

# DENSITY AND DESIRE





# DENSITY AND DESIRE

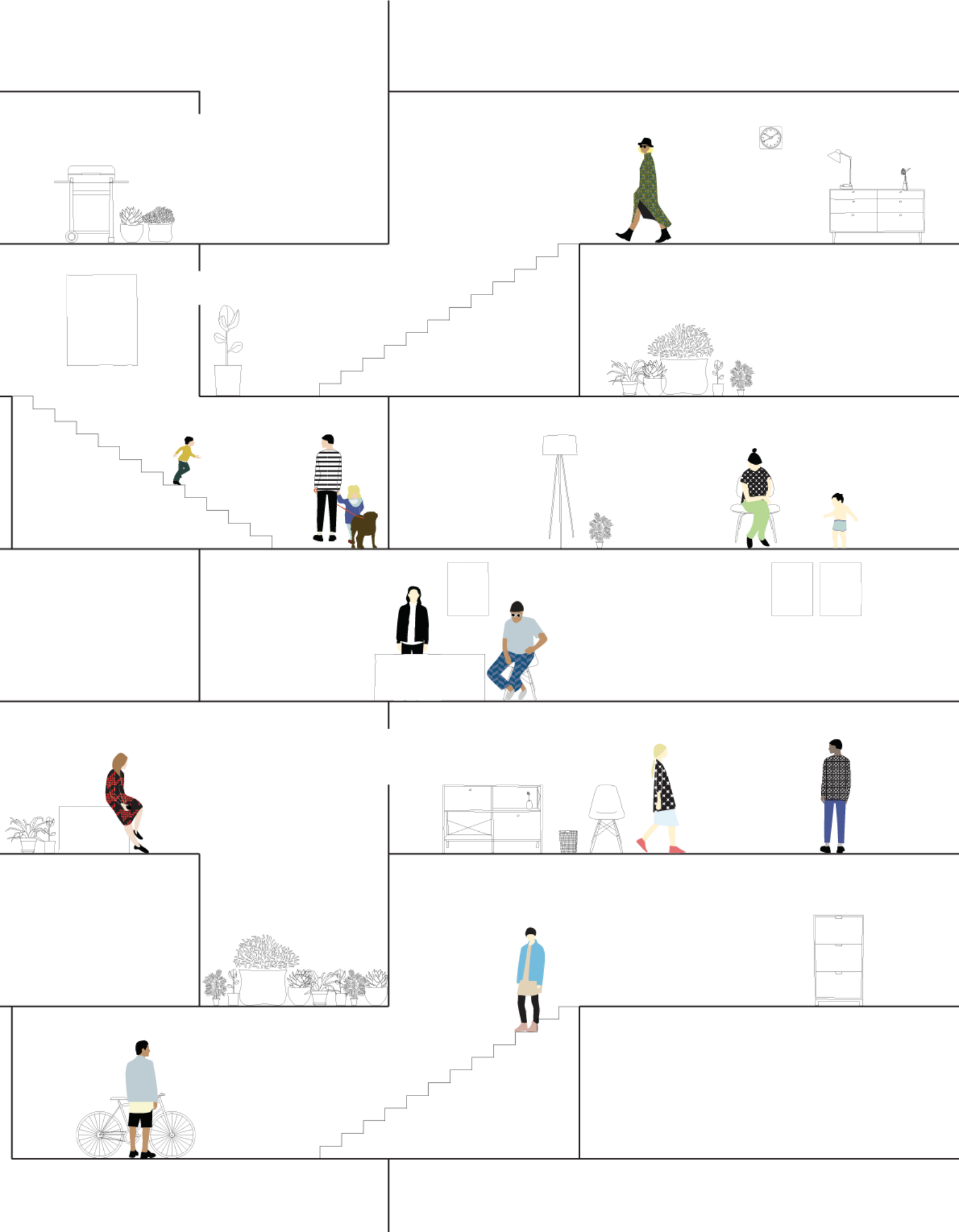
Towards New Zealand's peculiar urban dream

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

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## Abstract

**Density and Desire** explores changes in the social organisation of New Zealand, the notion and use of the home, the contribution of dwellings in our cities and an alternative vision for the future dwelling.

New Zealand is experiencing a period of rapid transformation that is changing the way we live, work and socialise, as well as our sense of cultural identity. Our population is becoming dramatically more diverse, more urban, and of very different age and family profiles, creating demand for a wider range of housing options that can adapt to changing social patterns. For these reasons and more, we face new questions about living in a community, of dwelling diversity, of promoting sociability, and of creating conditions for neighbourliness.

The move towards higher density living in New Zealand's major cities provides an exciting opportunity for architecture. There is an urgent need to build dwellings and this thesis argues that apartments are a necessary part of our future. However, there is a certain stigma attached to apartment dwelling as 'second best' — if you can't afford a house, you'll settle for an apartment. The romance of the 'Quarter-Acre Pavlova Paradise' (Mitchell) is traded in for a plot peppered with horror stories: paper-thin walls, shoebox-sized 'chicken coop' confinement, lack of flexibility, onerous body corporate rules... the list could go on, and it does. The research benchmarks itself against the quantity and the quality of the single detached dwelling on a quarter-acre block both as a spatial measure and the representation of home. By asking 'how many more dwellings can we get on that space' and 'what is the notion of home in the future', it seeks to resolve some of the problems associated with our initial round of higher density.

Domestic architecture can be defined as a system of relationships between oppositions — this thesis explores these relationships through three strategies: Hybrid, Separations & Connections, and Looseness. Each of these deals with the spatial and social characteristics of the city and the home and are used as a technique for controlling relationships at a range of scales and intimacies — from urban to interior — and as a tool for connecting or interrupting the public and private, inside and outside, and building and landscape.

**Density and Desire** offers a conceptual framework with a series of strategies that demonstrate the potential of the apartment building to re-define urban living and the peculiar New Zealand urban dream.







## Acknowledgements

To those who have given their time to listen, support, and encourage me. Thank you.

To my parents, for your endless care and curiosity over the course of my study.

To my supervisor, Kerstin Thompson, whose advice and critical perspective on architecture and the profession has challenged me, inspired me, and directed me throughout this year. Also, to the many other lecturers and tutors who have taught and influenced me over the past five years.

To the architects and the enthusiasts, our discussions have filled many gaps and opened even more. Thank you for being part of the bigger conversation.

To my friends, near and far, for reminding me that there is life outside of the big red building.

Finally, to the unbeatable class of 2016, it has been a pleasure. Thank you for the coffees, doughnuts and fivesies that have fuelled many yarns, debates and critiques... may they continue.



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# 01

## An Introduction

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THE QUARTER-ACRE SECTION +  
THE SINGLE DETACHED DWELLING

THE APARTMENT BUILDING

A PROPOSITION

SCOPING IT OUT

THE METHOD

THESIS STRUCTURE

# The Quarter-Acre Section + The Single Detached Dwelling

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## **quarter-acre section, n.**

*A standard suburban building plot, formerly approximately a quarter of an acre in size.*

The quarter-acre section was established in the early years of European settlement as a suitable size of land for a New Zealand home. It soon became a feature of our country's way of life and by the 1960s the quarter-acre paradise, an individual privately-owned section with a single-family house, took on the connotation of freedom. The detached house and garden was wittily personified by Austin Mitchell in the '70s as "the New Zealander's mistress", a place so expensive you can't afford to leave and therefore "the venue for ... popular forms of entertainment", "a hobby you inhabit" (110-111).

Today, the number of quarter-acre sections are diminishing at a quick rate and the mythical kiwi dream has morphed into a more house less land aspiration, yet the penchant for single detached dwellings remain.

“ People like room for a barbeque and a pet. ”

(Nahkies qtd. in McDonald)

With an increasing and diversifying urban population and escalating house prices, this lifestyle is no longer available to many ordinary kiwis. It must be understood and reinterpreted for contemporary life if higher density urban living is to have any validity in supporting the notion of home in the future.

## WHAT IS MOST VALUED IN THE QUARTER-ACRE SECTION + THE SINGLE DETACHED DWELLING MODEL?

- Zoned: individual, owner-occupied forms
- Detached house typology determined by three main parameters: house, street and garden
- Homeliness: a representation of home

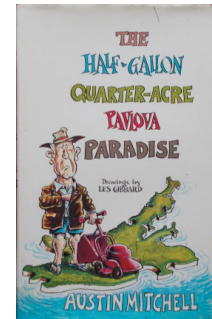
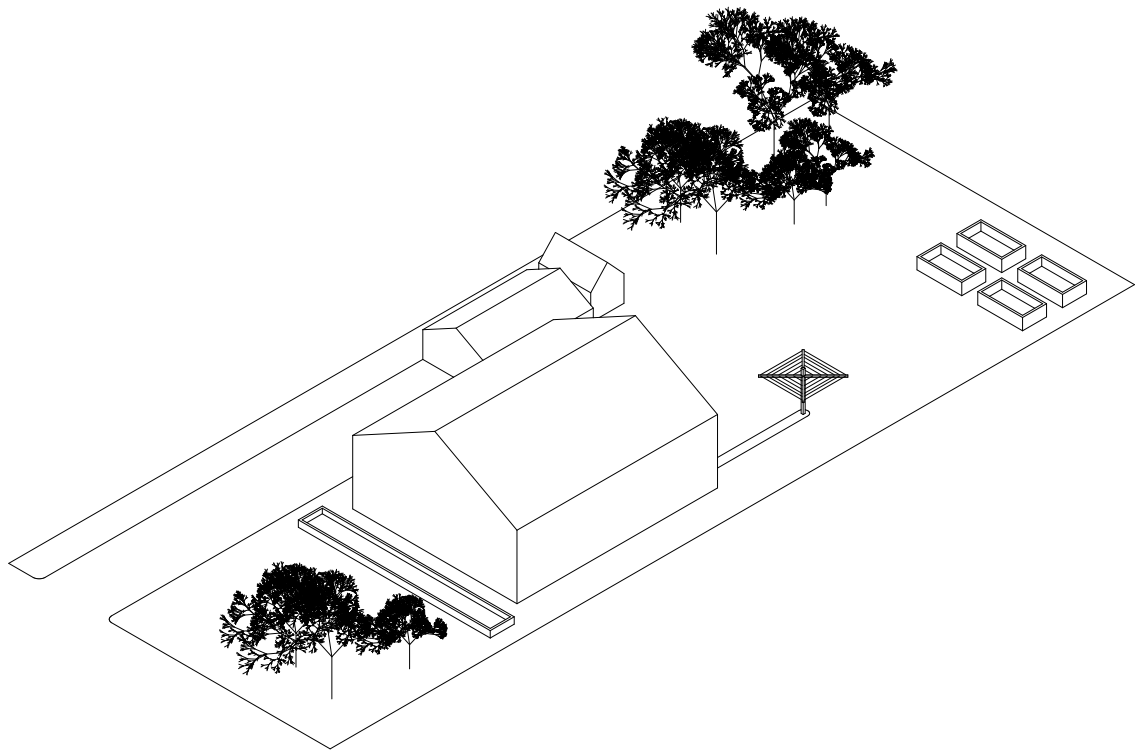
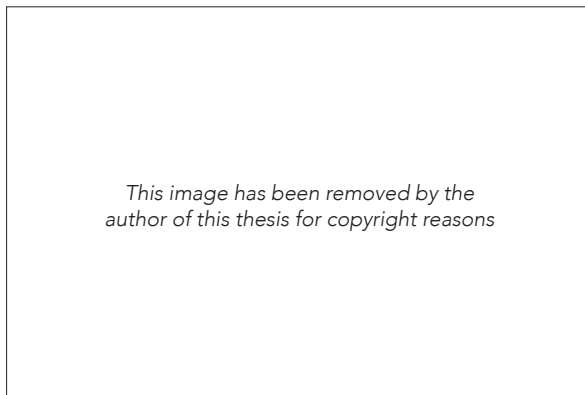


Figure 1.3

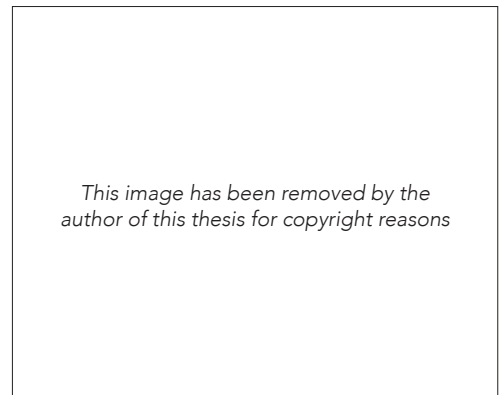
*The Half-Gallon Quarter-Acre Pavlova Paradise* is a satirical description of post-war life in New Zealand.



*Figure 1.4* Spatial diagram of the quarter-acre section. On the typical quarter-acre section a single detached dwelling is set back from the street with a flower garden and regularly mown lawn at the front. It was usually built at one side of the section with a concrete drive running down the other to a garage or carport. At the rear of the section a more practical vegetable garden, tool shed, kids' hut or home sports 'field' could be found. A path from the back door of the house led to a rotary clothesline.



*Figure 1.5* A bungalow perched at the front of a quarter-acre section in the central-west suburb of Westmere, Auckland was described as a "rare and remarkable opportunity" in the real estate blurb.



*Figure 1.6* An unromantic view of the 'kiwi dream' documented in a mundane moment on Auckland's North Shore by photographer Geoffrey Heath.

# The Apartment Building

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## **apartment, *n.***

*A portion of a house or building, consisting of a suite or set of rooms, allotted to the use of a particular person or party.*

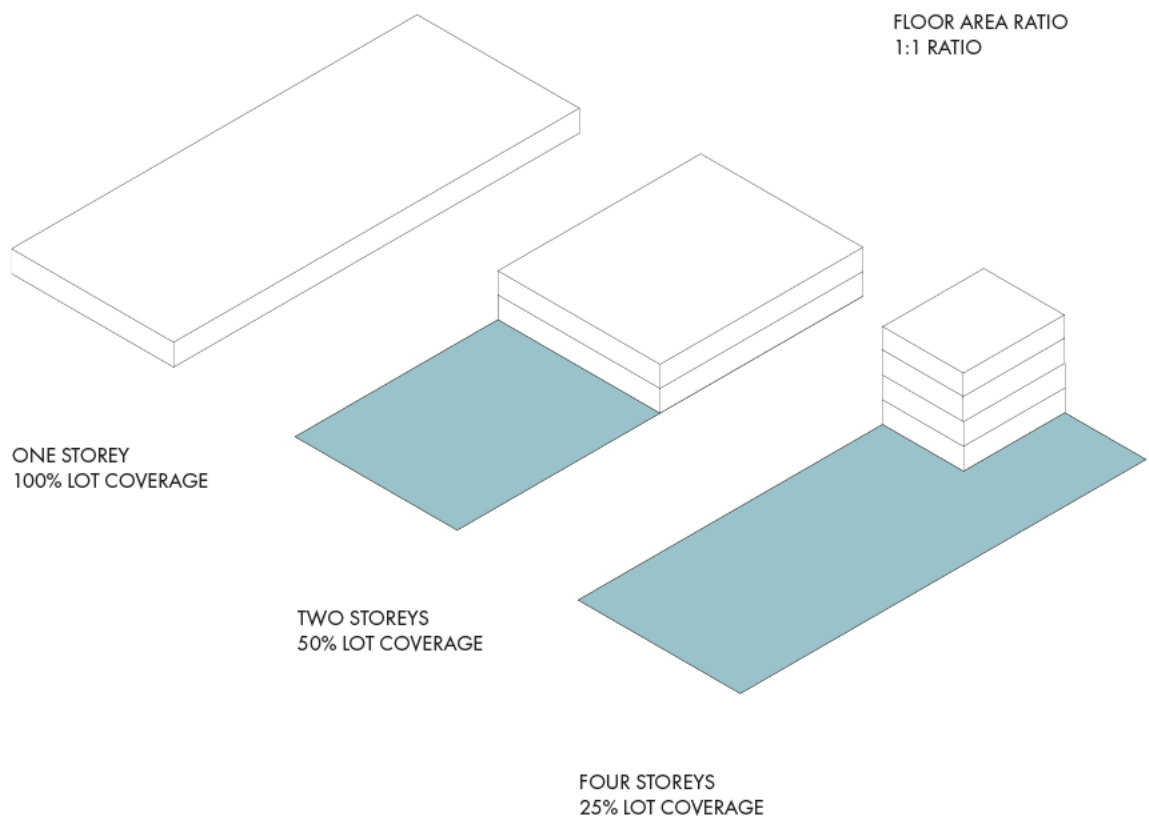
The apartment building is an economically and spatially efficient building typology for urban areas because of its floor area ratio (see fig. 1.7). Predominantly found in cities, and common around the world, apartments are becoming increasingly popular in New Zealand. They allow more people to live in closer proximity to each other, and to urban amenities.

The significance of the apartment building for this thesis is its comparative density and the opportunity for the incorporation of a hybrid programme to improve shortcomings akin with our initial round of higher density urban housing. As our urban population increases and the demographics change, attention is being directed towards the desirability of new higher density dwelling alternatives. Apartment building types range from low to high-rise and differ in appearance (see fig. 1.8). This thesis will consider a high-rise typology, rising seven plus levels. Here, the apartment building offers a base upon which we can test strategic principles and apply spatial conditions with a focus to improve the disadvantages that go with this typology.

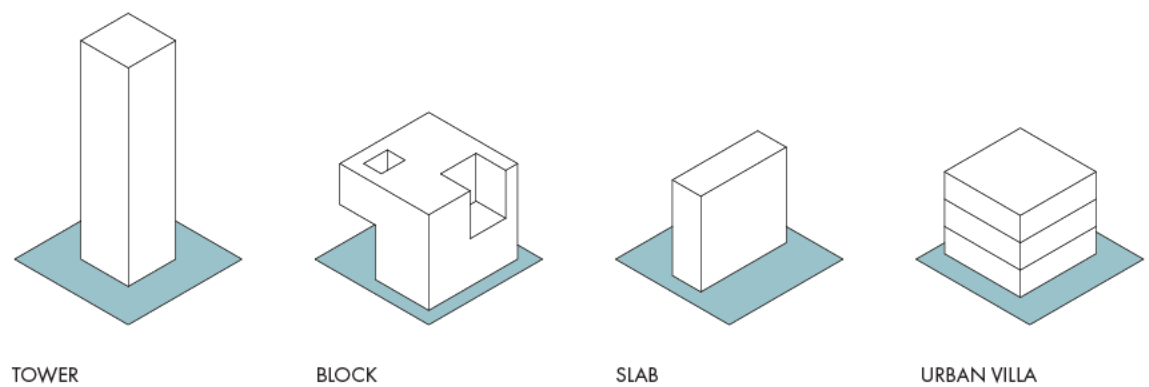
Many architects are tapping into the apartment as a building type of growing significance and seeking new ways for different groups of people to be city-dwellers. The Commons, by Breathe Architecture, is one such example (see fig. 1.9).

## WHAT IS MOST VALUED IN THE APARTMENT BUILDING MODEL?

- Mixed zoning: residential, commercial, cultural, institutional, or industrial uses
- Attached or multi-user typology: horizontal and vertical stacked units in low or high-rise configuration
- Anonymity: comparative privacy of urban living



*Figure 1.7* Floor Area Ratio (FAR) is the ratio of the total usable floor area of the building to the size of the lot (and is measured across multiple units on a single site). A higher FAR tends to indicate a more urban or dense construction.



*Figure 1.8* Variations on a common low and high-rise urban housing typology — the apartment.

*This image has been removed by the  
author of this thesis for copyright reasons*

*Figure 1.9* The Commons by Breathe Architecture. This twenty-four unit mixed-use residential development in Brunswick, Melbourne, was conceived as “a prototype that was sociable, sustainable, and affordable” (Webb 124). The focus was on opening opportunities for a change in lifestyle, and connecting to the community.





# The Proposition

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For most New Zealanders, the home is an expression of their social status and sense of personal identity. In a time of increasing change this thesis explores the rethinking of established typologies to address contemporary city challenges and to accommodate 21st century patterns of life.

Many people still have negative preconceptions about apartment living. If the city is to provide for higher densities of occupation, we need to propose an alternative to the dominant model of mass housing. This thesis' investigation centres on a missing third or alternative typology — one that acknowledges the cherished aspects of our suburban ideals and provides a chance to create a new model of urban intensification. By imagining a multi-layered urban environment of overlapping people, experiences, activities and moments we can optimistically address some of the problems associated with the delivery of our initial round of higher density housing.

The thesis benchmarks itself against the quantity and quality of the quarter-acre section and advocates for high density at a human scale. It investigates these ideas through the design of a cosmopolitan building, a hybrid scheme with a residential focus on an inner-city site in Wellington.

CURRENT MODEL:  
MIXED-USE MONO-FUNCTIONAL CONFIGURATION  
NO PUBLIC SPACE



PROPOSED MODEL:  
HYBRID INTERCONNECTED PROGRAMMES  
ACCESSIBLE PUBLIC SPACE

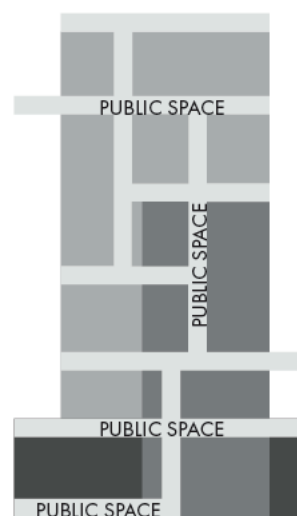


Figure 1.10 Imagining a horizontal and vertical multi-layered urban environment creating a building with opportunities for overlap.

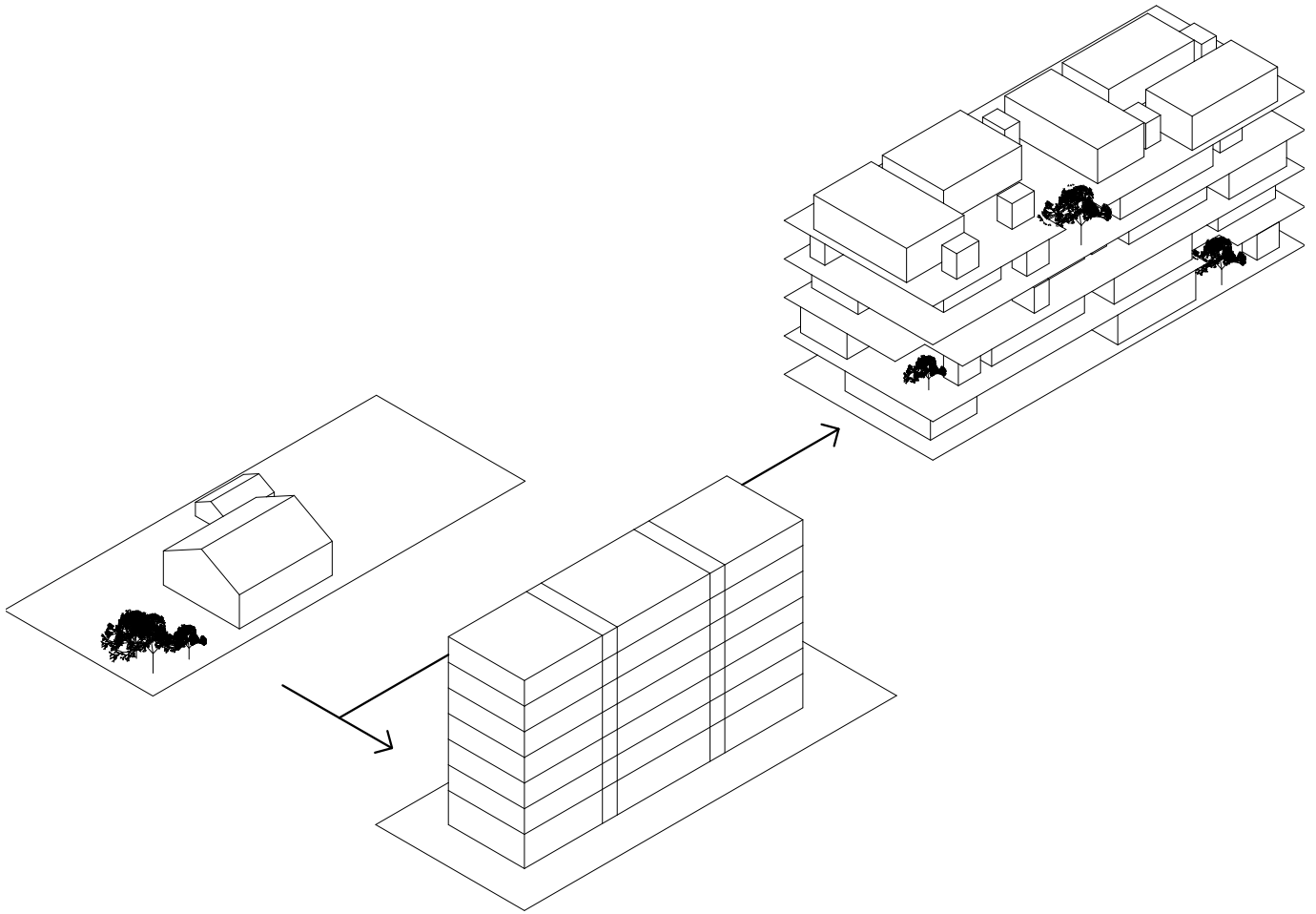


Figure 1.11 Diagram of existing housing models: the detached house and garden and the apartment building, and the proposition — an alternative vision for the future dwelling.



**What strategic principles and spatial conditions can we apply to generate new models of higher density housing that address New Zealand's urban future and acknowledge cherished aspects of our suburban ideals?**

# Scoping It Out

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This research approach is intended to provide a methodological precedent, contributing to the ongoing development of new urban multi-residential housing typologies in New Zealand. The design does not aim to create a monument or architectural image as it is focussed towards the interaction of new social environments rather than the visual structure of the city. Therefore, it is the conceptual framework and series of strategies established in this process, not the final design, that will be the contribution that this thesis makes to the discipline of architecture.

Siting the design on a central-Wellington plot provides a site-specific solution. From this, general lessons in designing buildings that mix public and private usage in dense, complex and amenity-rich urban areas, can follow.

The design is a hypothetical test case and while it has been designed to a plausible level for the testing of strategies, the scope of the study does not extend to the level of resource consent. The focus of the research is a mixed-use building with higher densities of occupation, connections and relationships, and options for flexibility. It is intended that the strategies could be harnessed to this purpose through further development. Whilst the scope of this study doesn't encompass the exact construction cost or detailing of the building, it is assumed that economic efficiency is a given because of the high plot ratio of the typology.

## ASSUMPTIONS AND LIMITATIONS

Throughout this thesis, the unit of area measurement used is acre. Referring to an imperial system unit of area may seem uncommon or old-fashioned but is done to emphasise the opportunities for increasing density when compared to the quarter-acre block.

The area calculation is: 10000 meters squared = 1 hectare = 2.47 acres

It has been assumed that Wellington City Council (WCC) would be interested in supporting the revitalisation of Lombard Street, including the redevelopment of Denton Park and creation of a shared pedestrian area in the existing Lombard Street laneway (Devlin A1).

The design also assumes the site's property titles are owned by an individual (or a collective willing to work together on the project). It also understands that there is current and ongoing discussion relating to the Unit Titles Act and that this changing regulatory environment could dictate how the future of urban housing functions in the growing market.

# The Method

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“ The term ‘design’ comes from the Italian disegno, meaning drawing, suggesting both the drawing of a line on paper and the drawing forth of an idea from the mind into physical reality. ”

(Hill 285)

The question raised by Jonathan Hill about the etymological definition of design: “Can a design, whether drawn or built, question existing conditions and propose alternatives?” (228) sparked a series of enquiries for this thesis. Foremost, in its investigation of the opportunity to challenge the conventions of how we live and develop new models of desirable urban higher density housing.

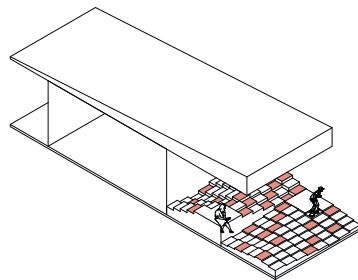
Design has always played a tremendous role in contributing to the generation of new ideas for the future. The design does not seek to be a complete solution; instead it highlights three strategies to drive the experimentation and generate critique:

## THREE STRATEGIES FOR A NEW MODEL OF URBAN LIVING

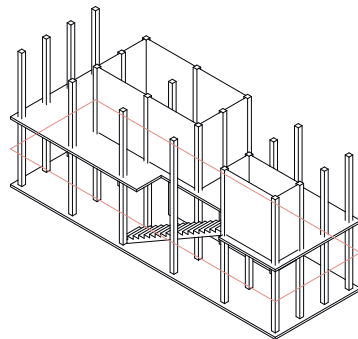
- Hybrid
- Separations + Connections
- Looseness

Within each of these strategies, architectural devices are defined and tested as a means to re-define urban living. The results of these tests will be reflected on critically and iteratively fed back into the design process. The outcome will be a methodology and set of strategies that produce architecture for a proposed desirable, liveable and high-density urban environment, as well as the final design iteration produced from the above tests.

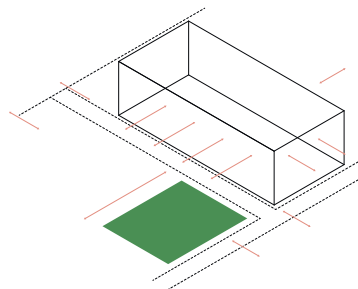
# ARCHITECTURAL DEVICES TO RE-DEFINE URBAN LIVING



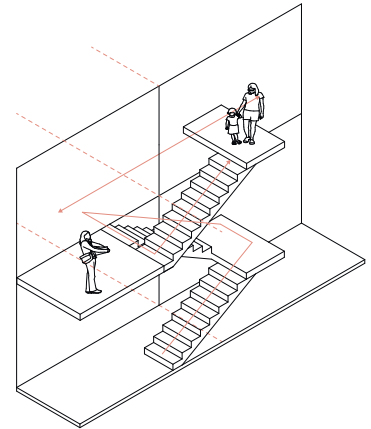
SHELTERED URBAN ELEMENTS



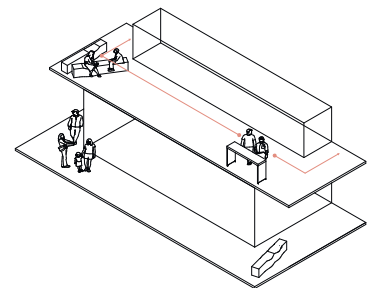
SUPERSTRUCTURE + SUBSTRUCTURE



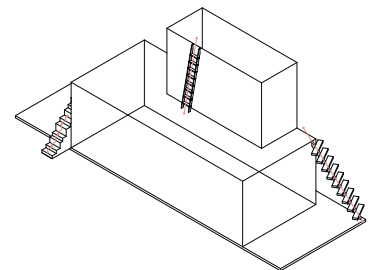
UNIT PERMEABLE IN MULTIPLE DIRECTIONS



SHARED VERTICAL CIRCULATION



HORIZONTAL CIRCULATION AS PROGRAMME + PLACE



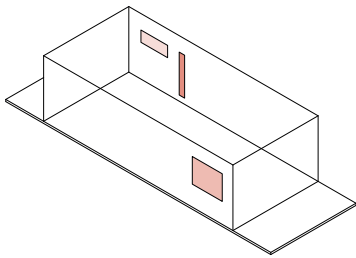
FUN STAIRS

Figure 1.12

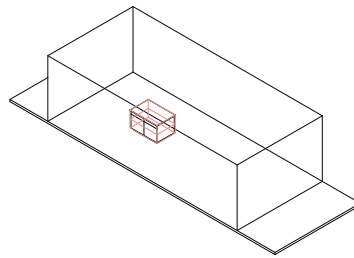
Diagrams of architectural devices to re-define urban living. The devices, informed by Anne Lacaton and Jean Philippe Vassal's *The City From and By Housing*, cross between scales and programmes and became the starting point for researching and re-thinking the possibility of urban living as an "aggregation of activities and living spaces" (56).

The devices act as an inventory that goes beyond generic terms such as zoning, typologies and urban form and directs the research towards a consideration of spatial conditions that offer a starting point towards a possible social life in an urban setting.

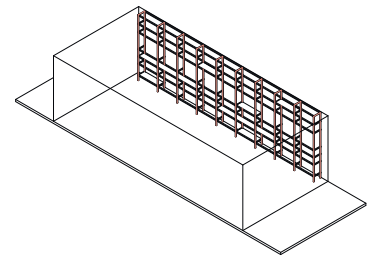




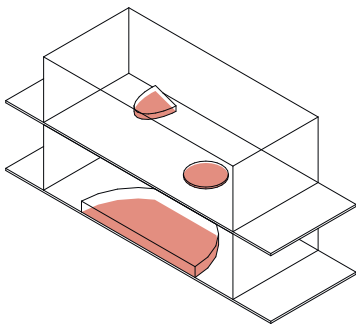
PUNCTURED UNITS: PEEP HOLES



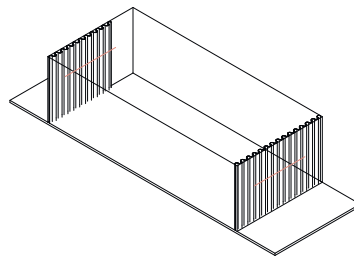
SOFT ISLANDS



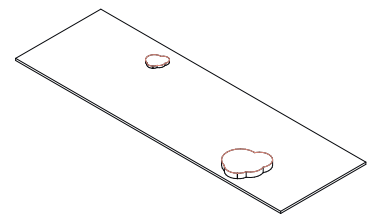
SOFT INFRASTRUCTURE



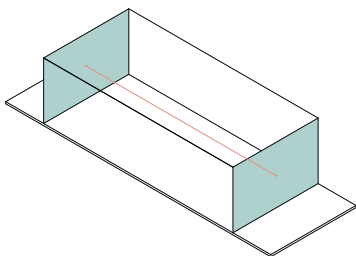
MAJOR + MINOR LOBBIES



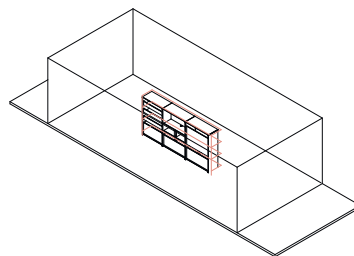
CURTAINS



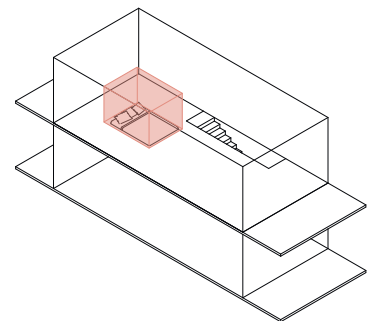
SUBTLE CONTRAST DETAILS



ACCESS TO BOTH FACADES



SERVICES WITH MEMORIES



ROOM AS RETREAT WITHIN INTERCHANGABLE PLAN

# Thesis Structure

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This thesis pursues a design-led approach to research. It is supported by a critical practice method — an investigation of traditional, alternative or competing ideas via buildings, drawings and texts — allowing for what Stan Allen refers to as forceful propositions about the status quo and future opportunities (2009).

