

A Case For Student Housing

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A holistic approach to student housing in the modern Univeristy learning environment.

By Jordan Swift

Submission Information

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Abstract

Learning and teaching methods in universities globally and in New Zealand are rapidly changing and adapting to technological advancements and virtual methods of information communication. As new research begins to shed a greater understanding of how we learn education providers are beginning to recognise that learning is a combination of active and passive events that occur both inside and outside the classroom. The idea that academic learning and personal development need to reinforce each other is changing the landscape of education. This brings to the forefront the question: what type of built environments can support and facilitate a more holistic learning suited to the evolving understanding of education and the needs of the future student?

To understand this problem I have developed three sub-questions tackling unique aspects of student housing:

- 1) What should the relationship between the university learning environment and student housing be?
- 2) What built elements are suitable for modern student housing?
- 3) How can the social campus life be enhanced through a more integrated environment?

The intention of these questions is to establish a design outcome that caters to both the social needs of the student body, while also increasing the academic presence in students homes.

This will be done through the examination of the importance of purpose-built student housing and the impact it has on their learning experiences. Furthermore, trends in modern student housing will be sampled in order to understand how the changing learning environment is altering the use of student living spaces. This will be important in the understanding of the rise of learning communities and their application to Wellington's tertiary education sector.

Content

01 Introduction

- 016 The Problem
- 031 The Proposition
- 033 Research Question
- 035 Holistic Definitional
- 036 The Aim
- 037 The Scope
- 038 Methodology

02 University Connection

- 042 Literature Studies
- 054 Design Considerations

03 Analysis

- 058 Case Studies
- 070 Site Analysis
- 088 Program Considerations

04 Design Process

- 092 Program Studies
- 094 Initial Massing
- 100 Program Application
- 104 Movement Paths
- 106 Program Conclusion

05

Design Development

- 110 Design Development
- 112 Development of the Unit
- 116 Vertical Profile
- 118 Building Modules
- 126 Creation of the Hubs
- 132 Facade Connections
- 136 Structural Systems
- 138 Social Spaces
- 140 Development Considerations

06

Final Design

- 146 Final Design Overview
- 154 Holistic Application

07

Conclusion

- 158 Conclusion
- 162 Future Research
- 163 Limitations
- 164 Bibliography

01

01

The Problem

Typical New Zealand Student

Pays \$7,385.64 for tuition fees per year.

Borrows living allowance (74%) at a maximum of \$236.84 a week costing \$9,473.60 a year.

Works an average of 15 hours a week, on top of full time study.

Locked out of the student allowance, only 33% of student have access to.

Be experiencing or bordering on 'significant financial distress'.

Will be over \$50,000 in debt by the time they graduate.

NZUSA

The provision and development of student housing has been a challenge for many Universities around the world; with many falling back upon the tried and tested option of Hostel living.

While these are suitable ways to house students, they're also relics of the past. As tertiary education changes and adapts to new technologies and formats of learning, so too must our student housing.

"The concepts of academic learning and student development can no longer be considered independent of one another". (ACPA & NASPA, 2004).

The modern-day learning process is a combination of active and passive events that occur both inside and outside the classroom. The amalgamation of technology with the learning environment has resulted in greater flexibility in how and where students study. However, this new adaptation to study is not without its problems.

In 1998 the current student loan scheme was introduced to cater for the growing student population. At the time 8.9% of New Zealand's population had, or was in the process of gaining, a bachelor's degree or higher (STAT NZ). The Student Allowance Regulations Act [1998], (henceforward referred to as 'the Act'), was to increase funding to allow students greater financial freedom while studying. This came in the form of a one off \$1000 course-related costs payment and weekly living allowance loan of \$150.

Currently, more than 61.5% of young people start undergraduate degrees (Ministry of Education, 2018). This dramatic increase is only one of the many ways in which tertiary education has changed over the past twenty-four years. However, student funding has not kept pace with course-related costs, remained stagnant at \$1000 and living allowance going up a mere \$76. While rents have almost trippled in that same time frame.

The failure of the student support systems to keep pace has resulted in a student body where over 60% are working in part-time or full-time jobs. The average student spends \$389.63 a week, resulting in students having to earn a minimum of \$150 more than the living allowance in order to make ends meet (New Zealand Union Student Association, 2017).

*"A third of student respondents identified that they do not have enough income to meet their basic needs".
(NZUSA, 2017)*

While there are numerous benefits of working alongside academic study, universities are starting to find a negative correlations between extensive part-time employment and student grades. The culmination of high-pressure, part-time jobs, extracurricular activities and unpaid work experience are causing a dramatic rise in mental illness, and high rates of alcohol and drug use (Greenberge and Steinberg, 1996).

This has resulted in a climate n which an estimated only 66% of the student body completing their studies (Speedy, 2017).

This increase in accessibility to tertiary education is also resulting in a dramatic increase in student housing needs. This is causing an already saturated market to struggle to provide suitable low-expense homes that students typically occupy. In turn this results in a vast increase in rents, low standard accommodation and further stigmatization of the student body. These factors are distorting the idea of the University community and stretch the student body to its limit which has resulted in a drastic increase in mental illness (Victoria, 2017). Through this next section the major problems facing the Wellington student body will be explored, with the idea of generating architectural guidelines that will help rebalance the student experience.

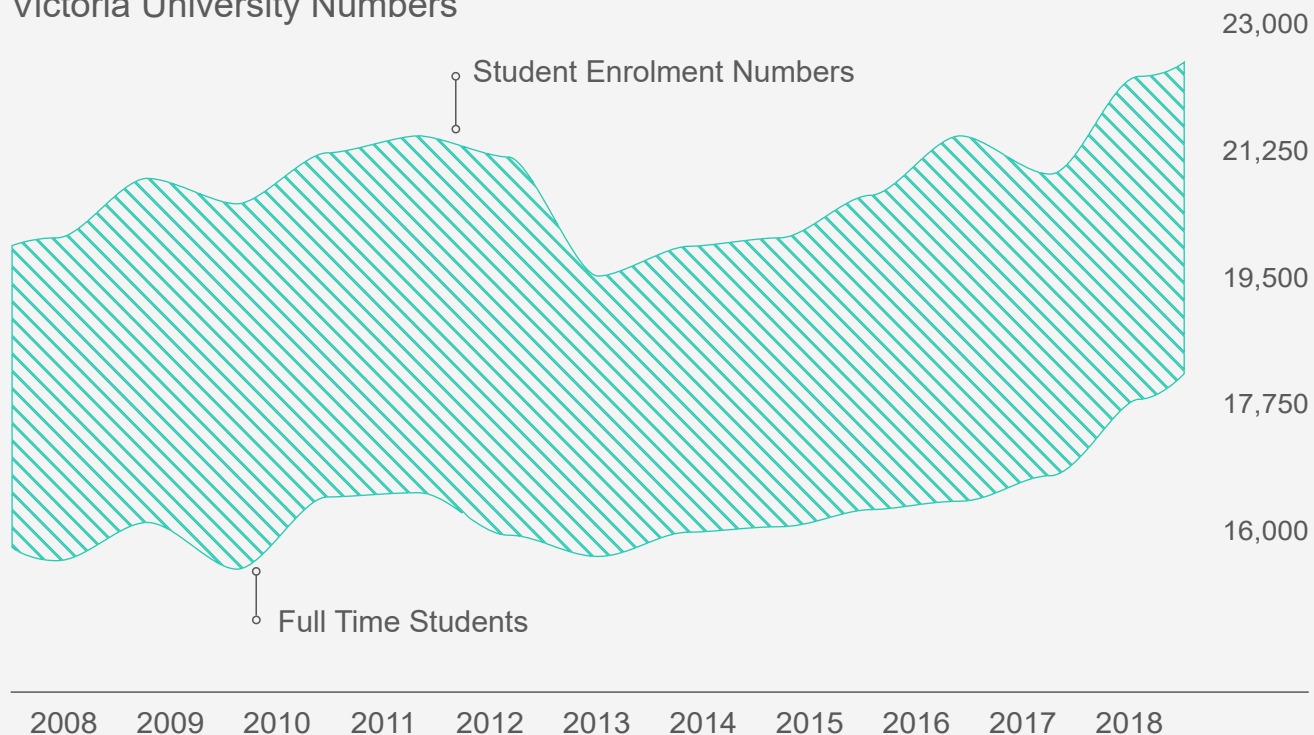
Modern Student Life style

The changing forms of student housing is a result of the extreme growth that has occurred to both the student body and the learning environment.

Over the past ten years alone Victoria University has seen a 2.1% growth over its entire student body; however only a 1.6% growth in full-time students (Victoria, 2017). This increase is due to the change in the accessibility of tertiary education. The rise in accessibility to university information has also expanded the dynamics of the student body; with the increasing built up of part-time students, and returning students as educational options widen as to how and when students study.

Through exterior access students now have the ability to join the workforce and tailor their education around prior commitments.

Victoria University Numbers



Maximum full time students : 17,841

Minimum full time students : 16,650

1.6%

Increase in full time student numbers.

Maximum student numbers : 22,810

Minimum student numbers : 20,885

2.1%

Increase in student numbers.

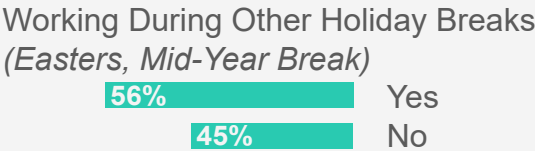
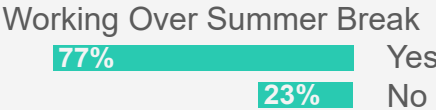
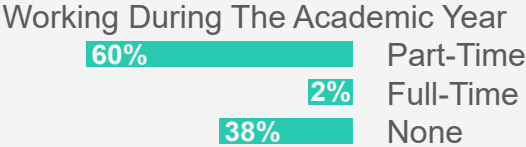
However, as a higher number of people gain university degrees, the environment becomes ever more competitive. Students readily find themselves prompted towards extracurricular activities and unpaid work experience in order to establish themselves in this increasingly oversaturated environment.

The rise of the student workforce is one of the most significant shifts in how students study, since the introduction of the Student Allowance Act. This is a development from previous generations; where summer work, reduced fees and low living costs allowed students to survive off summer employment solely. Now, while the majority of the student body still works over the summer, nearly two-thirds continue into the academic year. Numerous studies highlight the benefit from some level of engagement in part-time employment, but Greenberger and Steinberg conclude that

“extensive part-time employment may have a deleterious impact on youngsters’ schooling” (1986). Further stating that the dominance of work, particularly the type of employment available to students, runs against the objectives of University. As students continue to reduce contact time with physical university assets, due to increased part-time employment and digital accessibility, more students are relying on their housing to act as an educational space.

“Working part-time is such a struggle let alone a full-time job. However, for most students, because they need to make ends meet, it is not a choice, and somewhere it does put a strain to their education thus compromising it”. (NZUSA, 2017)

Student Workforce



Frequency Of Student Employment



Student Housing

Student housing is seen as a societal problem instead of an educational problem. This ideology has resulted in a low number of student housing complexes owned by the education institutions (universities), and a high reliance on outside parties to provide suitable accommodation, these range from remaining at home to renting in the private market.

Considering the current global trend of urbanisation, the housing crisis in New Zealand is not a new situation we find ourselves in. As more people continue to move into cities to find better jobs and new opportunities, the urban environment continues to grow. Wellington alone expected to grow 18% in the next decade (Wellington City Council, 2018). The growing student population further enhances this intense urbanisation. Over 100,000 students move in and out of the Wellington region each year.

Student Population Densities



The lack of specifically designed student housing and the rising cost of the private market has resulted in a new contention between university bodies and the housing market.

The failure of the private market to connect with the needs of the student body has resulted in low tenancy renewals; causing the average length of student tenancies to drop to one year.

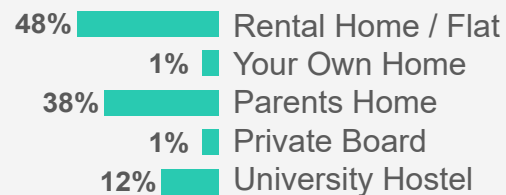
This short term housing stock is resulting in a nomadic lifestyle for students; causing constant adaptation to their living conditions. Victoria Student Wellbeing noted Wellington living conditions as one of the leading factors in the rise in mental health problems within the student body (Victoria, 2017).

Furthermore as the cost of housing within urban centres, rises, is pushed low expense housing further away from the urban hubs. As students tend to be part of the groups that occupy these homes, the student community also gets

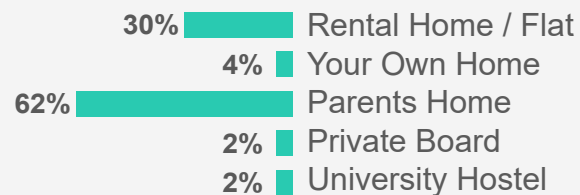
pushed further from their central hubs, causing constant adaptation to their living conditions. Victoria Student Wellbeing noted Wellington living conditions as one of the leading factors in the rise in mental health problems within the student body.

Student Living Demands

During Academic Year



Outside Academic Year



(NZUSA, 2017)

One of the most significant problems associated with student housing resulted from the period, in which, students require housing as the student body moves in and out of Wellington city the demand for housing changes.

As an example of this during the academic year close to 50% of the student body relied solely on the housing market, whereas outside of this academic year the student body dropped down to 30% of the student population during the academic year (NZUSA, 2017).

A majority of students move cities for tertiary education; the demand for housing develops over the university year (education count).

With this fluctuation in mind, the planning and provision of student housing have resulted merely in low numbers of specifically designed student spaces. Only adding further pressure on the student body to source housing from an already volatile private market.

Student Hostels

The Wellington Student body comprises of three universities, three technical institutes, and a number of smaller private institutes. Victoria University, Massey University and Whitireia Polytechnic have the largest student populations. As the most substantial university body, Victoria University will be the site for exploration of this design. Its highest concentration of students and halls of residence makes a prime example of how a university can create a modern typology of student housing. For example, out of the 16 university hostels operated by Wellington's universities, only two are not operated by Victoria University. These hostels are an important part of university education, allowing first-year students to move out of home into a safe, supervised environment.

The idea is that these halls will help develop students before they move into the private market.

Student Hostel Location



Victoria University

180	Boulcott Hall
320	Capital Hall
124	Helen Lowry Hall
242	Joan Stevens Hall
390	Katharine Jermyn Hall
398	Te Puni Village
179	Victoria House
309	Weir House
227	Cumberland House
194	Everton Hall
301	Uni Lodge
290	University Hall
108	Willis St Hall
280	222 Willis St

Massey University

261	The Cube
160	Kainga Rua

Total beds hosted by the

3,963

Universities of Wellington

However, the reality is that these environments no longer create positive impacts on students lives.

However, as with the private market, hostels prices have significantly increased over the past two decades. Student hostels are now too great a financial burden for students to afford, with many relying on their family to pick up the financial burden associated with hostel living. With costs ranging from \$210 per week for an uncatered hall, and \$410 for a catered hall (Victoria, 2018). These hostels are provided to students as one of their most volatile times as students undergo a educational and psychological development away from the preexisting safety nets of family and friends. For this reason, many students develop underlying mental strain such as loneliness, anxiety and depression, all the while struggling to make new friends in a new environment.

*“An incubation of stress, anxiety, and awful mental health problems.”
(Salient)*

When investigating student housing satisfaction, Ross Thorne envisioned a nexus between the ability to create community spaces along with the ability to personalize space as a few of the leading factors between student satisfaction within student accommodation (Throne, 1992). The hostel environments are designed in manner that places efficiency rather than desirability first. The personalisation of private space is therefore hard to come by. In addition, the Kei Te Pai report commissioned to look into student health found a strong connection that living satisfaction greatly influenced psychological distress (NZUSA, 2017).

These symptoms have come to manifest within the student environment through the recent rise in negative attitudes in the social environment. At multiple halls of residence news reports range from “Neighbours take Victoria University to task over ‘out-of-control’ students” - stuff (2016), to “Victoria University student hall a ‘feral zoo’ after alleged drunken destruction” - stuff (2017), as entire floors are damaged in parties. These extreme cases stem from a lack of respect for the environments students occupy in these hostels.

Student Hostel Typologies

	Apartment	Studio	Twin Share	Single Room	Catering	Construction Type	Building Type
Student Hostels							
Boulcott Hall					Yes	Converted	High Rise
Capital Hall					Yes	Converted	High Rise
Helen Lowry Hall					Yes	Purpose Built	Low Rise
Joan Stevens Hall					Yes	Purpose Built	High Rise
Katharine Jermyn Hall					Yes	Converted	High Rise
Te Puni Village					Yes	Purpose Built	High Rise
Victoria House					Yes	Purpose Built	Low Rise
Weir House					Yes	Purpose Built	Low Rise
Cumberland House					Yes	Converted	High Rise
Everton Hall					Yes	Purpose Built	Stand Alone
Uni Lodge					No	Purpose Built	Stand Alone
University Hall					No	Purpose Built	High Rise
Willis St Hall					Yes	Converted	High Rise
222 Willis St					No	Converted	High Rise



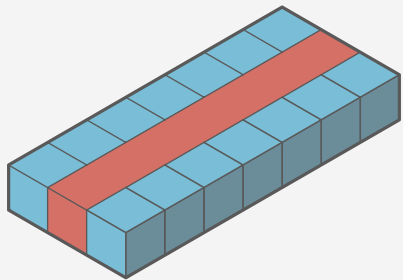
Location of the three Student Hostels that will be examined.

The student hostels provided by Victoria University fit into four typologies, office conversions, highrise purpose-built, lowrise purpose built and self-catered. Boulcott Hall and Katherine Jermyn Hall are office block conversions. Te Puni Village, Joan Stevens Hall and Cumberland are highrise purpose built. Victoria House, Weir House and Helen Lowry Hall are all low rise purpose built. Uni-Lodge and Education House are converted to self-catered studios. To create an even analysis, Three hostels have been selected to undergo quick analysis to determine where their faults are and how the current models fail to cater for the modern student.

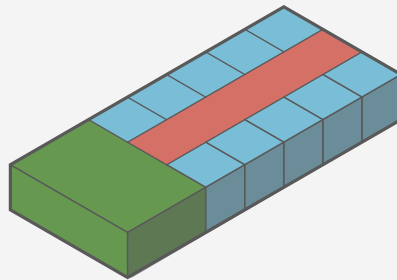
Case One
Joans Stevens Hall

Case Two
Katharine Jermyn Hall

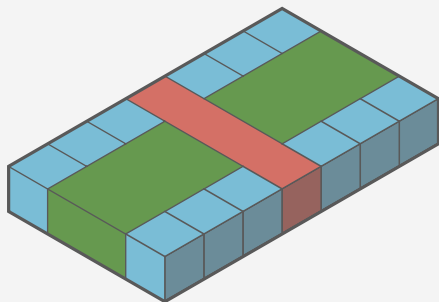
Case Three
Te Puni Village



Studio room with or without communal facilities.



Corridor with communal facilities.
Single / twin share rooms.



Clusters with private communal area.

- Bedroom
- Communal Facilities
- Corridor

Room sizes and layouts vary within each student hostel. Typical arrangements are often corridor, cluster or studio amenities. Corridor accommodation is made up between floors and wings that centralise around a common communal area. Clusters are built up from individual units that share a small private common space. Studio amenities can be built in any form and hold all personal amenities within individual units.

Joan Stevens Hall

Student Population

242

Cost Per Week

\$369 - \$385

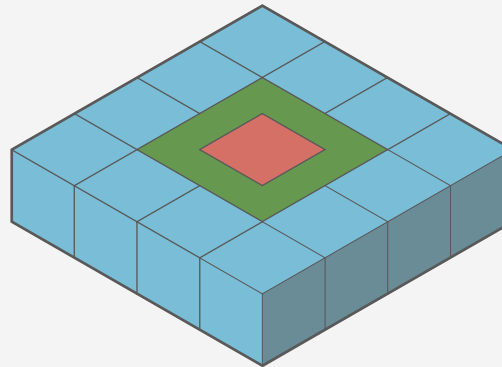
Housing Style

Corridor

242 single rooms

- Moderate Exterior Atmosphere
- Low Interior Atmosphere
- Moderate Community Atmosphere
- Moderate Architectural Identity
- Low Green Spaces

Joans Stevens is a hexagon hall, with student rooms around the exterior and communal space in the core. All communal areas are purely internal and gain no exterior views creating an unpleasant environment and promoting students to remain in their rooms. The design high lights efficiency but gives little regard to the internal atmosphere.



Single rooms surrounding a shared space.

- Bedroom
- Communal Facilities
- Corridor



Katharine Jermyn Hall

Student Population

390

Cost Per Week

\$369 - \$385

Housing Style

Corridor

390 single rooms

High Exterior Atmosphere

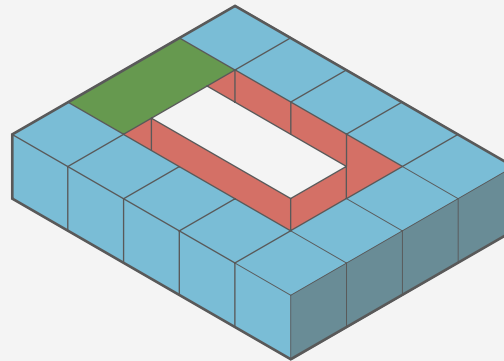
Moderate Interior Atmosphere

High Community Atmosphere

Moderate Architectural Identity

High Green Spaces

Katharine Jermyn Hall is one of the most recent additions to Victoria's student hostels. The hostel was converted from an office block, with the communal area and building core inhabiting the central area. Student rooms are positioned around the exterior of the building. The design showcases a substantial use in efficiency but does not take into consideration the user experience.



Single rooms surrounding a shared space.

- Bedroom
- Communal Facilities
- Corridor



Te Puni Village

Student Population

398

Cost Per Week

\$369 - \$385

Housing Style

Corridor, Cluster and Studio

334 single rooms

17 apartment single rooms

47 single studio

Moderate Exterior Atmosphere

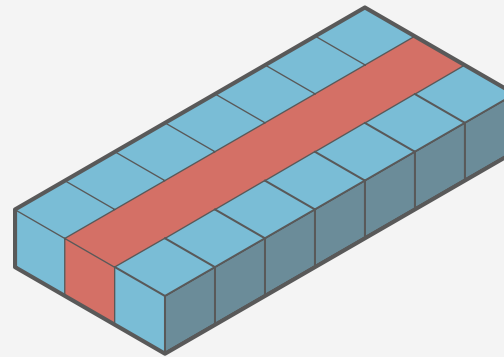
High Interior Atmosphere

High Community Atmosphere

Moderate Architectural Identity

Low Green Spaces

Te Puni is Victoria's most architecturally designed hostel. It features a range of different room types giving students options in how and whom they live with. It features high-quality amenities and giving value to both formal and informal social spaces. However, the formal social spaces are separated from the living areas leading the halls to become informal social spaces often.



Studio room with or without communal facilities.

- Bedroom
- Communal Facilities
- Corridor



The Proposition

While the educational side of tertiary education has amalgamated with technology, the built side of education has not. Digital technology has opened up education to a more holistic learning environment, as traditional means of contact study are rapidly being replaced with digital media, allowing for the development of twenty-four-hour access to information and greater versatility in when and where students study.

The start of this digital education can be traced back to 2012 with the startup of the Massive Open Online Course or MOOC's. Through purely online courses have not penetrated the New Zealand education system, we are seeing a rise in increased reliance on digital media as education moves towards a new approach that blends the critical elements of both educational processes. According to this model, online course material combine with social face-to-face class discussions. A step away from the current lecture tutorial dynamic.

In "The Idea of a University", John Newman (1852), summarised the Universities as "a place for the communication and circulation of thought, through personal communication, through a wide extent of country". This confirms the idea that universities are more than simple places of education, but also places of social interaction of like-minded individuals.

Building upon these ideas of the university, how can student housing be used in a way to mitigate the problems currently facing the student body? Moreover, does the built environment have the ability to facilitate and sustain community ideals physically? Therefore by redeveloping the workings of student housing, architecture will have the potential to reinterpret student living environments and open the discussion to student experiences.

This delivers us the unique opportunity to review the current student housing models and design a new typology of housing that works with the university study environment. Bringing us to the Architectural Question of this Thesis.

How might student housing be used to support and facilitate a more holistic learning experience for tertiary education?

Question

Holistic Definition

Holistic
/həʊ'lstɪk,hɒ'lstɪk/

adjective

Characterized by the belief that the parts of something are intimately interconnected and explicable only by reference to the whole. (Oxford Dictionary, 2019).

The definition and application of holistic learning is a highly malleable theory with its implementations ranging from 'life learning' to single classroom applications. For this thesis, I aim to understand holistic learning in a similar sense to the Oxford Dictionary definition, "the belief that the parts of something are intimately interconnected and explicable only by reference to the whole". Through this understanding, tertiary education is not solely about the procurement of a tertiary degree; but also develops as a function to develop intellectual, emotional and social skills alongside educational learning (Nashisn, 2003). On the basis that catering to not only the educational needs to students, will create high levels of student attendance, improved progression, and a more satisfied and healthy student body.

A more technical definition is provided by Lee (2010) who describes holistic classrooms through eight formal elements: size, seating arrangement, shape, furniture arrangement, interior lightings, colour selections, noise level and technology system arrangement. Alternatively, Nashsin focuses further on the collective student-centred learning approach; developing the community and the social context of tertiary environments. By developing personal connections, students foster a more extensive learning environment and thereby pushing the bounds of traditional education. When looking at holistic learning in terms of these definitions, education, should take into consideration psychological and social factors as vital extensions of the learning environment. This thesis aims to use these means create a positive housing environment that fosters social interactions, creating a larger holistic environment for learning.

The Aim

This thesis aims to explore alternative options that are available to tertiary education providers and determine a housing model that is best suited for the student population of Wellington. This will be undertaken by dividing the thesis question into three sections that will each look into a unique aspect of student housing.

- What should the relationship between the university learning environment and student housing be?
- What built elements are suitable for modern student housing?
- How can the social campus life be enhanced through a more integrated environment?

These questions intend to develop a design outcome that caters to the social needs of the student body; while also increasing the academic presence in students homes.

The Scope

This thesis has been developed as a one-year design-led research document and has inherent limitations due to this format. Due to the lack of New Zealand based student housing research, international case studies will build the foundations of this thesis.

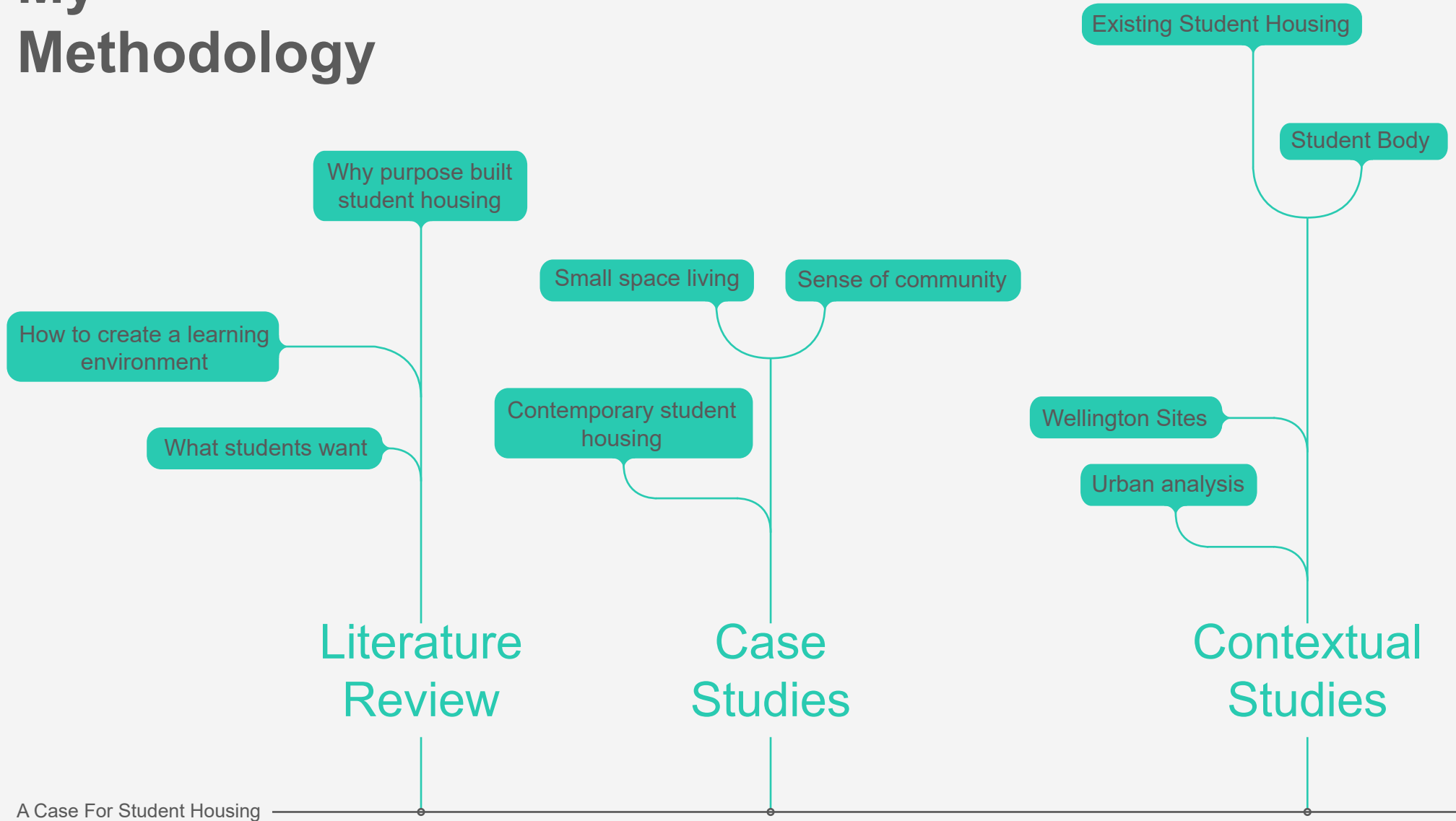
This document intends to advocate for the further exploration of targeted student housing; and how the needs of modern students differ from the general public. Through this thesis, I aim to explore the options that are available to tertiary education providers and determine a housing model that is best suited for the student population of Wellington.

