BIG HOUSE

Co-living Design for
Transitional Housing

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2018
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BIG HOUSE

Co-living Design for Transitional Housing

BY

BENJAMIN MATHEW WEBBER

A 120-point thesis
submitted to the Victoria University of Wellington
in partial fulfilment of the requirements for the degree of Master of Architecture (Professional)

Victoria University of Wellington
School of Architecture

2018
Fig. i-01. A photo of the suburb of Flagstaff from an article by Kelsey Wilkie, represents new growth but high house prices.

Fig. i-02. A photo of a family in New Zealand who resorted to living in a car. Image blurred for privacy.
I have a huge passion for the practical benefits for people that architecture can have on everyday life, and society. I have a desire to design useful, needed and loved buildings for those less prosperous.

Ultimately my real hope is in the victory that Jesus has won over the negative things in this world that cause sad situations such as homelessness.

(Psalm 10.18a & Isaiah 1:17)

It is my hope and trust in God’s promises, that people can use the learnings and findings from this research to assist appropriate housing design, for very low-income people in New Zealand.

For a glossary of terms, please see page xii.
This thesis is dedicated to the staff and students at Victoria University of Wellington who helped me so much by both subtle and overt means – making this research both an enjoyable process and producing a satisfactory result.
I would like to acknowledge a huge number of people, some by name and some as a larger group, since this research is a result of many hands, ideas, conversations, all wonderful blessings from the Lord.

2016

Allison Kay, Bruno Marques, and many other SOAD staff who were fantastic at supporting me into and then through my final year. (Many behind the scenes I’m sure).

2017

I am so grateful, and I know I ought to be more grateful for the most wonderful blessings of patience, advice, and discipline that I have received this year from:

- My Abba Father in Heaven.
- Brittany Hoare.
- Mark Southcombe.
- Tim and Simeon.
- Mother, Jenny, and Father, Keith.

This research was made possible by the grace (many freely given gifts) from God. Love that hopes, endures and bears all things has been shown to me by Brittany. Wisdom in many forms has been shown and taught by Mark Southcombe my supervisor. Many mercies and daily joys have been blessings as I have lived with Tim and Simeon. Prayers, and their various gifts in Christ, all supporting their valued son: Mum and Dad. Chats, laughs, headaches, and so much time together that I will always treasure: Gen my neighbour in studio and the Ecologies Design Lab team, 2017.

A big thanks to my brothers and sisters in Christ at SOAD, who have prayed alongside me these past few years.

Acknowledgements to the assessors, moderators, and guests at my final review and PGSA presentation. The attentiveness, support, and feedback from so many is appreciated, especially those who helped suggest edits for this document.
This research explores the architectural implications of co-living in a community house that supports very low-income people. Key findings through design research are developed from disciplinary concerns in the literature and precedents. The key findings include architectural implications of providing for optional interaction and architectural implications from the distinction between individual provision and shared use. Design strategies for co-living are identified and worked through a series of design stages for a design proposition. The design proposition, named *Our Big House* is a medium density transitional housing project in Wellington, New Zealand.

Architectural implications surface through the development of *Our Big House* and include spatial separation with gradients, and threshold definition to support optional interaction. What is shared is limited by the sustainable sizing of a community, and this informs architectural planning and major formal moves.

This research acknowledges that there are wider issues with housing involving very low-income households. Some of these are mentioned or responded to, such as maintaining social harmony and the organising of people living together. However the structured content and limited scope of this research focus on architectural design strategies and implications.

Benefits of co-living include increased scales of economy, greater facilities, space efficient density, and opportunities for life-skills to develop. *Our Big House* for co-living proposes an alternative lifestyle centred on a community that can facilitate these benefits and support transitional living.

Design research will provide valuable knowledge for co-living design, propose several key findings, and exemplify these in the design of *Our Big House* to address housing for community living and very low-income people in Wellington, New Zealand.
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[-viii-]
Fig. i-04. Next page - The design research methodology outlines the design research process. This correlates to the layout of this research and hence to the contents above also.
Design Methodology Framework

**I - Architectural ambition**
massing and drawing

**II - Architectural ambition**
reworking into concept 'Big House'

**III - Architectural ambition**

**IV - Development through research**
+ precedent study

**V - Development of floor plans and elevations**
+ presentation of design

**Evaluation, presentation of conclusion**

**Design, Stage I**
CONCEPT DESIGN
Sharing houses

**Design, Stage II**
CONCEPT DESIGN
Sharing the Big House

**Quick-Fire Design Review 0.5**
30 March

**Design Review 1**
17 May

**Design Review 2**
23 August

**Design Review 3**
+ Final Presentation
10 November

**Writing Week**

**Research Proposal**

**Sharing houses**
Zavos Corner

**Sharing the Big House**
Spreefeld

**Margaret Stewart**
The layered Big House

**Tapu Te Ranga**
Spreefeld
Structure of document

The structure and layout of this thesis document reflects the structure of the VUW Master of Architecture programme which is illustrated in the methodology diagram (previous). There are three design chapters, each chapter discusses a period of research leading up to a design review. Chapter II covers the initial design research stage up until the first review and is followed by critical reflection. Chapter III until the second design review and chapter IV until the third and final Design Review, each review again followed by critical reflection.

The design research stages are undertaken as distinct and subsequent responses to disciplinary concerns, the research question, a narrowing research scope, and iterations of the design proposal.

Icon diagrams

Disciplinary concerns and corresponding design strategies for co-living are acknowledged with icons throughout this thesis. The icon below represents the disciplinary concern of ‘providing for optional interaction’. This will be used throughout this thesis to highlight the same disciplinary concern or to highlight an architectural implication that relates to providing optional interaction.

Glossary of terms

Very low-income

Where, “A household’s income that is less than 40% of the median household income after housing costs.” (Perry, 2016).

Our Big House

The ‘design proposal’ for a ‘Big House’.

Spatial arrangements are tested throughout this research, questioning how architecture can allow for people to choose how much they would like to interact.
This design research will be outlined with its limitations, appropriate scope and objectives/aims. The first stage of the research begins in chapter II after a brief background to the problem of suitable housing for very low-income people, and after some case studies to outline the motivation for the research. Co-living design will be highlighted as having a potential for design research. Finally, some co-living context will be introduced to locate and focus the research on the specific architectural investigation of co-living for community supported transitional housing.

Aims

The design research investigation aims to find and develop architectural strategies for co-living through the design of transitional housing. The design process will utilise iterative testing, and critical reflection to find the strength and application of co-living strategies identified in the literature and case studies. The strategies will be exemplified in the design proposal but the aim is for architectural implications to contribute a broader relevance. This research aims to challenge and provide an alternative approach to housing for very low-income households.

Objectives

- Finding co-living strategies through an iterative design process that reveals architectural design problems and implications. These are then reviewed to establish or clarify the significant strategies.
- Testing and applying the strategies with the design proposal.
- Developing the design of Our Big House through several stages that reveal architectural implications in a tangible and clear representation of the design proposal.

Problem Background

The background and current causes behind the lack of suitable housing are complicated but have been investigated and analysed by Philippa Howden-Chapman (2015), Shamubeel Eaqub (2015), and others. Essentially the provision of new housing is motivated by a maximisation of profit, as in most cases where ‘owning a house is an investment’ (Watson, 2013).

The context of New Zealand housing is mentioned in acknowledgement of other factors and disciplines that relate to assisting very low-income households. The potential effect of other factors on a co-living architectural design project will be referred to throughout the research; but only as a point of reference, support, and suggestion for further reading.
**INTRODUCTION - LOCATING THE RESEARCH**

Examples of existing architecture will be discussed to locate the design research in the relevant field of housing for low and very low-income housing. This research presents an alternative approach to providing housing, with a form of co-living architectural design. Co-living will be highlighted with emphases on large community living, and transitional housing (see pages 5, 14 and 15).

New Zealand housing provision by value is displayed in the graph below, showing that, “Today only 5 percent of new homes are priced in the lowest quartile and nearly 60 percent of new homes are placed in the upper quartile.” (Productivity Commission of New Zealand, 2012). Three existing and common approaches to addressing this housing problem are seen opposite.

![Diagram of New Housing investment, value distribution](image)

**Fig. i-05.** The provision of low-income (or ‘affordable’) housing in New Zealand has dropped significantly making it difficult for (especially very) low-income people to transition into housing. There is not enough low-income housing being built in New Zealand.

**Fig. i-06.** Next page: Central Park apartments.

**Fig. i-07.** Next page: Regent Park apartments.

**Fig. i-08.** Next page: A single detached state house. Auckland.
Apartment blocks, medium density dwellings and single detached houses have been successful in providing homes for low-income New Zealanders. However, two factors are noted from these existing examples that frame the motivation for this research. First, that co-living is not well supported in any of these architectural typologies. Secondly, that these all exist in the current framework of New Zealand home ownership or rental law.

