An Inclusive Community **Architecture for Age-Integration**

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An Inclusive Community: Architecture for Age-Integration

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PREFACE

Everyone has thought about what it is like to be old. Even though I am still considered young at 23 years of age, I have had this thought numerous times. In today's age-segregated society growing old is something that is often feared. Numerous products and services have come out that aim to lengthen our perception of being youthful, to help people stay young for as long as possible. The negative stigma of ageing known as "ageism" has also shaped how some people view elderly citizens, and can even influence how elderly citizens view themselves.

I am of both Thai and English descent. Through my bi-cultural upbringing I have experienced a difference in the treatment and attitudes towards elderly. In Thailand, the importance of elders and family is embedded in to the culture. There is a distinct difference between how my English grandparents lived versus the lives of my grandparents in Thailand. In the traditional Thai culture, the grandparents of each family would live with family

during their later years of life. This is how my grandparents have lived their entire lives. Gated retirement villages are also far less common in Thai communities especially in rural parts of the country, like where my family are from. On the contrary, my English grandma lived in a gated aged-care facility until she became ill and passed away,

It was evident that there were two different norms for seniors on both sides of the family. Visiting both of my grandparents and comparing their different home environments sparked a new found interest in this topic, where I was curious to see how their homes impacted their quality of life and social needs.

As the ageing population continues to grow in New Zealand, issues such as social isolation and loneliness become increasingly prevalent in communities. These problems and my past experiences growing up provided the motivation and a foundation for this research portfolio.

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Mum, thank you for being my number one support. Your constant encouragement and faith in me this year (not to mention my whole life) has never gone unnoticed. I am forever grateful for you in my life

ตา วรรณ, ยาย คำ and Nana, I thank you for being the motivation

And a special thank you to Te Ao Kura for always believing in me; I wouldn't have come this far without you

ABSTRACT

Our elderly population is increasing and people are living longer. Healthcare advancements mean that illnesses are more controlled and people do not die as young.

Due to our age-segregated society, the issue of elderly social isolation is at an all-time high. Retirement villages are, for the most part, gated communities, isolated away from the rest of the younger population and wider community. The generation gap between young and older continues to broaden and issues such as elderly neglect, loneliness, financial abuse and other mental-health related problems are becoming more common.

This research finds that many suburban community facilities often neglect the needs of this growing senior demographic. The site at 245 Karori Road, Karori, is

used to test and challenge the norms of current suburban community architecture typologies for social inclusiveness.

The site is tested in three iterative stages led by an interdisciplinary literature review to address this overarching problem of age-segregation in suburban communities. A major focus in this research is to target the suburb's youngest and oldest members to shift negative ageist attitudes through providing spaces for intergenerational interaction.

This research portfolio is a critique of current community architecture typologies such as the community centre and public space, to investigate ways these typologies could be redefined and altered to play a key role in countering the negative effects of age-segregation.

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"I've sat and broke down into tears sometimes. I say to myself, 'Nobody cares. What am I doing here?'"

80 year old Lorna Batchelor (Spink, 2016)

1|. INTRODUCTION

1.1 PROBLEM & PROPOSITION

In New Zealand the number of ageing citizens is increasing. According to Stats NZ, the growth of the 65+ age bracket continues to rise, up 25,000 in the last year (2017). The number of people aged 90+ has also significantly increased, as it is now at 30,000 compared with 20,000 10 years ago. By the late 2020s, the number of people in this age bracket is projected to increase to 40,000 and to 50,000 in the early 2030s (Stats NZ, 2017). This ageing population should not be considered as a problem, per se, but it is how our current suburban communities have been built which is where the issues start to arise.

Typically, New Zealand suburban communities follow an age-segregated model where the needs of this growing senior demographic are neglected. This age-segregation leads to a number of issues in our societies such as: ageist attitudes towards the elderly, increased elderly social isolation from the wider community, and lack of opportunities for intergenerational integration.

The problem is not that communities are lacking senior-focussed facilities, but rather that the design of these facilities do not consider fully the needs of its elderly users. Unfulfillment of these needs can lead to increased feelings of loneliness in elderly citizens. A recent study conducted by the

University of Otago found that "one in five frail elderly New Zealanders are lonely" (Fitzgibbon, 2017) (Fig. 1.1) Related to this problem of loneliness, it is not uncommon for members of the senior population, particularly elderly women, to book doctor's appointments just to have "chit-chat" (Martin, 2017) despite being in good physical health.

Due to their large size, many existing senior housing facilities are located on the outskirts of suburban communities. This can isolate seniors from the rest of the community as their homes are physically segregated from the main community centres. This change from their usual home environments and connections to their communities can contribute to feelings of lost independence and decreased social contact.

To further exacerbate this issue, society has become a lot more techno-centric over recent years. As elderly citizens tend to stick to more traditional activities and means of communication compared to younger people, the ever-growing social divide between the two generations has become increasingly evident. Not only are the two generations physically segregated, but there is a growing mental segregation where both parties are engaging in completely different activities, interests and lifestyles.

Most of these elderly-related issues stem from the lack of age-integrated and socially inclusive accessible public space in suburban communities. This research portfolio aims to challenge current negative attitudes towards ageing and critique existing community-focused architectural typologies to promote age-inclusiveness. A major aim in this research is to create spaces to foster intergenerational social interaction where both young and old citizens can be provided with mutual benefits.

Fig. 1.1

“One in five frail elderly New Zealanders are *lonely*”

University of Otago, 2017 (Fitzgibbon, 2017)

1.2 THE MISSING PIECE

In the Wellington Central Business District, urban public space usually consists of open plazas and squares. The largest and most populated examples of these include: Civic Square, Te Aro Park and Midland Park. It is a common sight for these open public spaces to be filled with people, particular during lunch hours, socialising, eating, resting or simply just people-watching.

The same situation is not as evident in the suburbs. It may be argued that public square or plaza typologies are not so necessary in suburban centres as the majority of the suburban population are not in or around their homes during daylight hours for work. However, not everyone will leave their homes on a

daily basis like working commuters. As shown in Figure 1.2 those who typically stay in or near their suburban homes are very young children and their parents, plus retired senior citizens.

There is lack of age-integrated shared community spaces in Wellington suburban centres. Community social space in the form of a small scale urban public square is a missing piece. This community square could be activated during the day by the youngest and oldest members of the community and become a centre for social events and activities.

This will be a key programme to explore and test in this research portfolio.

HOURS AT HOME DURING WEEKDAYS

Fig. 1.2, People who are likely to be home during the day (in the suburbs)

1.3 POTENTIAL OF SQUARES

Historically, New Zealand's major cities of Wellington, Auckland and Christchurch were built under European influence where public squares and plazas were commonplace. However Wellington does not have very many public "squares" like Europe is known for. Public squares in cities are primarily used as social gathering places where people plan to meet one another, hold events and relax.

Figure 1.3 portrays the city's current existing squares/plazas as found in the Central Business District.

Research into Wellington suburbs (see Fig. 1.4) finds that squares or similar shared public space are not common components of the typical suburban built environment.

Community spaces that share the same purpose as public square typologies are needed as the inner suburbs become denser.

**Fig. 1.3, Existing squares/plazas in the Wellington Context*

□ Existing Square/Plaza

**Fig. 1.4, Potential spaces for community squares in Wellington suburbs*

Commercial Amenities	Area for Potential Community Square
Residential	Cultural Amenities

**Fig. 1.5, Housing by segregation*

1.4 AIMS & OBJECTIVES

Aims:

- To investigate ways architecture can address the issue of the social isolation of elderly through age-segregated facilities
- To facilitate early social interaction between young and old citizens
- To critique the current “community centre” model and test ways for improvement towards a more socially inclusive community that could be implemented in a number of suburbs in Wellington

Objectives:

The principal objectives of this design-led research investigation are to develop design ideas for a community centre/square architectural typology that will:

- Promote the benefits of intergenerational integration and provide opportunities for relationship development
- Create a community architecture that will allow for social inclusiveness for community members of all ages
- Encourage an active and fun life where both young and old can interact and learn from one another, to counter the traditional elderly life style in a retirement home
- Become a new community-focused building model that could be integrated in future communities in New Zealand

1.5 METHODOLOGY & STRUCTURE

This research portfolio begins with a research-led design process to develop an initial concept that meets the objectives set out in the literature review. It then adopts a process of design-led research where ideas are challenged, iterations developed, tested and evaluated. As this portfolio addresses a current social problem prevalent in New Zealand and other Western societies, relevant background and anthropological data was necessary to fully understand and define the problem at hand.

An interdisciplinary literature review examines the role of architectural typologies; ageing in place objectives; the benefits of intergenerational integration; and the significance of designing public spaces as social spaces. From this literature review, a design performance criteria was formed to aid in the analysis of key relevant case studies and to test these objectives within a local and global context. At this point, a suitable site was found to test the design principles as extracted from the literature review.

Following this analysis and its findings, an iterative design process is used in order to test ideas on a chosen site to develop a successful design solution. A

range of design tools such as massing studies, digital model making, and hand drawings are key design testing methods used in this process. This iterative design process is then broken up into three different design phases.

Design Phase One involved the initial design proposition, the background research and the preliminary conceptual design. Design Phase Two involved developing the design to a more detailed scale, using the iterative design approach as formed from initial background research, literature reviews and design methods. Design Phase Three involved developing the final, detailed design response to the research question, aims and objectives, site conditions, and programme requirements. Each design phase also involved ongoing self-evaluated tests, comparisons, and reflections on strengths and weaknesses. Design Phase One and Two each ended with a design review presented in front of architectural academics and practicing architects. This welcomed ongoing constructive criticism to help further refine design ideas. This eventually led to the presentation of the final design which was examined at the end of Design Phase Three.

Fig. 1.6, Methodology diagram

The following literature review explores various architectural and anthropological theories with ideas for possible design solutions to ameliorate the negative impacts of age segregation in suburban communities. The following subchapters reveal how current researchers suggest **Ageing in Community**, **Intergenerational Integration** and **Sociable Public Spaces** can be implemented as an architectural solution in relation to this research problem.

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Fig. 2.1, Diagram from architectural typology study by Rafael Moneo

2.1 AGEING IN COMMUNITY

Current research reveals that there is a gap in community architectural typologies when it comes to socially inclusive spaces that consider the needs of the elderly. The main issue with senior housing communities is that they are mostly gated institutions that physically segregate their senior residents from the rest of the community, notably the younger population.

