. & Miller, C. (2017). *Housing shortfall shock: 70,000 new homes needed, Auckland at capacity*. Retrieved from <http://www.newstalkzb.co.nz>
- NZIER. (2014). *Bespoke residential housing demand and construction innovation: NZIER report to BRANZ and the Building and Construction Productivity Partnership*. Retrieved from <https://nzier.org.nz>
- NZIER. (2015). *The impact of intensification on Auckland housing valuations: NZIER report to Auckland Council*. Retrieved from <https://nzier.org.nz>
- Paul, J., McArthur, J., King, J., Harris, M., Figenshow, S. (2020). *Transformative Housing Policy for Aotearoa New Zealand: A Briefing Note on Addressing the Housing Crisis*. Auckland, New Zealand: University of Auckland.
- Randolph, B., Pinnegar, S., & Tice, A. (2013). The first homeowner boost in Australia: A case study of outcomes in the sydney housing market. *Urban Policy and Research*, 31(1), 55-73. doi:10.1080/08111146.2012.711554

- RENZ. (2021). Monthly house price index report. Retrieved from <https://www.reinz.co.nz>
- Samarasinghe, A., Tookey, J., & Rotimi, J.O.B. (2013). Supply chain collaboration in New Zealand house construction. In T. W. Yiu, & V. Gonzales (Eds.), *The 38th Australasian Universities Building Education Association Conference*. Auckland, New Zealand.
- Samarasinghe, D.A.S. (2014). *Building materials supply chains: An evaluative study of the New Zealand residential construction* (Doctoral dissertation, Auckland University of Technology, Auckland, New Zealand). Retrieved from <https://openrepository.aut.ac.nz>
- Samarasinghe, D.A.S. (2020). Development of framework for building materials-related decisions: A case study, *Proceedings of the 5th Australia and South-East Asia Structural Engineering and Construction Conference (ASEA SEC 5)*, Christchurch, New Zealand.
- Samarasinghe, D.A.S., Huang, C., Hou, W. (2020). Analysis of affordable housing policies: Understanding why kiwi build failed. *Paper presented at the New Zealand Built Environment Research Symposium (NZBERS)*, Auckland, New Zealand.
- Samarasinghe, D.A.S., Tookey, J., Rotimi, J., & Windapo, A. (2012). Clients and their professional advisers' role in construction materials purchasing functions. In K. Michell, P. Bowen, & K. Cattell (Eds.), *Joint CIB W070, W092 & TG72 International Conference on Facilities Management, Procurement Systems and Public Private Partnership - Delivering Value to the Community*, (pp. 196-201), South Africa.
- Schindler, M., Dionisio, R., & Kingham, S. (2020). Challenges of spatial decision-support tools in s in urban planning: Lessons from New Zealand's cities, *Journal of Urban Planning and Development*, 146(2).
- Schrader, B. (2005). *We call it home: A history of state housing in New Zealand*. Reed.
- Sinyakova, L., & Samarasinghe, D.A.S. (2020). Analysis of papercrete as a way of reducing heat loss in New Zealand timber-framed, *Paper presented at the New Zealand Built Environment Research Symposium (NZBERS)*, Auckland, New Zealand.
- StatsNZ. (2020). *Dwelling and household estimates: June 2020*. Retrieved from <https://www.stats.govt.nz>
- Suhaida, M.S., Tawil, N.M., Hamzah, N., Che-Ani, A.I., Basri, H., & Yuzainee, M.Y. (2011). Housing affordability: A conceptual overview for house price index. *Procedia Engineering*, 20, 346-353.
- The New Zealand Herald. (2018). *KiwiBuild Q+A: How to get into the affordable housing scheme*. Retrieved from <https://www.nzherald.co.nz>
- Welfare Expert Advisory Group (2018). *Welfare and Housing Interface: Evidence and policy options*. Retrieved from <http://www.weag.govt.nz>
- Wilkinson, B (2019). *KiwiBuild: Twyford's tar baby*. Retrieved from <https://nzinitiative.org.nz/reports-and-media/reports/kiwibuild-twyfords-tar-baby/>
- Wright, B. (2001). *Expectations of a better world: planning Australian communities*: Royal Australian Planning Institute.