A co-living solution has the potential to challenge these two factors and provide a more suitable housing for many very low-income households. This research seeks to test the architectural potential and implications of co-living in New Zealand, and to focus this testing with the final design proposal.
"A (contemporary) form of housing where residents share living space and a set of interests, values, and/or intentions." (Opendoor, 2017)
Co-living is expressed in different residential models to varying degrees and is distinct from other similar terms. The confusion between a ‘co-living’, a ‘commune’ and a ‘co-housing project’ are explained in detail on the open door webpage (2017). Projects of each nature have relevant architectural implications as is seen with Spreefeld’s co-housing on page 32.

‘Co-living’ is the more general of these terms and this research bases its use on: the contemporary usage as a growing movement internationally, an assumed New Zealand understanding of ‘typical’ living situations (such as apartments), the key assumption of co-living being unique with shared common facilities and living spaces.

The design proposition of co-living is catering for a potentially beneficial living and housing arrangement in two kinds of situation.

First, those who in co-living arrangements can be particularly well equipped to provide emergency accommodation for people in need who might have been homeless, struggling renters, the lonely, those struggling with addictions, those who are suffering from mental health issues, and those burdened with a police record.

Secondly, co-living can provide people with a mutually supporting and cheaper lifestyle.

Thirdly, living with any of those in the situations listed above allows for a unique form of support. Walking alongside another, and experiencing a part of someone’s life is made more significantly possible through co-living.

Why co-living?

The goal is to give some people in need, a hand up.

The goal is to provide a ‘Big House’ for community supported transitional housing.
The broader context of co-living.

There is a shifting desire in people’s housing preferences and a growth towards co-living in New Zealand (Dreaver, 2017). This relates to some of the problems with housing supply in New Zealand as mentioned in the introduction. There is a demand (by non-financial investors) for housing that caters to: the decreasing average household size, an increase in multi-household house-shares, and groups desiring to live in larger communities. Therefore, this research also relates to the wider context of co-living in New Zealand.

The map above highlights some places of residence in New Zealand that have a form of co-living. The Big House is intended to provide transitional housing in a form like the operation at Berrigan House and Still Waters communities in Wellington. It should be noted that community supported transitional living such as these most often occurs in non-specifically designed buildings in New Zealand (i.e. in typical single detached houses). These communities operate differently from the Earthsong and High Street co-housing projects however particular similarities can be found in shared living and dining areas. These are often able to cater for large community events. The design proposal has such a space on page 79.
“...when families are supported through a housing crisis and a sustainable housing solution is established, their home environment becomes stable”

(Monte Cecilia Housing Trust, 2013).

CO-LIVING - DIFFERENT TYPES

High Street Co Housing  
Co-housing: An established community.  
Often designed in New Zealand

YMCA Lower Hutt  
Co-living: life style focused communities.  
Often, existing buildings designed for other purposes are utilised.

Margaret Stewart House  
Co-living designed temporary accommodation  
Designed in New Zealand

The precedents to follow in this thesis will each fall into one of the above types of co-living architecture. A focus has been placed on precedents that were intentionally designed for a co-living purpose. A co-housing project, Spreefeld, is introduced on page 32 as a design influence.
LOCATING - NEW ZEALAND CO-LIVING

PLACE
Tāpu Te Ranga Marae

DESIGNER
Bruce Stewart - Designer

DESCRIPTION
A many sectioned house, each with multiple rooms. A contemporary urban marae with some marae-style sleeping, a form of an ātea, and other Māori spatial arrangements or tikanga.

KEY RELEVANCE
A clear sense of community identity can attract other likeminded people. The purpose of being one Whānau is reflected strongly in the architectural form and construction. A common material palate unifies the facades of the Marae together and expresses the collective and shared nature of Tāpu Te Ranga. On the other hand, unique interior finishes, recycled materials, and hand-crafted detailing provide unique spaces for individuals to occupy and identify with.

PURPOSE
To create and sustain an urban community based on Māori culture. A Whānau for those without one in the city.

STATISTICS FOR COMPARISON
SQM - Site: 200000 Building: 2508
DENSITY - 17.5 Inhabit/hec 0.0175 F.A.R
SHARED SPACE (CLUSTER) - Bathrooms, Marae style bedrooms
COMMON SPACE (ALL) - Kitchen, Dining,
PRIVATE SPACE (HOUSEHOLD) - Bedroom
PRIVATE SPACE (INDIVIDUAL) - Plenty of hideaway spaces during normal use.

LOW COST RELEVANCE
There are significant cost benefits from co-living and kaitiakitanga. The community and sharing here is more than a living arrangement. From the creation of the community and the beginning of construction (for those present), much has been shared.
Individual living with the provision of additional, larger, shared facilities.

SHARED SPACE (CLUSTER) - Bathrooms

COMMON SPACE (ALL) - Kitchen, Dining and Laundry

PRIVATE SPACE (INDIVIDUAL) - Bed, kitchenette, table. No privacy within the unit as each unit is one open room.

Cost benefits through limited private space and shared costs for the common space.
**LOCATING - NEW ZEALAND CO-LIVING**

<table>
<thead>
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<th>YMCA Boarding House</th>
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<tbody>
<tr>
<td>DESIGNER</td>
<td>Crichton, Mckay &amp; Haughton Architects. c. 1941</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>Affordable shared accommodation supported by the YMCA trust. Another example of a supported living situation is introduced on page 14 (Berrigan House).</td>
</tr>
</tbody>
</table>

**KEY RELEVANCE**

The community based charitable trust offers programmes and services aimed at building strong kids, strong families, and strong communities. This is a similar design ambition for Our Big House as seen in the 'big community' areas on the ground floor (See appendix D).

**PURPOSE AND SUCCESS**

To provide accommodation and community support with a 'safe, clean, friendly environment' and a supportive management.

**STATISTICS FOR COMPARISON**

- **SHARED SPACE (CLUSTER)** - Bathrooms, Kitchen, Dining, and one level is for females only.
- **COMMON SPACE (ALL)** - TV Lounges, Laundry.
- **PRIVATE SPACE (INDIVIDUAL)** - A variety of rooms including single, twin, double and premium rooms.

**LOW COST RELEVANCE**

Low cost benefits come from living in a charitably serviced and managed accommodation. There is also a potential for shared meals and sharing childcare.
transitional housing

NOUN

Housing for people “...in need, along with tailored social support... while they are helped to find more permanent housing.”
(Ministry of Social Development, 2017)
LOCATING - NEW ZEALAND CO-LIVING

PLACE
Margaret Stewart House

DESIGNER
Kevin Hislop Architect

DESCRIPTION
One large residence with multiple wings of private units and a spacious shared section with an array of rooms and spaces.

KEY RELEVANCE
Spaces of sanctuary can be temporary and located within or adjacent to shared areas. The sun room, quiet room, and some of the smaller lounge spaces or nooks in larger spaces can be used as personal retreats. See figure i-15.

PURPOSE AND SUCCESS
To provide temporary accommodation for cancer patients and family members.

STATISTICS FOR COMPARISON
COMMON (ALL) - Kitchen, Dining, and living areas. A quiet room, sun room and laundry facilities.

PRIVATE (HOUSEHOLD) - Units with twin or double beds, and also self-contained units. Some with an en-suite bathroom and kitchenette.

PRIVATE (INDIVIDUAL) - Plenty of hideaway spaces during normal use.

LOW COST RELEVANCE
Potential for saving costs in the daily living expenses such as through shared cooking.
Fig. i-15. Common area on the ground floor of Margaret Stewart House (NTS). The non-rectilinear dining and lounge rooms allow for multiple spaces to exist and be used in the same room. This allows for residents to experience a feeling of sanctuary even in a shared area.

Margaret Stewart has large shared areas, however parts of the living spaces can be occupied by one or two people.
INTRODUCTION - CO-LIVING DESIGN AMBITION

This research seeks to design a ‘Big House’ that acknowledges the context of very low-income housing and existing co-living in New Zealand by providing specifically designed options for smaller household units, multiple household living arrangements, and large communities. Further investigations into the architecture of common living spaces will continue through the introduction of Spreefeld as a case study in chapter II.

The community supported living is intended and being tested for architectural implications. Social issues including people being willingness to grow and transition are noted, but the scope of this research focuses on the architecture. For example: encouraging the development of life skills through social interaction by designing spatially staggered gradients that are designed for varying and optional interaction.