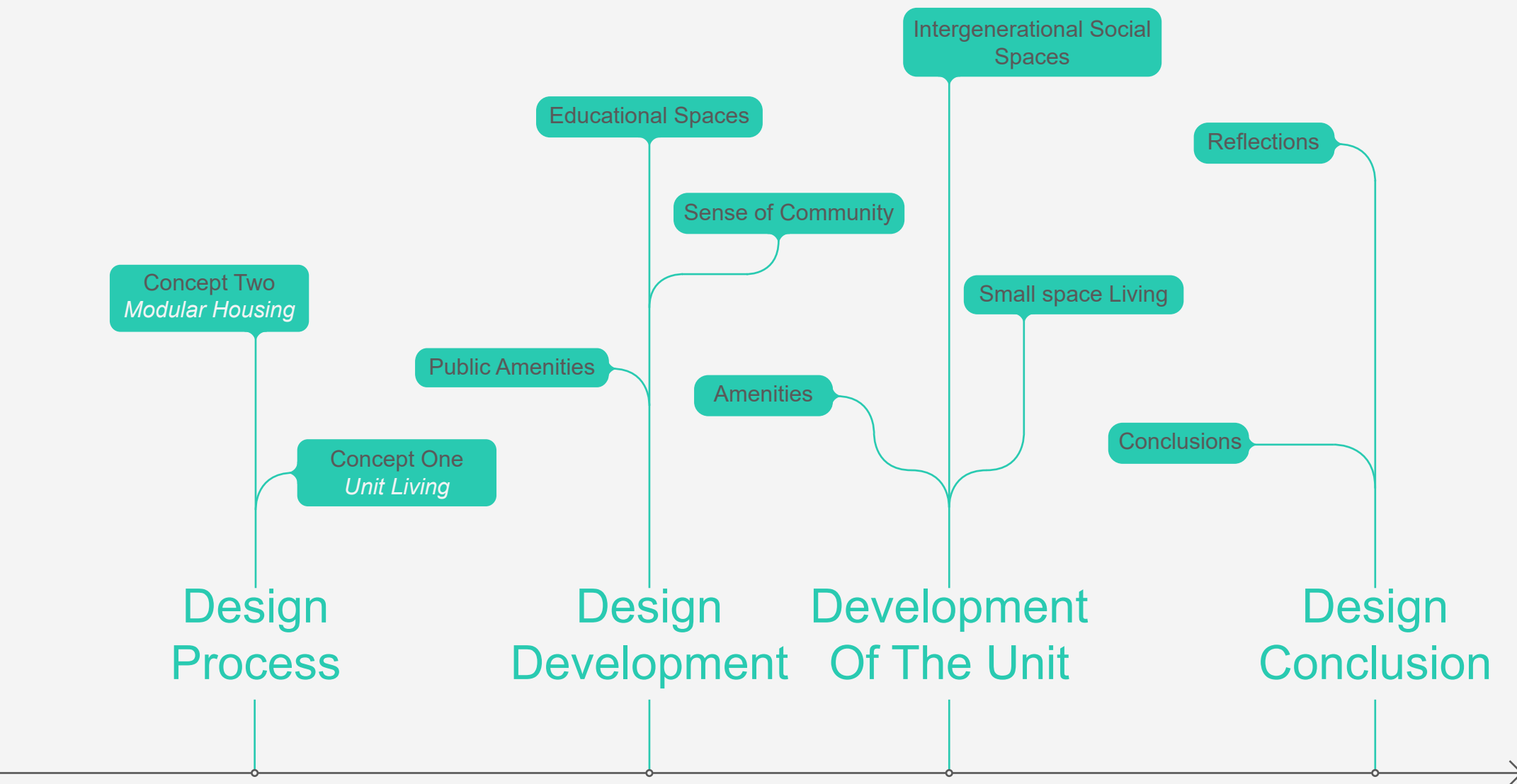
This document will centre around a singular site that will act as a testing ground for the development of ideas in the hopes that these principals can later be developed further for multiple locations. Architectural concepts of community and efficiency are key development points, with an emphasis on the community outweighing the individual.

By envisioning educational and community spaces, this thesis hopes to create a student-specific housing design that understands student communities; where dormitory styled student hostels have failed.

This thesis aims to explore the idea that academic learning and student development need to reinforce each, and how this idea will effect modern student housing.

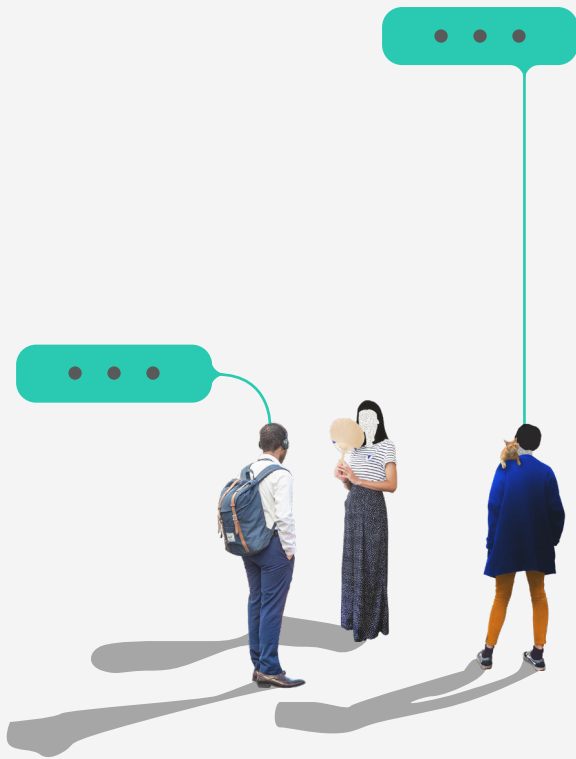
My Methodology





02

02



The Literature

Traditional learning spaces have been developing steadily over the past decade as information becomes more readily available. This has allowed us to question what a 'learning space' entails, resulting in a new widely accepted understanding that "learning is not uniquely found, nor containable, within tutor-student interactions in formally designated places of education" (Boys, 2011). The ideology that only institutionally created spaces cater to higher education can no longer be applied, this binary distinction between formal and informal education has allowed exterior private study spaces to be marginalised (Brooks et al, 2012). The amalgamation of technology with the learning environment has resulted in greater flexibility in how and where students study.

By this statement we are led to ask: how too can the combination of the learning and living environment be used to improve education and allow for further flexibility in tertiary education?

This will be done through the examination of the importance of purpose-built student housing and the impact it has on student living satisfaction. Furthermore, trends in modern student housing will be sampled in order to understand how the changing learning environment is altering the use of student living spaces.

This will be important in the understanding of the rise of learning communities and their application to Wellington's Universities.

Through these points, the exploration of student housing will help define how students want to live and what aspects of the design they regard as important; And will culminate in a series of design principals that will drive the student housing intervention entral to this thesis

The Importance of Purpose Build Student Housing

Purpose built student housing places greater consideration on the academic development of students. While it may look towards a more pragmatic than educational purpose, student housing has the unique ability to bring together otherwise isolated groups.

Many of the favourable positions that stem from student housing are based on the social cues of students peers. The density of like-minded individuals creates an atmosphere that can be used to promote a more holistic learning style, as the influence of the group is more significant than the individual, maintaining a positive environment for everyone should be the primary goal of student-specific housing (Card & Thomas, 2018).

Specific student housing comes in many forms, from stand-alone housing to the typical student dormitories, to more advanced learning centres. While each has its benefits and disadvantages, this thesis will aim to explore the opportunities of Living Learning Centers. This type of housing correlates more with the design outcome of designing a more holistic learning environment. Through Card & Thomas, the eight generalized types of university controlled student housing were examined, with Living Learning Centers, or LLC's, deemed to be the most appropriate for the holistic learning this thesis aims to explore. LLC's have been developed with the intention that having a large density of like-minded students creating an environment that will enrich students lives. Bringing with it a closer integration of between what student learn and how they share with their peers (Card & Thomas, 2018). These spaces act as a collaborative effort between academic faculty and residence life staff (Frazer & Erighmy, 2012).

Tinto (2000) further develops this concept when he states that the benefits of learning communities extend beyond a better understanding of course content, to also develop their own self-supporting groups. This style of housing is built of similar student that have direct access either through residence staff or direct university connection. This connects the formal space in which contact education occurs and the environment in which it is shared, the home. LLC's create opportunities to share what they have learnt merging residential experiences and intellectual studies (Card & Thomas, 2018).

“A residence hall can either contribute to a student’s learning experience or just be a place to live. Creating active residential learning community experience enhances student satisfaction and learning experiences”.
(Frazer & Erighmy, 2012).

When comparing this back to the definition of holistic learning, “the belief that the parts of something are intimately interconnected and explicable only by reference to the whole”, LLC's use the same techniques to create a strong environment that works for both the educational side, while maintaining the integrity of the residential housing. By creating an environment that fosters educational discussions, LLC's broaden the learning environment and create a more holistic learning system that caters to both the educational needs, as well as their social and residential (Card & Thomas, 2018). However, for an LLC to be successful they must engage the entire educational aspects of students to create a coordinated and supportive living environment.

Understanding that one of the vital components of LLC's is their density of like-minded students, and holistic education as being perceived as a collection of students acting in a similar cohesive group, what importance does the social functionality of a student hostel play in their education?

Without many student specific studies completed, we must turn to a new source. Throughout the 20th century, architects turned their attention to the social space developed between buildings, with the hope of creating new forms that would promote and enhance occupants feelings and perceptions of space.

Architect and urban designer Jan Gehl simplified this down to three main categories; necessary activities, optional activities and social activities.

Necessary activities being stated as going to work or school, optional activities as those more reliant on external factors such as time and weather; and finally social activities as endeavours that depends entirely on the presence of others in public spaces (Gehl, 1970).

By this statement the most important factor when designing spaces for people is the human scale, if more people feel welcomed into these environments, they too will attract more people creating more interactions.

“In streets and city spaces of poor quality, only the bare minimum of activities take place. People hurry home. In a good environment, a completely different broad spectrum of human activities is possible”.
(Gehl, 1970)

By bringing this conceptual thinking about the built environment into student housing; the same techniques for creating positive and vibrant city spaces can be used to foster strong more inviting student hostels which, will, in turn, create a more positive student body.

Gehl studied the link between the number of independent social interactions occurring and the time an individual would spend in that space. He concluded that there was a positive correlation between the amount of time spent in a place and the number of social interactions occurring around the individual within that space (Gehl, 2000). Comparing this thinking to LLC's and their reliance on the density of

the student population; you can see the connection between the two bodies of research. Therefore, if we can understand the ideology that drove Gehl's urban planning a more dynamic and functional style of student housing can be created.

One of Gehl's leading topics for social interaction was the exploration of low-intensity contact. This being best described as people whom you have chance encounters with, or simple acquaintances (Gehl, 1970). This contact form was deemed most perceptible to the surrounding environment as it required a more considerable amount of time spent in space to establish, low-quality spaces where people rush through contacted very little, to no low-intensity contact opportunities (Gehl, 1970).

This form of contact creates the basis for most social interactions. It allows, in this case, students who would typically tend to be passive observers the opportunity to participate in a modest way.

Low-intensity contact can be used as the basis for creating or building further forms of contact, with Gehl exploring this occurrence in how children start to play. The idea that play can be started by

simple, spontaneous interactions between individuals that hold a common intent: play (Gehl, 1970).

Children have the notion of what they want to achieve, and by using the surrounding social premise can create the desire to play.

When looking at the drivers of play in this regard, they bear a striking resemblance to the nature of education within Living Learning Centers. Namely of working together to create a stronger bond between students to achieve the groups learning goals (Tinto, 1998).

If students are surrounded by like-minded peers, in a space that caters to low transition rates and promotes low-intensity contact; the use of holistic learning will function in the same fashion as 'play' by children as observed by Gehl.

Student Satisfaction

As with many facets of New Zealand education, our student housing can be linked back to the English system; with our student hostels based off university residence within student dormitories (Thorne, 1992). While the Wellington student hostels do not hold the same horizontal presence as these traditional dormitories, they still embody many of the negative traits, found in this style of housing.

The effect these houses can have on students was first brought to light in 1929 by Klauder and Wise who stated that “bulk building and long corridors were deleterious by nature as residence felt crowded and often showed signs of social withdrawal”. Later studies attributed this to a lack of control students felt within these environments. They are often manifesting themselves through high damage rates and a significant increase in negative mental health cases throughout the student bodies.

These two attributes can be directly linked to Victoria’s student hostels with an excessive number of halls being associated with deteriorating mental health; one student describing them as “an incubation of stress, anxiety, and awful mental health problems” (Salient, 2017). The nature of this style of building promotes cost and ease of maintenance as fundamental design principals, creating efficient designs, at the cost of student experiences.

With this in mind, when the University of Sydney underwent a new student housing program, they choose to integrate a national study, through the Australian Union of Students to gain an understanding of what design principals students wanted most in their housing.

One of the most significant challenges of the questionnaire was how to quantify student housing experiences. Housing satisfaction is based on a comparison between housing preferences and their current situation (Thomsen & Eikemo, 2010); with each student bringing a different set of personal factors resulting in a multitude of different answers. In this context, it is essential to understand more than simple housing needs and demands, but a greater context in who they live with, how students travel and their working needs. The first questionnaire aimed at gathering all this information before phase two developed deeper into the housing needs of the student body. By understanding student satisfaction rates that are solely applicable to student housing, Thorne could more accurately inform the Sydney University for their student housing.

When looking across these two student population groups lines (*fig 2.1*), there is a significant variance in participants between part-time students and full-time students. As this questionnaire was developed at the time that lacked the flexibility of today's tertiary population the number of part-time students does not reflect the same number of part-time students currently enrolled in universities. There is also an excessive number of students living at home with the author noting that many of these students are dissatisfied with factors such as study conditions and travel times causes from living at home (Thorne 1992); With about 3000 extra beds needed to satisfy this demand.

The Situation in which the Students Lived at the Time of the Survey				
Living Situation	Full-time students		Part-time students	
Living with parents	258	70.5%	30	35.3%
Living with relatives	6	1.6%	0	0
Living with partner and / or children	27	7.4%	33	38.8%
Living on one's own	8	2.2%	7	8.2%
In a shared situation with non students	28	7.7%	1	1.2%
In a shared situation with non students	16	4.4%	9	10.6%
In a shared situation with students and non students	7	1.9%	2	2.4%
Other	14	4.3%	4	3.5%

fig 2.1

As with any housing situation, students were profoundly influenced by their surrounding tenants; equivalent, if not, more than the physical built environment. Due to this, the general satisfaction of student housing is deemed higher, despite students often living in lower standard housing, as students can often make the space their own (Tomsen &Eikemo, 2010). Without this spacial control students are often left feeling crowded with a lack of personal control, as students are often experiencing in hostels (Calesnick, 1978). The ability to create ‘home’ is one of the most potent abilities occupants have of influencing their built environment and therefore their satisfaction (Clapham, 2005). The temporal nature of modern student housing further emphasises this as the ideals of ‘home’ change as students move houses. Clapham argues that this develops home-making to become a form of fulfilment and self-expression.

As we can see in fig 2.1 both the student environment and the built environment sustain high satisfaction rates, as the students retained the ability to moderate their environments. The ability to choose whom they live with seems to run parallel to this, with many students who remain at home feeling a similar lack of control over their study environments, despite their power to create a personalised environment.

As nearly half of respondents noted that they would want to live on campus in student-specific housing if it was deemed affordable (Thorne, 1992); this housing model should become the primary design style. To reduce the adverse effects, the current monolithic student housing models showcase, smaller ‘residential’ styled housing instead should be incorporated. When asked about building density preferences one-fifth of the respondents stated they would live in a three to four block of flats, a further fifth noting they would live in a semi-detached house.

Satisfaction with Living Situation (e.g. privacy relationship with others etc)	
41%	Very Satisfied
39%	Satisfied
10%	Neither
7.8%	Dissatisfied
2.2%	Very Dissatisfied
Satisfaction with Actual Dwelling	
56%	Very Satisfied
32%	Satisfied
7%	Neither
4%	Dissatisfied
1%	Very Dissatisfied

This shows a similar trend where students found small scale housing to create a more inclusive environment (Tomsen &Eikemo, 2010). With the authors noting that similar three to four bedroom townhouse styled units being the most successful. When creating small term environments larger than this, five or six bedrooms, the units lowered in satisfaction.

These statistics also double the small tenth of the student population who wanted to live in traditional student hostels. By this research student housing should create a small cluster unit that focuses around a shared living and kitchen space, in a similar fashion to the traditional family home.

Apperance similar to:	1st Preference	2nd Preference	3rd Preference
A block of 2 or 3 story flats	19.5%	36.1%	30.8%
A two story townhouse	48.9%	28.6%	14.3%
A high-rise block of flats	3.8%	8.3%	12.8%
A semi-detached house	17.3%	20.3%	16.5%
A university student hostel	10.5%	6.8%	25.6%

fig 2.

Unlike many students studies, Thorne also looks into the housing preference and the importance of design forms within both the student population and the surrounding residential communities. As students are often low-income earners, due to part-time working and low student subsidies, they tend to occupy low expense housing. As with many occupants of low-income housing holds, this social perception has resulted in negative connotations towards student housing and their occupants. By involving the public, Thorne both address these connotations while allowing communities to have an input into the type of housing they wished to be further developed. For this stage, a set of stylization guides were offered alongside the questionnaire to mitigate any personal perception of type and density within the built environment (*fig 2.4*).

Types of Accommodation Preferred for student Housing Built in the Localities Surrounding the University		
Alternative housing types (Read out to respondents)	Number of mentions	Percentage of sample
Detached houses of one story	32	22
Two story detached houses	14	9
Townhouses	54	36
Block of flats of 2 / 3 storeys	40	27
High-rise flats	1	1
No preference	9	6
Not answered	1	1

fig 2.

These show that a more medium density style of housing is both favourable to the student population and the surrounding residents (fig 2.9).

With the author noting the residents acknowledging a difference between student housing and family accommodation. These two points bring an interesting conclusion that both students and residents acknowledge that student housing requires a different programmatic design.

While this questionnaire confirms there is a difference, it fails to address a programmatic answer relying further on the student's satisfaction of housing.

Bringing surrounding residences into the design guide process, Thorne attempts to reduce the negative connotations associated with student housing and help build connections between the student body and the surrounding residence. Through this study, the notions of privacy, territory and self-identity are intertwined with the surrounding suburbs reducing the

monotonous forms student housing tends to take (Thorne, 1992).

From examining this study we find that students show higher satisfaction in the housing rented from universities, and furthermore, a higher percentage of students would prefer institutional accommodation. However, most students and surrounding residence prefer purpose built 3-4 bedroom self-catered medium density units with access to their own services; creating a sense of ownership within the design (Tomsen &Eikemo, 2010).

From this evaluation, student housing needs to facilitate students ability to adapt and change their personal environment allowing them to create spaces that reflect themselves.

Design Considerations

From these studies, it is apparent that purpose-built student housing can be used as an activator to create a secondary educational environment. Through the integration of educational ideology, strong commitment from both students and the university can result in a living space that promotes a positive learning environment. With this established the first question of this these can be answered.

What should the relationship between the university learning environment and student housing be?



With a Housing model such as the LLC's student housing can have a direct connection with the learning environment. These spaces can be seen as a collaborative effort between academic faculty and residence life staff (Frazer & Erighmy, 2012). Furthermore when asked about where students would like to live nearly half responded they would prefer to live on campus if the right student housing was deemed accessible.

The next stage of this thesis will be determining the most viable site and in creating a base design that continues to promote the educational connection between student housing and the learning environment.

As concluded by Proshansky and Kaminoff (1979): "Environmental understanding, environmental competence, and environmental security are important underlying processes in students' attempts to satisfy their needs for privacy, territoriality and place identity." The key themes and traits of these

readings empower students through their built forms and social construction techniques allowing greater personal development.

It is this combination that leads to the successful integration of student experience and academic success (Thorne, 1992).

03

Case Study One



Olympic Village Student Quarters

Architects

Werner Wirsing & Bogevisch's Office

Location

Munich, Germany

Project Year

2009

The original bungalow village was constructed in 1972 as the women athletes flats; for the Berlin Olympic games.

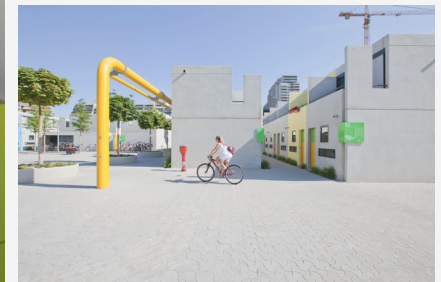
In 2007 Professor Werner Wirsing, (the original architect), and Bogevisch's office were commissioned as a working group to study and reconstruct the student housing it had developed into. Through critical examination and development, the design was distilled down to a series of key elements that would encapsulate the historical women's flats and modernize them to present day standards.

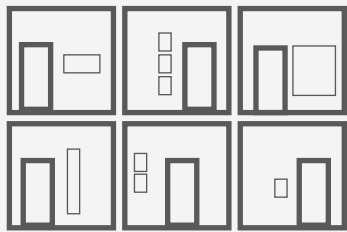
The ideals of extra recreational space led to the densification of 800 units into 1052 units over the same historical footprint.

The student ideals of 'individuality mutual interference' resulted in the retention of single room units. The design moved into dual unit row complex. With the retention of 2.3 meter wide lanes connecting the individual units with both formal and informal connection spaces to promote student interaction. Each unit comprises of a individual bedroom, bathroom and kitchen resulting in communal spaces solely being for recreational and social purposes.

The final design is a highly malleable set of units that make the most of their limited footprint by creating small personal green spaces, individualist housing requirements without compromising on the greater societal needs of the community.

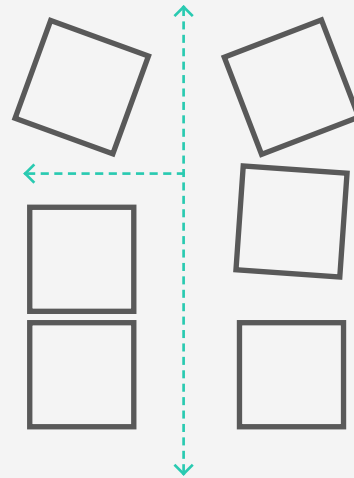
All images obtained
from Bogevisch's Office





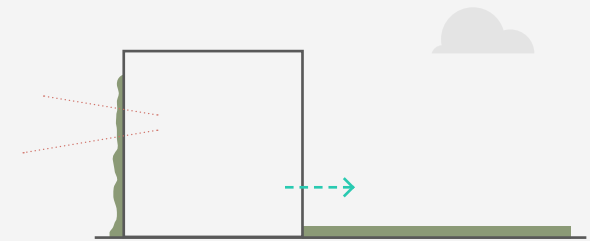
Individualistic design

Each student gets their own home, front door, bathroom and kitchen.



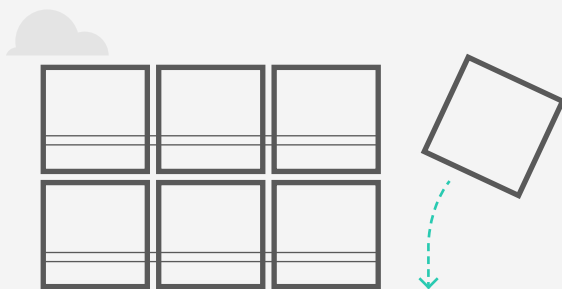
Formal and informal community spaces

The design centres around a formal community space with informal meeting areas in-between.



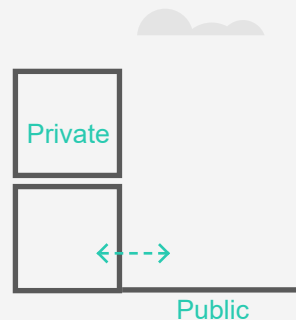
Access to green space

Each Student has access to private green space, that they personally have to maintain.



Modular design

Each unit is built off a modular base allowing easy construction and repetition of design elements.



Vertical height change in personal space

The personal space of each design is removed from the ground giving more personal privacy.

This design showcases how the student unions of Europe have influenced their student housing. The importance weighed on individuality creating solely studio apartments is proof of this. However, this style of housing uses a large footprint of land and requires high quantities of services to maintain. Therefore, this design does not seem overly applicable to a Wellington site. The design still holds notable features that could be used to create a more applicable concept. The ideals of modular design that can easily be repeated, strong integration of social and private spaces, aspects of ‘fun’ integrated into the design.

The design has also been graded against the five atmospheric aspects that were used to rate the Victoria student hostels.

High	Exterior Atmosphere
Moderate	Interior Atmosphere
High	Community Atmosphere
Moderate	Architectural Identity
High	Green Spaces

Case Study Two

Urban Rigger



Architects

Bjarke Ingels Group

Location

Copenhagen, Denmark

Project Year

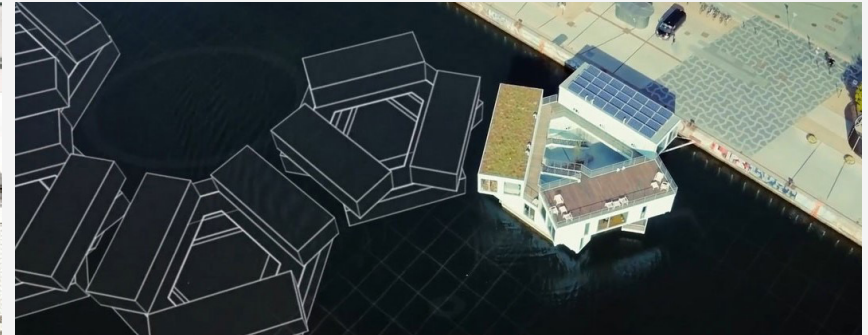
2016

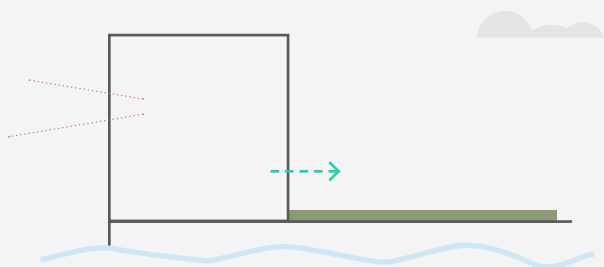
Like many university cities Copenhagen had a student housing crisis; however, their response was unique. The Urban Rigger is a floating mobile property that is built up of six 23m² - 27m² shipping containers centralised around a 160m² shared green space. These six shipping containers are stacked and arranged on a floating base, to create 15 studio residences over two levels. The blocks arrangement creates an overlapping form that frames a shared garden in the centre of the mobile platform. The design utilises architectural principles to create a modular system allowing individual or group development in any body of water.

The fit out of the Urban Rigger allows them to be built fast and efficiently while on water significantly reducing construction costs and time. Bjarke response to the design brief was to set out to achieve a design that “people had a place to work and to live, as well as a place to play. Accordingly, a place that contributes to the quality of life in all of its aspects; economic, social and cultural” (Urban Rigger, 2018).

The end design is a highly social and adaptable space that brings students together to create small communities.

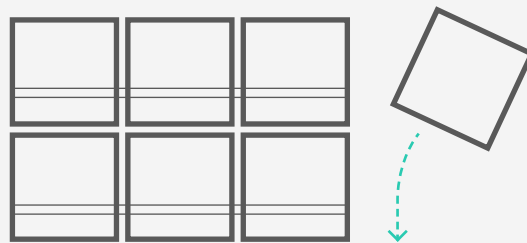
All images obtained from Urban Rigger





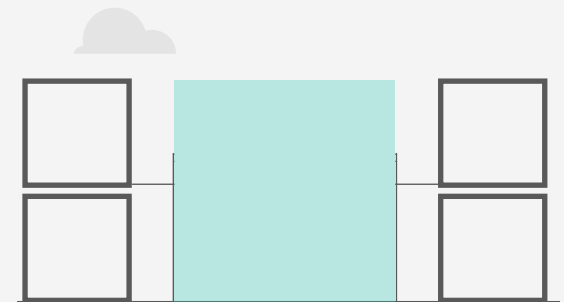
Access to green space

The central covered green space acts as an internal/external hub for students.



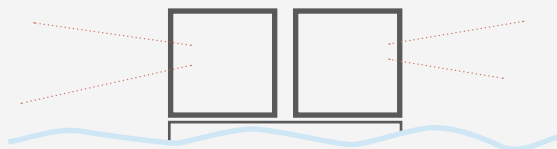
Modular design

Each unit is built off a modular base allowing easy construction and repetition of design elements.



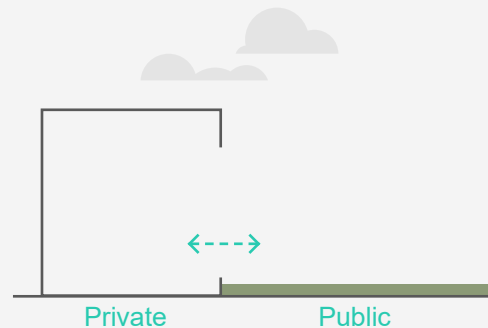
Versatile spaces

Each shipping container and be added and removed to change the program of the design, it also has three unique roof elements.



High use of natural amenities

The design hosts green spaces, large skylights and access to harbour amenities allowing occupants to connect with nature.



Connecting public/private space

The design has a strong coherence between public and private spaces allowing the whole design to act as one home.

Through this design, we can start to understand the importance of green space and its role in student housing. For this design all green amenities are artificial; this showcases a great example of how natural diversity can be introduced into an area that it would not naturally inhabit. Ideology and innovation such as this would make an excellent example of how student housing can be used in places where traditional housing methods would not be applicable.

The design showcases a strong interior, exterior atmosphere and flow, merging the two to create a blended design that takes full advantage of the public, private amenities.

