Articulo - Journal of Urban Research

13 | 2016 : Suburbia

State Intervention in a Post-War Suburban Public Housing Project in Christchurch, New Zealand

ROY MONTGOMERY

Abstract

Viewed positively or negatively, the Levittown image of suburbia often stands as the quintessential expression of this form of housing settlement in the latter half of the twentieth century. The image is one of privately-funded developments characterized by uniform housing styles in layouts that lack diversity visually where the private automobile is the only sanctioned form of transport. Cultural and socio-economic diversity is uncommon here. By the same token, public housing in the post-war era connotes inner city row-house slum clearance or urban edge housing estate tower-block developments which make the Levittowns of the world seem relatively benign. But what happens when the state attempts public housing using the private sector model of middle-class suburbia? This paper examines a central governmentsponsored housing project initiated at Aranui/Wainoni in the eastern suburbs of Christchurch in the 1950s. Aranui/Wainoni appears to have faltered from its inception and it is often described as the worst suburb in the city. Drawing upon social capital theory and social sustainability this paper reads government archival records on the early phase of Aranui/Wainoni and argues that social sustainability was implicitly if not explicitly planned for and accommodated. It cautions that the success of "re-planning" Aranui/Wainoni depends upon support for an intermediating community entity and that this will apply to future state interventions in state suburb-making if these are to succeed.

Index terms

 $\textbf{Keywords:} \ \ \text{state housing; suburbia; social sustainability; intermediating community entity}$

Full text

Introduction¹

- New Zealand, or 'Aotearoa' in the indigenous Maori language, is a small island nation in the southern Pacific Ocean. Human settlement dates back to approximately 1,000 years before the present but intensive colonization began less than 200 years ago. By the middle of the twentieth century the total population was close to 2,000,000 across a total land mass of 268,000 square kilometers, an area slightly larger than the United Kingdom. Urban crowding and overpopulation have not been major issues to date and even with a current population of over 4,500,000 there are still perceptions, particularly amongst economic and business commentators, that the country is underpopulated. While the country lacks housing developments with the scales and typologies of say, Levittown or Pruitt-Igoe, there have been, and there remain, concerns about whether very high density or very low density housing is both environmentally and socially sustainable.
- A number of relatively ambitious excursions into housing for the masses have been carried out by central government in New Zealand during the twentieth century known here as 'state housing'. To this end public agencies took the preferred private form of housing, i.e., the single family home, as a practical and aspirational given for most people, but tried to provide it on a scale that met urgent housing needs. There have been commentaries on these projects but they have tended be in the form of social histories or general critiques (Ferguson and New Zealand Department of Internal Affairs Historical Branch 1994, Boyce 2010, Schrader and Birkinshaw 2005). With one or two exceptions (Schrader 1993) specific communities or neighborhoods have not been studied in great depth in terms of founding plans and conceptions and what actually transpired.
- This paper examines a government housing project for some 2000 residents initiated at Aranui/Wainoni in the eastern suburbs of Christchurch in the 1950s. Aranui/Wainoni appears to have faltered from its inception and it is often described as the worst suburb in the city, occasional housing renewal or retrofitting initiatives notwithstanding (Boyd 2011). It was also in the "heartland" of building and infrastructure damage, flooding and liquefaction following the Canterbury Earthquakes of 2010-2012. The principal methodology involves construction of a historical narrative of Aranui/Wainoni's trajectory during the early years of establishment (1950-1970) via interpretation of archived government departmental and municipal records. The narrative is read against the social theory constructs of social capital and 'social sustainability'.

Social Capital and Social Sustainability

Robert Putnam is usually credited with popularizing 'social capital' as terminology in his studies of Italian City States (Putnam et al. 1993) and the apparent decline of American social institutions (Putnam 2000). He focusses on two key elements of social capital, localized 'bonding' and inter-local 'bridging' and stresses the positive and critical value of these elements. Bonding social capital resides at a highly localized level and, in its simplest form, can be seen in the way people help each other as neighbors in both calm and catastrophic circumstances. Bridging social capital is often referred to in the context of voluntary associations, e.g. clubs and organizations that are created across neighborhoods and cities. It transcends bonding networks; people who might not otherwise associate with each

another meet to pursue common goals. Both types are relatively horizontal in political terms although bridging institutions generally require some sort of governance arrangements such as charters, deeds, boards of trustees or committees. In essence Putnam believes that plentiful instances of bonding and bridging activities indicate a strong community.

This idealized model for 'civil society' as articulated has its critics who see Putnam's claims, for example, as narrow, politically naïve and lacking any testable basis (Edwards and Foley 1998, Boggs 2001). Acknowledging such concerns, attempts have been made by a number of authors over the past two decades to enrich Putnam's schema and Aldrich and Meyer (2015: 259) suggest that within the current critical discourse around social capital theory there appears to be agreement about three types of social capital: bonding, bridging and one related to vertical rather than lateral influence, described as 'linking'. Linking social capital differs from the other two insofar as it describes the ability to gain access to resources and influences externally and often to exert political leverage in some form. One of the key challenges for those interested in social capital theory is the degree to which all three dimensions need to be present in equal amounts in a given situation in order for social capital to work (Babaei et al. 2012). For the purposes of this discussion the degree to which Aranui/Wainoni, at its inception, was informed by bonding, bridging and linking social capital will be considered.

Social sustainability theory has emerged over recent decades from earlier discourses on sustainable development and sustainability (Bramley et al. 2009, Dempsey et al. 2011). More recently it has been linked to "sustainable communities", community or social "well-being" (Rogers et al. 2012), "community resilience" (Magis 2010), and "social resilience" (Lorenz 2013). There is also debate as to whether social sustainability is nested within environmental sustainability and, correspondingly, whether analytical and information gathering tools such as Social Impact Assessments (SIA) are a subset of Environmental Impact Assessments (EIA) (Glasson and Wood 2009).

Commentators on social resilience often focus on the presence or absence of citizen participation in the social realm as an indicator of resilience. Lorenz (2013: 14-17) cautions that even with such refinement a crucial concept that is often still omitted is that of "coping". Mere participation in response to an event or initiative does not necessarily reflect or predict an individual's adaptation over a long-term period. It may simply be a coping response to get through the immediate circumstances. The relationship between "coping" and the notion of a more durable "adaptive capacity" has been discussed by a number of authors (Brooks 2003, Eriksen et al. 2005, Smit and Wandel 2006).