CASE STUDY - RESIDENTS IN A SUPPORTIVE COMMUNITY

<table>
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<th>PLACE</th>
<th>Berrigan House</th>
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<tbody>
<tr>
<td>DESCRIPTION</td>
<td>One large residence with a common ground floor or larger events. The upper stories contain private rooms and smaller shared living spaces.</td>
</tr>
</tbody>
</table>

Fig. i-16.  Berrigan House on Kelburn Parade, Kelburn, Wellington.

KEY RELEVANCE

The operation of Berrigan House is the main relevance as a model of how community supported transitional living can occur. Unfortunately Berrigan House was not specifically designed for this purpose however it is worth noting that the open plan ground floor is able to cater for large community events.

RESIDENTS

There is a group of long-term residents who are passionate about the kaupapa relating to Romans chapter 15 verse 1. The desire is to live with those who are in need for a time, who would appreciate the support of the community during a time of transition.
THEORETICAL TESTING: WHAT IS SHARED, AND WHO ARE THE RESIDENTS?

To see how Our Big House could accommodate a range of residents, different dwelling types are tested throughout this research. The design problem of providing for the individual and the collective is addressed in this testing by designs for a range of private and shared spaces and facilities through each design stage.

Fig. i-17. What can be shared? Throughout this research different shared and private facilities will be tested.

Proposed households are listed below as examples of what is envisioned throughout the research.

PROPOSED HOUSEHOLDS

- Singles
- Flatting Groups
- Young men and women over 18
- Elderly widows
- Elderly living with extended family
- Couples
- A sole parent
- A large household or extended family living arrangement

Tenant types from short-term to long-term are specifically catered for in the final design stage (specific architectural implications can be found in chapter IV). The concept of a mixed tenure type model is considered throughout the research where both short-term stayers and long-term residents can choose to interact. The proposal for an allocation of these tenures can be found alongside the floor plans from page 79, and enlarged in appendix B.

- **Short-term guests**: Providing for people who are struggling in various situations in life such as homelessness or with rent as mentioned on page 5.
- These guests could stay on with a medium-term lease.
- **Long-term residents** would be employed or would volunteer for a Trust or The Street Church and live in the residence for a certain number of months or years. This permanent resident basis provides stability and an existing community kaupapa for short-term guests and medium-term renters.
Below is an evaluation of the site at 21 Hania st for the design proposal:

• The location on the edge between Wellington Central area and Mt Victoria suburb provides the advantages of a quieter suburb, while giving close access to the City.

• Being near the City provides convenience for amenities, work places and any social services from which very low-income people may be referred.

• It is in an area with a high increase forecasted for residential development (Wellington City Council, 2015).

• There is other medium density housing in the vicinity, and so the development would not feel out of place (see fig. i-19).

• The neighbouring church provides a unique opportunity to explore engagement with the wider community. Either events could be planned together, or The Street Church could act as the institution to support Our Big House. Whichever institution, the facilitation of administrative support can be seen on page 79.
LOCATING THE SITE - WELLINGTON, NZ

Fig. 1-21. Site location: Mt Victoria

SITE LOCATION 1:5000 @ A4
LOCATING THE SITE - HANIA ST, MOUNT VICTORIA

Fig. i-22. Site location: Hania St.
The location of the project is suitable for testing co-living, and furthermore suitable as a test of medium density co-living on a tight urban site. The site’s tight and enclosed nature is deliberately accepted in an attempt to embrace the constraints of medium density living in the city. The scale of the project is in proportion to the size and scale of the site and the surrounding context. While some outdoor space is provided, further planting, space in the sun and open space is easily accessible with the town belt (Mt Victoria), Oriental Bay, and Pukeahu War Memorial nearby.

The existing car-park is proposed to be retained for its current use by the neighbours; The Street City Church and the Mental Health Service. If the project were real, this could be of assistance in funding Our Big House and also providing a car-park supports the wider community engagement ambition of the project. People attending events, community workshops or simply visiting could have more convenient access to facilities with a car-park on site.

The tight and enclosed nature is limiting to the design and layout of the project, however constraints also allowed for design research testing that was developed to a level where the implications of necessary site development were clear. For example of some site design problems see page 73.

There are also strengths that the site brings to co-living design research as the semi-commercial area allows for the possibility of a mixed use development. A bakery, café, or restaurant could be placed on the roadside, providing the housing project as a whole with another rent-payer on the lease, an amenity for the residents, and additionally would avoid the need for any dwellings to be on the roadside themselves.

Fig. i-23. Neighbouring residential buildings of the suburb of Mt. Victoria on the South Eastern corner of the site.
I - Architectural ambition
massing and drawing

II - Architectural ambition
reworking into concept 'Big House'

RESEARCH
Zaves Corner

Design Stage I
CONCEPT DESIGN
Sharing houses

CRITICAL REFLECTION

FOCUSED RESEARCH
Spreefeld

Design Stage II
CONCEPT DESIGN
Sharing the Big House

CRITICAL REFLECTION
DESIGN STAGE I & II

‘Sharing some Space’ + a ‘BIG HOUSE’
‘(Co-living with)... a really good whiz-bang kitchen living area and private places to withdraw.’

(Ryan, 2017)
The design ambition of this first design stage was to test what shared living might look like architecturally with some quick concepts. *Our Big House* as a concept was not present in this stage of the research, rather, a design charrette propelled some testing of questions such as:

- How would shared rooms work in a co-living residence? Kathryn Ryan and Bill McKay discussed this question on Radio NZ in May 2017.

- What would a medium density housing complex look like with some shared residences?

- What can be shared and what cannot be shared?

- The aim was also to shape the starting point of the design research with some tangible architectural ideas and testing of co-living design strategies.

Fig. ii-01. A series of quick models gave scale, a tangible reference to discuss, and then to test conceptual architectural strategies for shared living. Further analysis of these is found in figure ii-04.
Studied to gain a familiarity with a) medium density housing and also b) the Mount Victoria area. Both of these areas of the research will be discussed (for example see page 73) although an emphasis will be given to the disciplinary concerns relevant to the co-living research scope.

Reflections on Zavos revealed a sophisticated approach to the occupation of the site whereby each dwelling attains an incredible sense of a distinct home. Each dwelling occupies a sole level, features spaces of personal outlook, and is entered uniquely. On the other hand, the project has a strong and coherent identity, a shared (hidden) car park and courtyard. These design strengths are significant in the pursuit of co-living, and for a successful design in the New Zealand Wellington context.
**Spatial Testing**

Fig. ii-04. Privacy and interaction: some conceptual rooms were modelled and diagrammed. This series of shared room tests helped provide some building block understanding of architectural implications of co-living. Flexible screening could be useful for controlling the interaction between spaces.

**Legend**

- A location and view of inhabitants in each space.
- The movement of people passing by.
- Interaction between spaces.
- Private space.
- Common or shared space.

**Ambition**

These diagrammatic, sketch, and modelling exercises were created to find out what worked, and also what did not. Modelling allowed for multiple concepts to be easily tested.

**Learnings**

Modelling and diagramming allowed for thought processes to passively and simultaneously assess new spatial ideas. Problems and potential opportunities arose such as peoples privacy and visibility, and possibly screening to divide spaces.

Partially protruding walls could create sub-spaces while allowing for a sense of community and shared ownership to co-exist. These could be extrusions horizontally as continuing wall lines, or vertical extrusions to form a booth-like area. These design strategies are developed in later chapters and in particular the concept of screening.
CONCEPTUAL PROPOSAL

To celebrate individuality and support notions of ‘ownership’, identity, belonging, safety and comfort. Architecturally this could have implications on material selection and variety, subtle variations in detailing, or formal variety both for interior cabinetry and external architectural elements such as balustrades and steps.

LEARNINGS

Drawing in section provided insight into the vertical possibilities of spaces and architectural implications on the over-all design. Ceiling and floor heights could be used to separate, diversify and define spaces.

Slight site contours allowed for some level changes in and out of dwellings and in the courtyard space also – this could help distinguish certain areas and also provide increased privacy.
CRITICAL REFLECTION

This design stage tested how standard dwellings could share some adjacent facilities, limiting the design research because much of the dwelling remained normal. This informed future decisions to test a fuller co-living and test what is shared to the limit. These planning investigations have additional relevance to co-living options for extended families living together, an adult child boarding at home, or an international home-stay situation. These options show a broader relevance of this research.
SUMMARY OF DESIGN STAGE I

Background study, in particular of Zavos, helped to form an understanding of medium density housing. While this typology was tested for shared living, there remained much more scope for pushing what could be shared.

The design charrette and first design stage provided testing of instinctive presuppositions of architectural implications and some basic concepts. Propositions about location (Mt. Victoria), scale (the Hania St site), and (a medium) density were put forward. This provided a tangible position from which to trial, reflect, critique and move forward from, with Zavos as an example of contemporary medium density living.