Traditional retirement communities require residents to adapt to new ways of living in unfamiliar environments interacting with only people of their age-group.

This transition for new residents can be difficult, from independent living to a state of "liminality", defined as an experience which "involves conflicting emotions, an uncertain identity and a strong sense of disconnectedness" (Barret, Hale, Gauld, 366).

Current community centre and housing typologies disregard the needs of elder citizens and by doing so contribute to issues of ageism towards the elderly. This presents a gap in current existing community architecture, where establishing a new architectural typology should be explored in order to meet the needs of the isolated elderly citizens.

Following the principles of "ageing-in-place" could help to re-integrate the senior population back in to their communities. According to academics Barret, Hale

and Gauld, following an ageing-in-place scheme will provide seniors with a sense of continuity of their living environments, maintain their own independence in the organisation of their daily lives and keep social contact (2011, p.361).

The creation of a new typology aligns with architect Rafael Moneo's critical approach on architectural typology. Moneo claims that architectural typology can be viewed as a "frozen mechanism" that remains constant and without change if there is "stability in a society" (Moneo, 27). As the ageing population continues to grow, issues that come with it like social isolation will also continue to grow, which in this case can be argued as an "instability" in current communities. Moneo also writes that "often, external events - such as new techniques or changes in society - are responsible for impelling (the architect) toward the creation of a new type". Therefore in order to address this instability of a growing ageing population, a new building typology should be explored.

As age-segregation is embedded into New Zealand communities, the only way to explore how to counter the effects of this traditional model is test a new typology against it. This new typology must also consider ageing-in-place principles so the seniors are able to age comfortably without losing touch of their community environment.

**“Old people need old people,
but *they also need the young*,
and young people need contact
with the old”**

Christopher Alexander in
A Pattern Language, 1977

2.2 FOR INTERGENERATIONAL INTEGRATION

Providing spaces for intergenerational interaction could lead to a socially inclusive architectural design outcome that could be implemented in future communities.

In many parts of the world, intergenerational integration is not a new concept. In Japan joint facilities for children and the elderly, also known as "yoro shisetsu" are becoming more and more commonplace. Some university students in the Netherlands are able to live rent-free, providing they volunteer 30 hours a week to spend time with their older neighbours. Hundreds of intergenerational programmes have been introduced internationally however this has not yet been realised in the New Zealand context.

In A Pattern Language, architect and design theorist Christopher Alexander

comments on society's perception of its older citizens: "the fact is that the contemporary society shunts old people away... the old people have no choice but to segregate themselves" (1977, p. 217). He also reflects on the fact in more traditional times, these elder citizens were most respected and "needed". Particularly in regards to family dynamics, the oldest members would often be left with the younger children at home while the parents were out. Alexander also states that due to the change in society's perception of the elderly, they "cannot be integrated socially as in traditional cultures unless they are first integrated physically" (1977, p. 217). Therefore this new community centre typology must aim to physically integrate and provide interaction between the elderly members and the younger community.

"These oldsters, in their wisdom and experience have protected and instructed the little ones, while the children, in turn, have protected as the "eyes, ears, hands, and feet" of their feeble old friends. Care of the young has thus generally provided the aged with a useful occupation and a vivid interest in life during the long dull days of senescence."

(Alexander, p.217)

Various key anthropologists also express similar ideas about how and why young and older people benefit off one another. Haim Hazan, professor of anthropology, claims that elders and children occupy a similar social position. "Both are in social categories for which the common denominator is dependency" (Tang, 4). He also believes that both age groups are "incapable of engaging in relationships beyond their peers and are socially marginal" (Tang, 4). Moreover, Toji Kamata, a Japanese folklorist stated that "the souls of the young and old are merged: the spirits of youth exist in the old, and vice versa" (Tang, 4). Margaret Mead, cultural anthropologist, also believes that in today's modern prefigurative culture, "the elders must learn from children, for children are growing up and discovering a world that elders never knew" (Tang, 6). Therefore it can be established that encouraging intergenerational interaction between young and old community members would provide numerous benefits to both parties.

This idea also relates to those of Bernard Tschumi, in his architectural concepts of Crossprogramming and Disprogramming.

Tschumi writes that "if architecture is both concept and experience, space and use, structure and superficial image... then architecture should cease to separate these categories and instead merge them

into unprecedented combinations of programs and spaces" (Tschumi, 194). The merging of the two different programmes would require the users of the programme to form a functional relationship with one another, which in this case, would provide spaces for intergenerational interaction.

Tschumi defines disprogramming as a strategy "whereby a required spatial configuration of programme A contaminates programme B and B's possible configuration" (2012, p. 195). This "contamination" does not mean that the presence of programme A will ruin programme B, however relates to how the function and configuration of Programme B will be altered that will allow for programme A to also function simultaneously. Combining an aged-care home with a childcare centre means that the two programmes will adapt to a mutual relationship that work around each other. This physical integration of programme will lead to increased social interaction between the young and older community members as they will now be sharing spaces.

As intergenerational integration is a main driver in this new community centre, incorporating senior-focused programme such as an aged-care centre, with a facility aimed for young people, would help to physically integrate the two parties within the same space.

Fig. 2.2, Intergenerational play at Margeret Mahy Playground, Christchurch

**“You don’t just go because
you have to, but for fun too”**

Tracy Metz in
Fun! Landscape and Leisure, 2003

2.3 SOCIABLE PUBLIC SPACE

The community centre as we know it today is predominantly a multipurpose rentable space for people to use if they need to. There is a decline of use of community centres in Wellington and the existing model is predominantly an enclosed space. Redefining the existing community centre with a more inside to outside focus to increase transparency could help it finally be able to live up to its name as a true centre for the community and increase its potential sociability.

This redefined sociable space to be shared by community members has been established to include an elderly-focussed facility next to a space aimed for young people in order to physically integrate the two age groups. However extra programmes should also be incorporated into this new typology for the space to reach a wider range of people.

As urban theorist Jane Jacobs claims, four of the most important urban design principles when designing sociable public spaces are:

1. Mixed use
2. Density
3. Natural Surveillance
4. Permeability

Mixed uses refers to having an abundance of different uses in the same place to help "strengthen the identity of a place and those that live there" (Chantry, 2017). This strengthening of identity also relates to increase feelings of attachment to a place which will encourage people to return

after visiting once (Bradley, 2008). This is relevant in redefining the current community centre typology as it currently lacks a proper identity other than a multipurpose space.

Density is "the close proximity of the mixed uses to one another (to) strengthen the economy of place and allow people to travel less distance for their daily needs" (Chantry, 2017).

Increasing density of programme gives visitors more activity options, where urban theorist Tracy Metz believes that if the visitors enjoy the activity a space the more likely they will return again, which will help to keep the space regularly activated (2002, p.132).

Natural surveillance refers to public spaces being designed near buildings where people are able to look out from their windows and "surveil" the people in the public place, increasing the feelings of safety in the area (Chantry, 2017)

Lastly, permeability in public spaces relates to how easy it is for people to navigate it. This could encourage new visitors to the site, as they are able to see the activity occurring within.

These four design principles could all be considered in the design of a new sociable community centre for all ages. The more suitable mixed programme and activity, along with how safe the centre seems will help to keep the space activated.

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Fig. 2.3, Jan Gehl's five ways to promote contact between people

In William H. Whyte's *The Social Life of Small Urban Spaces* (1980) he focuses on the plaza as a key element of a sociable public space.

What is missing from the current community architecture are these public squares/plazas that help to centre the community.

Public plazas attract a lot of people due to being an open space where people can clearly see the activity occurring in the space. Whyte believes that "people's movements are one of the great spectacles of a plaza" (1980, p. 22) and "what attracts people most, it would appear, is other people" (1980, p. 22). Contemporary architect Jan Gehl's thoughts also align with Whyte's: "people are attracted to people. They gather with and move about with others and seek to place themselves near others" (Gehl, p.23). He also states that "architects and planners can affect the possibilities for meeting, seeing, and hearing other people" (Gehl, p.13).

As in Figure 2.3, Gehl suggests five ways of encouraging interaction between people. These are:

5. No walls
6. Short distances
7. Low speeds
8. One level
9. Face to face orientation (Gehl, 62).

These can all be considered in the design of a new community centre with a shared square typology to encourage more social contact between community members.

What's more, these plazas could become places where Whyte's concept of "triangulation" could take place. This is defined as the "process by which some external stimulus provides linkage between people and prompts strangers to talk to each other" as if they actually knew each other (1980, p.94). "This stimulus could be a physical object or a sight" (1980, p.94) demonstrating how a plaza could increase community sociability which could be key in encouraging intergenerational integration.

To design a sociable public space, consideration must be given to the nine design principles. These principles will help inform the six performance criteria the designs will be tested against in this research portfolio.

PERFORMANCE CRITERIA

Fig. 2.4, Design principles derived from Literature Review for design testing

2.4 SUMMARY & REFLECTION

This literature review has revealed a current gap in community architecture in modern age-segregated suburban communities.

The integration of this anthropological and architectural theory has given insight into how the elderly can be reconnected back into the community in a new way.

It has also allowed for the development of an architectural performance criteria which will act as the foundation for design experimentation in this research portfolio.

As explored in this literature review, this research portfolio aims to:

1. Redefine the community centre typology in order to make it more socially inclusive and age-friendly.
2. Provide spaces that foster intergenerational interaction through the disprogramming of a senior-focussed facility with a child-focussed facility to physically place the users within the same space.
3. Demonstrate and implement architectural design strategies that focus on increasing sociability in the newly redefined public shared space.

The key design principles that will be used to in the design experimentation phase of this research portfolio will include:

- Triangulation
- Density
- Adjacency
- Intergenerational Mixing
- Natural Surveillance
- Permeability

Possible programmatic solutions that have arisen from the literature review include community square/plaza typologies, combining senior housing and childcare facilities and various activity-driven programme that can cater to all ages.

In order to address the problem of age-segregation in communities, a new community typology will need to be explored as socially inclusive models to do not currently exist.

The literature review revealed key architectural strategies that could be implemented into the design of an age-inclusive community centre typology to encourage sociability and intergenerational interaction. The following case studies were chosen as they illustrate successful design for social-inclusion.

- Kotoen (Japan)
- Ku.Be House (Denmark)
- Piazza Rose (Italy)
- Churchill Intergenerational Hub (Australia)
- The Water Square Bentheplein (The Netherlands)

METHOD OF ANALYSIS

The strengths and weaknesses of each case study have been identified in relation to catering to the needs of the elderly as well as for social inclusion and the six performance criteria:

- Triangulation
- Density
- Adjacency
- Intergenerational Mixing
- Natural Surveillance
- Permeability

The evaluation of these projects reveal strategies that could be considered in the design experimentation.

