SUPPORT FOR INDEPENDENCE:

*Cross-generational
Housing for
Elderly &
Millennial Students*

by Johanna Griffith

A 120 point thesis submitted to the School of Architecture in partial
fulfilment of the degree of Masters Architecture (Prof.)

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Figure 1.0 Abandoning Middle Age

ABSTRACT

Statistics New Zealand estimates that by 2031, one in four Canterbury residents will be aged 65+ (Canterbury City Council). Accelerated 'baby boomer' population growth has shifted Christchurch's current age distribution into a period of demographic transition. The implications of this shift means a likely increase in demand for "future proof" housing as dependency ratios accelerate beyond historic records (Davey 1). The term "future proof" factors in the rise in demand for accessible housing and potential for social isolation once an individual is widowed or physically impaired.

Housing suitability is equally problematic for today's millennial cohort. Rising rental prices and limited choice have also become a problem for Christchurch's student population. Within this group, students at Christchurch's main polytechnic (ARA) are of greatest concern due to a severe shortage of student accommodation. The institute currently offers 192 beds, a 267 per cent increase than what was available a year ago but an overflow of demand remains (Lee A1).

This research proposes the establishment of an aged care facility, which incorporates student accommodation. Following a design-led research approach, this body of work has been developed by first identifying the problems faced by the client cohorts and then actively exploring possible solutions through design. These solutions are supplemented by a process of participatory observation. This involved moving in with my Nan for a period of 6 months. I actively recorded our experiences including the challenges and benefits found within this form of living.

Designing an alternative that recognises the needs and wants of the baby boomer generation, could delay the need for social welfare intervention, while providing an option for students facing the harsh reality of New Zealand's housing market.

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for Nan & Grandma

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1.0

introduction

This chapter uncovers the real issues behind why this research is required for *both* young and old.

BACKGROUND

Christchurch is currently facing an unprecedented housing crisis. Rising house prices within New Zealand's most prominent urban centres are a consequence of limited availability of affordable housing, rising population growth, rising land prices and increasing construction costs (Howden-Chapman).

Within post-earthquake centres such as Christchurch, demand for housing and rising rental prices are also driven by additional external influences such as an influx of tradesman seeking work during the 're-build' and families required to move into rental accommodation while their private homes are under construction. It is unlikely that this demand will decrease as Christchurch's ageing population continues to surge.

International housing expert, Philippa Howden-Chapman argues that current housing market conditions increases vulnerability for disadvantaged New Zealanders including elderly and students (Howden-Chapman 24). This solidifies the assumption that both baby boomer and millennial generations can be particularly impacted by issues brought about by current residential and post-disaster housing market conditions.

Despite a net outflow of children, parents and students post-earthquakes, those aged 50+ were most likely to remain living in Christchurch. In fact, Christchurch's population aged 35-49 decreased by 7%, between 2010 and 2012. Christchurch's 50+ demographic increased by 2.3% (Statistics New Zealand 2012). Statistics New Zealand estimates that by 2031, one in four Canterbury residents will be aged 65+ (Canterbury City Council 2015).

"Statistics New Zealand estimates that by 2031, one in four Canterbury residents will be aged 65+ (Canterbury City Council 2015)".

Elderly population growth has shifted Christchurch's current age distribution into a period of "demographic transition". The significance of this 'shift' is largely driven by New Zealand's Baby Boomer generation. Baby boomers are defined as individuals born between 1946 and 1965 (Glasgow 1).

Fig 1.01. Generation Mapping

Historical evidence presents that Baby Boomers are 'change agents' (Simpson 1). Due to the sheer size of the population, boomer's needs, attitudes and behaviours have had a substantial impact on society and pre-existing approaches to critical life stages (Glasgow 2). Baby boomers are often considered a demographic group without "pre-existing scripts or protocols" (Simpson 1).

"Baby boomers are considered a demographic group without 'pre-existing scripts or protocols'" (Simpson 1).

New approaches to ageing include 'positive ageing', described as a multi-dimensional concept, which considers factors relating to health, financial security, independence, self-fulfilment, personal safety and the physical environment in which they live (Glasgow 64). A 'positive ageing' approach describes a new phenomenon, the 'Third Age'.

The emergence of a 'Third Age' within the 65+ age bracket accounts for elderly who are still able to maintain a life of activity and leisure before the onset of 'old age proper' (Pilcher 247). This next life course is now considered the 'Fourth Age', which challenges traditional perceptions of ageing including issues of social dependency, physical infirmities and death (Pilcher 247). It can be assumed that the rise of 'third age' baby boomers will inevitably change what it means to be an older citizen in contemporary society (Glasgow 5).

The implication of this discourse will have major implications on current social policies within New Zealand (Glasgow 1). Klara Obermuller identifies a two tier society within old age cohorts; those who remain healthy, mobile and able to spend the rest of their old age in their own home, and those who are less privileged are forced to move into a rest home.

In respect to this issue, Obermuller highlights the criticality of loneliness and social isolation concluding that that most rest homes “ignore the infinite troubles of being alone” (Obermuller 209). The 2012 New Zealand General Social Survey provides data that directly correlates with Obermuller’s findings, concluding that the prevalence of loneliness within New Zealand is fast becoming a major health issue (Statistics New Zealand 6).

“The prevalence of loneliness within New Zealand is fast becoming a major health issue”.

Ageing has long been considered by society as a ‘social problem’. Unsuitable housing options and a growing prevalence of loneliness and/or social isolation only reinforces this perception (Davey 2). It is anticipated that of the 90% of people aged 65+ ageing in place currently, 28% of this cohort will still be living at home by 2021 (Tuohy and Stephens, 615). Without an appropriate housing option, elderly may be forced to prematurely bypass a key period of prolonged independence during their ‘third age years’.

‘Ageing in place’ implies that elderly want to continue to live in their family homes. This enables the continuation of existing social networks found with neighbours and familiar social nodes such as a local parishes or clubs. However, a growing trend towards elderly living in isolation, presents that, in many cases, ageing in place can contribute to premature entry into residential care facilities (Davey 2).

Common practice alternatives to ageing in place, include downsizing, moving into retirement villages or residential care facilities. Although most housing is not designed with older age impairments in mind. Typical home environments can inhibit day-to-day living and community involvement (Davey 2).

Within the current market, there are limited housing choices for elderly. Suitable housing needs to be adaptable and accessible to social, communal and life support amenities (Davey 2). Residential care offers each of these factors without an allowance for ongoing independence and connections to existing support networks such as churches or social clubs.

Limited ‘support for independence’ within mainstream aged care facilities reinforces the need for ‘middle ground’ accommodation. Unlike their predecessors, baby boomers are looking for new housing options which allow for adaptive change while encompassing a new culture of self-reliance (Tuohy and Stephens 614). Current market conditions, favour options that offer low risk financial security. Furthermore, facilities that offer access to health care or located within close proximity to public transport are highly valued (Mackenzie, Curryer, Byles, 1693).

Fig 1.02. Normative Life Course

Christchurch's millennial student population are similarly vulnerable. Due to increasing rental prices and current housing shortages, students are struggling to keep up.

"Living affordability is no longer feasible for the average student".

Living affordability is no longer feasible for the average student. Options beyond normative progression of student living, where students begin in halls of residence and then move into flatting style rental accommodation are limited (Lee A1). ARA offers 'flatting style' accommodation at \$180-\$190 per week. This includes power but excludes internet, food and parking costs (Lee A1). This base cost already reaches well beyond the \$176.86 per week living costs loan attainable through StudyLink (Studylink). Limited options and financial pressures confirm that Christchurch's student demographic is suffering.

In light of these problems, both millennial student and elderly cohorts share a common desire for social contact. A recent study of 'Loneliness in New Zealand' conducted by Statistics New Zealand in 2014, showed that young adults reported high levels of loneliness. Elderly women aged 75+ reported the highest levels while males aged 15-24 were a close second (Statistics New Zealand). This negates the common misconception that elderly are most vulnerable to the phenomenon of loneliness.

Summary

In conclusion, the most prevalent issues facing societies ageing populace are of a similar if not greater significance to New Zealand's millennial student cohort. Designing a housing alternative that recognises the needs and wants of the baby boomer and millennial generations could delay social welfare intervention, reduce student debt and result in less loneliness and social isolation within New Zealand communities.

Problem

SILVER TSUNAMI {BABYBOOMERS}

1 in 4 Canterbury residents will be aged 65+

- + *new ageing discourse*
- + *increasing dependency ratios*
- + *demand for housing and welfare*
- + *scarcity of options*
- + *loss of independence*

STUDENT ACCOMODATION {MILLENNIALS}

- + *inflated prices*
- + *scarcity of options*
- + *increased debt*
- + *limited support*

AIMS AND OBJECTIVES

1. To develop an alternative solution for elderly who are currently unable to “age in place” but resistant to entering into residential care.
2. To provide an affordable housing alternative for full-time students studying in Christchurch City.
3. To develop methods of improving interaction through design that would enable cross-generational relationships to flourish.

RESEARCH QUESTION

In light of these problems I have set out to provide a solution for the following question -

How can I design a mutually beneficial cross-generational housing model that provides an alternative for ageing Baby Boomers and Millennial students?

METHODOLOGY & STRUCTURE

The Approach

This thesis follows a design-led research approach. Research has been developed by first identifying the problems faced by the client cohort and then actively exploring possible solutions through iterative design practices. These solutions are supplemented by a cross-disciplinary review of literature as well as an analysis of precedents which grapple with the ideas most prevalent within the examined literature.

To gain an understanding of cross-generational living, a process of participatory observation was undertaken. This research involved moving in with my Nan for a period of 6 months. I actively recorded our experiences including the challenges and benefits found within this arrangement. The observations made were considered supplementary to the framework developed in accordance with the selected literature and case study analysis.

The Criteria + The Process

The examination of the literature and existing case studies assisted the development of design criteria. These criteria were utilised as a tool used to test in which design moves.

An iterative design process was nominated to test the overall research question and provide solution-based answers for problems specific to cross-generational living. Physical modelling, diagramming and photography have been applied alongside digital modelling techniques.

The final design was developed over three distinct design phases. At the conclusion of each phase, the developed design was presented to a panel of academics and practicing architects for critical evaluation. A process on continued reflection will also be implemented within both explorative and developed design phases.

By consistently refining and pushing the ideas forward, the developed design should exemplify a richness within the design that amalgamates both aesthetic and practical values.

SCOPE

This thesis addresses a number of critical concerns faced by both the Baby Boomer and Millennial generations. The scope of this body of research includes the interests of elderly who have a high mental capacity but are no longer able to 'age in place' due to physical infirmities. However, it is assumed that if hospital care is required, such as this is considered exempt from the scope. Therefore, individuals with a low to medium dependency on personal care from outside of the home are the intended occupants. Student occupants, included within the scope, study full time, are aged between 18-25 years and most likely come from out of town.