The most significant findings were the outputs of spatial modelling, an example being the use of screening. These are applied and developed in later design stages, and could be used as design strategies for interconnected work.

Some key problems to address also surfaced in these explorations. What ethical limits were there to sharing? What was possible and what was not? What was preferable to provide for the individual and what should be designed with the collective in mind? Similar questions are also addressed in the literature and are highlighted in chapter III as they became of more significance in Design Stage IV. Within the context of co-living, providing for the individual was a key investigation in this chapter, whereas the remainder of this research is more focused on the architecture for the collective.

In summary; the first stage of the design research drew out a lot of opportunities for exploration and development by testing ‘sharing houses.’ Subsequent design stages moved to a fuller co-living, testing more interaction and more shared space.
‘The new modern dwelling is really like a series of flats’

(McKay, 2017)
Further development brought about the concept of a ‘Big House’ in this design stage, where the following questions were investigated:

• How might shared spaces work for co-living as a part of a larger ‘Big House’?

• What might a big house be like if it was shared between a variety of households?

• ‘What can be shared?’ and ‘what cannot be shared?’ continued to be tested.

Key investigations:

Fig. ii-08. Test sketches of interior arrangements including sliding doors for semi-joined kitchens. What can be shared and how could it be shared in a common kitchen area?
In the second design stage the design proposal focused as ‘Our Big House’. The key case study and precedent ‘Spreefeld’, a co-housing community in Berlin, was inserted into the research here. A project approaching this scale (in relation to its context) was imagined in an urban context in Wellington, New Zealand. What would a New Zealand Spreefeld be like on the border of Mt. Victoria?

During this design stage the research focused on testing ‘what is shared?’, and how architecture could facilitate a new amount of sharing in Our Big House.

There was an opportunity for Our Big House to explore the limits on what can be shared. This speculative form of living continues to be tested throughout this research, eventually focusing on a proposal for a community supported transitional ‘Big House’.

Fig. ii-09. Spreefeld: an aerial showing the river Spree and its context in Berlin.
Key precedent: Spreefeld

Spreefeld - CARPANETO ARCHITEKTEN, FATKOEHL ARCHITEKTEN, BAR-ARCHITEKTEN [THREE GERMAN FIRMS]

A large complex with three buildings, a variety of shared facilities and spaces.

The third floor of this Spreefeld building contains co-living apartments rather than standard apartments. The plans above, both of the Second Floor, show highlighted the shared ‘cluster’ area and the area of private apartments, and the stair common to the whole building. Spreefeld provides more proportionally for the individual than Margaret Stewart House does.
Each of the three buildings has some form of common facilities and spaces on the ground floor for everyone (see fig. iii-14).

Spreefeld has different areas of community interaction; from publically accessible space and event-scale spaces, to shared balconies and common dining areas, to the cluster spaces seen in figure ii-12.

To allow for a collective (non-private) ethos to exist in an inner-city area next to the river Spree.

SQM - Building: 5835

SHARED SPACE (CLUSTER), “Own compact ‘private spaces’, but sharing large communal kitchens and living rooms” (LaFond, web:custom self build...)

COMMON SPACE (ALL) - “kitchens and living rooms and bathroom and communal terrace” (Fatkoehl website)

PRIVATE SPACE (HOUSEHOLD)

PRIVATE SPACE (INDIVIDUAL)

• Cost cut through an alternative development arrangement.
• Additional savings for those living in the cluster apartments with shared facilities.
• A “…lack of profit requirement, marketing costs, cheap build, and...the availability and affordability of sites in Berlin.” (bennicontheloose, 2017)
Maroon, dark brown, light brown and yellow are used throughout this thesis document to represent community, common, shared and private spaces respectively. What this would look like socially would of course vary with real tenants. Nevertheless the colours are used to indicate proposed use. See appendix D for the developed gradients used for the design proposal.

Different amounts of interaction would inspire vertical gradients in design stage IV. Spreefed's architecture speaks of public interaction in the common areas with floor to ceiling windows, spacious rooms and hard wearing floor materials.
Spreefeld’s different gradients of public, common, shared (clusters), and private areas informed the conceptual planning for *Our Big House*. The planning explored appropriate dwelling types and arrangements for different kinds of people, however the assemblage of units lacked a strong collective identity.
During this design stage, how to spatially separate a changing gradient of privacy and interaction was tested.

There was a potential for the architecture to facilitate potential change in the amount of interaction between residents with sub-spaces inside larger spaces. This would be beneficial in offering residents a choice and could help mitigate some of the potential social issues of co-living. Privacy gradients would also facilitate personalisation of *Our Big House*, in different areas of less foot traffic and interaction residents could feel more ‘at home’. Finally, gradual changes in the architecture between the private units and the shared areas could help inform appropriate behaviour.

Another design strategy was to offset the floor levels for different spatial gradients within the public to private journey. Having an eye level and line of sight at different floor levels can allow for increased and decreased privacy, individuality, more intimate scale, and personal space. The architecture of space and volume reinforces this, and in addition to floor levels, other strategies can reinforce such ideas. Material shifts help reinforce spatial divisions, programme separation, and can even denote amounts of proposed privacy or commonness throughout *Our Big House*.
Design state II tested the architectural expression and planning concept of the building as a whole. Testing included the interrelationships of common, shared and private space in different intensities. Figure ii-18 shows three of the spatial intensities on the first floor.

This strategy featured some 3D modelling with Rhino software complimenting a Revit draw-up, bringing increased order and a cohesiveness to the project. However, what lost emphasis and development was the original notion of individuality and spatial diversity. The building had become more rectilinear and standardised.

Furthermore, some of the design thinking was not yet developed. For example, the threshold treatment between private to public spaces. What happens if doors are left open? Could there be some screening in private doorways? Further details like these are tested in design stage IV.

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**Fig. ii-18.** Floor plans began to develop from rectilinear spaces to become more broken up.

**Fig. ii-19.** Broken up spaces are seen from the courtyard to the shared interior spaces on the ground floor.
Fig. ii-20. On the ground floor: private dwellings, shared living and dining areas and a common courtyard.
Summary of key research findings

Sanctuary was a concept designed for mainly in the private units themselves. Nevertheless, some living spaces on the ground floor started to express different levels of privacy.

Different gradients of interaction were inspired from precedents such as Spreefeld although the architecture required development to support stronger gradients.

The thresholds between gradients of interaction and privacy were not clearly defined.
This chapter has shown how the design research process helped clarify the research direction and the architectural implications of the research question. The architectural testing moved from exploring how parts of dwellings could be shared, to how a whole ‘Big House’ could be shared with multiple dwellings within. The next development of this shift is found on page 55 and 59.

The architecture of a ‘Big House’ was being tested for key problems that would help direct the next chapter of developing Our Big House. Some key problems were, the need for developing gradients of privacy, having spaces of sanctuary, and also defining thresholds between different areas of interaction. This potential for development can be seen in the section (fig. ii-21) where the ground floor has adjacent spaces of: shared living/dining: public courtyard.
III - Architectural ambition

CRITICAL REFLECTION

Design Stage II

FOCUSED RESEARCH

Tapu Te Ranga Spreefeld

Design Stage III

CONCEPT DESIGN

Layers of shared community

Design Stage IV

DEVELOPED DESIGN

The layered Big House

IV - Development through research + precedent study
DESIGN STAGE III & IV

III: ‘Lateral imagery’ + IV: ‘Our Big House Revision’
lateral thinking

NOUN
[mass noun]

“The solving of problems by an indirect and creative approach, typically through viewing the problem in a new and unusual light.”

(Oxford Dictionaries, 2017)
Design Ambition + Key investigations:

One key critique on the design outcome of the second design stage was the potential to increase the desirability of *Our Big House*. The question of, ‘what could be shared?’, was once again identified as fundamental to the architectural implications for co-living. Also following from this were, ‘To what extent could something be shared?’, and, ‘What could not be shared?’. The following chapter explores opportunities for spatial, geometric, and compositional design relating to co-living in *Our Big House*.

Costing was realised as a sub-conscious influence on the design research this far, and this had been limiting design explorations.

Design explorations can be creatively detached from final outcomes and provide resourceful perspectives to design problems that may not otherwise be found.

> “When the outcome drives the process we will only ever go to where we’ve already been. If process drives outcome we may not know where we’re going, but we will know we want to be there.”

Bruce Mau (Mau, 2000)

The design ambition for the third design stage was to test an alternative concept for *Our Big House*. The initial period of design work was short and strategic – a method of taking an image and reimagining it with lateral thinking. Key investigations included site and context specific drivers such as; car parking, semi-outdoor living, and stacking dwellings on top of a clustering of common spaces. These were explored at a conceptual level in the third design stage and with increasing detail thereafter.
This offered a perspective on dwelling above the car. A car park for Our Big House might be explored above grade and celebrated by the architecture. This has the potential to compliment the context of the Hania street show rooms and car yards.