Fig. 3.1, Intergenerational interaction at Kotoen

3.1 KOTOEN

DESCRIPTION

Kotoen is a centre for the young and old. It includes an elderly nursing home, an old-age home, a children's nursery and a home care service centre for local elderly, all in one complex. This multipurpose complex is known to be Japan's first age integrated facility completed in 1997. However, the building first opened as a "yo-ro-in" facility, meaning a "support house for the aged" (Thang, 2001). In 1970, the idea to build a children's nursery next to the elderly support centre was introduced. This was no easy feat as authorities were hesitant to the idea of integrating the two complete different programmes. However, in 1987 the new integrated facility was complete (Thang, 2001). Its target users are children aged 1-6 years and elderly with the average age of 80 years (Thang, 2001).

"How can the architecture of public centres reconnect age-segregated communities for social inclusiveness?"

Kotoen directly promotes intergenerational integration in its cross-programming of a children's nursery and elderly home. The facility brings together two age-segregated care models to integrate the two age groups who are otherwise isolated from each other. This concept of bringing two age-segregated programmes together could be explored in this research portfolio, as the social benefits by doing so have proven to be successful in this case study.

Fig. 3.2 Programmatic diagram of Kotoen

Strengths:

- Unique building programme which encourages intergenerational interaction
- Children begin to understand the elderly at a young age through interaction
- Elderly with no grandchildren can still be “grandparents” at this facility due to the type of interaction
- Encourages playfulness between young and old members

Weaknesses:

- Design of the building could be explored more to further break the “institutional feel”
- The building is heavily focussed on the practicality of the programme, and there is limited architectural exploration in areas such as facade treatment, for example
- Building permeability could be explored further for better navigation of the spaces.

Conclusion:

The design principles arising from this case study review that could be explored in the design experimentation phase include:

- Integration of two age-group-focussed care models to be combined as one facility
- Introducing shared activity spaces that allow for intergenerational social interaction

PERFORMANCE CRITERIA ANALYSIS

Fig. 3.3, Intergenerational interaction at Kotoen

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Fig. 3.4, One section of the play zone at Ku.Be House

KU.BE HOUSE OF CULTURE & MOVEMENT

ARCHITECTS

MVRDV & ADEPT

SITE LOCATION

Frederiksberg, Copenhagen,
Denmark

YEAR OF COMPLETION

2016

3.2 KU.BE HOUSE

DESCRIPTION

The Ku.Be House of Culture and Movement is a unique 3200 square metre community centre with numerous programme and function spaces. These include: exhibition spaces, a performance hall, a health centre, a library, study areas, a sports hall, a yoga zone, a café (school), a kitchen, play zones, retail spaces and offices, parking, a playground and a public park (MVRDV, 2016). The architects designed the space according to the given brief to design a building complex that would “bring people together and improve the quality of life” (MVRDV, 2016). The completed building is combines “theatre, sport and learning into a space where body and mind are activated to promote a more healthy life for everyone, regardless of age, ability or interest; creating links between people that wouldn’t otherwise connect with each other” (MVRDV, 2016).

“How can the architecture of public centres reconnect age-segregated communities for social inclusiveness?”

The target audience of Ku.Be House are “people of all ages” which encompasses the scope of this research. The aim of the building for social inclusiveness for people of all ages is clear in the building design through density of shared programme. Grouping each function and programme into appropriate zones and using the in-between space as the interactive circulatory “playzone” is a unique approach for social integration.

Fig. 3.5, Sketch representations of various levels and activity spaces

Strengths:

- Unique community centre typology which focuses on physical activity and movement for all ages
- Innovative zoned areas makes for an interesting space for people to interact
- Encourages playfulness
- Building-meets-jungle gym; not directly a playground

Weaknesses:

- Navigation through the building could be confusing to new visitors
- Could be more integrated with the outdoor landscape with more green space

Conclusion:

The design principles arising from this case study review that could be explored in the design experimentation phase include:

- Incorporating programme to foster multi-generational play and exercise
- Using its ideas of theatre, sport and learning to influence programme to cater to people of different ages

PERFORMANCE CRITERIA ANALYSIS

Fig. 3.6, Quiet seated area at Ku.Be House

Fig. 3.7, Play + activity area at Ku.Be House

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Fig. 3.8, View of Piazza Rose from neighbouring building

PIAZZA ROSE (PIAZZA VECCHIA)

ARCHITECTS

Studio Fink

SITE LOCATION

Bergamo, Italy

YEAR OF COMPLETION

2014

3.3 PIAZZA ROSE

DESCRIPTION

Completed in 2014, Piazza Rosa was a 16-day temporary landscape installment located on the site of Piazza Vecchia (Old Square) in Bergamo, Italy. The design of the square was based on themes of well-being and health. The idea of sociability and a strong sense of place in the square was also a large focus. *"When people see friends, meet and greet their neighbours, and feel comfortable interacting with strangers, they tend to feel a stronger sense of place or attachment to their community – and to the place that fosters these types of social activities"* (WLA, 2015). Therefore, consideration of people and their movement and circulation around the square was key. The installation includes various areas to sit, relax and socialise with medicinal plants incorporated into the colourful planter boxes.

"How can the architecture of public centres reconnect age-segregated communities for social inclusiveness?"

The square targets people of all ages. With its main theme of healing and sociability among community members, this case study is a key precedent to this research portfolio as it has similar objectives. The various pockets of activity and use of colour draw people into the square - with approximately 250,000 having visited the installment in just 16 days. Drawing people of all ages together, it becomes a social hub to foster different types of activity and encourage interaction between younger and older people.

Fig. 3.9, Sketches of key elements from design of the square

Strengths:

- Bold colour contrasting with the original older architecture that surrounds it
- The healing garden that caters to people of all ages and gives the space an educational value
- The playful planter boxes, installations and informal seating areas are designed to invite people into the space and encourage social activity
- A feeling of security due to its many users, as well as the natural surveillance that occurs from people using the surrounding buildings
- Everything is designed on one level improving accessibility
- Clear boundaries for visually impaired

Weaknesses:

- As it only was a temporary installation, its benefits were short-lived.
- Way-finding could be confusing with the numerous pathways
- More susceptible to over-crowding due to narrow pathways

Conclusion:

The design principles arising from this case study review that could be explored in the design experimentation phase include:

- The activation of a community square through pockets of mixed use activity for multi-generational use
- Exploring "garden" as a programme which enhances the overall aesthetic of the place while providing educational benefits

PERFORMANCE CRITERIA ANALYSIS

Fig. 3.10 & 3.11, On the path (bottom and right)

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Sourced Figure List for original source.

Fig. 3.12, Entry to Churchill Intergenerational Hub

CHURCHILL INTERGENERATIONAL HUB

ARCHITECTS

Suters Architects

SITE LOCATION

Churchill, Victoria,
Australia

YEAR OF COMPLETION

2009

3.4 CHURCHILL INTERGENERATIONAL HUB

DESCRIPTION

In 2009, Suters Architects completed the Churchill Intergenerational Hub in Churchill, Victoria, Australia. The design of the Hub was heavily influenced by the mismatch of user groups it would be operated by. The various programme within the Hub include: a child care centre, a preschool, a maternal and a child health programme with parenting facilities, a community library and shared office and lab facilities. According to the architects, "literally tying competing needs and uses together into one facility was expressed metaphorically in built form with the building being wrapped by a series of built elements; block work, fascia, roof and fences" (2010).

"How can the architecture of public centres reconnect age-segregated communities for social inclusiveness?"

The hub intends to target various clients and users of different age groups, particularly young children and adults. The mixed use of programme within the building physically integrates these users together in one building which could provide spaces for multi-generational interaction making it a highly sociable place.

Fig. 3.13, Programmatic diagram

Strengths:

- The mixed use programme draw in a number of visitors and users to the site
- Bold colour of the exterior cladding and triangulated formal qualities cause visual interest
- The facility provides spaces for social interaction for its various occupants
- Is in central and well-used location

Weaknesses:

- The facility mainly targets children and adult clients - there are no senior focussed amenities on site.
- Navigating the building could be confusing to unfamiliar people due to the irregular building form

Conclusion:

The design principles arising from this case study review that could be explored in the design experimentation phase include:

- The high density of mixed use programme for different users
- The integration of outdoor space as shared social spaces
- Exploration of using bold colour on parts of the architecture to help distinguish between different programme

PERFORMANCE CRITERIA ANALYSIS

Fig. 3.14 & 3.15, Inside Churchill Intergenerational Hub

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Fig. 3.16, The Water Square from above

THE WATER SQUARE BENTHEMPLEIN

ARCHITECTS

De Urbanisten

SITE LOCATION

Rotterdam,
The Netherlands

YEAR OF COMPLETION

2013

3.5 THE WATER SQUARE BENTHEMPLEIN

DESCRIPTION

This innovative approach on a public square is the first realised of its kind. Located in Rotterdam, the Water Square was designed to express community efforts to enhance environmental quality while at the same time provide a central space of identity to the neighbourhood (De Urbanisten, 2015). The space comprises of three rain water collecting water basins of varying sizes, an open air baptistry located next to neighbouring church and an underground infiltration device to transport water back into ground water. When the basins are dry (which is the majority of the time), they become open recreational spaces. The space is a "feast for active youth", for sport, play and lingering (De Urbanisten, 2015). Scattered around the basins are green areas and informal seating arrangements.

"How can the architecture of public centres reconnect age-segregated communities for social inclusiveness?"

The opportunity for intergenerational interaction and play in the Water Square is evident. A plaza or public square typology could be explored as a key programme to increase the social inclusiveness of a community.

Fig. 3.17, Sketch plan analysing the shape and placement of basins

Strengths:

- Targets people of all ages - whether they are from the surrounding area or outsiders
- The multifunctionality of the space enables it to be used for various activities - the water can be taken away.
- The water collecting basins and infiltration system increases the value of the space
- Each basin emphasizes on a slightly different programme such as a dance floor, sports ground and an amphitheatre.