High	Exterior Atmosphere
Moderate	Interior Atmosphere
High	Community Atmosphere
Moderate	Architectural Identity
High	Green Spaces

Case Study Three

St. Cugat Student Housing



Architects

dataAE, HARQUITECTES

Location

Barcelona, Spain

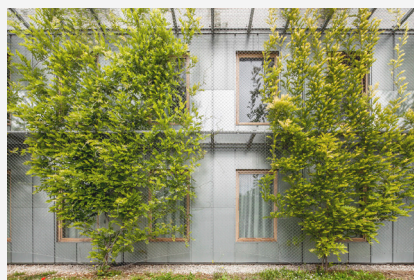
Project Year

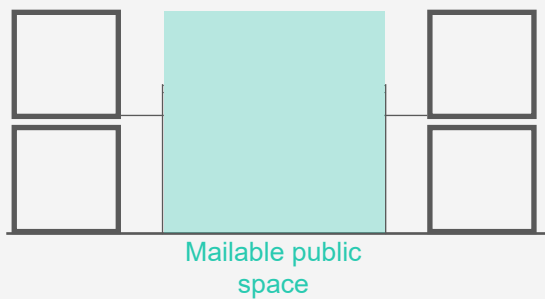
2014

St. Cugat University decided to explore another possibility of student housing in 2013 when the development of new purpose-built student housing began. dateAE & HARQUITECTES architects responded with a highly malleable design. Its form is built up from a pair of parallel two story blocks that conceal a central shared space. Each unit is accessed either through this space, either on the ground floor or through a second-floor catwalk. Since it was explicitly designed for architecture students, they created an intense connection among the users both individually and at a group level. Each student is given a singular unit which houses a private kitchenette and bathroom at the front of the house. This

location allows for the more private sleeping and study spaces to be separated from the central atrium space. The units have been set up with the bare minimum, with the architects claiming that the internal spaces will become a playground for the students to explore. Through occupation, these spaces have become appropriated and occupied by the students.

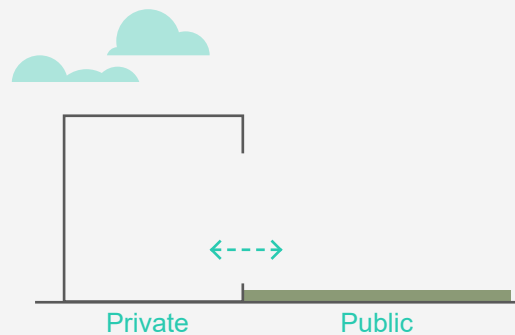
Through occupation, the design has flourished into a statement piece for the university. The entire design has been made into a form that can be pulled apart and added to as the needs of students change.





Versatile spaces

Each room only contains the bare essentials, allowing students to develop their own sense of space.



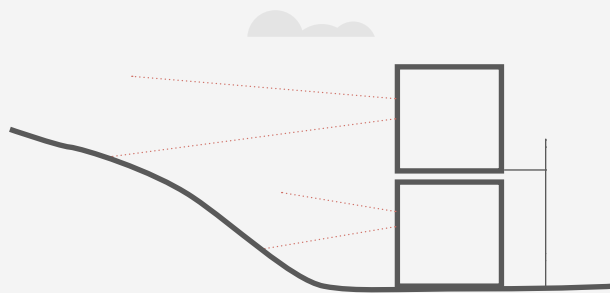
Connecting public/private space

The design has a strong coherence between public and private spaces allowing strong student connections to grow.



Access to green space

The central covered green space acts as an internal/external hub for students and can be used to host social events.



High use of natural amenities

The design hosts green spaces, both within and outside the design. The strong use of green spaces allow the design to connect with nature.



Modular design

Each unit is built off a modular base allowing easy construction and repetition of design elements.

Out of the three case studies, the St. Cugat student housing resembles a Living Learning Center the closest, with the specific nature of the architects stating that the design was to create group connections. Through further development, this case study would create an excellent base for the design to use as a starting point.

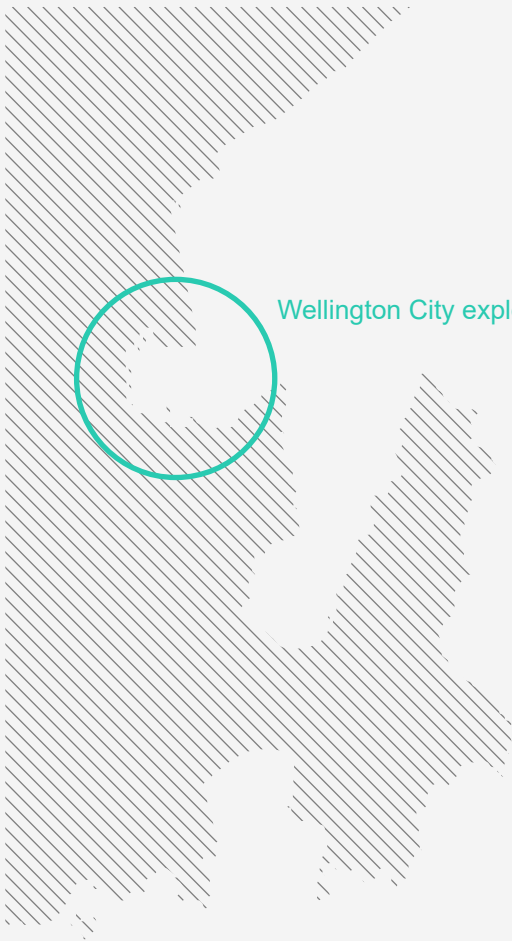
The use of the modular system would also reduce the cost and time needed for construction creating a highly efficient design.

High	Exterior Atmosphere
Moderate	Interior Atmosphere
High	Community Atmosphere
Moderate	Architectural Identity
High	Green Spaces

Site Analysis

Wellington is the capital of New Zealand with a population of 213,047 residence and a student population of just over 64,000. With the Wellington City Council expecting a population growth of 16% over the next twenty years (WCC, 2019). The city is well known for its vibrant culture and arts scene in which students contribute a massive part.

As the Te Aro Precinct and the CBD host almost all of the tertiary education building it will host the ideal site for the new student hostels.



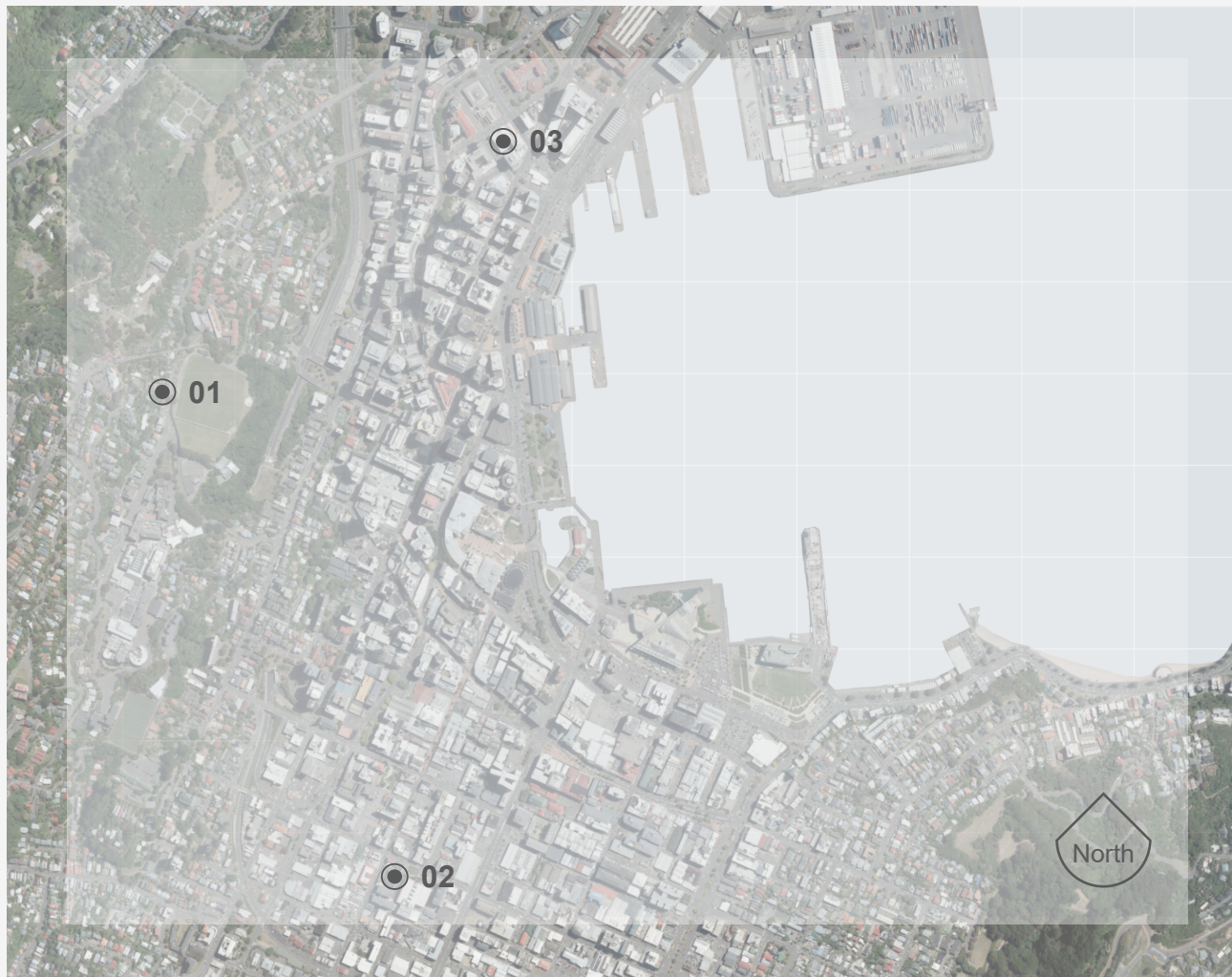
Wellington City Data

Population	213,047
Area	119.7 km ²
Density	290 per/Km ²

European	72.1%
Maori	7.8%
Pacific Island	2%
Asian	20%
MELAA	/
Other	2%

Full Time Work	77.6%
Part Time Work	18.8%
Unemployed	3.6%

Higher Degree	14.7%
Bachelor Degree	22.8%
Post School	15.7%
School	31.1%
No Qualification	8.2%



The following three sites have been selected on their connection to either a specific educational location or a social hub attributed to student use.

Site One Kelburn Hill

This brownfield site sits just below Kelburn campus and the edge of the CBD. The University currently has plans to develop this area into a connection point between its main campus and the CBD.

Site Two Te Aro Campus

As Te Aro has the highest population density in Wellington, this site is located above the Te Aro Campus. This physical connection to the university campus below will allow harmonious learning in both the campus and student housing.

Site Three Pipitea Development

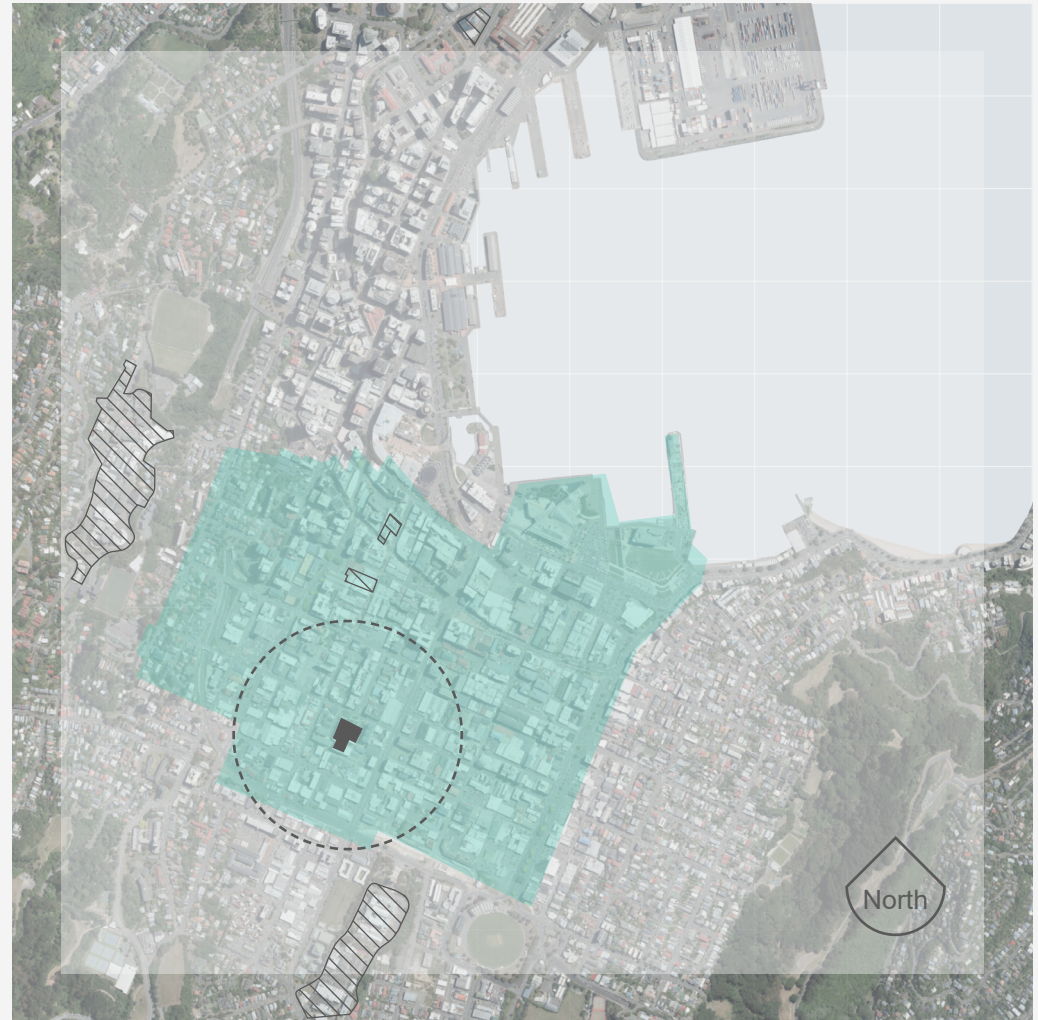
This site sits between the Business / Law schools and the CBD. Its goal is to integrate students housing with a more business orientated life to further help students gain life skills.

Chosen Site

When cross-examining the three chosen sites against the literature, site two stood out as the most pragmatic choice to further enhance the student experience. Its physical connection to the site allowed a more significant connection to the learning environment while bringing with it a new spin on already established student housing models.

As with any site, this allowed to a unique development of site opportunities and restrictions. While the traditional connection to the ground is removed; a new, unique, vertical connection must further be developed that both harnesses and circumnavigates Te Aro Campus. First, the surrounding Te Aro precinct will be examined to determine what amenities exist for the established community and how these can be used to service the new student body. Secondly the Te Aro Campus it is self will be analysed to allow for a more coherent design between the existing and new building masses.

- Site
- Five minute walk
- Te Aro Precinct
- ⊗ Educational Buildings



Immediate Connections



Te Aro Campus is located in a semi-industrial area, with two vital transportation routes in close proximity to the site. The first being the highway exit running down Vivian street and the second, pedestrian movement, down Cuba street.

The site also sits in a small cluster of six to eight story high residential buildings. These will have noticeable impacts on the sites sight lines and privacy of the residence. They will also act as wind buffers from prevailing winds and create a small area of lowered wind speeds.

Located at the front of the campus is a small public park; this will be essential in helping build a design which works with green spaces and social spaces.

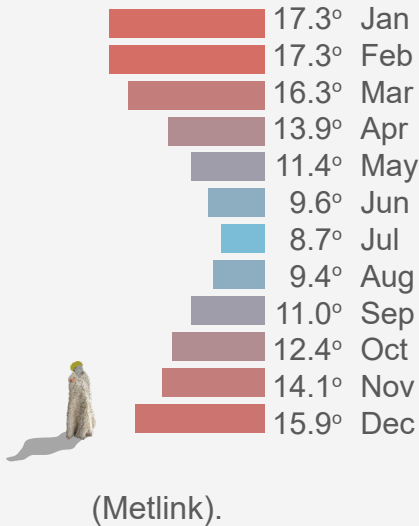
- Site
- Movement Paths
- Green Space
- Immediate buildings similar height or taller

Wellington Environment



Wellington is a moderate temperature site with prevailing warmer winds from the North and Cooler, stronger winds from the South.

The site gains full year sun with the surrounding buildings having little no restrictions on sunlight light hours falling onto the design. However, the design will need to take into consideration the building below and its surrounding buildings.





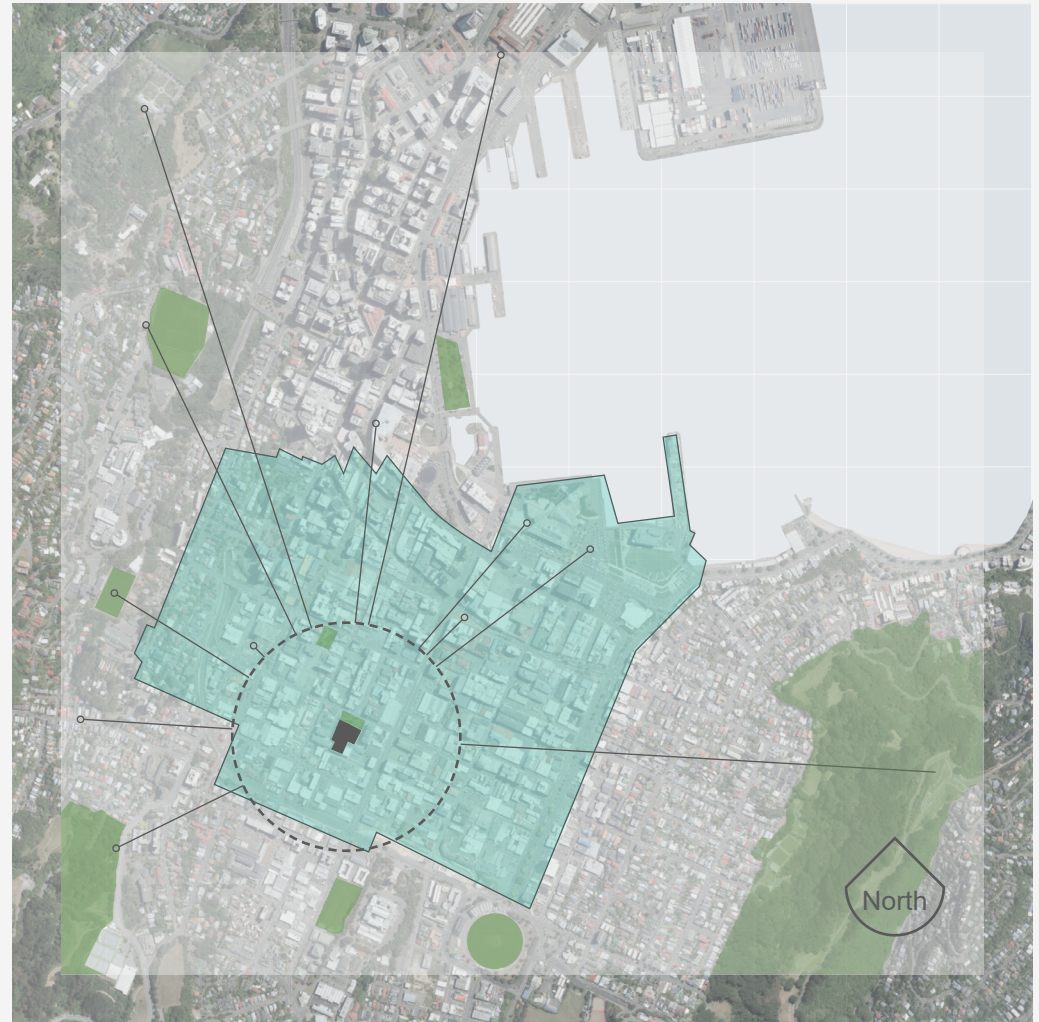
- Site
- Wind
- Sun Movements

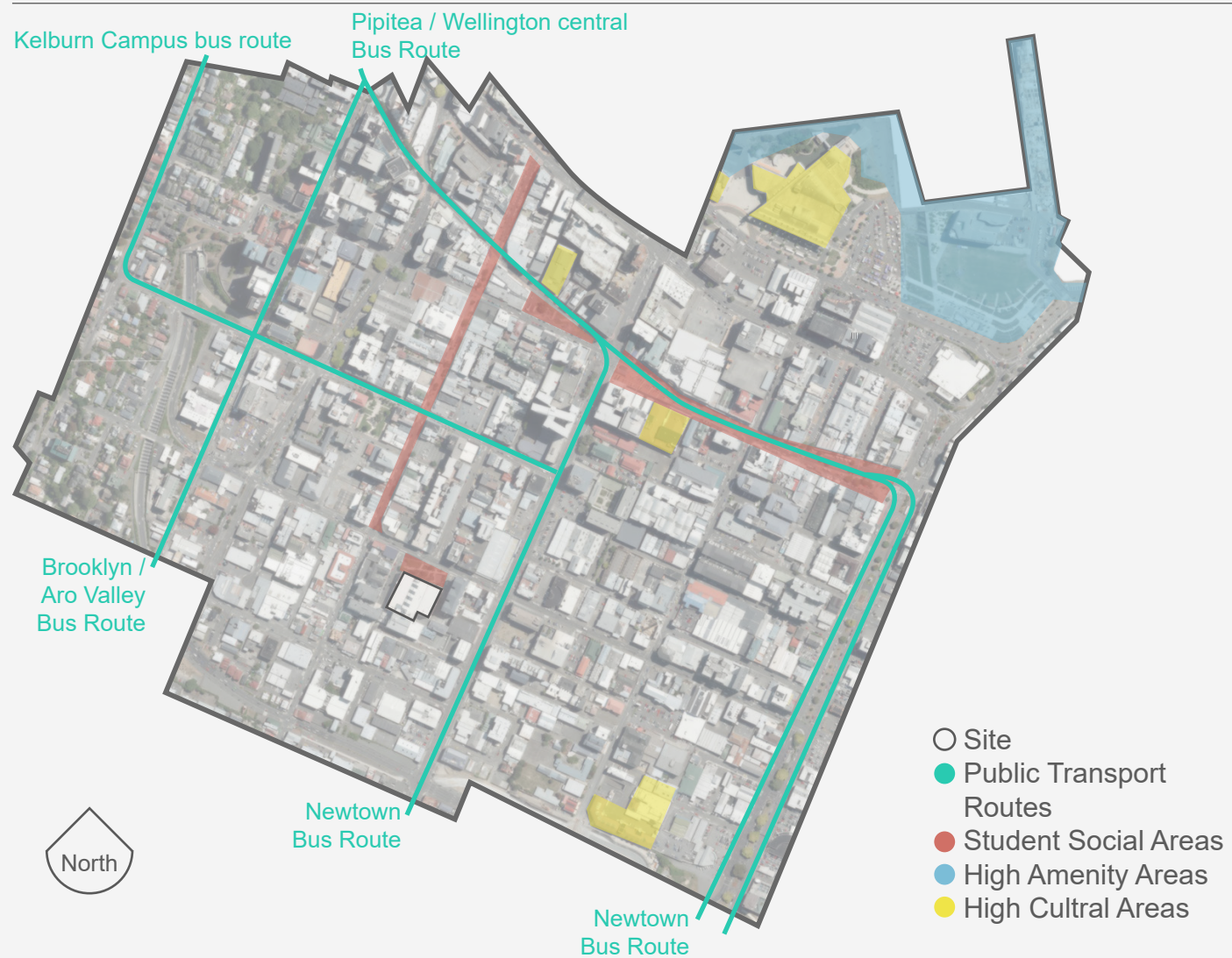
Local Amenities

By mapping the existing amenities, the design can utilise the surrounding built environment to reduce the programmatic requirements in order to cater to the social lives of its students. Areas such as existing student social spaces can be harnessed to create smaller satellite destination points for the students to study and socialise.

Wellington already has a robust cultural scene, students have a multitude of options in how and where they socialize; these range from the many cafes and bars around the Te Aro precinct, to the city library and Te Papa as more study orientated environments.

- Site
- Five minute walk
- Green Space
- Local Amenity hot spots
- Te Aro Precinct



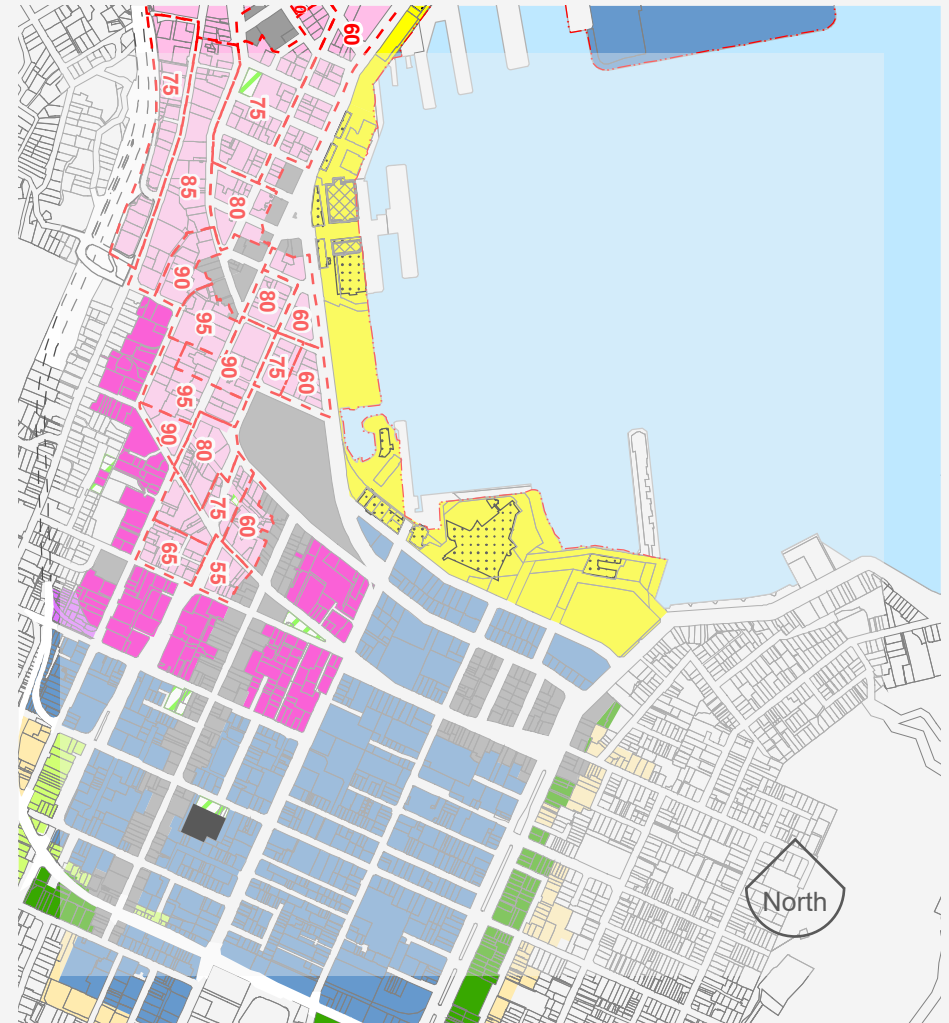


Te Aro Precinct Design Guidelines

By examining the preexisting site conditions of height and heritage restriction, the design can gain a further real-world application on how it will integrate with both the existing Te Aro Campus and the surrounding built environment.

The Te Aro Campus is located on the edge of the Cuba Street corridor which holds a large selection of heritage buildings which are important to both the cityscape of Wellington and the cultural heritage of the city.