The internal courtyard here offered an example on how such an amenity could compliment dense residential living. Providing outlook into a shared space develops on page 56. Additionally, an internal garden could be enjoyed at different locations and levels of Our Big House. This remained an area for potential development and was not explored past conceptual sketches made during this stage.
Lateral thinking testings

Fig. iii-06. Expressing conceptual architectural implications of having different gradients running vertically. *

Fig. iii-07. Gradients of privacy, shared space, common areas and community space on the ground. *

Fig. iii-08. Concepts for private units at the top of the building. *

Fig. iii-09. A space of private sanctuary, proposed as a roof top garden. *

AMBITION

Sketches tested architectural implications of optional interaction through different levels of public (ground), common (mid levels), and private (top levels).

LEARNINGS

- The potential for lateral thinking as a powerful design driver to test alternative concepts. This was especially useful as the design had been previously been conceptualized with a large amount of presupposition relating to costing and simplicity.
- Moreover, an intentionally liberal design stage allowed for fresh ideas of composition and language to be explored.
- The vertical gradients of proposed interaction continue though subsequent design tests.
HOW CAN A ‘BIG HOUSE’ BE SHARED?
Further development of *Our Big House* in this design stage had two objectives: first to respond to key findings in literature and secondly to develop the strategic changes tested in the second design stage. The contents of this section of research are outlined below, and detailed in the following pages.

**Necessary developments:**
- Finding a sustainable community size.
- Providing sanctuary spaces for privacy.
- Providing for optional interaction.

**Strategic changes:**
The common spaces
- The ordering of shared spaces through vertical gradients.
- Shared outdoor areas that retained some provision for the individual (with interaction being optional).
- The shared entrance needed to speak of the collective and represent a wider unity.

**Formal composition**
- Courtyard composition
- Typology or building shape

**Holistic problems**
- Architectural form, spaces and geometry.
- The relation of the architecture to the wider community.
- Circulation; access points, entrance, and flow throughout the building.

Fig. iii-10. Opposite: conceptualising three shared houses for co-living, within a large 'Big House'.
Key design ambitions for *Our Big House* required a knowledge base from which to make educated design decisions and develop concepts of co-living further. Four key findings will be outlined here with reference to the development of the ideas in the design of *Our Big House*.

**Sizing** for communities is critical in their success as people communicate, relate and grow to know each other. McCamant & Durrett (1993) suggest between 15-26 people, and Scott-Hansen between 12 and 36 dwelling units (2005). To acknowledge the experiences from these sources and the fluctuating nature of living situations, a maximum potential to allow for was chosen as 20 residents. Due to the size of the site and the scale of the project, the architectural implications were to divide *Our Big House* into three. This allows for each Big House to have 20 permanent residents, and the whole ‘Big community’ 60 total (excluding guests). See fig iii-11, iii-21 and iii-29 and appendix D.

![Diagram](image-url)  
*Fig. iii-11. Conceptualising three shared houses, each with a capacity of about 20 residents.*
Sanctuary was a term identified by Serge Chermayeff and Christopher Alexander (1965). The architectural provision of sanctuary was to acknowledge the human need for contemplation, privacy and retreat. In a busy co-living community, this contrast is particularly important.

Fig. iii-12. A space away, for personal sanctuary.

Fig. iii-13. Private dwellings placed above the shared spaces offer unique places for personal sanctuary. Acoustic separation and a distance from common circulation allow for personal freedoms away from other residents.
Optional interaction is a very important design consideration where residents are given the opportunity to choose when, and when not to interact with other residents. This concept could be explored through a number of intensities of allowable privacy and interaction. Additionally this has architectural implications at multiple scales; from spaces, to floor levels and to the programming and layout of the entire building. Increasing and decreasing privacy was tested at a room or space scale though the design of screens with different transparencies, booths, and niches (Williams, 2005).

Fig. iii-14. Translucent screens allow for visual privacy but some light penetration into deep floor plans.*

Fig. iii-15. Transparent screens allow for spatial and activity privacy through the creation of distinct spaces.*
Practicality for spaces has numerous implications for architecture at different scales. A design iteration for shared kitchens was conducted and concluded that separate workstations with different orientations allowed for households to entertain respective guests. The layout would have to relate to the orientation, while also allowing for circulation concerns of entrance and thoroughfare. Sizing and space for the active and passive use of the kitchen would also be important and could be refined in detail later.

Fig. iii-16. Physically modelling kitchen areas tested how multiple residents could use different spaces near each other.

Fig. iii-17. Shared kitchens: how these are placed in relation to other spatial gradients of proposed interaction are seen in the section drawing on page 61.

Fig. iii-18. Practical details such as how shared storage might work were considered at a conceptual level but specific design at this scale remained out of the scope of the research.

Aim: to provide practical spaces for shared use
KEY CHANGE: COMMON AND PRIVATE

The common spaces in *Our Big House* needed further development to address the following problems:

- The ordering of shared spaces.
- The introduction of shared outdoor areas.
- The practical working and formal aesthetic of the shared entrance.

The ordering of shared spaces related to circulation, allowance for spaces of sanctuary, and thresholds between different areas (including from the exterior to the interior) were also areas to be addressed. These concerns resulted in a key design concept regarding a circulation strategy. The figures below show how open and common areas are moved through on lower levels, and subsequent levels of the building offer increasing privacy and opportunity for sanctuary.

Shared outdoor areas and spaces to enjoy the sun were addressed in the design of the common courtyard (see figure iii-24) and the ‘Big Hub’ (fig. iii-28). Additionally, the ground floor was proposed as open to the wider community with possible links to the neighbouring apartments and church offices. These ‘Big Community’ areas could house co-working space, a café, and community hall.

The shared entrance was designed to unify the building in its presence, function and attraction to residents and visitors. This is shown in the section drawing, fig. iii-30.

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*Fig. iii-19. Circulation strategy: to design a progression through different gradients of proposed interaction. Major nodes were identified from the main entrance through to accessing a space for sanctuary.*
KEY CHANGE: COMMON AND PRIVATE

Fig. iii-20. This design stage tested vertical gradients of different amounts of interaction, rather than horizontal as had occurred in design phases I and II. Horizontal arrangements had incurred limited spatial contrast, and minimal thresholds between different spaces.

Fig. iii-21. Vertical gradients of proposed interaction allowing for greater separation between each space. Also important was a whole level dedicated to a community space for offices, a workshop, and a hall for events. The section drawing reveals architectural implications on page 61. See appendix D for the named gradients of Our Big House.
**KEY CHANGE: COURTYARD + SHAPE**

*Our Big House* had featured a U shaped courtyard area; this produced a restricted main entrance and shaded the courtyard. There was potential to better respond to the site, context, orientation and sunlight.

The U shape also hindered the buildings unity, with circulation it was difficult to place a common entrance that would support both the residential tenants and the wider community. This is an important problem in relation to the ‘community supported’ ambition for *Our Big House*. An L shape was found to have a more practical form to aid circulation and allowed for much better daylighting. The outlook of residents across the courtyard was significantly increased through this change, giving greater views and more privacy.

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Fig. iii-22. U shaped courtyard.  
Fig. iii-23. L shaped courtyard.

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Fig. iii-24. The L shaped courtyard allowed for a connection with the existing neighbouring apartments.
The resolution of some major problems for Our Big House was key in design stage IV. The particular architectural implications for co-living strongly relate to some of these problems and will be annotated through the drawings to follow.

1. Architectural form, spaces and geometry.
2. The relation to the wider community + implications on the wider site context.
3. Circulation; access points, entrance, and flow throughout the building.

Fig. iii-25. Development of the elevations tested ways of expressing an over-all unity of one ‘Big House’.

Fig. iii-26. The ground floor was opened out to offer spaces such as a cafe and co-working office for the wider community. This was driven in response to a refining of the research scope: in narrowing a focus on transitional housing there was an increasing need to provide additional community support opportunities. The public face of the building is seen enlarged from this floor plan on page 58.
Fig. iii-27. The ground floor public face and community spaces.
The building form began to be tested for ways to express the three houses within one ‘Big House’. Each house had a shared ‘house commons’ area that came of a lobby area (or ‘Big Hub’) for hospitality at the top of the main stair.

Fig. iii-28. The second floor featuring each of the three ‘house commons’ with a ‘Big Hub’ shared in the centre. Section on page 61.