METHODOLOGY STRUCTURE

2.0

literature review

This chapter draws upon the value of cross-disciplinary research particularly where the literature is limited regarding research specific to the question posed.

Although the concept of cross-generational living is firmly grounded within the history of mankind, theory that relates specifically to design in this context is limited. The literature reviewed has been retrieved from several different disciplines including architecture, gerontology, psychology and urban planning.

The following subchapters review existing literature with an emphasis on how design can support independence by allowing for interaction, change and identity.

Support for Control

Home provides autonomy and independence, which in turn, offers control, individuality and social status. Control is particularly poignant in relation to the home, as it reflects the need for control over one's physical surroundings and the daily activities or social occurrences that might take place within it (Stones and Gullifer, 452). Psychologists Damien Stones and Judith Gullifer argue that "personal control is crucial to the psychological wellbeing of elderly facing environmental changes" (Stones and Gullifer, 452). Gerontologist Andrew Sixsmith argues that this need for control, as a facilitator for independence, has a strong association with the home as it is controlled by and considered the individual's domain (Kontos 179) (Sixsmith 282).

"Thus 'home' means more than the structure in which a person lives; home represents the independent self and enables independent life" (Sixsmith 282).

Concepts of 'home and control' are fundamental to providing baby boomers with an alternative option for successful ageing. From an architectural standpoint, Ros Diamond and Simon Henley argue that "to be happy, we also need to feel as though we have control of our space and time" (Wernick 10). Providing an architectural solution that enables occupants to maintain a sense of control could prove as a bridge between home and residential care.

SUPPORT FOR CONTROL

- + *Function*
- + *Safety*
- + *Flexibility*

Support for *Interaction*

Current research suggests that successful inter-generational schemes rely heavily on positive relational interaction (Folts 18, Obermuller 210). Designer Hillary Cottam, a social entrepreneur whose most recent work focused on social welfare, came to find that many social services were broken but relationships were making a difference. “When people are categorised in a system they begin to play that role” (Cottam). Cottam argues that designing through relationships was critical to breaking down stigma and allowing people to retain a sense of individuality.

Developing cross-generational friendships could feed into a discourse such as that noted by Cottam in which friendships replace expensive welfare services (Cottam “Social services are broken. How can we fix them.”) This concept is also recognised by writer Klara Obermuller who believes that the ‘modern answer’ to ageing no longer lies within family of the ‘village community of the past’ but instead a network of relationships chosen by oneself (Obermuller 212). Obermuller highlights that the greatest asset a network of relationships can offer is the possibility of exchanging abilities and addressing deficiencies (Obermuller 212).

This ‘mutual support and mutual benefit’ concept could support elderly to overcome the physical and psychological implications of ageing particularly with regards to retaining independence (Folts, 18). Figure 3.03 presents this concept.

“Both generations share a common desire for independence”.

Both generations share a common desire for independence. Students are looking to retain a high degree of independence, yet may not have the confidence or skill sets to survive completely independently.

Fig 3.03. ‘Mutual Support - Mutual Benefit Concept’.

Research developed by O.Makarova and G.Shagivaleeva found that the loneliness experienced by first year students was a serious problem, highlighting the shift from secondary school into university and a desire for acceptance were major influences (Makarova, Shagivaleeva 199). This loneliness could be counteracted by pairing students with elderly facing loneliness in the later stages of their lives.

Academic W Folt advocates for co-housing using ‘social contact design’ and formal social structures to encourage interaction (Williams 202). Architect and theorist Herman Hertzberger suggests that in order for a building to function as it ought to, it “should be designed to allow for encounters to occur between occupants”. Hertzberger identifies that various tools may be utilised to encourage visual and physical possibilities for encountering or avoiding (Hertzberger, 159). Hertzberger claims that lighting, wall partitions and junctions that interrupt circulation strengthen the likelihood of interaction within spaces (Hertzberger 159).

Considering these findings, it is evident that cross-generational design should encourage high levels of social interaction (Williams 196, Ebner 11).

SUPPORT FOR INTERACTION

- + *Community dwellings*
- + *Social connectedness*
- + *Mixed typology*

Support for *Identity*

The ability to retain greater control, individuality and social status highlights an 'age' issue that directly relates to baby boomers. New approaches to ageing include the 'positive ageing', a multi-dimensional concept, which considers factors relating to self-fulfilment and control over physical environment (Glasgow 64).

Age segregation and stigmatisation particularly affects what sociologists Hagestad and Uhlenburg refer to as the 'bookend generations', elderly and young adults (Hagestad and Uhlenburg 348). The 'young' are categorised as teenagers or young adults who also face social segregation or discrimination due to their age. Reducing spatial proximity and creating an environment that encourages community living could allow for a shift in normative thinking with regards to age within both baby-boomer generations and the millennials (Hagestad and Uhlenburg 348).

"Reducing spatial proximity and creating an environment that encourages community living could allow for a shift in normative thinking with regards to age".

Changing the face of age, within a local context, could be approached by facilitating the breakdown of ageist behaviours. Within an urban scheme, ageism can be disrupted by relationships (Hagestad and Uhlenburg 348). Forming affective ties would enable different demographics to take into perspective their abilities rather than focusing on the stigma or infirmities or a particular cohort (Hagestad and Uhlenburg 348).

The connection between the concept of identity within 'one's home' and independence can also be identified within a study conducted by Mackenzie, Curryer and Byles. The study found that 'attachment to place' held a close connection to feelings of identity. Many participants noted that their attachment to home related to how long they had lived in the area or the fact that they had built their home themselves. Others

agreed that an attachment to place was prompted by the symbolic nature of the home, as an example of their success (Mackenzie, Curryer and Byles, 1697). Academics Damien Stones and Judith Gullifer relate home to a symbol of the "independent self, enabling independent life" (Stones and Gullifer 453). With this in mind, engaging with the individual is important while delivering a home one can be proud of. Architect Keith Bradley's supports this theory, arguing that the establishment of 'individual places or favourite places' that can become regular meeting points are critical in establishing an attachment to a place (Bradley 27).

SUPPORT FOR IDENTITY

- + *Personalisation*
- + *Choice*
- + *Matters of dependency → Assistance*

summary + reflection

Gerontologist Mike Hepworth considers home to be “a prominent turning point in the narrative of ageing” (Hepworth 94). By studying literature centred on the implications of ageing and the importance of the home I found that the greatest consequence of ageing was the loss of independence which greatly effects an individual’s physical and emotional wellbeing.

By identifying this issue as a core narrative, I have drawn from additional literature to develop criteria to meet this need and to support prolonged independence.

Therefore, to ‘support independence’ I will be designing for control, interaction and identity.

Alongside the subject of independence, the deconstruction of loneliness within both baby boomer and millennial generations needs to be addressed. In light of this, the initiative ‘support for interaction’ will be utilised to break down social isolation and prompt connectivity.

3.0

case-study analysis

Multi-generational House //

Kohlhoff & Kohlhoff

/ Stuttgart 2001

{+} *High density housing for multiple generations & childcare.*

This high density multi-generational house can be considered as more than just a house but as a community hub. The scheme offers apartments and assisted care facilities for elderly as well as a child care centre that accommodates 120 children. The overall goal set out by the project designers was to enhance interaction between various user groups and counteract social isolation (Schittich, 32).

<i>Positives</i>
- <i>Light shafts and triple height spaces allow for opportunities of surveillance and spatial cohesion.</i>
- <i>Interior personalisation possible.</i>
- <i>All thresholds suitable for elderly and young children – generations considered are at opposite ends of the spectrum. Incorporating so many different user groups – counteracts social isolation.</i>
- <i>Use of 'public zones' – Green Space particularly lucrative in a highly dense area while the café offers a great opportunity for community engagement.</i>
<i>Negatives</i>
- <i>Limited flexibility in terms of space.</i>
- <i>Large complex – residents may be more likely to keep to themselves in high density typologies.</i>
- <i>Large 'apartment style' living can appear generic and opposes traditional NZ ethos in which the single detached dwelling remains the primary objective.</i>

Long House on Henza Island // Kawai Architects / Kyoto 2012

{+} *Medium to high density housing
for ambulant and permanent
aged residents.*

This housing facility offers both long-term and short term care for elderly of all ages and stages. The optional 'day-care' would enable elderly to receive assistance with cooking, self-care and social engagement while retaining control of their family home.

Positives

- *Sense of community and communication is enhanced by wide corridors in care areas.*
- *Communal sitting and dining space on the ground floor – courtyard on either side.*
- *Small scale - medium sized facility.*
- *Use of green roof – contemporary fixture add an element of interest for the building usage.*
- *Design counteracts social isolation by locating the shared spaces at the core and accommodation around the perimeter.*

Negatives

- *Little consideration given to cross-generational living – only 'cross-generational' interaction is likely to occur within the Café. This excludes visiting friends and relatives.*
- *Limited range of accommodation typologies. Typologies aimed at high dependent users which sit beyond the scope for this body of research.*

Fig 3.08. Perimeter placement of private and shared spaces are integral to social connectivity.

Earth Song Eco-Neighbourhood // West Auckland, 1995

{+} *Medium to high density
exemplar of co-housing within a
New Zealand context.*

This low-density co-housing project is a model of social and environmental sustainable urban living with an aim to encourage a diverse community. The housing topologies are made up of two storey terrace housing and apartments suitable for occupants of all ages and abilities. To prompt community living, each household has open access to a 'common house', which is considered to be an extension of their own homes. This facility offers dining areas, meeting rooms, guest rooms, a quiet meditation room and a shared laundry. Common green and shared central pathways also facilitate community interaction (Earth Song Eco-Neighbourhood).

<i>Positives</i>
- Multiple housing typologies to suit differing needs, suitable for all ages and abilities..
- Use of 'common house' and central pathways to facilitate for community interaction.
- Expansive 'green spaces', opportunities for surveillance and privacy 'buffer' spaces. Creating median for both private and interactive spaces.
- Walking distance to 'life support amenities including a supermarket.
<i>Negatives</i>
- Site location potentially isolating for visitors and residents with limited transport and mobility. .

2 En 1 Inter-generational House // TICA Architects and Planners 2012 / France

{+} *Low density, private dwelling for a three generation family.*

This private residence has been designed with the aim of bringing four generations together while retaining a sense of privacy. The house is split into two dwellings with four shared 'bridging' spaces located in-between. Entries to and from each dwelling are also located within this shared core to prompt and overlap of intergenerational contact. The shared spaces include a basement, workshop, upper terrace, atrium and exterior garden areas.