This paper attempts to connect recorded or documented information on how the suburb was built with later outcomes that suggest coping rather than thriving has characterized the history of Aranui/Wainoni until the early 21st century. The sources for this information are principally archival, drawn from different branches of New Zealand's main national research archive known as Archives New Zealand. Of particular interest for this article are written exchanges between agencies, which routinely accompanied visual plans and designs since they reflect the norms and expectations about sustainable social functioning at the time. Threads of correspondence between individuals and groups of residents on the one hand, and agencies on the other hand are also used.

State Housing in New Zealand

As noted earlier the involvement of central government in housing development in New Zealand has been well documented. In the mid-1930s suburban growth was

12

characteristic of many towns and cities but 'suburbia' hardly existed as a concept. However, housing for the masses was high on the agenda for many governments especially those affected by the Depression. New Zealand was no exception. Modest reforms to enable the provision of housing for 'workers' had been carried out since the turn of the century (Workers Dwellings Act 1905, Government Advances to Workers Act 1906, Workers Dwelling Act 1910, Housing Act 1919, State Advances Amendment Act 1923). This was largely piecemeal and was aimed at getting workers into affordable private housing (Boyce 2010).

In 1934 a committee of the Town Planning Institute produced a report which recommended zoning land for mass housing. The election of a Labor Government in November 1935 produced legislative changes that signaled an intention that the state was now prepared to enter the housing market not simply as a financier but as a developer of large-scale housing programs. This came to be known as 'state housing'. Through the agitation of Labor Member of Parliament John A. Lee state housing became a specific expenditure item in the August 1936 budget. The aim was to construct 5,000 houses at a cost of three million New Zealand Dollars in the year that followed, which in present terms would be 326 million New Zealand Dollars. This was the start of many projects, several of which were not fully activated until the late 1940s due to New Zealand's involvement in World War II. For example, large developments adjoining the cities of Wellington and Auckland were commenced in the following locations: Naenae (1945), Taita (1945), Tamaki (1946), Oranga (1947), and Porirua (1948). The South Island of New Zealand was, and remains, much more sparsely populated than the North Island but in the late 1930s there were pressures on housing availability around southern cities such as Christchurch and Dunedin.

The most sophisticated embodiment of state-driven community planning was the Naenae scheme. Schrader has analyzed the Naenae experiment to show that much of its early impetus rested on the architectural and urban design ideas of architect Ernst Plischke, an Austrian émigré with strong views on domestic and public architecture, who came to New Zealand in 1939 and found work as an architectural draughtsman and later as a community planner in the Department of Housing Construction between 1943 and 1947. Plischke's design ideas were highly influential in New Zealand in the late 1940s both in the public and private realm (Sarnitz and Ottillinger 2004). Plischke's aesthetic vision for Naenae was accompanied by lobbying for the embedding of social ties through the provision of community assets. As Schrader has observed this came down largely to the agitation of an outsider, a Canadian émigré called William Robertson, who insinuated himself briefly into the formal planning process as an advisor. Roberston used the model of Roosevelt's Greenbelt Program for the inclusion of co-operatives in the Naenae scheme (Schrader 1996: 72). Consequently, a local resident-based Hutt Valley Community Planning Council and a Hutt Valley Consumers' Co-operative Society were established, along with a health clinic and a community center, to serve Naenae and other new communities nearby.

Initially things went smoothly. In terms of individual house and land plots the initial designs of the 1930s and 1940s were carefully considered to ensure use of high quality construction materials, variations in, or at least nuances of design, to avoid a sense of anonymity or conformity by social class. Yet, as the title of Schrader's article suggests, the larger social experiment foundered. The attempt to create strong social ties by means of co-operatives and the building of a community center by subscription quickly lost momentum. Schrader attributes this failure to a misunderstanding of post-war social life and values in New Zealand. Immediate family, the home and a need for retreat from public life by the male members of households who had to commute to work in the city meant that large-scale civic engagement was not a priority (Schrader 1996: 78-79). Planning for community in a

14

16

17

18

township of 10,000 people was also a mistake in terms of the scale being too large according to Schrader. This mirrors the findings of Gans in his study of people who moved to Levittown in the late 1950s (Gans 1967). The new residents were not 'alienated' refugees from inner city areas nor were they less sociable than established urban dwellers; they simply formed new bonds around private interests closer to home at the street or neighborhood level.

While these points may be valid Schrader also notes, but in my view underestimates, a lack of understanding, expertise and political will within central government about community formation:

This verdict [that community did not exist in Naenae] is given further weight by the evidence of [...] architects and planners, all contemporary with the Naenae scheme. Echoing the 'received story' of Naenae, they blamed the failure of ideal on political pressures to construct houses before community facilities. Most believed that the Housing Construction Division had not been up to the task. As one architect explained, the division was dominated by engineers who knew little about planning and 'never had any social understanding of what they were doing (Schrader 1996: 77-78).

Both Plischke and Roberston withdrew or were removed from participation in state housing projects after Naena believing their principles had been undermined by incompetence or internal interference. This sense of ongoing malaise vis-à-vis public housing being seen merely as a subset of public works or civil engineering, is echoed in Noonan's history of the Ministry of Works and Development (Noonan 1975). During the 1940s and 1950s in particular there were constant battles between the architectural and engineering sections of the ministry (Noonan 1975: 186-187). There was also a more fundamental problem. There was a severe shortage of qualified staff that ran from the 1940s through to the 1960s (Noonan 1975: 206).

If Naenae and other projects conceived in the mid-1940s had their problems, these were added to during the 1950s with changes or oscillations in the political ideologies of central government administrations. When the National Government came into office in 1949 it began a deliberate program of selling off state houses in various parts of the country. It also introduced the Group Building Scheme in 1952 which was intended to bring partnerships between private builders and government to deliver private homes in large quantities as an alternative or parallel activity to government house construction. Nevertheless, there was widespread belief in a national housing crisis leading to a government-sponsored conference on National Housing in July 1953 (McKillop 1953).

While public-private partnerships were promoted as a novel tool in dealing with shortages of supply it was accepted that non-detached, paired dwellings and larger, multi-unit state rental properties were a necessity in new developments. It was hoped initially that deployment could be kept to a maximum of twenty percent of units built but from the start of 1957 the government increased the ratio of 'duplexes' and multi-unit housing to thirty-three percent. In terms of social capital maintenance and considerations about social sustainability it is important to note that 'multi-units' in New Zealand rarely exceeded more than six to eight combined units and that 'high density' was viewed in different terms. A leading government architect, Newman (1957), was quoted at the time as saying "The reason why New Zealand should go its own in higher-density housing could be found in the structure of the society of the country, he said. Nearness to the soil was a prime factor in New Zealanders' lives and high flats would destroy the link".