The work seeks to develop an understanding of existing contexts, current trends, issues and opportunities to both interrogate and creatively respond to the research question. It investigates a shift towards higher density housing models in urban centres and the demand for better ‘neighbourhoods’, improved public realm and stronger communities. The emphasis is on a practical use of diagrams, photographs, and drawings alongside writing, not so much to explain or to justify, but as a continual process of clarification. For myself, the activity of writing is part of the practice of architecture.

## ACT I / The Exposition

The first section provides an overview of the design conditions, a proposition, describes the research question and summarises the identified problems. It establishes a situation tested on a site upon which the design is staged and seeks to clarify some of the issues that will be further investigated in this thesis. This is followed by an overview of the design outcome.

## ACT II / The Rising Action

The body of this thesis is split into three chapters based on the strategies utilised to develop the design: Hybrid, Separations + Connections, and Looseness. Each chapter explores the design strategies in greater detail, accompanied by critical practice methods that contribute to a resolution of the design. These include:

- **Case Studies** / architectural precedents that include buildings and unbuilt projects
- **Theoretical Approaches** / a range of literature and communicative material
- **Design Experiments** / design investigations and conceptual exploration

Together, this acts not only for improving design as ‘problem-solving’, but in creating a space to reflect upon the ideas, theories, reasons, and implications of the design. To assist the reader, symbols have been used to identify each of these components (see fig. 1.13).

## ACT III / The Conclusion

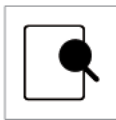
To conclude, an exegesis summarises how the design responds to the initial problem. Through critical reflection, the implications and opportunities for higher density housing alternatives in New Zealand’s urban centres are reviewed closing with a series of questions prompted by the findings.

## The Design



Each of the three parts within the body of this thesis start with a discussion about the devices employed within the final design outcome. This is referred to as the design and, when required, visual representation may be repeated to discuss different characteristics of the design.

## What's Been Done?



Architectural precedents are analysed throughout providing possibilities to explore and critique examples of knowledge held within the profession. At times, case studies from outside of the discipline are employed to demonstrate different influences and perspectives. Case studies may be considered several times in relation to various aspects of the design and a summary is found at the end of the thesis.

## Who Said What?



A select review of literature and communicative material — including journals, exhibitions, books — has been gathered and examined in relation to how the design relates to a wider discussion within architectural and social contexts. Taking a theoretical approach provides a chance to reflect upon what is there, but also to imagine something different. The literature review is spread across the chapters, in relation to strategies explored to resolve the design.

## Along the way...



Design investigations and conceptual exploration that eventually lead to the design outcome are described where relevant. The design experiments not only provide an opportunity to critically reflect upon the strengths and weaknesses of this design-led research, they offer insight into the development of specific characteristics of the design.

Figure 1.13 Symbols used to illustrate strategies of design-led research and critical practice within chapters in Act II.

Figure 1.14 (Next) Research diagram, a graphic summary that indicates how the design responds to the problems identified via the outlined research structure.

## THE PROBLEM

### ACT I

#### New Households

Changing Face of New Zealand's Population

### THE SITUATION

#### New Housing

Points of Resistance to Higher Density Living

### ACT II

## Hybrid

#### A TYPOLOGY

Potential to investigate new building types

#### IN THE MIX

Programmatic juxtapositions that encourage coexistence

#### DENSITY + AMENITY

Clearing up the confusion that surrounds density

#### EXTENDING THE GROUND PLANE

Shaping public space and elevating shared ground

#### The Design



#### What's Been Done?



## ACT III

### Separations & Connections

#### FIELD CONDITIONS

Recognising, understanding and redefining relationships

#### OPEN SYSTEMS

Exploring spatial systems that contain and shape social processes

#### LINKING + STACKING

Assembling and relating various combinations of programme

#### INTERSTITIAL SPACE

As a site with the possibility for connection

### Looseness

#### FLEXIBILITY

Activation of formal spatial and temporal boundaries

#### HARD + SOFT

Tactics that affect the potential for flexibility

#### CENTRALISED + COLLECTIVISED

Combining collective services with respect for the individual

Who Said What?



Along the way...



A RESOLUTION



# 02

## Setting the Scene

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THE PROBLEM + THE SITUATION

THE TEST SITE

HOUSING: A WISH LIST

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author of this thesis for copyright reasons*



# The Problem + The Situation

Even though housing density is a hot topic, even though the number of resource consents for high-rise apartment buildings in Auckland is at an all-time high and even though there is a fierce market for private apartment development in Wellington, it is clear that the majority are still in love with the quarter-acre paradise (Statistics New Zealand; Preval, et al.). Somewhere in the post-war era, the individual, privately-owned, single-family house took on the connotation of freedom (Ferguson; Schrader "Housing"). For these reasons and more, we face new questions about living in a community, of dwelling diversity, of promoting sociability and of creating conditions for neighbourliness.

One only needs to glance at current news headlines to see that housing is a major problem in New Zealand and this shift has the greatest presence in our major urban areas (see fig. 2.1). The research identifies that social factors are closely connected to housing in New Zealand as seen through two situations:

## PROBLEM 01. New Households

Demonstrated by the changing face of New Zealand's population.

## PROBLEM 02. New Housing

Demonstrated by points of resistance to higher density living.



Figure 2.1 Recent news headlines from New Zealand collected during the 2016–2017 thesis year.

Figure 2.2 (Opposite) Marti Friedlander, *Subdivision*, 1966. Friedlander was instrumental in independently documenting the changing nature of contemporary post war New Zealand, with a focus on revealing the human situation.

## PROBLEM 01. New Households

### Changing Face of New Zealand's Population

New Zealand's population has changed dramatically over the past century. While it is predicted that our country will continue to have a small population, changes in the mobility of our population impact on patterns of settlement and present challenges in terms of developing infrastructure, in particular housing (Ministry of Economic Development 40).

Though often not recognised as such, 1911 was an important year in New Zealand marking the date that New Zealand officially became an urban society (Schrader 396). The April Census identified two milestones: New Zealand's population had reached one million, and more people were identified as living in cities and boroughs than in rural areas. This trend has continued — we live in one of the most urbanised nations in the world. Today, 86 percent of New Zealanders live in urban areas and this is steadily on the rise (Statistics New Zealand, *2013 Census*). Statistics show that while our urban populations grow, household sizes are shrinking, resulting in a demand for more homes (see figs. 2.3, 2.4). The average size of New Zealand households is projected to decrease from 2.7 people in 2013 to 2.5 people in 2038 resulting in the need for smaller houses, relevant to the process of intensification at the city centre (Statistics New Zealand, *Subnational Family and Household Projections*).

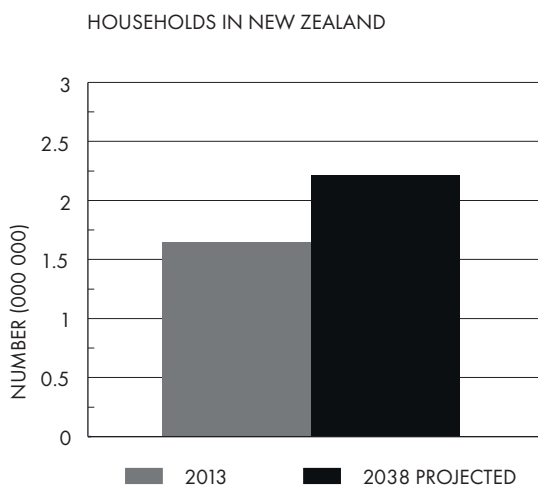


Figure 2.3 Number of households in New Zealand. Adapted from Statistics New Zealand.

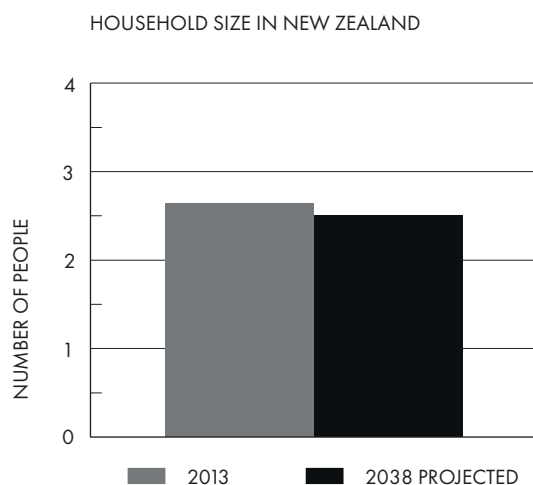


Figure 2.4 Household size in New Zealand. Adapted from Statistics New Zealand.

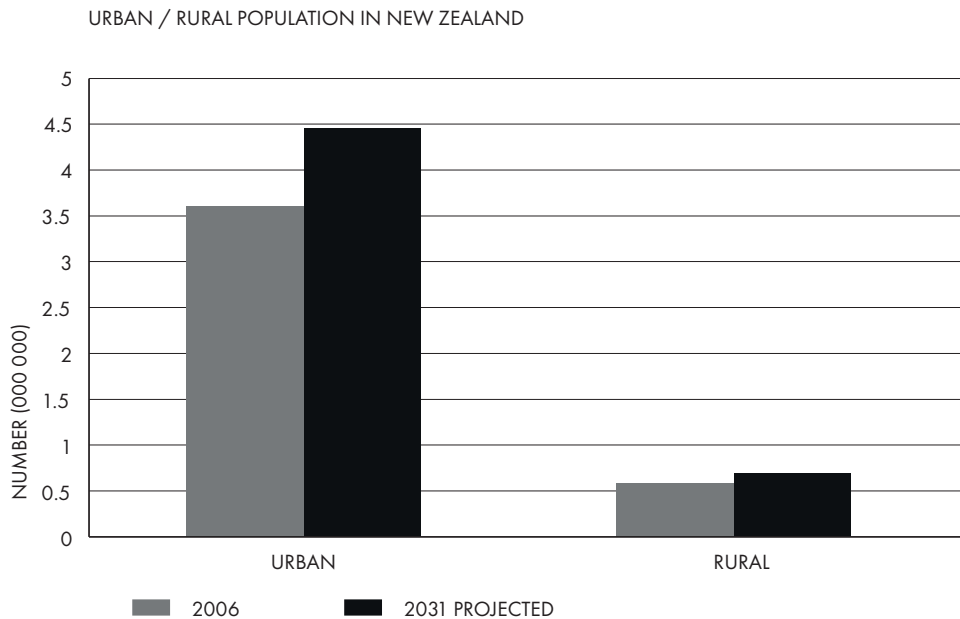


Figure 2.5 Urban and rural population trends. Adapted from Statistics New Zealand.

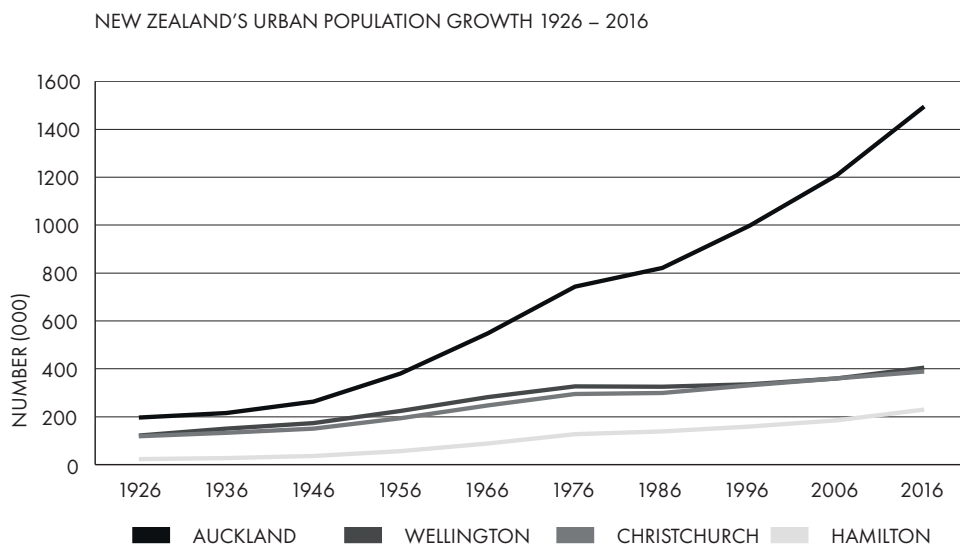


Figure 2.6 Urban growth trends in identified major urban areas. Adapted from NZ Urban Population Database and Statistics New Zealand.

TYPES OF HOUSEHOLDS IN NEW ZEALAND

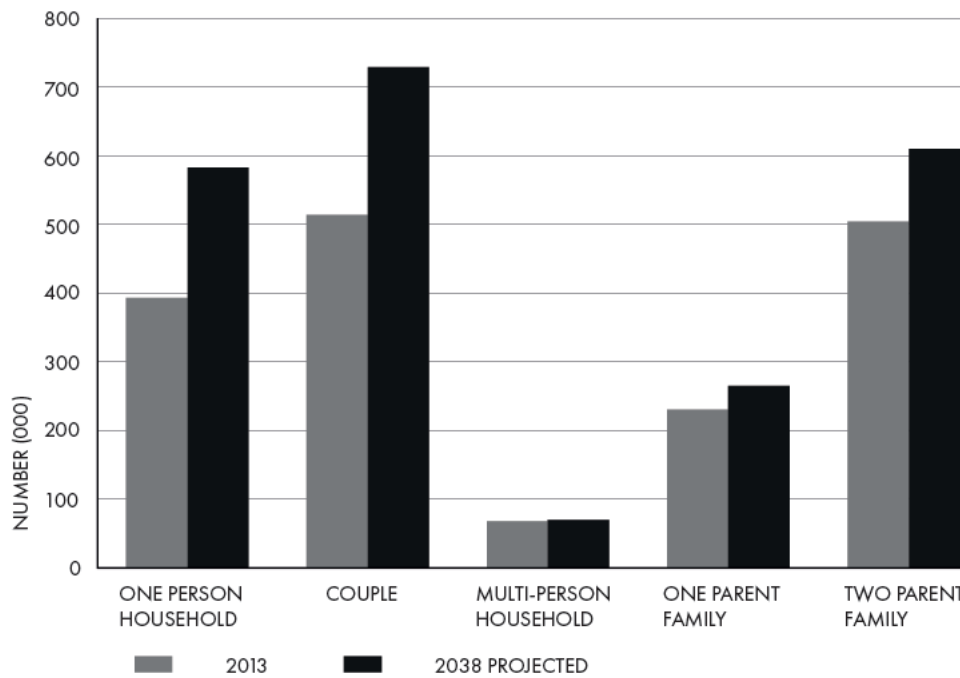


Figure 2.7 Types of households in New Zealand. Adapted from Statistics New Zealand.

HOUSEHOLD TYPES AS A PROPORTION

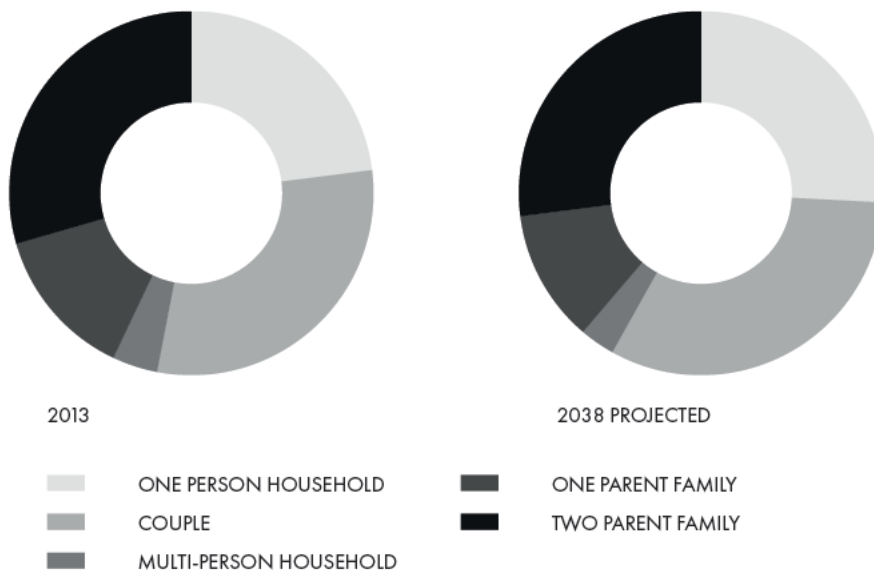


Figure 2.8 Types of households in New Zealand as a proportion. Adapted from Statistics New Zealand.

Families are also changing. A shift towards older parenthood and an increasing proportion of New Zealand women postponing childbearing or remaining childless indicates that in 2038, the proportion of couple-without-children families is expected to increase to 45 out of 100 families, while two-parent and one-parent families drop to 38 and 17, respectively (see figs. 2.7, 2.8).

Changes in fertility are accompanied by changes in family formation. Marriage rates have declined and those that are tying the knot are older, cohabitation has increased along with re-partnering, and the acceptance of same-sex relationships has grown. These changes have resulted in more diverse family forms (Ministry of Economic Development 46). Recent international studies of *singleton* living — where singleness is a positive social identity — reveal that living alone is one of the most rapidly increasing social trends of the past half-century (Klinenberg). In New Zealand, one-person households are projected to be the fastest growing household type, increasing by an average of 1.6 percent a year to account for 27 percent of all households in 2038, up from 24 percent in 2013. Eleven percent of the population will be living alone in 2038, compared with 9 percent in 2013 (see figs. 2.7, 2.8).

The current location of housing stock has resulted from previous patterns of settlement but changes in the social organisation of our activities present questions related to how, where and what the future New Zealand dwelling might look like. The number of people living in inner city apartments in New Zealand's major urban centres has almost quadrupled. In Wellington City, apartment dwellers have risen from approximately 1400 in 1996 to nearly 13000 in 2013 and it is estimated that there will be a further 6000 living in inner city apartments by 2026 (Wellington City Council *Central City Apartment Dwellers Survey*) (see fig. 2.9). The number of building consents for new dwellings have increased slightly, while the construction of multi-unit dwellings (including apartments) have increased significantly and are predicted to continue to do so (see fig. 2.18).

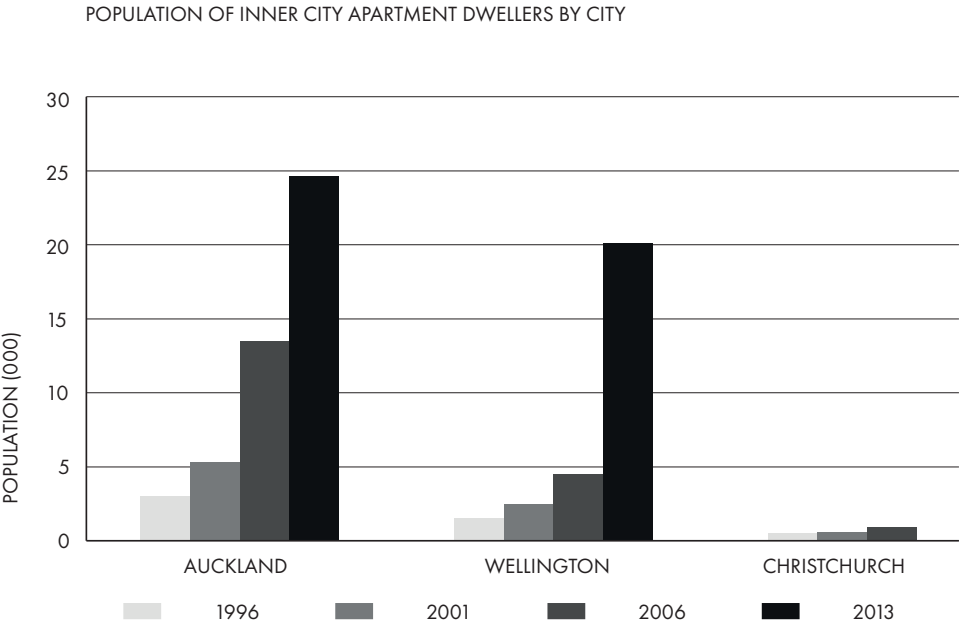


Figure 2.9 Population of inner city apartment dwellers in New Zealand's three main urban centres. Adapted from Statistics New Zealand.

Figure 2.10 (Opposite) Soho Apartments, Wellington, is one of many examples of recent apartment buildings in New Zealand's urban centres that are cluttered, lack amenity and have been criticised as a poor response to a growing market.



## PROBLEM 02. New Housing

### Points of Resistance to Higher Density Living

“ New Zealanders have a long-standing cultural preference for detached housing on individual sections. ”

(CityScope i)

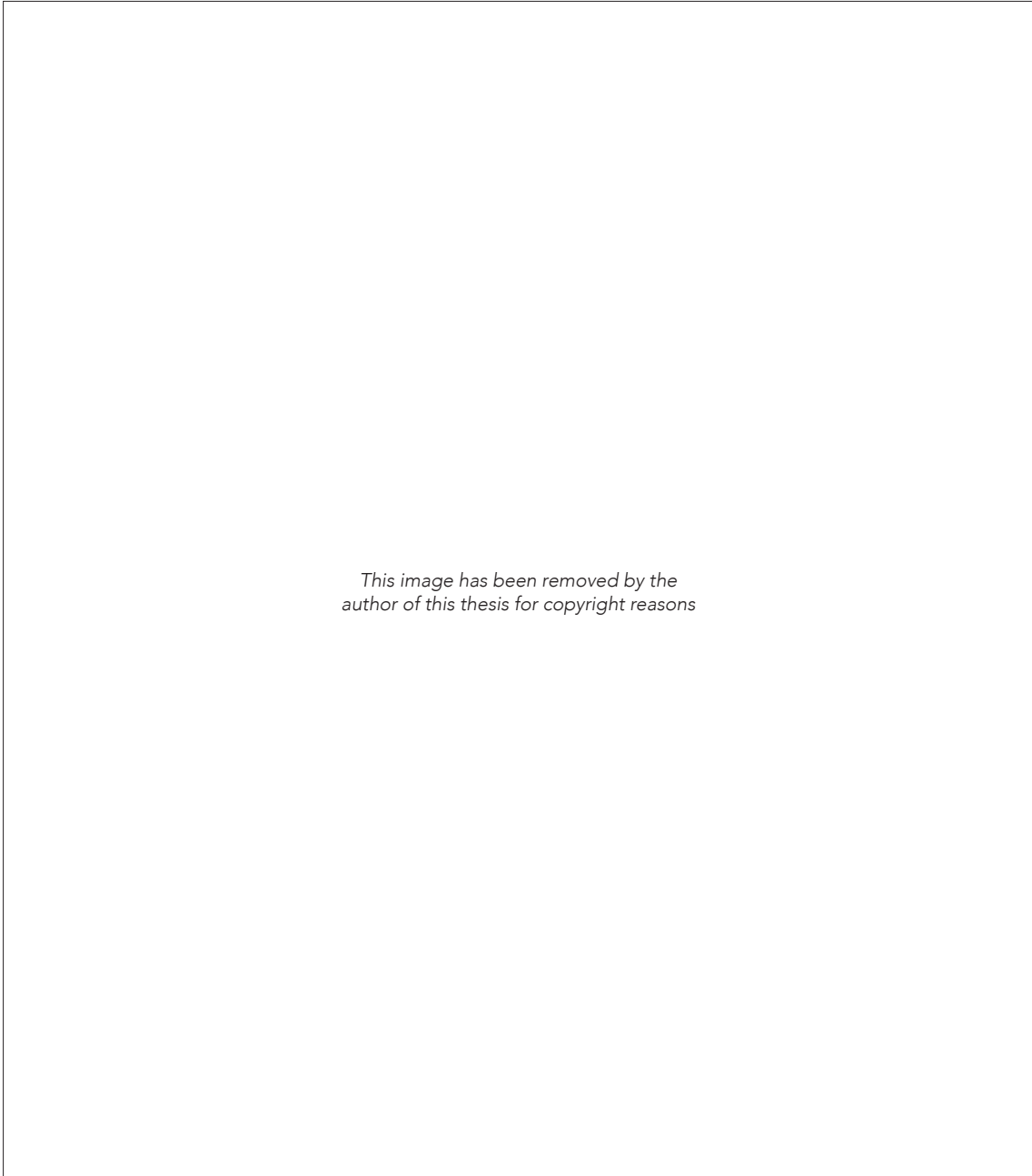
In March 1954 Wellington's Architectural Centre hosted an exhibition, *Living in Cities*, exploring issues of city and community planning and design and advocated for higher density inner-city living as an alternative to the detached house and garden model. Capturing the intent of “vertical living”, it took the assumption that not every household needs a house and addressed apartment living for “the Forgotten People” — households other than the nuclear family which, at the time, comprised 40% of the population (Gatley and Walker 91-92). Touring the country it reached a broad spectrum of people, most of whom held negative preconceptions about inner-city blocks of flats.

Fast-forward 50 or so years and a 2009 ShapeNZ survey on housing preferences indicates that limited progress has been made, reflecting the cultural importance of the ‘quarter-acre dream’ as well as the availability of adequate alternative housing (Preval et al Chapman 42) (see figs. 2.12, 2.13, 2.14, 2.15). Supporting this, a 2011 study for the Centre for Housing Research Aotearoa New Zealand (CHRANZ) declared that resistance to high density living was confirmed in a 2007 update of the Auckland Regional Growth Strategy (CityScope ii). The report outlines plausible reasons contributing to the perception that dense development means bad development.

### HIGHER DENSITY HOUSING AND NEIGHBOURHOODS ARE CONSISTENTLY SEEN IN NEGATIVE TERMS AND ASSOCIATED WITH:

- Lack of privacy
- Noisy
- Insecure
- Lack of outlook
- Parking problems
- Lack of hobby and storage space
- Not allowing pets
- Lack of character
- Drab
- Monotonous
- Cramped
- Leaky
- Subject to bodies corporate
- Poor prospects for capital gains





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author of this thesis for copyright reasons*

*Figure 2.11* *Your new house... or would a flat suit you?* featured in a special issue of Design Review published by the Architectural Centre, Wellington, in 1953. The illustration was part of a body of research that identified the need and importance of multi-unit housing development in our cities to cater to a changing population.

WOULD YOU PREFER A LARGER HOUSE AND SECTION FURTHER OUT OF THE CITY, OR A SMALLER HOUSE OR APARTMENT IN THE MAIN TOWN OR CITY NEAREST YOU?

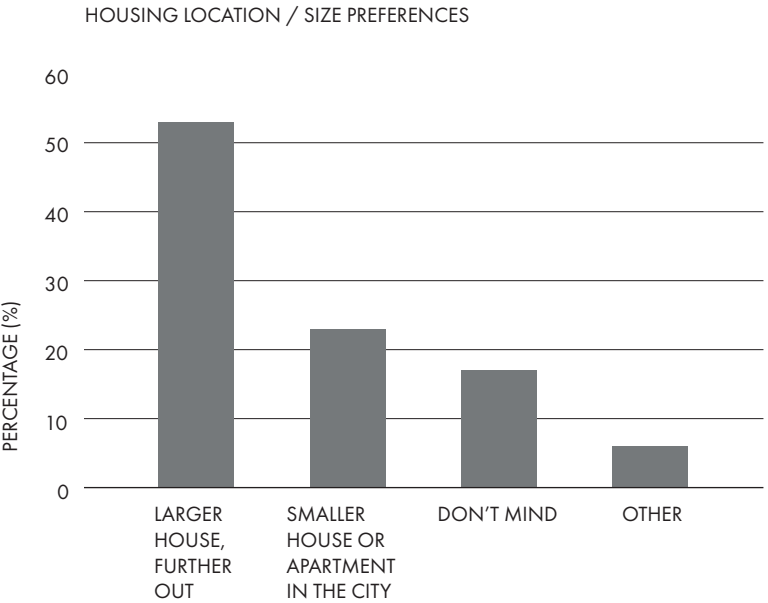


Figure 2.12 Preferences as to housing location/size combination. Adapted from ShapeNZ, New Zealand Centre for Sustainable Cities.

SOME PEOPLE DO NOT MIND WHETHER THEY LIVE IN A STAND-ALONE HOUSE OR AN APARTMENT; OTHER PEOPLE HAVE STRONG PREFERENCES. DO YOU PREFER TO LIVE IN A...?

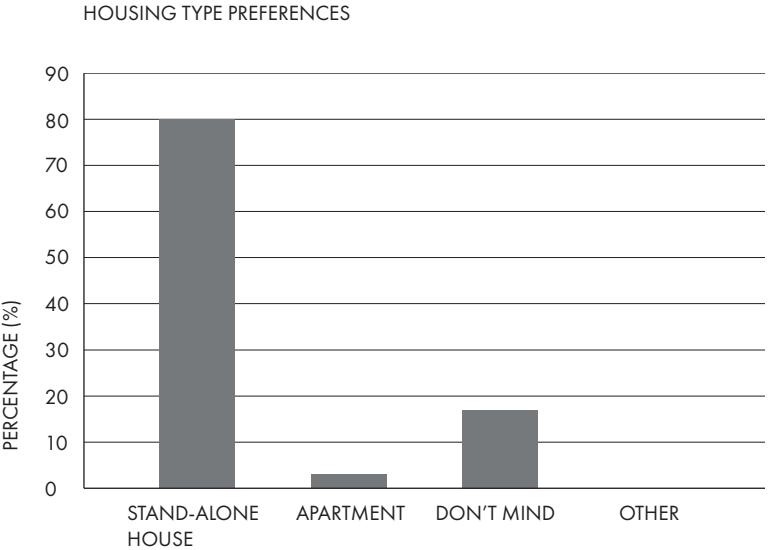


Figure 2.13 Preferences as to housing types. Adapted from ShapeNZ, New Zealand Centre for Sustainable Cities.

IF THERE WERE NO RESTRICTIONS ON WHERE YOU COULD LIVE, WHICH OF THE FOLLOWING WOULD YOU CHOOSE?

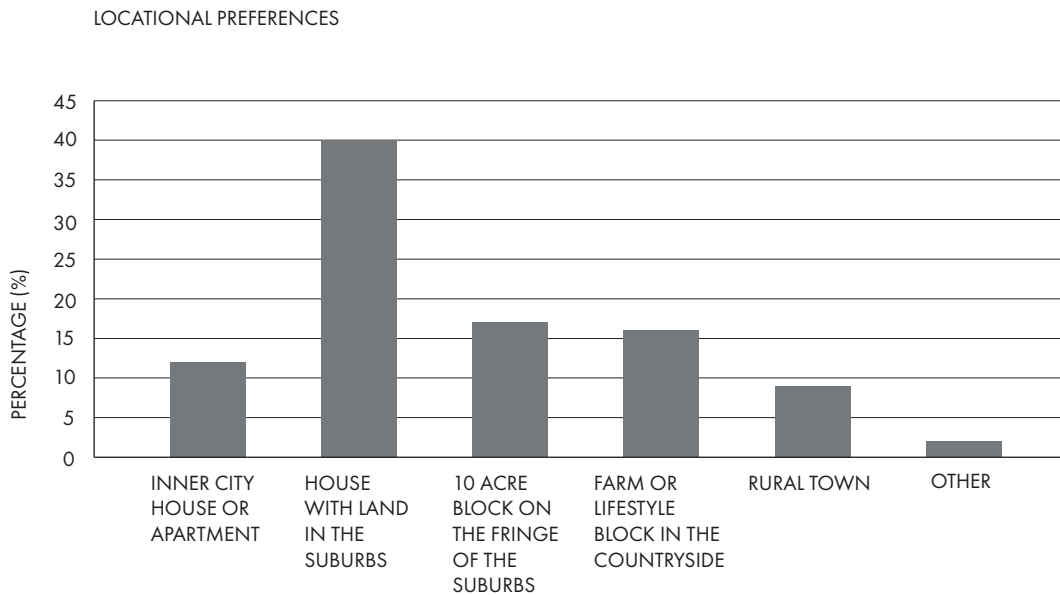


Figure 2.14 Preferences as to locational preferences (unconstrained). Adapted from ShapeNZ, New Zealand Centre for Sustainable Cities.

DO YOU APPROVE OR DISAPPROVE OF MIXED-USE DEVELOPMENTS THAT PUT HOUSING WITHIN WALKING AND CYCLING DISTANCE OF OFFICES, SHOPS, PARKS, SCHOOLS AND TRANSIT STOPS?

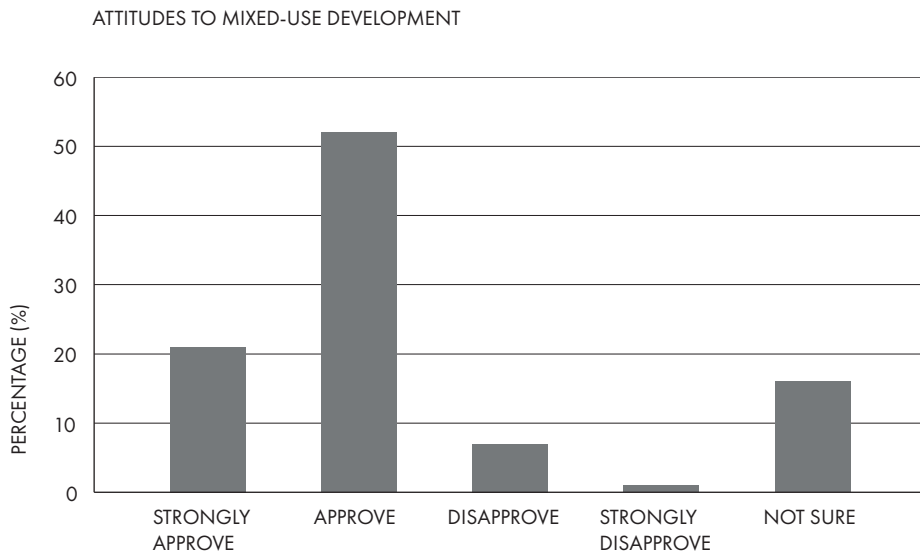


Figure 2.15 Attitudes to mixed-use development. Adapted from ShapeNZ, New Zealand Centre for Sustainable Cities.