Weaknesses:

- Some more design interventions could be explored in order to cater to more elderly citizens in particular
- The numerous steps into each basin could be not age-friendly in their design
- Slippery surfaces can be hazardous to users, especially with impaired physical ability

Conclusion:

The design principles arising from this case study review that could be explored in the design experimentation phase include:

- Using water as a main feature in outdoor shared space, with elements to collect rainwater for added purpose
- Exploring and designing outdoor spaces that are multifunctional for regular occupancy of the space

PERFORMANCE CRITERIA ANALYSIS

Fig. 3.18, One of the basins after rainfall

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	KOTOEN	KU.BE HOUSE	PIAZZA ROSE	INTER-GENERATIONAL HUB	WATER SQUARE
TRIANGULATION	Shared play hall used by both young and old	Numerous zones for different activity	Numerous points of intersection		Three different basins - "stages"
DENSITY		15 Different programmes	5 Different programmes	6 Different programmes	6 Different programmes
ADJACENCY	Childcare + senior housing	All zones are linked by a main play zone		All programmes share an intermediate space
INTERGENERATIONAL MIXING	1-6 years old + average 80 years old	Children, adult + senior activity	Children, adult + senior activity	Children + adults only
NATURAL SURVEILLANCE	Seniors can observe childcare from units		Occupants in buildings surrounding the square		Occupants in buildings surrounding the square
PERMEABILITY			Bold + brightly coloured walkways		Ground level circulation and navigation

SUMMARY OF RESULTS

CRITERIA FULFILLED
 CRITERIA UNFULFILLED
 CRITERIA PARTIALLY FULFILLED

Fig. 3.19, Testing of Literature Review design principles against precedent case studies

3.6 SUMMARY & REFLECTION

Analysing these key precedent studies identified architectural design strategies that could be implemented in designing a new age-friendly community centre. It also demonstrated what design methods should be avoided in the design experimentation phase.

Overall, the strengths and weaknesses of each case study along with the performance criteria has established a good foundation of architectural strategies to help inform the design-led process in the next three design phases of this research portfolio.

In summary, the review has revealed the following design strategies that could be considered in the design of a new age-friendly and socially inclusive community centre:

- Integrating two different age-group-focussed programmes close together to function with one another
- Designing shared activity spaces that are able to cater to a wide range of activities
- Exploring the possibilities of a community square in a suburban context
- Integrating a variety of mixed programme, or zones, in close proximity to one another
- Designing for outdoor community spaces as well as indoor activity space

COMMUNITY CENTRE	FACILITIES
	HALL	KITCHEN	SMALL MEETING ROOM (1-30 PPL)	LARGE MEETING ROOM (30+ PPL)	LOUNGE	KIDS PLAYGROUND	TOY LIBRARY
Aro Valley	●	●	●			●	
Churton Park		●	●	●	●		
Mt. Victoria		●		●	●		
Island Bay	●	●	●		●	●	
Johnsonville	●	●	●	●			
Karori	●	●	●	●			●
Kilbirnie	●	●	●				
Linden	●	●	●				
Miramar	●	●					
Newtown	●	●	●				
Newlands	●				●		
Ngā Hau e Whā o Paparāangi	●	●	●				
Ngaio	●	●					●
Northland	●	●	●	●			
Strathmore	●	●	●	●	●		
Tawa	●	●	●	●	●	●	
Thistle Hall	●	●					
Wadestown	●	●	●	●			●

Fig. 4.1, Table of most common facilities in Wellington Community Centres

4.1 PROGRAMME SHIFT

Many New Zealand families grow and are developed in suburban communities. Following a traditional age-segregated model, as the adults transition into post-retirement age (75+) many of them move to aged care homes especially when their physical abilities start to decline.

Figures 4.1 & 4.2 reveals the type of facilities found in Wellington City community centres (Wellington City Council, 2017). Most of these community centres comprise of a

multipurpose function hall, kitchen facilities and various sized meeting/conference rooms. When these spaces are unoccupied they can become a waste of space and hidden from community.

In place of designing a space for only multipurpose use, the aim is to introduce concrete programme into the new community centre. This new programme arrangement will be informed through the case studies and consideration of the literature review.

**Fig. 4.2, Diagram showing most common facilities*

5.1 CHOICE OF SITE

As the capital city of New Zealand, Wellington has been chosen as the most suitable region to test out potential architectural outcomes for social inclusion in suburban communities. Although this research will only focus on one site to test and explore these architectural solutions, the information learnt from this research is intended to also be considered in other suburban communities in the New Zealand context.

The suburb of Karori was chosen after researching the population and age dynamics of various areas within the city. It is also one of the larger suburbs of the city, and is only a short 4 kilometre commute to the Central Business District. This is likely due to Karori's known characteristic of being heavily family-orientated with 71.4% of Karori dwellings being one-family households (.idcommunity, 2017).

WELLINGTON CONTEXT

Fig. 5.2, Context map

5.2 KARORI

In its current population of approximately 15,000 people, 25.5% are people aged 60+ and 16.4% is made up of people aged 0-17. These percentages are higher than that of the entire Wellington population where 20.7% of the city is people aged 60+ and 13.9% are aged 0-17 (.idcommunity, 2017).

**Fig. 5.3, Gender structure of Karori*

**Fig. 5.4, Age structure of Karori*

5.3 UNDERSTANDING THE CONTEXT

Fig. 5.5, Site contextual analysis

**Fig. 5.6, Breakdown of context*

PUBLIC TRANSPORT & ROADS

- Buildings
- Road Network
- 🚌 Bus Stop
- - - Bus Route
- ▭ Site of Interest

YOUNG & ELDERLY AMENITIES

- Young-targeted facilities
- Elderly-targeted facilities
- Road Network
- ▭ Site of Interest

The subject site for testing is at 245 Karori Road, the current location of a Mobil Petrol Station is located. This site is central to the main commercial and cultural strip of the township and is approximately just over 2100 square metres in area.

A variety of community amenities make up the township most notably a shopping complex, two supermarkets, a library and recreation centre. The suburb, even in the commercial area, is also very green with numerous trees and shrubs of various sizes.

This central site was also chosen to make use of the interstitial opportunity spaces the neighbouring buildings could help inform. This is particularly important as this new community centre should reflect and help enrich Karori's identity as a suburb.

Karori Road divides the testing site from the commercial area as shown in Figure 5.6. This road is also one of the main

routes for public transport into and out of the suburb. Most of the commercial amenities are located on the northern side as shown in Figure 5.5W. The subject site is therefore highly accessible due to its locality on the main road, in the heart of township. Its central location also means that it will be walking distance for many of Karori's residents, with numerous pedestrian access ways to the site.

Highlighted also in Figure 5.6 are the various amenities targeted at both Karori's young and old population. There is only one senior-targeted facility within close proximity, which is the Huntleigh Retirement Home. Through analysis of the suburb and demographical information, a key aim of this research portfolio is to integrate more of the suburb's elderly citizens into the central area of the suburb through the redefinition of a community centre on this site.

Fig. 5.7, Existing Site

Close proximity to main public transportation routes

EVENTS CENTRE

NEW MULTI-USE DEVELOPMENT

46 METRES
CHOSEN SITE
46 METRES

Chosen Site: 245 Karori Road

Karori Shopping Complex, includes:
Unichem Pharmacy, New World Supermarket, 123 Mart, Flight Centre

A SITE FOR A CENTRE

Fig. 5.8, Opportunity Spaces in 3D

As highlighted in this 3D diagram of the site, key opportunity spaces that could be explored to form linkages between the new community centre and township are:

- ① The "green strip" on the eastern boundary of the site
 - ② The pedestrian access way on the western boundary
 - ③ The front street edge onto Karori Road that faces the main shopping mall.
 - ④ The internal carpark/access area adjacent to the southern boundary which could provide back access to the new community centre.
- 📍 Entrances to neighbouring facilities

Fig. 5.9, Sketch analysis of roof forms in Karori

The building bulk and form within a 20 metre radius was analysed through photographs and sketch studies. The tallest of buildings did not exceed three storeys - about 10 metres maximum height. The form of the commercial buildings were mostly recti-linear with subtle triangular forms in some of the buildings like the Karori Recreation Centre. This could be a notion to the commonly seen gable rooves of the suburb's residential buildings (Fig. 5.9).

Service Access Area

Fig. 5.10, Photographic site analysis

6.1 CONCEPT DESIGN (PHASE ONE)

This design phase is divided into the following subheadings:

- Play as Programme
- Intergenerational Activity Zones
- Massing the Programme
- Development of Concept
- Performance Criteria Analysis
- May Review Critique
- Reflection

Fig. 6.1, Main target audience of the new community space

Fig. 6.2, Movement study - person running

6.1.1 PLAY AS PROGRAMME

This new community centre aims to provide spaces for physical exercise and play that caters to the needs of seniors.

It is inevitable that as people grow older, their motor skills, coordination and physical abilities will decrease over time. Many elderly, due to their less active lifestyles, speed up this process of decreasing mobility by not exercising as often as they should.

There is a current international trend for Senior Playgrounds. However many are underutilised by their target audience due to poor planning. By targeting younger

users, both age groups can exercise/play alongside one another which will encourage intergenerational interaction.

According to Volkanovski and Marshall (2015), this social interaction can “have the ability to improve moods, which result in reducing anxiety, stress, sadness and have overall health benefits”. With the two major benefits of exercise and social interaction, loneliness in the senior citizens could decrease dramatically. The seniors would then feel more a part of the community and enjoy the company of others more easily.

Fig. 6.3, Existing Senior Playgrounds

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6.1.2 INTERGENERATIONAL ACTIVITY ZONES

The use of zones in Ku.Be House helped to define what activities would occur in each space. From its successes and influence, the following zones will be tested for the new community centre:

- A **food-zone** including a cafe and culinary school
- A **green-zone** with open public space and a community garden
- A **creative-zone** where local school groups can display work and art classes can be held
- A **quiet-zone** where activities such as meetings and study groups can take place by community members.
- An **active-zone** which includes the main circulation route through the community centre, as well as be a space for intergenerational exercise and physical activity. Designing the active-zone to include the main circulation space will encourage users to participate in the various activity stations. It also gives users the opportunity to watch others playing and interact with them, expressing Whyte's "triangulation".

*Fig. 6.4, Zoning concept for new community centre

6.1.3 MASSING THE ZONES

When arranging the numerous zones for the new community centre, consideration of the edge conditions of the site is necessary as it impacts site circulation as well as programme placement.