Similarly, the previous high-quality building standards for houses were changed, driven partly through the lobbying of private builders who complained about being unable to compete with the monopolistic conditions created by a large government presence in the sector and partly because the crisis meant the rapid provision of houses. Government therefore demanded cheaper designs for houses. Government

21

Architect Gordon Wilson put forward a cheaper design costing £1,985 (NZ\$139,477 in 2016) rather than the previous standard set at £2,440 (NZ\$170,447) as did Reginald Hammond (Director of Housing Construction), who put forward a more open plan design, again using cheaper materials. Paired demonstration versions of these designs were constructed for public scrutiny in Auckland, Wellington (Taita), Christchurch, and Dunedin in 1953.

By contrast, when Labor regained office in 1957 it stopped the sale of state houses and also changed the ratio of state rental house construction from predominantly single family homes to fifty percent multi-unit dwellings in any new or yet unfinished development. When National gained office again in 1960 the sale of state houses was recommenced. The underlying ideological tension about state housing was whether it was as a means to an end or an end in itself. Conservative administrations saw state housing as largely transitional insofar as the higher aim was to get as many people into private homes as possible. Labor administrations saw state rental housing as a significant and permanent function. Conservative administrations were highly sensitive to distorting the existing private and commercial housing construction market. These differences notwithstanding, perceived or real housing 'crises' tended to force the hand of administrations on both the left and right so that it was most often not a question of whether to build but in what form.

In considering what took place in Aranui/Wainoni at 'start-up' it is important to acknowledge that swings and fluxes in policy and other pressures were greater in the 1950s than had been the case in the 1930s and 1940s when state housing was first introduced. These fluxes and flows and their implications for social capital formation and maintenance and social sustainability will be seen in layout designs, house plans and in the trails of correspondence around these that ensued. Before that material is traversed it is important to consider first the land and the existing land users before the experiment in making an entire social housing suburb commenced. The implicit assumption at the time, and remains in social commentaries on state housing, was that the land was a relatively neutral space needing only the expertise of engineers to ensure long-term habitability.

Environmental and Socio-Cultural Substrates of Aranui/Wainoni Prior to Development

The areas now known as Aranui and Wainoni are situated on sandhill or backdune country only a few kilometers from the Pacific Ocean on the eastern side of the city of Christchurch, Canterbury in the middle of the South Island of New Zealand. These localities would have been in sporadic human use prior to intensive European settlement in New Zealand from the mid-1800s. Indigenous Maori were, and had been, present throughout the South Island for several hundred years although never in great numbers and they characteristically used a complex network of places that acted as seasonal encampments for food or materials gathering along with a few permanently established and defended settlements. The names Aranui and Wainoni themselves have no recorded Maori provenance and appear to be artefacts of late 19th or early 20th Century European settlement. Aranui, pronounced "urra-noo-ee", is loosely translatable as a path or way (ara) that is wide or great (nui) and one source traces this usage in written form back only to 1911 (Baker 2007: 7). Similarly Wainoni, pronounced "wye-know-nee", which can be translated as water or river (wai) that contains a bend (noni), appears to date to the 1880s when applied by an English academic to his private property (Baker 2004: 6).

23

25

26

Discussion about social capital structures and stability thereof amongst Maori in this immediate area must for now remain conjectural due to the absence of archaeological evidence of use or settlement and because there are no references to the area in indigenous local histories. By contrast, much is known about more permanent settlements a few kilometers to the north at Kaihapohia and to the south at Purau, Rapaki and Taumutu.

Early European settlers saw this undulating sand dune country, alternately very dry in summer and prone to ponding in winter, as fit for the grazing of livestock rather than any kind of intensive cultivation for food crops. Indeed, in the 1850s the large provincial government-owned leasehold property within in which Aranui/Wainoni was contained was known as the "Sandhills Run" on which mainly dairy cattle were run (Baker 2007: 23). It was subsequently sold off into small holdings that tended to remain relatively "unimproved" as farm land, hosting poultry farms, piggeries and areas for horse grazing or breeding. Although a few grand houses were built across the area the dwellings and outbuildings that dotted the often dry and fire-prone landscape were modest and sometimes illegal:

[I] t was in the depression that the problem of sub-standard housing became most severe. Like nearby New Brighton the Aranui area became a haven for those unable to build regulation houses. Their 'do-it-yourself' efforts led to objections from other local residents. In May 1930, for example, the Aranui Burgesses' Association asked the County to apply to the Health Department for a 'demolition order for all shacks in Breezes Road between Pages and Wainoni Roads.' A number of the inhabitants of such shacks were politically active, often in the Communist Party, and were prepared to defy such orders (Watson and Heathcote County Council 1989: 182).

Apart from dwellings and farm holdings the landscape was often dominated by grasses, pines and poplars used for firewood, shelterbelts or property boundaries. Otherwise, introduced plants such lupines and blackberry gave the area an untamed or overgrown rural appearance. This is not to say that the area was seen as undesirable for human settlement. It was notable for hosting a sanatorium for people with respiratory conditions – the ambient sea breeze and pine trees were deemed good for consumptives – and other health camps, backed by charities, and a 'federative home' or commune set up by an eccentric academic named Alexander Bickerton (Baker 2004). However, the fact that a motor racing oval or speedway track and other dirt tracks were established in this area along with camping grounds, timber yards, meat processing factories and nurseries shows that it was seen as largely undeveloped land.

This dominating rurality was reflected in local authority control. Although the area was only a few miles from Christchurch, it did not fall within city boundaries. From 1911 to 1953 Aranui/Wainoni was part of the Bromley Riding in the Heathcote County, a semi-rural local authority. Still, it was Christchurch that shaped and eventually absorbed these outlying areas. As the tramway system moved further out from the city the housing tended to follow the tramlines and coalesce around tram-stops. One of these stops was called "Sandilands" after a nearby residential property. In 1926 the population of Aranui/Wainoni was 353 and 19 respectively (Watson and Heathcote County Council 1989: 119). By 1945 these figures had grown to 404 and 307.

Since the area was not widely regarded as premium farmland or land easily turned over to housing any opportunities to realize capital gains could not be ignored. Aranui/Wainoni as a government-led new housing development came more or less directly from one of these moments of opportunity. On 13 October 1936, an unsolicited letter was sent to John A. Lee, M. P., by a Christchurch landowner on the matter of state housing. Using the letterhead of The New Zealand Sheepfarmers' Agency, Limited, Farm and Station Salesmen, Stud Stock Specialists, Estate Agents

28

29

31

32

33

and Valuations, Sharebrokers, Insurance and General Agents, Grain and Produce Merchants, Herbert H. Cook made the following proposition:

I have the old Wainoni Park property which used to belong to Professor Bickerton, and am in a position to offer the Government enough land to cut into 56 sections. A road would be required to put through the land, about 15 acres, at the price of £2000 which would be approximately - £38 per section - or I would be prepared to consider any reasonable offer. The land is on the tram route, Electric Light and plenty of water available on the land. There is an artesian six inch pipe, the water rising 30 feet, which would water the whole subdivision (Cook 1936).