- Site
- Green Space
- 35m Height Restrictions
- Heritage area

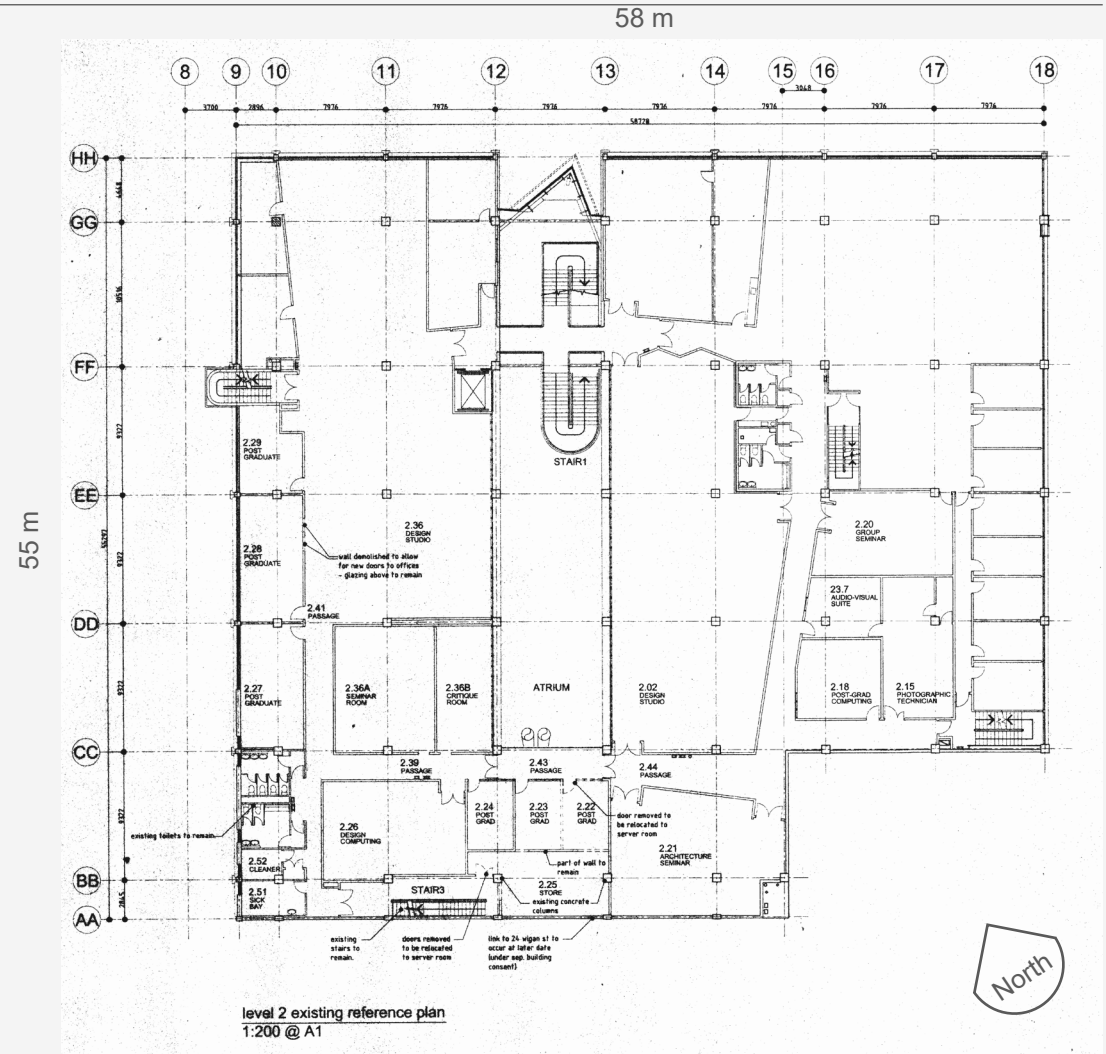


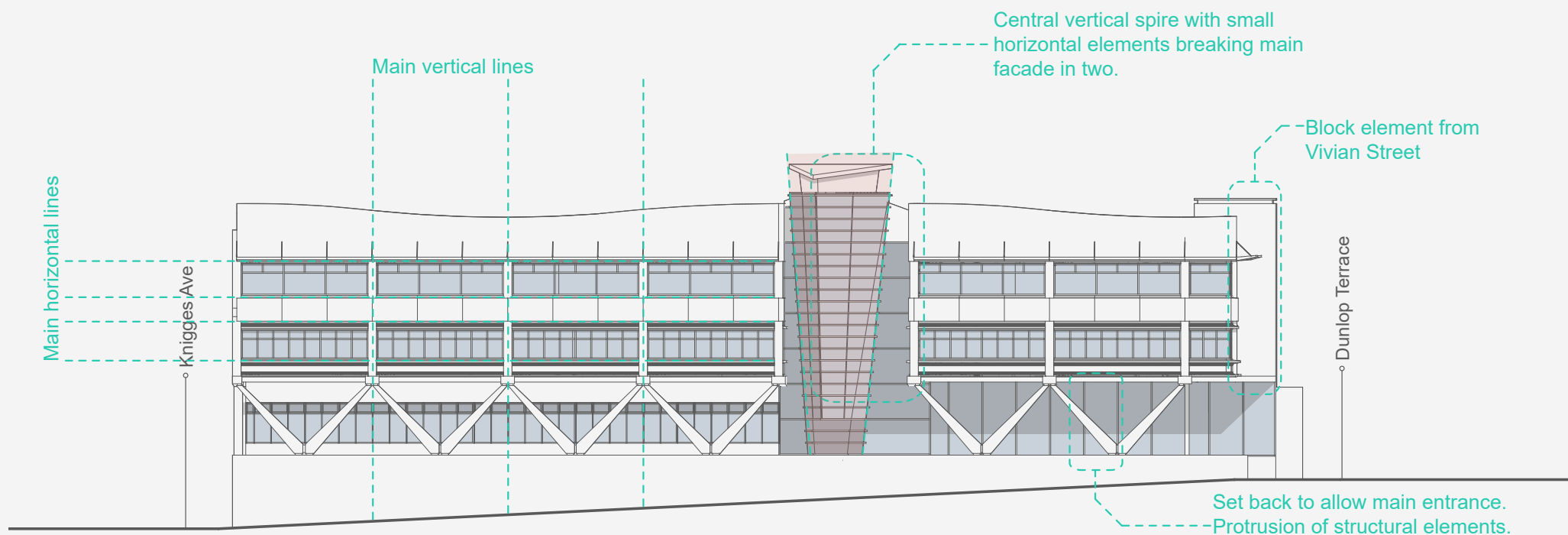
Overview of Te Aro Campus

Te Aro Campus is made up of two primary schools, the School of Architecture and the School of Design, between the two there is on average 1675 students on campus attending campus at any given time(Scott, 2018).

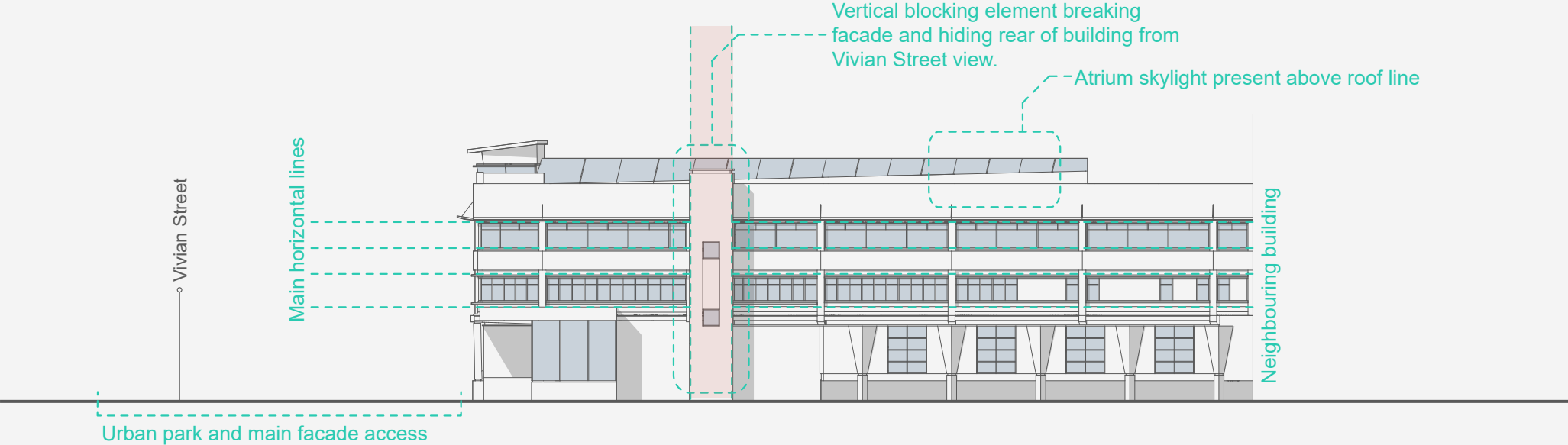
The building is made up of two main wings that are split by a large glass atrium. At the rear of the building is a connecting bridge to the Wigan Studios. A separate building that is physically linked to the main campus. As Victoria does not own the Wigan building, it will not be a part of this design and will continue to act solely as an independently rented building.

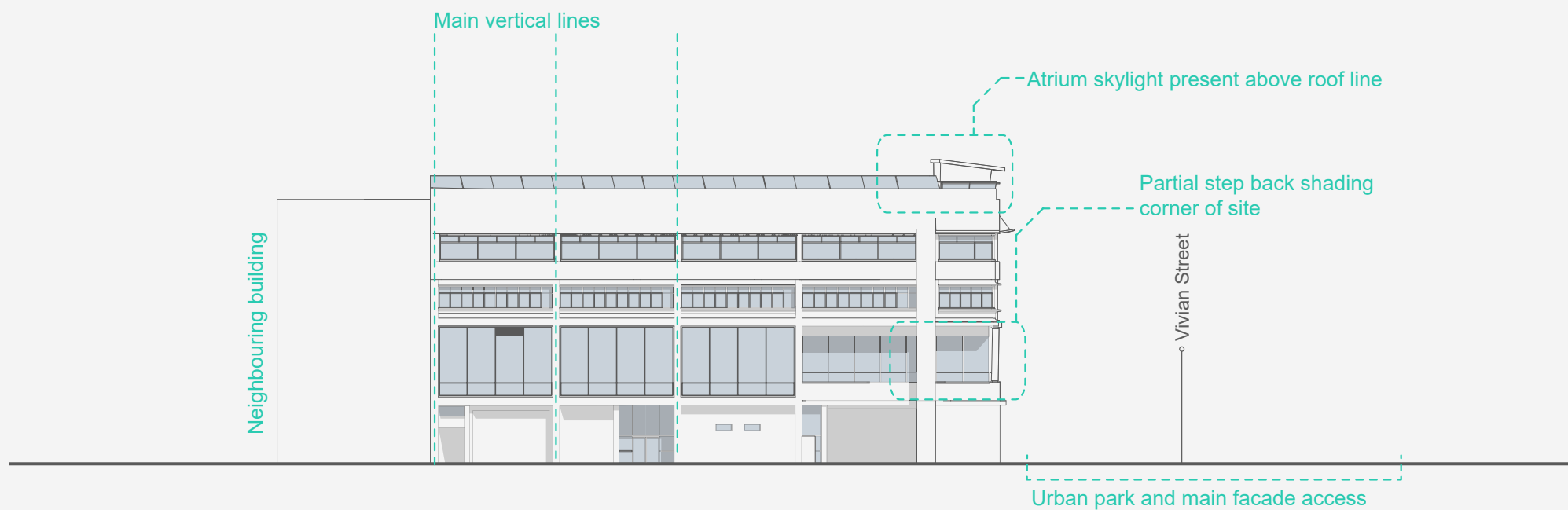
Through this next phase, the existing Te Aro campus will be examined in order to help understand the elements that make up the structural grid, vertical elements and the facade. These will help in connecting the existing and new buildings.





Dunlop Terrace facade



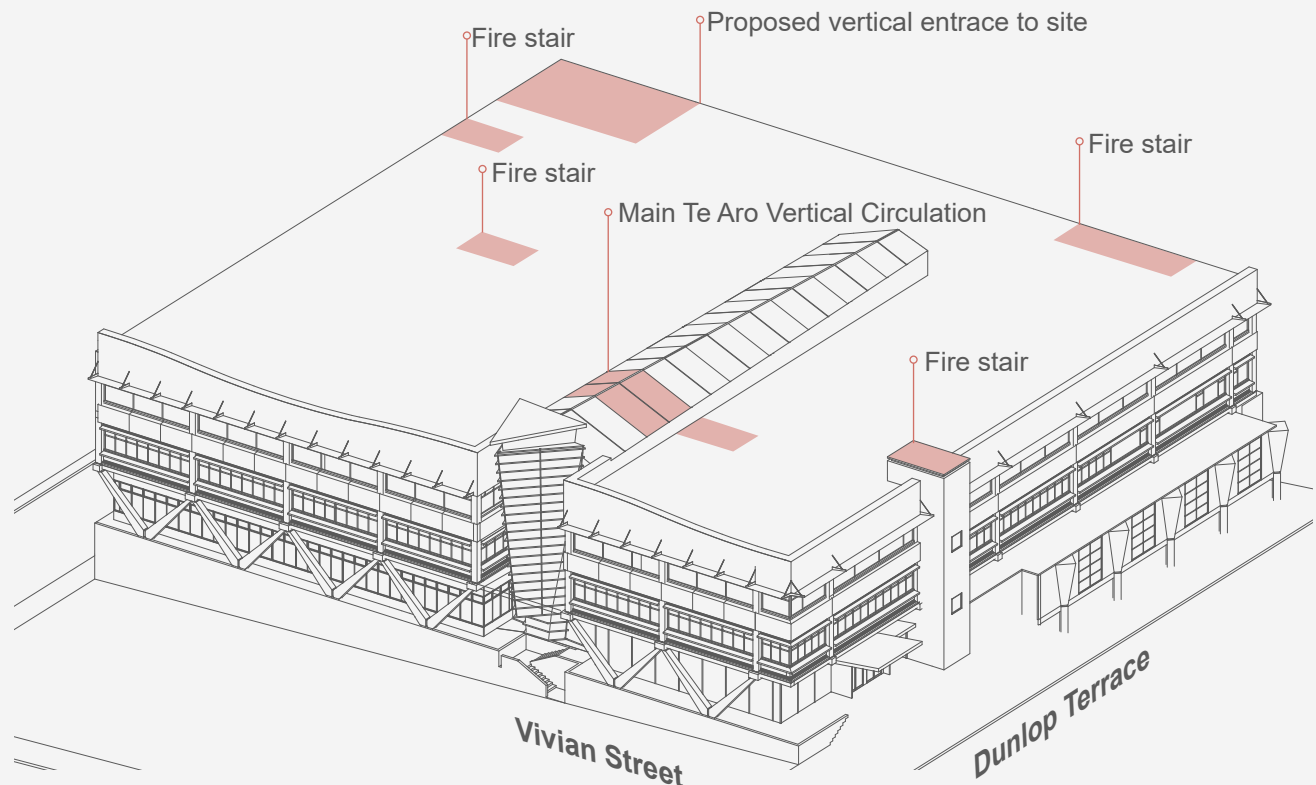


Vertical Connections

As the site no longer has a connection to the ground, new importance is brought to the vertical movement between Te Aro campus and the site.

The existing campus has two main vertical movement shafts based in the central atrium, along with a series of fire stairwell that runs through the building.

As the student housing will not be designed explicitly for architecture and design students, it will be important for the design to have its own private entrance. Through examining the design and the surrounding site, the optimal positioning for this would be in the south-east corner of the campus. This area is currently a carpark, and through design, considerations will be able to maintain its original occupation while providing a private and secure entrance for the students above.

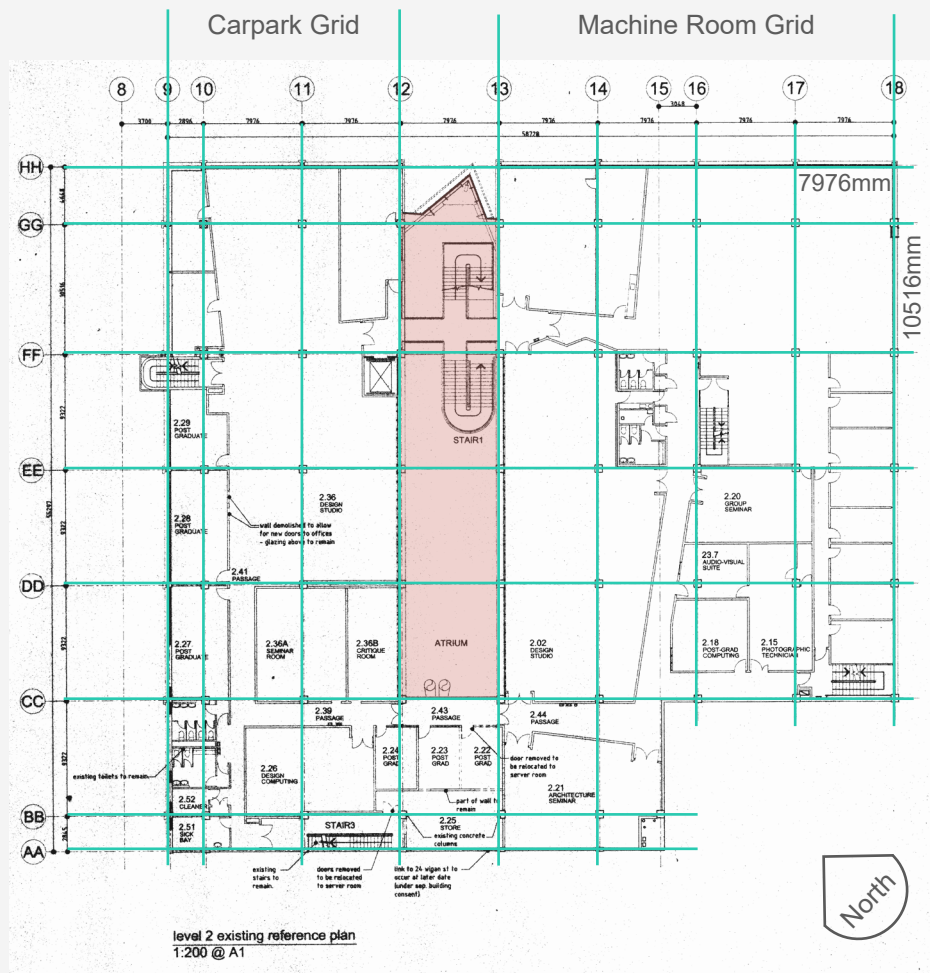


Existing Structural Grid

The existing Te Aro Campus is built on two structural grids, with the east wing built to cater for the machine rooms below; and the west wing for the carparks below. Inbetween these two grids lies the large glass atrium, which acts as a structural gap and seismic isolator between the two entities. At the end of this atrium is a small bridge which runs between the two halves and links the campus with the Wigan building behind.

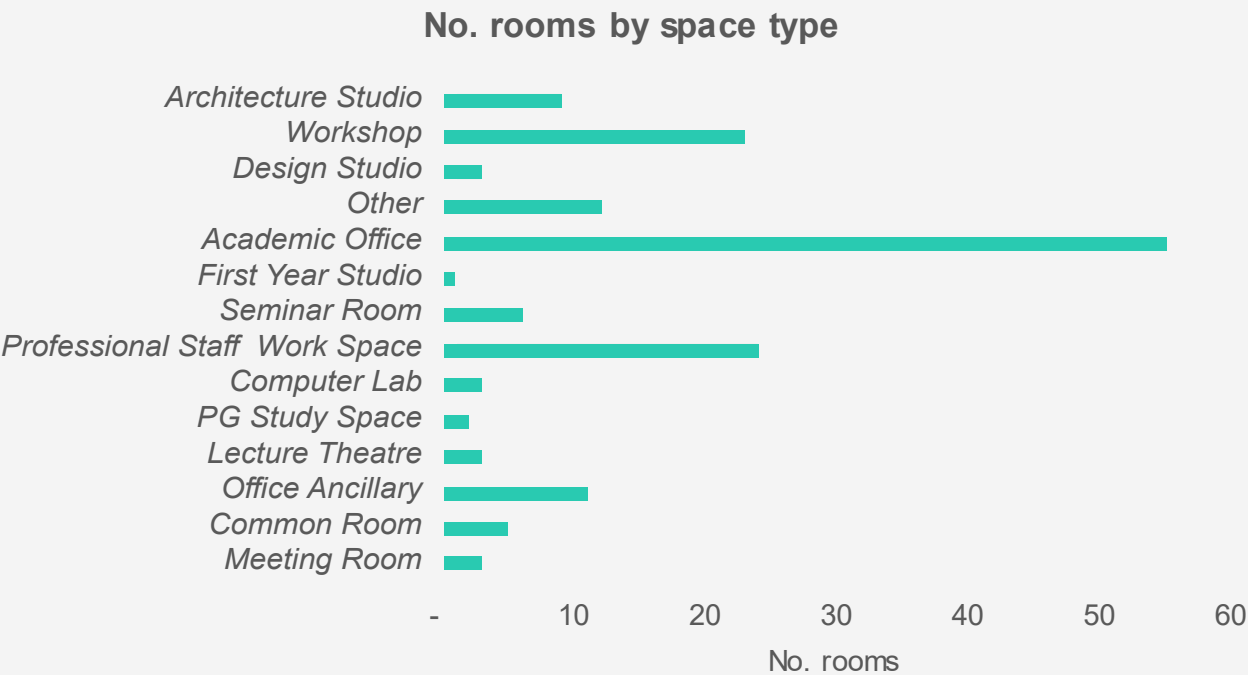
The current campus has been undergoing a structural upgrade, with new seismic braces running through the atrium. These structural braces will be immensely important in creating a new structural system to hold any additions to the Te Aro Campus.

fig. 3.10
The ground floor of Te Aro Campus
Showing structural
grids and atrium
space.



Te Aro Campus Development Plan

Te Aro campus has one of the highest growing student populations out of all three of Victoria's Campuses. In 2018 it had an Equivalent Full-Time Students, EFTS, number of 1675.5; in the next five years, this number is predicted to grow a further 39% to 2324 or the equivalent of 649 new full-time students (Scott, 2018). Under the current building model, these students will be expected to share either architecture / design studios and computer labs, or spend less time on campus reducing contact hours. In order to understand this problem, Victoria University put together a masterplan in how they will develop the campus to meet its new user's needs.



Envisaging the Future

These following points are taken from the Victoria master plan in what they aim to achieve out of the campus in the future. (Victoria, 2018).

- More of a role for artificial intelligence in teaching and learning
- Less focus on formal qualification / registration
- Social community
- Hybrid of online and physical connection
- Values maintain and enhanced
- More focus on values and social / less technical

When looking through the masterplan document, the connections between the literature examined in this thesis and the master plan document can be seen as they aim to create a more social study environment. The reduction in contact hours through a hybrid of online and physical connections works with the theory of LLC's, as explored in the literature.

As the campus develops to understand the changing landscape; the university aims to create a more social hub, stating that -

“Within this vision, the role of our Te Aro Campus is to be a creative hub and a place that fosters design culture”.

This ideology of moving away from merely an institute of education and into a place of social interaction, collaboration and teaching shows how universities are developing with new teaching environments.

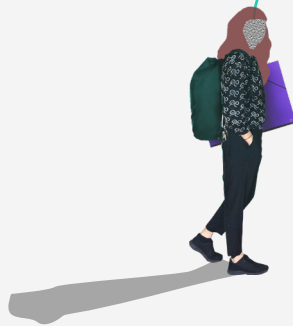
The Master Plan document also takes note of the changing studio culture. Noting that technology is allowing more design tasks to be achieved outside of university; allowing for the development of how learning can be achieved on-site and through contact study (Victoria, 2018). By understanding how the university is changing its campus structure to cater to a more holistic learning environment, the design can align itself with the Master Plan document.

Program Considerations

By understanding both the site and its restrictions, we can start to formulate a program that will harness the best elements from the literature; creating a housing model that is best suited to this unique site.

As brought up in the literature by Lenning & Ebbers, traditional learning communities are designed on four main design forms.

- 1) Curricular learning communities
- 2) Classroom learning communities
- 3) Residence learning communities
- 4) Student type learning communities



Each has their style in how they influence students lifestyles and inform their education. The common goal between these typologies is to connect students with environments that enhance student experience and education.

However, what are these elements and how can they be translated into a Wellington-based student housing model? This brings us back to the second question this thesis aims to understand.

What built elements are suitable for modern student housing?

By looking at physical elements within student housing, through global case studies this thesis has aimed to understand how and why these elements have been built and how they can be used in Wellington. The use of site-specific analysis will allow for the development of parameters that will lead to a design that caters uniquely to the wellington student population.

With strong cultural scene the students have a multitude of recreational options for them to pick from. For amenities the design should cater for more private green spaces that will have a group benefit for the students.

From these considerations, a series of design guidelines will be used to create a broad overview of what will be established as an outcome to this literature.

These design guidelines will allow for a student housing complex that is guided by what students want and how to best cater to them and their needs. These guidelines have been set based on the outcome of the earlier literature and studies into student housing.

Following these guidelines, the examination of the site and a series of case studies will allow for a further developed design and the allocation of specific built elements.

Programme Guidelines

- Fit 200 occupants.
- Primary programme of student living conditions.
- Secondary programme creating university and community spaces.

Student Environment Guidelines

- Foster a sense of community through well developed shared spaces
- Blend academic with living spaces.
- Provide a high level of amenities that promote sustainable living.
- Promote formal and informal connections with the university facilities.

Design Guidelines

- Create a strong boundary between public and private spaces.
- Each dwelling will have a direct connection to shared green spaces and exterior amenities.
- Will create a cohesive design between the Te Aro campus and the new residential complex.
- Buildings will passively and actively promote sustainable living.
- Create effective ground floor connections to shared green space.
- Buildings won't visually be higher than three stories.

04

04

Design Process

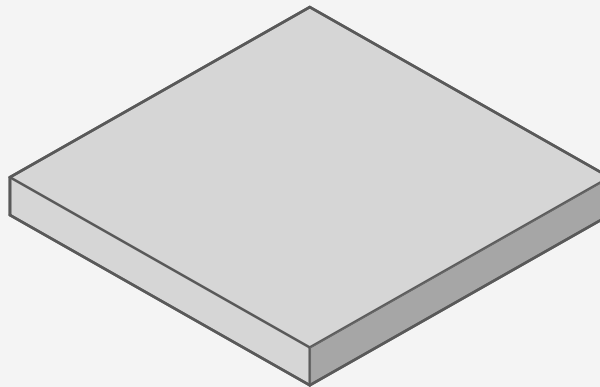
Through this next section, the design will undergo a series of test and analysis to develop a formal programmatic language for the design to be constructed off.

Through applying the physical constraints of the site to Thornes analysis of the Sydney study body, this thesis aims to explore the opportunities that would accompany a new programmatic evaluation of student housing. To reiterate the importance of programmatic analysis in student housing, the reintroduction of the literature key themes is necessary. Thorne, 1992, states that:

“Environmental understanding, environmental competence, and environmental security are important underlying processes in students’ attempts to satisfy their needs for privacy, territoriality and place identity.”

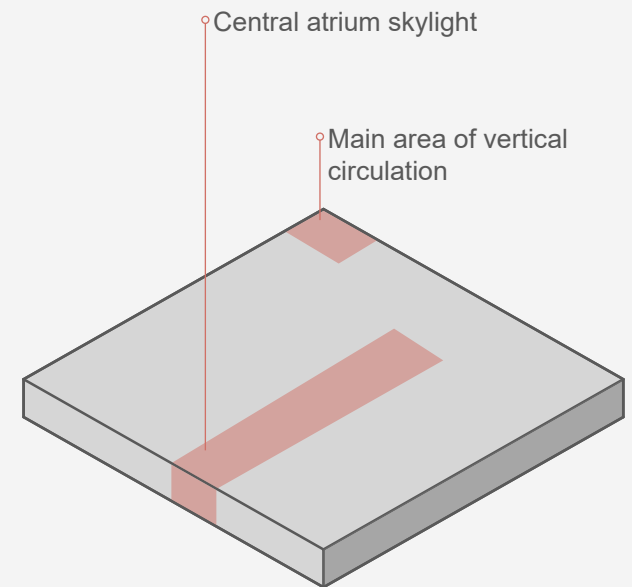
Through this next section we will unpack this quote and apply it to the Te Aro Campus site. The programmatic study below looks into the possible room opportunities and layouts, which will both maximise the horizontal landscape of the site; as well as the personal and security needs for a modern-day student housing.

The Te Aro Campus allows the unique opportunity to create a groundless design; this reduces the landscape effect to influence the massing. Instead, the design needs to cater for the programmatic requirements of the Te Aro Campus. By understanding the requirements of the building below the new student hostels can create a cohesive design.



100% site coverage

The mass of the design if it was to take up 100% of the site at a constant two-story height.

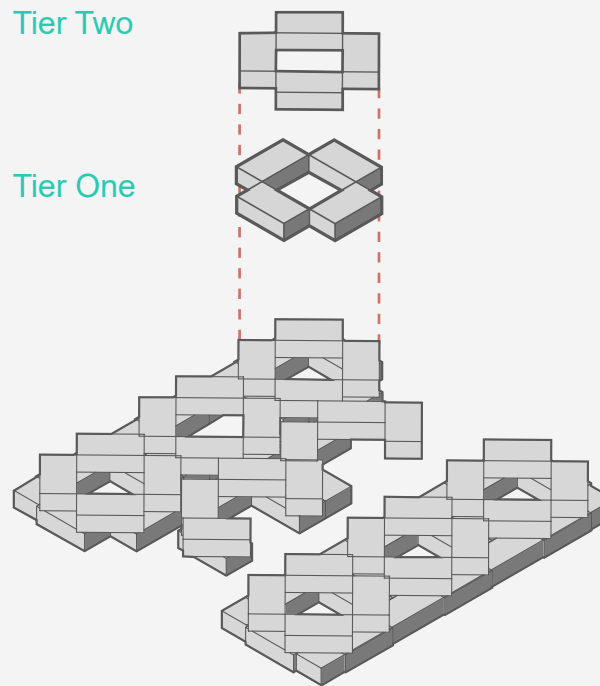


Site limitations

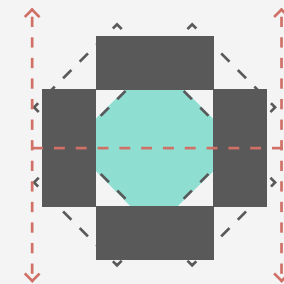
Limitations set in place by the Te Aro Campus below, the design needs to integrate with the existing design to create a cohesive design.

Mass One

Mass One is based on the analysis of the Urban Rigger by B.I.G architects. It uses the same ploys of communal space to create a smaller community within the overall student hostel. This ideology works in a similar fashion to the Victoria Universities hall of residence, Joan Stevens Hall, with the exception that each courtyard is an external space. The connection to the exterior is highly essential to this design, as green spaces have been proven to lower stress levels and create a more positive social environment. Each Courtyard has Eight units surrounding it to allow for maximum communal usage, without encumbering the social environment. The aim of this is to create a communal area that retains an element of privacy to it.



Massing

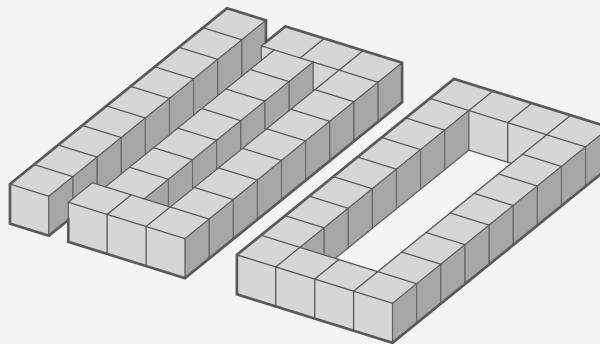


- Ground Mass
- Communal Space
- Mass above
- Student Movements

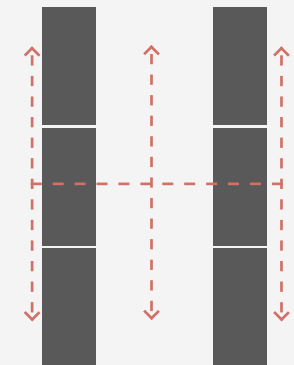
Building Footprint

Mass Two

Mass Two looks into the development of a townhouse style design. As found in the literature this style of housing was rated the highest in student housing satisfaction (Thorne, 1992). This style of housing was successfully used in the development of student housing at St Cugat, Spain, by looking into this model of massing the design will hopefully allow for the unique creation of public space between the units rows. This space could act as both an informal and formal movement area promoting interaction between students in different units.