Legend (Figure 6.5):

(A)	Karori's commercial block	(F)	Toy Library and existing community centre access
(B)	Main route bus stop	(G)	Carparking
(C)	High noise	(H)	Existing pedestrian ramp
(D)	Events Centre location		
(E)	Vehicle access		

Key site edge conditions that need to be addressed in the following Massing Study are:

- The **sun path**. This is to be considered for the implementation of a vertical garden and sunlight access into the new community square.
- The main **access points**. The green circles indicate where people will most likely enter the site, which will help to inform good circulation of the space.
- The **speed of movement** at each boundary. Along Karori Road the speed will be much faster than that of the eastern and western boundaries as they are pedestrian-only.
- The **opportunity spaces**. These are the areas where the community centre could expand to merge into the adjacent neighbouring facilities.

Fig. 6.5, Summary of site conditions

Understanding the neighbouring buildings and spaces, as well as who would be regularly using these spaces will help inform where the zones should be. For example the quiet-zone should be placed away from the northern boundary where it will be most noisiest.

Fig. 6.6, Massing and Circulation to influence **permeability** and building form

This massing study explored various iterations for circulation with the conceptual zones considering the site conditions as established in Figure 6.5 and **PERMEABILITY**. Tests (2) and (3) were selected to be developed further as shown in the following pages.

MASSING

CIRCULATION

FORM

5

good central activity space, but other zones too bulky

6

green space too small

dead back corner?

7

should increase density of programme at front edge.
outdoor space/square hidden.

8

hidden square, lacks clarity of space.

QUIET ZONE

MASSING DEVELOPMENT (2)

Fig. 6.9, Sketch sections

Strengths

- Active zone as the central space for circulation is clear as it connects to other zones in the building
- Setback on northwest corner opens up the site at the main library entrance, increasing permeability of the site
- Food zone with cafe frontage along Karori Road will help draw people to the site and use the community centre

Weaknesses

- The built form of the active zone could obstruct sunlight access into the green zone at the rear (southern boundary) of the site
- Transition spaces between zones seem to be very abrupt at this point. Perhaps the architecture could help ease people through different zones

MASSING DEVELOPMENT (3)

Fig. 6.12, Sketch sections

Strengths

- The placement of the green zone adjacent to the existing pedestrian accessway along the west boundary give users a pleasant open space between the community centre and the Library & Rec. Centre.
- The irregular formal qualities of the building could encourage visitors to the site, as well as help separate their zones and their different uses

Weaknesses

- The food zone may be too large along the northern boundary. New visitors to the space could think that it is just another shopping complex on the main road.
- Potential linkages to the green strip on the eastern boundary could be considered more thoroughly.

Fig. 6.13, Concept section through "active" zone

Fig. 6.14 New community centre built form concept

Fig. 6.15, Movement study - person star-jumping, to influence building form

Fig. 6.16, Visualization of "active" zone, an area for Triangulation and Intergenerational Interaction

PERFORMANCE CRITERIA ANALYSIS

The following criteria were met as follows:

- **Triangulation:** the central space of the senior zone will foster moments of triangulation between its users through the unconventional activity
- **Density:** the numerous zones integrated into this single facility aim to cater to the needs of community members of all ages
- **Adjacency:** the way the zones have been designed to be close to one as part of one centre increases the amount of activity going at one time. This will mean the space will be regularly activated with people, drawing more people in.
- **Intergenerational mixing:** The choice of programme in this centre looks at various activities that both young and old citizens can enjoy and visit the centre regularly for.
- **Natural Surveillance:** Did not fulfill.
- **Permeability:** Through colour and form differences in the interior, users will understand where a new zone starts and one ends. The central space of the active zone with the main circulation route will enable users to navigate the building easy.

6.1.4 MAY REVIEW CRITIQUE

In May 2017, a progress review was held for the work achieved in Design Phase One. This review was presented to architectural academics and professionals, one of whom grew up and currently lives in Karori.

Positives:

- The critics agreed that my choice of a site in Karori was appropriate for the of age-segregation in communities
- I had a good amount of site analysis which helped to express Karori and its character as a Wellington suburb
- Establishing that there was a lack of community social spaces to cater to all members of the community provided a good foundation for exploration of a potential architectural outcome

Things to consider moving forward:

- Some of the programme chosen to exist in this new community centre seems to already exist in Karori. Instead of potentially replicating what is already existing and creating just another facility for these activities, what is actually missing in Karori that can help with the issue of age-segregation?
- A bottom-up approach to design is key in relation to the social issue that I wish to target. The success of this community will rely on how much it can cater to the clientele's needs and the site context.
- Pedestrian circulation and pathways should be big focus to help draw people into the space together. Think about how people currently move around the site. How could this new community centre improve this circulation?

The main driver of this concept was to redefine the community centre with permanent programme to encourage more regular use of the site by all community members - young and old. Using the idea of senior playgrounds and intergenerational play as inspiration, this community centre intends to draw people into the site through its unconventional programme and activities.

6.1.5 REFLECTION

This design phase provided an interesting design exploration for a potential rework of the current Wellington community centre model.

In hindsight, more consideration of the site of Karori was needed. It was realised that there were already existing facilities in the suburb which were the same as the ones proposed in this new centre. Instead of replicating these programmes, the focus for this design should be shifted to design for what Karori was missing in terms of socially inclusive community space.

Steps to be taken in the next design phase include: analysis and reworking of other architectural programme for more age-inclusive interaction,

consideration of linkages to existing surrounding amenities (how can this new community centre help facilitate the existing community programmes towards social inclusiveness?) and consideration of how elderly citizens will be more likely to visit the site, especially if they live far from the main township.

This design showed a creative way of creating a space catering towards the needs of both the young and elderly, with the idea of intergenerational play clearly communicated. However it is evident that there are problems with this initial design proposal, and more programme analysis will be required to identify a more suitable programme for this new community centre.

Fig. 6.17, 3D Visualization of new community centre concept

6.2 DEVELOPED DESIGN (PHASE TWO)

Design Phase Two looks more into designing to improve the response to the physical site conditions and in particular the interstitial spaces between the site boundaries and the adjacent neighbouring buildings to create potential linkages to the rest of the community. It also seeks to improve the building's identity as the centre of Karori.

This design phase is divided into the following sections:

- Programme Refinement
- Re-evaluated Zones
- Zone Sizing
- Site Edge Conditions
- Exploring Zone Layout
- Initial Zone Test
- Sectional Site Analysis
- Reshaping the Form
- Working Drawings

- Performance Criteria Analysis
- August Review Critique
- Reflection

6.2.1 PROGRAMME REFINEMENT

Design Phase One aimed to create an intergenerational play and activity centre to fill in the gap of a missing community space in Karori. This was created to also encourage senior visitors to the new central community space, to increase opportunity for social interaction with younger members of the community.

However this concept needed to be developed further, as the result at the end of Design Phase One was evaluated to not fully fulfil the requirements or address the research problem at hand. Therefore, further consideration of programme and their impact on the existing site conditions will be a key focus in Design Phase Two.

Fig. 6.18, Re-assessment of nearby facilities related to zones

Fig. 6.19, Programme to relate to Karori's historical context

Feedback in the May Review suggested that further consideration of how this new community centre could reflect Karori's character as a Wellington suburb needed development. Figure 6.18 explores four elements to Karori's history and combines them with the zones as established in Design Phase One. The four historical elements include:

- The abundance of native bush present in the suburb which still exists today
- Karori as the first location for a water reservoir in Wellington
- Karori's history as a hunting ground for local Maori pre 19th century
- The Gold Rush in Kaiwharawhara Stream in the late 1860s-70s.

The idea behind this further exploration of programme is to make the the centre more specific to Karori and to reflect its character in the Wellington context.

6.2.2 RE-EVALUATED ZONES

Fig. 6.20, Re-evaluated zones to be developed in Design Phase Two

From re-evaluating what already exists in Karori, as well as what this new community centre aims to achieve, the zones were redefined again as shown in Figure 6.19. The centre simplified to four zones: a food, garden, play and a senior-focussed zone where community members can visit on a daily basis. The focus for this centre is primarily to provide opportunities to watch and interact with younger generations, such as preschool children, their parents and caregivers.

6.2.3 SITE EDGE CONDITIONS

**Fig. 6.21, Further exploration of site edge conditions and neighbouring facilities*

**Fig. 6.22, Elevation study at each site boundary*

CIRCULATION

MASSING (1)

MASSING (2)

STRENGTHS & WEAKNESSES

1

- (S) One central path through space - easy navigation
- (W) Two building blocks could be dominating. Could break down into programme?

2

- (S) Four main circulation paths, easier access to surrounding facilities
- (W) Community Centre may start to seem like four separate buildings

3

- (S) Follows road and existing paths - consistency
- (W) Building mass will block pathways at the rear of the site. Loss of permeability.

4

- (S) Central pathway perpendicular to main road allows for more views into site
- (W) Buildings at rear of site become hidden. Loss of permeability.

5

- (S) Circulation to major surrounding facilities.
- (W) Navigation around site could be confusing with the numerous paths

Fig. 6.23, Further exploration of massing with new zones

6.2.4 EXPLORING ZONING LAYOUT

BASE MASSING DIAGRAM

Fig. 6.24, Chosen massing to develop

Further site analysis with a more thorough exploration of the site boundaries has influenced a change in the massing of the redefined zones. In this sketch experiment, each boundary was analysed as a separate entity with different needs. These different needs helped to define what zones would be most suitable along each boundary.

Additionally, this sketch experiment also considers how people are to move through the building and main access points. This circulation is a key component to this design, particularly

as the existing site is significantly heavy with pedestrian circulation along the northern, southern and western boundaries. This new community centre should aim to improve the current circulation, especially if less physically able citizens such as elderly are to be regular users of the space.

Different massing layouts were tested with the four redefined zones. Figure 6.23 portrays this iterative sketch process which has led to a base massing model, which will be further explored in more detail.

6.2.5 INITIAL ZONING TEST

Fig. 6.25, Sketch plan

Fig. 6.26, Sketch 3D massing

Fig. 6.27, Sketch sections

This second iteration is similar to the first, however the activity and intergenerational play zone is larger. This changes the circulation of the space slightly, and in a way slows the flow of the pedestrian traffic. In hindsight the design of the circulation here is not as successful as the first iteration on the previous page.

The next eight pages explore each zone in more detail in a formal sense. Penetrations through the initial block form for pathways according to the neighbouring buildings are explored, as well as building levels and breaking up the block form to suit the programme.