Lee replied to Cook a week later stating that he had referred this offer to the Department of Housing Construction for assessment against its projected needs in Christchurch and that a further reply would follow as a consequence of that analysis.

Nothing of consequence happened for some three years until Cook's petitioning resumed with Cook stressing that he now had other landowners enrolled to the idea of selling land to government for housing. Appraisals carried by officials over the next few weeks provided important intelligence. For example, C. Kensington, the local Commissioner of Crown Lands, filed a report which stated that there are no real impediments to using the land but under special remarks and recommendations makes the following notes:

Land is in sand belt to east of ChCh. It is sand dune country covered mostly with pinus insignus, trees, scrub and rubbish with open patches. Would have to be carefully considered for subdivision and if existing vegetation removed either by levelling, road formation or individual section development there is grave risk of sand denudation. It would probably also be necessary to protect newly erected dwellings by a covering of back soil or some other sand binding material on the section. It is believed that the neighbourhood is very healthy but this is probably due to the Pine trees growing in the vicinity. (Kensington 1939)

His covering letter to the Director of Housing Construction R. B. Hammond sent on the same day contained very similar wording but added:

Christchurch has still much open land closer to the centre of the city which for many economical reasons should be more closely settled before this block is considered for housing. I do not, therefore, recommend this block at the present time. (Kensington 1939)

Other reports from the time reinforced this equivocal view and the outbreak of war in Europe and the Pacific stalled many government initiatives. It was not until 1951 that the thread of correspondence was resumed with the government initiating communication. A number of landowners who were approached were willing to sell, but, encouraged by Cook who acted as their agent, believed that their land was now more valuable than the valuations commissioned by central government. Compulsory purchase was reluctantly invoked and this was reported in a local daily paper, the Christchurch Star Sun, on 9 October 1952, page 7: "The Government has indicated that it will take 168 acres in Aranui and Wainoni to provide for 659 units." (Baker 2007: 235)

Litigation about the appropriate level of compensation for land taken dragged on until 1958 and it is difficult to know if genuine hardship or simply rent-seeking behavior drove the process but the social impacts on the existing population of this initial decision were probably small; it was a poorly serviced area and those residents not displaced by compulsory purchase stood to gain from new infrastructure and services such as sewage systems, schools and public roads. An insight into how the community viewed its own status at this time, months before any public announcement was made concerning the government's intention to develop state housing, can be found in a program printed in March 1952 for the "Aranui Centennial" by the Aranui Progress League. Under a closing section entitled

36

37

"The Present" were the following statements:

Within the last five years there has been an extraordinary increase in the number of houses, taking up most of the front land, although there are still hundreds of acres of back lands awaiting development. Over most of this area there is neither water, drainage, nor fire protection, and our rapid growth has outstripped the Heathcote County Council's ability to provide the amenities; but we have a Hall – built through the efforts of the former Burgesses' Association – and we mean to get together to procure them for ourselves (Baker 2007: 20).

Baker (2007: 159) claims that the Progress League group took over lobbying or fundraising for local services during the 1950s and that some of its members remain active behind the scenes today even though the League itself appears to be in abeyance. Its main focus during the late 1960s was the so-called "Aranui Controversy" (Foddy 1967). The controversy related to the noxious smells and alleged health effects produced by the Christchurch Drainage Board's municipal sewerage treatment "farm" at Bromley, located within a kilometer of Aranui and known by locals as the "poo ponds." The Progress League took court action against the Council, leading to the appointment of neighborhood "smell wardens" or "sniffers" to attempt to verify residents' claims that the odors from oxidation ponds were unbearable.

Of interest here is the fact that government chose to press ahead with a new development on land that was otherwise quite unstable, i.e., sand dunes, and not particularly suitable for housing. This led to immediate problems for some arriving state housing tenants in the early 1960s as they were expected, under standard tenancy agreements, to lay out, grass and maintain gardens around their rental properties, but this proved impossible in certain instances. Wind erosion stripped topsoil and sand before gardens could be established and remediation by government was required after petitioning from distressed tenants (Housing Corporation of New Zealand 1963). Nor did the fact that the area already contained a number of known noxious activities. The sewerage treatment plant had been in operation for several decades, and this was adjoined, on the Aranui/Wainoni perimeter to the north in Bexley, by one of the largest open landfills for the city. Normalizing Aranui/Wainoni as a New Zealand post-war suburb was going to be a challenging proposition.

Plans for the "Wainoni Block"

The first topographical surveys were carried out in 1953 and the first layout plan was prepared over a year later by the Department of Housing Construction. By this time the scale of development had been expanded to create 739 sections to house more than 2,000 residents (Figure 1).

Figure 1. Tentative Layout Cook and Others Wainoni Christchurch

40

41



Source: Archives New Zealand, Christchurch, Ref: R22245204 CAHM CH63 Box 5 Record No. HDC 31191.

The plan is not sophisticated but it contains more than just allotments for houses and street layout and this content reflects assumptions about community formation and social sustainability at mid-century. The easiest feature to identify is the central park area which includes two rugby playing fields which echo New Zealand's sense of national sporting identity at the time. There is also a green set aside for outdoor bowls, a sport associated in the 1950s with older community members, especially retirees. A tennis court is marked out for more individualistic sports pursuits. Although far less ambitious than Plischke's plan for Naenae it has typological similarities with other scaled-down plans drawn up by Plischke for settlements in the North Island and I have argued elsewhere that Aranui/Wainoni can be plausibly attributed to his work (Montgomery 2014). Despite the use of "Wainoni" for the block plan all of the streets in the suburb refer to counties in the south west of England e.g., Hampshire Street, but the reasoning for such nomenclature was never explicitly discussed (Montgomery 2013).

A kindergarten and a community center are also marked out as is a row of shops marked "Shopping" which would eventually accommodate twenty small businesses such as a grocer, butcher and hairdresser. Although not specifically discussed in correspondence between officials the existence of a large shopping center at New Brighton and the scattering of small shops across adjoining streets and neighborhoods already developed would have influenced the size of land area chosen to service the new community. The correspondence does show, however, as with other projects launched at the time in other parts of the country, that the types of shops and allocation to private business owners was strictly controlled so that no nearby business operator would be threatened with unnecessary competition.