<i>Positives</i>
- <i>Longitudinal model better suited to elderly with limited mobility.</i>
- <i>Shared 'bridging spaces' successful and prompts overlap of generations.</i>
- <i>Contemporary design and clever divisional techniques utilised to interlink spaces such as sliding partitions – large openings.</i>
- <i>Use of timber – suggest warm, inviting environment. Not clinical.</i>
- <i>Use of balconies and terraces facilitate for surveillance.</i>
- <i>Due to privacy and scale of each dwelling – greater potential for personalisation.</i>
<i>Negatives</i>
- <i>Two storey dwelling – roof terraces and balconies may be difficult for an elderly resident.</i>
- <i>Apartments primarily designed for young family – grandparents quarters only a small part.</i>
- <i>Limited green space.</i>
- <i>Limited opportunities for interaction with external community.</i>

A Moveable Feast // New York, 2014 // Crème

{+} interior micro design solution

Brooklyn design studio, Crème, has developed a solution for inter-generational living on a micro level. The kitchen is utilised as a mediator between each cohort while solve issues of privacy, resource availability and spatial limitations. Crème looked for an arrangement that offered a flexible living environment that provided economic use of resources and offered residents with privacy and interaction. As a result, they designed a buffer wall with bisecting elements that were common to both including the stovetops, dining table and sink facilities.

<i>Positives</i>
- <i>Micro intervention - provides a solution for retrofit design.</i>
- <i>An alternative take on communal spaces.</i>
- <i>Multi- use space counteracts issues of congestion and space requirements.</i>
<i>Negatives</i>
- <i>The intervention is limited to the kitchen.</i>
- <i>Degree of separation remains prevalent.</i>

{+} Summary & Reflection

It has become evident that there is a gap in the field for cross-generational design specific to elderly and students. Projects designed with cross-generational living as a core intention within medium to high density dwellings are rare. From these case studies I have found the following points need to be considered when designing for cross-generational living:

<i>Implement</i>
- High accessibility for ageing individuals with physical impairments.
- Provide a link between the public and resident via programme or shared facilities. Use of glazing and points of surveillance could be emphasised so those who are housebound are still able to observe the 'goings on' around them.
- A range of accommodation typologies. These accommodate for changing situations faced by elderly as they age and grow more dependent.
- Subtle use of grab-rails and limited use of stairs.
- Use of light, changing levels and circulation to help guide the individual through the space.
- Junctions between spatial boundaries to encourage interaction.
- A positive interface with the street. .
<i>Avoid</i>
- Harsh or sterile environments, the choice of materiality is critical to achieving a particular atmosphere or aesthetic. Avoid mass concrete or steel.
- Programmes or spaces that would discourage usage by either generation.
- Large scale buildings appear commercial and unfriendly. Therefore 2-3 storeys would be best suited. Christchurch residents look less favourably on high rise buildings post-earthquakes.

To Do List:

☒

☒

☒

☒

☒

☐ fun?

4.0

the criteria

what is required to make this work?

what is required to make this work?

Both theory and case study analysis were utilised within the development of this criteria.

CRITERIA FOR INDEPENDENCE:

► DID THE DESIGN MEET THE CRITERIA?

SUPPORT FOR
CONTROL

+

SUPPORT FOR
INTERACTION

+

SUPPORT FOR
IDENTITY

=

SUPPORT FOR
INDEPENDENCE

3/3

3/3

3/3

9/9

YES

pottery studio

laundry

Sun deck?

cafe

vege patch

5.0

programme analysis

This chapter examines the process of selecting an appropriate programme that acts as an instigator for independence for both elderly and millennials.

DEFINING PROGRAMME

The selected programme has been defined by selecting a pool of mutli-generational housing models, assisted care facilities and student accommodation some of which have been included within the selected case studies.

^ Fig 4.22. Programme outline with recommended square metre values for communal, elderly and student requirements.

6.0 site

Where is best? How can the selected site best serve the needs and wants of both young and old?

43°32'42.4"S 172°38'12.0"E

Fig 6.23. Christchurch City

CHRISTCHURCH CITY

{THE FACTS}

TOTAL POPULATION

341,469 [CHCH] VS 4,471,000 [NZ]

TOTAL DWELLINGS

149,559 [CHCH] VS 1,500,000 [NZ]

MEDIAN AGE

38.6 [CHCH] VS 38 [NZ]

Mapping Christchurch's Median Age Index:

To select a site I began by identifying locations within a close proximity to where elderly currently reside. Of the 64 suburbs analysed, 32 have an age median above Christchurch's average of 38.6.

- suburb's median age above christchurch average

Looking at sydenham and the surrounding suburbs:

Fig 6.26. Map of Christchurch from Hagley Park to the Port Hills

SITE SELECTION

{Christchurch City}

The proposed site lies in the suburb of Sydenham at a junction between Colombo and Brougham Street. The site is flat and within a close proximity of 'life-support' amenities including a pharmacy and local supermarket. It is adjacent to a bus line that would enable both elderly and students to commute into town easily. Most bus lines converge at Christchurch's recently constructed bus terminal, which is located close to the heart of the city allowing for easy access to the central shopping district and Christchurch's Polytechnic (ARA). For students attending ARA, it would take them 19 minutes, 8 minutes to cycle and 3 minutes to drive.

Elderly residents would benefit from living within a close proximity to two major hospitals and adjacent social activities such as a local movie theatre and community facilities including a library. Students would benefit from residing close to the city centre within close proximity to multiple supermarkets, sport facilities and retail centres.

towards christchurch city

Fig 6.27. Map of Sydenham

colombo street

towards the port hills

SITE MAP - {EXISTING} SYDENHAM

Fig 6.28. Site map and surrounding context.

WHAT HAS THE SYDENHAM COMMUNITY ASKED FOR?

{According to a community Workshop on 31 May 2011 (Council 9)}

This resource helped to determine what community facilities would best benefit both cross-generational living and current residents of Sydenham.

■ very important

■ important

■ not important

- destination activities ■
- parking solutions ■
- space for a farmers market ■
- streetscapes including outdoor cafes ■
- wider footpaths ■
- protection of sydenham's 'character' ■
- green areas ■
- a community centre ■
- safer pedestrian environment ■
- reflect on the memory of the colombo street methodist church ■
- strong gateways into sydenham ■
- safer environment ■
- less traffic, better 'people space' ■
- multi-modes of transport ■
- connection between buchan park and colombo street ■
- find opportunities for mixed-use and residential ■
- a town square ■
- more meeting places ■
- new commercial and retail ■

Fig 6.29. Site Map - Sydenham

SITE MAP - PHOTO MAP ONE

SITE PHOTOGRAPHIC ANALYSIS

camera 1

Fig 6.30. Corner of Colombo and Wordsworth Street. Authors Image.

camera 2

Fig 6.31. Corner of Colombo and Wordsworth Street. Authors Image.

camera 3

Fig 6.32. Corner of Colombo and Wordsworth Street. Authors Image.

camera 4

Fig 6.33. Colombo Street looking towards the central city. Authors Image.

Fig 6.36. Site Map - Sydenham

SITE MAP - PHOTO MAP TWO

camera 5

Fig 6.37. Colombo Street interface - remnants of a Christchurch 'gap-filler' project.

camera 6

Fig 6.38. Colombo Street interface - overgrown memorial signifies the substantial loss of heritage within the area post earthquakes.

camera 7

Fig 6.39. Buchan Park Entrance.

camera 8

Fig 6.40. Looking out towards the Port Hills.

7.0

design phase
one
{nan & I}

the start...

This design phase explores the primary objective of bringing two generations together by supporting one another to prolong or mediate new-found independence or dependency. By understanding the value of relationships, I can gauge where support can be attributed to human intervention and how this can be prompted through design practice.

To develop a solution for the issues discussed within the literature review, it was important to understand the spatial and social issues that arise while placing two very different generations together. Findings from participatory research strategies informed this design process.

Fig 7.41. Looking at how Nan and I can live together

7.1 THE BODY IN FLUX

To recognise the physical 'loss of independence' experienced by elderly we need to understand what happens to the body as it ages.

Within current literature I found the following considerations most prevalent within the ageing process.

KEY CONSIDERATIONS -

- + sound [hearing + acoustics]
- + sight [vision + volume, colour, light]
- + touch [materiality, texture, temperature]

HOW DOES AGE EFFECT EACH CONSIDERATION?

"Body in Flux" {Key Considerations}		
Sound {Hearing}	Relationships + Isolation	Hearing is a "social sense". Loss of hearing can cause older adults to feel cut off from friends and family – carrying conversations can be difficult and a subject may choose to become withdrawn and isolated . (Eberhard 131).
	Mental Health	If a person become isolated they are more likely to become depressed (Youmasu).
	Safety	An individual's safety is at risk if an individual is unable to hear warning sounds or alarms (Eberhard 131).
	Fatigue	Listening and following a conversation can be tiring for a person of poor hearing. (Eberhard 131).
Sight {Vision}	Vision Processing Slows	Lens of the eye become less elastic. As consequence, it takes longer for the eye to focus on close objects. Many adults find it hard to scan an area and maintain visual contact with a particular object such as finding a grocery item on a supermarket shelf. Y(oumasu)
	Pupil Reduction	When the pupil gets smaller, the lens become thicker and less-transparent. As a consequence, many elderly have trouble seeing in low light areas (Youmasu).
	Short Distance Vision Declines	When the pupil gets smaller, the lens become thicker and less-transparent. As a consequence, many elderly have trouble seeing in low light areas (Youmasu).
Touch {Haptic}	Loss of Sensitivity	This causes a reduction of sensitivity to pressure and vibrations. A person may feel colder and have trouble distinguishing the difference cold and warm surfaces (Youmasu).
	Loss of Mobility	The ageing body become susceptible to a loss of joint movement, muscle atrophy and osteoporosis.

ADDITIONAL STRESSORS?

By examining my Nan throughout the course of her daily routine I could identify where her movement was most limited and more importantly, when her mind become an additional barrier. The implications of the physiological and psychological issues relative to ageing were of particular interest in identifying where an understanding of these issues could assist design-led research.

I found *five key problems* or '*environmental stressors*' derived from both literature and my own participatory research.

○ PROBLEMS DERIVED FROM PARTICIPATORY RESEARCH

PROBLEM ONE	-- NOISE
PROBLEM TWO	-- VISION
PROBLEM THREE	-- HAPTIC / COMFORT
PROBLEM FOUR	-- COMMUNICATION
PROBLEM FIVE	-- MOVEMENT

PROBLEM ONE: NOISE

Hearing loss prompts the need for heightened volume over all but increased T.V volume, early morning phone conversations can become particular irritants for Millennials.

For elderly, participatory research showed that they can become frustrated at Millennials who choose to be 'plugged in' while listening to music or watching T.V. This behaviour is often regarded by elderly as anti-social and can also become a social irritant.

Fig 7.42. Observing where noise became an irritant between Nan and I.