Fig. 6.28, Physical sketch massing model + elevation

POTENTIAL PROGRAMMES

- ↳ cafe
- ↳ restaurant
- ↳ outdoor eating
- ↳ working school?
- ↳ culinary kitchen + garden

'FOOD' ZONE

North Elevation - Karori Street frontage

Fig. 6.29, 3D "food" zone iterations

As indicated on the elevation as part of Figure 6.28, the entrance points of the shopping centre across the road on the north elevation are the main drivers the building form. This is so the people standing at these entrances are able to see directly into the centre from where they are across the road.

Fig. 6.30, Physical sketch massing model + elevation

POTENTIAL PROGRAMMES

- ↳ Green Immersion
- ↳ Relocation of Karori conservatory / comm garden
- ↳ Garden Centre, could sell plants?
- ↳ Tool shed

'GARDEN' ZONE

East Elevation - Green Strip

Fig. 6.31, 3D "garden" zone iterations

The small green strip running along the eastern boundary has informed the location of the garden zone in this centre. It makes sense that the community garden can open up onto open green space. Incorporating green space into this new community centre references the nature of Karori's dense native bush. Also, the programme of a garden zone could be popular among senior visitors.

Fig. 6.32, Physical sketch massing model + elevation

POTENTIAL PROGRAMMES

- ↳ climbing "hills"
- ↳ play + exercise equipment
- ↳ Playful & Kinetic installations

↳ water activities

'PLAY' ZONE

South Elevation - Community Centre, 1.

and Arts Centre

Fig. 6.33, 3D "play" zone iterations

The initial concept for this play zone is an outdoor area made up of various blocks that users can climb on top of, sit on, jump off and other similar acts while they are outside. It is also located in the centre of the site, and is visible from anywhere in the community centre. This helps to portray it as the centre-piece of the site. The main circulation pathway also move through it.

Fig. 6.34, Physical sketch massing model + elevation

POTENTIAL PROGRAMMES

- ↳ Quiet reading pods
- ↳ multifunctional spaces
- ↳ exercise, gaming rooms.
- ↳ club meeting rooms.

ELDERLY DAY CENTRE

West Elevation - Library & Rec. Centre

Fig. 6.35, 3D "elderly" zone iterations

The senior zone, also referred to as the elderly day centre is located along the western boundary next to the library and rec. centre entrances. This is because there is opportunity to create direct links to the library in particular, where the seniors will be able to access the library building from the first storey.

Fig. 6.36, 3D combination of final zone iterations

MASSING COMBINED

Strengths

- Shows in depth analysis of site context and neighbouring buildings
- The circulation X-path allows for shortcuts to neighbouring buildings and ease pedestrian flow through the site

Weaknesses

- The complex could be at risk of seeming like four separate buildings
- Due to the way the play zone has been designed, there is no "centre" or social hub for its users
- Each massing form is confusing, could be simplified for better permeability
- There is still not enough view to welcome visitors to the site from Karori Road.

TEST CONCLUSION

Further elevational analysis at each of the site boundaries has enabled testing of zone placement and circulation design. However upon reflection this design route for the community centre could engage even more to the adjacent buildings as well as the wider community. All in all, the elevational analysis informed where each zone could be placed on the site, however further sectional analysis to show changes in topography and building level could lead to a more successful design in terms of responding to the site requirements and limitations.

Therefore the decision at this point is to back-track a little from the current massing design, and look into more sectional analysis which could help inform this design further.

6.2.6 SECTIONAL SITE ANALYSIS

**Fig. 6.37, Taking sections at critical points at boundaries*

SECTION

OPPORTUNITY

The existing pedestrian way has a constant flow of people moving through it along the west boundary. The new community centre design must keep this flow of people moving through the site. This opportunity section demonstrates how an overbridge structure could be developed over it, so the ground level access is to be used the same with additional first floor access to the library. This will help to improve the **permeability** of the site as main circulation paths will become clear. As it is above ground level, the overbridge also allows for **natural surveillance** to occur.

Section B also reflects a portion of the site with varying levels. This includes the ground floor of the site, the raised pedestrian walkway and the patio outside the Karori Library's first floor entrance. Currently the patio is underutilised and is not used by community members to its full potential. This could be partially due to its exposure to the elements in Wellington's climate, so an overbridge structure could also be built here, to connect and shelter the library patio, and activate it with a suitable programme. Developing this will also increase **permeability** and reflect the design principle of **adjacency**, showing its connections with the surrounding building context.

SECTION

OPPORTUNITY

The existing pedestrian way links to the entrance stairs of the Karori Recreation Centre. This may be an opportunity for another accessible pathway to connect onto it, which will improve pedestrian flow into the centre of the site, rather than just running north to south. Doing this reflects Jan Gehl's principle of keeping public space as **"one level"** to help with accessibility and **permeability**.

The internal carpark located at the rear of the site can be utilised by community members visiting this complex. The design and zoning of the community centre should allow for easy access to and from this carparking area.

SECTION

OPPORTUNITY

The existing green park at the eastern boundary could adjoin an outdoor community space or garden area. This will help to make the building less confined, provide a larger outdoor space and reflect the principle of **adjacency**. Connecting the site edges in a way which transitions smoothly with the existing facilities around the site will help provide a stronger **identity** of the centre.

The bulk and form of the new centre should be split and adjusted to allow for building permeability from key points located across the road in front of the shopping mall. As "people attract people", if outsiders were able to see the activity going on in this community centre, the more likely they could become interested and visit at some point. Considering view shafts from those across the road will also improve building **permeability**.

6.2.7 RESHAPING THE FORM

This new concept explores more into how physical connections could be made with the neighbouring facilities around the site. These connections will help the new community centre draw links to the immediate context as well as the wider community.

For this new concept, the majority of the building bulk is built against the northern boundary. This is to help engage visitors into the site as well as provide visual interests for those travelling down and up Karori Road. The zones still include a senior zone, food

zone, and play/activity zone, however, the garden zone has been replaced with a health zone for the purpose of additional programme to cater to senior citizens. In this health zone will include a physiotherapist and exercise studio. The play/activity zone is located at the southern area of the site for the purpose of safety reasons.

Along the northern boundary along Karori Road there is one main pathway down the centre, which leads to the activity/play zone.

**Fig. 6.38, Front visualization from Karori Road pedestrian crossing*

Fig. 6.39, Developed massing exploded diagram

6.2.8 WORKING MASTERPLAN

Fig. 6.40, *Developed masterplan*

Fig. 6.41, Key elements of masterplan

ACCESS POINTS

EDGE LINKAGES

VEHICLE ACCESS

WHEELCHAIR ACCESSIBLE

6.2.9 WORKING FLOOR PLANS

The ground floor (Fig. 6.42) of this concept targets a wide range of community members through its **dense**, mixed-use programme. As it is the most publically accessible level of the community centre, the circulation of the site was designed to allow access to all edges of the site with ease (**permeability**). A range of mixed-age programme has been included to encourage **intergenerational mixing**. Each part of the main circulation is also wheelchair accessible, which includes getting to the first floor. The design of the outdoor spaces is largely focussed on play and exercise for people of all ages, reflecting **triangulation**.

6.2.9 WORKING FLOOR PLANS

The first and second floors (Fig. 6.43 & 6.44) contain the senior focussed zone and its connections to the Karori Library. Off of this senior-focussed zone are reading rooms, a cooking school and meditation room. Up a floor, (Fig 6.44) is a communal roof garden. This mixed-use programme aims to encourage **intergenerational mixing** and **natural surveillance** over the ground floor activity - particularly the outdoor spaces - below.

6.2.10 WORKING SECTIONS

Fig. 6.45, Section through elderly zone and ground level

Fig. 6.46, Section through elderly zone and ground level

Fig. 6.47, Section through outdoor play zone

Fig. 6.48, Section through pedestrian access-way

PERFORMANCE CRITERIA ANALYSIS

The following criteria were met as follows:

- **Triangulation:** the active/play zone located at the back of the building could be a space to foster intergeneration through play.
- **Density:** the centre allows for a variety of activity to take place for people of all ages. This will help draw more people to the site.
- **Adjacency:** Did not fulfill.
- **Natural Surveillance:** the senior zone allows for those on the first floor to observe the activity on the ground floor.
- **(½) Intergenerational m-ixing:** Although the centre has a combination of programme that aims to target people of different age groups, the massing of them is still quite segregated, especially if there is now an "elderly day centre" zone. What if the seniors do not leave this zone? No intergenerational interaction occurs.
- **(½) Permeability:** The choice of using polycarbonate panels for the facade allows for some permeability into the site, however the massing is too large and bulk on the street frontage which leaves the building feel unwelcoming.

**Fig. 6.49, Existing site*

**Fig. 6.50, Proposed developed community centre*

6.2.11 AUGUST REVIEW CRITIQUE

In August 2017, another progress review was held for the work achieved in Design Phase Two. This presentation was held in front of three architectural academics and professionals who gave constructive criticism to help with design and concept development. One of my critics was the same as Design Phase One therefore it was interesting to see how he thought I had progressed.

Positives:

- The critics found the presentation clear and coherent
- The programme analysis I had undergone for NZ community centres was well-received as it provided a valuable grounds for the issue I was addressing
- My self-reflection and critique during my sketch experiments and design iterations were clear to understand

Things to consider moving forward:

- The ground floor could be explored to hold even more programme, rather than have two blocks holding one programme each. The more diverse the more likely people will stop and look into the site
- The edges of the centre are still not activated enough. The eastern, southern and western boundary are missing potential connections to their adjacent buildings
- Having the elderly located on the upper level still segregates them, even though their area is amongst other zones. Having their own separate zone will mean that sometimes they may not even leave it - plus no younger people will have no reason to access it
- Focus more on the idea of integration - right now the zones just show different programme close to one another. They need to link to one another better, or perhaps be merged together, by blurring edges between spaces

6.2.12 REFLECTION

In seeking the most appropriate programme arrangement this design iteration almost lost sight of the issue of age-segregation and elderly social isolation that I was trying to address. In hindsight, the addition of a senior-only zone was another form of age-segregation which is the completely counters the research question.

The exploration of zones was helpful in trying to redefine the programme of the community centre however the zones need to complement one another and work as a cohesive whole, rather than individual blocks.

The central core or hub space, to provide a main space for its users to

come together is underdeveloped. The design has included a selection of programmes under the same roof that do not necessarily link to one another. Further explorations of this central space will need to take place. The next step is to explore open square/plaza typologies that could be incorporated to form a central space for community members. This will also help to encourage more people to visit the space.