Massing



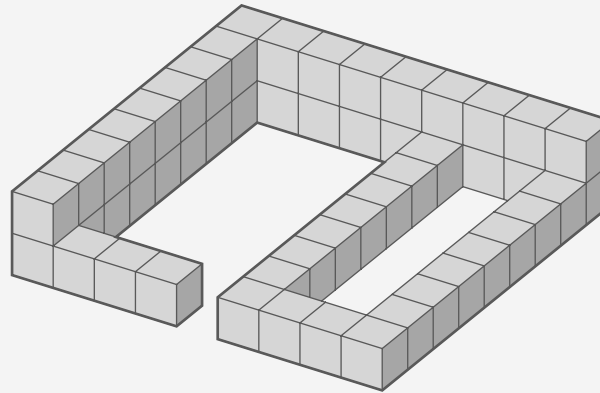
- Ground Mass
- Communal Space
- ⋯ Student Movements

Building Footprint

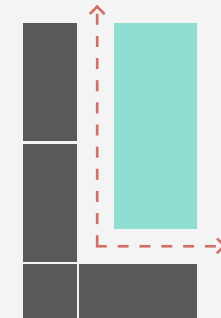
Mass Three

Mass Three looks into the extreme connection of public space. the concepts centers around the complete reduction of personal spaces to further create a public learning environment. All of the units are bound to the exterior of the site creating a central hub that can be seen from all units.

This will allow each student to gain further access to the overall community and help create the informal connection points explore in the literature.



Massing



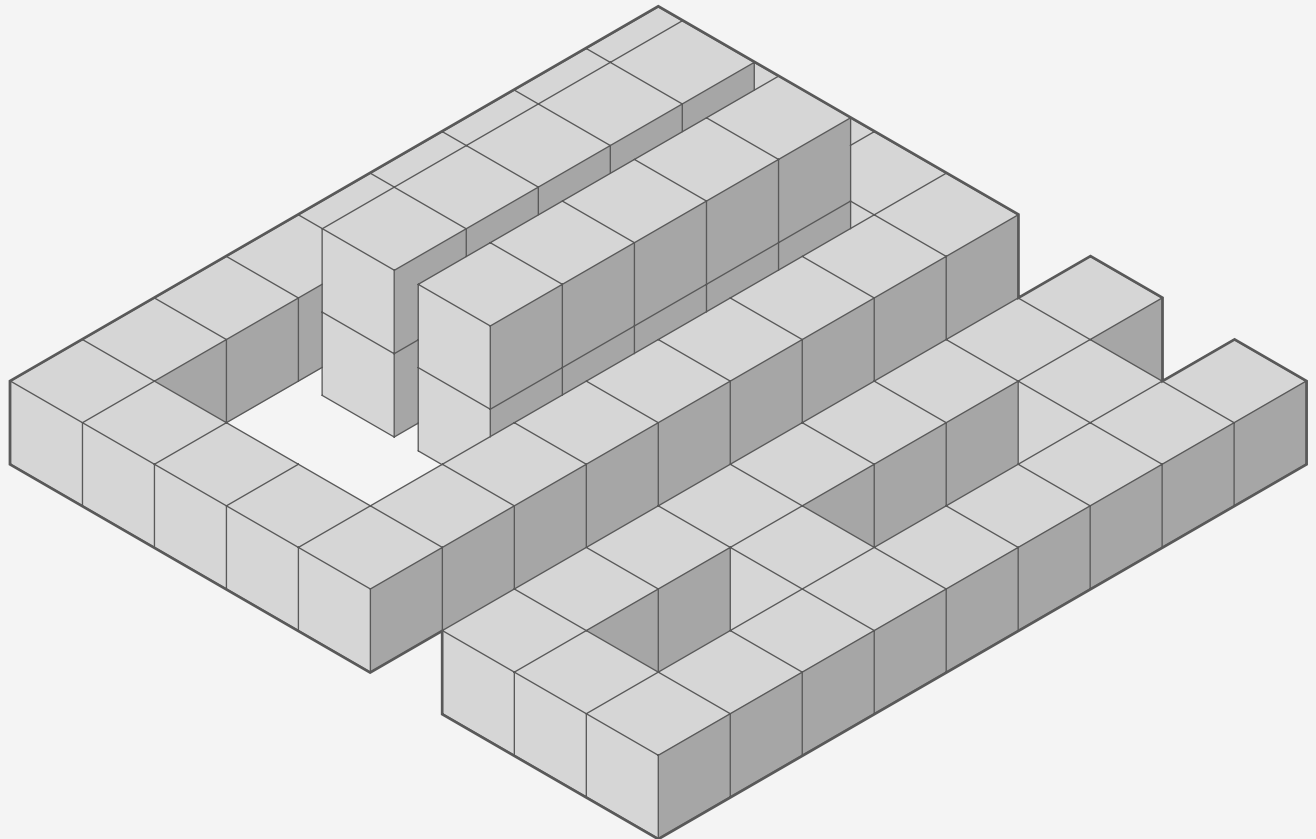
- Ground Mass
- Communal Space
- ⬢ Student Movements

Building Footprint

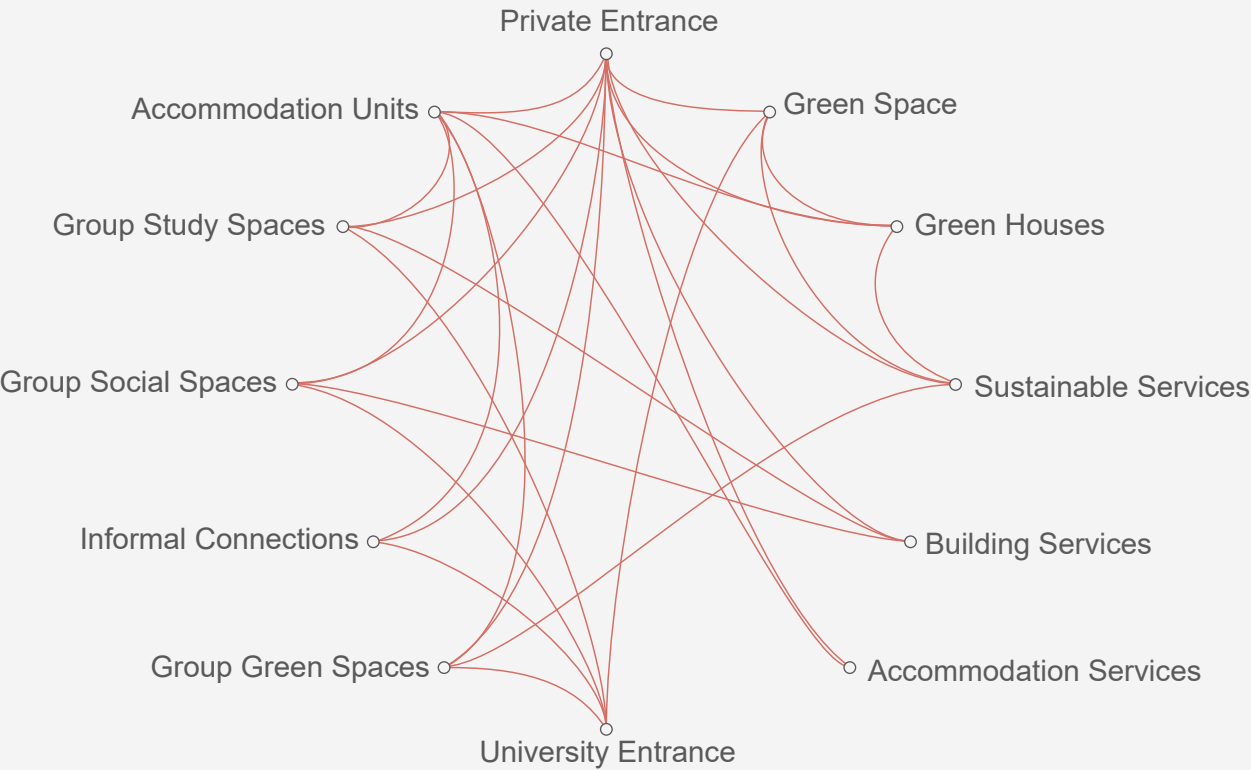
Developed Mass

The final massing model was developed to create a space that better reflected the ideas explored in the literature and case studies. The row house mass created longer corridors and a communal space that lacked horizontal privacy with fears that it would fall into the same trap as preexisting student hostels. By combining this concept with a more courtyard orientated design allows for a higher blend between the public spaces. The greater communal areas are now broken down into small hubs creating further privacy in each communal area, without isolating it from the overall design.

Through the introduction of the program, this massing model will be further tailored to the interests of the student body.

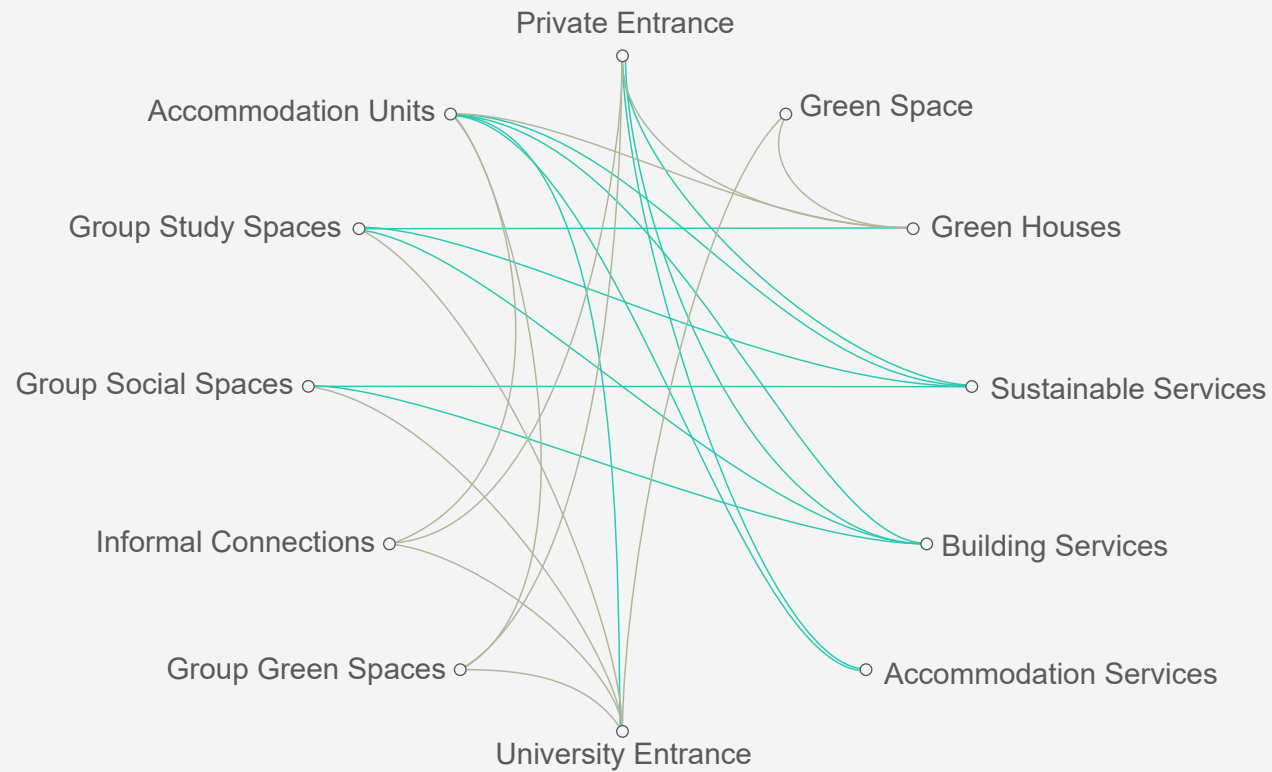


Physical Connections



● Physical Connections

Positive and Negative Connections



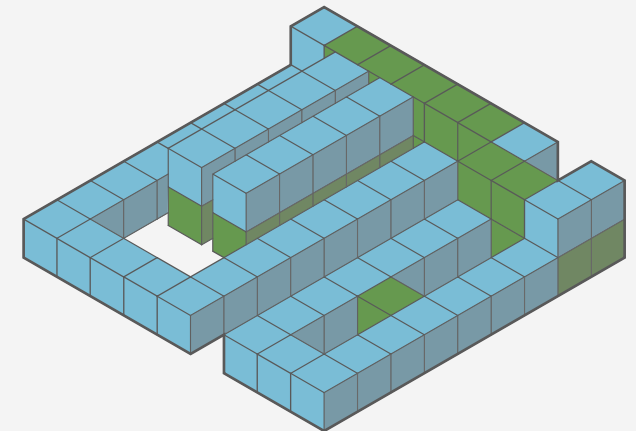
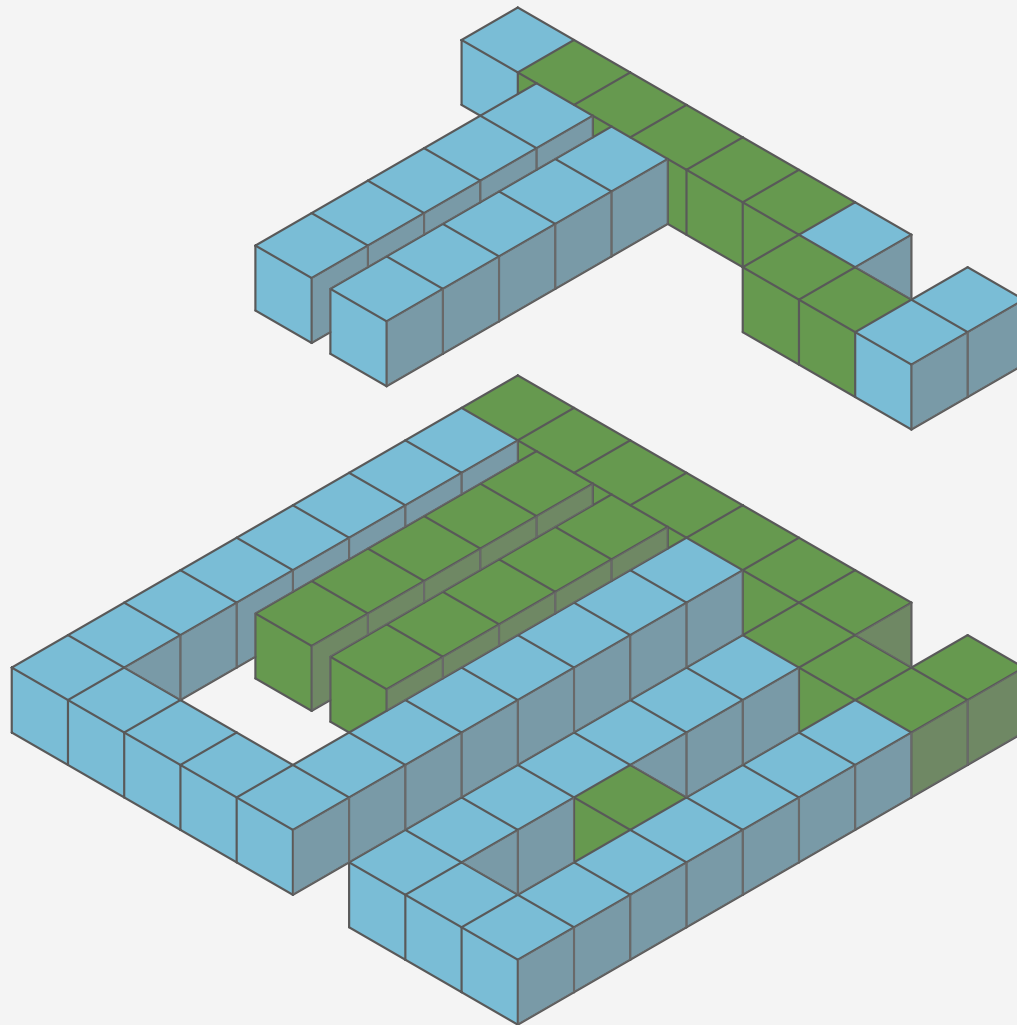
● Positive
● Negative

Program Application

The application and development of the program is one of the critical points of this thesis. By trying to understand how the physical elements of the built environment influence the internal and social dynamic of the student housing project, we can predict with greater certainty how useful the learning space will be, and furthermore how satisfied the student body will remain.

To reinforce the importance the social dynamic in the design, greater weight has been placed on contemporary security, such as noise and visual reduction, allowing students to use their personal space to relax away from the full student body.

Base Program Massing



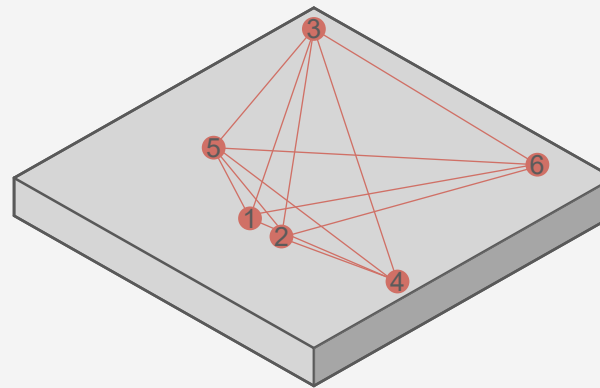
- Bedroom
- Communal Facilities

The condensed program showcases how each piece works together to create the full design, the same intention as holistic learning.

Movement paths

Through focusing on program studies, massing and the development of social spaces; these programmatic concepts have created a strong base for the development process to work from. By applying different design principles taken from the literature, we can start to understand how each design can be used further the learning environment.

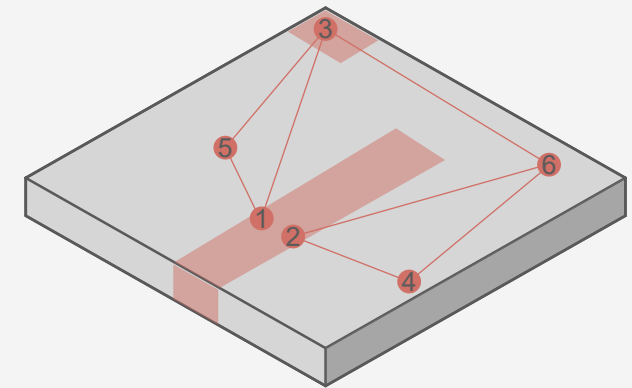
As holistic education is made up of more than pragmatic design, none of these concepts have been used to establish a baseline.



— Connection pathways
● Vertical access point

Direct vertical movement paths

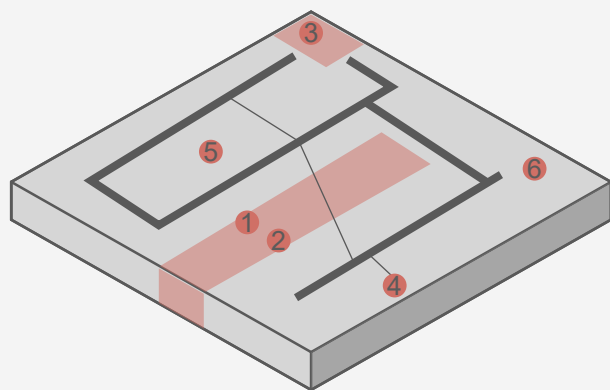
1. Central stair case in atrium
2. Central elevator in atrium
3. Main elevator bank for housing
4. Staircase access to Wigan Street
5. Fire stairs through east wing
6. Fire stair through west wing



● Site Limitations
— Connection pathways
● Vertical access point

Site limitations

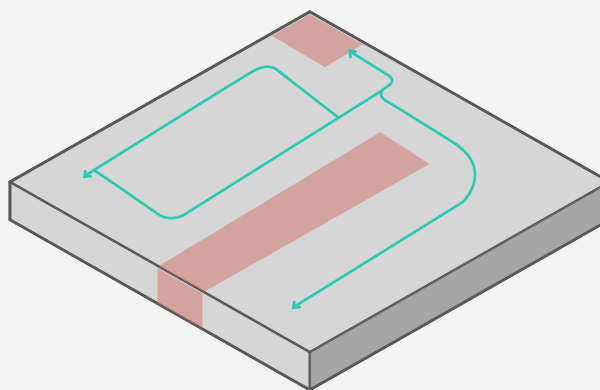
Through the introduction of site limitations we start to gain an understanding of how the horizontal movements will work in terms of connecting the vertical pathways.



- Primary paths
- secondary paths
- Vertical access point

Introduction of the walkways

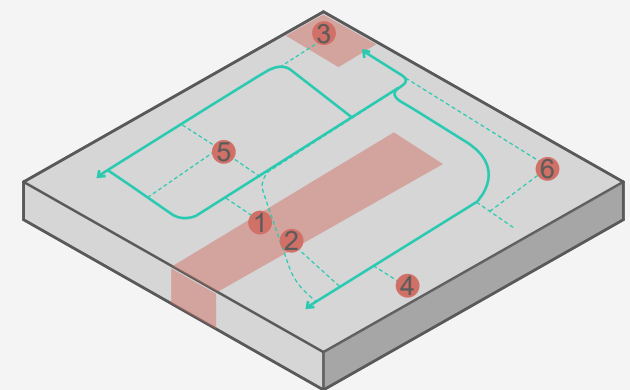
Main Central walking areas have been introduced through key areas of the design. These will create a dynamic social area that will enhance the informal social aspect of the design.



- ← Primary movement path

Primary movement paths

The main site movements run between the vertical movement path and the two wings of residential housing.



- ← Primary paths
- Secondary paths

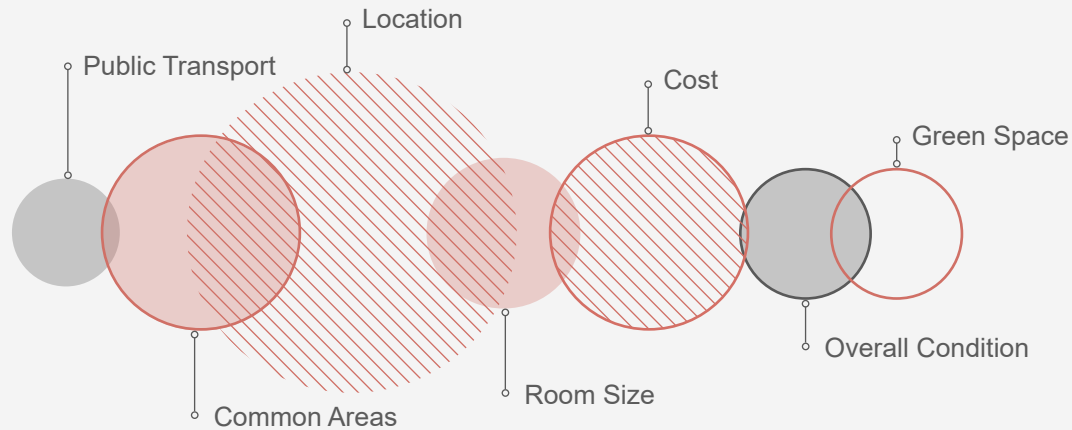
Secondary movement paths

Secondary paths in-between the secondary vertical entrances and the main movement paths, they cross a small bridge that connects the two wings.

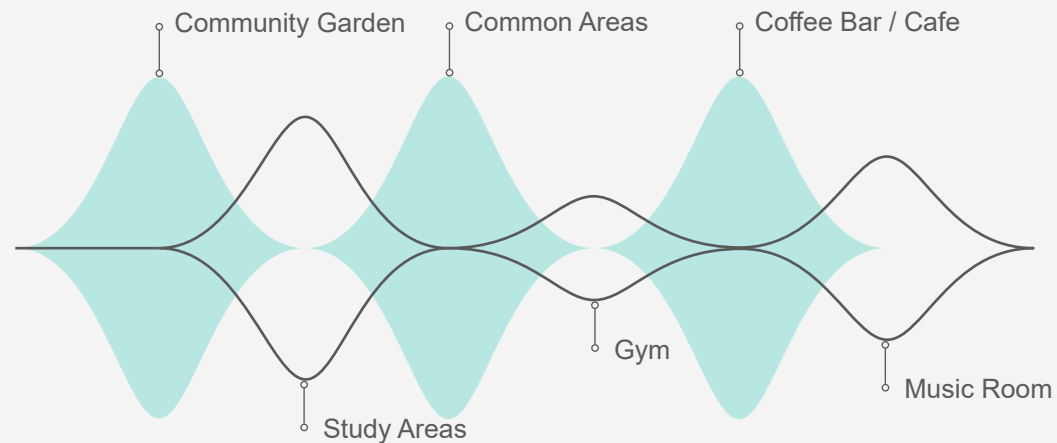
Program Conclusion

<p>In order for the design to create a holistic learning environment, the intervention first needs to create a suitable environment for students to function as individuals, as well as maintain interaction within the student body.</p> <p>Through the previous programamtic analysis the ideals of privacy and social spaces were distilled to create a functional model for further development.</p> <p>The idea of the unit was brought about to create a personalised space that each student will be able to call their own.</p> <p>As the design is interlinked with preexisting conditions of this building, an active development between the two is required to create a united and complete intervention.</p>	Type	Amount
	Private Entrance	1
	University Connections	3
	Green Space	2
	Student Accommodation	50
	Building Services	2
	Accommodation Services	3
	Green Houses	3
	Group Study Spaces	1
	Group Social Spaces	3
	Informal Connections	5
	Group Green Spaces	3

Student Housing Priorities



Residential Facilities Priorities



The architectural intervention has now been further enhanced with the conceptual planning of programmatic studies, creating a clear plan for how it will interact with the Te Aro Campus; as well as the start of physical built elements that embody the characteristics explored through the literature.

By extrapolating the data from Another Side to Being A Clever Country, the intervention can avoid falling into the 'pragmatic trap' that often befalls student housing. Through this literature, a greater understanding of students needs can be introduced into the design.

'pragmatic trap' that often befalls student housing. Through this literature, a greater understanding of students needs can be introduced into the design.

05

05

Design Development

The design development phase began by addressing the conceptual massing models against the design considerations taken up by the literature. In order for the design to avoid falling into the functionalist architecture of the existing Victoria student hostels, the design needs to cater to the social and atmosphere student also require.

Through the development phase, these principle will be enhanced further through architectural intervention.

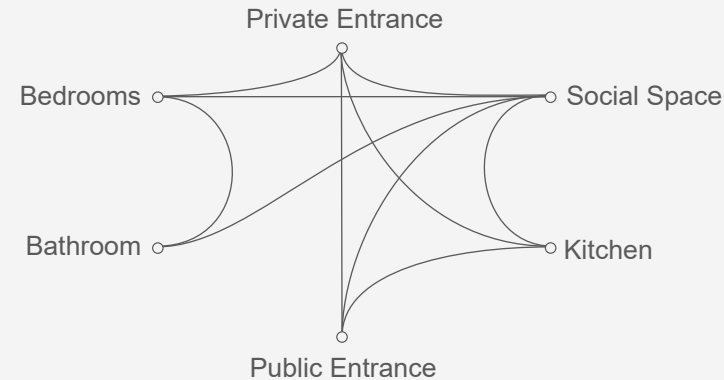
As stated by Frazer & Eighmy the aim of student hostels should be to

“Provide facilities or spaces where students can come together to meet and engage in transformative learning activities, create a supportive environment that engages new students in the life of the institution”.

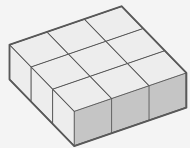
Each of these designs has taken up this ideology and applied it through different architectural means. The next step in the design evolution will be the amalgamation of these principals to create a further developed design. The following elements have selected as crucial points from the conceptual phase.

Development Of The Unit

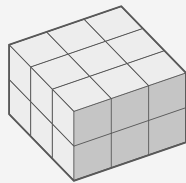
Once the modular bounds for the units were created the same conditions were used to start exploring the internal layout. Each item of the programme was given a 2 x 2 meter space allowing the design to be quickly divided and internal iterations generated. One of the main drivers of the internal layout of the units was the use of public and private space. As the units were limited on private amenities, the public areas of each unit played an important role in creating a positive design. These spaces were used to create a more positive environment and helped connect the wildly social campus with each unique unit.