Design Considerations:

- Acoustics
- Spatial Planning
- Communal spaces that provide for both interaction and 'focus' spaces.

t.v volume

PROBLEM TWO: VISION

Failing eyesight hinders elderly in their ability to navigate space and impedes spatial judgement. This also effects their routine. This can be recognised within my Nana's lighting habits. Less strenuous or concentrated tasks would be more likely to take place in the evening periods with artificial lighting.

Students are relatively unaffected by these problems.

"an older person needs

3x as much light as a 20 year old."

Fig 7.44. Observing the difference in lighting usage between Nan and I.

Fig 7.43. Spatial Diagrams

- natural light
- artificial lighting
- artificial task lighting
- light blocking devices

Design Considerations:

- Adjustable Artificial Lighting
- Maximising Day Lighting Potential through Spatial Planning

PROBLEM THREE: HAPTIC /COMFORT

The elderly generally prefer warmer environments. Due to long resting periods and limited movement, a higher level of thermal comfort is required for optimal health. In contrast, students may find these environments to be overheated as they are likely to be more active.

Design Considerations:

- Adjustable Thermal Environment

Fig 7.45. Observing the difference in heating usage between Nan and I.

PROBLEM FOUR: COMMUNICATION

The elderly prefer one-to-one direct communication within close proximity to the individual they are speaking to.

Millennials prefer to maintain contact with a multitude of people at one time but within a cyber realm rather than a physical one. Successful design must provide for both communication preferences while accommodating positive interaction between young and old residents.

Design Considerations:

- Spatial Planning
- Acoustics
- Careful placement of communal and private spaces.

Fig 7.46. Observing how Nan and I preferred to communicate.

PROBLEM FIVE: MOVEMENT

The elderly are slower than students. They generally follow a more direct and efficient path which sometimes opposes the way in which students utilise space.

For elderly, the shortest distance with highest number of sources of support is privileged. For students, distances within the home are less significant due to their freedom of movement.

Design Considerations:

- Accessible spaces
- Careful spatial planning within both the entire scheme and each individual apartment.

Fig 7.47. Spatial Diagrams

Fig 7.48. Nan and I's movement patterns

EXAMPLE OF PARTICIPATORY OBSERVATION RESEARCH:

Fig 7.49. Observation of moment patterns recorded while Nan and I attempted to make our own separate breakfast at the same time. The number of collisions were frequent. It was noted that the way Nan and I utilise the space is entirely different.

7.2 THE MIND OVER BODY COMPLEX

Physical barriers aside, I found the most prominent barriers within my Nan's routine were of a psychological nature. This was most often induced by a fear of falling. The narrative of loss appears as a protagonist within contemporary ageing. A loss of physical independence and personal control is consequential to the psychological well-being of elderly.

These intangible factors are likely to play a major role within both the research and proposed design outcome. To insert these ideas into the design process I began to look at emotional narratives inherent with ageing and loss by modelling a series of hallways stimulated by conversations with Nan.

THE NARRATIVES - PHYSICAL MODELLING

Fig 7.50. Initial sequential models are derived from the conceptualisation of the 'narrative' or 'journey' faced elderly as they age. Each series represents the point in which one emotion collides and ultimately replaces another such as feelings of resilience shifting into feelings of fear and/or helplessness. Exploring the interface between enclosed and exposed space highlights the nature of vulnerability where emotions of fear and embarrassment manifest.

7.3 SUPPORT FOR INDEPENDENCE

To mediate these physical and emotional landmines I found that a desire for independence is shared by each generation. As their bodies age, the elderly are increasingly forced to surrender their independence. Assistance could be provided by someone who could help them with the physically demanding components of their everyday life such as housework or grocery shopping.

Similarly millennial students sacrifice their dependence by moving away from home. This period of transition, from the dependent to the independent self, could benefit from relationships with those who individuals that have essentially 'been there, done that'.

Fig 7.51. shows where a shift occurs within a levels of independence and dependence as an individual ages.

7.4 'TREE' EXPLORATIONS

These relationships can be explored by the metaphor of a tree. The following experiments draw upon this symbolic metaphor while addressing the practicalities of cross-generational living.

the tree {architectural metaphor}

+ The **trunk** is singular, solid, mature, weathered, and critical to the canopy above.

Elderly can be represented by this metaphor as they are mature individuals. They may not be entirely physically stable but taking into consideration strength of mind, elderly are particularly able. As the trunk provides nutrients to the canopy above, the elderly offer a source of knowledge and experience unlike any other source found by a young student.

+ The **branches** are irregular, almost frantic in composition, in-direct, critical to bring life to the tree.

Students can be represented by this metaphor as they are physically able but unfamiliar with the mental strength required whilst living on their own. However, the branches are integral to the continuation of life. They provide for new life and protect the trunk from the elements.

EXPERIMENT 1.0 MASSING

These massing explorations shown in Fig 7.53 particularly test where the elderly and the young will reside in proximity to one another. Testing this has shown that the primary cross-over between generations are likely to occur within the communal programmes.

Fig 7.53. Massing explorations test where different cohorts programme requirements can overlap or are best kept separate.

- elderly programmes
- student programmes
- communal programmes

EXPERIMENT 2.0 RAMP INTERVENTIONS

This exploration examines the potential for a ramp system that accommodates for two different movement speeds without completely separating each generation.

The ramp serves as the trunk while the network of vertical garden dividers serve as the branches.

Fig 7.54. Ramp intervention accommodates for two movement speeds without resorting to complete separation.

EXPERIMENT 3.0 FOLLY EXPLORATION

These small buildings are explore the potential for junctions that connect vertical and horizontal circulation as a medium in which generations are given the opportunity to literally cross-paths.

Each folly is given a different scheme and fragrance according to the plants planted, enabling residents, with or without visual

impairments, to distinguish which folly connects them to their dwelling.

Each still encompass the 'tree metaphor' as some resemble the solid form of the trunk and some are more fragmented as if to mimic branches as shown in Figure 7.55.

{BRANCHES}
+
{STUDENTS}

{TRUNK}
+
{ELDERLY}

Fig 7.55. Development of the 'circulation follies'.

Fig 7.56. Exploration of the garden - intersecting circulation and winter garden schemes. Designing spaces for people to not only pass thorough but to congregate in.

4.0 SUMMARY AND REFLECTION

Initial explorations highlighted the need to conceptualise how these cohorts might assist each other. Foremost the design needs to provide a solution for elderly and Millennials to live out positive lives under the same roof. Exploration one tested points of irritation found within the home and what could be likely within a larger design.

The ramp was a concentrated exploration of movement, looking at how the 'tree' metaphor could feed into the development of circulation systems that meet the needs of both cohorts while smoothing out any likely conflicts such as differing speeds and movement patterns.

The Garden Follies are the third and final exploration in this series which ties together an articulation of the 'tree' within the built form alongside programme and small scale design interventions.

the developed design one

The developed design explores the possibilities of 'Support for Independence' through a consideration of programmatic relationships and circulation patterns while examining the potential for participatory practice to take a place within the research process.

Fig 7.58. Iteration One - Exploring programme and circulation placement.

Fig 7.59. Iteration Two - Exploring programme and existing urban scheme. Pool now looks out towards Buchan Park.

ground floor
{iteration 3}

Fig 7.60. Iteration Three - Exploring the possibility of shifting some residential programmes to the ground floor.

TESTING FORM

*Fig 7.62. Top and Middle - Planning Iterations -
Exploring programme and circulation placement.*

*Fig 7.61. Bottom - Diagrams exploring overall form placement
within a master plan design.*

DIAGRAMMATIC SECTION

Fig 7.63. Section diagram of the developed design highlighting circulation.

GROUND FLOOR

3 6 9 18m

Scale

FIRST FLOOR

interior view {hallway}

FINAL PLAN

Fig 7.64. Above - Selected floor plan - Chosen for the integration of circulation and communal spaces.

Fig 7.65. Right - Authors impression of an interior corridor - utilising light, natural materials, and wall openings to create a warm and comfortable atmosphere.

EXTERNAL DESIGN CRITIQUE

18.05.16

Positives:

- Completed research provides a good starting foundation for design development.

Shortfalls within the developed design:

- Disconnect between public and private spaces.
- Little attention given to residential component of the design.
- Programme is privileged over design.

+ CRITICAL REFLECTION

The outcome for this design phase was largely diagrammatic, focusing on shared amenities rather than the domestic interface. One of the most challenging aspects of carrying out design led research was deciding where practical and conceptual avenues should be intertwined or kept separate. The selected programme proved to be a sufficient instigator for interaction, control and identity. Although a stronger emphasis should be given to the way architecture can provide solutions as well. Alongside these reservations, reducing scale and focusing on a domestic scale would prove beneficial. The current design appears as an apartment block which lacks both individuality and flexibility.

Noise - Placing housing on top floors reduces noise from communal spaces such as students staying up late to study.

Vision – Individual dwellings also allow for greater control over artificial lighting usage.

Haptic / Comfort – Maintaining apartment style dwellings enables each generation greater control of their environment.

Communication – Implementing communal spaces for daily tasks such as laundry create opportunities for one on one interaction.

Movement – Garden follies act as circulation junctions and allow for easy vertical access to communal and residential programmes.

CRITERIA FOR INDEPENDENCE:

DESIGN ONE EVALUATION:

DID THE DESIGN MEET THE CRITERIA?

SUPPORT FOR
CONTROL

+

SUPPORT FOR
INTERACTION

+

SUPPORT FOR
IDENTITY

=

SUPPORT FOR
INDEPENDENCE

1/3

1/3

1/3

3/9

NO

8.0

design phase two {*bridge space*}

the start...

This design phase explores the primary objective of bringing two generations together by prompting interaction. Reflecting on Design Phase One there needs to be a greater emphasis given to the shortfalls found within the home in addition to the communal spaces.

Within this chapter cross-generational problems are reflected on as points of separation.

PROBLEM

social division {separated generations}
+
spatial division {separated programme}

{SEPARATION}

Oxford Definition:

[1] The action of separating something into parts or the process of being separated

[2] Difference or disagreement between two or more groups, typically producing tension

[3] A partition

Fig 8.66. Diagram looking the divide between cohorts.

8.1 EXPLORING THE 'LINE THAT DIVIDES'

These extracts from Mya Lin's book 'Boundaries' are of particular significance. The expression of "two forces" could be interpreted as Millennial and Elderly cohorts.

"trying to find a balance between two forces"

&

"existing not on either side but on the line that divides". (Lin)

BOUNDARIES

{MAYA LIN}

I feel I exist on the boundaries

somewhere between science and art, art and architecture, public and private,
east and west,

I am always trying to find a balance between those opposing forces,

seeking
diffing/separation of generations.
find a place where the opposites meet,

Water out of stones glass that flows like water the fluidity of a rock stopping time,

Existing not on either side,

but on the line that ~~divides~~

and that line takes on a dimensionality

it takes on a sense of place and shape.

aim of final design.
key for independence.
(both Y & E)

Fig 8.67. Quote from Maya Lin

HOW CAN I REDUCE POINTS OF SEPARATION?