Overall this Design Phase focussed too much on the buildings around a potential community space - the positive space. The next Phase will focus more on using the negative space between the buildings to form the shared community "square".

**Fig. 6.51, Proposed developed community centre from pedestrian crossing*

6.3 FINAL DESIGN (PHASE THREE)

It was established that the architectural outcomes were not quite addressing the issues of elderly social isolation to their fullest potential. Further redefinition of programme for this new community centre was therefore necessary to rethink the arrangement of age-integrated activities, as the inclusion of a “senior zone” as in the previous design phase had risks of encouraging segregation within the centre. With this in mind, greater attention has been devoted to the outdoor shared spaces in between.

As this project aims to target community members of all ages, the incorporation of a modified public square typology was deemed essential into this new centre.

This final design phase commences with further programme analysis of public squares and their potential implementation in cities like Wellington.

6.3.1 FINAL PROGRAMME

**Fig. 6.52, Final developed programme*

The refined programme for this new community architectural typology is as follows:

- **Age-in-place housing:** 13 double bedroom units are designed for senior citizens with varying needs. The aim is to physically integrate senior citizens into the community by placing their homes in the centre amongst all the action. Expansion can occur vertically if demand for apartments increases.
Total area = 890 sqm
- **Health food market:** A food plaza with 5 kiosks that sell food for health-conscious individuals. The kiosks will also use produce from the communal garden along the eastern boundary of the site. Close by is a natural health store (53 sqm) to sell a variety of vitamins and supplements.
Area = 210 sqm
- **Culinary school:** This space aims to hold various programmes where senior citizens can either go to learn to cook or go to teach younger people their cooking expertise.
Total area = 73 sqm
- **Physical wellness facility:** This space includes a physiotherapist and massage therapist as well as a yoga and exercise studio. It caters more towards older community members, to encourage an healthy active lifestyle.
Total area = 350 sqm
- **Community Square:** This includes a multipurpose outdoor space with gradual tiered seating. A screen has also been designed in this space so activities such as outdoor movie screenings can take place. There is also a smaller water square, which acts a feature and play area for its visitors.
Total area = 511 sqm
- **Childcare facility:** This is integrated into the centre to allow for exposure to intergenerational interaction and activity. Everyday the live-in senior residents will be near younger community members.
Total area = 240 sqm
- **Communal garden:** On the exterior eastern wall of the complex is a vertical communal garden. It is anticipated that professional gardeners as well as community members can become minders of the garden as a shared hobby.
Total area = 60 sqm

6.3.2 ENCLOSING THE SQUARE

*Fig. 6.53, Iterative study of enclosing the community square

1.

Open on 3 sides

COMMENTS

- Too open
- Adding bulk along the streetfront encloses better with setback from the road

2.

Open on 2 sides

- Better permeability and views into the square
- North-east corner should be lower in height for better sun access

3.

Open on one side

- Orientation seems to segregate the centre from the neighbouring facilities
- Street edge building could be raised for better permeability

4.

Open street front

- Square frontage on street edge could cause safety issues
- East and west boundaries block form segregate from adjacent facilities.
- Shortening the east and west form opens up the square more

5.

Open thoroughfare

- Increased permeability through site from the north and southern boundaries
- Not enough built form for all programme

This iterative study explores various massing types that consider the site conditions as in Figure 6.53. The main bulk of the buildings (the figurative “walls” of the square) are set back against the southern boundary after establishing main access points, safety implications from Karori Road, and a possible location for a square. Each of the initial massing types have been iterated to see how else they can be evolved.

6.3.3 RE-EVALUATING CIRCULATION

**Fig. 6.54, Iterative study re-evaluating circulation*

1.

Open on 3 sides

COMMENTS

- Too exposed, circulation is undefined
- Additional front building will improve square and pathways

2.

Open on 2 sides

- Corner to corner circulation
- Closing the north-east corner will help direct pedestrian flow

3.

Open on one side

- Circulation will need penetration in west boundary for permeability otherwise too enclosed

4.

Open street front

- Built form set back at rear boundary provides a accessible square space
- Built form should not run for the entire length of west and east boundaries

5.

Open thoroughfare

- Thoroughfare provides for good pedestrian traffic flow, however enclosed "square" form can be lost

The initial massing types from Fig. 6.53 and their iterations have been tested in terms of circulation. The iterations outlined in red are the most successful considering how easily users will be able to move through the site and to surrounding buildings.

CONTEXT

6.3.4 POSITIONING THE SQUARE

**Fig. 6.55, Iterative study positioning the square*

1.

Open on 3 sides

COMMENTS

- Square becomes more of just an open space/park without more "walls" for enclosure

2.

Open on 2 sides

- Third iteration is best as the enclosure is not lost as with full exposure to street front

3.

Open on one side

- Too enclosed, the square is now hidden, decreasing the permeability of the space

4.

Open street front

- Better enclosure of square without losing permeability, however now feels too segregated from neighbouring amenities on the east, south and west boundaries
- Will need penetrations to access these boundaries

5.

Open thoroughfare

- Setback of square is necessary to provide safety measures for activity in the square

These iterations are now tested to see which are the most successful after adding the public square typology. Those outlined in red are the most successful in location of the square as well as considerations to circulation on-site as well as off-site.

CONTEXT

6.3.5 SPEED INFLUENCING FORM

**Fig. 6.56, Iterative study of speed influencing building form*

1.

2.

3.

4.

SLOWER AREAS

EXISTING SITE

HIGH
SPEED
AREA

The highlighted four iterations from 6.3.4 have been combined to show the square and the proposed circulation. They have then been further iterated twice each, where the speed of users at each boundary has been considered in breaking up the building mass.

The design rationale is as follows:

The higher the speed along the boundary, the larger the building form, the less detail and less programme in the building. In contrary, the slower the flow of movement, the more density of programme and building detail.

6.3.6 SELECTED BASE SKETCH MODEL

*Fig. 6.57, Bubble diagram of developed programme

*Fig. 6.58, Finalised building form in sketch plan

*Fig. 6.59, Opportunity space consideration

*Fig. 6.60, Finalised building form in 3D sketch

6.3.7 CONCEPT DEVELOPMENT

*Fig. 6.61, Developing the building form (1)

*Fig. 6.62, Developing the building form (2)

*Fig. 6.63, Sections derived from developing building form

SHAPING THE SQUARE

Fig. 6.64, Exploring the formal qualities of the "square"

The shape of the outdoor square + amphitheatre will influence the flow of pedestrian traffic through the site. Chamfering the corners will help to create a more preferable organic shaped path, rather walking around perpendicular corners. As potentially less physically able people are a major focus group, the accessibility of the pedestrian circulation is important to get right.

COMBINE

6.3.8 REFINING THE BUILT FORM

*Fig. 6.65, Experimenting with roof form and building detail

- The roof form is influenced by the existing roof forms of Karori's built environment (as analysed in Figure 5.9)
- The roof height is taller at the southern boundary to maximise daylight access into the square in the centre
- Roof form reflects the typical character in Karori, however reads as three separate buildings rather than a single building complex
- Further developments for the roof should be explored as the building lacks the identity as a centre for the community

ROOF FORM TESTING

Fig. 6.66, Exploring the roof form to unite the square

SLOPE DIRECTION TESTS

UNITE

CONNECT

TIMBER TRIANGLE LATTICE

Due to the compartmentalization of the built form, the community centre started to read as three independent buildings rather than a united whole. Design explorations through roof form were undertaken, and a decision to create a physical link between the buildings through roof structure was made. The sloping rooves are reference to the common gable as found in Karori. Moreover, a triangle timber lattice was selected for the structure, further reflecting the triangle as a symbolic part of Karori's identity.

FACADE TESTING

Fig. 6.67, Exploring facade of food corner

The "food corner" is located on the north-east corner of the site. This means that it will be the first part of the community centre visible to people travelling to Karori from the CBD (from the east). The north and east facades should cause visual interest and intrigue, to draw new visitors to the site. The following diagrams test facade variations for a vertical garden panels on the east facade and large windows with views into the food market will be along the north side.

SIDE A

Irregular window sizes and patterning

Canopy/screen to provide sun shelter

Similar forms and symmetry

Uniformity and regular spacing

SIDE B

Fig. 6.68, Exploring facade of residential block

It is important for the residential units to reflect parts of Karori's character. Therefore the facade material will be predominantly constructed using timber and glass. Each unit will have differing facade treatments to provide residents with a sense of identity to their private units.

6.3.9 REFLECTION

Design Phase Three involved back-tracking and rethinking a lot of steps taken in the previous design stages. However, each development in the design process has resulted in positive outcomes in addressing the research question.

Firstly, the decision to redefine the architectural programme by replacing the senior zone with a community square typology has proven to be much more suitable in designing for social inclusiveness. The new square filled the gap of a missing community open social space in Karori. Additionally, the incorporation of age-in-place housing units has increased the likelihood of senior community members visiting and being present in the new space. This will allow for more opportunities for intergenerational interaction.

The iterative process of redefining the form of the community centre while considering the edge conditions proved to be very important in programme configuration. These tests resulted in a well-developed form which considered the best areas for site access, internal circulation and permeability. The rerouting of the existing pedestrian walkway to lead into the community square rather than continue along the west boundary has led to better use of the site, to encourage more people to visit and use the new community space. Moreover, the corner to corner main pedestrian path way provides easy pedestrian flow to the new Events Centre at its rear.

Physically linking the built form through the lattice roof structure has united the new community centre buildings. Due to its enclosing shape, the centre can now be read as a main part of the community.

Although the roof unites the three separate blocks, the physical links to the Karori library on the west and the green strip on the east also unites the building with its surroundings. This idea of linking to surroundings is also reflected in the roof canopy which covers the main entrance to the site on the north-west corner. This corner is significant as it provides the main view shaft into the community square, where people waiting at the adjacent intersection will be able to see into the site and observe any activity.

The entire process that has led to this point in Design Phase Three has been valuable even though some of the design decisions were not the right decisions at the time. Through critically reflecting each design move and referring it back to the main target problem at the end of each phase, helped me to understand what was still missing from the architectural outcome and what could be developed further. The role of design in addressing a current social problem through an architecture has proven to be crucial at every step. As this design takes a bottom-up approach, thinking about the client and how they would use, move through and interact in the new space was integral in making the right design decisions.