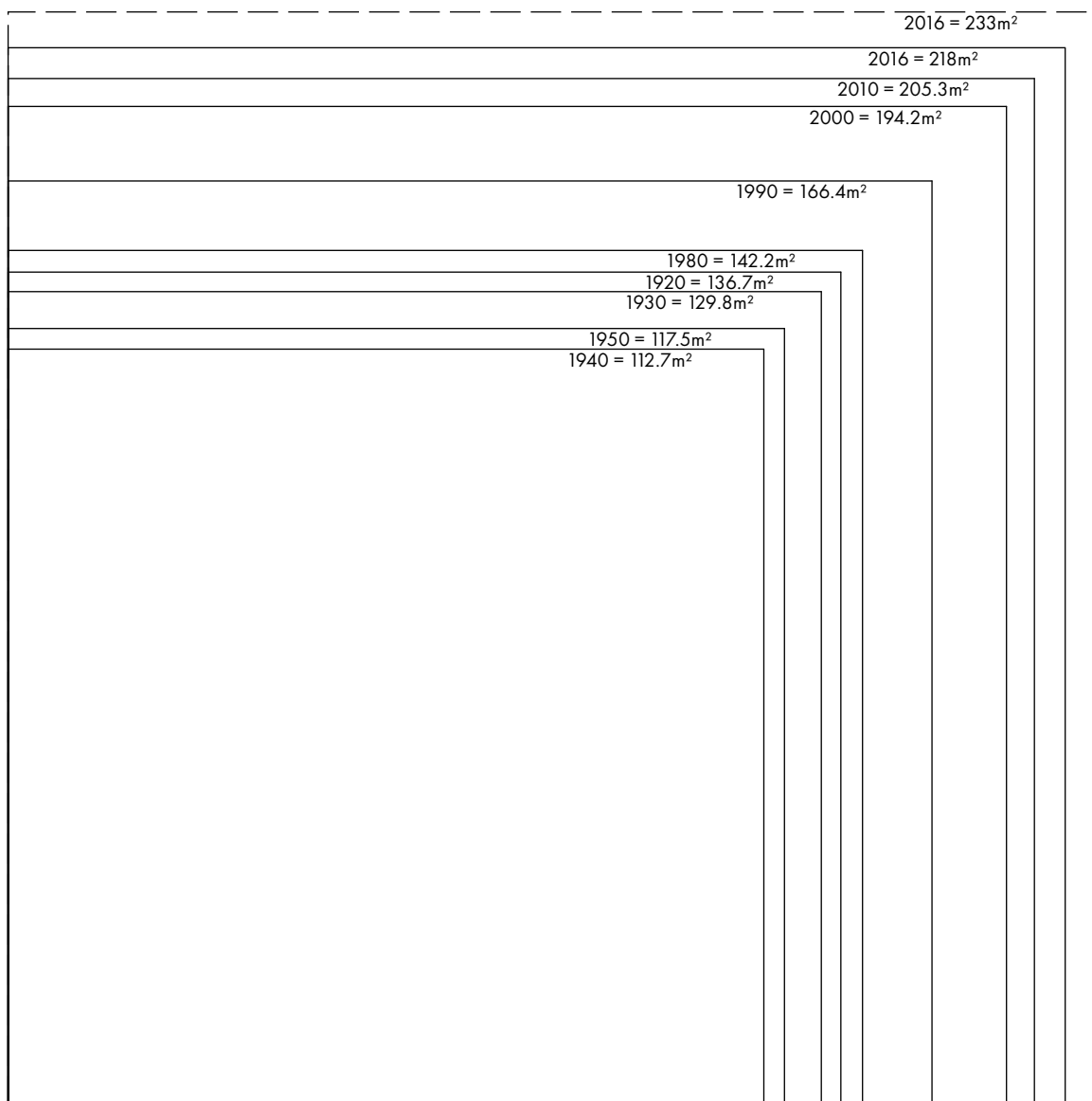


Figure 2.16 Diagram showing the floor area increase in average new single detached houses in New Zealand from 1920 – 2016 and the average new single detached house in Auckland in 2016 (dashed). Scale 1:100.

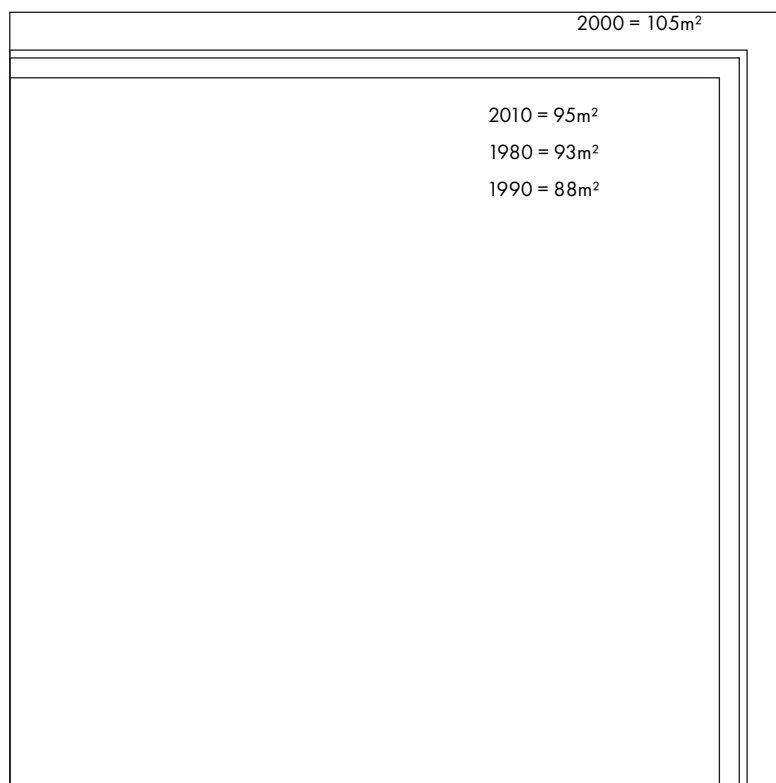


Figure 2.17 Diagram showing the average floor area of new apartments in New Zealand from 1980 – 2010.  
Scale 1:100.

While population trends and the problem of housing are not new or unique to New Zealand, in many countries urban housing — at various levels of density — is a well-established typology. In New Zealand in 2017, the apartment model is often fuelled by property investment and development opportunities, the ‘quarter-acre dream’ has morphed into a more house less land aspiration (see fig. 2.16) (Montgomery) and statistics show that there is a constant and growing demand for inner-city apartments (see fig. 2.18). The nuclear family appears to be a relic of the twentieth century prompting experts to call for smaller dwellings and higher density housing and indicating a shift towards becoming ‘apartment dwellers’. Can this resistance be resolved?

In his book detailing the pursuit of city life, Ben Schrader writes of a hybrid urbanism that redefined ‘urban’ in the New Zealand context (114). Here, the sprawling form and owner-occupied, stand-alone house on its own section happens alongside the new public and commercial buildings in the cities. Both these carried specific local meanings that continue to contribute to city dwellers’ sense of place and collective social identities (115). In the twenty-first century, this thesis investigates how these models can be married together while exploring aspects of the urban realm: diverse activities, potential to share space, balance of community and privacy.

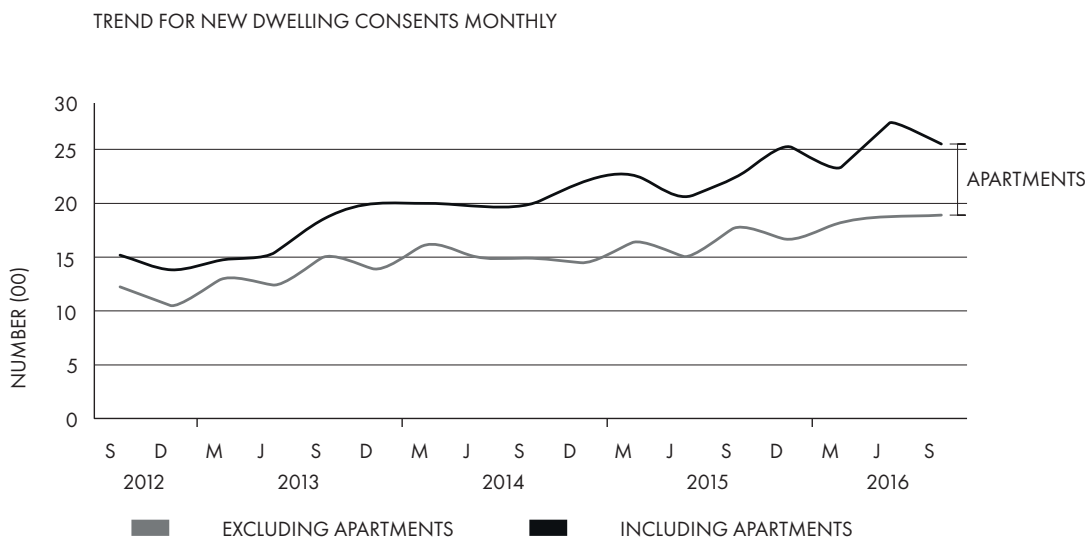
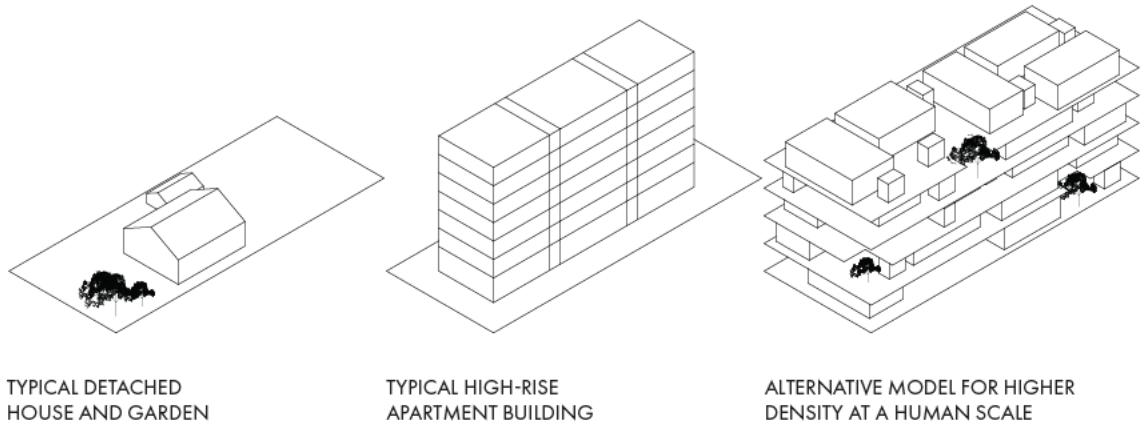


Figure 2.18 Trend for new dwelling consents monthly in New Zealand. Adapted from Statistics New Zealand.



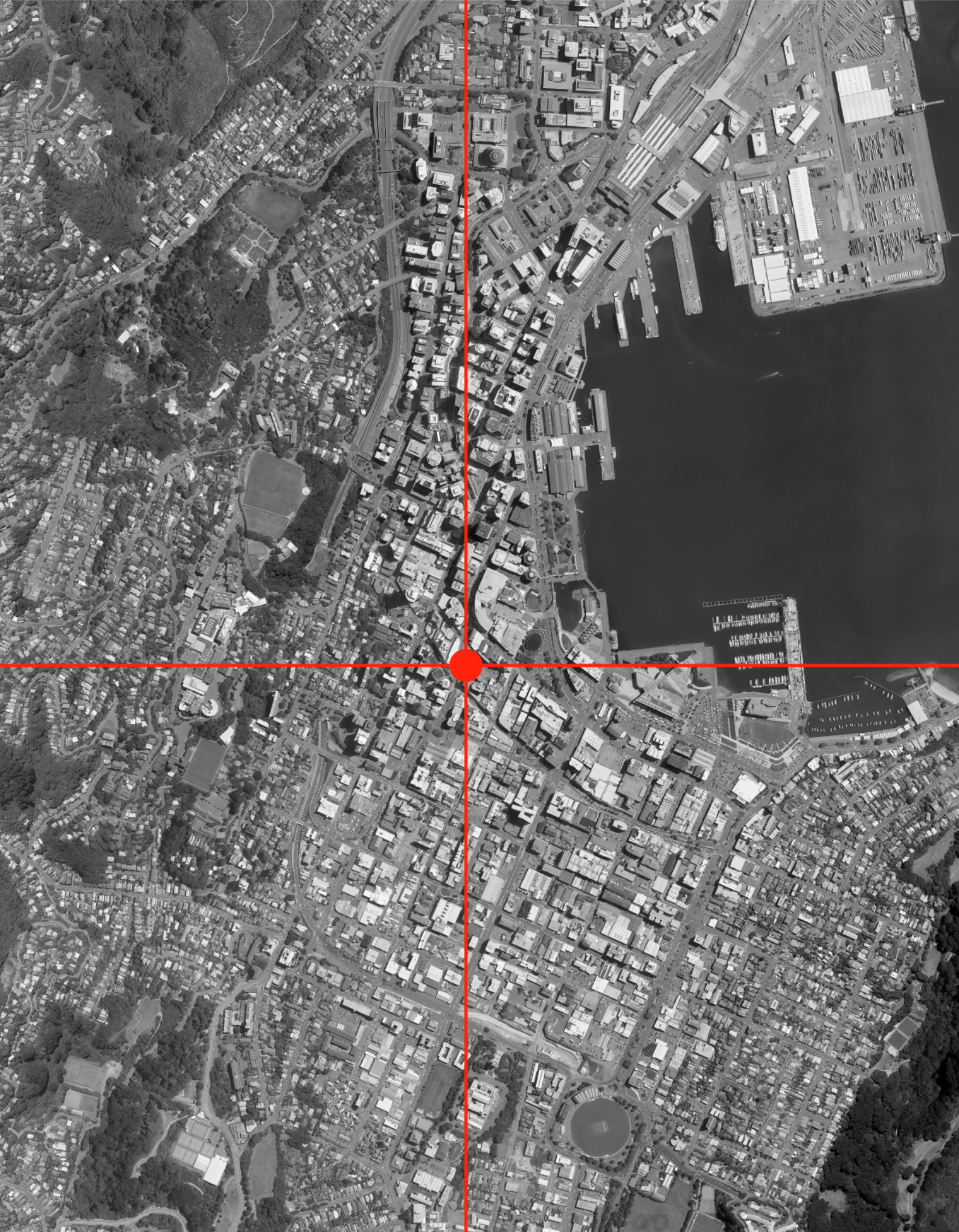
THE 'NUCLEAR' FAMILY AND HOUSEHOLD MODEL



THE CHANGING FAMILY AND HOUSEHOLD MODEL

Figure 2.19 Existing typical desirable and undesirable inflexible housing versus a proposal for higher density at a human scale — a housing model for our changing population.







## The Test Site

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Statistics New Zealand defines three classes of urban area:

- Main urban areas, population > 30,000
- Secondary urban areas, population 10,000 – 30,000
- Minor urban areas, population 1,000 – 10,000

Under these classes a site was selected in a main urban area for the qualities of being well-connected to local destinations: facilities, amenities, places of work, etc. Here the city block, 95 – 115 Victoria Street, represents site in relation to both the particular and the universal; to a physically specific place as well as spatial and temporal qualities demonstrated across many under-utilised sites in New Zealand's urban centres.

The following details an understanding of site and the surrounding urban environment through location observation, analysis and wider research to highlight opportunities and potentials, along with weaknesses and threats.



Figure 2.20 New Zealand urban areas and location of chosen site in relation to Wellington City limits.

Figure 2.21 (Opposite) Aerial view of central Wellington highlighting the location of the test site and orientation axis.

High quality public environments that contribute to the liveability of the city. The quality of the public environment is affected not only by the function, location and character of public space but by the buildings and structures that define the edges of public space.

---

General built form is in two parts: the high city, a well-defined and constrained core of high-rise buildings centred on Lambton Quay and lower Willis Street; and the low city development to the outer boundaries of the Central Area.

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In addition to the formal pedestrian network, a comprehensive network of informal public pathways within the Central Area provide short cuts through large city blocks, access to sheltered areas of public space, open up centres of city blocks for public use, and help people develop a strong sense of place and attachment to parts of the city.

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The Golden Mile main retail and commercial strip extends from the Parliament Buildings, to the eastern end of Courtenay Place and reflects the natural form of the Central Area, helping structure people's perceptions of the city and the way they move within it.

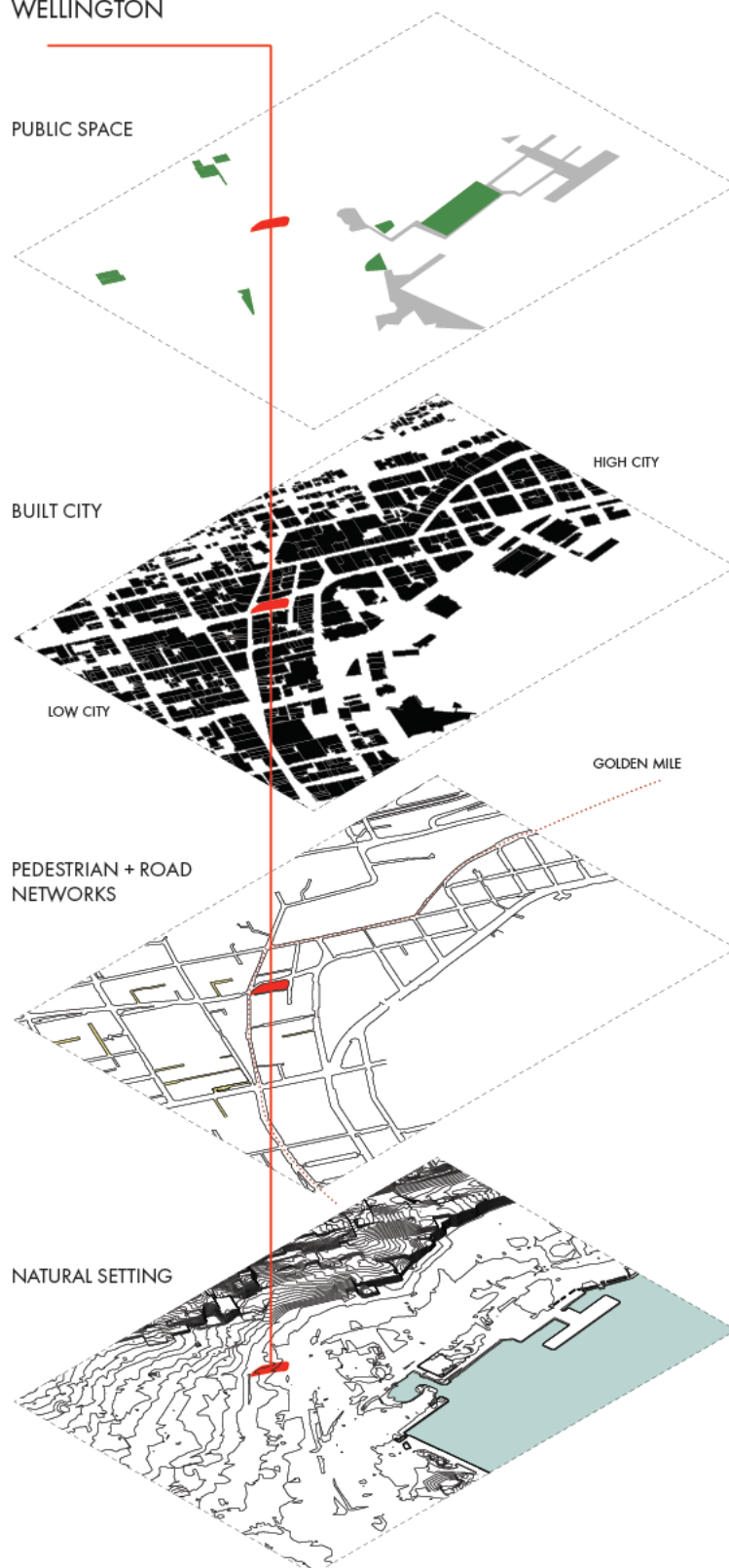
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Harbour and surrounding hills provide a vivid natural setting that will continue to shape the Central Area's urban form. The city has a natural tendency towards physical containment, with an amphitheatre of hills leading down to the inner harbour. This containment makes the city more accessible, and accentuates its urban feel.

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Figure 2.22 Exploded axonometric site diagram highlighting urban conditions and connections within Wellington City.

95 VICTORIA STREET  
TE ARO  
WELLINGTON



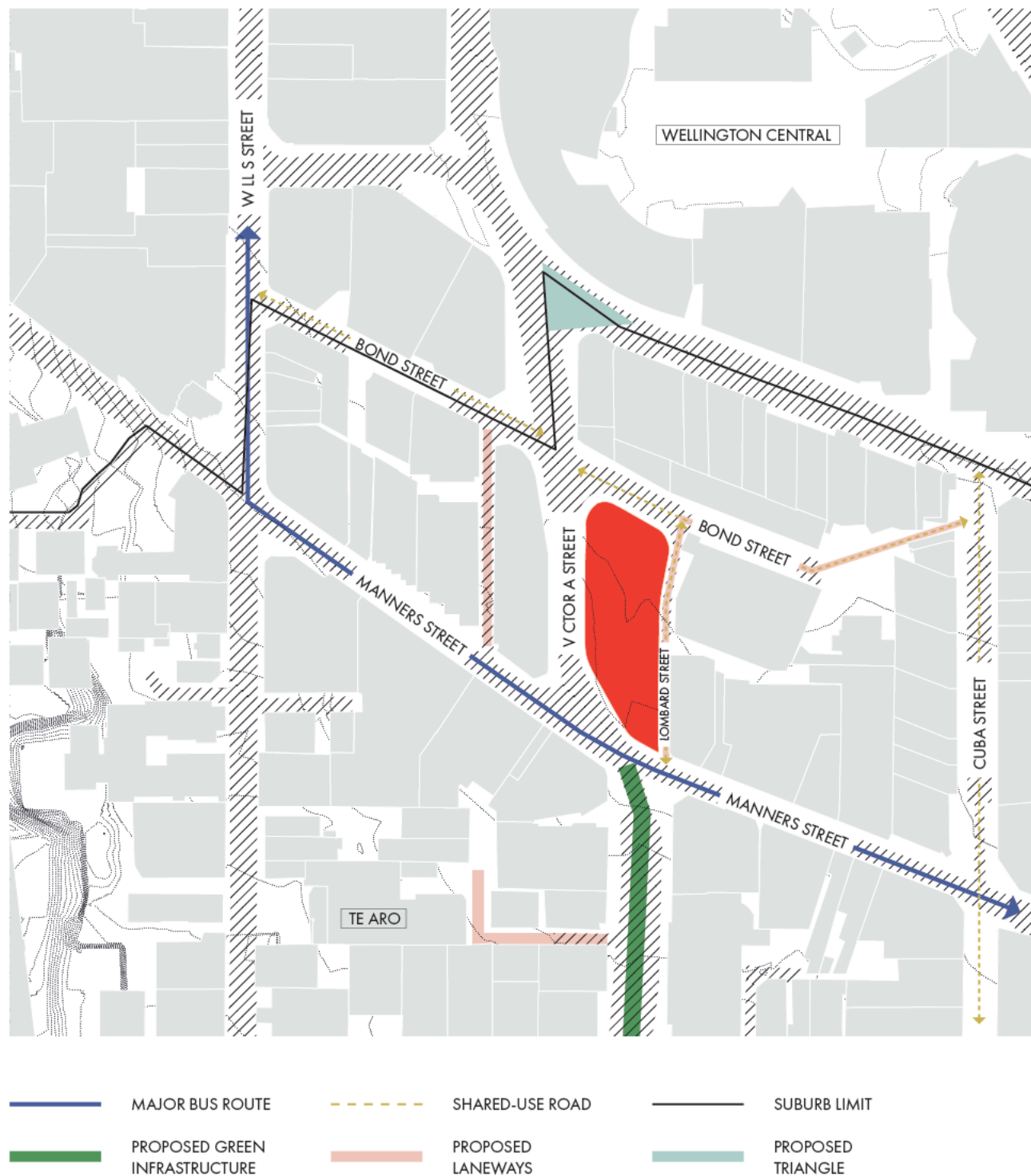


Figure 2.23 Contextual site plan diagram highlighting the site (in red) and the surrounding streets, built fabric and proposed development as part of the Wellington City Council initiative WGTN2040.

## The Facts + The Future

The test site located at 95 — 115 Victoria Street, Te Aro, Wellington, is a city block grouping 11 titles and measuring approximately 1600m<sup>2</sup>. Wellington City Council's District Plan enforces a height restriction of 75m. A well-known site on the cusp of Wellington Central's 'high city', it is bounded by roads on all four sides: the major intersection of Victoria and Manners Streets, and the quieter service and pedestrian link of Bond Street and Lombard Lane (see figs. 2.21, 2.22, 2.23 and 2.24).

A major driver of site selection was the identification of Victoria Street as a key focus area in the WGTN2040 framework. Within this detailed spatial structure plan for the central city, Wellington City Council highlights the improvement of laneway links, the upgrading of existing urban parks, the redevelopment of strategic triangular spaces and the incorporation of green infrastructure across the city's open space network. Victoria Street's important role as a link road is emphasised and the potential for residential development along it is to be encouraged.

## An Urban Island

The site is on slightly sloped land, in the shape of a tapered lozenge that runs length ways north-south. This provides the opportunity to achieve east and/or west aspects to the apartments. The block is an 'urban island', a small portion of the city surrounded by streets but not split by any other routes (except for the possible introduction of pedestrian paths). As an element of urbanism, the small-ness of this block — its form and character — can act as a strategic tool to develop relationships between the city and its urban fabric (Ternero 337).

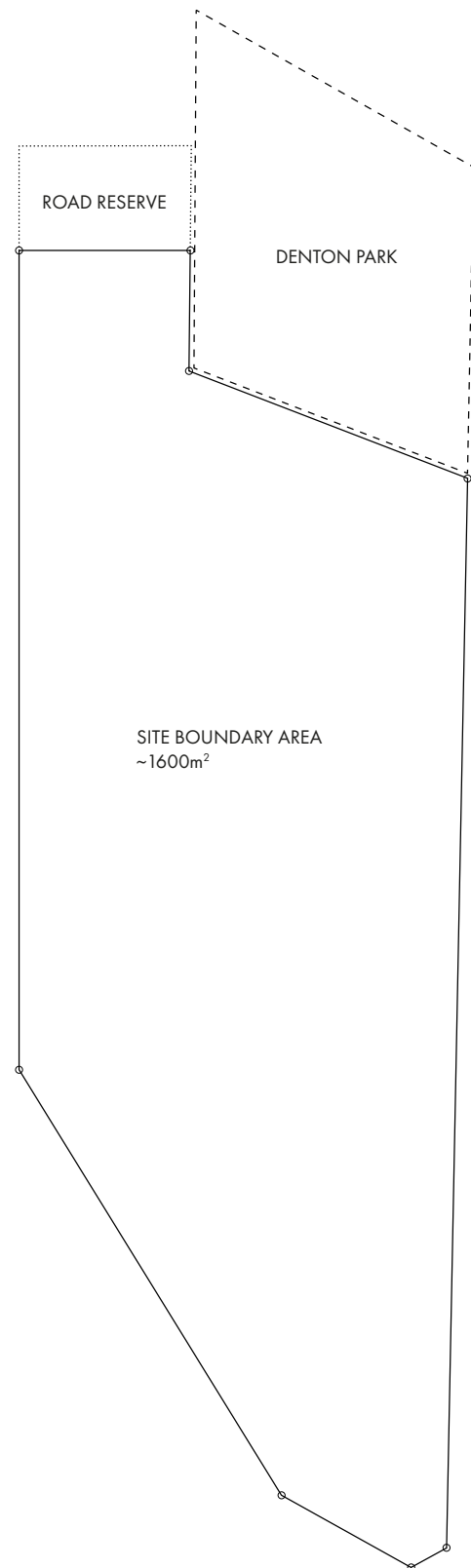
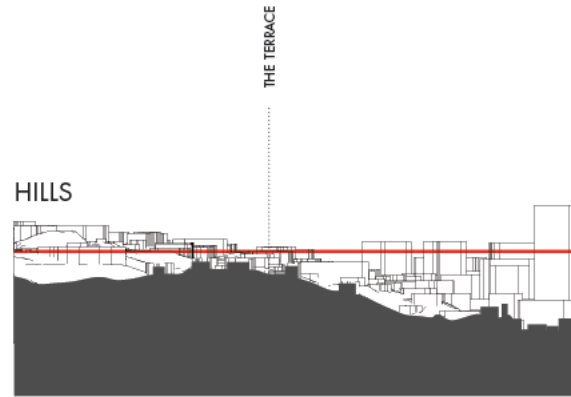


Figure 2.24 Site boundary diagram. Scale 1:400.



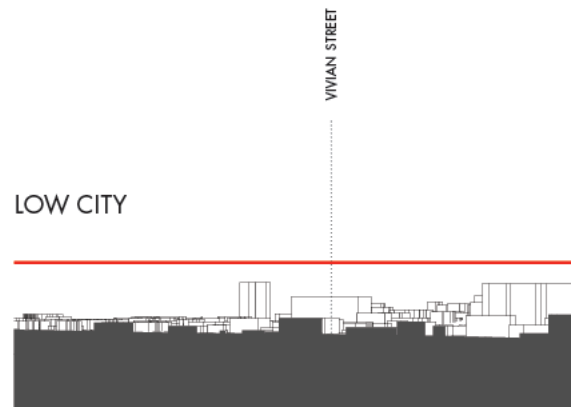






KELBURN

SECTION A / EAST – WEST



TE ARO

SECTION B / NORTH – SOUTH





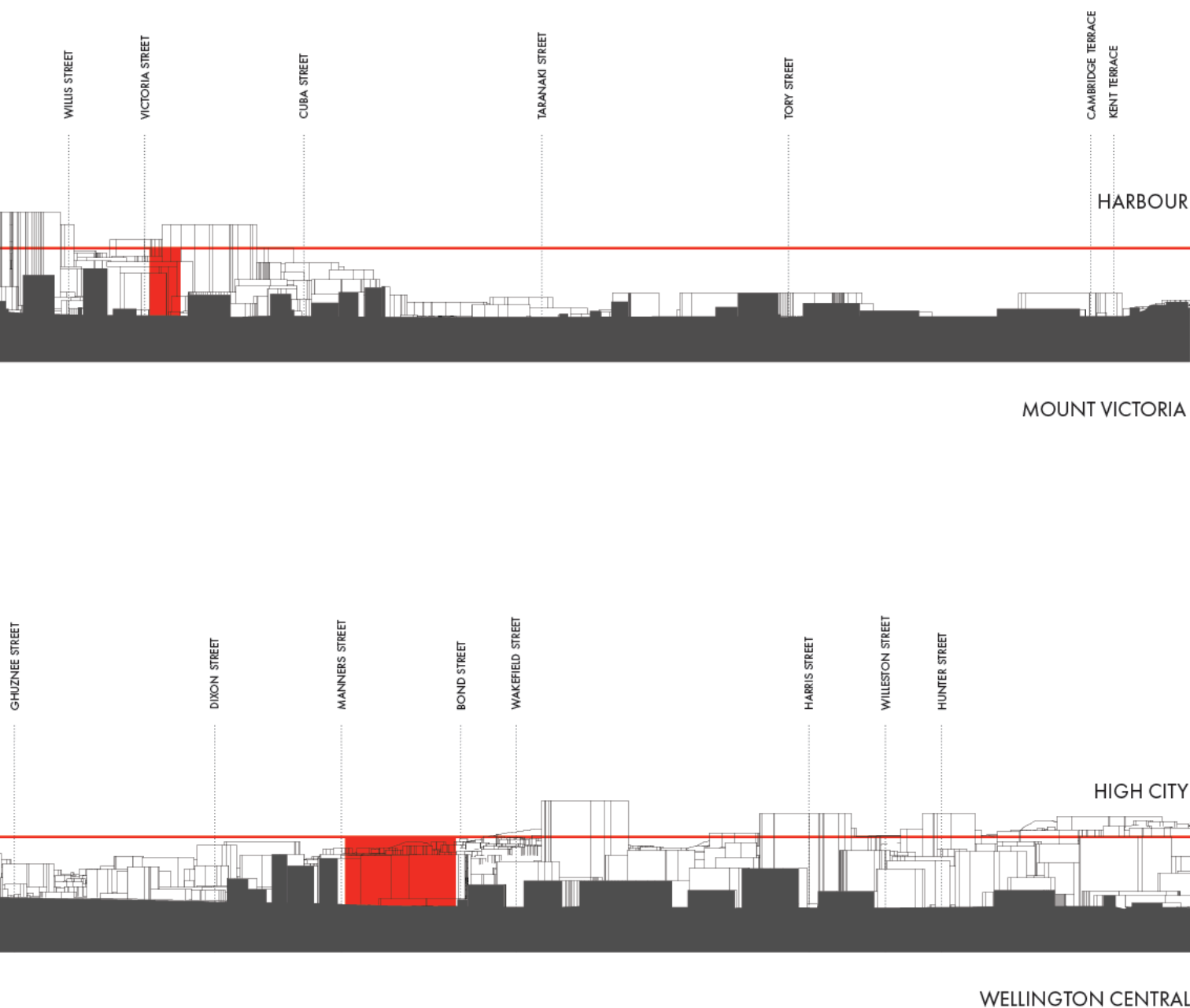


Figure 2.27 Sectional diagrams across the city in both orientations. The site is highlighted in red and the 75m building height restriction is indicated with a red line across the city.