Four church sites are marked out including one with the initials "R. C." for Roman Catholic added. In other variants of the plan at this time a fifth church site is added and the word "Presbyterian" included. The underlying assumption is that unless specifically noted the churches will be of the Church of England faith, the denomination associated historically with the Canterbury Association which founded the original European settlement. The Primary School at the bottom left of the plan was already in existence (Aranui Primary School) but this plan shows an expanded site to accommodate growth in school pupil numbers. A "proposed primary school" — this became Wainoni Primary School when constructed in the early 1960s — is also shown at top right. The area marked "Speedway," as noted

43

44

earlier, is a motor-racing track that had been ear-marked by central government for purchase in the early stages of plan development hence the growth from 659 to 739 units although some of this increase would have been accounted for by adding more multi-units to the equation. The Speedway additional development did not get underway until 1959.

In terms of pre-existing social sustainability factors it is worth noting that the resident population was comprised mainly of low-to-middle income families with men as the principal wage earners who travelled some distance to work daily with a scattering of small farm holdings and small-scale manufactories. There were also the scattering of shacks and illegal dwellings referred to earlier. Yet Baker provides ample documentary evidence that social ties and social capital in the area at the time and indeed throughout the twentieth century were strong. Citing church and community groups, clubs and especially family histories he claims that a local community identity was strongly felt (Baker 2007). In terms of social capital theory it seems reasonable to say that bonding ties were strong even if bridging and linking capacity was weak.

As far as the government was concerned the key aim was to quadruple the local population within a relatively short period of time. Low-to-middle income households on mainly conventional urban parcels of land would replace the dispersed farm holdings, non-complying dwellings and miscellaneous industries. The demography of the area reflected that of Christchurch, and to some extent the nation as a whole in 1950, insofar as New Zealand Europeans or 'Pakeha' dominated the cities and urban edges. At this point approximately 80% of Maori still lived in rural and traditional tribal areas, a situation which changed rapidly during the next 50 years to the extent that the ratio of rural to urban Maori dwellers had reversed. Christchurch was the most non-Maori major city of New Zealand at mid-century. There was an unstated assumption amongst central government planners that Aranui/Wainoni, although Maori in name, would be in practice be populated mainly by white Europeans with aspirations for middle-class security and lifestyles. To be fair, this perception was a widely held norm across much of New Zealand at the time.

The principal concern of existing residents, as was the case wherever extensive public housing was planned at the time, was not about the scale of growth so much as its form or more precisely, its conformity to social and economic patterns of home ownership. Governments were highly sensitive to public perceptions about what state housing or government-sponsored housing developments could or should look like. This was exemplified by the Group Building Scheme, mentioned earlier and launched in 1952, which coincided precisely with the inception of Aranui/Wainoni. The anticipated ratio of privately built to government built homes does not appear to have been publically discussed – subsequent audits and analysis of later, more detailed plans shows a more or less 60/40 split between government and private builders in Aranui/Wainoni - but a specific socializing device was used in Aranui/Wainoni by way of the Parade of Homes concept which began in 1955 in other parts of the country. This involved preparing and servicing a showcase of small, contiguous row or opposing cluster of housing lots during the initial phase of the larger development and inviting individual builders to bid for sites within this strip and construct houses according to government specifications and standards with the guarantee of buy-back by government should they not sell on the open market.

In Aranui/Wainoni this was established in 1957/1958 on 15 sections on Rowan Avenue near the park and shopping area and promoted with brochures, advertisements and a ceremony inviting public inspection and purchase in early March 1958. This appears to have been a success in terms of the rapid sale of the demonstration homes but it also appears to have registered as a point of difference

47

49

with those that moved into the new development as the following comment by a local historian illustrates: "From reading articles and listening to stories from people who bought in the area, I have come to the conclusion that 'State Housing' didn't mean 'State Housing' but that the state was developing land and building houses for people to purchase" (Baker 2007: 235).

A later plan shows the anticipated deployment of Group Building privately owned sections and houses (Figure 2).

Figure 2. Plan of State Housing in Aranui/Wainoni circa 1963 showing private (blue) and public (red) housing areas



Source: Archives New Zealand, Christchurch, Ref: R19759509 CAHM CH 195 Box 192.

Again, there is no accompanying correspondence to explain the planning methodology or reasoning for the distribution of private (shown as blue on the plan) rather and public housing (shown in red) but some principles can be inferred such as the desirability of clustering like with like rather than using a checkerboard approach and ensuring that like faced like on street frontages where possible. It is evident that the housing nearest the park areas (shown in green) has been set out as public housing from which it can be deduced that a compensating social amenity proximity advantage has been included for those who live as state rental tenants rather than private owners. Although it is difficult to discern in the image shown it is also worth noting that three sections are marked in dark red (purple wash here denotes church or parish land) are designated for "Maori Affairs", which at this time meant special housing for Maori, Maori War Veterans in particular being given priority. As noted earlier, the expectation at the time was that "ordinary" New Zealand Europeans or Pakeha of modest means would comprise the overwhelming majority of residents.

At this level of detail the broad assumptions about social sustainability in terms of equity and fairness for those that could own versus those that could afford only to rent would probably not have caused great discomfort. Sitting residents closest to the development whose locations are shown as blanks between main roads and blue and red areas in Figure 2 would have been reassured by the sense that the potential for a "normal" suburban development existed in the overall scheme, especially if rent-to-own provisions, favored by the National Party Government at the time, were actively pursued.

Outwardly, this was an aspirational blue-collar suburb. The devil, however, is in

51

52

the detail of the areas marked in red on the plan as these were the areas where multi-units or duplexes could be situated. From the outset these were contentious. The Christchurch City Council actively discouraged any non-detached housing beyond semi-detached dwellings in its own planning rules and this led to many exchanges between central and local government between during 1956 and 1957 as plans firmed up in Aranui/Wainoni for the inclusion of multi-units. There was also resistance from existing private property owning residents living near to intended multi-unit or two-storey sites. They petitioned against their erection on the grounds that such designs would only ever be used for renting purposes and would never integrate into the neighborhood. This is a critical step to re-think and re-write in terms of social sustainability. As previously discussed, and as Baker demonstrates in his local history narrative, social sustainability and social capital in Aranui/Wainoni was at that time defined by localized bonding and social activity. It was low-density living underpinned by the operations by the private market where families tended to stay in place long enough to become local names and "identities".