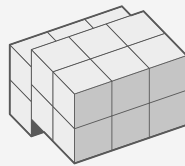
3 x 3 single form



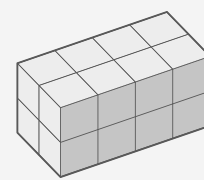
3 x 3 double form



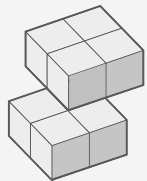
3 x 3 split form



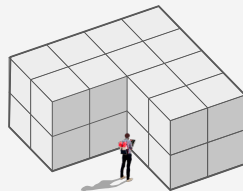
4 x 2 double form



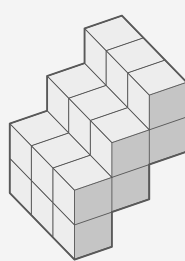
2 x 2 stacked form



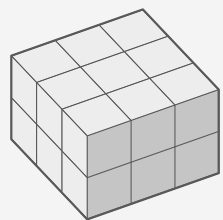
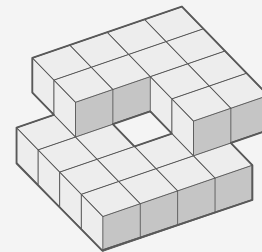
4 x 2 + twist



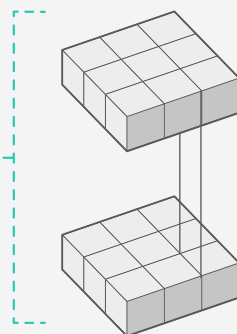
3 x 3 staggered form



3 x 3 complex form



The chosen form is a simple footprint saving box allowing the public areas on the ground floor and the private areas on the second floor



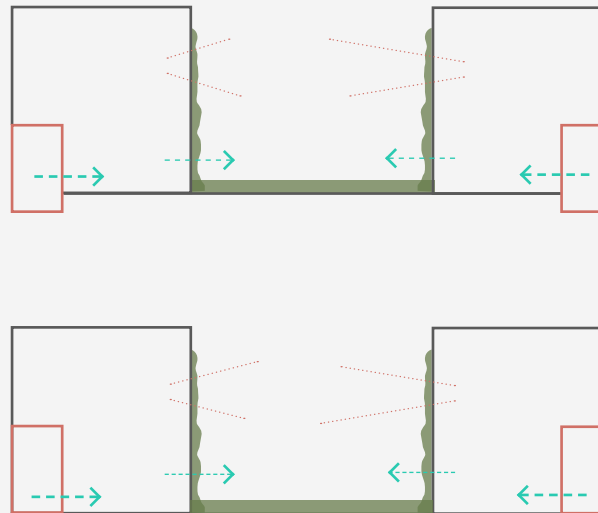
Bedrooms
Bathroom

Vertical Connection

Kitchen
Social Space
Entrances

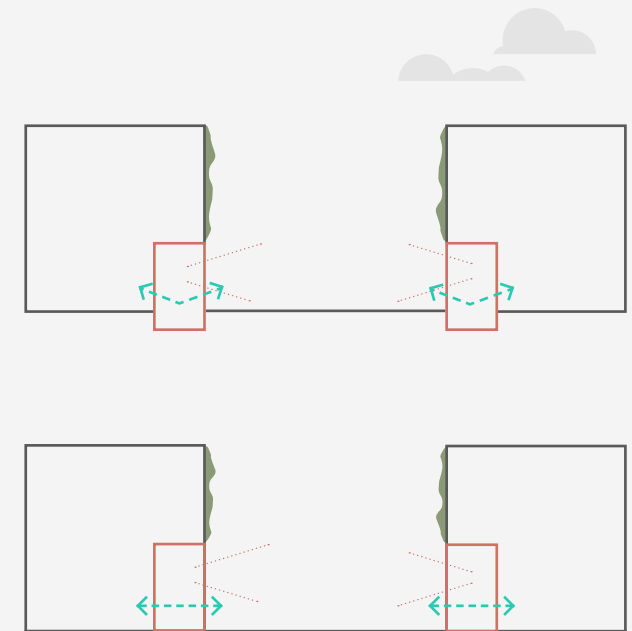
Vertical Profile

Each unit is built from a modular system of six meters by six meters, this allows for quick assemblage and deconstruction. With the base size of each unit laid out the development of the vertical facade will allow for the creation of unique aspects in an otherwise reparative environment.



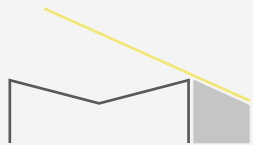
Exterior Movement pathways

This will allow the communal public spaces to retain and element of privacy

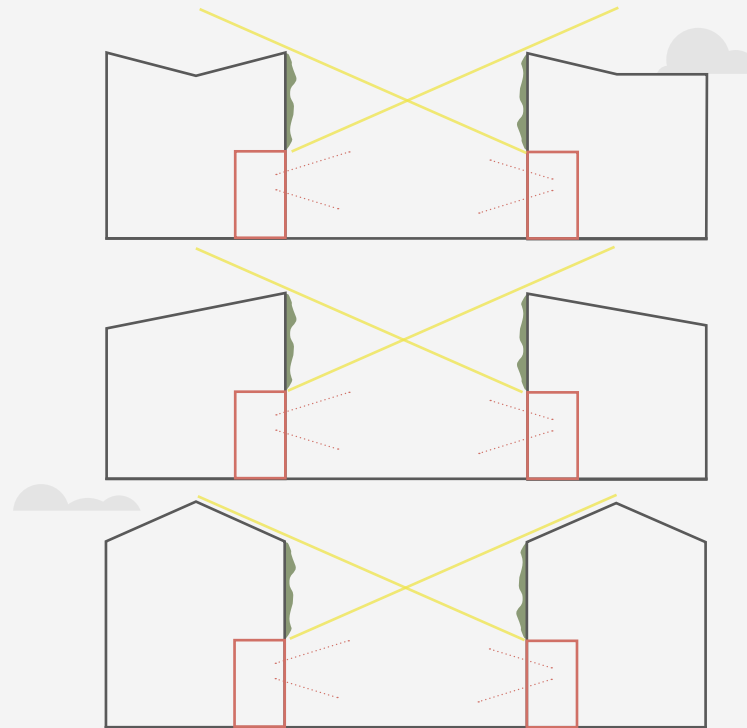


Interior movement pathways

This will create a more inclusive social space between the movement pathways and the community areas



Roof lines to provide optimal sunlight



Roof lines comparing to the central public space

Building Modules

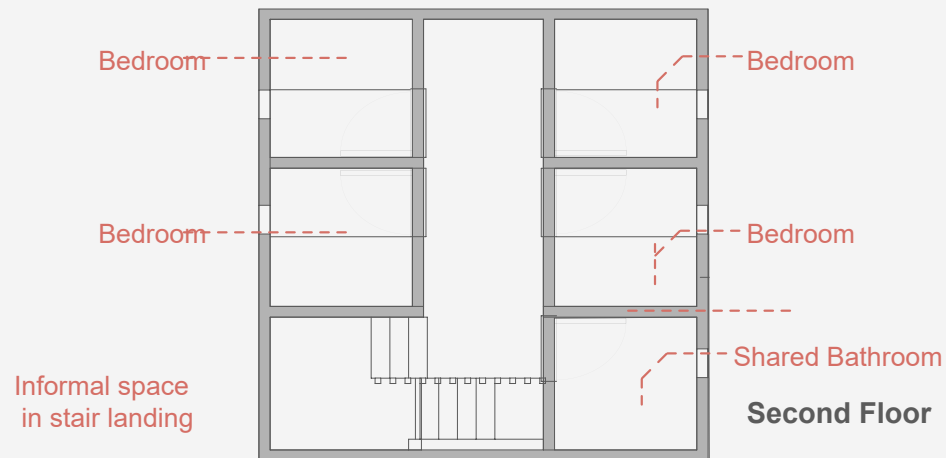
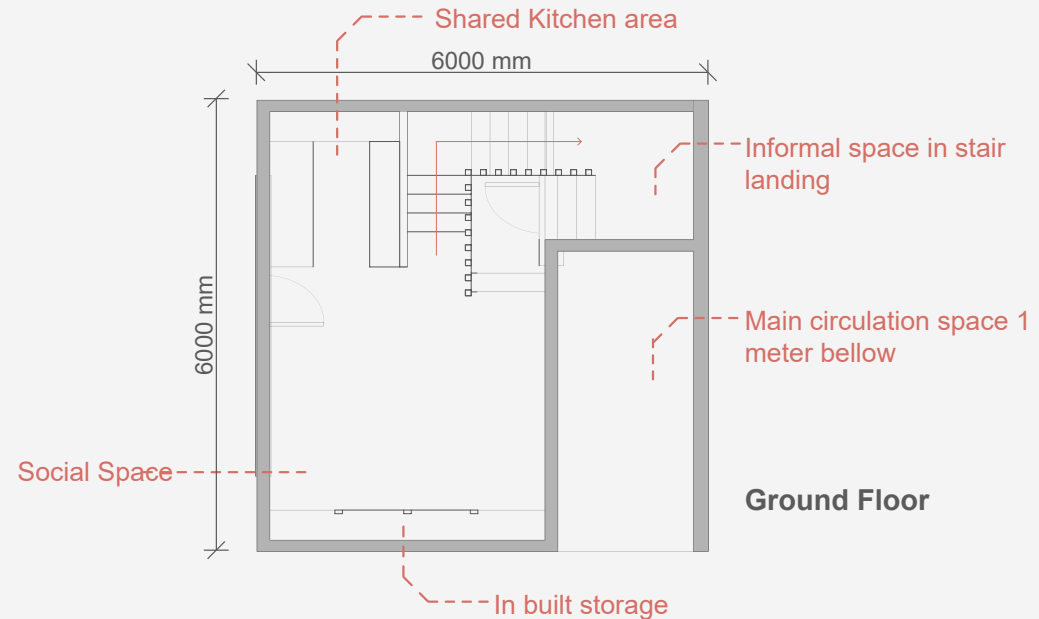
The interior layout of the unit is made up of the public space on the ground floor of the design. This space holds a communal kitchen and lounge area for the four-bedroom unit.

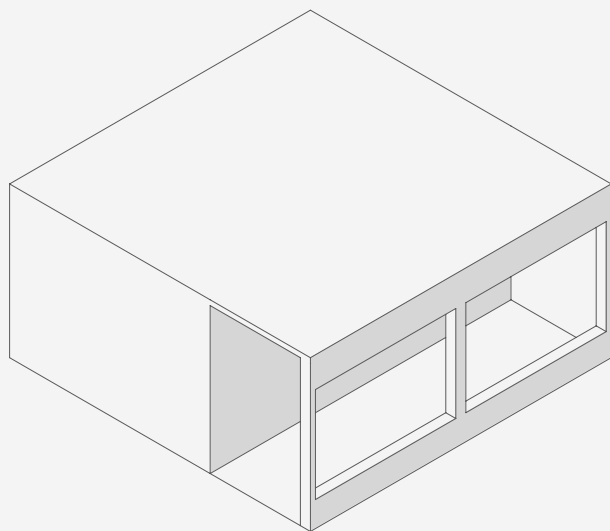
On the second floor are the four bedrooms with a shared bathroom.

By providing each unit with its own kitchen and bathroom, the occupations gain a sense of independence and security towards their living environment

The following building pieces build up the main units that would be added together to create the body of the design. Each unit is six meters by six meters with a three-meter height.

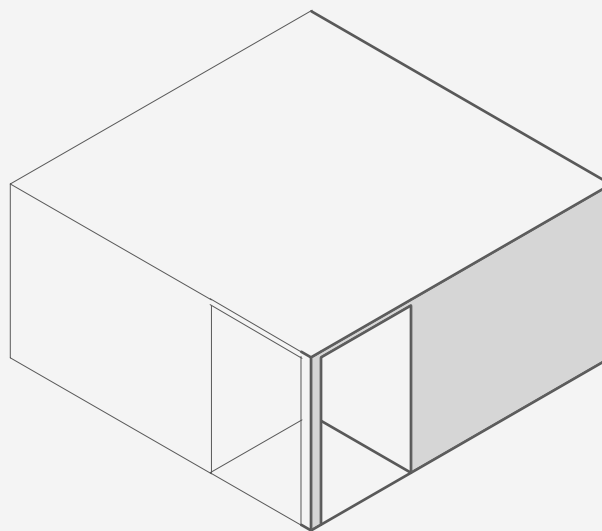
All structural and services systems could be pre-built into the walls allowing easier construction.





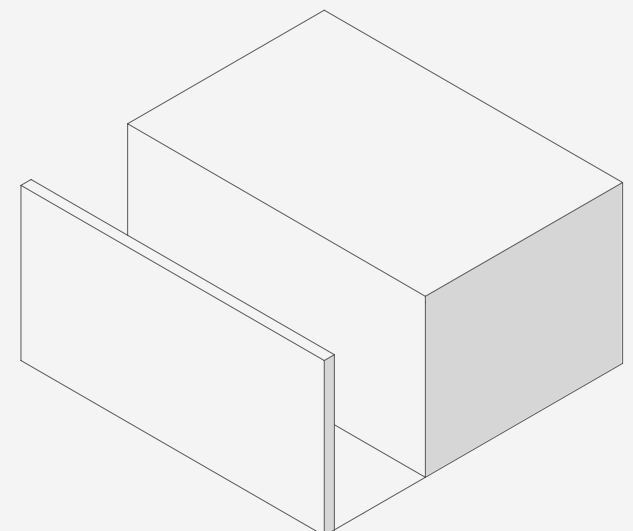
Window Wall

A straight building piece with windows or doors that would access a central community area.



Corner

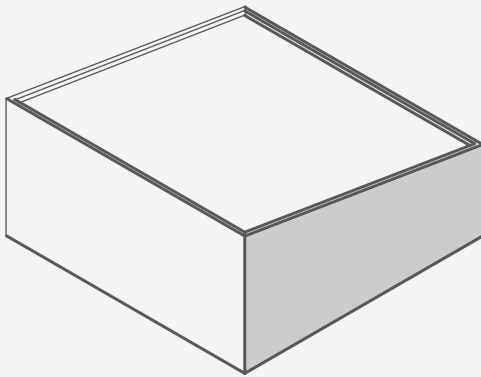
A corner piece with space for horizontal movement paths in one corner.



Straight Wall

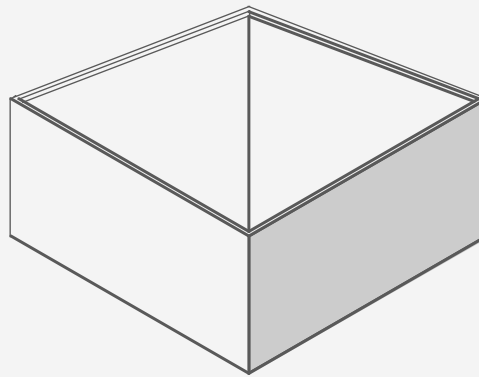
A straight building piece that would back onto another building block.

Roof Modules



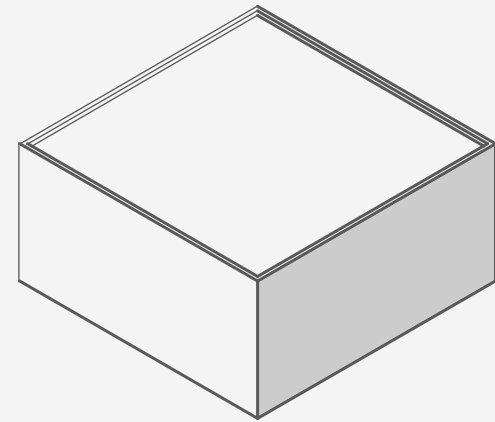
Corner

A simple corner piece with a ridge mashing water away from the central spine. Can be used on outward facing corners.



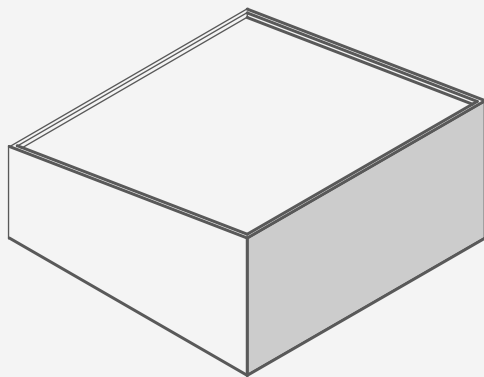
Inverted Corner

A simple corner piece with a drainage galley running down the centre of the roof.



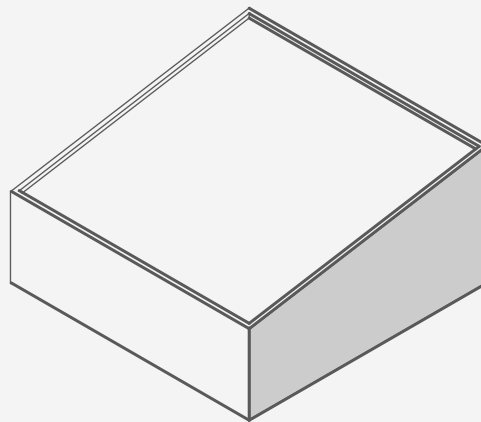
Flat Top

A flat top room piece that can be used in multiple junctions. This can be a high or low piece depending on where it sits in the design.

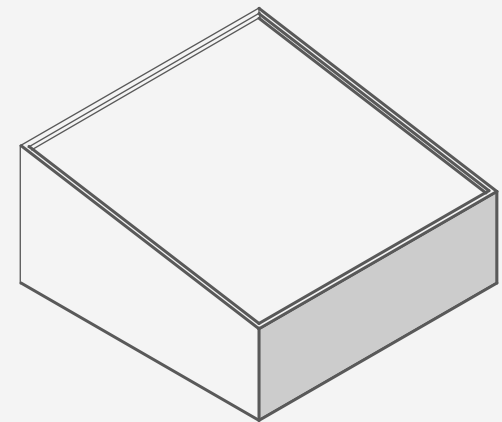


Single Slope

The main building block, the single slope can be used in a number of connection ways and is the most common moon pitched roof on the design.

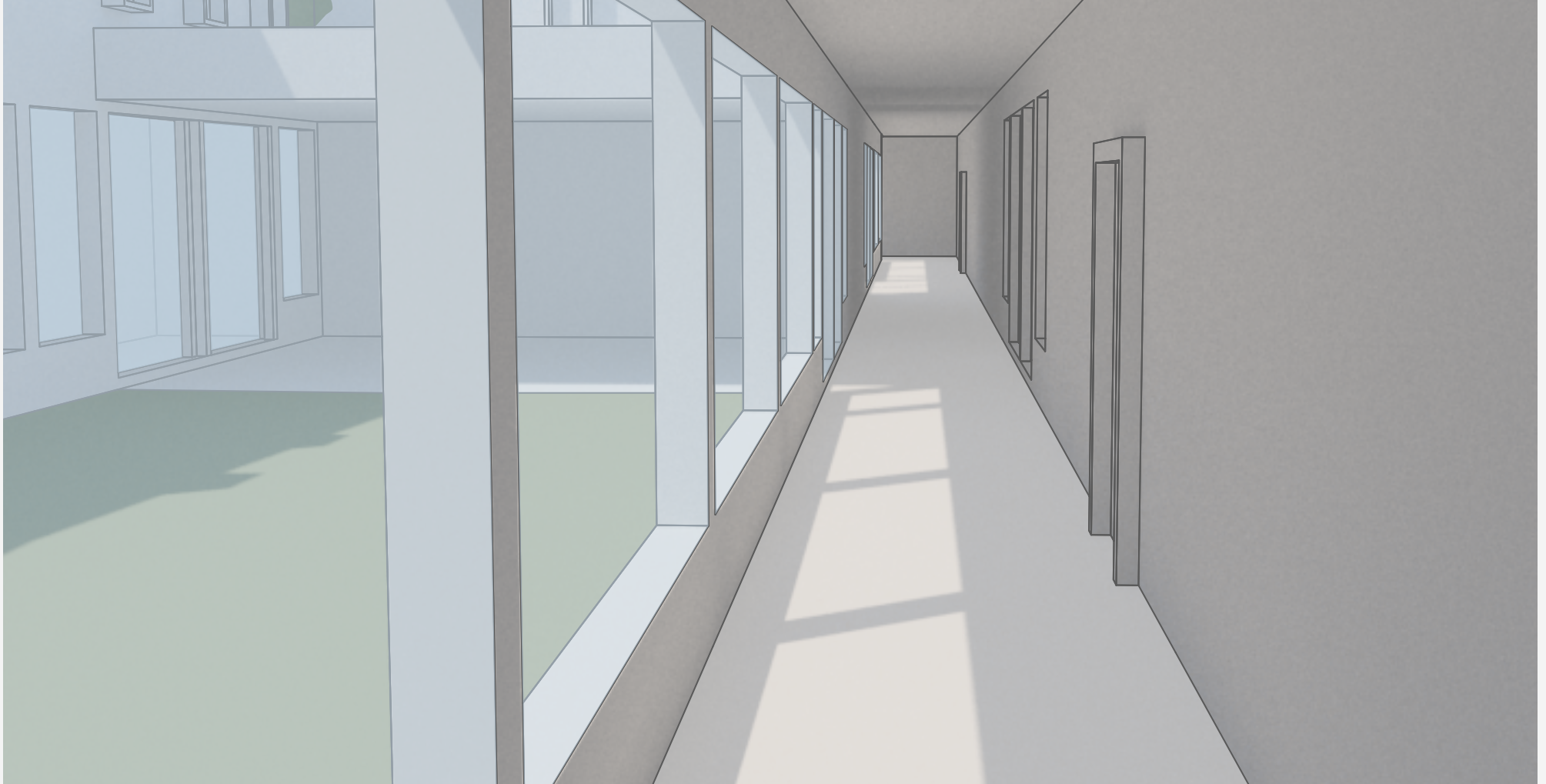


Single Slope



Single Slope

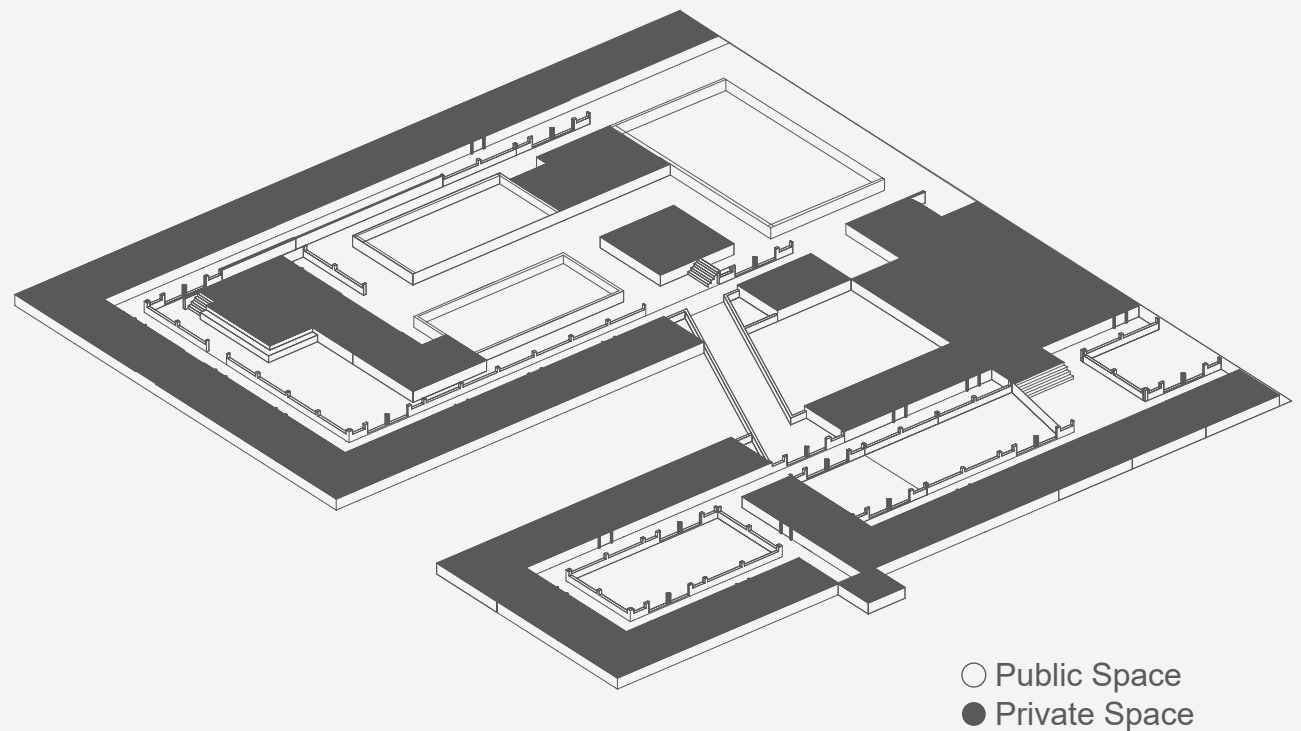
Movement Paths



Remaining Public space

The development of the movement paths also allows for the extension of the social realm. Through creating wider walkways and small areas that allow group conversations, each movement path acts as an informal meeting area. These spaces can relate to areas that inform low-intensity contact.

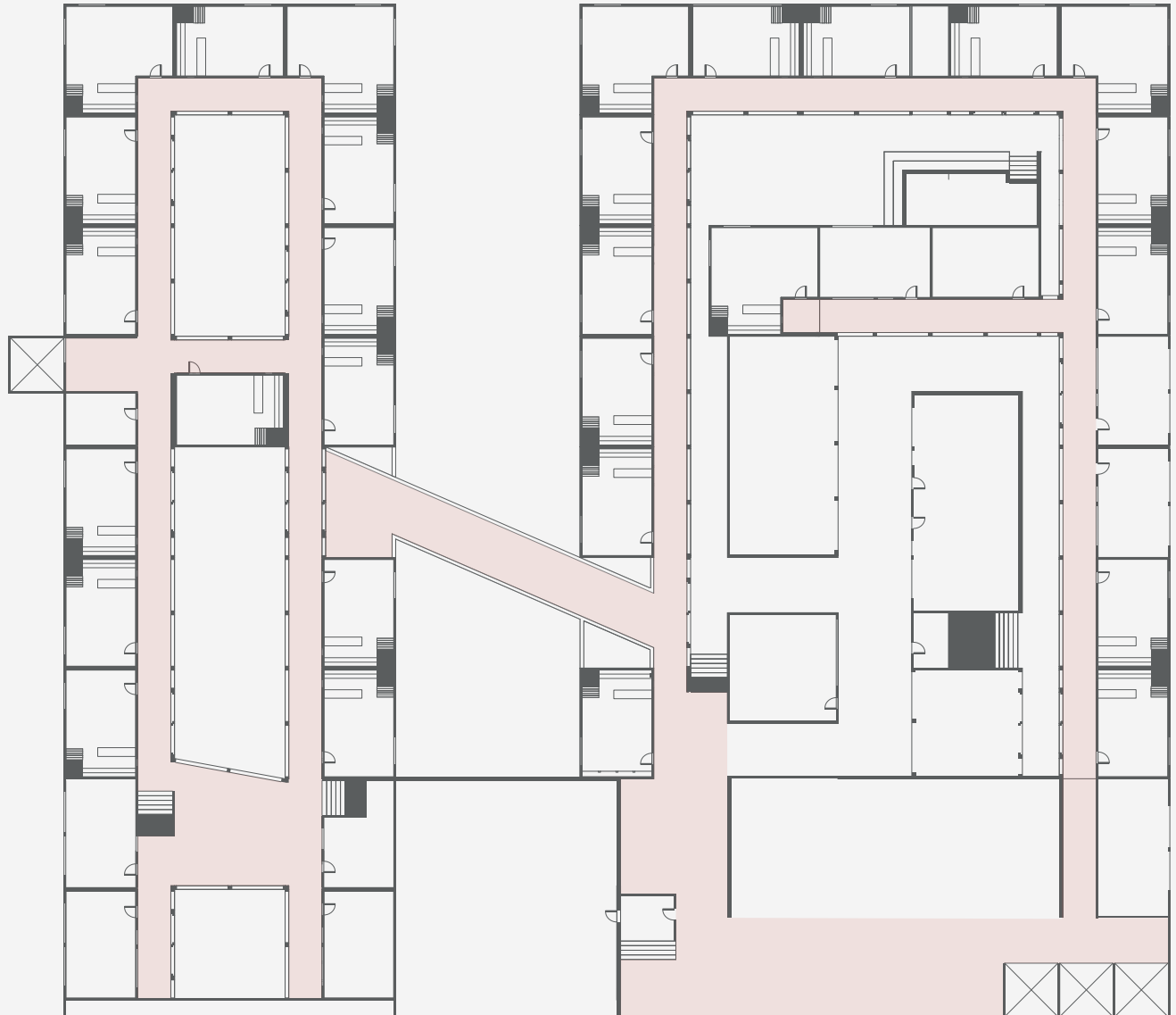
The movement corridors will house a multitude of different activities, which will all integrate and promote the human's scale; all critical factors in the creation and retention of Gehl's 'social activities' (Gehl, 2000).

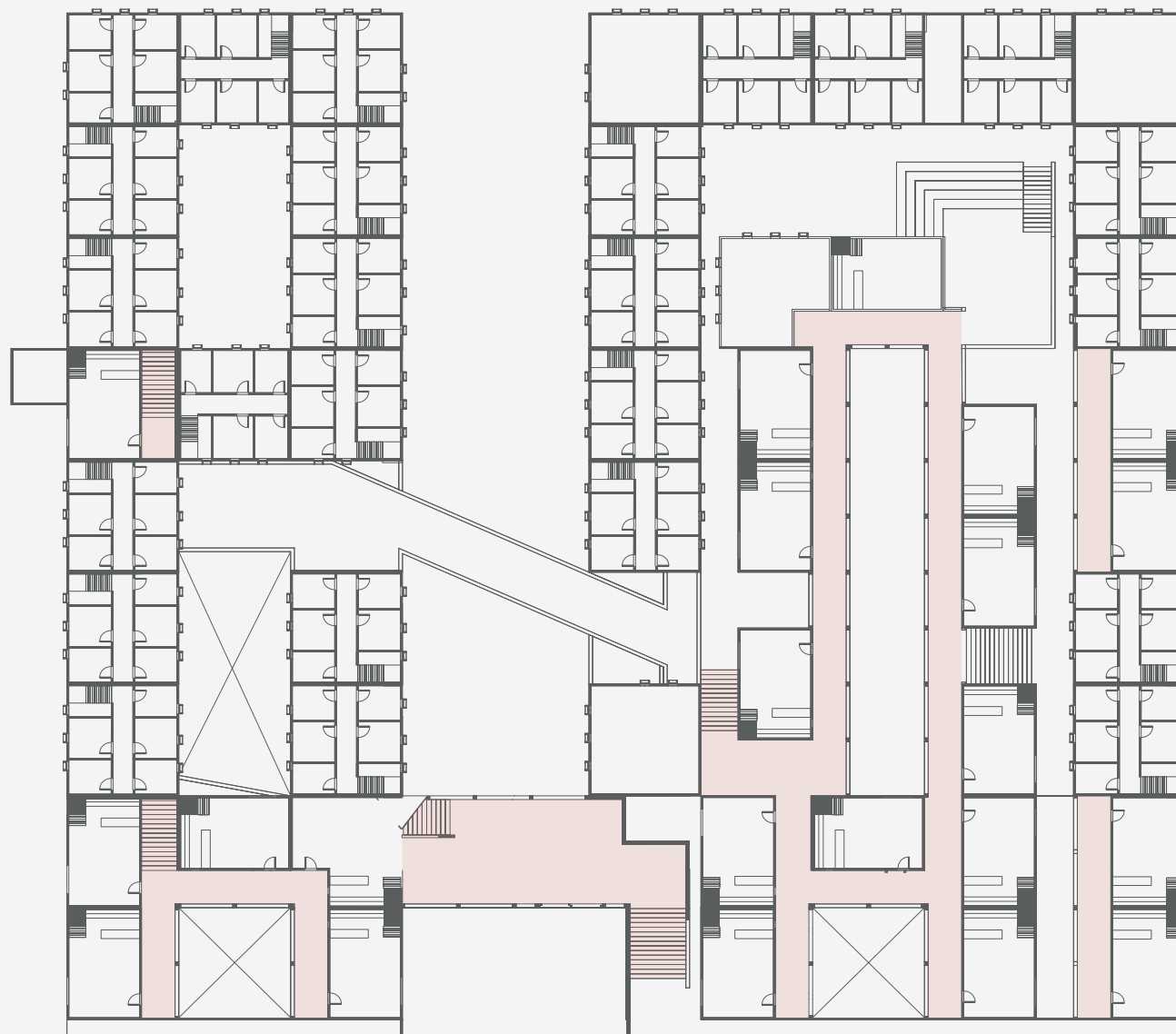


Primary Movements

Ground Floor

Ground floor movements are centred around the central hubs with access to the main vertical movement pathways.