## A Network of Lanes

The site is connected to the network of small streets that link parts of Te Aro and between Lambton Quay and The Terrace. Identified in the WGTN2040 framework, there is scope for Wellington's small streets to create a network of distinctive, attractive, safe, pedestrian-friendly and active lanes.

Laneway regeneration is viable for retail, hospitality, residential and service industry development and over time, can create their own distinctive character. Its success is reliant on both public and private commitment. Contributing to this network will be necessary, enhancing connections between Cuba Street, through Cornhill Street, to Lombard Lane, across Victoria and Manners Streets to Edward Street.

## A Serviced Site

The site is in close proximity to a diverse range of urban amenities accessible for daily, weekly and monthly use. These serve as a useful lens through which the site's suitability was evaluated along with findings from Wellington City Council's *Central City Apartment Dwellers Survey* that indicate that a clear majority of apartment residents who work in the central city:

- Walk to work (73%)
- Shop in the central city (78%)
- Use recreational facilities and services (96%)
- Frequently visit urban parks within 5–10 minutes walk.

This highlights several opportunities to encourage sustainable lifestyles and living in urban higher-density housing (3).

The site's location enables participation in the city; Wellington is considered one of the most liveable and safest cities in the world, and is rumoured to have more places to eat and drink per capita than New York. The site is near to a range of education providers, health and wellbeing facilities, and social, leisure and arts venues, all of which contribute to a varied, lively and connected urban area (see fig. 2.28).

*Figure 2.28* (Opposite) Zoomed in aerial view of the site and its surrounds to illustrate the close proximity to a variety of amenities. The diameter of the red circles indicate the time taken to access the amenities on foot.









Figure 2.29 Aerial photo of the site (in red) with surrounding building footprints overlaid. Numbers that refer to photographs in Figure 2.30 are noted.



1 SOUTH ALONG VICTORIA STREET  
SITE EDGE FROM BOND STREET



2 WEST FROM LOMBARD STREET  
TOWARDS MAJESTIC CENTRE



3 SOUTH FROM CORNER OF BOND  
AND VICTORIA STREETS



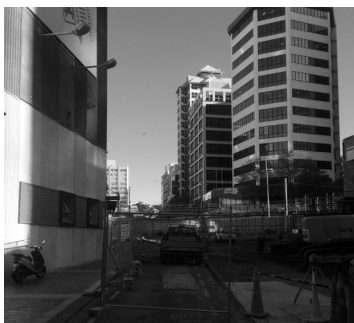
4 NORTH DOWN VICTORIA STREET  
WITH TELECOM TOWER ON LEFT



5 NORTH TOWARDS SITE FROM  
EDWARD STREET PEDESTRIAN LINK



6 SOUTH AT INTERSECTION OF  
VICTORIA AND MANNERS STREET



7 SOUTH ALONG LOMBARD STREET  
FROM BOND STREET



8 CORNHILL STREET TOWARDS SITE  
BLOCKED BY LOMBARD CARPARK



9 CORNHILL STREET SERVICE ACCESS  
OUT TO LOMBARD STREET

Figure 2.30 Matrix of photographs taken of and around the site. The location and view of each photograph is marked in Figure 2.29. Note, the site is seen under construction throughout the documentation.

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# Housing: A Wish List

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Objective criteria to measure the quality and success of the strategies investigated in this research were established and applied throughout their development. *Housing: A Wish List* takes its inspiration from Alison and Peter Smithson's 32-point "Criteria for Mass Housing" (1957) (see fig. 2.31), Cedric Price's "Housing Research" (1971) (see fig. 2.32) as well as from contemporary documents by Lacaton and Vassal and Hilary Sample (393-394).

Mass Housing, as defined by the Smithson's, applies to:

“ ... all dwellings not built to the special order of an individual: houses over which the occupier has no control other than that he has chosen or has been chosen to live there: houses for which, therefore the architect has a peculiar responsibility. ”  
(393)

While criteria, like the Smithson's, have been criticised for the contradiction between intellectual speculation and the experience of built projects, they are useful by setting a benchmark with which to guide and test the decision-making process required to think critically about urban living. *Housing: A Wish List* responds to observed criticisms and problems of higher-density housing in New Zealand and establishes a set of spatial conditions that act to transform existing norms, foster interconnectedness and support a positive perception of higher-density built environments.

## DO WE ALL NEED TO LIVE IN SINGLE-DETACHED HOUSES?

## COULD WE BENEFIT FROM COMMUNITY ENGAGEMENT?

Such questions can spark the powerful potential to begin to re-think the social and ecological opportunities embodied in the way we dwell, and attempt to assist in developing the apartment typology to meet the values we ascribe to in our current living conditions.

Figure 2.31 (Opposite) Alison and Peter Smithson's *Criteria for Mass Housing*; a manifesto devised in 1957 for Team X, first published 1957, revised 1959, and re-published in *Architectural Design*, September 1967.

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author of this thesis for copyright reasons*

*Figure 2.32* Cedric Price's *Housing Research*, originally published in a supplement of *Architecture Design* in 1971 investigated "the good life" within the domestic environment. According to Price, housing should foster the desire for better living rather than include limitations or restrictions.



Such principles attempt to deal with contemporary urban conditions and explore optimal ways to live in the city through quality of housing and quality of life. This raises the question: how do we measure this?

## QUALITY OF HOUSING BASED ON

- Well-being, comfort and pleasure
- Variety of spaces and atmospheres

## QUALITY OF LIFE BASED ON

- A large range of facilities
- Proximities and pleasures
- High quality of liveable space

The qualities above stand independent of what is normalised by legislative standards, calculations or models but respond to a set of “Must Haves” summarised in a 2011 report by the Centre for Housing Research Aotearoa New Zealand. The report outlined 29 key attributes, ten of which were prioritised as features necessary, if not sufficient, to apply to policies, plans, designs, and developments of higher density dwellings (x-xii).

## MUST HAVES

### ACCESSIBILITY

Provide high level of access to local services and good connectivity to other parts of the city.

### CAPACITY

Dwellings should be of sufficient size and capacity to provide adequate space, including storage, and allow for flexibility.

### SAFETY AND SECURITY

Treat safety and security as drivers of the design across scales; the neighbourhood, the complex, the dwellings.

### DWELLING SIZE AND LAYOUT

Be modern in design with a layout that allows for some personalisation supported by private outdoor space.

### DISTRIBUTION AND DIVERSITY

Recognise the desirability of introducing a variety of housing types across the city.

### SCALE OF DEVELOPMENT

Limit the scale of individual development and the local density of multiple developments.

### NEIGHBOURHOOD AMENITIES

Favour areas within a range of nearby community and commercial amenities, or where there is a commitment to the provision of such amenities.

### COMFORT

Layout and treatment of internal and external walls, windows and materials to contribute to adequate natural light, ventilation, thermal and aural insulation.

### URBAN LANDSCAPE

Focus on the character and quality of residences, green spaces and the associated urban landscape.

### QUALITY

Maintain integrity of structure and materials capacity to provide adequate space, including storage, and allow for flexibility.



# If housing, then...

Extend public realm and create a positive interface.

Allow for a diverse programme.

Provide recreation and garden areas.

Consider the scale of the building and the scale of the city simultaneously.

Provide shared amenities for all residents.

Provide a hierarchy of additional and occasionally used common programme at variable scales.

Reconfigure the party wall.

Enable wandering through the arrangement of common circulation areas.

Provide visual, acoustic and physical separation and connection to neighbours.

Provide equitable levels of comfort to all dwellings.

Allow for flexible planning within dwellings.

Provide dwelling diversity for demographic diversity.

Provide interiors that are not isolated from the exterior.



# 03

## A Brief Overview

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AN OUTLINE

THE DESIGN IMAGES



## An Outline

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95 Victoria Street explores the spatial conditions of an extremely condensed urban block, primarily through the relationships between the configuration of programme and the unexpected mixing of functions.

The building ranges from two to nine-storeys high and includes 50 apartments, varying from studios to four bedrooms. Each apartment is based on a 3.6 x 3.6m grid, some across multiple levels. Instead of the emphasis on measure, the design focuses on the greater qualities of the dwelling, the inclusion of adjacent shared spaces in which diverse activities can occur, and the potential of the apartment building to find new ways to shape and share space while maintaining a balance between community and privacy. Most apartments have a loggia, sometimes linked with neighbours to provide increased outdoor amenity. The larger of the apartments have a close connection to the street, interacting at the ground level with the activity of the city.

The design emphasises a “domesticated publicness” (Donald 324) — domesticity at the intersection of different scales, and connections. It blurs the lines between public, private, and common; between what is yours and what is your neighbours, with a focus on communal areas to find a balance between radical communality and solemn segregation.

The remaining programme within 95 Victoria Street accommodates an assortment of social, commercial, and office usage including a pool, gym, space for health and well-being practitioners, hospitality, retail, small business and co-working spaces. They are not restricted spaces; there is a degree of freedom and flexibility in their function and are, in places, able linked into the dwellings.

The circulation is split into a direct route, and a more meandering, public path providing access to the building for both the resident and the pedestrian. The circulation is dominant on the north-eastern facade of the building, forming a bend around the building and overlooking the elevated ground plane. Publicly accessible space is spread throughout the building, from the community garden on the second floor, to a roof garden on the seventh floor that looks towards the city and harbour.

- KEY
- 1 95 VICTORIA STREET
  - 2 LOMBARD STREET LANEWAY
  - 3 TELECOM TOWERS
  - 4 BUS STOP
  - 5 CIVIC CENTRE
  - 6 PEDESTRIAN THOROUGHFARE

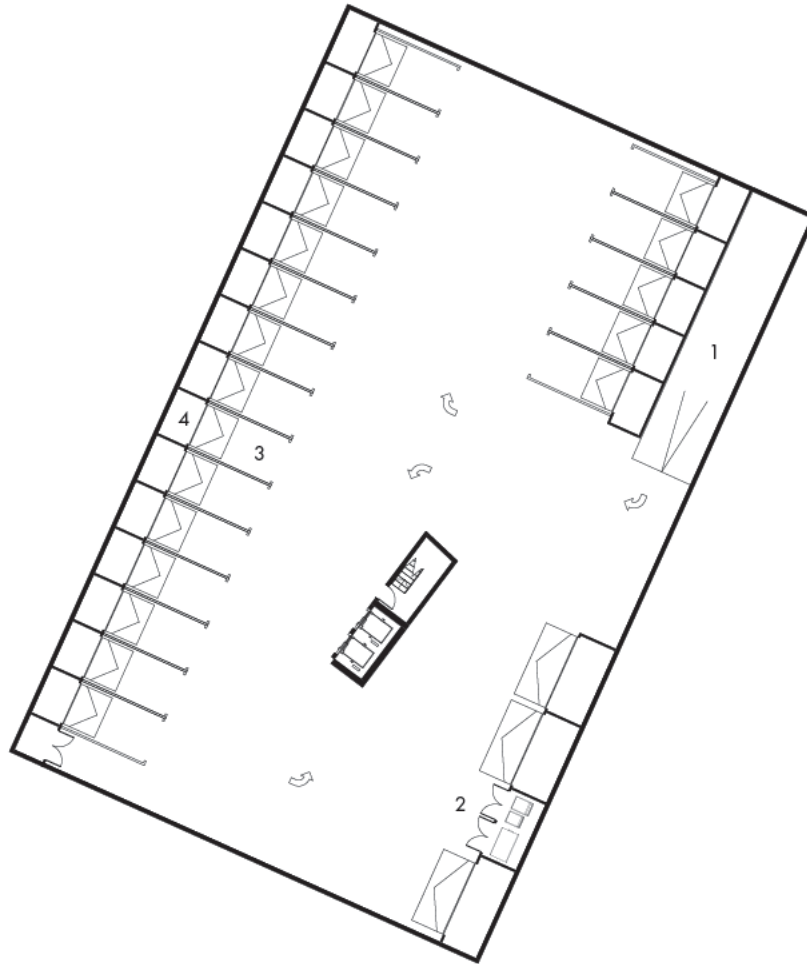


0 5 10 20 50 METERS

Figure 3.1 Site plan of 95 Victoria Street.







KEY

- 1 BASEMENT VEHICLE ACCESS RAMP
- 2 RUBBISH FACILITIES
- 3 CAR PARKS
- 4 STORAGE
- 5 COMMERCIAL TENANCY
- 6 OFFICE TENANCY
- 7 CAFE
- 8 HOUSING— TOWNHOUSE APARTMENTS

0 1 2 4 8 10 METERS

Figure 3.2 Basement floor plan of 95 Victoria Street.

Figure 3.3 (Opposite) Ground floor plan of 95 Victoria Street.



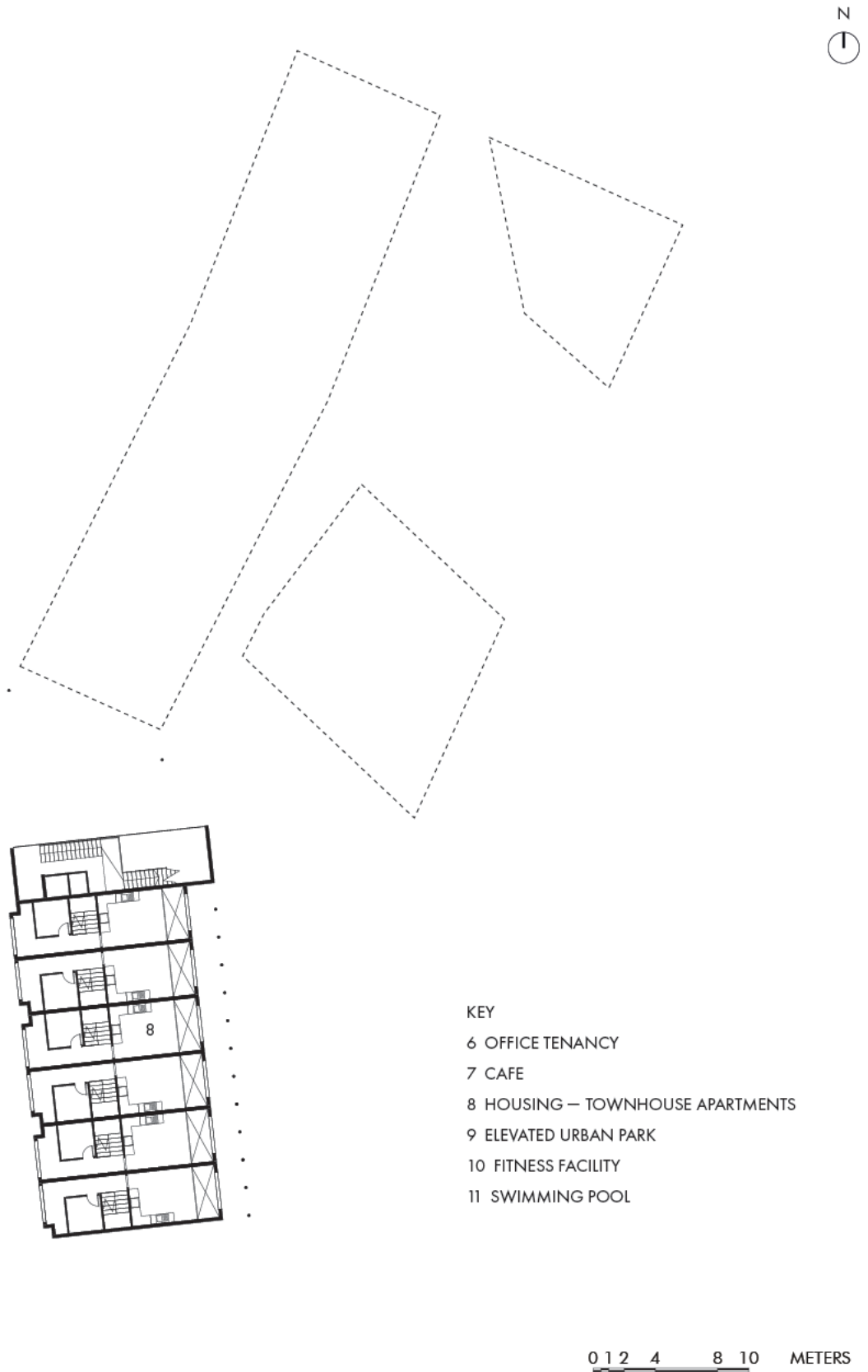
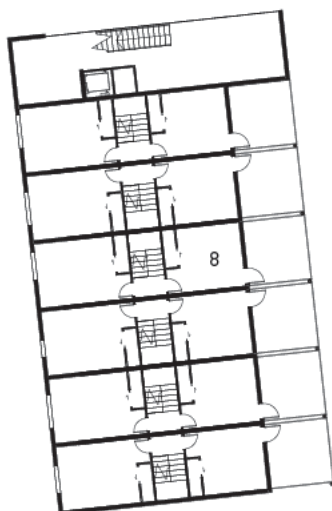
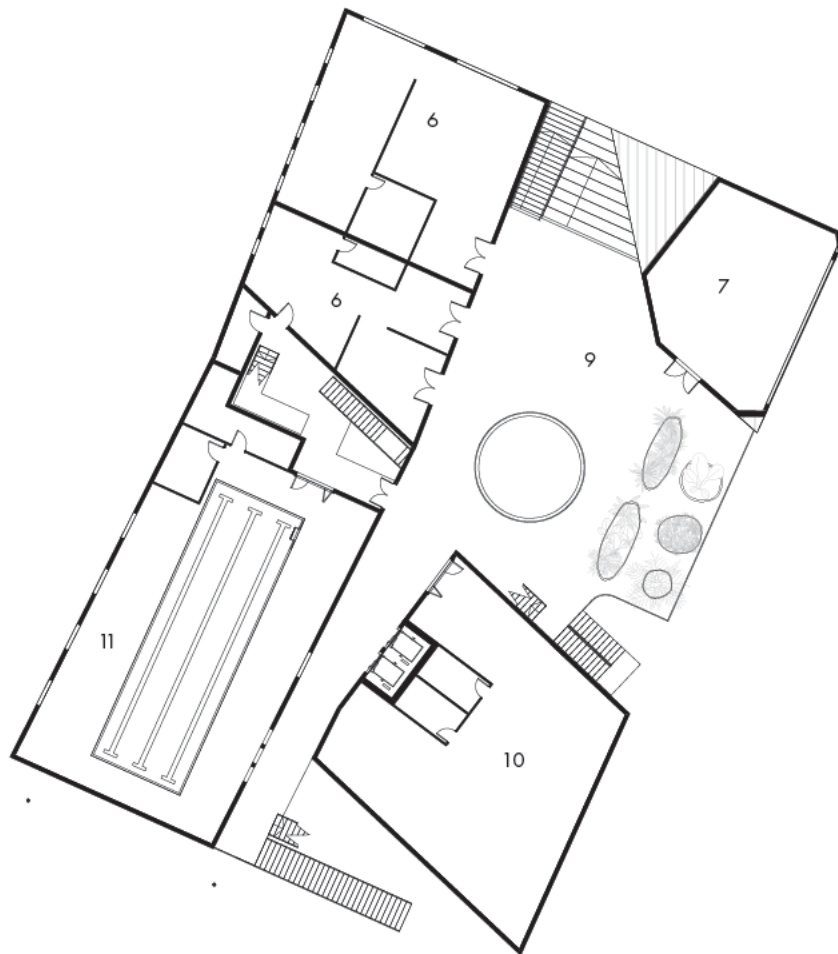


Figure 3.4 Townhouse second floor plan of 95 Victoria Street.

Figure 3.5 (Opposite) Second floor plan of 95 Victoria Street.



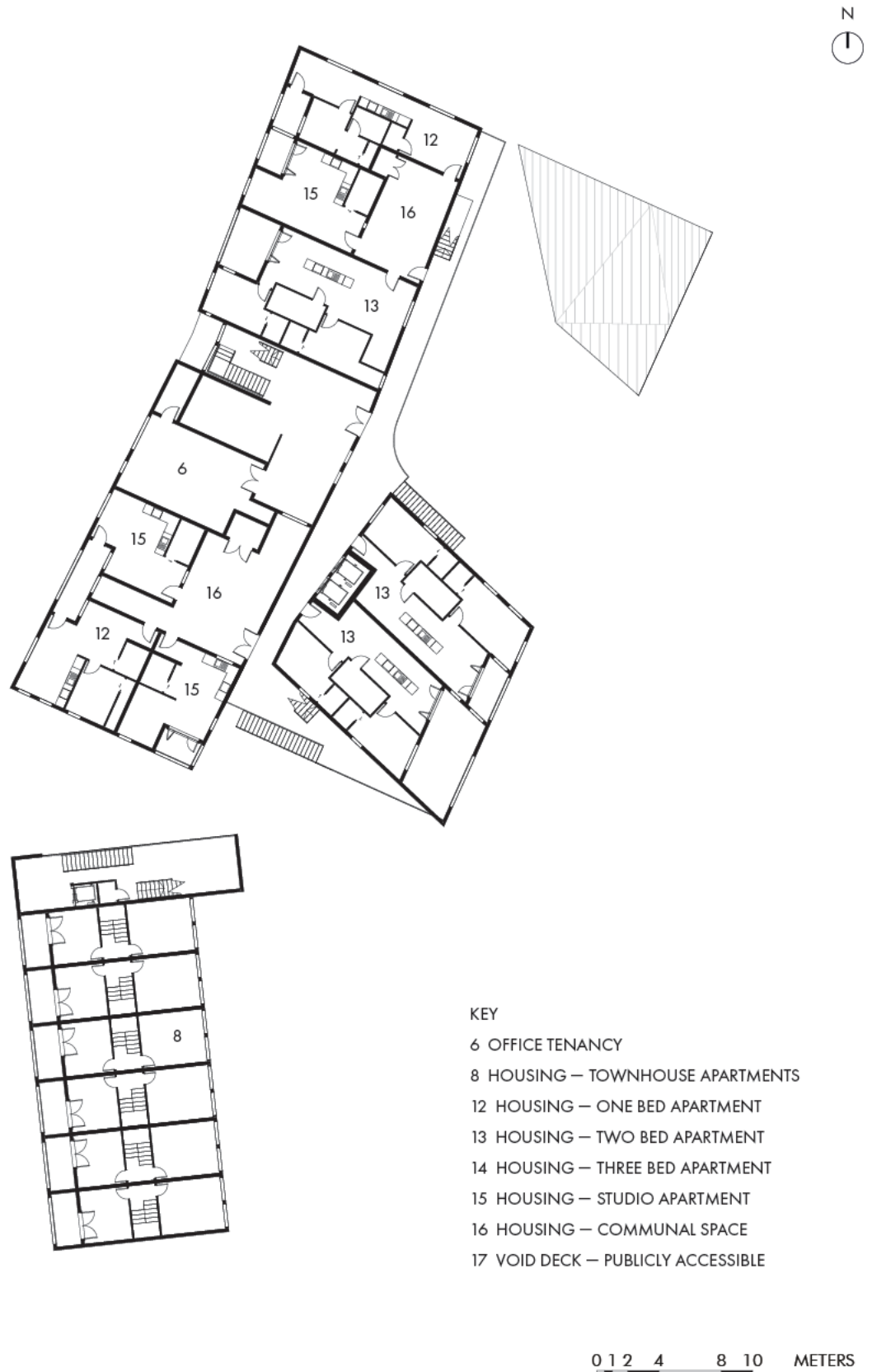
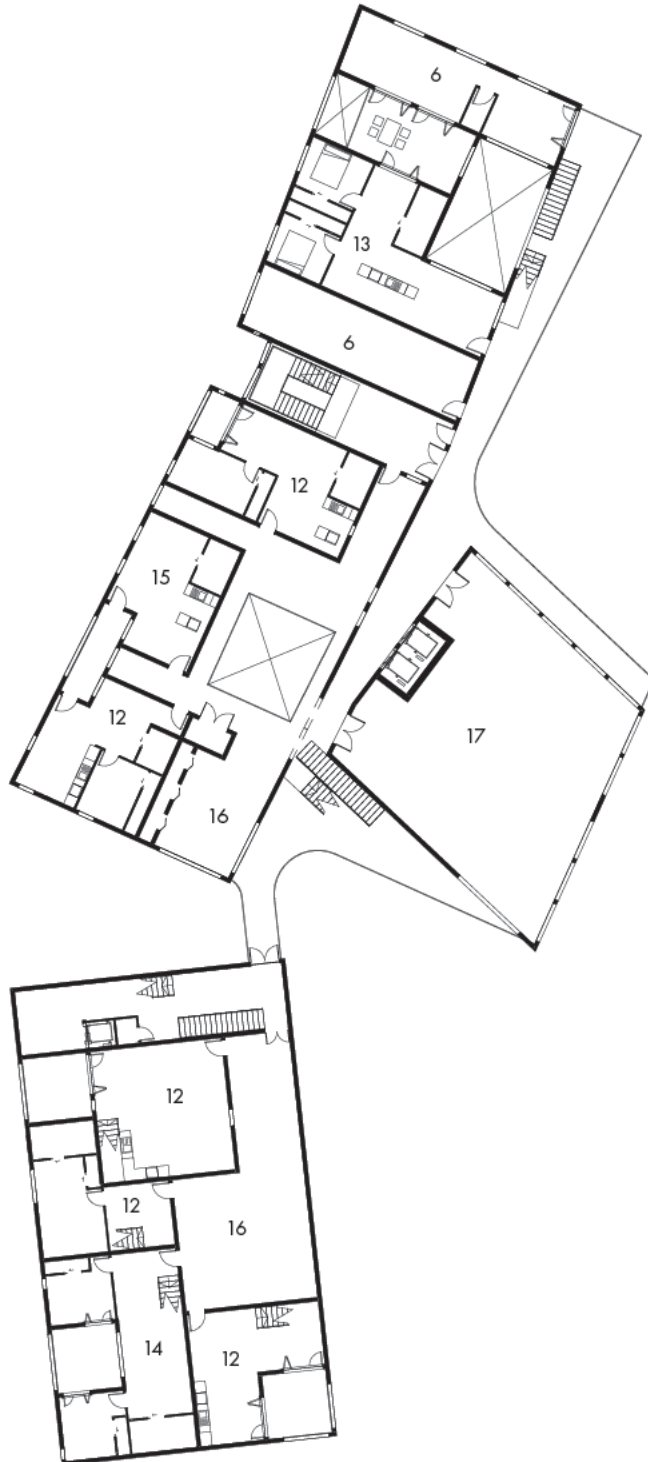


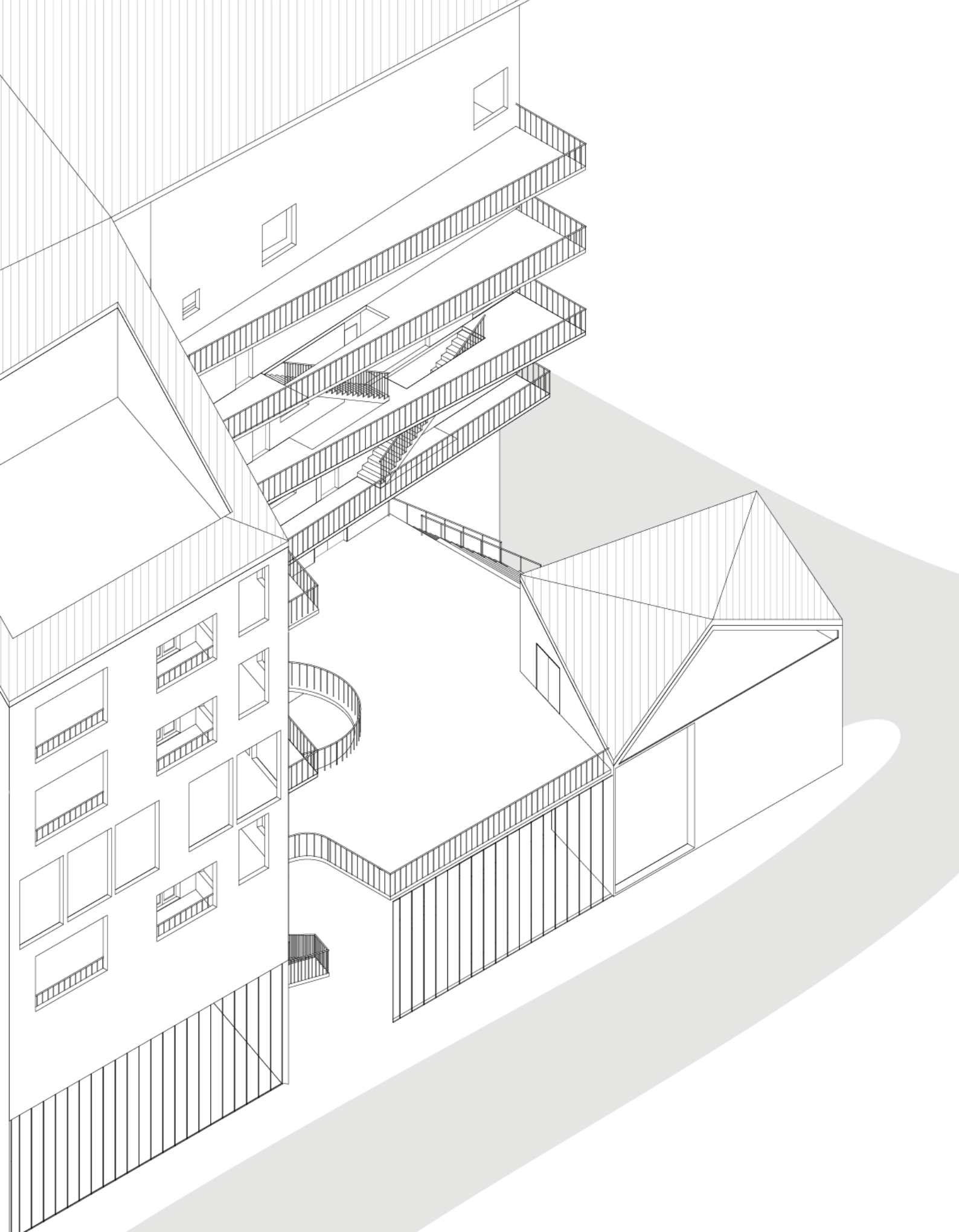
Figure 3.6 Third floor plan of 95 Victoria Street.

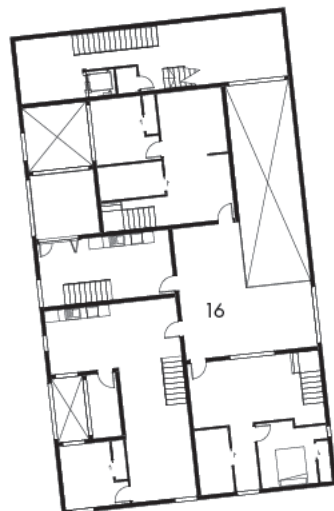
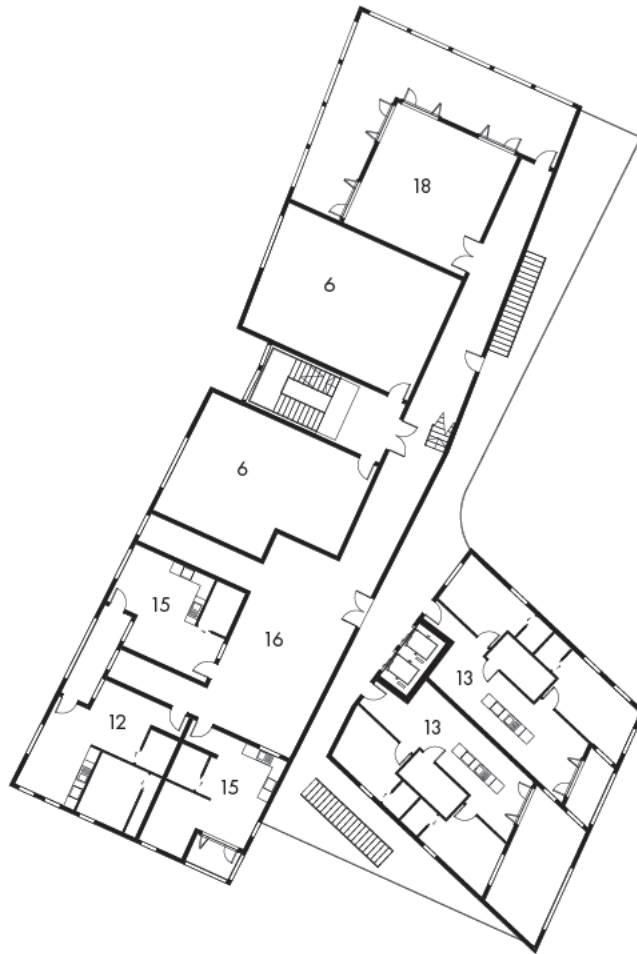
Figure 3.7 (Opposite) Fourth floor plan of 95 Victoria Street.



*Figure 3.8* Axonometric from Lombard Street looking towards the elevated urban park and public roof terrace.