Fig. iii-29. Our Big House was divided into three vertical zones, each catering for a smaller sub-community. This was to facilitate a sustainable community size. On the first story, each of the three ‘houses’ had a ‘commons’ or shared living area.
Using spatial gradients was a key design strategy for encouraging community and providing optional interaction.
SUMMARY OF KEY RESEARCH FINDINGS

Fig. iii-31. As discussed on page 54, a circulation strategy was key in ordering spaces during this design stage.*

Fig. iii-32. Having spatial gradients was a key design tactic for encouraging community: allowing for distinct areas and amounts of interaction, and providing this as optional interaction.
This chapter of design research has shown a developing understanding of co-living architectural implications. These were extracted from a critical reflection on design stage I and II, and combined with supporting evidence from literature and case studies. The architectural implications of community size, sanctuary spaces, providing optional interaction and practical living were further realised through lateral thinking, new conceptualisation, and developing these in the design of a ‘Big House’ through architectural problems such as site and circulation.

By refining the scope of the design research, a less reserved development to the design outcome was possible. However, the design decisions concerning key architectural problems ensured that a new level of cohesion was realised in *Our Big House*. Lateral thinking in design stage III, and a circulation strategy drove the development of a new spatial ordering (see figures opposite). These two findings support gradients of increasing privacy and allow for sanctuary from social interaction as discussed by Chermayeff & Alexander (1965). This encourages resident choice, providing for optional interaction (Williams, 2005). The architectural gradients through spatial volumes, programme connections, and residential areas that supports opportunities for sanctuary and community development are seen in the section drawing, figure iii-30.

Architectural problems of scale, density, and site enabled an enriched development of both the research question and design outcome. A refinement of the architectural implications and expression of co-living was advanced through addressing the emerging issues, building on the findings of design stage II.
V - Development of floor plans and elevations
+ presentation of design

FOCUSED RESEARCH
Margaret Stewart
House
- a cohesive approach
DESIGN STAGE V

V: ‘Our Big House design proposal’
Transitional ADJECTIVE

“Relating to or characteristic of a process or period of transition.”

(Oxford Dictionaries, 2017)

Transitional housing NOUN

For the purpose of this research, transitional housing is being defined as: Housing for people in need of temporary accommodation where there is the aim of moving someplace else OR housing for those in a transitional season of life and wanting to grow with a supportive community.
The Design ambition of this final design stage was twofold:

• First, in regards to the design research objective of finding key architectural strategies for the design of co-living, the ambition was to clarify which strategies are more significant. Significance has been suggested in relation to other research and practice, and the specific nature of this design research confirmed that providing for optional interaction was the key architectural strategy. Other strategies were also developed in the design process.

• Secondly, in regards to the design research objective to exemplify and embody key design findings in a design proposal:

The design ambition was to enrich the architectural implications of the key strategies; through critical reflection, and a focus on the most significant findings.

Additionally, this design stage set out to clearly represent these implications. While a large number of architectural implications had been conceptualised throughout the design research, having the key findings evident and clearly exemplified in the design proposal and presentation of Our Big House was very important as this would be the most enriched means of communicating the research findings.

The design of sanctuary spaces were developed by introducing clearer thresholds, distinct material shifts, level changes, screening and barriers, and unique access to sunlight or views. These developments are a significant portion of the findings to follow.
LITERATURE + CASE STUDIES

Kroyer Square

VILHELM LAURITZEN ARCHITECTS and COBE

An architectural precedent of a multi-dwelling residence. The roof form encases and celebrates the collective, helping to define the building as a whole.

AMBITION

To develop Our Big House as a cohesive whole that represents the collective nature of the residence. The roof form was a major consideration due to the neighbouring historic warehouses and the prominent location in Copenhagen. The roof folds and bends to aesthetically pleasing contours, unifying and multi-apartment building as one. Additionally there is a harmonious window schedule, a specific palate of materials, and harmonious patterns of composition.

LEARNINGS

The roof is a key element in defining a large residential building. The angle of a roof can allow for unique fenestration, and openings for human occupation – providing outlook, privacy, and sanctuary.
ROOF DESIGN

Fig. iv-04. Conceptual roof form-testing explored aesthetics, representation and simplicity. There was a concern to express Our Big House’s unity, while suggesting the three smaller communities also.

Fig. iv-05. The roof used for the design proposal was created through modelling and sketch drawing iterations.

CRITICAL REFLECTION

The roof form testing responded to the desire for a ‘community supported’ co-living where there would be some form of management and institutional support. This desire for unity is expressed in the multi-faceted language, however a definition of each of the three ‘houses’ within Our Big House was also considered an appropriate expression of the indicated sustainable community size (discussed on page 75). These architectural implications are specific to the suggested nature of Our Big House, however similar principles of expression could be relevant to other forms of co-living, and medium density residential architecture. Future discussion on architectural expression is found on page 76.
Both of the following design tactics support the provision of optional interaction:

Sanctuary is desired not only as a private retreat as this icon suggests, but also adjacent to living spaces to allow for more private areas of interaction for two’s or threes.

Practical considerations for shared residences were acknowledged in the desire for flexible spaces by the use of sliding screens.

AMBITION

To find sizing guides especially for shared spaces – living, kitchen and dining areas.

For living areas there was a desire to cater for everyday shared use, large events, spaces adjacent but separated for sanctuary, and in some places sliding screens for a flexible range of possible arrangements.

LEARNINGS

Shared residence planning examples (fig. iv-06) and discussions on pragmatics such as storage. For living spaces in shared residences, the metric handbook recommended providing 20m2 for 25 people and then an additional 0.4m2 for each subsequent person. In Our Big House these areas (gross) are generous to allow for guest overflow and also because the total area is spread across multiple levels of the residence.
One or Everyone?

DAVID ADLER

Metric Handbook example of co-living accommodation.

DAVID ADLER

Metric Handbook Planning and Design Data
A key sources of reference in this design stage used to guide sizing decisions.

CRITICAL REFLECTION

Limitations, strengths and weaknesses included:
• Tension between allowing for large events with larger spaces and desiring multiple separate spaces for sanctuary.
• A potential for limited relevance to the New Zealand context.
• A good source of advice regarding shared accommodation pragmatics and suggestions of sizing.

Every different co-living example has a different strategy for what is provided for the individual, and what is for the collective.
PROBLEMS AND INVESTIGATIONS

The influences and investigations of this design chapter are briefly outlined below. Those most relevant to the research aims are highlighted in bold and these will be covered in the next section ‘key change and why’.

First, a strategic design change:

- **Circulation** and in particular the use of stairs demanded attention. The specific architectural implications tested for the Big House stairs in the fourth design stage are critically analysed, tested, and developed with a new approach.

Second, some co-living design problems:

- The design of **spaces and their sizing**. The architectural implications of co-living on space sizing was a key investigation.
- The relation of the architecture to the wider community. This is discussed in the section on architectural expression on page 76.
- Circulation; access points, entrance, and flow throughout the building were concerns in relation to providing optional interaction that are discussed in the context of the key circulation change on page 74.

Design Tactic:
Circulation to provide comfortable and clear transitions
Thirdly, this design stage investigated common spaces:

- Shared outdoor areas were advanced and new design development occurred with balconies and roof patios. Sun room like spaces were placed on the top story and while having these open was considered, glazing was used for shelter.

Fourthly, the **formal composition** of the Big House was critically re-designed:

- The courtyard's composition and the formal language of the elevations.
- Questions of typology: Knowing the type to be a large residence, but with an institutional and community-centred ground floor, the questions was - what typology is being suggested by the language of the architecture.
- Representation of the collective + overall community, while also representing each of the three houses within the Big House.
- Urban & city centre frontage at the Hania St facing elevations.
- Relationship to the Mt. Victoria suburb for the other elevations on the residential suburban edges.
- The east elevation faced The Street Church and Child Adolescent Mental Health Services Offices. See page 77 showing a lowered roof height to allow for sunlight penetration on the East and South elevations.

![Diagram](image.png)

**Fig. iv-08.** The formal and visual composition of Our Big House was a concern for residents, visitors, and also neighbours. The design of the roof-scape was tested in relation to the design ambition for 3 'houses' to be within a larger 'Big House'.

**Provision for social sustainability through a division into three houses, with more private and individual units concentrated on the top floor.**
A new approach was taken with the circulation. This was driven by practical reasons of space use, construction, and occupational pragmatics. The design strategy of vertical circulation to benefit co-living spatial arrangements still remained.

The individual stairs ascending into each unit proposed in the fourth design stage had advantages of ‘less interaction’, more privacy, and individuality; but they were also very inefficient. There was a decision to value and provide for the collective over the individual here. How the shared spaces functioned and were experienced was more important than individual privacy and expression. Additionally, the development (during this design stage) in the program to more specifically transitional housing incorporated shorter term stays and so there was less need for individual expression. It is important to note though, that some longer term units have a private stair to an area of greater sanctuary in the respective unit (see page 81). This alternative access provides the option for less interaction by avoiding at least the ‘Big Hub’ area.