Second Floor

The second floor movements are limited to the central hub and connecting the east and west wings over the building services.

Creation of the Hubs

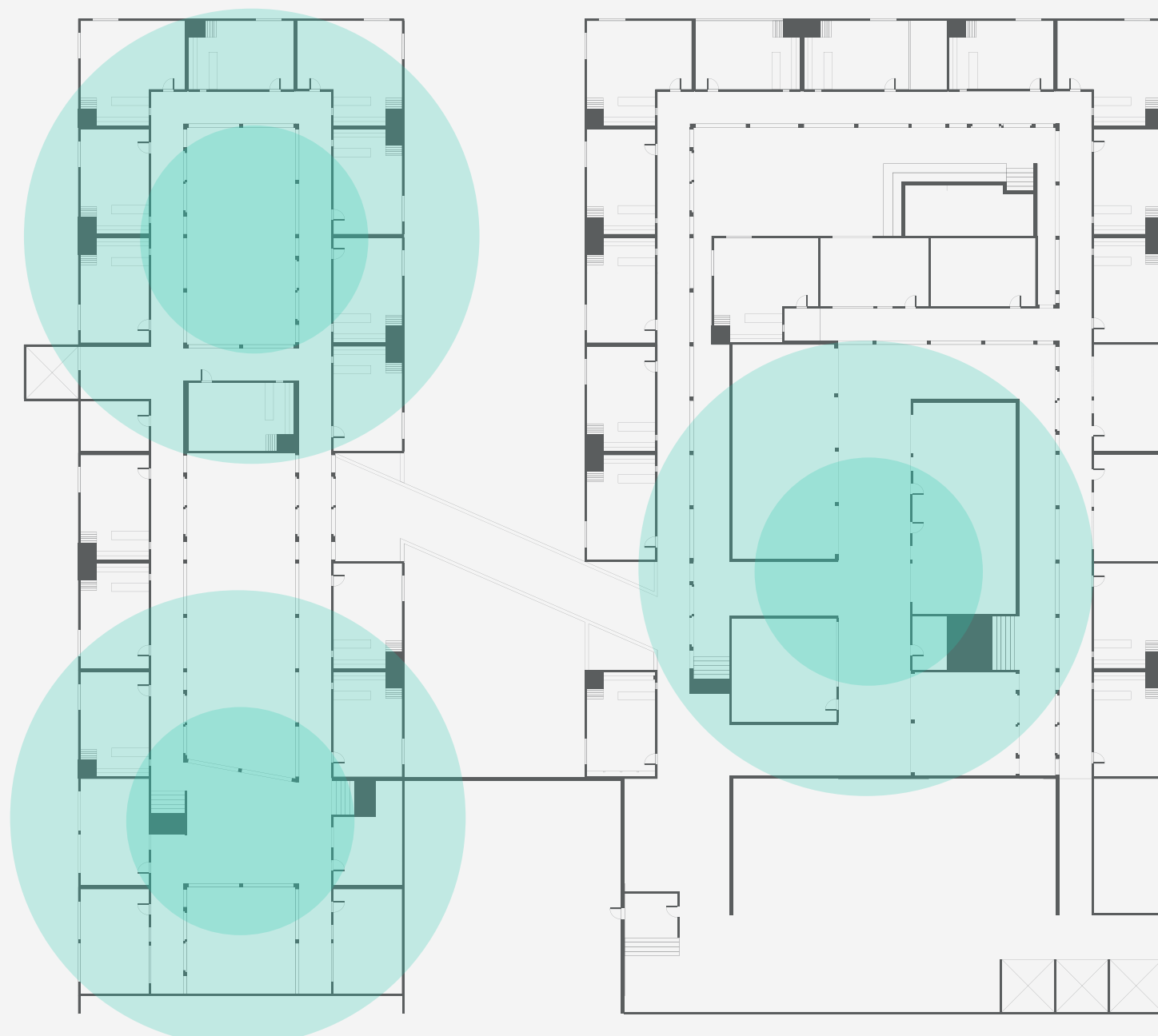
The design is built on the existing foundations of the Te Aro Campus, as a result of catering for the central atrium the design is split into two main residential wings, each with its own allocation of formal and informal meeting points.

All formal movement paths run down the same spines of the building creating areas that will promote natural meeting between residences as they move around the site. This concept can be linked back to Jan Ghels ideology about human interaction and the requisite of humans within spaces discussed in the literature.

Third Floor

The location of three main hubs on the ground floor. Each hub will act as a beacon for student interaction and development within the greater design.

- Immediate Hub
- Hub Impact area



Second Floor

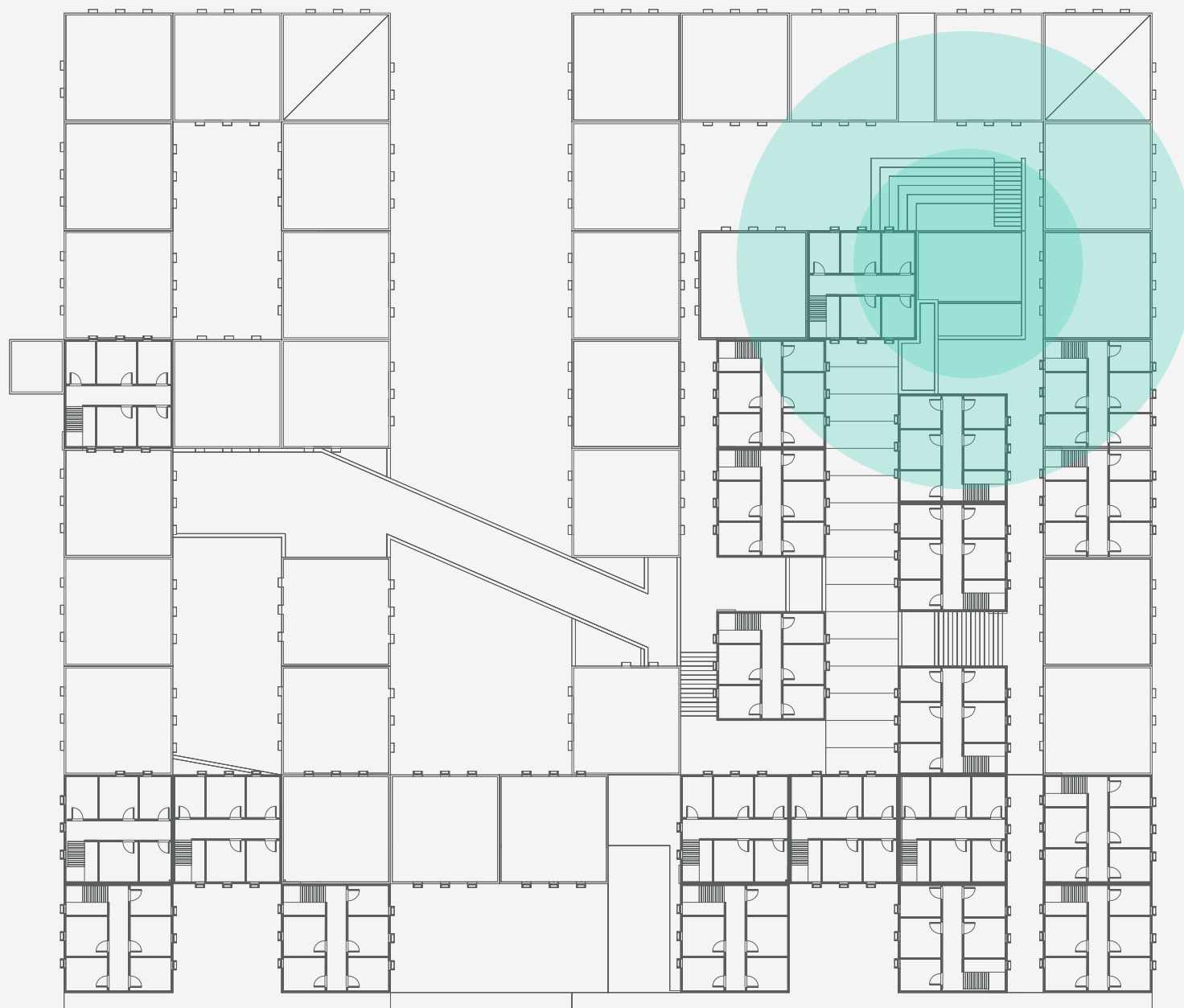
The second floor contains a similar number of hubs, however as many of the exterior hubs do not contain a second floor they are located at internal points within the design.

This mixture of external and internal hubs gives the students options in where they wish to meet.

- Immediate Hub
- Hub Impact area



Third Floor



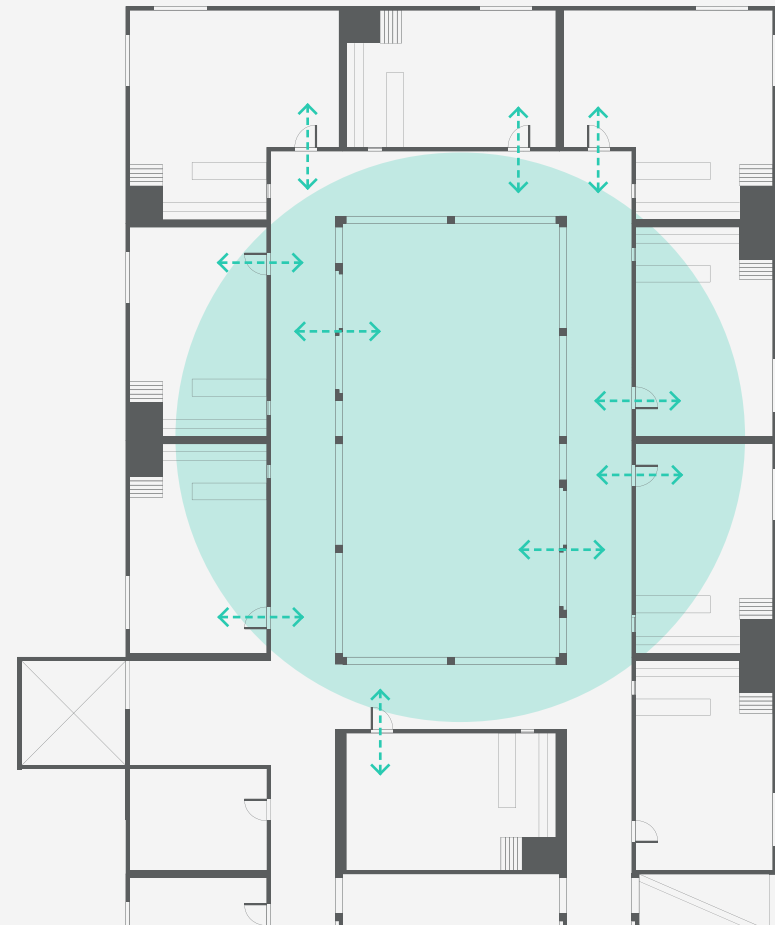
The third floor has a single hub due to its reduction in size compared to the other two floors. A singular performance space is located at the north-east wing of the design.

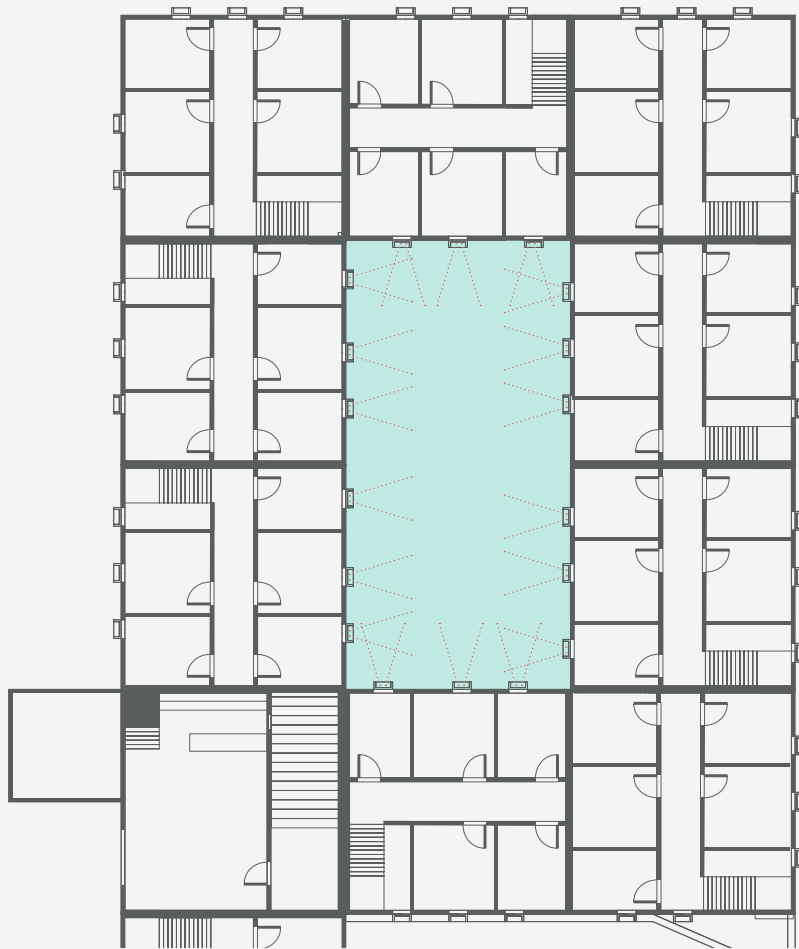
- Immediate Hub
- Hub Impact area

Hub Connections

Each hub is connected to the units through a number of physical and visual components. They act as a social connection space between a the cluster of units extending the social space of each unit to create a more collaborative design.

The ground floor the design has a physical connection





Facade Connections

Thought the exploration of the existing facade earlier in the site analysis key points of interest were identified. By applying these points the facade could take on a modern approach of developing alongside the Te Aro Campus facade.



Dunlop Terrace facade



Knigges Ave facade

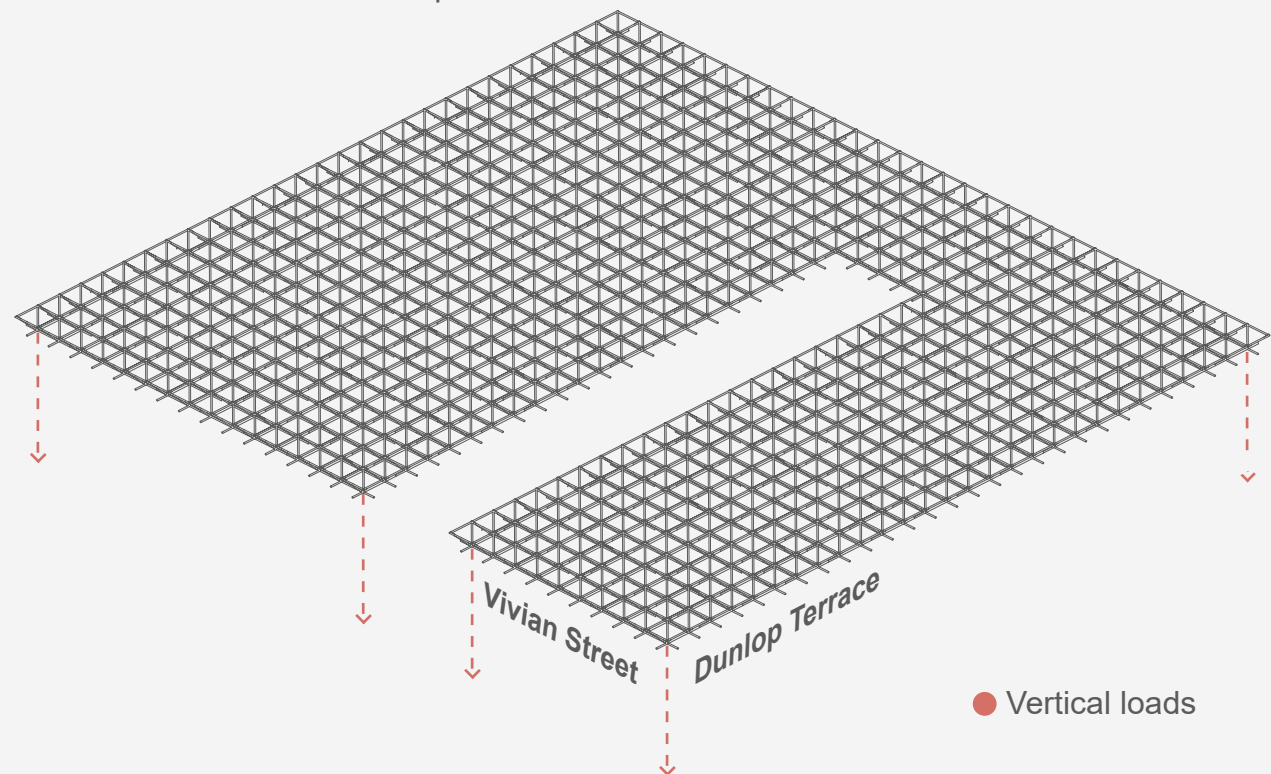


Structural Systems

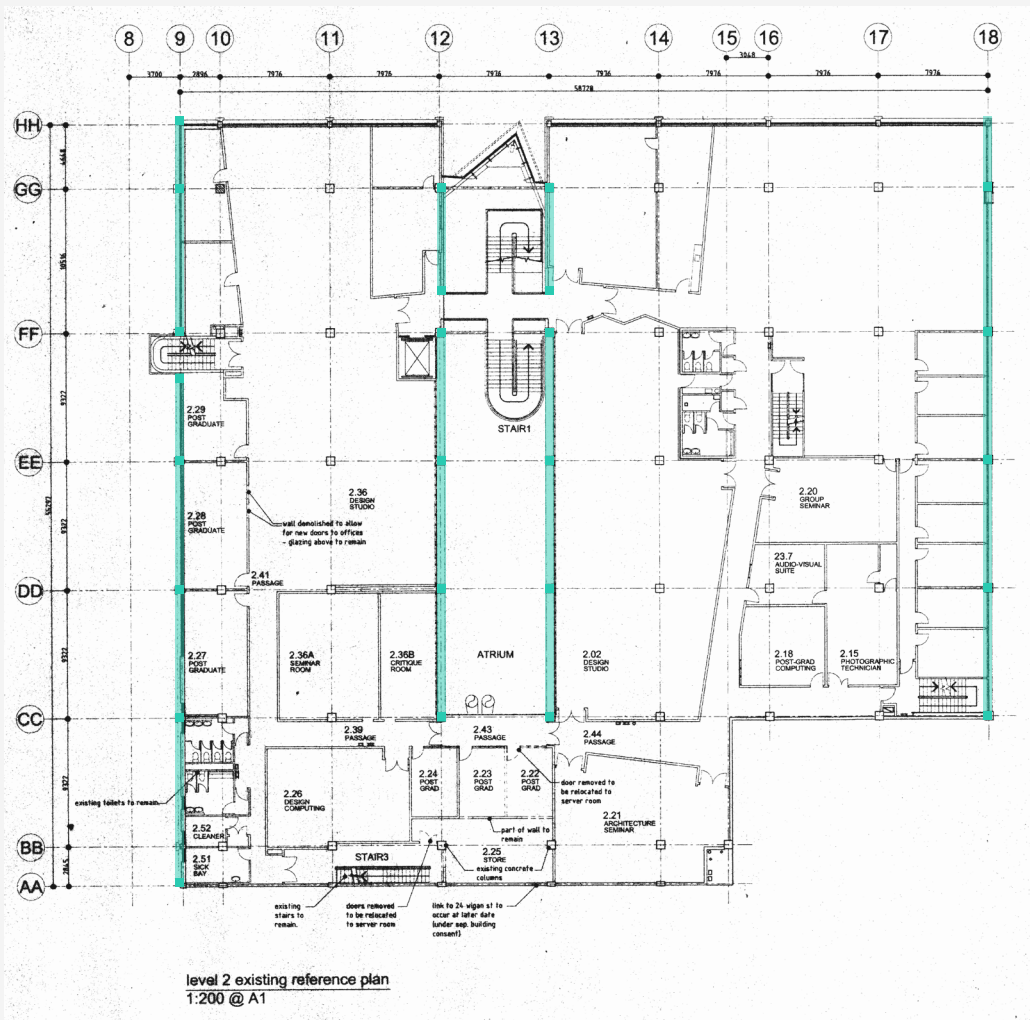
The design has a unique opportunity to interact with the existing Te Aro Campus structural system.

In order to reduce lateral structural systems being introduced to the Te Aro Campus, the development and design of a series of space frames have been undertaken. These frames will move the vertical structural loads to the exterior and atrium supports, removing the necessity to create new internal structural columns that would further disrupt the Te Aro Campus. The most significant interaction between the concept of bringing the new housing design and the Te Aro Campus together comes from the steel space frames. These frames allow greater porosity in the vertical movement that traditional lateral bearing loads, this will allow the design to have more connections with the Te Aro Campus, creating greater harmony between the two buildings.

These rooms are designed more on function than the main vertical space. Therefore the structure in this area has been hidden within the walls. The thickness of the columns does not affect the space as each room will need to be acoustically separated to allow for maximum comfort of the occupants.



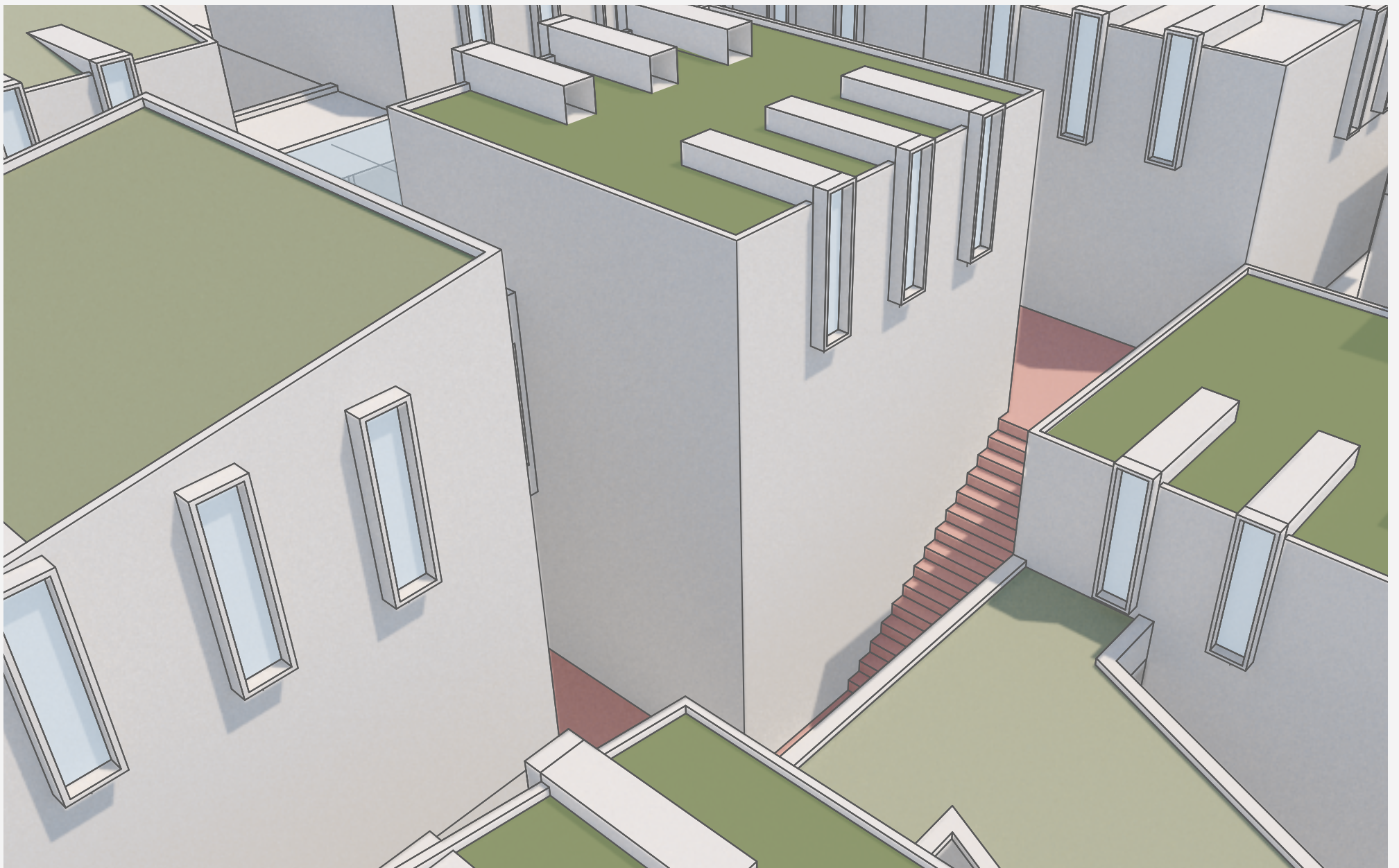
The building went through a structural overhaul in 2014, with new structural bracing being introduced through the central atrium. This new system along with a small change in the exterior columns of the building will be used to run vertical loads through the existing Te Aro Campus.



● Existing Structural bracing to be used

Social Spaces

Once the modular bounds for the units were created the same conditions were used to start exploring the internal layout. Each item of the programme was given a 2 x 2 meter space allowing the design to be quickly divided and internal iterations generated. One of the main drivers of the internal layout of the units was the use of public and private space. As the units were limited on private amenities, the public areas of each unit played an important role in creating a positive design. These spaces were used to create a more inviting environment that helped connect the overall tertiary campus with each unique unit.



Development Consideration

Through the development phase, the design has undergone a tremendous change, moving from conceptual program analysis to a full design concept. Through this phase, the design has explored the development and connections of the student movement paths and their social hubs. These two points bring us to the final discussion point of this thesis:

How can the social campus life be enhanced through a more integrated environment?

Through this development phase, one of the driving factors was the development of spaces that would promote student interactions. By creating positive environmental areas, the design hopes to introduce the ideology of low intensive contact through the concept of creating an environment that enhances the opportunity to interact with other like-minded students.

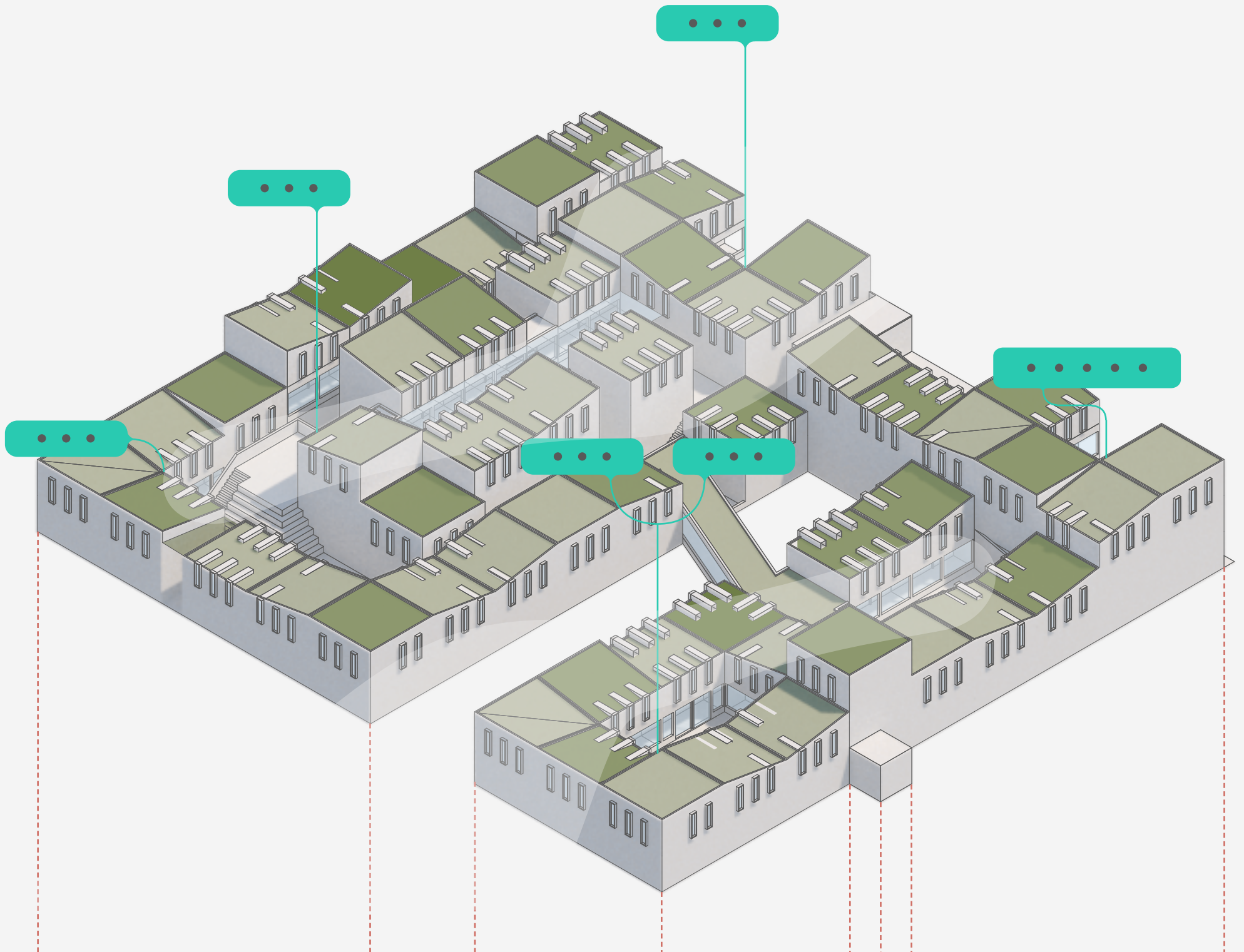
By understanding these two concepts the relationship between the built environment and the occupants can be distilled by the architecture's ability to create and facilitate social spaces. This can be completed through the development of spaces people wish to occupy (Gehl, 2000). The use of a significant social surrounding will create a more connected student body and university, creating a more positive student experience.