7.1 THE NEW COMMUNITY CENTRE

This chapter reveals the final design as explored in the process of Design Phase Three. The following takes the reader on a journey through this refined community centre model, breaking up the complex into three main components:

- The Square
- The Ageing-in-Place Units
- The Spaces For All

(Left) *Fig. 7.1, Final facade design of residential block
(Above) *Fig. 7.2, The final community centre

7.2 THE SQUARE

The community square is designed to be the social hub of the community. Drawing on the multipurpose hall typologies as seen in existing community centres in Wellington, it is an outdoor space which unites the community through various activity. During the weekdays, the setback from the road allows the square to be safe enough to be used as a play area for the children of the child care facility. It can also be used as a place where the senior residents can sit and relax. Any workers near by could also visit the space during their lunch breaks. There are three rows of tiered seating with a gradual slope down to the main grassed area which makes it more accessible to the physically impaired.

During warm evenings, the space could be used as an outdoor cinema for the community or a place to hold social gatherings. All in all, the space is a inviting area surrounded by activity that is aimed for people of all ages. It is an in-between space which allows for its visitors to pass through, relax, and interact within a shared space.

The main aim of the square is that it gives its users a united sense of ownership, that this is one of "their" places they are able to visit and used regularly.

**(Top right) Fig. 7.3, The square by day*

**(Bottom right) Fig. 7.4, The square by evening*

*Fig. 7.5, Community Square Plan

The setback of building on the north-west corner increases the permeability of the square from users on the outside, particularly those at the main vehicle and pedestrian intersection located just north-west of the site. The programme on the ground level includes:

1. The community square
2. The water square
3. The health food market
4. The childcare facility
5. The culinary school
6. The vertical communal garden
7. The physiotherapist
8. The artspace and gallery
9. The health food and supplement store

The ground floor is predominantly made up of public community facilities. The central walkway starting at the north-west corner allows for easy pedestrian flow through to the Karori Events Centre behind the site. It also by-passes the community square in the centre.

There are smaller paths off of the central pathway that lead to the car park at the rear of the site. The existing path along the western boundary has been rerouted towards the square and leads to the entrance of the Recreation Centre (Fig. 7.5).

The main path also passes the fenced outdoor play area as part of the childcare facility. This helps to increase the chances of intergenerational interaction as the senior users use the main path during the day. Moreover, the presence of the water square is provided for intergenerational play and triangulation.

**Fig. 7.6, Section A-A'*

**Fig. 7.7, Inside the square*

FINAL FLOOR PLANS

**Fig. 7.8, Final Floor Plans*

The lowest floor of the ageing-in-place apartments start on the first floor of the complex. All of these 13 apartments are orientated north to maximise daylight access, as well as facing the community square below. They can be accessed via a shared elevated walkway that transitions to a semi-public deck space that leads to entrances to the exercise studio and a quiet activity room which is an extension onto the Karori Library. This walkway eases the residents' access to and from the Library, where going to the ground floor is no longer necessary.

The elevated walkway also acts as a viewing platform where residents who do not wish to be on the ground floor can observe the activity below comfortably.

Upper floor programme include:

1. Ageing-in-place single apartments
2. The exercise studio
3. The quiet activity spaces
4. The elevated walkway

**Fig. 7.9, Section through the square*

7.2 AGEING-IN-PLACE HOUSING

**Fig. 7.10 Residential Block*

On the first to third floors there are a total of 13 age-friendly residential apartments. Being elevated from the ground floor adds an element of privacy for the residents, as they are physically separated from the main activity and occurring on the ground floor. Each apartment has been designed with large windows with views overlooking the community square below. These north-facing windows also maximise sunlight access into their apartments but are for the most part designed to encourage the residents to join in with the activity if they are interested in what they see below.

Although the residents may not always want to join in with the activity below, the point that they are able to see the main community activity from the comfort of their own homes is a drastic change from those living in gated retirement facilities. Having the senior citizens so close to the community centre already changes the entire dynamic of their everyday lives - where they can see what is happening in their communities right in front of them. The physical integration of these senior homes allow for these residents to always feel a part of their communities, even when they are home alone.

**Fig. 7.11 Inside a typical senior unit*

Age-friendly design considerations: Typical One Bedroom Floor Plan

*Fig. 7.12

7.4 SPACES FOR ALL

**Fig. 7.13 Entry points*

This intergenerational community centre aims to cater to people of all ages, with a focus on providing spaces where senior citizens can become regular visitors of. Even elderly citizens who may not live within the complex would be drawn to the site, with its mix of programme and activity. Immersed in the centre of Karori, across the road from the main shopping complex, this centre could be a place where parents could leave their children to play while they finish their errands. As there will always be people around the square, it has a strong sense of security and natural surveillance especially from the residents on the first to third floors.

The complex can also be accessed from various points where circulation through the site always by-passes the community square. This pleasant outdoor space alone, setback from the busy Karori Road provides so many more opportunities than a typical community centre as previously discussed. From weekend food markets, to cooking classes, outdoor movie nights, this community centre aims to be a lot more than a space for the community to use when they want. It aims to redefine what a community is, who they are, and how they interact.

(Top right) **Fig. 7.14 Health food market interior*

(Bottom right) **Fig. 7.15 Vertical garden + market place*

**Fig. 7.16 Exploded 3D model*

FOCUS PERFORMANCE CRITERIA

**Figs. 7.17.1 - 7.17.14 Snapshots*

- Five different health food kiosks for healthy living
- Twelve dining tables and chairs
- Large windows facing Karori Road street front

- Multipurpose artspace where classes can be held and local artists can showcase their work
- Intergenerational art programmes could take place here

- On-site physiotherapist for potential senior clients

- Ground floor access to ageing-in-place housing units is setback at the rear of the site with close proximity to the carparking area

- Health food and supplement store located on-site to cater to senior residents who have to take regular supplements for health

- Childcare facility outdoor area adjacent to main walkway and community square. For increased chances for intergenerational interaction.

- Multi-cooking station space to hold open cooking classes
- Intergenerational programme could include seniors teaching youngsters

- Central open space with low tiered seating and grassed area
- Located off the main pedestrian walkway to increase user count

- Shallow water square with fountains for intergenerational play and interaction

- Senior residents are able to overlook the activity occurring in the square before having to travel there

- Open exercise studio located on the first floor
- Very close proximity to the senior residents to encourage them in regular activity

- Extension to the Karori Library accessed via the first floor elevated walkway
- Seniors do not have to travel to the ground floor to access the Library

- North-facing age-in-place housing units embedded in the "walls" of the square
- Encourages senior activity integrated with younger community population

- The vertical garden located on the east boundary could introduce new intergenerational gardening lessons
- Outdoor picnic area adjacent to the garden
- Produce from the garden to be used in the health food market

8.1 CONCLUSION

**Fig. 8.1 Exterior front visualisation*

The final design meets the performance criteria as follows:

- **Triangulation:** the main space where this could occur is the community square, where people will be using it for different activities and events that could draw people in to interact with one another.
- **Density:** the various programme located within the "walls" of the public square cater to community members of all ages. These vary from being private, public and shared spaces.
- **Human Scale:** The entire design of this complex is based on the human scale through consideration of viewing platforms, view shafts, ease of pedestrian circulation, creating spaces for physical activity and social interaction.
- **Intergenerational mixing:** The numerous programme incorporated into this new community centre model has been chosen to cater to the needs of people of all ages. In particular, the inclusion of senior-friendly apartments under the same roof as a childcare facility means that intermediate spaces have been provided to foster intergenerational interaction.
- **Natural Surveillance:** The permanency of the senior residential units above the community square gives a sense of security and safety to people using the space.
- **Permeability:** The front building is setback at its entry to allow people to see into the site while on the opposite side of Karori Road. Using one main pathway to cut through the site also eases pedestrian navigation.

8.2 REFLECTION

Age-segregation in communities via retirement villages and aged-care facilities has unearthed several problems for the elderly population in New Zealand. Social isolation and loneliness in elderly citizens is one of these age-related problems in our communities, however, the issue itself is often overlooked. The physical segregation of elderly living in these traditional gated institutions broadens the social gap between the young and older citizens. This is especially as there are no current age-friendly facilities that help to reintegrate the seniors back into their pre-retirement communities.

This research portfolio addresses the question of: *How can the architecture of public centres reconnect age-segregated communities for social inclusiveness?*

An interdisciplinary literature review identified performance criteria of triangulation, higher density, adjacency, intergenerational mixing, natural surveillance and permeability. This was formulated to help test architectural design iterations and outcomes for a redefined community centre model to address this growing issue of elderly social isolation.

Precedent case studies of relevant architecture identified and analysed what currently exists to address this problem. A survey of Wellington found that no permanent architectural outcomes existed in a local context which revealed a gap in New Zealand community architecture in catering to the needs of its elderly citizens.

The main aim for this research portfolio was to fill this gap, using the typical community centre typology as a base testing ground. Through that, redefinitions of the model were created and tested against various architectural strategies.

A test site in the suburb of Karori was chosen with the intention of using it as a model for other ageing Wellington communities. The development from Design Phase One to Two featured numerous refinements and responses to programme and site.

Some challenges faced during this design process included programme refinement, dealing with site boundaries with different needs, roof form and programme configuration on site.

To reflect on the aims of this research portfolio, “to investigate ways architecture can help combat the issue of the social isolation of elderly and encourage intergenerational interaction in public shared space”, it was learnt that due to our age-segregated societies, the only way to reintegrate the elderly back in to the community is through firstly physical integration. This is where the introduction of private senior housing as a programme to the new community centre took place, in order to fully maximise the opportunities for intergenerational integration with a permanent presence of senior citizens on site. The closer to home they are, the more likely they will be there. Moreover, another important notion learnt in this design research was that choice of programme was only really successful if the spaces in between the programmes was carefully planned and considered. Higher density of mixed use programme will draw people into a public space however, for them to interact with one another is through how the spaces in between have been designed. This is where the idea of the missing community square was integrated into the architectural programme.

The end result fully addresses the gap in community architecture towards an age-friendly and social inclusive living environment.

In hindsight, there is room for work and further refinement of the scale of the public square as established in Design Phase Three. The square could be increased in size to reaffirm its purpose as a public community space, as its current scale could be mistaken for a courtyard of an apartment building. Therefore, although not a perfect outcome, the resulted final design has been the result of various architectural concepts, tests and iterations for brining the community back to segregated elderly citizens.

If this community centre model was to be implemented in Wellington communities, there would definitely be a change in the community dynamic, particularly due to the new integration of elderly housing units as part of a main community social hub. This would have a significant effect on the senior residents, who would be fully immersed in the main community space which will help further contest ageist attitudes.

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