Initial physical modelling experiments looking at the where separation might be counteracted or emphasised by simple architectural gestures such as elongating a door or disconnecting a floor and wall surface.

Through examining existing literature and testing these concepts through physical modelling I can find that that points for separation could emphasised, eroded or eradicated.

how to

expose

erode

eradicate

{separation} within built form?

•----- INSIDE // OUTSIDE -----•

•----- MERGING THRESHOLDS -----•

Fujimoto's N-House demonstrates an exploration of threshold space. Both the exterior and interior components of this one storey house are made up of a number of 'nested boxes'. The smallest box sits within the core of the home and provides the greatest degree of privacy. While exterior acts as a shell that acts as both a boundary and an invitation to the outside edge.

This design tool could be utilised in a similar manner, providing a boundary between the home and the street. Merging interior and exterior thresholds also enable a merging of occupant activities that might otherwise be carried out separately.

Fig 8.68. Top - Street interface

Fig 8.69. Middle - Interior showing the 'nesting boxes'

Fig 8.70. Bottom - Diagram showing the merge of exterior and interior thresholds.

Setting Boundaries
The Anthropology of Spatial and
Social Organisation.

Edited by Deborah Pellow

This research examines how boundaries can be designed and/or implemented within the home.

DIFFERENT KINDS OF BOUNDARIES:

- {1} Accessibility *[with or without visibility]*
- {2} Visibility *[without access]*
- {3} Isolation of adjoining spaces
- {4} Sequencing of adjoining spaces
- {5} Relative position of spaces with respect to the ordinance of the street
- {6} Categorical and spatial differentiation of activities, objects and people in contrast to their association in one space

[Pellow, Lawrence 18]

how to

emphasise
erode
eradicate

{separation} within *built form*?

Deborah Pellows research facilitated for further explorative research regarding separation of space and human activity.

I found you can

emphasise by:

- emphasising wall and floor junctions
- creating isolated spaces

I found you can

erode by:

- dividing wall and floor interfaces
- bringing in interactive programmes
- prompting both in-direct & direct interaction

I found you can

eradicate by:

- removing wall interfaces
- removing floor interfaces
- removing fixed ceiling heights
- removing in-direct interaction

Each of these can be achieved by:

VOIDS

{ceiling, floor & wall}

MATERIALITY

BLOCK VOLUMES

JUXTAPOSITION

{height, surface, spatial capacity}

EXPLORATION ONE

EXPLORING SEPARATIONAL BOUNDARIES WITHIN SINGULAR FORMS

{*PHYSICAL MODELLING*}

KEY FINDINGS - {creating separation}:

elongated wall
- create a private space
within an open context.

overlapping
floors and
materialities
- collision of two
thresholds.

exposed floors
- exposed points on
division from both an
exterior and interior
viewpoint.

EXPLORATION TWO

EXPLORING SEPARATIONAL
BOUNDARIES WITHIN ONE
CONTINUOUS FORM

{*PHYSICAL MODELLING*}

FORM 1

+

+

KEY FINDING
 {overlapping
 spaces}
 - both remove
 and create points
 of separation

FORM 2

+

FORM 3

+

+

EXPLORATION THREE

EXPLORING SEPARATION BOUNDARIES WITH PROGRAMME

Inserting programme back into the explored forms. Form acts as an instigator for disestablishing recurrent boundaries found within cross-generational design.

{*PHYSICAL MODELLING*}

LOOKING AT HOW PROGRAMME CAN BECOME BOUNDARIES:

Looking how programmatic spaces can also be considered 'bridge spaces' where different individuals are prompted to interact and co-exist within a positive manner.

APPROPRIATE PROGRAMME

- + E & Y Accomodation
- + Quiet Room / Library
- + Nursing Support Rooms
- + Changing Rooms
- + Meeting Rooms
- + Chapel
- + Therapy Rooms
- + Guest Suites
- + Theatre
- + Storage

+ {Circulation}

emphasise {division}

- limited access, visual or physical.

erode {division}

- some division, mainly visual division.

eradicate {division}

- no division, freedom to roam.

MODEL TWO

Fig 8.74. Top - Collage of images from model explorations

Fig 8.75. Right - Hand drawn images looking at where communal and private spaces site alongside each other.

Fig 8.76. Bottom Right - Diagram clarifying ideas cultivated from Figure 8.77.

EXPERIMENT FOUR

EXPLORING DIVISIONAL BOUNDARIES WITH PROGRAMME AND INHABITING THE SPACE

The reinterpretation of these models within a digital medium while re-introducing the human scale and developing a material palette that provides an opportunity for setting out boundaries while bringing occupants together.

{DIGITAL MODELLING}

{eroded}
boundary detail

elevation one

elevation two

elevation three

Fig 7.77. Testing digital modelling while re-introducing the human scale.

Fig 7.78. Material testing with timber and frosted panels.

SUMMARY AND REFLECTION

These experiments engaged with the opportunities provided by simply looking at the “line the divides” as both a boundary and a bridging point. Initial experiments explored spatial compositions that observed boundaries as spaces rather than 2D expressions within physical modelling.

Final experiments introduced digital modelling and human scale. By bringing the physicality of the human back into the scheme, the practical basis of this research became integral to both the form and programme placement. For instance openings are most often too large for comfortable for human occupation.

This research offers a new interpretation of cross-generational space, in which the spatial composition is considered before the conceptualisation of programme as a prompt for interaction.

8.2 BRIDGE POINTS

A series of possible specific design solutions within the parameters of scale have been explored. These scales can be considered 'bridge spaces', bridging points of separation found between the selected residents both young and old.

1:20 — {barrier free}

1:50 — {the domestic facade}

1:100 — {the external corridor}

1:500 — {the pedestrian and the resident}

GENERATIONAL BOUNDARIES {OLD VS. YOUNG}

Fig 8.79. Evaluating the importance of the issues noted as 'irritants' for each cohort.

1:20 — {barrier free}

Key design principles relative to barrier free interventions focus on those that have physical impairments.

Barrier-free means to create housing that is accessible to all people, regardless of their physical condition or age (Meuser, 2009). Incorporating barrier free design principles into residential and commercial design makes these spaces more convenient and safer for disabled and elderly to age in place. However, these advantages extend to other users as well.

These are micro interventions that enable elderly with physical impairments to utilise each space with ease. It is imperative that these spaces are beautiful and that both students and elderly would feel comfortable in them without feeling though they are in a hospital environment. This is particularly important as standardised barrier-free interventions can be stigma forming.

{ 1:20 BARRIER FREE }

EXPLORATION ONE

These diagrams show a small selection of the range of barrier free solutions utilised today.

+ THE BATHROOM

Fig 8.81. Barrier Free Bathroom Solutions

{1:20 BARRIER FREE}
EXPLORATION ONE

+ THE CORRIDOR

Fig 8.82. Barrier Free Access Solutions

{1:20 BARRIER FREE} EXPLORATION TWO

These diagrams show a small selection of the range of barrier free solutions recommended by NZS 4121: 2001.

+ CURRENT PRACTICES?

Corridor and access diagrams shown below are similar to the ideas presented previously. These are simple, adequate solutions but could be improved to enhance flexibility while improving the aesthetics.

Figure 8.86 presents a major problem within current 'barrier free' design practices. This design has an institutional aesthetic. This is particularly evident within the use of standardised grab rails and shower seat.

It is my intention to make these spaces practical *and* beautiful.

Fig 8.83. Hallway and door access acceptable solutions from NZ Standard for Access and Mobility (NZS4121:2001)

Fig 8.84. Bathroom exemplar from NZ Standard for Access and Mobility (NZS4121:2001).

1:50 — {the domestic facade}

The façade provides an opportunity for supporting the need for identity and individuality while prompting feelings of independence and ownership.

Fig 8.85. Miss Brill Book Cover

introducing miss brill and company...

After reflecting on the preliminary design, the scope needs to be challenged beyond what would benefit Nan and I. Introducing a set of fictional characters prompted the development of individualised design while challenging the model previously set out. Introducing characters enables the opportunity to refine the scope to a specific set of ideals while concentrating on facilitating a design that benefits each individual and supports cross-generational interaction.

Multiple sources were utilised within the development of these characters including both personal and fictional input. This included Katherine Mansfield's depiction of Miss Brill presents a lonely elderly woman, rejected from the social scene she was once a part of.

miss brill

ms rogers

mr and mrs jones

mr and mrs stark

miss smith

mr harris

Fig 8.86. Fictional characters developed to broaden the range of potential residents.

how do these characters
support one another?

Fig 8.87. Authors image

Fig 8.88. Possible scenarios of support offered by both young and old.

{1:50 THE DOMESTIC FACADE}
EXPLORATION ONE

+ THE CHARACTER FACADES

To cement the association between the individual and the built form, the characters and the subsequent characteristics of each individual were utilised within the design of a single façade for each character.

MISS BRILL

Miss Brill's façade was designed to appear tough while resembling a fragility that exposes her age and high strung temperament.

Engraved texture on zinc cladding.

Fig 8.89. Top - Collage of facade development
Fig 8.90. Below - Physical model of Miss Brill's Facade

MISS SMITH

MISS SMITH

Miss Smith's façade was designed to offer Miss Smith a sense of privacy and safety.

Dual layer façade allows for atrium space.

Fig 8.91. Top - Collage of facade development
Fig 8.92. Below - Physical model of Miss Smith's Facade

JAMES

JAMES

James's was a new character, similar to Miss Smith. His façade was designed to be low maintenance and hardwearing.

Polycarbonate façade exposes structure.

Fig 8.93. Top - Collage of facade development

Fig 8.94. Below - Physical model of James's Facade

MR M

Mr M was added for this experiment. His facade Mr M's façade was designed to resemble clarity in which his brain functions in juxtaposition with his physical infirmities.

Polycarbonate façade combined with modern take on brick work with use of 'timber bricks'

Fig 8.95. Top - Collage of facade development
Fig 8.96. Below - Physical model of Mr M's Facade

MR AND MRS JONES

Mr and Mrs Jones's facade acts as an envelope, protecting Miss Jones. The level of transparency allows both Mr and Mrs Jones an outlook out towards their neighbours and garden.

Fig 8.97. Top - Collage of facade development

Fig 8.98. Below - Physical model of Mr and Mrs Jones's Facade

MISS JONES

MISS JONES

Miss Jones is a Boomerang child who, although living at home, desires her own space. Her facade is an interior wall, set back from the Mr and Mrs Jones's facade showing that although she remains at home, she is fairly independent.

Fig 8.99. Top - Collage of facade development

Fig 8.100.

Left - Physical model of Mr and Mrs's Jones's Facade

Fig 8.101.