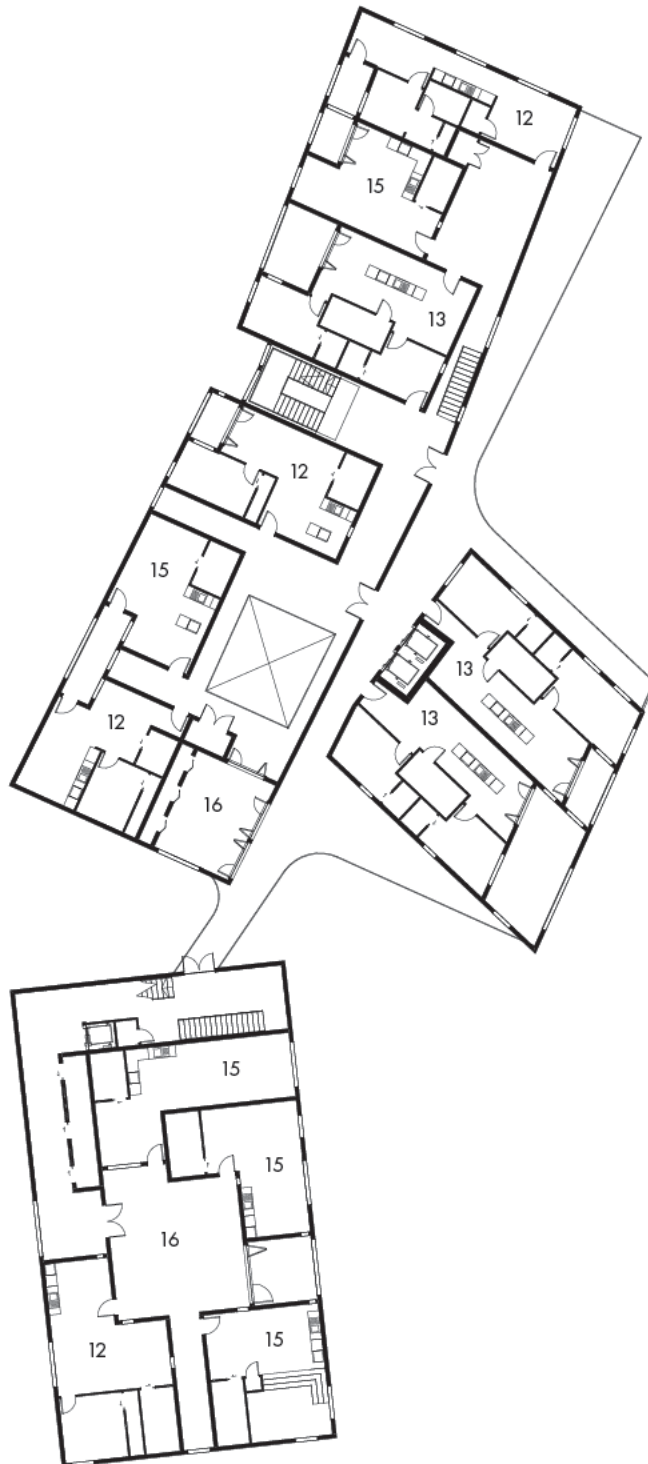
KEY

- 6 OFFICE TENANCY
- 12 HOUSING – ONE BED APARTMENT
- 13 HOUSING – TWO BED APARTMENT
- 15 HOUSING – STUDIO APARTMENT
- 16 HOUSING – COMMUNAL SPACE
- 18 COMMUNAL LAUNDRY + DECK

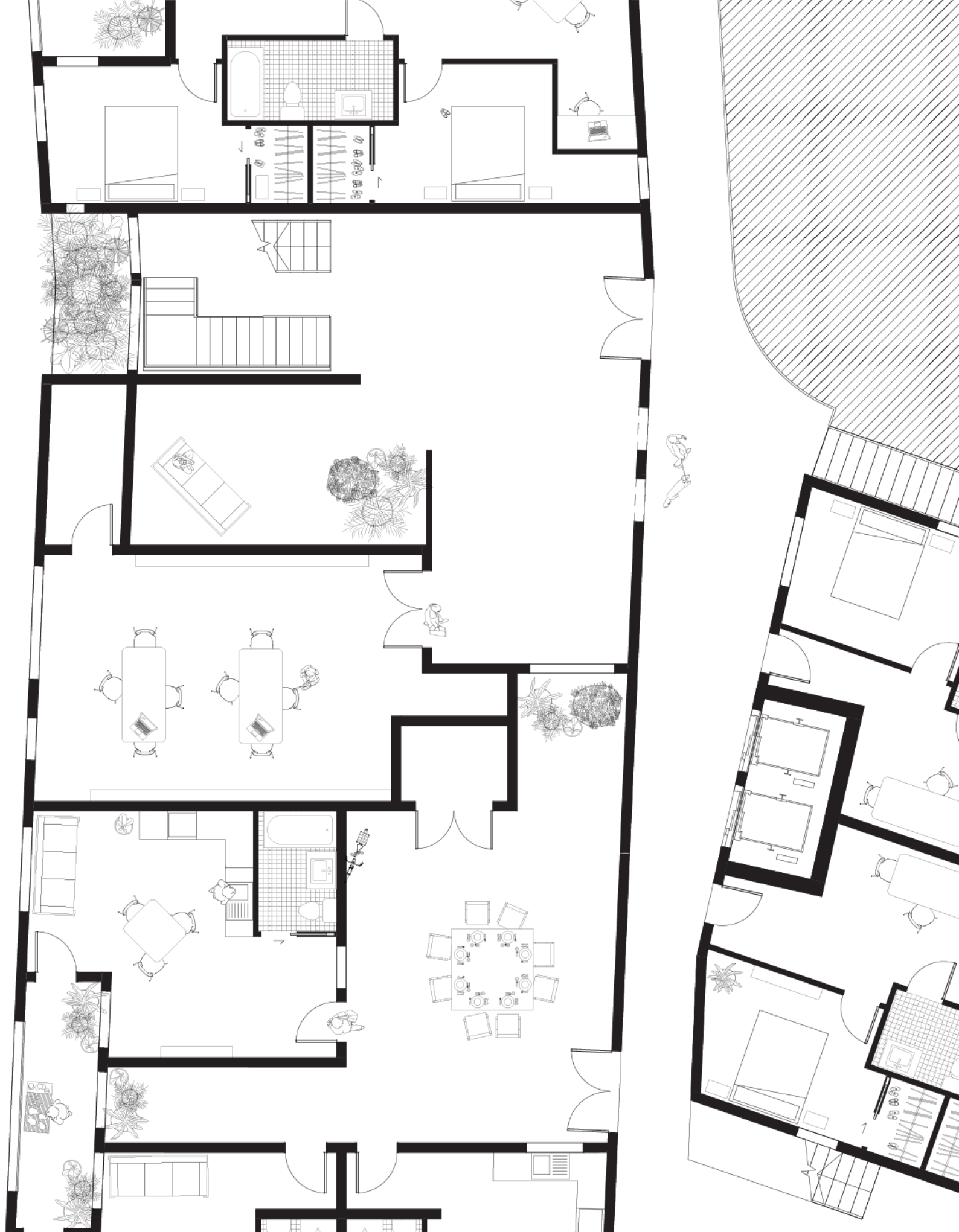
0 1 2 4 8 10 METERS

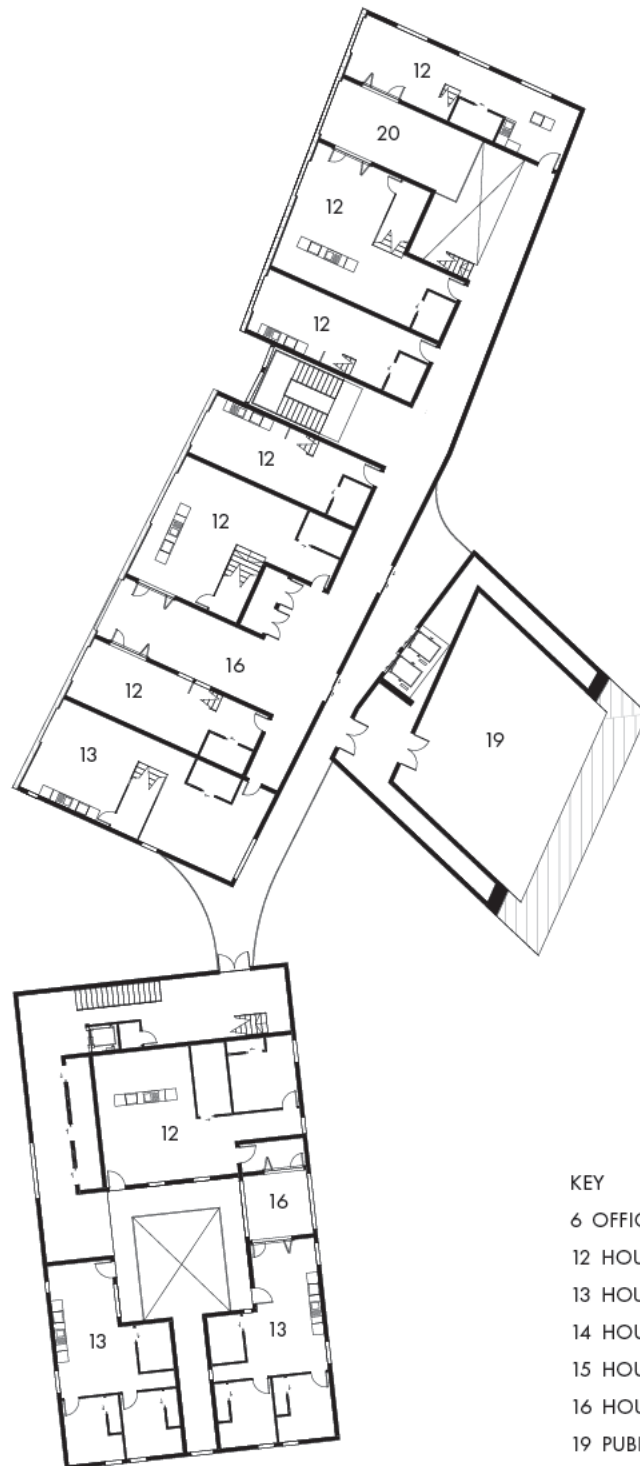
Figure 3.9 Fifth floor plan of 95 Victoria Street.

Figure 3.10 (Opposite) Sixth floor plan of 95 Victoria Street.



*Figure 3.11* Occupied third floor plan showing communal space and the relationship between dwellings.  
Scale: 1:100



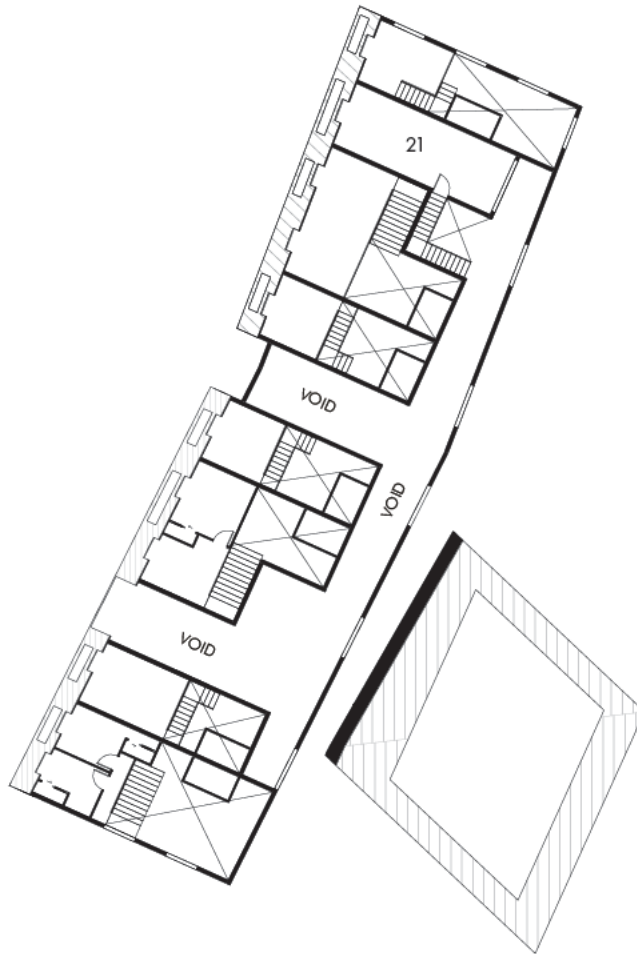


- KEY
- 6 OFFICE TENANCY
  - 12 HOUSING — ONE BED APARTMENT
  - 13 HOUSING — TWO BED APARTMENT
  - 14 HOUSING — THREE BED APARTMENT
  - 15 HOUSING — STUDIO APARTMENT
  - 16 HOUSING — COMMUNAL SPACE
  - 19 PUBLIC ROOF TERRACE
  - 20 HOUSING — SHARED OUTDOOR SPACE
  - 21 ARTIST STUDIO

0 1 2 4 8 10 METERS

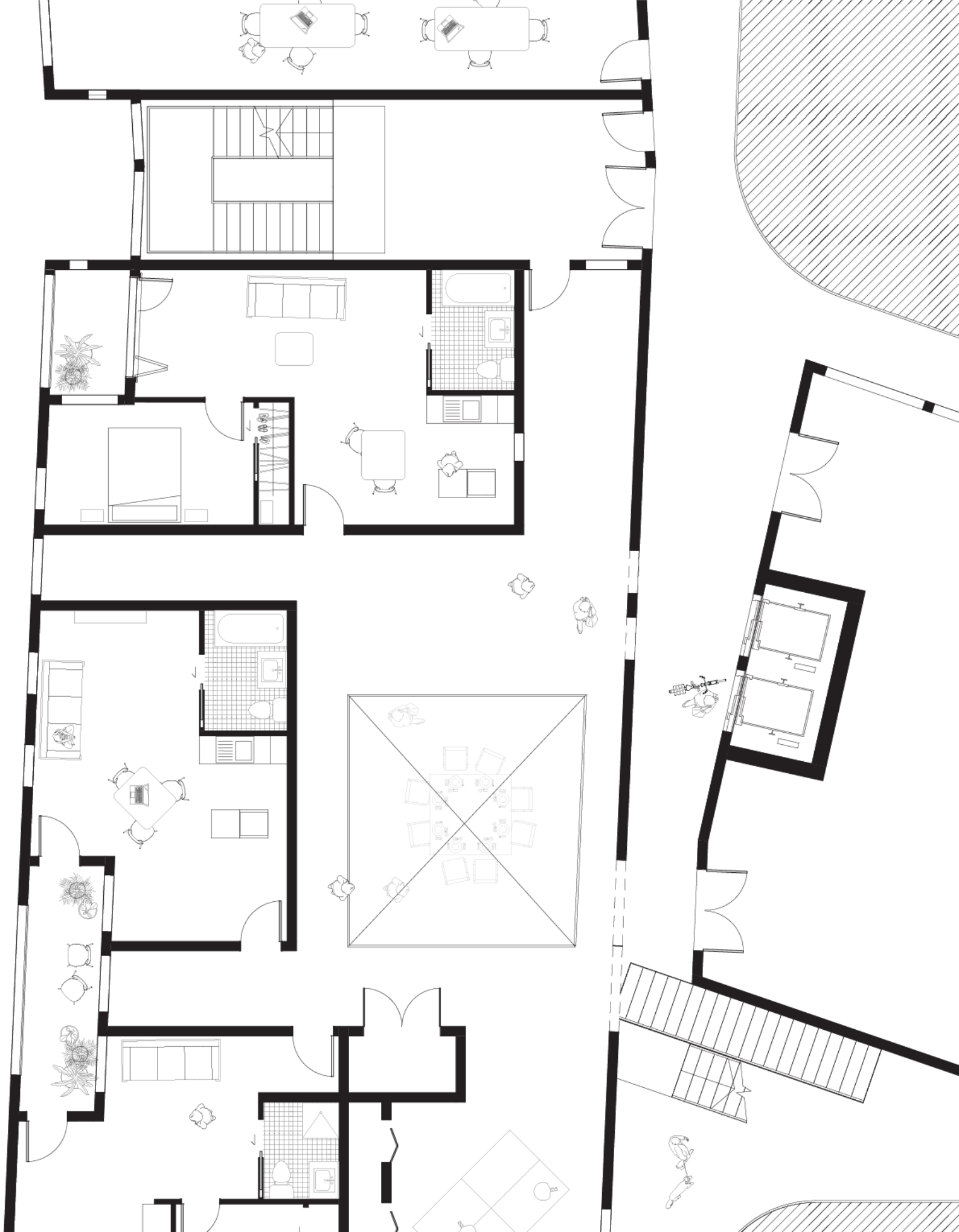
Figure 3.12 Seventh floor plan of 95 Victoria Street.

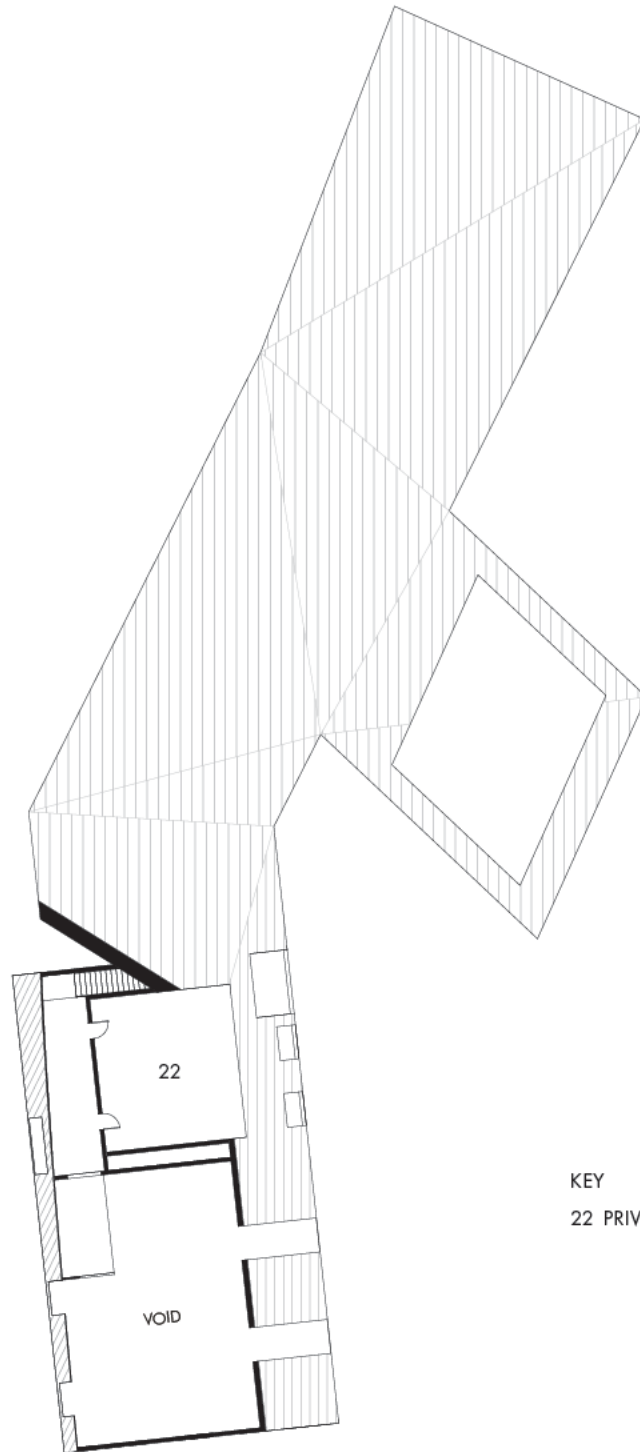
Figure 3.13 (Opposite) Eighth floor plan of 95 Victoria Street.



*Figure 3.14* Occupied fourth floor plan showing shared access and the void to the communal space below.  
Scale: 1:100





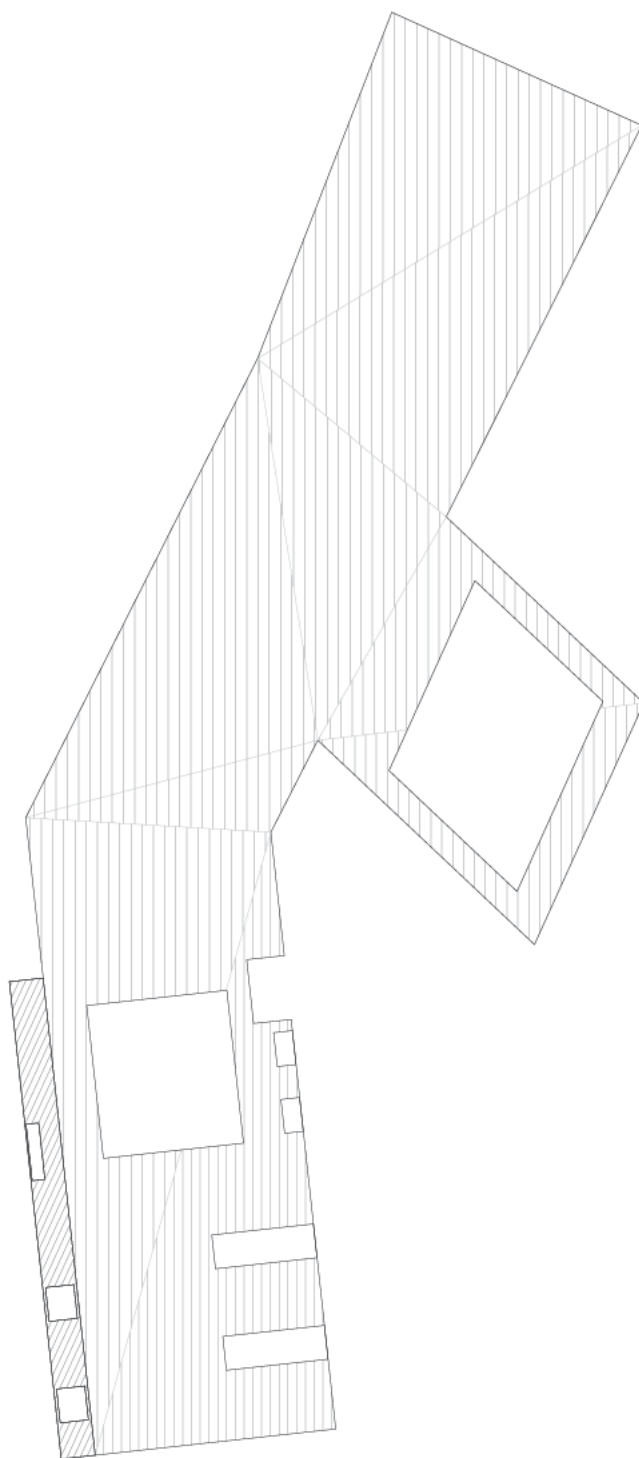


KEY  
22 PRIVATE ROOF TERRACE

0 1 2 4 8 10 METERS

Figure 3.15 Ninth floor plan of 95 Victoria Street.

Figure 3.16 (Opposite) Roof plan of 95 Victoria Street.



0 1 2 4 8 10 METERS

“ ... the architectural type of the hybrid building deserves reconsideration because it (re)defines and expresses the relation between architecture and the city in a very specific manner. ”

(Komossa 30)

# 04

## Hybrid

The hybrid is investigated as a response to new models of higher density living, working and participating in the city. It explores a new urban typology that allows both proximity and separation of activities and celebrates the unplanned situations. The potential of the hybrid model to encourage coexistence and to imagine the development of unexpected and unpredictable relationships is investigated at a programmatic scale.

---

A TYPOLOGY

IN THE MIX

DENSITY + AMENITY

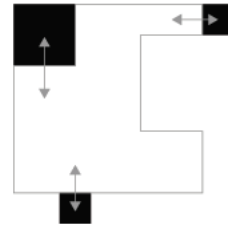
EXTENDING THE GROUND PLANE



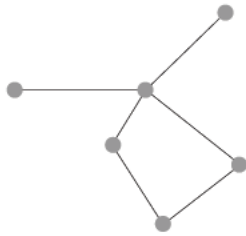
PROJECT SCALE



URBAN AREA DENSITY



URBAN RELEVANCE



URBAN CONNECTIVITY



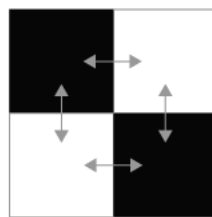
PROGRAMME DIVERSITY



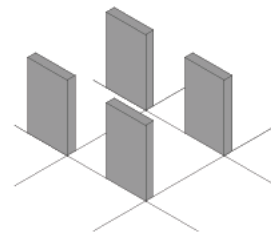
PROGRAMME SCALE



INTEGRATED PUBLIC REALM



PROGRAMME RELATIONSHIP



FLEXIBILITY

*Figure 4.1* Qualities of a hybrid building diagrams showing nine conditions that, when implemented together, are believed to result in a true hybrid building. These have been adapted from Gringhuis and Wiesner's study of a mental model in search of a true hybrid building.

# A Typology

---



**hybrid, adj.**

*Of mixed character; composed of different elements.*

Javier Mozas states that “hybrid buildings cannot be classified according to typology as the very essence of the hybrid seeks to eschew categorisation” (*This is Hybrid* 40). With this in mind, 95 Victoria Street assumes a number of characteristics and the personality of a hybrid building defined by Mozas as:

- Welcoming complexity, diversity and varied programmes
- Creating a dense environment constrained by a small city block
- Feeding off the union of public and private spheres.



When the concept of urban densification is brought up, the notion of mixed-use development comes into the picture. Mixed-use hints at a significant shift from the conventional planning and zoning model — the segregation of land based on use and function — and towards a combination of multiple functions with increased pedestrian orientation as a product of three strategies: grain, density, and permeability (Rowley).

***What is the difference between mixed-use development and a hybrid building?***

In his 1985 catalogue *Hybrid Buildings*, Joseph Fenton argued that the clear difference between mixed-use development and a hybrid building is that in the hybrid model, various programmes relate to one another and begin to share intensities (Musiatowicz).

“ The hybrid building looks for unexpected, unpredictable, intimate relationships, encourages coexistence and is aware that unplanned situations are key to its own future. ”

(Mozas 38)

Examples of combined function buildings are prevalent throughout history (for example, the house over the shop), therefore it is crucial to stress that hybrid buildings are differentiated by their scale — that of the extremely condensed urban block (Komossa). More than the grouping of separate functions, the ideal hybrid benefits from amplified public and private relationships (Mozas 39), increases the city’s density and “contributes to the public realm — horizontally as well as vertically” (Komossa 29).



Fenton states that the “hybrid type was a response to the metropolitan pressures of escalating land values and the constraint of the urban fabric” (5). His early observation studies suggest that for the hybrid building, “programme assumed a variety of forms” (6), classified into three different groups: Fabric, Graft and Monolith (7). Acknowledging that this categorisation is limited, *This is Hybrid* elaborates on the potential of hybrid buildings in the twenty-first century to offer the:

- Formation of public space
- Juxtaposition of programme
- Opportunity to live/work/recreate/socialise
- Freedom of new concepts.

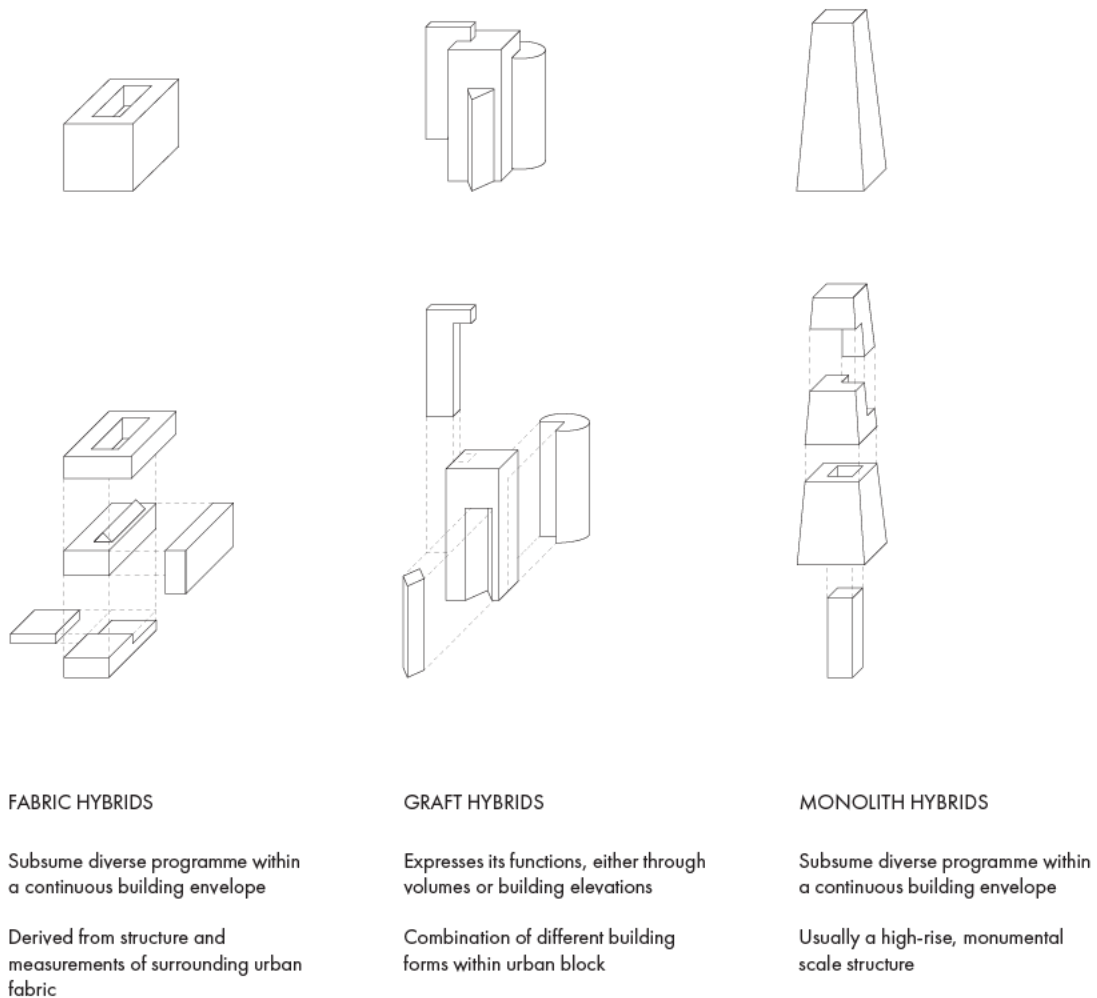
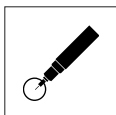
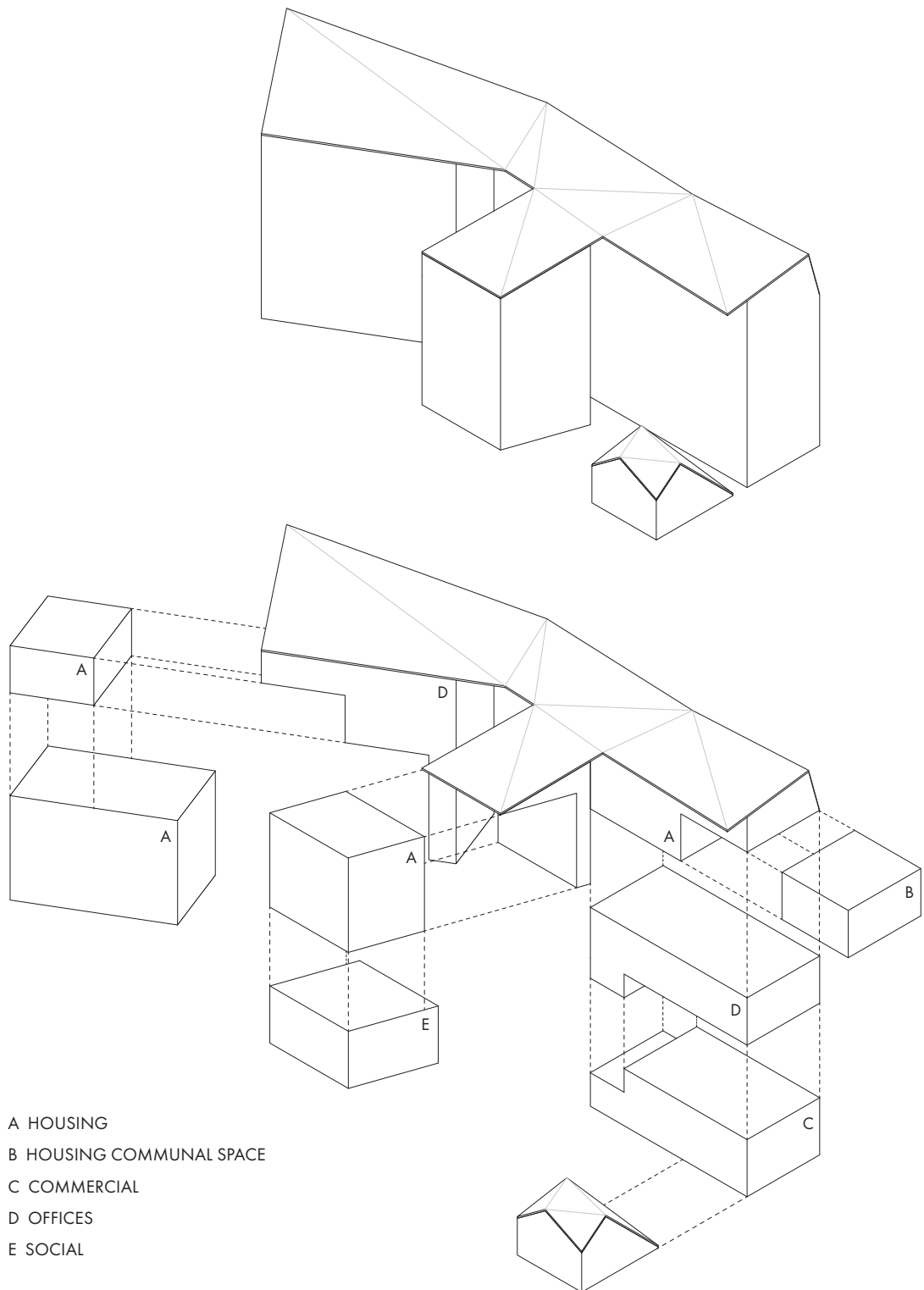
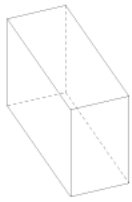


Figure 4.2 Joseph Fenton's diagrams providing a classification of hybrid buildings based on form.

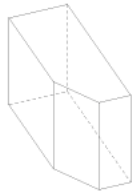




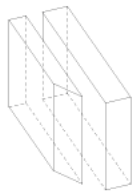
*Figure 4.3* Axonometric and exploded axonometric diagram of 95 Victoria Street showing the possible disposition of programme, overlapping and interpenetrating. Based on Joseph Fenton's classification of hybrid buildings, the building can be perceived as either a fabric or a graft hybrid. This image is referential to Figure 4.2.