Fig. iv-09. There were two major circulation routes through Our Big House to each unit. Route A had comfortable and clear transitions though areas of interaction, while route B allowed for more direct access to the private spaces on the top floor. (Section NTS)
KEY CHANGE: SIZING

The sizing findings from Adler and the co-living design strategies of a) providing for the individual and collective, and b) spaces of sanctuary became especially relevant in this design stage (1999). The rationalisation of design thinking through the development of the structural grid in this design stage altered the planning. This meant that the depth and width of the building hindered daylighting and especially sunlight penetration to some central spaces. Architectural implications such as room placement, light wells, internal rooms, or a partially screened space deep within the plan were some design strategies considered to respond to these problems.

Figure iv-11 below shows two options (from subsequent design stages) for community interaction and sanctuary. Design testing sought to provide for optional interaction, allow for circulation, support the privacy of spaces of sanctuary and the individual units on this level, and retain a reasonable amount of sunlight penetration.

Fig. iv-10. (Below) The first floor mens lounge and surrounding spaces. (more on page 77)

Fig. iv-11. (Opposite) The first floor mens lounge from this and the previous design stage.
KEY CHANGE: ROOF + ELEVATIONS

The design of the elevations, roof-scape and formal language were particularly important in the objectives and aims of this design research. Our Big House is intentionally tested in a tight urban context, however there is also a residential scale to acknowledge with the adjacent suburban context and apartment buildings. Contextual design problems addressed included neighbours, distant but on-looking properties and the street frontage.

Each elevation was designed with reference to the neighbouring building opposite, or the street front. Specific questions around co-living in this context included:

• In regards to architectural expression, what was the visual composition desired for Our Big House, as a whole, and for each elevation? (see figure iv-14 opposite).

The North Elevation faces a neighbouring apartment building, the desire here was to acknowledge a similar density of living and the potential for neighbourly interactions through the placement of the courtyard and entrance.

• How could the street elevation acknowledge the desired big community and public aspect of Our Big House?

Fig. iv-12. 'Big Community' refers to the wider groups and individuals who identify with Our Big House. Whether this be through working in a co-working space or being a regular at the cafe. Further explanation of the gradients for different amounts of proposed interaction is found on page 80 and the full diagram in appendix D.
Fig. iv-14. Elevations. The North elevation faces an apartment building - the desire for this elevation was to acknowledge a similar density of living and the potential for neighbourly interactions.
Fig. iv-14. Site plan showing Hania St. and the footprints of neighbouring buildings.

Fig. iv-15. (Opposite) Ground floor plan. This level is for the 'Big Community' spaces as labelled in fig. iv-18 on page 80.

**SCALE 1:500**

5m 10m

**SITE PLAN LEGEND:**

1. APARTMENTS
2. THE STREET CHURCH AND CHILD ADOLESCENT MENTAL HEALTH SERVICES.
3. VEHICLE WORKSHOP
4. RESIDENTIAL (MT. VICTORIA SUBURBAN AREA)

**GROUND FLOOR PLAN LEGEND:**

1. COURTYARD
2. MAIN ENTRY
3. MAIN COMMON STAIR
4. STAIR TO FEMALE RESIDENCE
5. STAIR TO FAMILY RESIDENCE
6. STAIR TO MALE RESIDENCE
7. ADMINISTRATIVE SUPPORT OFFICE
8. CO-WORKING
9. WORKSHOP
10. CAFE + COMMUNITY DINING HALL
11. CAR PARK ENTRY
Separate seating, changes in materiality, planting and low walls encourage less interaction and provide moments of sanctuary in the common courtyard.
Fig. iv-16. A sanctuary space on the first floor looking into the ‘Big Hub’. *

Fig. iv-17. The first floor contains the ‘Big Hub’ and each of the three ‘House commons’. The Big Hub is designed to allow the mingling of guests and residents from all the three houses. House commons are the living areas for each of the three houses, and cater for both whole house events and smaller gatherings. Sliding screens, the placement of columns, and shifts in floor levels help distinguish spaces temporarily and permanently. An enlargement of this diagram is in appendix D.*

Fig. iv-18. (Opposite) First floor plan. Refer to Section A-A on page 89. *

Fig. iv-19. (Opposite) First floor plan tenure diagram (NTS). *

FIRST FLOOR PLAN LEGEND:

1. SHARED BALCONY (MENS)
2. BIG HOUSE STORAGE
3. BIG HUB HOSPITALITY AREA
4. FEMALE RESIDENCE LIVING
5. FAMILY RESIDENCE LIVING
6. MALE RESIDENCE LIVING

Sanctuary spaces can be off to the side from communal areas. A raised floor, balcony, and a lower ceiling were placed at the icon in the plan opposite.
Sliding panels, translucent screens and niches off from the main living area allow for multiple groups to use a space and encourage optional interaction between residents.
SECOND FLOOR PLAN LEGEND:

1. SHARED BALCONY (MENS)
2. SHARED BALCONY (FEMALE)
3. LIFT ACCESS FOR FAMILY HOUSE
4a. HOUSE CLUSTER (FEMALE a)
4b. HOUSE CLUSTER (FEMALE b)
5. HOUSE CLUSTER (FAMILY)
6a. HOUSE CLUSTER (MALE a)
6b. HOUSE CLUSTER (MALE b)
Cor. Corridor as per figure note.
Str. Stair as per figure note.

Fig. iv-20. Second floor plan. House clusters are designed to allow for increased optional interaction between residents. Particularly to allow for more choices regarding food preparation. Also note the use of corridors and stairs to increase the separation of the more private areas of some units.

Fig. iv-21. (Below) Second floor plan tenure diagram.
THIRD FLOOR PLAN LEGEND:

1. CLOTHES DRYING
2. ACCESS TO ROOF-TOP SANCTUARY

Fig. iv-22. Third floor plan. Each house has access to a roof-top sanctuary area. See page 86 (fig. iv-27) for the modelled sanctuary of the mens residence.

Fig. iv-23. (Below) Third floor plan tenure diagram.
These higher and acoustically separate areas show that places of sanctuary can be achieved in a private unit and also up a stair off a shared area.

Fig. iv-24. Fourth floor plan showing the most intimate levels of three of the long-term residence units.

Fig. iv-25. (Below) Fourth floor plan tenure diagram.
Fig. iv-26. Roof plan showing skylights, light wells and roof-top sanctuaries.
Summary of research findings: key strategies

A space of sanctuary, the distance from main circulation routes provides an acoustic separation whether this space is enjoyed outside or inside. (See figure iv-16).

Decreasing the amount that social interaction is facilitated with each ascending floor level. (See appendix D).

Clearly defined circulation thresholds articulate the gradients of interaction and privacy for residents and in particular for unfamiliar guests. An example is seen in the photo above representing the ‘Big Hub’ area with three doorways, each to a different ‘house commons’.

Fig. iv-27,28,29. Model images of key sections of the building showing significant research findings. More photographs can be found in appendix C.

[86-]
This chapter of the design research sought to develop the architecture of Our Big house to a greater resolution from design stage IV. The aim was also to exemplify and embody architectural implications of key strategies through critical reflection, and said development of Our Big House. This included refining and clearly expressing the design decisions made.

The strategy of creating spaces of sanctuary was found as significant and developed to introduce; clearer thresholds, distinct material shifts, level changes, screening and barriers, and unique access to sunlight (through skylights) and/or views. The fifth stage introduced new sanctuary spaces to the courtyard area, second floor, and third floor in the from of balconies and roof patios.

**SANCTUARY SPACES (1:200) LEGEND:**

1. LIVING ROOM BOOTHS  
2. DINING AND HOSPITALITY AREA NICHES  
3. A SKYLIGHT CELEBRATED SANCTUARY AREA  
4. A KITCHENETTE ALLOWS FOR OPTIONAL INTERACTION  
5. STEPS UP FROM MAIN LIVING  
6. LOW DIVIDING WALL
Fig. iv-33. Final section drawing highlighting the key findings. Providing for the individual and the collective, and the provision of optional interaction. *
Fig. iv-34. Final section drawing of Our Big House.
‘Our Big House’ + Architectural implications
SUMMARY + CONCLUSION

Transitional housing and co-living architecture are hugely diverse. Although significantly influenced by social issues and a residence’s management, this research asserts that there is scope for architectural design to contribute knowledge for co-living housing. Co-living can be designed in a manner that supports very low-income households.