This pre-existing pattern of dispersed single family homes, farms and shacks presented a challenge for government planners. They were obliged by government policy to depose standard designs, including multi-units and duplexes, throughout any development, avoiding, where possible, the repetition of too many standard designs side-by-side. Figure 3 shows a detail from the as-built services plans for streets near the core of the Aranui/Wainoni development. Many of the rectangular and oblong shapes denote simplified house plan layouts taken from head office plan books. Although it is difficult to discern numbers and codes in the section reproduced here, each house has a distinct design code and they vary along consecutive addresses. Thus, the detached houses on sections 330 to 333 are different from one another.

The multi-unit locations show a different planning approach insofar as they tend to be repeated in clusters. Adjoining sections 188, 191 and 193 show identical duplex designs. Similarly, sections 327-329 use a repeated typology. It is also clear that this particular part of Aranui/Wainoni has been designated a joined-up multi-unit precinct. Although there is no official explanation for this approach it reflects a likely compromise in social sustainability considerations. By grouping many multi-units together in the state rental section of the suburb planners protect the interests of private owners already living on the periphery and those about to enter via the Group Building scheme (the earmarked land is shown as 'Trans to L & S Dept for G. B.' in Figure 3). Conversely, state rental tenants, arguably would have had the comfort of being amongst people of the same socio-economic standing.

There was also some reinforcement of a compensatory philosophy reflected in the distribution of red (renting) and blue (owning) in Figure 2. Renters were located closer to the shops and the park where possible and those who could not afford or did not qualify for single family homes were still given prime locations near the main facilities. There is, however, a further, seemingly revealing pattern in the layout shown in Figure 3. The multi-unit structures are situation at intersections. This is repeated throughout the overall layout and most 'T' intersections are characterized by multi-unit siting. Thus the busy street corners seem to be the place to put the least desirable housing.

Figure 3. Detail from Wainoni Block Plan State House Construction showing services and house plans

54



Source: Archives New Zealand, Christchurch, Ref: R19758681 CAHM CH 195 Box 36.

Use of the word "desirable" may seem loaded since it might be assumed that whether detached or connected government build specifications would have been exactly the same. This was not the case. Along with the new single-unit designs put forward, as mentioned earlier, by Wilson and Hammond, the post-war multi-unit or duplex designs were as much exercises in cost-cutting as they were moves to reflect modern tastes and lifestyles. If the Wilson and Hammond designs were never particularly popular in later years, the multi-units and duplexes were disliked from the start by tenants and over a fifty year period they came to be reviled by residents in Aranoni/Wainoni. They featured, and continue to feature, disproportionately in house fire statistics. When the 'Aranui Community Renewal Project' was initiated in 2001 as a combined central government Housing New Zealand Department and Christchurch City Council intervention the duplexes shown on Portsmouth Street as numbers 188, 191 and 193 in Figure 3 were the first to go, their demolition in 2004 prompting a street party event attended by locals and dignitaries (Baker 2007: 241).

The Canterbury Earthquakes of 2010-2012 caused significant damage to the remaining Housing New Zealand rental stock in Aranui/Wainoni. Although many of the multi-units were deemed repairable from a technical point of view both the poor original design and construction, even with several cosmetic and structural retrofits in many cases, along with overall community antipathy at their presence from the earliest days of the development, made it almost inevitable that they would be erased from the suburb. Figure 4 shows a four-unit rental unit on the corner of Hampshire Street and Portsmouth Street taken in 2012 (marked as section 296 in the plan detail shown in Figure 3).

Figure 4. State Housing Multi-units on Hampshire Street awaiting demolition April 2012



Source: author.

55

All units had been abandoned or cleared of tenants during 2011, after the most damaging aftershock of February 22, 2011. This structure was demolished in 2014 and new multi-units, arranged as townhouse clusters in several locations across Aranui/Wainoni, were under construction in during 2015 and 2016 (Figure 5).

Figure 5. Hampshire Street post-earthquake replacement multi-units reconfigured in townhouse style under construction March 2016



Source: author.

56

These new designs and concentrations of dwellings have proved to be almost as controversial as the units they replaced. In November 2014 a newspaper article appeared with headline "Aranui project a 'ghetto' in the making." The article was sparked by the announcement by Housing New Zealand that was intending once again to build several two-storeyed homes with communal entrances. The Principal of Aranui Primary School was quoted as saying "the suburb was already home to

15 of 20

20/10/2016 12:34 p.m.

60

some double-storey, adjoining state houses, built in the 1950s and 1960s and they were 'not popular buildings'" (Pearson 2014: 3). Intensive local lobbying led to minor revisions by Housing New Zealand but there has been a pendulum swing back towards aggregating land parcels and concentrating occupancy, albeit now in townhouse rather than duplex form.

Conclusions: Social Sustainability in Aranui/Wainoni

If one asks, Has Aranui/Wainoni been sustained over the past sixty-five years?, the simple answer is "Yes". The area has a challenging physical environment characterized by sandy soils, stiff winds, and damaging liquefaction during earthquake events. Yet it was rapidly colonized after the Second World War, and that colonization has largely endured. The earthquakes of 2010-2012 led to depopulation as renters fled or were moved out by agencies and others relocated where private insurance settlements for earthquake damage to their homes permitted them to cash up and buy elsewhere. But that is seen as a temporary loss. Housing New Zealand has committed to rebuilding lost housing stock and the population is expected to return eventually to between 4,600 and 4,800 people.

The sustainment of social cohesion, social capital and social sustainability is another matter. Government land and housing planners, engineers and architects of the 1950s and 1960s in New Zealand were not sociologists. There is no evidence that Social Impact Assessments or community surveys were carried out prior to implementation of the Aranui/Wainoni project. The imperative was to build houses rather than community. Although light industry and manufacturing activities in the area grew during the post-war period, and this encouraged unskilled workers, particularly Maori and Pasifika people into the area in later decades, the removal of foreign tariffs in the 1980s saw many of these industries fold leaving high unemployment. By the 1990s it had become a severely impoverished suburb. Baker's local history notwithstanding, social ties in Aranui/Wainoni have long been regarded as weak by outsiders.

It may appear to many critics that people here have coped rather than thrived in terms of theories of community resilience. Indeed, by national standards it has been a notorious suburb. The main shopping center, built originally for 20 operators, has housed only a handful of small businesses over the past three decades. Vandalism, robberies and graffiti drove most proprietors out years ago. Social service agencies have taken over many of the shops sites while others have stayed boarded up or un-let. In all kinds of social and economic metrics Aranui/Wainoni has scored and continues to score at the bottom of rankings; it is still the poorest suburb in Christchurch. Its notoriety was heightened nationally during 2008 and 2009 when a savage rape and double-murder was uncovered in one of the former state rental units on the main thoroughfare Hampshire Street.