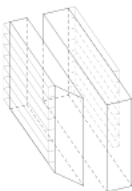
SITE MASS



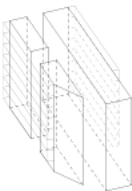
TRIM TO SITE BOUNDARY



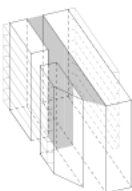
INSERT PUBLIC REALM



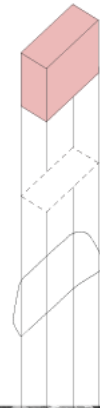
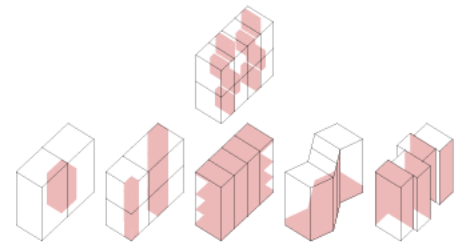
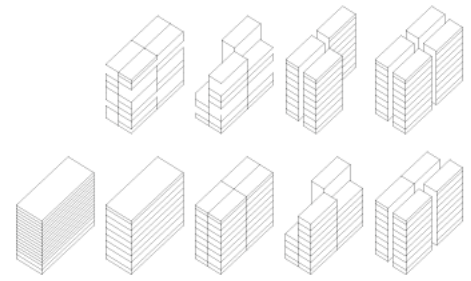
INSERT AMENITY



BREAK STREET BLOCK



EXTEND PUBLIC REALM



*Figure 4.4* Early urban form investigations through diagrams. Using maximum site coverage basic circulation and amenity were inserted as well as a break in the city block. Through this, the public realm can be extended. This move was made after observation of pedestrian movement and the scarce use of Denton Park.

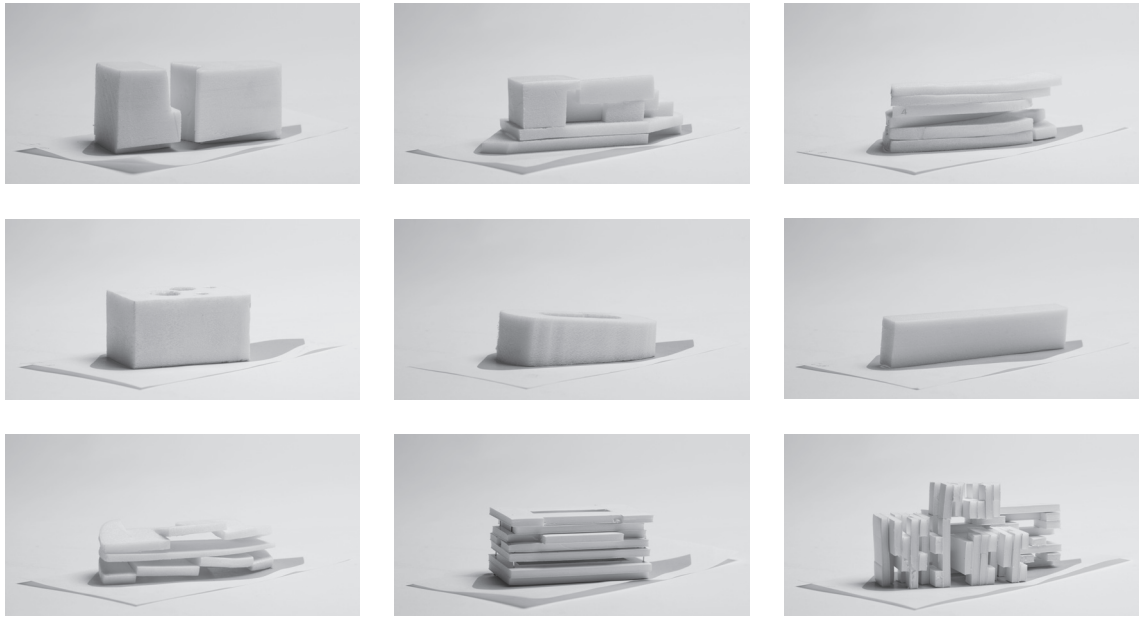


Figure 4.5 Foam and foam board massing experiments of volumes that could occupy the urban block.

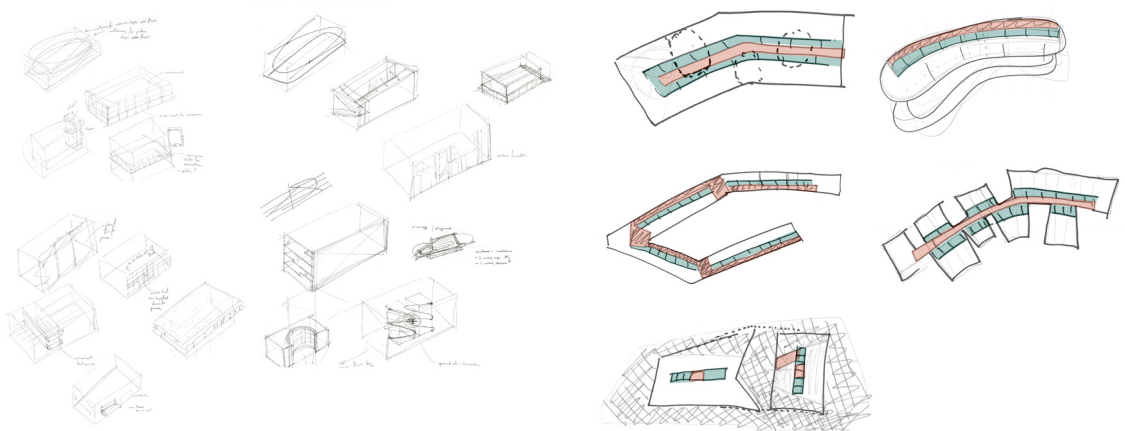
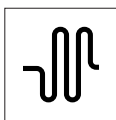


Figure 4.6 Concept sketches derived from massing experiments. These were drawn in the early design phase to explore how circulation and services could influence the configuration of space. Most take on the characteristic of a rejigged 'slab' — where programme is stacked in volumes to allow a larger proportion of the ground level to remain unbuilt.

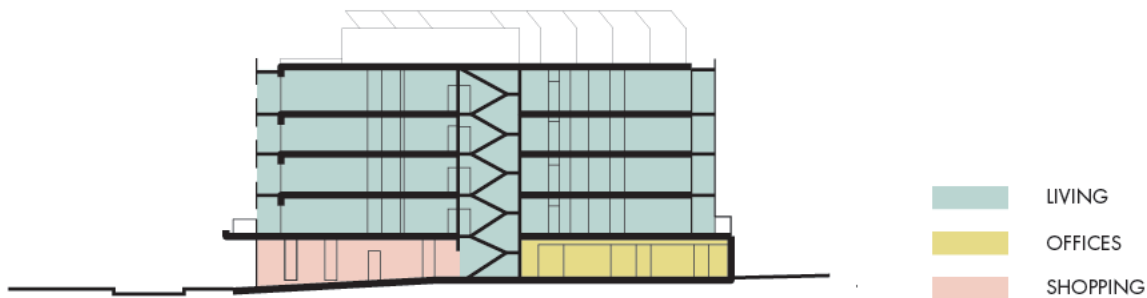


The risk with hybrid architecture is that it can result in a 'junky aesthetic'. As outlined, architectural form is not a main goal of this research and while there is an awareness that aesthetic decisions are made in the process of design research, these would need to be further resolved in design iterations which are outside of the scope of this thesis.

## CASE STUDY



The Commons, 2013. Melbourne, Australia.  
Architect: Breathe Architecture.



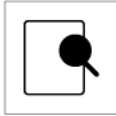
*Figure 4.7* Sectional diagram of The Commons showing the mix of programme within the apartment building. Although the publicly accessible programme is segregated and restricted to the ground floor, the mix of programme and interaction is enhanced by shared access at the street level and a glazed circulation core encouraging chance meeting.

Comparison between opportunities at 95 Victoria Street and two examples of recent mixed-use apartment buildings in Wellington and Melbourne. In The Commons and Portal, the extent of the mix discontinues above the ground floor, a common situation in our initial round of higher density. The design seeks to challenge this and in this initial concept section tests opportunities to distribute diverse programme in both horizontally and vertically.



In the attempt to deliver a desirable alternative the inner city dwelling should contain a mix of uses so that different activities can mingle. While ground floor stores stimulate street life and raise apartments above traffic flow the design uses the opportunity to speculate on how a diverse programme can be extended through the building along with public spaces to allow for the building to offer increased participation in the life of the city.

## CASE STUDY



Portal, 2003 – 2007. Wellington, New Zealand.  
Architect: Architecture +.

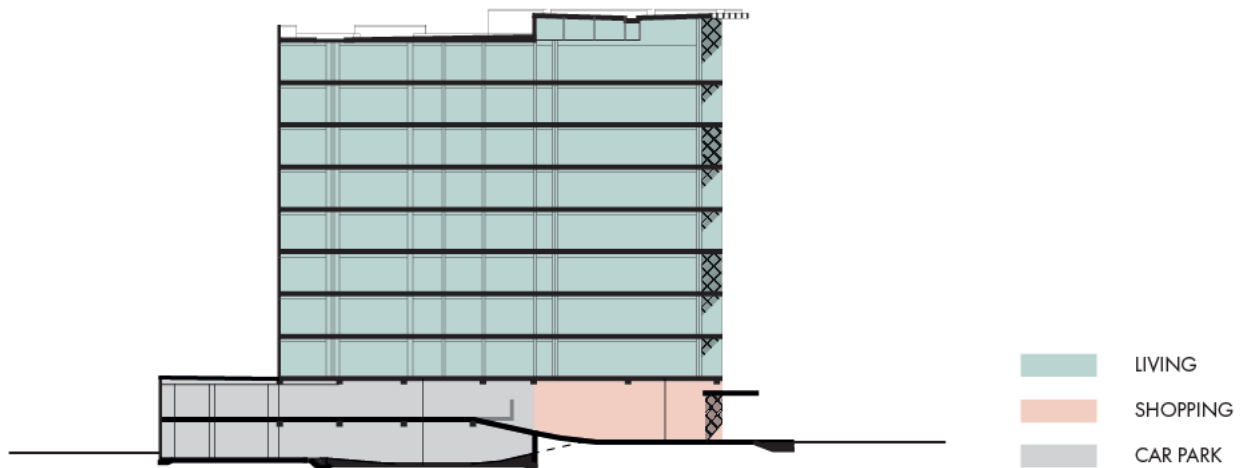


Figure 4.8 Sectional diagram of Portal showing the limited mix of programme within the apartment building. Retail on the street front is the only public interaction the building attempts and internal circulation is prioritised from the basement carpark up through the residential floors.

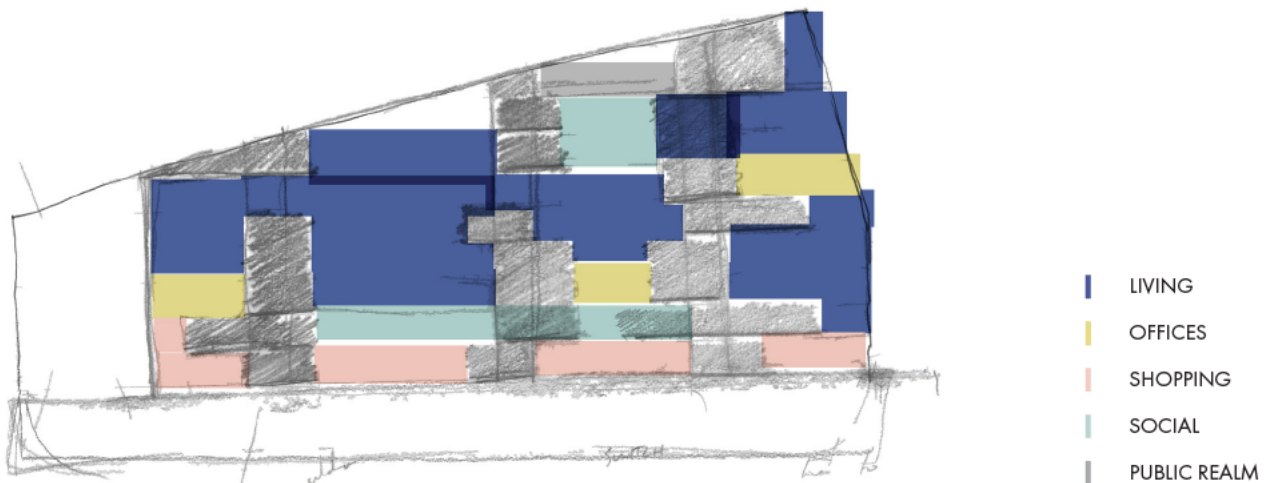


Figure 4.9 Concept sketch section of 95 Victoria Street.

## In the Mix

---

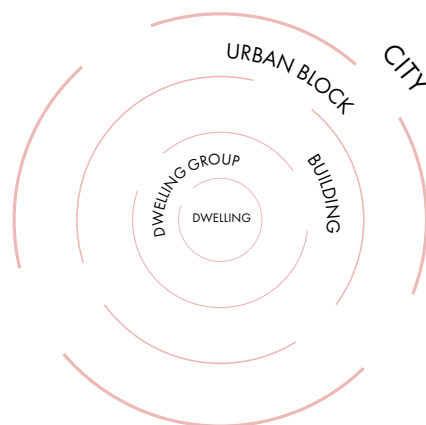


Hybrid buildings are characterised by high programmatic complexity. Programme diversity and a wide range of programme scale is a driving force in the design. The incorporation of different categories of use allow for a greater capacity of adaptation and interaction between them.

The rejigged 'slab' discussed previously in 'A Typology' (see p. 91) provides a building block to accommodate varied programmes in the building (see fig. 4.11). These are:

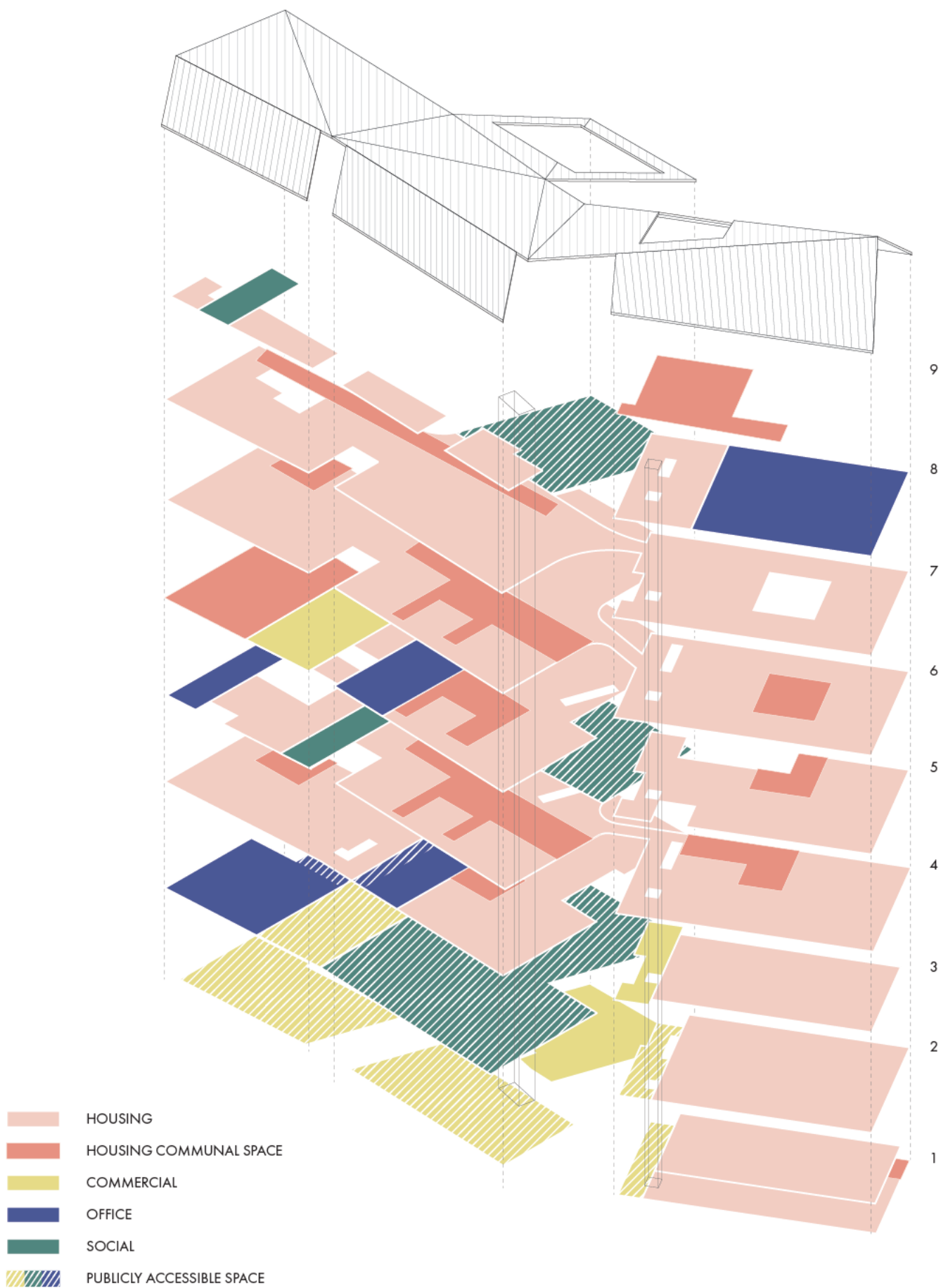
- Housing: apartment units ranging from studio to four bedrooms
- Housing communal space: shared laundry, barbeque, dining and recreation facilities, among other collective amenities
- Commercial: retail, hospitality
- Office: including options for shared workspaces, and live/work units
- Social: swimming pool, fitness facility
- Publicly accessible space: elevated urban park, green space, roof terrace.

Through both the diversity and relationship of programme the design attempts to respond to the hybrid attribute of scale; from the city to the dwelling (see fig. 4.10).



*Figure 4.10* Diagram of the relationship between individual dwellings and the city. In this thesis, residential programme is the principle use and placed at the centre of the scheme. Opportunities to cross through dwelling groups, alternative programme, and the urban block to the city are explored to develop potential relationships across scales.

*Figure 4.11* (Opposite) Exploded axonometric diagram of building programme.





## CASE STUDY

### *These are Hybrid*

The following case studies analyse different ways of finding appealing spatial relationships in hybrid buildings.



Block/Tower, 2011 – 13 (unbuilt). New York City, United States.  
Architect: Stan Allen, Rafi Segal.

The subject of an exhibition entitled *Making Room: New Models for Housing New Yorkers*, Block/Tower is a proposition for the adaptive reuse of an office tower in central Manhattan that alters the exclusive use of offices to incorporate residential space and integrates the public realm through a spiralling green and commercial corridor. In rotating the horizontal public space of the street scape, the vertical circulation provides an alternative path for residents and workers and maintains a connection with the street below.

The dense hybrid design prototype aims to find appealing spatial relationships that can assist in facilitating change in urban planning regulations. This move could allow city-dwellers to enjoy urban intensity within the existing built fabric of our cities. An important aspect of this project is the flexibility it offers through the configurable live/work units. Stan Allen and Rafi Segal envision that the units are flexible enough to respond to market demands, taking a new approach to a housing model that is more in line with new population and lifestyle trends. This case study informed the opportunity to use circulation as a programmed space in the design.



Figure 4.12 Unfolded elevation diagram of Block/Tower showing how the project experiments with a variety of residential types and their relationship with other commercial and leisure activities. This creates a new urban typology that allows both proximity and separation of activities: homes and offices sometimes share the same floor yet can operate independently.



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**Figure 4.13** Block/Tower aims to serve a more diverse and mobile population living and working in the city, today and in the future. The diverse types and sizes of units interlock spatially to increase the efficient use of space and can be reconfigured if situations change.

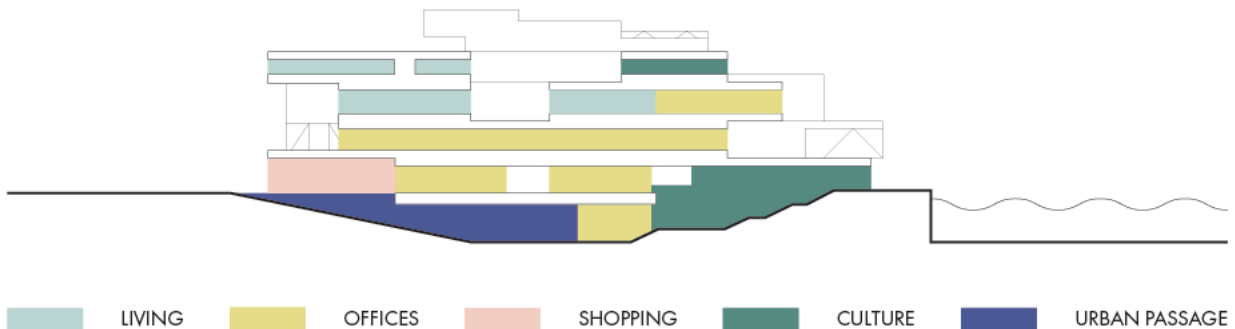
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**Figure 4.14** In Block/Tower, an open public space spirals upwards from the street creating a vertical landscape carved out of the existing tower structure.

## CASE STUDY



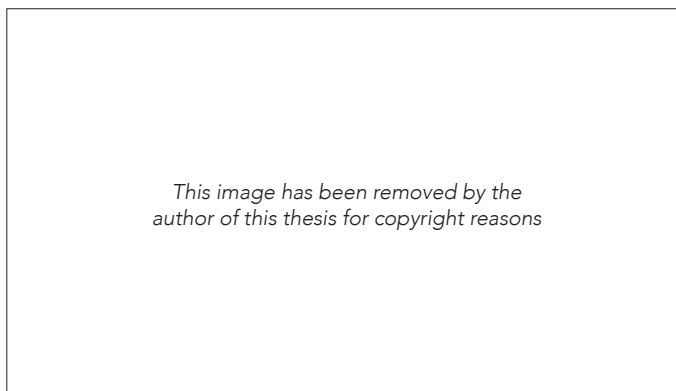
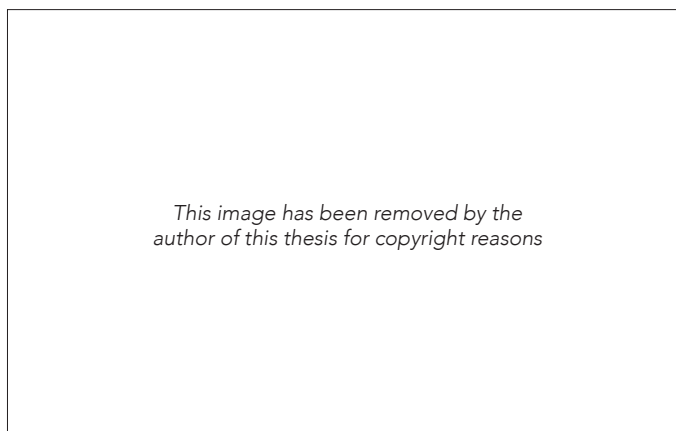
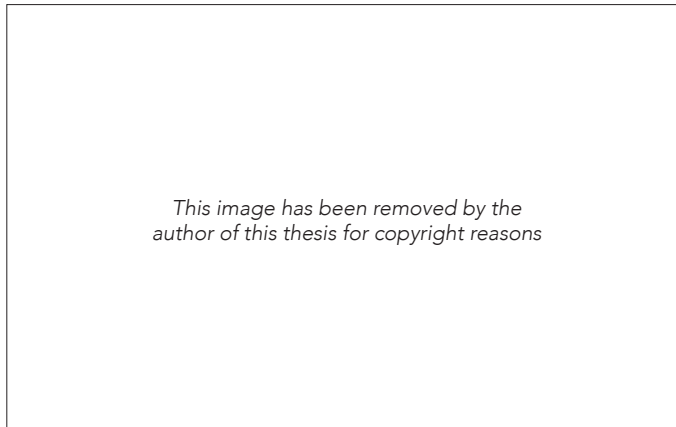
Bryghusprojektet, 2006 – ongoing. Copenhagen, Denmark.  
Architect: OMA.



Categorised as large in comparison with the surrounding buildings (see fig. 4.16), the combination of multiple functions and a prime location contribute to the scale of Bryghusprojektet. By opening up the previously unused waterfront as a public space it creates opportunities for unexpected interactions. The key quality of this project is that the programmes are not placed as one large, functional block; instead they are separated and scattered over multiple levels.

The following lessons were learnt and influenced the design in earlier massing and programme experiments:

- Programme divided horizontally and vertically results in a building that is hybrid building in section and in plan
- Revitalisation of public realm
- Unexpected situations when interaction between activities is encouraged
- Semi-public gathering spaces in the form of open public decks invite occupants to the upper floors of the building
- Private programmes are physically integrated through the sharing of the semi-public spaces.

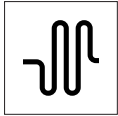


*Figure 4.15* (Opposite) Sectional diagram of Bryghusprojektet showing the disordered random stacking of small pieces to encourage unexpected situations when interaction between activities is encouraged.

*Figure 4.16* Artist impressions of Bryghusprojektet showing the opportunities to revitalise the public realm and physical and visual connections in both interior and exterior spaces.

# Density + Amenity

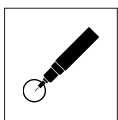
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## Feeling dense about housing density?

What is all this talk of higher density and what does it really mean? Finding myself quantifying and questioning density has led to the need to outline just what we are dealing with here.

The term ‘density’ is widely used in practice yet there are no national standards for measuring it, nor are there generally accepted definitions of what physically enumerates low, medium or high density housing in New Zealand. These labels can sometimes be confusing and misleading; one person’s medium can be another person’s high, and vice versa. For the most part the idea of high density appears to be based on observed indicators — an aesthetic of density — often informed by failed historic projects (see fig. 4.17), inappropriate international models of high-rise apartment towers (see fig. 4.18) or undesirable new developments in our own backyards (see fig. 4.19).



A target density of 100 dwellings per acre (250 dwellings per hectare) was established based upon international definitions of high density and remained a fixed variable throughout the design investigations (Mozas & Fernandez 15). This is in comparison to New Zealand and Australia, where over 20 dwellings per acre (50 dwellings per hectare) is defined as high density (see fig. 4.20) (CHRANZ 4; Landcom 26). This target seeks to prove the design through an extreme scenario.

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Figure 4.17

Pruitt-Igoe, a large urban housing project in the city of St. Louis, Missouri, United States. First occupied in 1954, it was demolished in 1972 — less than twenty years after its completion — due to social, racial and architectural tensions.

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copyright reasons*

Figure 4.18

Hong Kong’s extremely dense living conditions and a boom in “building up” are dissimilar to any conditions in New Zealand.

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copyright reasons*

Figure 4.19

Higher density attached but ‘basic’ developments such as Wigram Skies in Christchurch are becoming commonplace in New Zealand yet this residential intensification is being met with buyer resistance.



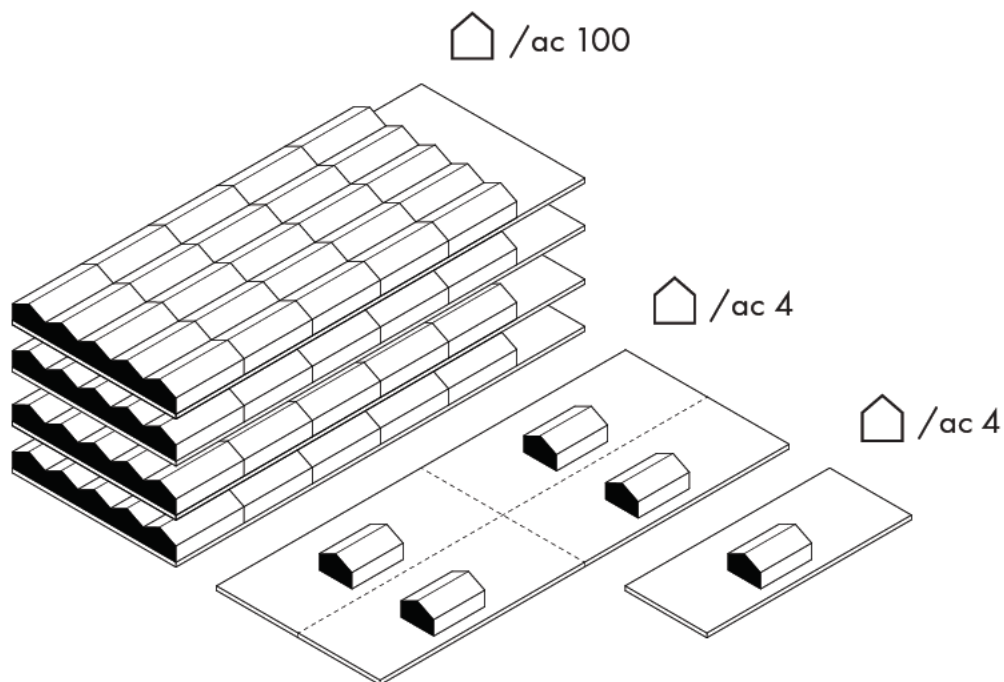
NET DENSITY	 /ac	TARGET DENSITY
RESIDENTIAL COMPONENT IN MIXED USE CONFIGURATIONS	27	<div>100  /ac</div> <div>which is the equivalent 40 dwellings on the 0.4 acre site</div>
HIGH DENSITY DEVELOPMENT	16	
MEDIUM DENSITY DEVELOPMENT	8 – 16	
LOW DENSITY DEVELOPMENT	5 – 8	

Figure 4.20 Density range table and target density. Adapted from Landcom.



$$\frac{\text{NUMBER OF DWELLINGS}}{\text{SITE AREA (HECTARES)}} = \text{DWELLINGS PER HECTARE}$$

DWELLINGS PER HECTARE

Figure 4.21 Diagram of a standardised solution of increasing density on a site.

🏠 /ac 95

🏠 /ac 25

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PARIS, FRANCE  
RUE DES SUISSES APARTMENT BUILDINGS  
HERZOG & DE MEURON  
2000

PARIS, FRANCE  
RUE DE L'OURCQ  
PHILIPPE GAZEAU  
1993

MIXED TYPOLOGY /  
URBAN DENSIFICATION

🚗 50 SITE AREA 2520m<sup>2</sup>  
🏠 59 🏠 / ha 234

URBAN VILLA / RELATIONSHIP  
BETWEEN INTERIOR + EXTERIOR

🚗 4 SITE AREA 1300m<sup>2</sup>  
🏠 8 🏠 / ha 62

🏠 /ac 11

🏠 /ac 35

🏠 /ac 807

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DETROIT, USA  
LAYFAYETTE PARK  
MIES VAN DER ROHE  
1962

LOS ANGELES, USA  
FORMOSA 1140  
LORCAN O'HERLIHY ARCHITECTS  
2008

MELBOURNE, AUSTRALIA  
UPPER HOUSE  
JACKSON CLEMENTS BURROWS ARCHITECTS  
2014

HIGH-RISE TOWERS + GARDEN-STYLE  
TOWNHOUSES / MIXED SITE PLAN

🚗 unknown SITE AREA 315700m<sup>2</sup>  
🏠 846 🏠 / ha 27

DECK ACCESS BLOCK /  
DEFINES POCKET PARK INTERFACE

🚗 11 SITE AREA 1282m<sup>2</sup>  
🏠 11 🏠 / ha 86

HIGH-RISE TOWER / HIGH AMENITY  
WITHIN + BETWEEN DWELLINGS

🚗 1 SITE AREA 552m<sup>2</sup>  
🏠 110 🏠 / ha 1993

🏠 /ac 140

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ZURICH, SWITZERLAND  
DOLDERTAL APARTMENT HOUSES  
MARCEL BREUER, ALFRED AND EMIL ROTH  
1936

CIRCULATION / GAP  
OVER ENTIRE PLOT'S LENGTH

🚗 31  
🏠 26

SITE AREA 754m<sup>2</sup>  
🏠 / ha 345

🏠 /ac 26

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FUKUOKA, JAPAN  
NEXUS WORLD HOUSING  
OMA  
1991

URBAN DESIGN OF BLOCK /  
"HOUSE IN HOUSE"

🚗 0  
🏠 24

SITE AREA 3780m<sup>2</sup>  
🏠 / ha 63

🏠 /ac 63

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TOKYO, JAPAN  
MORIYAMA HOUSE  
OFFICE OF RYUE NISHIZAWA  
2005

INTERSTITIAL SPACE FOR CIRCULATION /  
"HOUSE AS CITY"

🚗 0  
🏠 5

SITE AREA 319m<sup>2</sup>  
🏠 / ha 157

🏠 /ac 130

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MELBOURNE, AUSTRALIA  
THE COMMONS  
BREATHE ARCHITECTURE  
2013

URBAN INFILL / COMMUNAL  
OPPORTUNITY + EQUITABLE AMENITY

🚗 0  
🏠 24

SITE AREA 748m<sup>2</sup>  
🏠 / ha 321

🏠 /ac 148

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WELLINGTON, NEW ZEALAND  
PORTAL  
ARCHITECTURE+  
2007

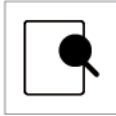
TIGHT URBAN CONDITION / RESPONSIVE  
TO WIDER URBAN COMMUNAL AMENITY

🚗 37  
🏠 34

SITE AREA 929m<sup>2</sup>  
🏠 / ha 366







A selection of urban projects from around the world — dwellings that were categorised as two or more flats/units/townhouses/apartments/houses ‘joined together’ — were analysed in terms of their density, typology and amenity to provide a baseline for further investigation (see fig. 4.22). In this thesis, occupation is calculated in terms of net residential density.