The two key aims of this design research will be summarised, analysed, and reflected on in this conclusion. These are:

1. To find key strategies in response to co-living design problems.
2. To exemplify and test the strategies with a design proposal.

The first aim, finding key strategies, was achieved by addressing disciplinary concerns relevant to co-living architecture. A common problem with co-living was found through looking at examples such as Margaret Stewart House and Spreefeld; ‘what is provided for the individual and what is for the collective?’ (page 13 and 33 respectively). However the problem highlighted by Williams, of ‘providing for optional interaction’, is the most significant in the design of co-living architecture, applying to various arrangements within this field. This is further discussed in the conclusion on page 99.

The second aim was to exemplify and test the strategies; to find architectural implications of a design proposal. To do this, Our Big House was designed in a medium-density urban context, and on a tight urban fringe site between Wellington city centre and Mount Victoria (see pages 16-19). The co-living architectural implications of Our Big House provide an alternative lifestyle choice for a community that can support transitional living and the development of life skills.

Key design strategies for providing for optional interaction are outlined in this summary, and to conclude this research, they are critically discussed with the most significant architectural implications of Our Big House in the following pages.
KEY STRATEGIES

Vertical gradients

Circulation guiding through areas of less interaction

Spaces of sanctuary
Optional interaction through vertical spatial gradients—

Vertical gradients create distinct levels of interaction in Our Big House and thus encourage a level of predictability that is important for a changeable co-living environment. Architectural implications are:

- A separated (fire) stair that acts as a threshold between different gradients of proposed interaction.
- Higher ceilings on the lower levels, double height spaces with balconies overlooking them and light wells to draw light deeper into the living spaces.

The vertical nature of the gradients facilitates a community supported residence. The ground floor can be wholly dedicated to, open, and welcoming as community spaces & facilities. Architectural implications for this included:

- A steel portal frame structure on the first two levels, giving a greater flexibility and allowing for an open and more transparent ground floor.
- Having one main shared entrance on the ground floor from which both the community facilities and Our Big House residence (via a staircase) could be accessed.
- Another architectural implication was a double height hospitality space, the ‘Big Hub’ on level 1. This had distinct areas for less interaction, and off-to-the-side sanctuary areas. The centrality of this space in Our Big House planning and the access up from the ground floor facilitates and encourages meeting, greeting, and mingling with others in the community. This is important in the context of transitional housing, where more opportunities and connections are crucial in helping people transition forward with others (to their own long-term residence).
Thresholds that guide people through different options of interaction—

The access and circulation were designed to define and distinguish different areas. Concepts for Our Big House tested different solutions through horizontal and vertical gradients. The vertical circulation allowed for the architecture to more clearly distinguish areas of; community interaction, shared areas with a few neighbouring units, and areas of private residence. Architectural implications are as follows:

• First, the main entrance offers the most interaction with a light and spacious area accessed by double doors. A grand staircase is accessed through a separate door and leads to the hospitality space. This area is separated by key-pad doors to each of the three ‘Big Houses’.

• Circulation is also a key factor in the design of each private unit. Corridors and stairways create thresholds inbetween the more open and the more private areas of the units. (See figure iv-20).

• Patterns of moving through increasingly private areas begin from the ground entrance and continue upwards through Our Big House. This provides residents with a greater certainty or predictability when they have desires for more, or for less, interaction.
SUMMARY + CONCLUSION

Spaces of sanctuary

Providing spaces of sanctuary was tested through this research with varying architectural implications. The concept was found to be the most significant strategy due to the large proportion of shared space found in co-living. Circulation thresholds could provide clear transitions, and these transitions could be through spaces containing different amounts of interaction. However, the need to inhabit a space (of ‘sanctuary’) by oneself remains a necessary provision throughout every part of Our Big House.

To support co-living it was important spaces of sanctuary were dispersed throughout Our Big House to encourage a more consistent level of optional interaction. Finally, the nature of transitional housing and co-living inferred that spaces of sanctuary could be shared (at different times) by more than one social group rather than be only for individual dwellings (seen in Margaret Stewart House on page 13). Such spaces can be occupied and accessed temporarily throughout the day by different households. Chapter IV discusses four specific architectural implications of this significant strategy.

• Screening off areas from spaces of interaction.
• Raising or lowering floor heights in a small area.
• Dropping the ceiling or creating light wells to define a separate space.
• Using materials for acoustic separation.

Fig. v-06. Spaces of sanctuary provide a place of outlook (or a view into a more public space), provide some security or privacy, and personal comfort.

Fig. v-07. Spaces of sanctuary can be off to the side from a public area also.
Conclusion:

The focus and significance of this research have been the testing of specific architecture for the design proposal Our Big House. This design research challenges the existing approaches to housing for very low-income households in New Zealand with reference to existing living situations and an emphasis on co-living design. Existing living situations include Tāpu Te Ranga Marae and Berrigan House. Co-living design referred to included Spreefeld and Margaret Stewart House.

While architectural implications of these are exemplified in a specific proposal, they also relate or apply to broader co-living. Smaller shared houses, hotels, co-housing, retirement homes, student hostels, as well as the various forms of transitional housing, could benefit from the research findings of this thesis. For example, the most significant findings that relate to providing spaces for sanctuary can be utilised in any form of interconnected work (such ideas were mentioned on page 28).

Additionally, there are directions for future research outside of the scope of this research that could advance on the findings. Some areas for future research include; interior fit-out detail planning for specific spaces and urban scale planning for multiple ‘Big Houses’ or similar large communities. Each of these scale shifts would be projected to have further architectural implications on co-living. For example, how can kitchen cabinetry be re-designed to allow for different amounts of shared and of personal belongings? How could multiple communities share facilities and outdoor spaces to make co-living even more efficient, while retaining community social sustainability and identity? (Similar concerns were identified on page 73).

There are some limitations to this research, its conclusions, and the specific architectural implications found. For example, the co-living design strategy of providing ‘spaces of sanctuary’, is limited by the cultural influence on residential living. Differences in New Zealand, Chinese and Pacific Island cultures would suggest different expectations of sanctuary spaces. Interior sanctuary spaces (identified on page 51) might be more essential in western cultures.

Design testing and the ‘Big House’ design proposal assert that there are positive alternatives for housing in New Zealand. Architecture can support co-living arrangements, provide for supportive community living, and do so specifically with a transitional housing model.
A space of sanctuary; distance from main circulation routes can provide acoustic separation whether this space is enjoyed outside or inside.

Architecture can provide for optional interaction through spaces of sanctuary, vertical levels with changes in interaction, and clearly defined thresholds.

Decreasing levels of interaction from the vertical gradients of Our Big House, beginning from the big community spaces on the ground floor.

Clearly defined circulation thresholds articulate the gradients of interaction and privacy for residents and guests alike.

What is provided for the individual and the collective is dependant on the desired lifestyle and nature of the co-living. For supportive communities, a sustainable size is about 20 people.

Three communities are separated in one of three 'houses'. Main entrances are connected by a shared lobby however there are also more private secondary access stairs.
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The Street Church Life Centre & Child Adolescent Mental Health Service.

Neighbouring apartments.
An art covered wall to the South. The orientation of each of the 3 neighbouring buildings from top to bottom: East, North and South.
Appendix C - Model photographs

[VIEWS THROUGH THE LAYERS OF INTERACTION]

Main entrance - public

Big House entrance
Entrances to three houses
Living rooms separate

Living rooms joined
Sanctuary within the roofscape

Sanctuary on a balcony
### Programme of spaces + areas

<table>
<thead>
<tr>
<th>Type</th>
<th>Max Capacity</th>
<th>Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal space</td>
<td>2 max</td>
<td>Less interaction</td>
</tr>
<tr>
<td>Individual dwellings</td>
<td>5 max</td>
<td>Less interaction</td>
</tr>
<tr>
<td>House cluster</td>
<td>10 max 2 max</td>
<td>Interaction with a cluster</td>
</tr>
<tr>
<td>House commons</td>
<td>20 max</td>
<td>Interaction with one of three houses</td>
</tr>
<tr>
<td>Big Hub</td>
<td>ALL + guests</td>
<td>All residents</td>
</tr>
<tr>
<td>Big Community</td>
<td>The wider community</td>
<td>Most interaction</td>
</tr>
<tr>
<td>[Public space]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Appendix D - Vertical gradient names for Our Big House

- **Personal space** (Body): 2 max (Less interaction)
- **Individual dwellings** (Household): 5 max
- **House cluster** (Shared areas): 10 max 2 max (Interaction with a cluster)
- **House commons** (Common areas): 20 max (Interaction with one of three houses)
- **Big Hub** (Hospitality): ALL + guests (All residents)
- **Big Community** (Community space): The wider community
- **[Public space]**: Most interaction
[thank you]