This is not to say that social capital in Aranui/Wainoni never existed or was extinguished by the state housing project. However, major shifts in ethnicity and standard of living took place over fifty years and this was largely unplanned. In the 1990s and 200s prior to the earthquakes, and underneath a veneer of rural English street nomenclature, Maori and Pasifika populations grew and consolidated around church and cultural institutions. According to 2006 census figures, of the normally resident population of 4670 some 936 were Maori and 795 were Pacifica Island Polynesian. An average suburb in Christchurch in 2006 usually comprised two rather than twenty per cent Maori for the sake of comparison. In terms of age structure, if nothing else, the suburb was became younger but opportunities for employment and higher education in the area remained limited. The heyday of light

62

industry had been the 1960s and 1970s. Only sports clubs and churches provided routine internal social cohesion. Maori and Pasifika representation at local government political level was non-existent. Local bonding activity remained even if the social reach of "bridging" into other communities or "linking" to political institutions was limited in the 1980s and 1990s.

This changed in 2001 when a combined bonding, bridging and linking institution was created in tandem with the aforementioned Aranui Community Renewal Scheme. Aranui Community Trust Incorporated Society (ACTIS) was established in 2001 by central and local government to act as a new community organization. Its functions included seeking feedback on community preferences for new housing, creating a drop-in hub for social services in the area (ACTIS now owns several of the shops in the main shopping center), running community events and festivals such as "Aranui Affirm," which has been held annually in the main park since 2002, and taking a lead role in reducing family violence in the area through targeted assistance and awareness campaigns.

Perhaps most importantly, ACTIS has actively carried out consultative needs analyses and resident surveys to find out what people like and dislike in the area and priorities for redevelopment and investment. For many inhabitants being surveyed as a permanent resident, other than for census purposes, was the first time that they have been treated as someone whose ideas matter. Trust members and staff tend to be drawn from the local community which helps with bonding and bridging work and there are local politicians on the Trust Board which acts as a linking mechanism upwards through local and central government. The potential political risk of using linking social capital in this way is offset by the sponsorship and support agreements in place with more than twelve agencies.

The earthquakes of 2010-2012 also showed that self-organizing community resilience was present. It took days for emergency services to be alerted and arrive in Aranui/Wainoni. Despite stigma about the area's reputation media coverage tended to focus on stories of real need but that coverage also relayed stories of self-help and community resilience as the local primary school and ACTIS offices became hubs for direct action for example (Yanicki 2013). National and international media attention on deprivation and determination during the earthquakes has helped to make Aranui/Wainoni an object of philanthropy and reform that would not otherwise have been the case. Over the past five years, and assisted by the intermediating role of ACTIS and a more sympathetic local council, projects have been approved and building commenced for the following: a new local library; an area schools super-campus which will merge five schools into one and provide special education services for high school students; a new community hall and sports center; new council social housing, and; the provision of more than seventy-five new Housing New Zealand rental properties to replace those unfit for purpose along with the repair of a further 460 units. Arguably, the future of Aranui/Wainoni looks brighter than it has for the past sixty-five years and it now shows signs of adaptive capacity in the community resilience sense. However, as the recent determination by central government to introduce high-density housing shows, it is still poised precariously as a would-be ordinary New Zealand suburb in search of quiet normality.

Bibliography

Aldrich DP, Meyer MA. 2015. Social capital and community resilience. *American Behavioral Scientist* 59: 254-269.

DOI: 10.1177/0002764214550299

Babaei H, Ahmad N, Gill S. 2012. Bonding, bridging and linking social capital and empowerment among squatter settlements in Tehran, Iran. *World Applied Sciences Journal* 17: 119-126.

Baker TD. 2004. Professor Bickerton's Wainoni. Christchurch, NZ, T. D. Baker.

Baker TD. 2007. Aranui & Wainoni History: Christchurch, New Zealand. Christchurch, T. D. Baker.

Boggs C. 2001. Social capital and political fantasy: Robert Putnam's bowling alone. *Theory and Society* 30: 281-297.

Boyce SA. 2010. Only the Houses Remain: The Demise of the State Housing Scheme in New Zealand. Paraparaumu Beach, Wayside Press.

Boyd F. 2011. The evolution of a state-funded subdivision — A case study: Aranui and Wainoni. Lincoln, Department of Environmental Management, Lincoln University. Master of Environmental Policy dissertation.

Bramley G, Dempsey N, Power, S, Brown, C, Watkins, D. 2009. Social sustainability and urban form: Evidence from five British cities. *Environment and Planning A* 41: 2125-42.

Brooks N. 2003. Vulnerability, risk and adaptation: A conceptual framework. Norwich, University of East Anglia *Tyndall Centre Working Paper*.

Cook H. 1936. H. Cook to J. Lee re: land offer for state housing 13 Oct 1936 Land Purchase, Land for Housing, Wainoni H H Cook CAXP 2954 CH150 502 40/84/6/18. Christchurch, Archives New Zealand.

Dempsey N, Bramley, G, Power, S, Brown, C. 2011. The social dimension of sustainable development: Defining urban social sustainability. *Sustainable Development* 19: 289-300.

Duany A, Plater-Zyberk E, Speck, J. 2000. Suburban Nation: The Rise of Sprawl and the Decline of the American Dream. New York, North Point Press.

Edwards B, Foley MW. 1998. Civil society and social capital beyond Putnam. *American Behavioural Scientist* 42: 124-39.

DOI: 10.1177/0002764298042001010

Eriksen S, Brown K, Kelly P. 2005. The dynamics of vulnerability: Locating coping strategies in Kenya and Tanzania. *The Geographical Journal* 171: 287-305.

DOI: 10.1111/j.1475-4959.2005.00174.x

Ferguson G, New Zealand Department of Internal Affairs Historical Branch. 1994. *Building the New Zealand Dream*. Palmerston North, NZ, Dunmore Press.

Foddy W. 1967. The Aranui controversy, 1962-1967. Christchurch, Department of Psychology and Sociology, University of Canterbury. Master of Arts thesis.

Freidrichs C, Freidrichs, Henry J, Unicorn Stencil, Missouri History Museum. 2011. *The Pruitt-Igoe Myth.* Columbia, Unicorn Stencil.

Gans, HJ. 1962. *The Urban Villagers: Group and Class in the Life of Italian-Americans.* New York, Free Press of Glencoe.

Gans, HJ. 1967. The Levittowners: Ways of Life and Politics in a New Suburban Community. London, Allen Lane.

Glasson J, Wood G. 2009. Urban regeneration and impact assessment for social sustainability. *Impact Assessment and Project Appraisal* 27: 283-290.