Below - Section model of both facades

Exterior view of Mr and Mrs Jones's home – Timber brick façade allows the observer to see Miss Jones's façade inside.

{1:50 THE DOMESTIC FACADE} EXPLORATION TWO

+ THE PLAN

Models and façade designs were further explored to generate a floor plan relative to each character and their living circumstances.

MR & MRS JONES'S HOME {80m²}
{FIRST FLOOR}

Fig 8.102. Left - Mr and Mrs Jones's Floor

Fig 8.103. Right - Miss Jones's Loft

Mr and Mrs Jones's kitchen and living room which also includes an upper floor unit for their 'boomerang child', Miss Jones. 'Barrier Free' interventions have been explored through into the design of these plans. The shared atrium space at the front of the home creates an opportunity for crossover between cohorts while allowing for privacy and interdependent spaces. The atrium space maybe utilised as another lounge, drying area or morning room.

* 'Boomerang Child' refers to a young adult that has lived away from home for a period of time, predominantly for study, but

MISS SMITH'S HOME {30m²}
 {SINGLE DWELLING OR GRANNY FLAT ADDITION +
 LOFT STORAGE}

Fig 8.105.
 Section
 + Plan

Fig 8.107. Miss Smith's Home -

MISS BRILL'S HOME {59m²}
{GROUND FLOOR}

Fig 8.108.
Section

Fig 8.109.
+ Plan

Fig 8.110. Miss Brill's Home - Plan

{TOP FLOOR}

{GROUND FLOOR}

Fig 8.113.
Top - James's Top Floor Plan A
Fig 8.114.
Bottom - James's Ground Floor Plan

JAMES'S HOME A {50M²}

Two possibilities shown, Option A includes and either a second flatmate or grandparent while Option B is for a single individual with no or minimal physical impairments.

Fig 8.111.
Section
Fig 8.112.
+ Plan

JAMES'S HOME B {40M²}

{TOP FLOOR}

Fig 8.116. Top - James's Top Floor Plan B

{GROUND FLOOR}

Fig 8.115. Bottom - James's Ground Floor Plan B

MR M'S HOME {55m²}
{GROUND FLOOR}

Fig 8.117.
Above - Section
+ Plan

Fig 8.118.
Left - Mr M's Plan

Fig 8.119. Mr M's Home - Plan

{1:50 THE DOMESTIC FACADE} EXPLORATION TWO

+ IMPLEMENTING {1:20 BARRIER FREE RESEARCH}

Digital models, developed from floor plans explore the possibilities of spatial boundaries that identify directly with the resident and their routines and/or capacity for independent living.

+ {MR AND MRS JONES'S KITCHEN}

Opportunity for interaction
- wall opening allows Mrs
Jones to observe Miss Jone's
whereabouts.

Lowered bench
height: 850mm

Sliding shelving units - easy
access from either side.

Fig 8.121.
Plan of Mr and Mrs Jones's kitchen
and atrium.

Fig 8.120.
Miss Jones's stairs and Mr and Mrs Jones's Kitchen.

+ MISS BRILL'S BATHROOM

Fig 8.122.
Miss Brill's Bathroom allows for 150cm turning circle,
grab rails along the perimeter of the space.

Fig 8.123.
Plan of Miss Brill's House -
showing the bathroom in
context.

SUMMARY AND REFLECTION FOR {EXPLORATION TWO - THE HOME}

The development of these individual homes provides solutions for each primary objective in the hope of achieving prolonged independence. Reflecting on these design outcomes I found that it would be unfeasible to design a home for each individual but the ability to personalise each space is imperative and possible. Providing multiple options and blank canvas interiors would assist this approach.

*{1:50 THE DOMESTIC FACADE}
EXPLORATION TWO -
'THE GRANNY FLAT'*

This model tests feasibility options for elderly residents. By providing an option to split up a single dwelling into multiple units allows for an opportunity for elderly to rent out components of their home to students or young adults. These spaces may also be used for boomerang children or grand-children who live out of town and have chosen to study nearby.

Within these models, shared spaces including the kitchen and atrium spaces are considered as 'bridge spaces' whereby old and young are prompted to congregate and co-exist.

THE GRANNY FLAT {PLAN ITERATIONS}

OPTION ONE

- communal
- elderly living
- student living

OPTION TWO

OPTION THREE

Fig 8.124.

Plan iterations - Looking at separating and amalgamating spaces.

THE GRANNY FLAT {SECTION}

Fig 8.125. Section diagram exploring the option of interlocking student, elderly and communal spaces.

OPTION ONE

- A**
+ 2 E Apartments
+ 2 Y Studios
- B**
+ 2 E Apartments
+ 2 Y Studios

OPTION TWO

- A**
+ 1 E Apartment
+ 2 Y Studios
- B**
+ 1 E Apartment
+ 2 Y Studios

OPTION THREE

- A**
+ 1 E Apartment
+ 1 Y Apartment
- B**
+ 1 E Apartment
+ 1 Y Apartment

Fig 8.126.

Flexibility of ownership across each apartment.

1:100 — {the external corridor}

Mixed use open corridors provide the circulation and access requirements for both students and elderly – students on bikes and elderly in wheelchairs, walkers or mobility scooters. Pairing the potential for ‘barrier-free’ access and social interaction could assist generational cross-over. Within the developed design a ramp network connects to each apartment entrance. Exterior entrance space has been prioritised for elderly who wish to sit outside and survey the space below or parking for mobility scooters and/or bikes. The network of perimeter ramps provided access and offered a regained independence for those who are physically dependent on wheelchairs or walkers.

Fig 8.127. Testing circulation possibilities

1:500 — {the pedestrian and the resident}

Interventions that provide links to existing council infrastructure including Buchan Park were examined at 1:500. Consideration to the community context is necessary to understanding the potential for both public and resident usage beyond the site. For instance, I have questioned how this design would benefit the wider community and the likelihood of Miss Brill keeping up her ability to walk around the block. This was tested by looking at where the site edge meets the footpath or the park edge.

the foot path

- the pedestrian

the corridor

- the resident

the overlap - 'bridge'

Fig 8.128.

Diagrams testing the urban interface in relation to the street and the building - the private and the public realm.

the developed design two

The developed design explores the implementation of 'bridge spaces' that concentrate on breaking down points of separation found between young and old.

MASTER PLAN

→ points of access and egress

Fig 8.129. Master plan drawing identifies points of access and egress around the site.

GROUND FLOOR

Fig 8.130. 3D Clay render highlighting circulation and camera shots.

Fig 8.131. Wordsworth Street Clay Render - Looking at day lighting and the street interface.

Timber-brick facade creates an urban garden space and improved privacy for ground floor residents.

Fig 8.132.
Fig 8.133.

Above - Public entrance to pool and cafe facilities.
Below - Ramp circulation with outdoor porch seating generated from 1:100 research.

{CAMERA 3 - COLOMBO STREET ENTRANCE}

Fig 8.134. Resident access from Colombo Street, trellis screen design utilised on ground floor apartments for greater privacy.

EXTERNAL DESIGN CRITIQUE

19.08.16

Positives

- *Unique situation creates an opportunity to be provocative and test something entirely different to 'stereotypical' practice.*

Shortfalls within the developed design:

- *'Timber – Brick' screens offer a good degree of privacy but also may appear as barriers.*
- *The current plan is relatively stereotypical. Even the occupant selected for the task can be considered as 'ideal' tenants rather than what is likely to occur in reality.*

+ CRITICAL REFLECTION

This design phase provided a satisfactory living solution for both elderly and students. The exploration of separation and developing a series of solutions that mediated these, can be considered the most valuable break through so far. The application of scale within both the solution and the process worked well while applying a strong link between the practicalities of space verses the intended degree of interaction. The inclusion of multiple individual detached dwellings juxtaposed with staggered high density apartments provided opportunities for individuality and customisation. Therefore, this design facilitates for control and identity, prompting a relatively high level of independence and support for both generations.

Noise - Atrium spaces and porches can be utilised as sound buffers.

Vision – Placing apartments around the perimeter of the allows for maximum day lighting potential. Individual dwellings also allow for greater control over artificial lighting usage.

Haptic / Comfort – Maintaining apartment style dwellings enables each generation greater control of their environment.

Communication – Implementing communal spaces for daily tasks such as laundry create opportunities for one on one interaction.

Movement – Series of 1:12 ramps enable easy access to each home for both generations.

CRITERIA FOR INDEPENDENCE:

DESIGN TWO EVALUATION:

DID THE DESIGN MEET THE CRITERIA?

SUPPORT FOR
CONTROL

+

SUPPORT FOR
INTERACTION

+

SUPPORT FOR
IDENTITY

=

SUPPORT FOR
INDEPENDENCE

2/3

3/3

3/3

8/9

NO

Fig 9.135. Fun in the Sun

9.0

design phase three

{*the 'staycation'*}

the start...

This phase examines the potential for the reappropriation of existing models that, could also serve as excellent models of assisted care facilities and student accommodation.

A study carried out by Lee Lindquist and Robert Golub in 2004 presents an unlikely comparison between cruise ships and assisted care facilities. Inspired by a cohort of retired Americans who 'choose to cruise' as a form of assisted care, Lindquist and Golub sort to question why there is such a close comparison and how this form of living might prove far more desirable than traditional care options (Golub and Lindquist 1952).

Alongside the physical and programmatic benefits, the consideration of interaction and cross-generational integration is another element in which the cruise ship model provides some simple solutions. The close confines of the living quarters and use of shared facilities assist passenger interaction. Golub and Lindquist note that "if positive interaction could be achieved, this would alleviate feelings of loneliness and depressive tendencies" (Golub and Lindquist 1952).

SERVICES	ASSISTED LIVING	CRUISE SHIP TRAVEL
Studio with Ensuite	Yes	Yes
Walk-in Shower	Yes	Yes
Meals Provided	Optional	Yes
24 Hour Physician Available	No	Yes
Escort to Meals	Optional	Optional
Cable Television	Yes	Yes
Housekeeping Services	Optional	Yes
Laundry Services	Optional	Yes
Hair Salon Services	Optional	Yes
Security Services	Yes	Yes
Entertainment Available	Yes	Yes + + +

Fig 9.136. Table.1 Presents the similarities between Lindquist and Golub's example of assisted care and cruise ship living.

Fig 9.137. Brainstorming the potential for implementing 'fun' into the design.

THE HOME AND THE SHIP

The following explorations examine the concept and physical mass of the cruise ship. The ideas of 'rest' and 'play' are most prevalent within the consideration of circulation and the placement of programme.

Areas of rest are simply areas where the individual can sleep, doze or take part in low energy activities such as sunbathing.

Living quarters are often located in between or below areas of play and are accessed via internal circulation. Areas of 'play' are most commonly found on the upper decks, making use of daylight and accessed via perimeter circulation which allows individuals to observe without disrupting engagement.