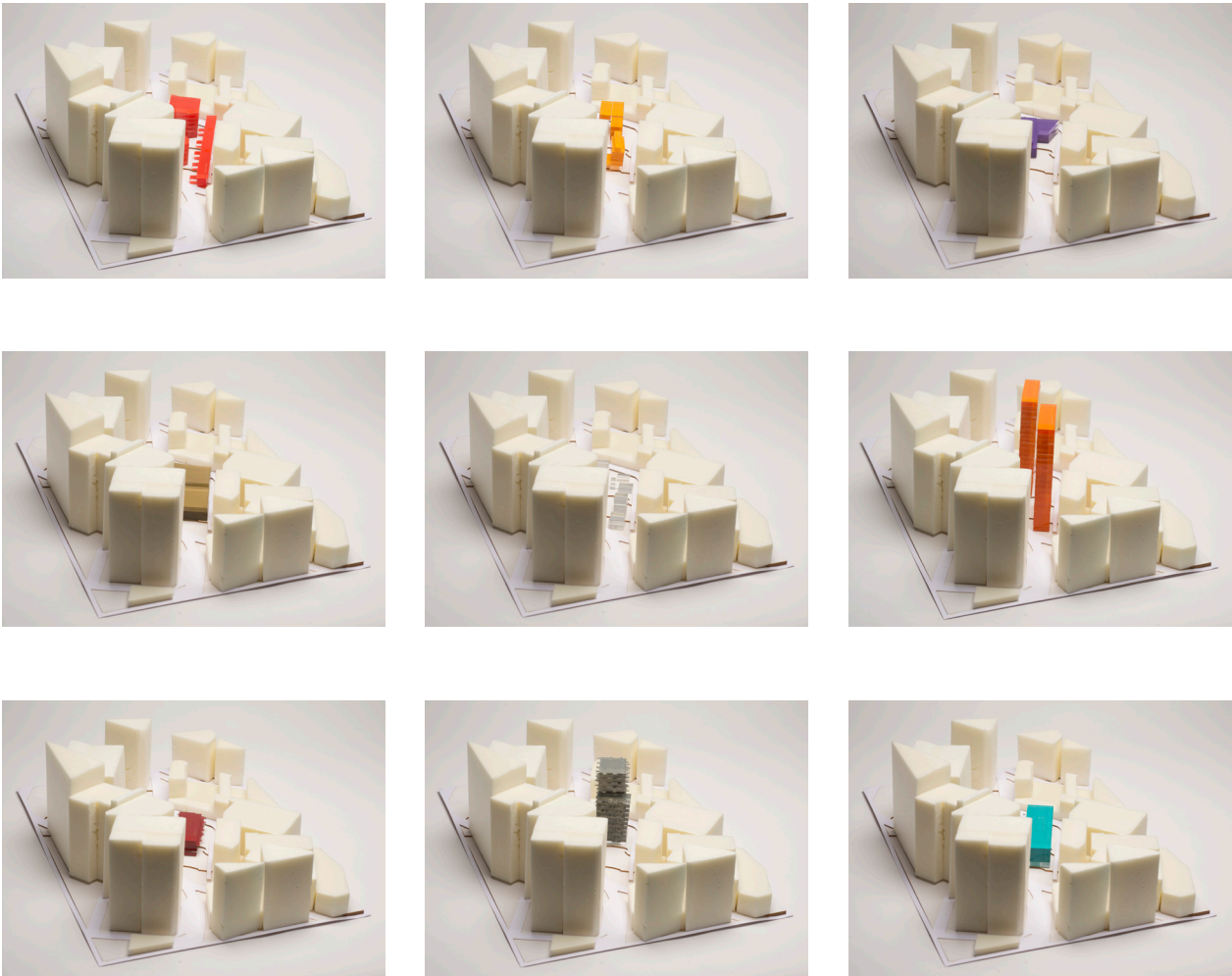
*net residential density or ‘the built form’*

The ratio of the number of dwellings to the area of land they occupy including internal public streets, plus half the width of adjoining access roads that provide vehicular access to dwellings (Austral. Local Govt. and Planning Ministers’ Council 82).



From this study, it is clear high density is not synonymous to high-rise building. High urban densities are important, but the question is how high, and in what form? Lloyd Alter describes a “Goldilocks housing density — not too high or low, but just right”. In this situation, the density supports vibrant streets, boosts retail and services for local needs, encourages alternative transport infrastructure, and builds a sense of community. At the “Goldilocks density”, buildings aren’t too high that people can’t take the stairs in a pinch — or, choose to, subways and increased parking infrastructure are unnecessary and, although the buildings are accommodating a lot of people they don’t slip into anonymity.

Figure 4.22 (Previous) Mapping density in an attempt to quantify and compare international models of higher density. Increasing density is a good thing, but there are different ways of doing the same thing. This chart confirms that there are multiple ways to increase density, offer and/or enhance amenity and deliver a desirable model for urban living. It proves that building tall does not necessarily increase residential density; in fact, it can do the opposite.



*Figure 4.23* To further test design options, acrylic models of the projects investigated in the density study were constructed at 1:500 scale and placed on a site model of 95 Victoria Street. Dependent on the scale of the buildings, their placement was at times manipulated to fit on the site. What these experiments proved is that density can come in all shapes and sizes. There is no 'right fit'. It highlighted that the opportunity for interaction between the building and the city, the public and the private, should be at the core of developing new models for urban housing.



RUE DES SUISSSES



RUE DE L'OURCQ



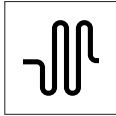
DOLDERTAL



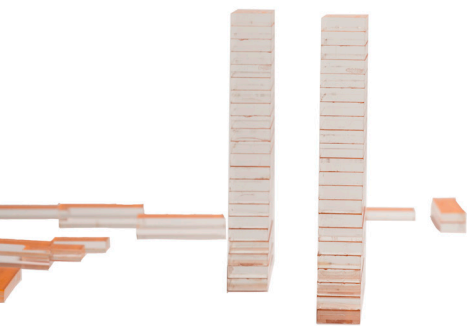
NEXUS WORLD HOUSING



MORIYAMA HOUSE



Residential density is quantitative and is not always a reliable measure of built form intensity, nor is it a reliable indication of qualitative features (e.g. landscaping, traffic, architectural quality) that can affect how a place feels. In practice, it only makes sense when linked with a specific reference scale and the character of the space itself is important for the perception of density. Interaction between individuals, the collective, and the environment is *more* important. In this thesis, the perceived density, the relative relation between the individual and the collective, as well as the relations between individuals located in the same space, is valued.



LAYFAYETTE PARK



FORMOSA 1140



UPPER HOUSE



THE COMMONS

# Extending the Ground Plane

---



Key to the hybrid model is a value of public realm through the employment of strategies that promote opening the building to the street(s) and fostering a sense of community. Without taking away the opportunity for maximum ground floor retail and access to residential amenity in the basement, the design introduces an elevated urban park on the second floor. Offering gathering space for residents, neighbours and the public it is connected to the street by a generous staircase, accessed from Bond Street.

Mixing of programme implies size and superposition requires height. The vertical extension of horizontal surfaces is further explored through the primary public circulation to access the varied programme at 95 Victoria Street, including a publicly accessible roof terrace on the seventh floor. The reality with buildings is that they are as tied to the ground as they are open to the sky. The inclusion of a public roof terrace aids connecting that loftier view to the realities at lower levels (Sample 121) and, allows for a continued connection throughout the building via the public circulation.



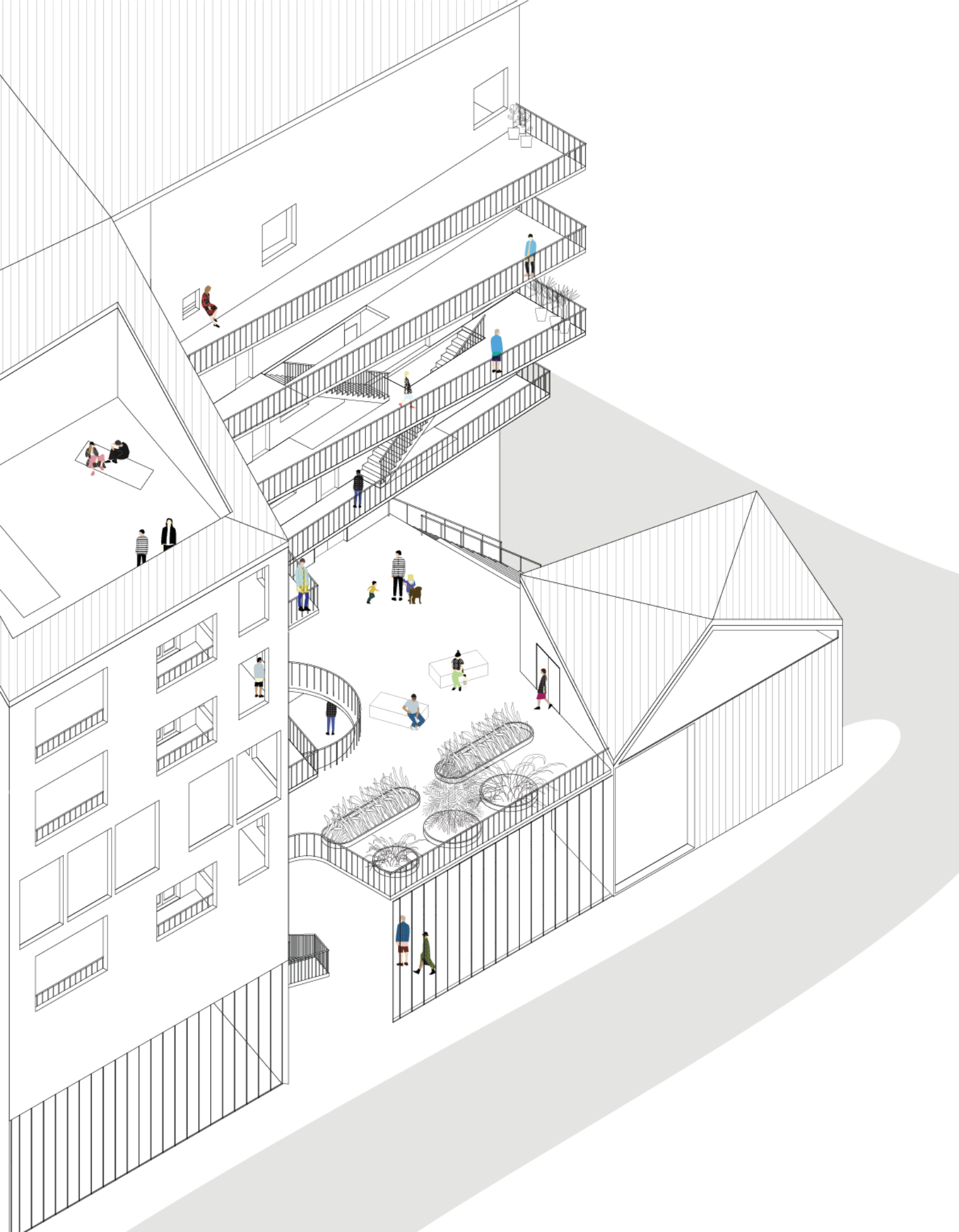
The opportunity to assemble or disperse activity across one or more levels required an exploration of elevated pedestrian networks on social interactions and atmosphere in urban settings. Urban theorist, Jahn Gehl, defines the horizontal visual field as being considerably wider than the vertical; the downward field of vision is much narrower than the horizontal and the upward field is narrower still (63). In a study of how public spaces can contribute to social interactions and atmosphere within them, Gehl comments that “the relationship between distance and intensity, closeness and warmth, in various contact situations has an important parallel in the prevalent perception of architectural dimensions” (69).

Gehl's research informed how connections between the elevated urban park, public circulation routes, roof terrace and street were explored (see fig 4.25). The external, public horizontal circulation becomes internal and private from the fifth floor upwards as anything above this floor is "definitely out of touch with ground level events" (Gehl 98). The stepping back of the horizontal circulation promotes a "living, inspiring street facade" with a direct connection to the urban park below.



Figure 4.24 Photographs and diagram illustrating the thresholds of "meaningful contact" that exist between the ground level and upper floors in a multi-storey building (Gehl, 98).

*Figure 4.25* Instead of raising the building and casting a shadow onto the outdoor space left at ground level, the design uses the opportunity to elevate the shared ground of the urban park to the second floor, an open space with natural light from a north-east orientation.







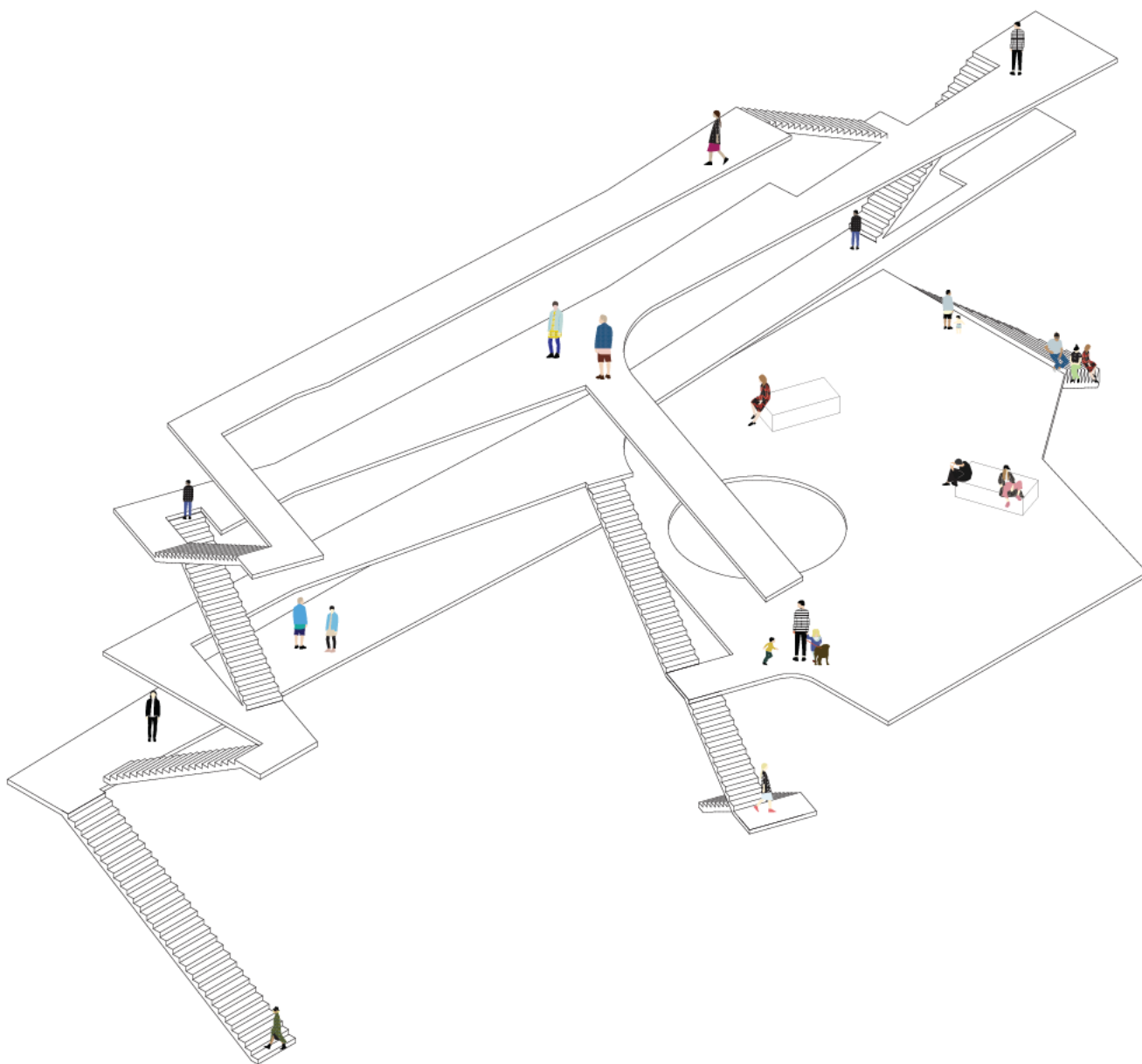


Figure 4.26 Along with the elevated urban park the gesture of stepped-back and generous horizontal circulation allows for unrestricted interaction between residents, neighbours and the public.

“ Architecture ... is the fixed stage for human events. The collective and the private, society and the individual, balance and confront one another in the city. ”

(Rossi 22)

# 05

## Separations & Connections

Separations and connections looks to recognise and understand the complex relationships established in the design of new models of desirable urban higher density housing. The binary condition demands more of common spaces, considers circulation that is also a delightful space, and sets a challenge to weave semi-public spaces through the building to blur lines of use.

---

FIELD CONDITIONS

OPEN SYSTEMS

LINKING + STACKING

INTERSTITIAL SPACE

# Field Conditions

---



Fundamental to this research is the exploration of Stan Allen's theory of field conditions as a way of recognising and understanding the complex relationships that can exist between constituent parts.

Allen defines the field condition as:

“ ... any formal or spatial matrix capable of unifying diverse elements while respecting the identity of each. Field configurations are loosely bounded aggregates characterised by porosity and local interconnectivity. ... Form matters, but not so much the forms of things as the forms between things. ”

*(Points + Lines 92)*

Field conditions describe a space for propagating effects; it redefines the relationships between invisible and visible, field and boundary, finite and infinite and considers a different way of looking at the representation of space. The field influences the organisation and relationships within space rather than the produced form.


*What are the implications of field conditions in architecture today, and in the future?*

Field conditions interrogate issues of singularity, interconnectivity, immediacy and possibility. Allen states that the complete examination of the implications of field conditions in architecture would reflect the complex and dynamic behaviour of the architecture's user (92). This thesis — with the inclusion of dwellings not built to the special order of an individual — renders the field to an expanded but finite set of related positions to explore.

Reflecting on field conditions in relation to this research identifies that groups becomes less important; instead it highlights the possibilities and consequences of the relationships and dynamics between things.

The exploration of field conditions raise the following questions:

- What can we learn from earlier explorations of separation and connection?
- What forms of connectivity can emerge from this learning?
- What are the implications of sustained separation or connection?
- And, how is the built environment changing because of this?



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Figure 5.1 Stan Allen's diagrams of field conditions.

## CASE STUDY



Metropolitan Housing Studies, 1996. Japan.  
Architect: Kazuyo Sejima.

### TYPE A



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#### LOW-RISE SEPARATE GARDENS

Building to ground ratio: 60%

Two-storey maisonette units occupy the entire site

Open spaces determined by the building-to-ground ratio and distributed throughout the site in the form of separate gardens for all units

Each unit contains six elements: open garden, eat-in kitchen, utility space, and three bedrooms

### TYPE B



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#### MIDDLE-RISE WITH S-CURVE

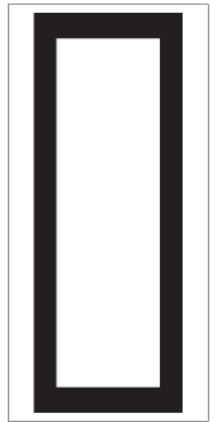
Building to ground ratio: 30%

Four-storey walk-up block above a semi-underground parking area defined by a field of pilotis

Interior composed of random combinations of 14.5m deep public and private spaces that attach, overlap or separate

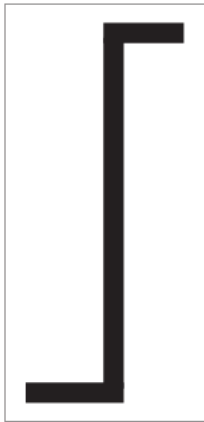
Open space around block guarantees every unit has the same environmental conditions

Type can be adapted to a wide range of site conditions by modifying the form of the volume



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## TYPE C



### MIDDLE-RISE WITH CENTRAL COURT

Building to ground ratio: 30%

Four-story walk-up block extended around the site perimeter and made thinner

Open spaces divided into a courtyard and an exterior

Each unit has two terraces, linked by a public zone which can be partitioned for private space

One-room units but several types can be derived from planning strategies around public spaces and manipulation of form to site conditions

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### HIGH-RISE WITH ZIGZAG

Building to ground ratio: 12%

Eleven-storey block with corridors on one side

Increased height and narrower volume ensures all units utilise best orientation

Zigzagging the block across the site allows a longer block while retaining uninterrupted open space

Individual unit terraces appear as random holes in a flat volume, revealing glimpses of the landscape and reducing monolithic quality

*This image has been removed by the author of this thesis for copyright reasons*

### HIGH-RISE SCATTERED CONFIGURATION

Building to ground ratio: 12%

Ten-storey core-based blocks arranged in a chain of highly unusual proportions with one dwelling unit per floor

Located in the centre of the site surrounded by a large amount of open space

Different volumes arise from the stacking of freely planned units, each unit has four exterior walls

Space between blocks is intended as a visual, physical and psychological buffer zone

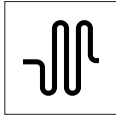


Toyo Ito describes the work of Kazuyo Sejima as “diagram architecture”, a building that is the equivalent of the diagram of the space and used to abstractedly describe the mundane activities presupposed by the structure (18). The prominence of her work came to the fore during the design process of the Saishunkan Women’s Dormitory (completed in 1991) and advanced five years later in the Metropolitan Housing Studies (see fig. 5.2), where several characteristic problems of modern society were investigated through housing prototypes.

The purpose of the Metropolitan Housing Studies was to investigate the most prevalent form of dwelling in the city: collective housing, most of which follows the efficient nLDK pattern (where ‘n’ means number of rooms; “L” is living area; “DK” is combined dining room and kitchen) and results from the consideration of interior space. Provoked to take into consideration the inclusion of exterior space in collective housing design, the research also pushed to reconsider the relationship between housing and the city, resulting in a new models introduced in the visual form of the diagram. The concept of “volume landscape” is explored at low medium and high rise types through the means of “programme, media and movement” (Allen, *Sejima’s Theatre* 103).

*Figure 5.2* (Previous) Kazuyo Sejima’s Metropolitan Housing Studies, an investigation of standard public housing plans that attempted to make exterior space as significant to the process as interior space and resulted in five housing prototypes containing numerous dwelling types, corresponding internal space compositions and a variety of volumes.





The conversion of a diagram to architecture is a complicated process — the effect of the three-dimensional transformation produces spatial implications of functional conditions. Sejima's architecture takes contradictory, complicated process and deals with them in the utmost brevity, arranging the required functional conditions in a final diagram of the space which is immediately converted into reality (Ito 20).

The concept of the spatial diagram evidenced in Sejima's Metropolitan Housing Studies is employed in this chapter to dissolve the implication of form when exploring the complex relationships established in the design of new models of desirable urban higher density housing (see figs. 5.3, 5.4).

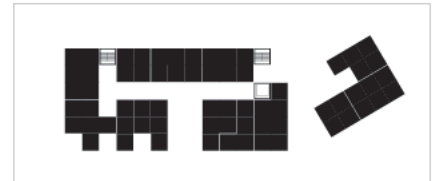


Figure 5.3

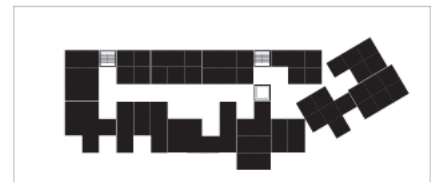
Exterior space is usually not considered in urban higher density housing, only the number of units that need to be built and the interior space required (Sejima, Metropolitan 120).

This figure ground study explores the various possibilities on how a new model of higher density housing can be arranged at 95 Victoria Street. Through physical modelling translated into diagrams, the existing volume of space is shaped into an independent volume with its own distinctive proportions, visual access and scale in relation to the surrounding spaces. It begins to explore the possibilities of a total environment. However, additional programming outside of the dwellings is not included in this stage of development.

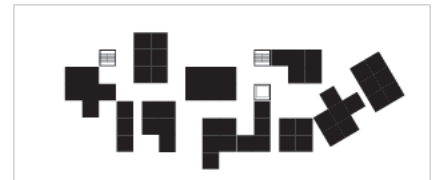
DWELLINGS: 13  
TYPES: 4  
FLOORS: 1  
CIRCULATION: CENTRAL-LINEAR



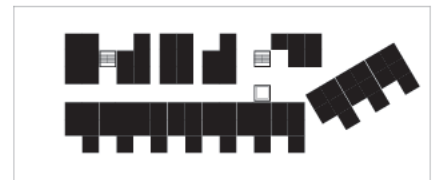
DWELLINGS: 14  
TYPES: 4  
FLOORS: 1  
CIRCULATION: CENTRAL-LINEAR



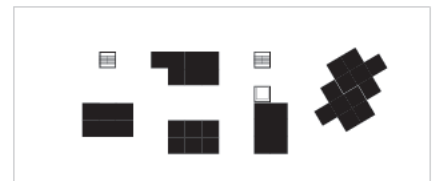
DWELLINGS: 11  
TYPES: 4  
FLOORS: 1  
CIRCULATION: MULTI-DIRECTIONAL



DWELLINGS: 15  
TYPES: 1  
FLOORS: 1  
CIRCULATION: CENTRAL-LINEAR

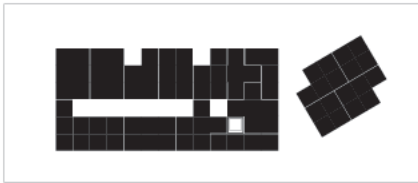


DWELLINGS: 6  
TYPES: 2 "FAMILIES"  
FLOORS: 2  
CIRCULATION: CENTRAL-LINEAR

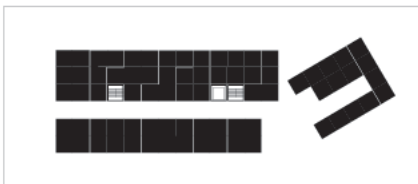


DWELLINGS: 15  
TYPES: 1 "SINGLES"  
FLOORS: 1  
CIRCULATION: CENTRAL-LINEAR

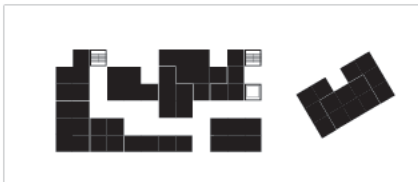




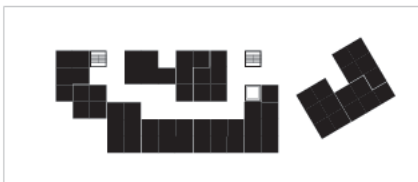
DWELLINGS: 17  
 TYPES: 4  
 FLOORS: 1  
 CIRCULATION: PERIMETER-ONLY



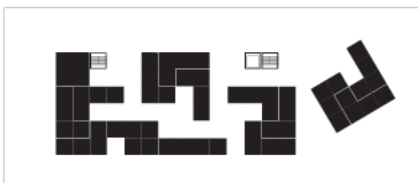
DWELLINGS: 15  
 TYPES: 4  
 FLOORS: 1  
 CIRCULATION: CENTRAL-LINEAR  
 [WITH PERIMETER ACCESS TO COMMON + OUTDOOR AREAS]



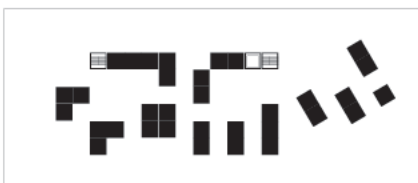
DWELLINGS: 12  
 TYPES: 4  
 FLOORS: 1  
 CIRCULATION: CENTRAL-LINEAR  
 [WITH PERIMETER ACTIVATION]



DWELLINGS: 11  
 TYPES: 4  
 FLOORS: 1  
 CIRCULATION: CENTRAL  
 [WITH COMMON POCKETS]



DWELLINGS: 13  
 TYPES: 4  
 FLOORS: 1  
 CIRCULATION: CENTRAL-LINEAR



DWELLINGS: 13 [+2 GUEST]  
 TYPES: 4  
 FLOORS: 1  
 CIRCULATION: MULTI-DIRECTIONAL

# Open Systems

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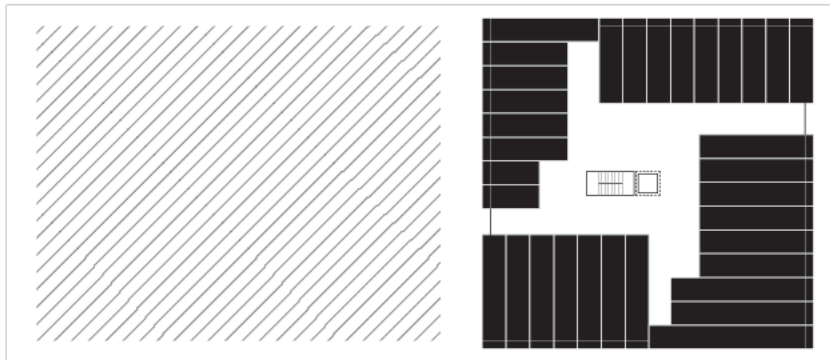
In 1961, Jane Jacobs characterised suburban living as isolated and privatised. Jacob's concern was how residents lived — how connections to a place were diminished by lack of public interaction, diversity of activities, and density of population in the suburbs. Her criticisms were directed primarily against planning that increased the specialisation of land use through zoning, and decreased the opportunity for public and private spaces to 'ooze' into one another to foster relational systems.

The idea that space is a social product is also discussed by social theorist Henri Lefebvre in his canonical text *The Production of Space*. In the investigation of the spatial politics of the suburban single family villa (the *pavillon*) he describes the everyday activities of the domestic realm "as a series of levels 'separated by cracks, gaps and lacunae'" (qtd. in Stanek 126).

Space is a system that both contains and actively shapes social processes. Jan Gehl encourages the use of niches in facades, recessed entrances, porches, and planting in the urban built environment to activate space (151). Protection is required but the amenities of light, air and landscape are equally important.



This thesis has focussed on developing alternatives to traditional models of higher density urban living, the organisation and interconnectedness of programme and users, through strategies that seek to resolve some of the problems associated with our initial round of higher density. This series of diagrams takes the influence of Jacobs, Lefebvre and Gehl to explore a variant to planning an urban block with an emphasis on circulation, density, amenity, and moments of social connection and cohesion.



#### TYPICAL PLAN

Circulation at a minimum

Dwellings in very close proximity with restricted amenity (space, light, landscape, etc.) and elevations

Remainder of site unoccupied, used for parking or, at best, a disconnected public outdoor area

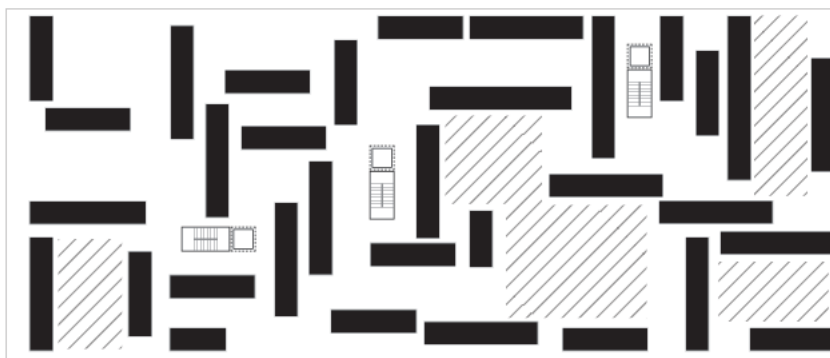


#### VARIANT PLAN I

Circulation increased

Free-standing dwellings in close proximity with good amenity (space, light, landscape, etc.) in more than one direction

Enclosed outdoor area for private use by residents



#### VARIANT PLAN II

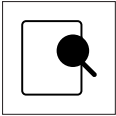
Circulation at a maximum

Free-standing dwellings well-supplied with natural amenity (space, light, landscape, etc.)

Dispersed outdoor areas of varying scales and public/private access

Figure 5.4 Experiments in figure ground plan diagrams to understand the opportunities and limitations of circulation, places of density and lesser definition, and realms of overlap and interference.

## CASE STUDY



Moriyama House, 2002 – 05. Tokyo, Japan.  
Architect: Office of Ryue Nishizawa.

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author of this thesis for copyright reasons*

Figure 5.5 Ryue Nishizawa's concept sketch for Moriyama House.

Moriyama House is a very particular project, one that is difficult to extract general conclusions from as it is intrinsically linked to the client, site and the simplicity and smallness of contemporary Japanese architecture. Built for Mr. Moriyama, this intimate home completely redefines the common sense of domestic life. Ryue Nishizawa's crude concept sketch (see fig. 5.5) clearly illustrates that this building is not a conventional 'nuclear' house, and instead consists of ten individual units, separated by an exterior garden. For now, Mr. Moriyama rents some of the buildings creating a small community of little dwellings but some day he may use all of them, or it could become "a kindergarten, ... a school"; there is no problem in changing the programme due to the unrestricted design of spaces (SANAA 14). There is a variety of possibility both inside and outside of the dwellings, and with this comes the opportunity for chance encounter.

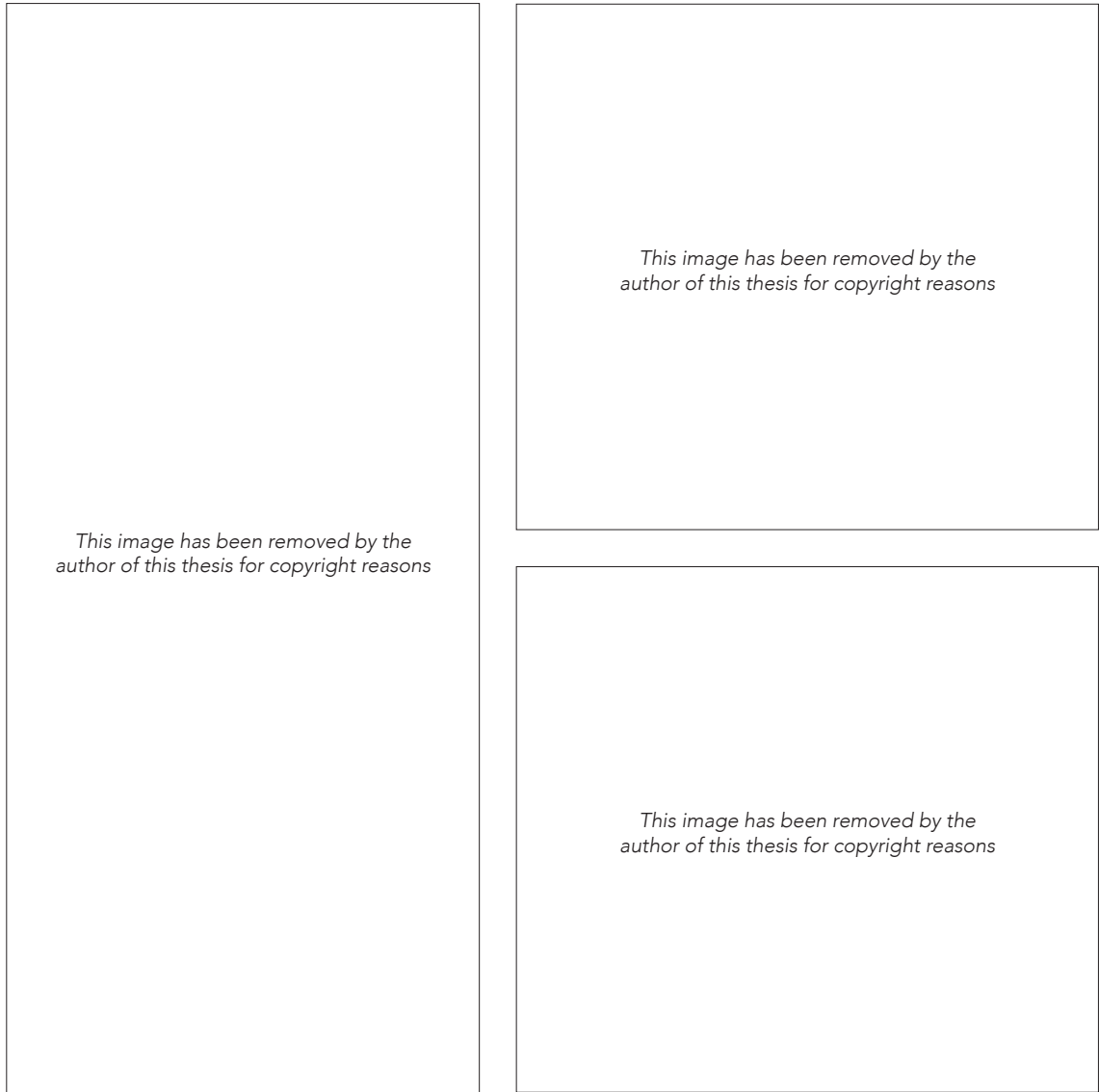


Figure 5.6 Photographs of Moriyama House and the opportunities for occupation in the in-between spaces.