DOI: 10.3152/146155109X480358

Housing Corporation of New Zealand. 1963. *Housing: Wainoni and Aranui 35-135 1952-1977 (Complaints file) CAHM CH453 Box 106 35/135.* Christchurch, Archives New Zealand.

Jacobs J. 1961. *The Death and Life of great American Cities.* New York, Random House. DOI: 10.1002/9781119084679.ch4

Kensington C. 1939. C. Kensington Commissioner of Crown Lands to R. Hammond Director of Housing Construction July 27 1939 Report on land at Wainoni, Land Purchase, Land for Housing, Wainoni H H Cook CAXP 2954 CH150 502 40/84/6/18. Christchurch, Archives New Zealand.

Kunstler JH. 1993. *The Geography of Nowhere: The Rise and Decline of America's Man-made Landscape.* New York, Simon & Schuster.

Lorenz DF. 2013. The diversity of resilience: contributions from a social science perspective. *Natural Hazards*, 67(1): 7-24.

DOI: 10.1007/s11069-010-9654-y

Magis K. 2010. Community resilience: An indicator of social sustainability. *Society and Natural Resources*, 23: 401-16.

DOI: 10.1080/08941920903305674

McKillop E. 1953. *Memo to Minister of Housing re: National Housing Conference 9 Oct 1953 Housing Construction Department C 341 647 HD1W1353 13 3/1/8/7.* Wellington, Archives New Zealand.

Montgomery R. 2013. The Aranui/Hampshire paradox: planning and the politics of street naming in Christchurch, New Zealand. *Lincoln Planning Review* 5: 27-34.

Montgomery R. 2014. Planning in New Zealand: A practice without a past? *Planning Quarterly* 195: 12-19.

Newman F. 1957. New Type of Flats. Christchurch Press. Undated 1957. Housing Situation Christchurch HD1W2060 6 3/12 C 374 626. Wellington, Archives New Zealand.

Noonan R. 1975. *By Design: A brief History of the Public Works Department Ministry of Works 1870-1970.* Wellington, Ministry of Works and Development.

Pearson A. 2014. Aranui project a 'ghetto' in the making. Christchurch Press, 22 November: 3.

Putnam RD. 2000. Bowling Alone: The Collapse and Revival of American Community. New York, Simon & Schuster.

Putnam RD, Leonardi R, Nanetti R. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, Princeton University Press.

Rogers D, Duraiappah A, Antons D, Munoz P, Bai X, Fragkias M, Gutscher H. 2012. A vision for human well-being: transition to sustainability. *Current Opinion in Environmental Sustainability* 4: 61-73.

Sarnitz A, Ottillinger E. 2004. Ernst Plischke: Modern Architecture for the New World: The Complete Works. Munich and London, Prestel.

Schrader B. 1993. *Planning Happy Families: A History of the Naenae Idea.* Wellington, Victoria University of Wellington.

Schrader B. 1996. A brave new world? Ideal versus reality in Naenae. New Zealand Journal of History 30: 61-79.

Schrader B, Birkinshaw V. 2005. We Call it Home: A History of State Housing in New Zealand. Auckland, Reed Pub.

Smit B, Wandel J. 2006. Adaptation, adaptive capacity and vulnerability. *Global Environmental Change* 16: 282-92.

DOI: 10.1016/j.gloenvcha.2006.03.008

Vallance S, Perkins H, Dixon J. 2011. What is social sustainability? A clarification of concepts. *Geoforum* 42: 342-48.

DOI: 10.1016/j.geoforum.2011.01.002

Watson J, Heathcote County Council. 1989. Along the Hills: A History of the Heathcote Road Board and the Heathcote County Council, 1864-1989. Christchurch, The Council.

Yanicki S. 2013. A Tale of Two Suburbs: Earthquake Recovery and Civil Society in Christchurch. Christchurch, Department of Sociology, University of Canterbury, Master of Arts thesis.

Notes

1 The author would like to thank Suzanne Vallance and Mike MacKay of the Department of Environmental Management at Lincoln University for their assistance in defining the focus of this article.

List of illustrations

Titl	Christchurch
Cred	Source: Archives New Zealand, Christchurch, Ref: R22245204 CAHM CH63 Box 5 Record No. HDC 31191.
UR	http://articulo.revues.org/docannexe/image/2932/img-1.jpg
File	image/jpeg, 600k
Titl	Figure 2. Plan of State Housing in Aranui/Wainoni circa 1963 showing private (blue) and public (red) housing areas
Cred	Source: Archives New Zealand, Christchurch, Ref: R19759509 CAHM CH 195 Box 192.
UR	http://articulo.revues.org/docannexe/image/2932/img-2.jpg
File	image/jpeg, 464k

	Title	Figure 3. Detail from Wainoni Block Plan State House Construction showing services and house plans
Y	Credits	Source: Archives New Zealand, Christchurch, Ref: R19758681 CAHM CH 195 Box 36.
	<u>URL</u>	http://articulo.revues.org/docannexe/image/2932/img-3.jpg
	File	image/jpeg, 468k
	Title	Figure 4. State Housing Multi-units on Hampshire Street awaiting demolition April 2012
	Credits	Source: author.
	<u>URL</u>	http://articulo.revues.org/docannexe/image/2932/img-4.jpg
	File	image/jpeg, 392k
	Title	Figure 5. Hampshire Street post-earthquake replacement multi-units reconfigured in townhouse style under construction March 2016
-	Credits	Source: author.
37 9	<u>URL</u>	http://articulo.revues.org/docannexe/image/2932/img-5.jpg
	File	image/jpeg, 404k

References

Electronic reference

Roy Montgomery, « State Intervention in a Post-War Suburban Public Housing Project in Christchurch, New Zealand », *Articulo - Journal of Urban Research* [Online], 13 | 2016, Online since 21 March 2016, connection on 19 October 2016. URL: http://articulo.revues.org/2932; DOI: 10.4000/articulo.2932

About the author

Roy Montgomery

Roy Montgomery is a Senior Lecturer in Environmental Management at Lincoln University where he teaches into accredited planning programmes. He is particularly interested in planning history including post-war public housing developments. He is carrying out a long-term study of Aranui, a state housing suburb in Christchurch. His other main areas of research are planning for natural hazards, community emergency response planning and grass-roots urbanism. He was a co-founder of Greening the Rubble, a post-earthquake spacemaking initiative in Christchurch. Email: Roy.Montgomery@lincoln.ac.nz

Copyright

Creative Commons 3.0 - by-nc-nd, except for those images whose rights are reserved.