'The Stargazer'

Birds eye view of 'cruise ship' style home, assisted cave feeling.

- Relaxation

- Play

- Pool.

- Residential.

looking at inter-floor relationships

view from a pool stream

exploring cruise ship configurations through 'play' and 'rest' programmes.

Thinking:

+ what/how do these schemes and /can be changed / improved for universal design / barrier free design?

+ How do these schemes influence programme?

↳ shift the way in which programme is utilised.

+ How do these schemes influence cross-generation of interaction?

↳ how would students change what they are looking at.

Pool on top with residential umbrellas
↳ effect accessed via lower decks.

↳ transfer from play to rest.

↳ The Van Lady (Library + Maggie Smith).

↳ En Man some one → old man who makes people
↳ 100 year old man.

ends up gang relationships

{REST & PLAY}
EXPLORATION ONE

+ THE PLAN AND CIRCULATION

Fig 9.139. Iterations testing circulation design and how it is approached within cruise ship design.

{REST & PLAY}
EXPLORATION TWO

+ THE SECTION

These high density terrace-housing models are unlike stereotypical home layouts by avoiding a strict division between living and sleeping areas. This model was recommended by Hertzberger as a possible multiple generational dwelling. Each house is divided between two split-level primary cores, which look over a central void and communal living area below.

This formulates a “living area for a community of people” (Hertzberger, 157). Hertzberger chose to leave the interior spaces unfinished, so the occupants could divide the areas up as they wished. This enabled flexibility and individualism, particularly when a family’s circumstances changes.

Fig 9.140. Physical models exploring the interplay between ‘rest’ and ‘play’ spaces within both the home and cruise ship.

{REST & PLAY}
EXPLORATION TWO

+ THE SECTION

rest + play {houses}

rest + play {cruise ship}

Fig 9.141. Series of iterations testing the concept of 'play' and 'rest' in section.

Fig 9.142.
1:50 'Play - Rest' physical models. Utilised to gain an understanding on volume and human occupation.

Fig 9.143. Section of each designed dwelling which test the overlap of 'play' and 'rest' spaces vertically and horizontally.

{TAKING THE SHIP INTO THE BUILDING} EXPLORATION ONE

+ SITUATING THE CONCEPT ON SITE

These explorations look at the possibilities of re-appropriating the cruise ship model into the plan. The concept of the 'dockway' which serves as a threshold between land and sea.

By arranging the bare minimum of programme onto the site as though they were a ship in dock helped generate the beginnings of a master plan as shown in the iterations below.

Fig 9.144. Exploration One - Testing spatial configurations

{TAKING THE SHIP INTO THE BUILDING} EXPLORATION TWO

+ PROGRAMMATIC MASSING

Exploration two took into account primary and secondary programmes. I found that by simply massing programme requirements, I had failed to look at the site in context and fundamental requirements such as daylighting. However, the form of the dock way was retained in the proposed design.

- gardens [secondary]
- circulation [secondary]
- rest {private residential} [primary]
- play {communal use} [primary]

Option One

Option Two

Option Three

Fig 9.145. Exploration Two - Testing massing configurations

{TAKING THE SHIP INTO THE BUILDING} EXPLORATION THREE

+ Exploration Three looked at where leisure spaces can be implemented to prompt ongoing interaction between residents. I found that creating places the combine play activities such as eating and gardening with rest activities such as sitting and reading created interesting opportunities for residents to cross paths.

option one

Fig 9.147. Exploration Three {Option One} - Overlapping Spaces

option two

Fig 9.146. Exploration Three {Option Two} - Materiality

the creation of thoroughfares juxtaposed with places to linger can be utilised by a shift in materiality.

option three

→ Mail room down
Stairs (ground floor etc).

- add seating,
add pockets of space where
people can congregate.

bench seat becomes an interaction prompt.

⇒ Bench seat becomes an interaction prompt.

an opportunity
for interaction
to interact landlords
+ provide a sense of
ownership beyond the
home.

Fig 9.148. Exploration Three {Option Three} - Mixing Gardens and Bench Seating

Fig 9.149. Proposed Design - looking out from Buchan Park.

the developed design

Rest and play concepts for the cruise ship have been by re-interpreted into programmes or spatial devices for cross-generational living.

SITE

The public interface is orientated towards Colombo Street and residential dwellings face towards Wordsworth Street. The design also benefits from views over to Buchan Park prompting the community to utilise the park and engage with the public facilities.

The design is made up of three components:

The Dock {*Circulation + Public Facilities*}

The Cruise Ship {*Residential*}

The Flats {*Residential*}

Fig 9.150. Overview of the proposed design. Highlighting the key components of the site arrangement - the Dock, Cruise Ship and Flats.

● Bus Stop

-----> Access

5 10 20m
Scale

MASTER PLAN

Fig 9.151. Overview of the proposed design.

THE VIEW

What does the site look and *feel* like from Colombo Street?

the junction of public and private

Fig 9.152. Exterior render at the corner of Wordsworth and Colombo St.

THE VIEW

What does the site look and *feel* like from Buchan park?

where the ship meets the park

Fig 9.153. Exterior render view from Buchan Park.

'PLAY'

Play' programmes have been designed for to prompt community and resident cross-over.

1 Cafe

1 Mini Supermarket

1 Book Swap Lounge

10 Computers

1 Cooking Classroom
- 3 Cooking Stations

6 Vege Gardens

'REST'

'Rest' programmes are designed for residents only.

50 'shared apartments'

10 Granny Flat Dwellings

5 Laundries

4 Clotheslines

apartments

granny flat homes

lounge

garden

1:500 GROUND FLOOR

Looking at where the 'play' and 'rest' concept comes into public and residential programmes.

The concept of "play" and "rest", derived from cruise ship research, provided a system of spatial organisation. Like the relationship between a pool and the sunbathers deck, play programmes are centralised and rest programmes are placed around the perimeter.

1:500 TOP FLOOR

THE PLANS

KEY:

{Residential}

- 1. 2 *Studio Apartments*
- 2. 6 *One Bedroom Apartments*
- 3. 2 *Two Bedroom Apartments*
- 4. 11 *Shared Apartments*
- 5. 8 *Flats*
- 6. 6 *possible Student Studios*
- 7. 1 *Ramp*
- 8. 1 *Staircase*
- 9. 1 *Lift*

{Communal}

- 10. 4 *Laundries*
- 11. 12 *Washing Lines*
- 12. 3 *Lounges*
- 13. 4 *Veggie Garden Planters*
- 14. 1 *Rose Garden*
- 15. 1 *Outdoor Dining Space*

{Residential and Public Use}

- 16. 3 *Entrance / Atrium Space*
- 17. 2 *Ramps*
- 18. 1 *Café*
- 19. 1 *Reading Room*
- 20. 1 *Computer Lab*
- 21. 1 *'Book Swap Dock'*
- 22. 1 *Bowling Green*
- 23. 1 *Gourmet Supermarket*
 - + *Storage*
 - + *Freezer*
- 24. 1 *Cooking Classroom*
[could be utilised by residents as an extended kitchen for family events].
- 25. 6 *Toilets*

THE GROUND FLOOR

Fig 9.154.

The ground floor consists of a small number of apartments, 'granny flat' dwellings, a gourmet supermarket and a café allows for outdoor seating facing out towards Buchan Park.

KEY:

{Residential}

1. 2 *Studio Apartments*
2. 6 *One Bedroom Apartments*
3. 2 *Two Bedroom Apartments*
4. 11 *Shared Apartments*
5. 8 *Flats*
6. 6 *possible Student Studios*
7. 1 *Ramp*
8. 1 *Staircase*
9. 1 *Lift*

{Communal}

10. 4 *Laundries*
11. 12 *Washing Lines*
12. 3 *Lounges*
13. 4 *Veggie Garden Planters*
14. 1 *Rose Garden*
15. 1 *Outdoor Dining Space*

{Residential and Public Use}

16. 3 *Entrance / Atrium Space*
17. 2 *Ramps*
18. 1 *Café*
19. 1 *Reading Room*
20. 1 *Computer Lab*
21. 1 *'Book Swap Dock'*
22. 1 *Bowling Green*
23. 1 *Gourmet Supermarket*
+ *Storage*
+ *Freezer*
24. 1 *Cooking Classroom*
[could be utilised by residents
as an extended kitchen for
family events].
25. 6 *Toilets*

1:500

THE FIRST FLOOR

Fig 9.155.
The first floor consists of residential apartments and flats. Communal facilities include a laundry lounge and veggie planters.

KEY:

{Residential}

1. 2 Studio Apartments
2. 6 One Bedroom Apartments
3. 2 Two Bedroom Apartments
4. 11 Shared Apartments
5. 8 Flats
6. 6 possible Student Studios
7. 1 Ramp
8. 1 Staircase
9. 1 Lift

{Communal}

10. 4 Laundries
11. 12 Washing Lines
12. 3 Lounges
13. 4 Veggie Garden Planters
14. 1 Rose Garden
15. 1 Outdoor Dining Space

{Residential and Public Use}

16. 3 Entrance / Atrium Space
17. 2 Ramps
18. 1 Café
19. 1 Reading Room
20. 1 Computer Lab
21. 1 'Book Swap Dock'
22. 1 Bowling Green
23. 1 Gourmet Supermarket
 - + Storage
 - + Freezer
24. 1 Cooking Classroom
[could be utilised by residents
as an extended kitchen for
family events].
25. 6 Toilets

THE SECOND FLOOR

Fig 9.156.

The second floor consists of residential apartments and flats. Communal facilities include a laundry, lounge, outdoor dining and veggie planters.

‘SLICE OF LIFE’

Fig 9.157.

Above - Section A presents a longitudinal slice of the life made possible by bringing two generations together while also examining the appropriation of the ‘cruise ship’.

WELCOME TO THE STAYCATION

Left - Section B presents a tranverse slice of the life 'on board'.

1:12 Ramp leading up to the second floor

1:12 Ramp leading up to the 'book swap lounge'

{CIRCULATION} THE DOCK

The highlighted ramp begins from the dock and connects to both floors on a single loop.

THE DOCK

The dock connects the building to the street and various residential components of the design to one another. A ramp network and 'book swap' lounge. The book swap lounge programme was derived from an existing 'gap filler project' that was once located nearby on an empty lot post-earthquake.

The dock provides the vertical circulation for the rest of the building. It can be regarded as a threshold between the pedestrian and the resident.

Fig 9.158. Section showing series of 1:12 ramps that run through the 'book swap' lounge and computer facilities.

the public entry

Fig 9.159. This entry interlinks with the book swap lounge ahead and the computer lounge behind.

THE PROMENADE DECK

The 'promenade' deck is an extension of solutions developed for 'support for interaction' presented within Design Phase Two where Circulation is treated as exterior corridors. However within this design, 'corridors' are now considered as decking, utilised for both circulation, exercise and outdoor activities.

the 'promenade' deck

Fig 9.160. The promenade deck acts as both an outdoor fitness circuit and circulation.