This can be achieved through creating an architectural typology that promotes interactions. By creating spaces that students want to occupy, architecture has the ability to promote Gehl's method of social interactions through occupation. This method of architecture should be integrated into student housing to create more positive environments, that reinforce students' learning experiences.



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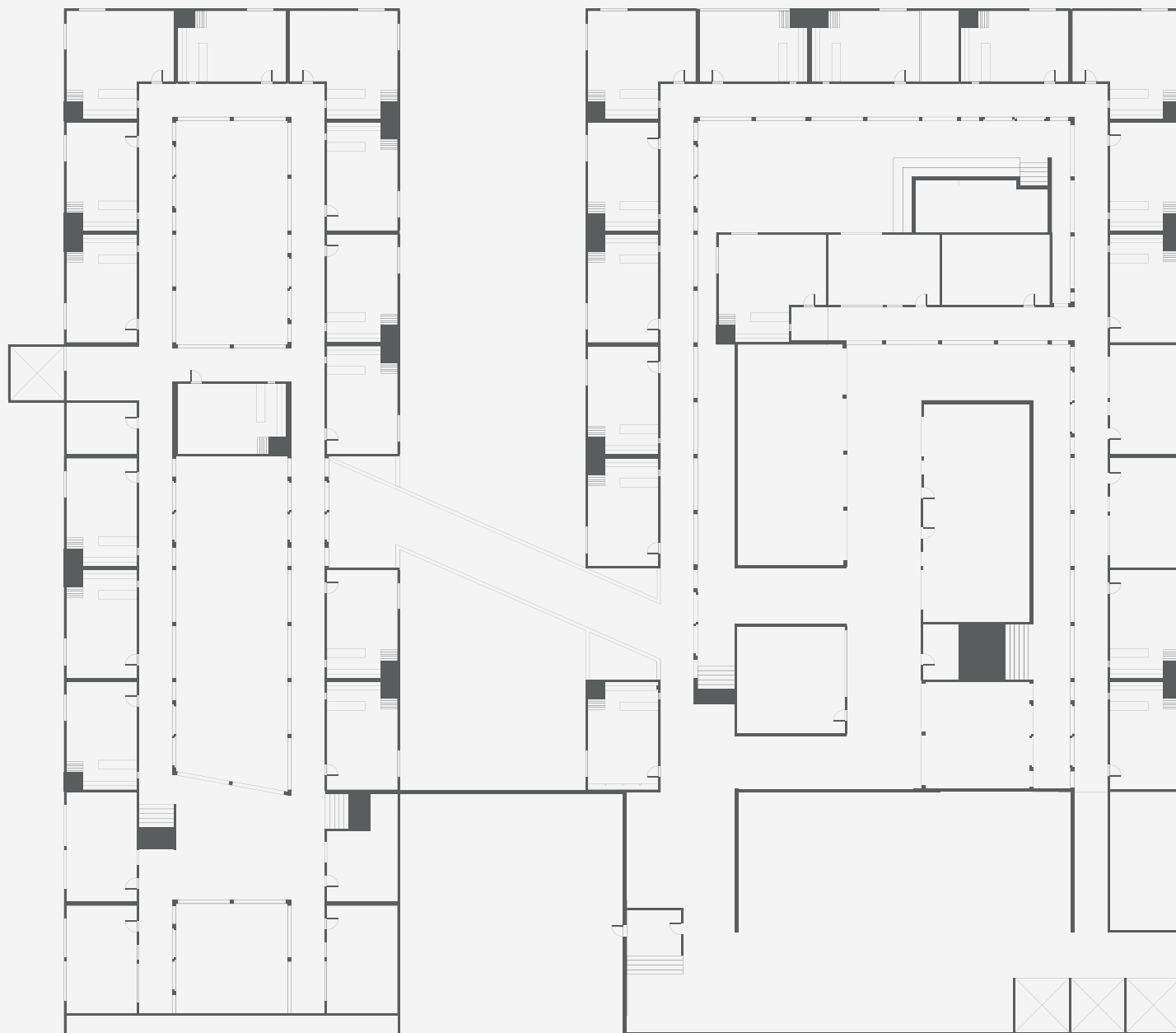
06



Final Design

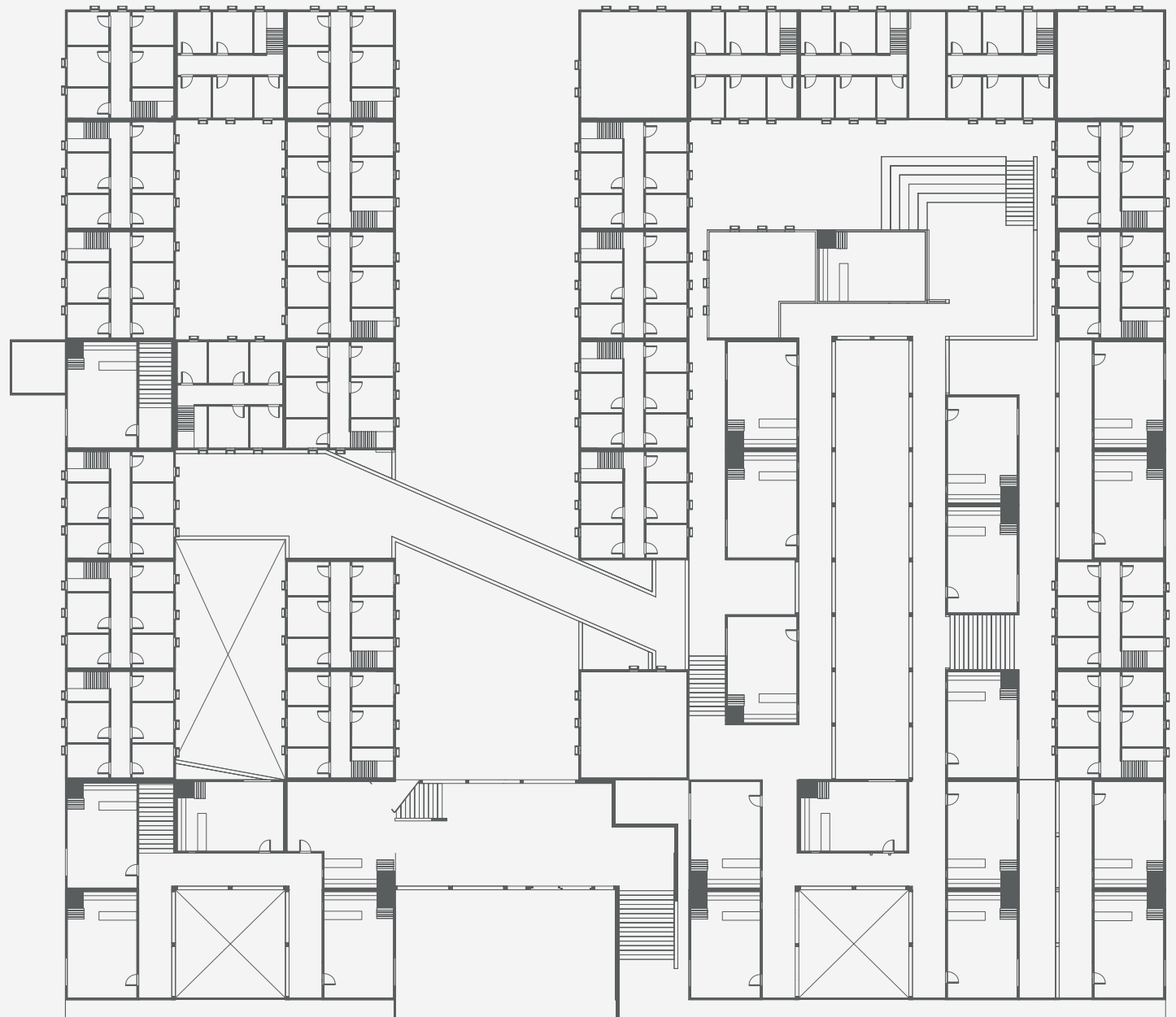
The final development of the design centres around a collection of small hubs. Each hub acts as a semi-private communal area for the surrounding units. The hubs create a compromise between the high social contact area of the university and the more secluded personal life on the units.

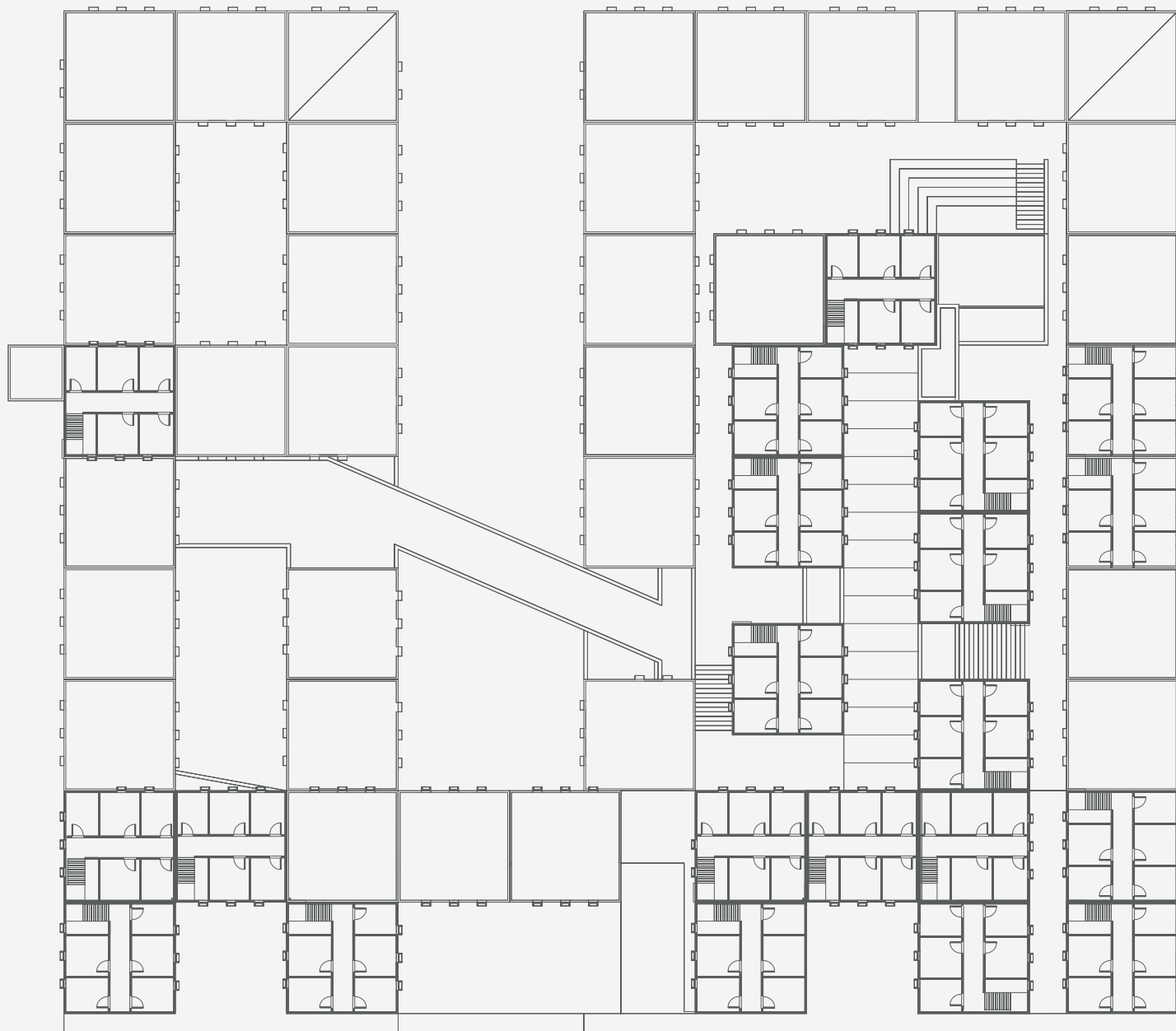
Along with these smaller hubs are two main central spaces, these spaces can be used to cater for large scale events or group learning events. Each space has been created along the same modular system that was incorporated into the development of the units.



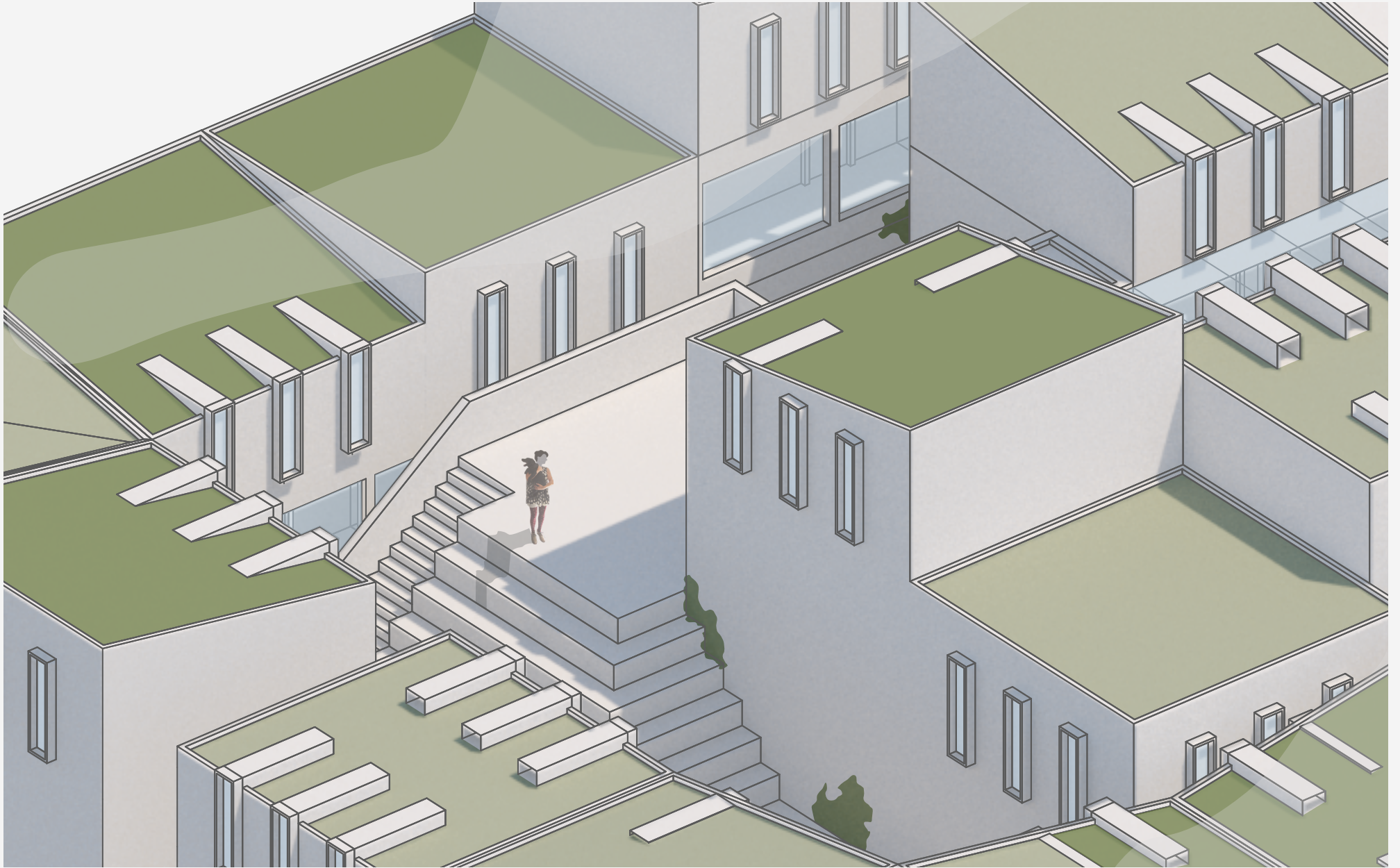
Ground Floor

Second Floor

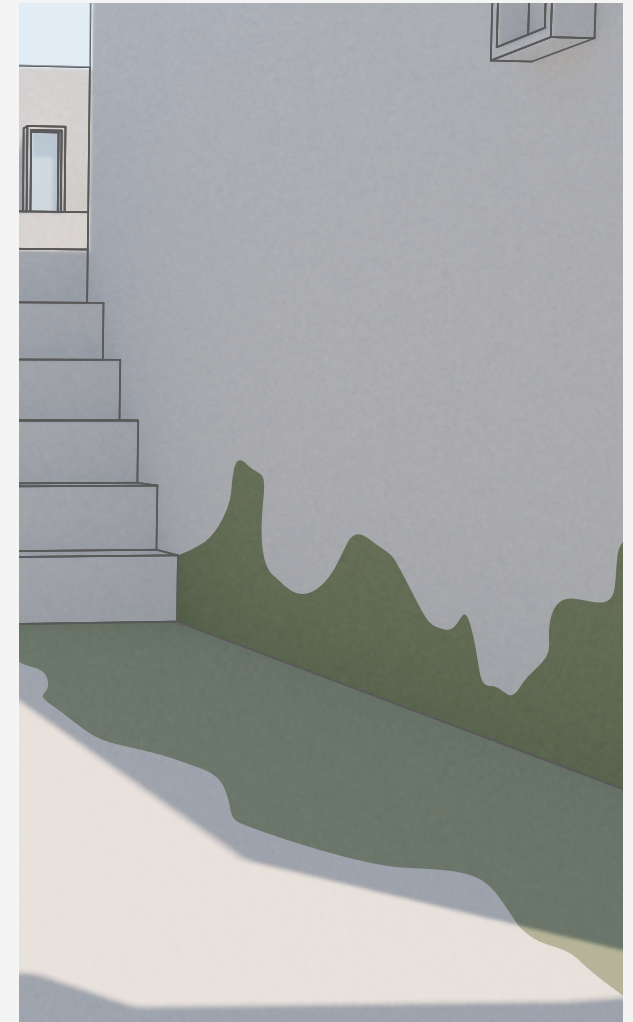
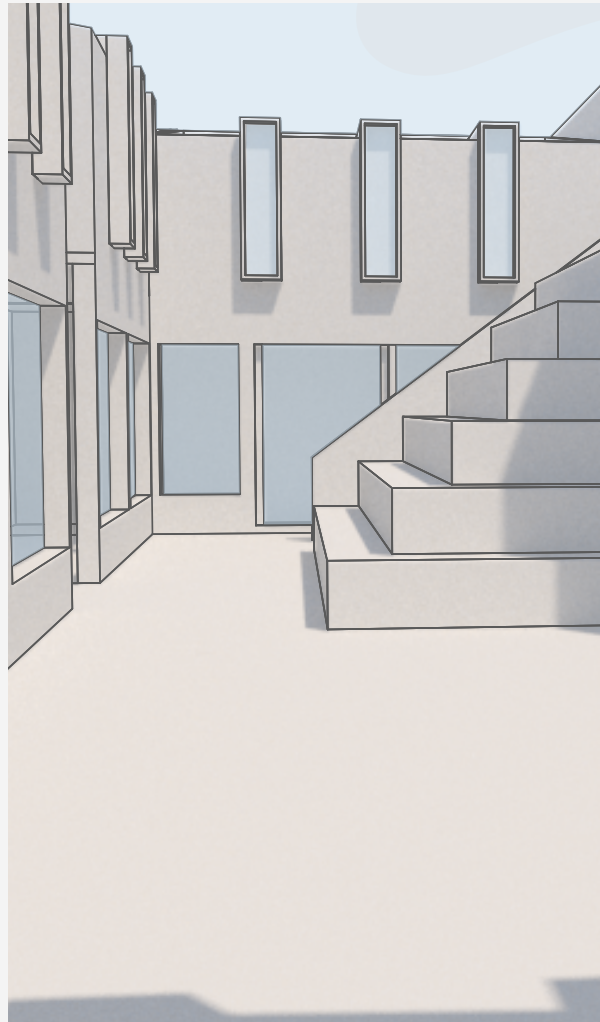
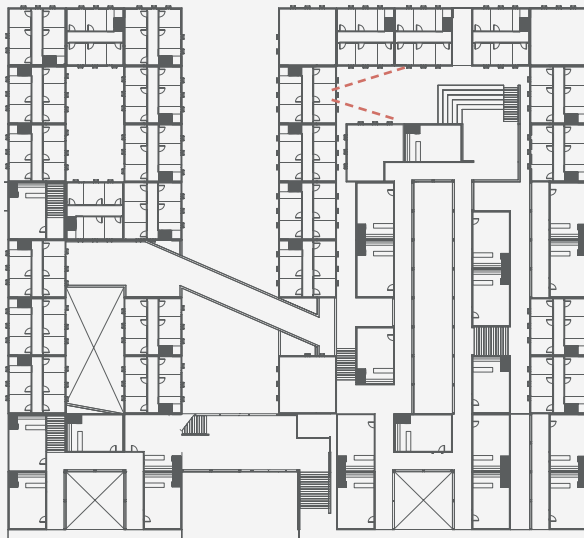




Third Floor

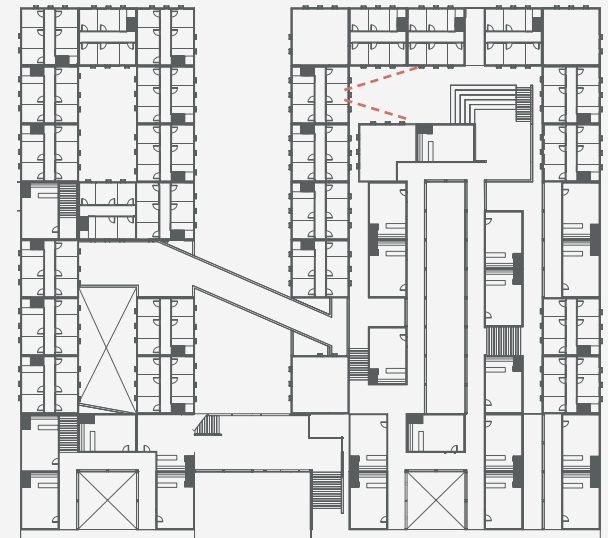


These Large public areas will be used to facilitate



Social hub one is a large exterior area at the north-east side of the building. This area acts as a secondary movement path between the northern units and the main central hub.

Due to its northern access it gains direct sunlight, with a raised performing area making the most of this axis.





Holistic Approach

The final design aims to support and facilitate a more holistic learning environment through the following (number) of design concepts. These key concepts empower students through the architectural intervention. It is this combination that leads to the successful integration of student experience and academic success (Thorne, 1992).

01. University Connection

Bringing student housing onto campus will further enhance the ideals associated with the community and strengthen the bond between students and tertiary education.

02. Positive Social Engagement

Use concepts developed by urban planners to create an integrated community design that fosters connections between students.

03. Community Empowerment

By designing for the community and understanding what they desire out their housing will allow students to reconnect with the housing environment.

04. Low Density Scale

Connecting the design through horizontal elements will allow students greater contact through visual connectivity students and between spaces.

05. Mailable Personal Space

The units have been designed to allow students freedom in how they personalise their spaces. This will create a sense of home allowing students to create spaces which are uniquely their own.

06. Low Intensity Contact

The design promotes small exchanges between residence through the creation of informal meeting points and nexus development within the circulation of the design.

07. Formal and Informal study spaces

The introduction of a variety of study spaces will allow students to adapt how and where they study throughout the greater design.

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Conclusion

While universities are designing student housing based on preexisting conditions, the student developing needs and requirements are getting overlooked. By acknowledging that students housing can be a powerful force in either creating or abolishing students study lifestyle.

This thesis aims to understand how the developing educational environment can use student housing to support and facilitate a more holistic learning experience.

As universities reduce physical contact hours the role of student housing, from a simple residence, is developing into a secondary educational space. This thesis explored how a Wellington-based approach could be entailed into the Te Aro Campus and less directly the schools of architecture & design.

The topic of holistic education is broken down into three elements that are answered throughout the design process, allowing for the iterative process of development to guide this research project. They are explored as the following:

What should the relationship between the university learning environment and student housing be?

This area was explored through existing literature based on Living Learning Centers and their role in creating a satisfied student body. By creating direct contact with the learning environment through either faculty supporting staff or physical campus connection; these student hostels aim to empower students through their built forms and social construction techniques.

The developing idea behind the LLC's promotes student interactions with classmates in an environment that places value on educational commitment. By this standard student housing should be used to extend the learning environment through techniques that promote personal development the combination of student experience and academic success.

What built elements are suitable for modern day student housing?

By exploring the program considerations relating to the site and a series of case studies a group of physical room requirements and further program development was initiated. From this analysis and the needs of the students have directed this design away from dormitory styled hostels. For student housing to succeed it needs to create a sense of home for the students. A step away from the cost-efficient based housing was required. Instead, this design finds that students require spaces that promote social exchange. For student housing to indeed influence, its occupant's community areas have been found to have the most significant influence on student satisfaction. Therefore the most appropriate built elements need to be community orientated and facilitate the exchange in social or education interactions between students.

How can the social campus life be enhanced through a more integrated environment?

By engaging students into a more integrated student housing has shown to not only boost student satisfaction but also create higher retention rates (Blimling & Schuh, 2015).
By engaging students into a more significant social surrounding, they will feel more connected to both the surrounding student body and the university, creating a more positive student experience. This can be achieved through creating an architectural typology that promotes interactions. By creating spaces that students want to occupy, architecture has the ability to promote Gehl's method of social interactions through occupation. This method of architecture should be integrated into student housing to create more positive environments, that reinforce students learning experiences.

Understanding the holistic

Through the creation of this design intervention, the physical attributes associated with holistic learning were broken down and tested during design research. The final intervention showcases the ideal attributes associated with Living Learning Centers while maintaining a connection to Wellington. Through understanding holistic learning as "the belief that the parts of something are intimately interconnected and explicable only by reference to the whole (Oxford dictionary, 2018). Therefore an interconnected development that focuses on both a function to develop intellectual, emotional and social skills alongside educational learning (Nashisn, 2003). This design attempts to understand this by creating big social spaces, that foster relationship between students, with the aim that these simple social connections will develop and foster an active learning community.

The design also takes into consideration the needs of the student and how housing plays a vital role in creating a positive experience at university. The introduction of the hub was a direct response to the satisfaction analysis showcased in the literature. Understanding that students no longer wished to live in dormitory styled housing, instead wishing to live in more traditional styled four bedroom houses. As the design called for a medium to high-density application, a compromise was needed. Each hub is made up of the same attributes as a traditional family house, a shared bathroom, kitchen and lounge area with four private bedrooms. To create a strong sense of personal privacy the social areas, such as the kitchen lounge, are located on the ground floor, with the more private bedrooms located on the second floor. These rooms act as a social barrier between the private student bedrooms and the broader student complex.

The complex is designed with similar intent in mind. The units of the design are clustered around a series of small hubs that act as social spaces in between the units. These hubs create ideal areas of social interaction and educational exchange. Through these hubs and the associated movement paths connecting them, the design explores Gehl's ideology of low-intensity contact. These spaces are designed in a way that promotes interaction between the students. If students are surrounded by like-minded peers, in a space that caters to low transition rates and promotes low-intensity contact; the use of holistic learning will create a stronger bond between students to achieve the groups learning goals (Tinto, 1998).

Through this thesis I have tried to obtain all of these learning concepts and deliver them into a architectural intervention. This has resulted in a more 'top down' approach to design, placing greater emphasis on the programmatic studies

undertaken and resulting floorplans. Due to this the vertical elements of the design have an prosaic process to how they have been designed. They have been severely informed by their application to the program.

To reiterate the importance of student housing this thesis will end with a quote from Frazer & Erighmy, 2012:

"A residence hall can either contribute to a student's learning experience or just be a place to live. Creating active residential learning community experience enhances student satisfaction and learning experiences".

Final Thoughts

Housing is widely seen as one of the most influential spaces in a person's life. In a high-stress environment such as university student housing offers the unique opportunity to mitigate this stress, and instead facilitate the development of a more integrated learning environment. Whether it be simple social connections to the holistic learning environment explored through LLC's. My hope is that through this thesis I have provided an appropriate case for why student-specific housing is a necessary part of tertiary education.



Limitations

This thesis sets out to achieve a unique design by distilling down concepts explored through literature reviews, case studies and site analysis.

This design is set heavily within literature surrounding student housing and student satisfaction. It uses previous cases to predict the intentions and requirements of Wellington's student body.

The thesis also solely explores architectural influence on students living conditions; in reality, any implementation of a new purpose-built student housing to this scale would require a more hands-on approach from the university.

The design did not look into the redevelopment of an existing student hostel to try and mitigate its problems. There is a scope for further analysis of an existing student hostel and how they could be developed.

Future Research

Students housing can be a powerful force in either creating or abolishing students study lifestyle. The current student hostels are proving to be the latter.

Students historically have been one of the leaders in social change throughout countries around the world. Once again the student body is experiencing a dramatic development, delving us the unique opportunity to reinvent student housing and the student experiences.

This thesis creates a unique base point for the application of Living Learning Centers in Wellington, through new research this living style could help play a vital role in helping student refined a study/work balance.

Further research into the programmatic differences between the student body and the general public will help distinguish how the two groups inhabit space. This will help with the development of new student houses, and help stop universities from repeating mistakes from the past.

The research carried out in this thesis could be applied to multiple with both within and outside the Wellington region. With many universities around New Zealand suffering from similar student problems.

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