THE GARDEN

Pockets of garden has been placed throughout the design serving multiple purposes. The inclusion of these spaces draws upon Architect Keith Bradley's argument. In that establishing favourite places to meet regularly is important for prompting a 'sense of place' while giving the individual a sense of ownership (Bradley 27). Pockets of garden has been placed throughout the design serving multiple purposes.

camera location

the garden

Fig 9.161. A typical outdoor space for both generations to utilise.

LAUNDRY DECKS

These spaces provide an opportunity for generational cross-over to occur beyond the home. During my time with Nan, I found that the task of hanging out laundry had become a particularly strenuous task for her. The designed washing lines are 1.2m high to further assist elderly that struggle with this task.

camera location

the 'laundry' deck

Fig 9.162. A typical communal drying area for laundry.

REST

This part of the design would be best suited to Students and elderly with low to medium dependency. These apartments have been designed with flexibility in mind allowing for individuals like Nan and I to reside within the same space, sharing a kitchen and lounge while retaining privacy and independence within separate bedroom, bathroom and lounge spaces. Each unit also has their own point of access which provides a sense of personal ownership and control.

These apartments overlook the internal courtyard of the design which enables elderly to keep in touch with other resident's activities and routines. Skylights have been utilised on the top floors to maximise daylighting.

home - a 'miss brill' lounge

Fig 9.164. A Typical Lounge within the Shared Apartment Model

Fig 9.163. Typical Plan showing camera location.

SEPARATED

2 Single Units
60m² per Unit
180m² Overall

Fig 9.166. Separated Plan - Each apartment has their own kitchen and dining area. This maximises individual floor area but reduces human interaction.

SHARED

2 Shared Units
60m² per Unit
180m² Overall

Fig 9.165. Shared Plan - Shared kitchen and lounge in addition to their own private lounge. This reduces individual floor area but the communication and interaction is better achieved within this model.

Scale 1 2 4m

Fig 9.167. Section AA - Longitudinal Section showing both the communal lounge and private lounges.

Fig 9.168. Section BB - Section showing a typical 'barrier-free' bathroom and bedroom.

Fig 9.169. Typical Plan showing section placement.

HOME

REAPPROPRIATING THE 'GRANNY' FLAT

'Granny Flat' dwellings have been reintroduced to provide for students, caregivers and visitors. Communal spaces can be regarded as 'bridge spaces' or the 'play spaces' within each unit.

Studio spaces can be rented out to students and utilised as extra space for hobbies or visitors. Kitchen spaces are shared. The gallery style kitchen is relatively small but reflects eating habits of both elderly and students whereby both are likely to choose to have food delivered or cook quick easy meals.

THE SEPARATED GRANNY FLAT

6 in Total
 30m² per Studio
 60m² per Apartment
 180m² Overall

Fig 9.170. Detached 'Granny Flat' allows the owner to own an apartment and a studio. An external corridor enables a greater degree of privacy and maximises daylight penetration.

THE INTEGRATED GRANNY FLAT

2 in Total
 30m² per Studio
 60m² per Apartment
 180m² Overall

0 1 2 4m
 Scale

Fig 9.171. Integrated 'granny flat' model. Allows the possibility of two separate apartments without an external corridor this maximises floor area but reduces daylighting on the first and second floors.

SECTION A Fig 9.173. Longitudinal section showing a typical 'granny flat apartment'.

0 1 2 4m
Scale

SECTION A

Fig 9.172. Digital modelling shows the criticality of day and artificial lighting within this design.

EXTERNAL DESIGN CRITIQUE

Positives:

- *Cruise ship model innovative and unique.*
- *Flexible housing models interesting tool for amalgamating shared and private spaces.*

Shortfalls within the developed design:

- *Not enough reverence given to communal/'bridge spaces' within plan and section.*
- *Visual representations of these spaces need a greater level of reality and richness as prescribed by the individuals I am designing for.*

+ CRITICAL REFLECTION

This design concept provides a desirable housing option for both Elderly and Millennial students. The application of interactive solutions, is much more prevalent particularly within the home. Incorporating the cruise ship model has shifted the potential of this facility well beyond normative practicing by taking a more playful stance. In essence, one of the greatest benefit millennials offer elderly is a little entertainment and human company. Focusing on this benefit alone is largely supported by the reinterpretation of cruise ship living.

Noise - Placing communal spaces at the core of each typical plan also act as buffer spaces during evening and early morning periods. This enables both young and old to carry out tasks that may be best done separately with a greater level of noise protection.

Vision – There has been an effort made to maximise the amount of daylight in each apartment and communal spaces.

Haptic / Comfort – Spaces are insulated and a natural ventilation is possible within each apartment.

Communication – Communal spaces help prompt a breakdown of a 'my space' – 'your space' mentality. While providing a comfortable space for each cohort to share their lives.

Movement – 'Barrier-free' interventions have been utilised throughout the home to improve autonomy.

CRITERIA FOR INDEPENDENCE:

SUPPORT FOR
CONTROL

+

Accessibility

Safety

Flexibility

SUPPORT FOR
INTERACTION

+

Community
Dwellings +
Green Space

Social
Connectedness

Mixed
Typology

SUPPORT FOR
IDENTITY

Personalisation

Choice

Assistance
without Stigma

+ *SPACE FOR FUN*

= *Independence*

DESIGN THREE EVALUATION:

DID THE DESIGN MEET THE CRITERIA?

SUPPORT FOR
CONTROL

+

SUPPORT FOR
INTERACTION

+

SUPPORT FOR
IDENTITY

=

SUPPORT FOR
INDEPENDENCE

9/9

3/3

3/3

3/3

YES

+ SPACE FOR FUN

10.0

the conclusion

CONCLUSION + DISCUSSION

New Zealand's ageing population is set to push New Zealand into a period of demographic transition. Accelerated baby boomer population growth will account for an unprecedented percentage of individuals aged 65 years and older. In addition, New Zealand's most prominent urban centres are facing housing crises and student populations are struggling to find decent, affordable accommodation. In response, this thesis sought to address the possibility of designing "a mutually beneficial cross-generational housing model, that provides an alternative for ageing Baby Boomers and Millennial students".

Participatory research, reviewing cross-disciplinary literature and case studies established a need for independence for both generations. This was found to be best benefited from a design that supported change, interaction and identity.

These avenues of research instigated the development of a set of criteria. This provided a simple identification of how these address the primary actions undertaken to achieve independence.

Testing these considerations within the design field exposed issues found by pairing two 'bookend generations'. These issues have been explored by concentrating on both physical and intangible difficulties. The iterative nature of this research lead me to the development of three separate developed designs. Each work to achieve the needs and wants of each generation while exploring the potential for cross-generational design practices.

Design Phase One explored the problems that arose specifically between Nan and I while identifying where the natural course of ageing plays a role within these issues. Through this design phase I developed an understanding as to what it was like to live as Nan does. Designing a series of explorative interventions that play a role within the circulation and spatial planning of the preliminary design prompted a growth in understanding regarding the 'mutual support', 'mutual benefit' type of support network that could be achieved if implemented correctly.

Design Phase Two tested the possibilities of the boundaries. By testing where it is appropriate to eradicate, erode or emphasise boundaries gave a new set of possibilities for shared space. To further mediate this discourse, I developed a series of 'bridge spaces' that not only provided a solution for boundary spaces but as a means for providing solutions for the issues found within cross-generational living.

Design Phase Three delved into inserting fun into the developed design. I found that by reappropriating different yet applicable aged care or student accommodation models provided me with a new set of tools for prompting interaction and flexibility. The insertion of the 'cruise-ship' or the 'staycation' concept sought out an approach not yet seen within previous designs.

SUPPORT FOR CONTROL

- Good range of accommodation typologies.
- Flexible spaces enable an occupant to reduce or expand their home according to their age and stage of life. While they are fit and able they may choose to utilise the entire floor area as they decline they may choose to rent out a space to a student or an individual or couple of a similar stage.
- Implemented barrier-free interventions may alleviate the potential for premature entry into a nursing home.

SUPPORT FOR INTERACTION

- Prominence of communal spaces within both public and private provide opportunities for interaction between residents.
- Design allows for interaction to occur beyond the home by merging circulation and outdoor spaces.
- Use of amenity and green space encourages interaction between residents beyond the home.

SUPPORT FOR IDENTITY

- Residents are treated as equals but the range of flexibility facilitates for a sense of ownership and individuality.
- Interior personalisation possible – Each room is designed as a blank canvas.
- Designing places for people to meet, sit and observe within roof top garden spaces and 'circulation decks' allow residents to establish a places they might consider theirs.

SO WHAT NEXT?

Further growth in this area of research would help designers to understand and empathise with what it means to grow old. If this empathic view could be harnessed alongside a breadth of understanding of the practical demands of ageing, the lives of those approaching the 'third' or 'fourth' age could be markedly improved. Architect Keith Bradley notes that to "intensify intangible spaces" involves developing a "'strong empathy for those living and utilising the space" (Bradley, 19). Undertaking participatory research with Nan allowed me gain first hand understanding of what life is like for a woman of her 'age and stage'. It is important to note that a key limitation of this research is level of bias I had towards my Nan's personal afflictions. Becoming an 'empathic designer; with a focus on designing places for interaction and beautiful barrier free spaces would greatly benefit aged care design.

Throughout the research process I found that autonomous living is not only reliant on the physical but the social sphere as well. Maintaining human relationships with neighbours and friends prompt both physical and emotional support critical to prolonged independence. While barrier free solutions can be assisted directly through design practices, I found that the intangible barriers were much more difficult to alleviate. I have found that by designing for both community and individual interactions I am supporting not only the 'independent' self but at the very least a happy one. Amplifying the sense of novelty and fun found within the cruise ship model and the developed design stimulates serendipitous moments to occur particularly within communal spaces within the home and circulatory spaces like the promenade and dock way.

Obermuller describes these interactions as a series of exchanges noting that:

"Such forms of exchange can no doubt bridge the difficulties of ageing for quite a while, preserving autonomy and circumventing the worst evil of old age: loneliness" (Obermuller 212).

A limitation of this design is the New Zealand ethos with which communal living often carries a relatively negative stigma. The cohort considered within the research scope includes individuals who are looking for an alternative and therefore less likely to see to potential for collective living as negative.

In conclusion, this thesis provides an alternative 'mutually beneficial cross-generational housing option by designing a fun but practical solution for both generations while testing opportunities for prompting interaction through design as a means for allowing cross-generational relationships to flourish.

CONCLUDING IDEAS

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12.0 figures

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Figure 1.0 Cruise Ship Drawing

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Figure 3.01 Elderly Tourists Drawing

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Figure 7.49 – Spatial Diagrams

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