Questions abound in this building: Where is the front door? Is this one, or several houses? Is the space in between a garden or a room?

This radical shift in thinking has progressed opportunities in the design relative to:

- Playing with the concept of deconstructing the model home
- Physical separation forcing users to interact with the whole site
- Composition of discrete, separate spaces interconnected by passageways or windows
- Architectural elements, e.g. wall types, voids
- Adaptable rooms and space that can be used independently, or together
- Strategies to define, and re-define public/private space
- Visual clues in the form of views that weave in and out of the buildings and landscape, blurring the connections and separations.



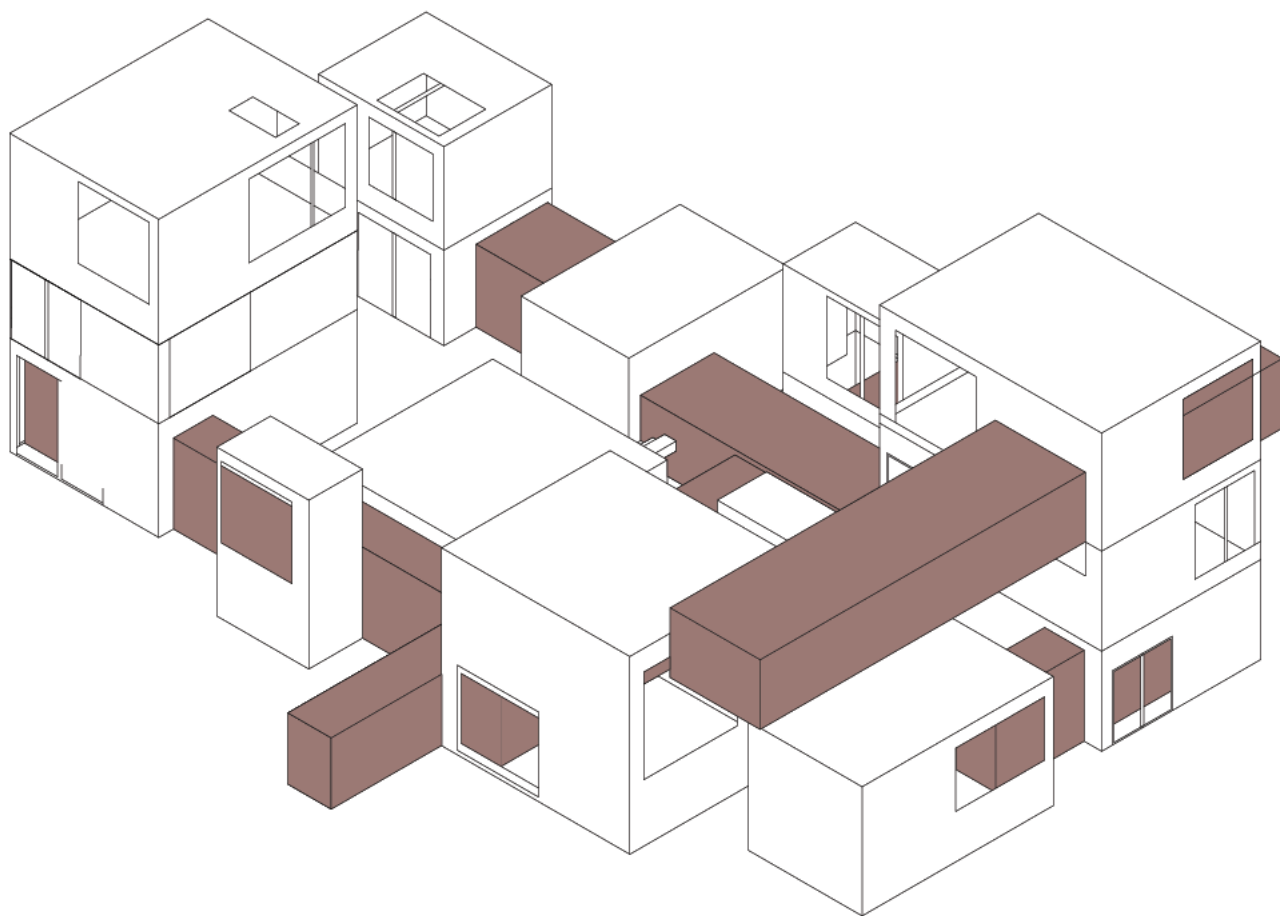


Figure 5.7 Diagram of Moriama House illustrating the cracks and gaps that separate and the opportunity to connect through "borrowed" views.

## Linking + Stacking

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Programme is constantly in flux and often hidden behind the generic fabric of the city. Higher density living can work wonders for the social mix and in the hybrid model, multiple programmes must be integrated to create a synergy that activates the building. Further strategies to support this include horizontal and vertical integration and visual and physical connections.



Early observations on the implication of programme on architectural form have surfaced repeatedly in the work of Rem Koolhaas' office OMA. Experimental projects such as the Hyperbuilding (1996) — a new city within a building — reflects on his analysis of the Downtown Athletic Club and proposes a vertical concentration of programme and nature to contrast horizontal sprawl associated with normal urban development.

Fascinated by the 'serene' and monolithic exterior of the Downtown Athletic Club, he remarks that it hides the ultimate in urban congestion, that it is a "machine to generate and intensify desirable forms of human intercourse" (152).

MVRDV's research that examines the possibility of extremes in relation to the prospects and limitations of density is documented in *FARMAX: Excursions on Density*. Here, the ideas discussed by Koolhaas are extended through the analysis and investigation of both social and economic forces that influence our built environment. MVRDV's 1995 density study on the Kowloon Walled City resulted in the observation that "vertical discontinuity of programs (*sic*) produce both horizontal and vertical social intercourse" (162). While this example is a 'hyperdense' extreme, the lesson learnt invites a reconsideration of urban living situations through fluid organisation and the blurring of boundaries and typologies (155).

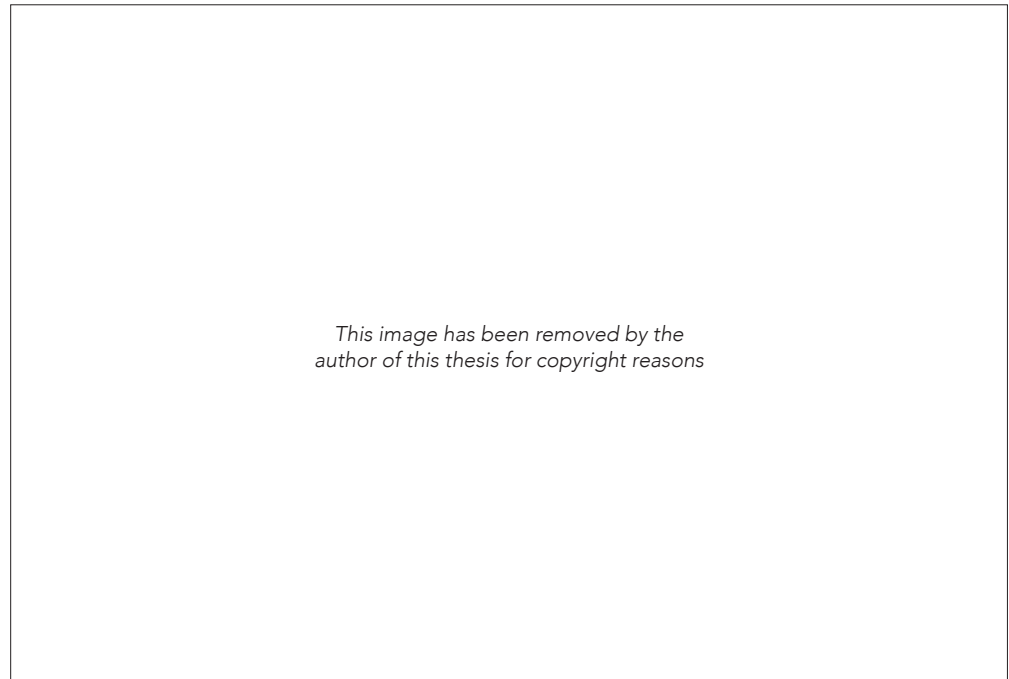
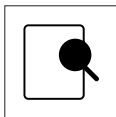
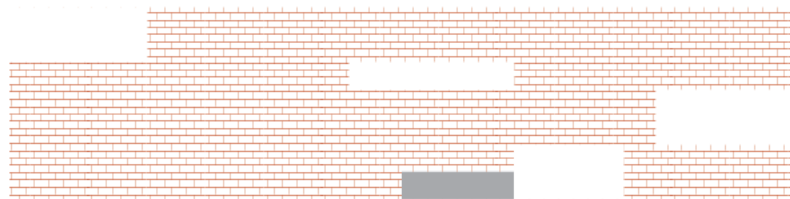


Figure 5.8 Section diagram of Kowloon Walled City as discussed in MVRDV's 1995 analysis of the world's densest settlement.



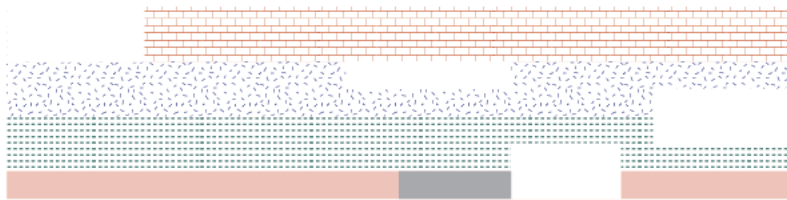
The following diagrams (see figs. 5.9, 5.11, 5.13) take the tactics employed in the development of MVRDV's Silodam to develop a strategy that seeks to understand the negotiation involved in the development of new models of urban living. Silodam is a mixed block development located on the Amsterdam harbour. Arranged in a 20-meter deep and ten-storey-high urban envelope, the mixed block accommodates 165 dwellings alongside offices, work spaces, commercial spaces and public spaces. The apartments differ vastly in size, price and organization, which appeals to a changing demography and the desire for individuality.



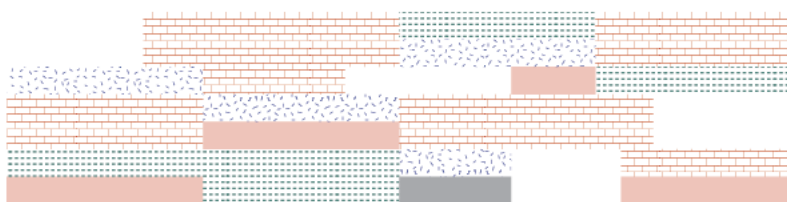
MONOCULTURE?



SEPARATION?



STRATIFICATION?



MIX?

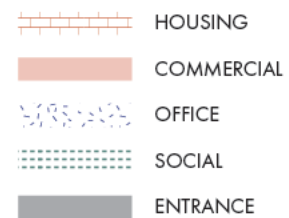
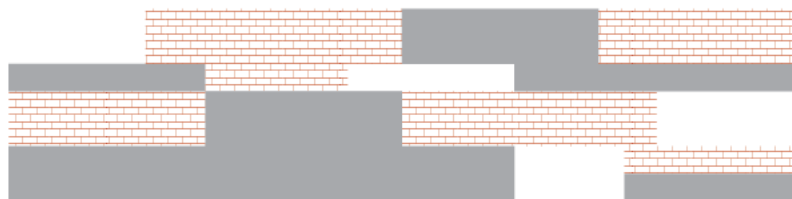


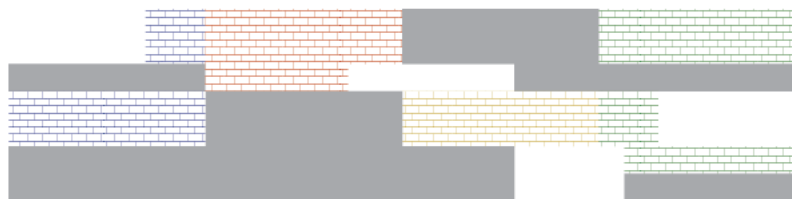
Figure 5.9 Diagram of spatial negotiations for an urban hybrid block at 95 Victoria Street modelled off MVRDV's tactic employed for Silodam.



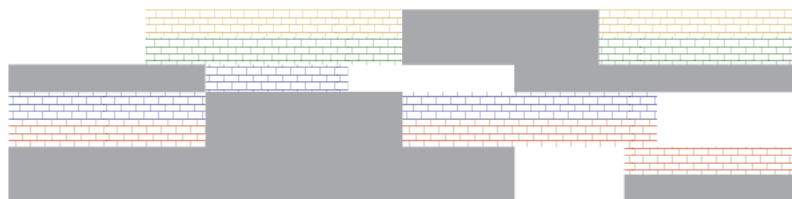
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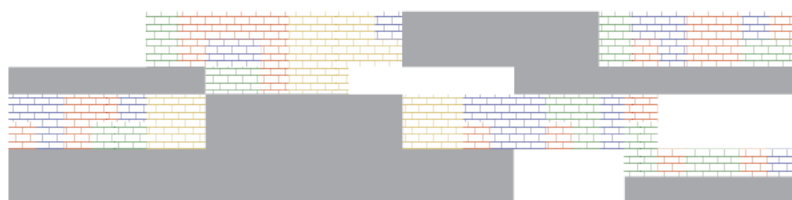
DWELLING MONOCULTURE?



DWELLING SEPARATION?



DWELLING STRATIFICATION?



DWELLING MIX?



Figure 5.11 Diagram of spatial negotiations for the arrangement of dwellings in the urban hybrid block at 95 Victoria Street. This diagram is an extension of Figure 5.9 and looks to achieve variety in housing types for dwelling diversity.



TYPICAL SECTION



VARIANT SECTION

Figure 5.12 Sectional diagram to explore opportunities of separating and connecting volumes in both horizontal and vertical orientations.

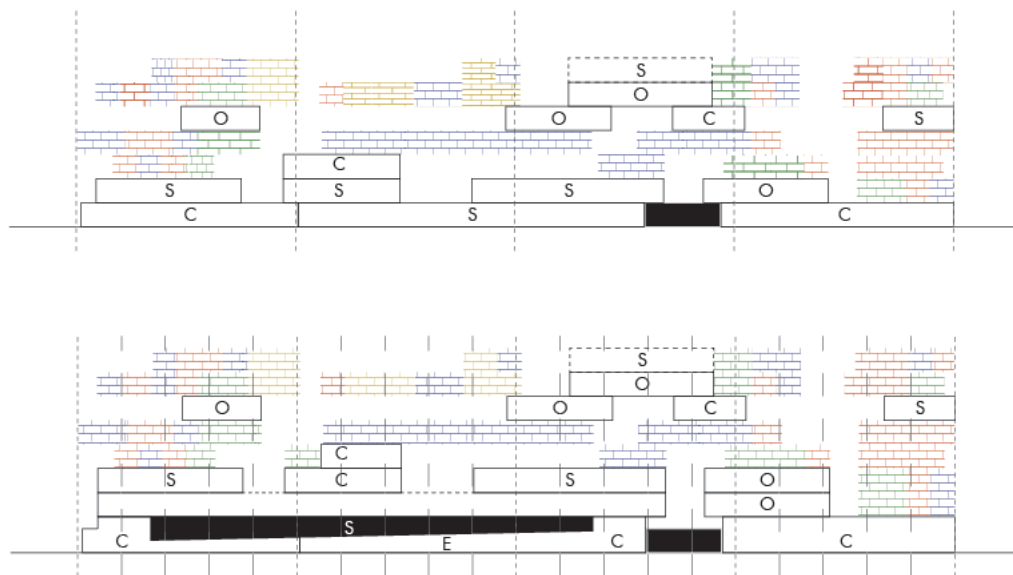


Figure 5.13 Sectional diagram extending from Figure 5.12 to explore opportunities of separating and connecting volumes and programme in both horizontal and vertical orientations.

Key: C = commercial, O = office, S = social

	STUDIO
	1 BED
	2 BED
	3 BED
	NON-RESIDENTIAL

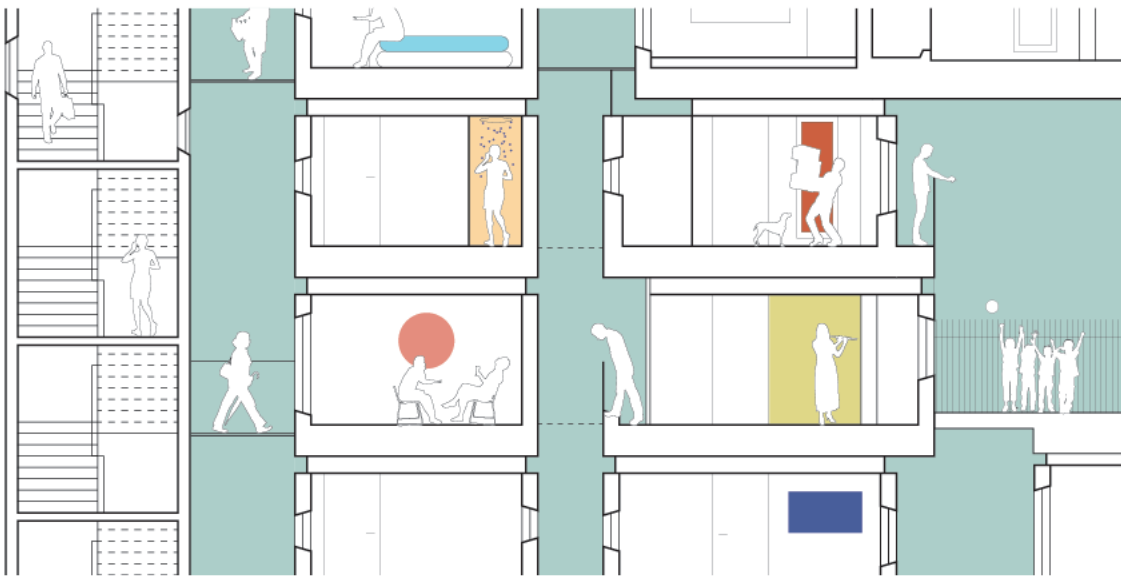
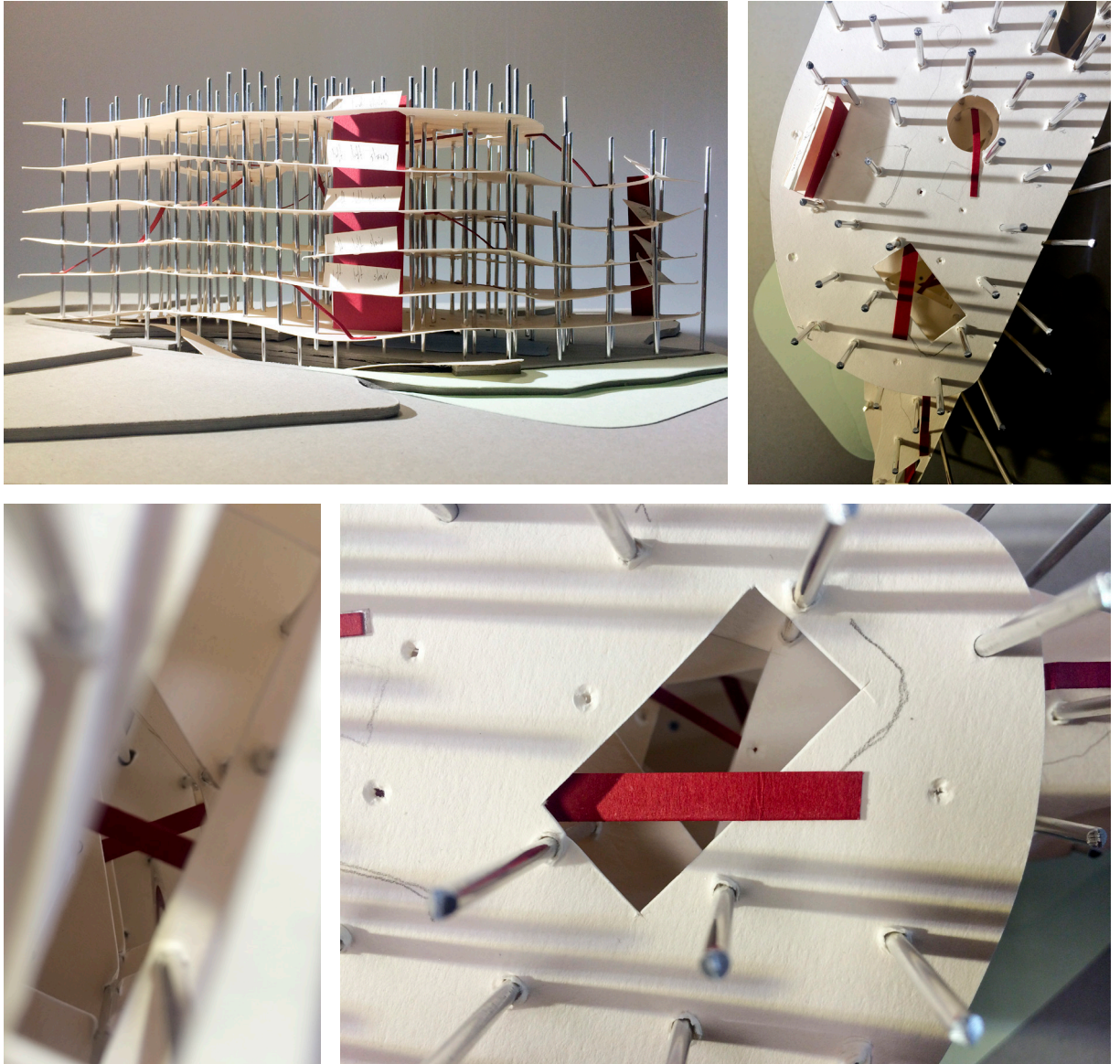


Figure 5.14 Concept section of how voids can activate the separation and connection of dwellings, and encourage participation across levels.





*Figure 5.15* Photographs of an experimental physical model constructed at 1:250 scale to explore how the striation of levels could be activated through visual connections (voids) and physical connections (circulation). While the model assisted in understanding the scale of voids in relation to the built form and site, it was a difficult method to use in translating the diagrams to three-dimensional form. It raised questions about construction and programme that were yet to be explored.

*Figure 5.16* SL11024 by Lorcan O'Herlihy Architects is an urban university campus in Los Angeles, United States, housing a broad and active community whose living patterns defy boundaries of home and work. The building volume is split into two, providing a defined circulation path through the property. The strategy of linking and stacking in this building is a powerful gesture that offers a multi-layered connection to both the residents and the neighbourhood.

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## DWELLING ACCESS TYPES

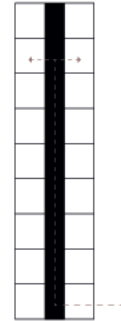
This chapter began by discussing the characteristics and qualities of assembling and relating, linking and stacking, various combinations of programme. In practice, a residential building is not usually designed based on the linking and stacking of dwelling volumes; instead, the contextual and aesthetic aspects commonly determine the form and shape of the building volume (Leupen and Mooij 145). This thesis takes the opposite approach, determining different ways of providing access to the dwellings to drive the design of 95 Victoria Street.

Bernard Leupen and Harald Mooij write that access has the ability to create a “collective domain shared by all the individual users, where they run into one another and, if they wish, may spend time together” (171). The design of the access at 95 Victoria Street creates conditions that “invite people ... to use it as a space for collective habitation” (171). When increasing the chance for connection through collective habitation issues of privacy arise. On reflection, the publicly accessible circulation at the lower levels of 95 Victoria Street could have implications for the privacy of the individual dwelling. Further design investigation is required to ensure that new models of higher density housing maintain a level of shielding, thus increasing opportunities for desirable habitation.

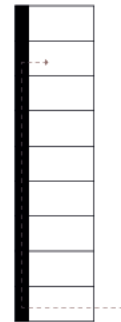
Figure 5.17

Dwelling access diagram exploring the possible ways to enter and leave 95 Victoria Street. The examples shown are appropriate for the scale of the building and are diagrammed as a tower or slab configuration. The design has explored multiple options for access resulting in a combined configuration of direct access from the street, corridor, and gallery access types.

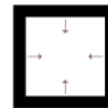
CORRIDOR



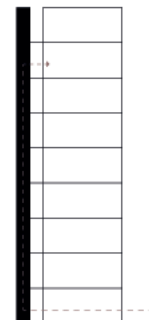
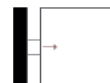
GALLERY



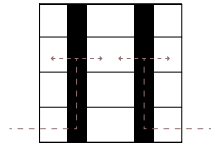
DECK ACCESS



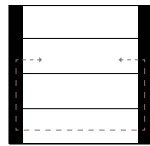
ANNEX



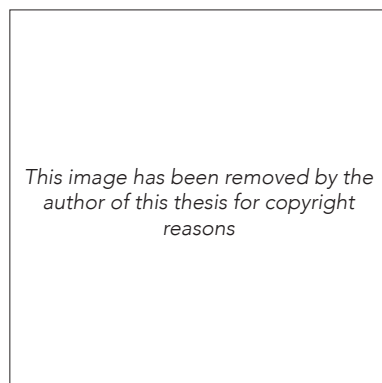
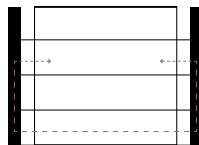
## SLAB



RUE DE L'OURCQ



FORMOSA 1140



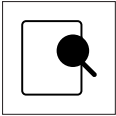
DOLDERTAL APARTMENT HOUSES



Figure 5.18

Examples of successful dwelling access types in case study buildings that were analysed earlier for density and amenity. In all of these examples the access forms a zone between the dwelling and public realm outside.

## CASE STUDY



Dorset Street Flats, 1956 – 57. Christchurch, New Zealand.  
Architect: Sir Miles Warren.

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Figure 5.19 Photographs of Dorset Street Flats.

Designed by Miles Warren on his return from London these flats introduced a new kind of detailing to New Zealand's domestic architecture — inspired by characteristics of New Brutalism and the towering blocks and terraces of flats experienced in post-war Britain. Described as being “amongst the most important domestic building built in New Zealand in the second half of the twentieth century”, these flats marked the emergence of a new kind of residential living in New Zealand: a small-scale group of purpose-designed, modern, modest-sized one-bedroom city flats for minimal living (Halliday and Whybrew).

The building consists of two groups of four one-bedroom flats, slightly offset and bisected by an external stair (Walker). The ground level flats open onto planted garden terraces, separated from the adjacent footpath by concrete block walls. Upper-level flats have recessed balconies overlooking the terraces. Economical at 45m<sup>2</sup>, the opportunity for communal interaction is limited save for the communal laundry and small shared garden at the rear, complete with lawn, rotary washing line and various plantings — playing to the emotional investment in a particular housing form: the detached house and garden model.

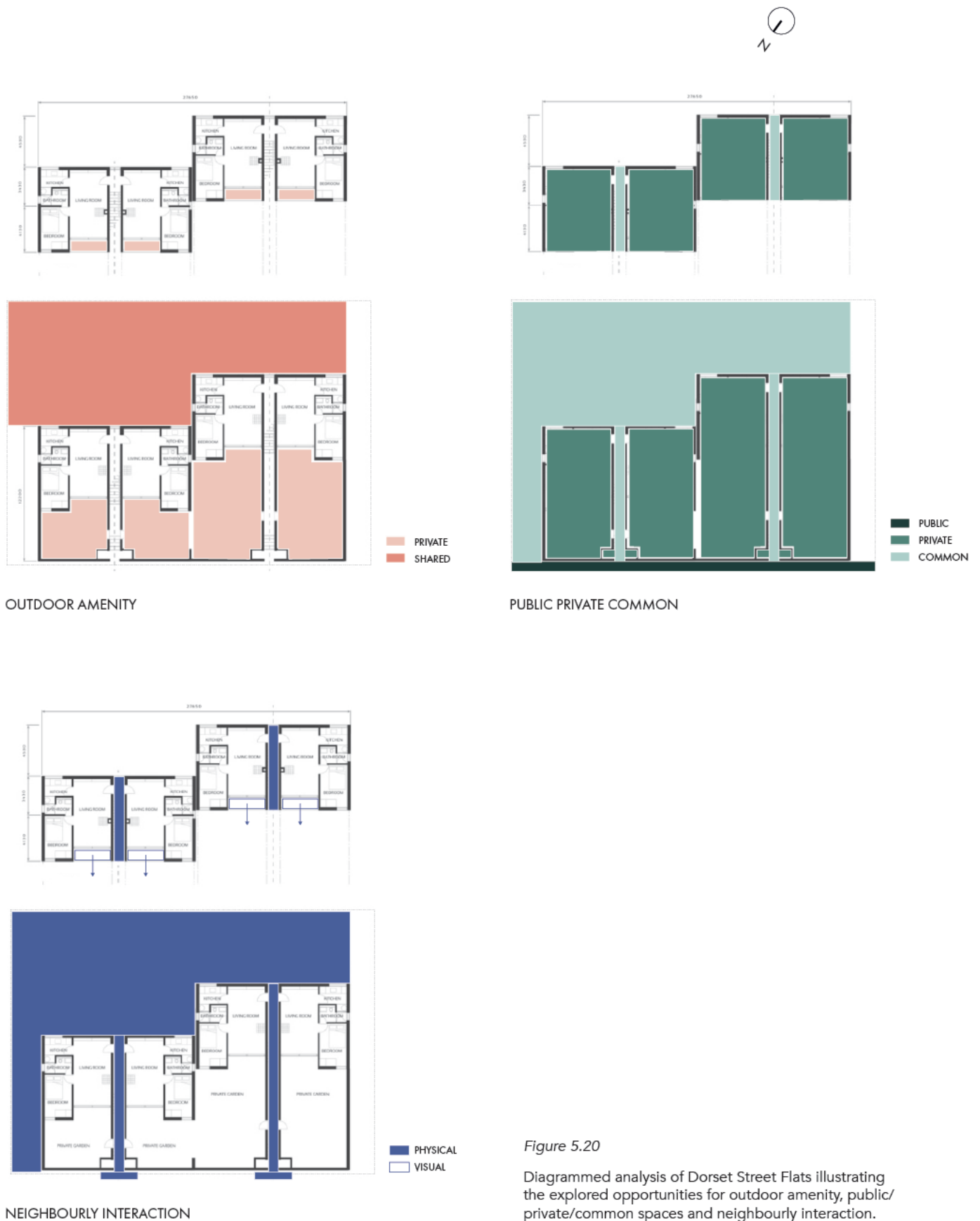


Figure 5.20

Diagrammed analysis of Dorset Street Flats illustrating the explored opportunities for outdoor amenity, public/private/common spaces and neighbourly interaction.

# Interstitial Space

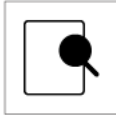
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Interstitial space creates conditions of neighbourliness. Acting as a cleavage, these small, narrow spaces provide the opportunity to simultaneously separate and bring together. As an edge, they can seem like the boundary of built form but more often than not, they signify a transition from one space to another. In housing, interstitial spaces are observed in the doorstep, the balcony and the built edge forming a passage. At times considered as 'empty-space', or 'in-between' space, interstitial space is a site of often undervalued or taken-for-granted possibility for connection.







During this research analyses of existing dense urban housing environments in Wellington were carried out to evaluate the proximity of dwellings and opportunities for interaction between neighbours. The characteristics of the Mount Victoria case study introduced the exploration of the party wall and an investigation that illustrates the “complex relationship between architecture and culture” (Stoner 127). For architect Jill Stoner, a wall does more than separate, it connects.

BROUGHAM STREET



QUEEN STREET



PORRITT AVENUE



*Figure 5.21* The analysis of a figure ground study of Mount Victoria, Wellington, resulted in the observation that this inner city suburb, located only one kilometre from 95 Victoria Street, is densely populated. A site investigation to map and measure the interstitial spaces on selected streets in this desirable location was undertaken.

From street observations there is high proximity to neighbours — what may have appeared in the figure ground as a large footprint is in fact made up of smaller, individual dwellings, much like an apartment building. The shared party wall is prominent, creating both a shared and separated environment. There are many small gaps and passages, often providing access to the rear of the property or for services and amenity.

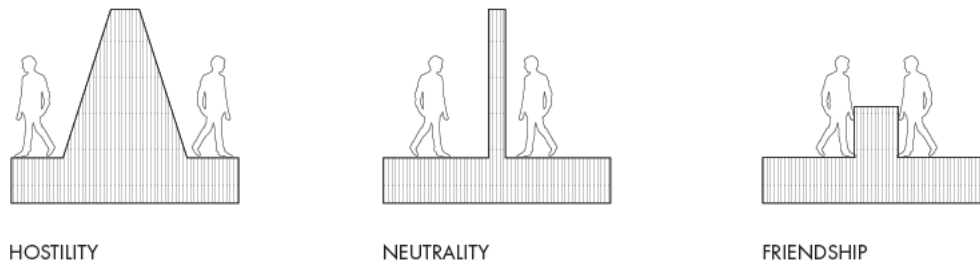


Figure 5.22 Diagram of the physical manifestation of the party wall as a found condition. The qualities of hostility, neutrality and friendship are at the core of human relationships and can serve as metaphors when applied to the design of higher density urban living.

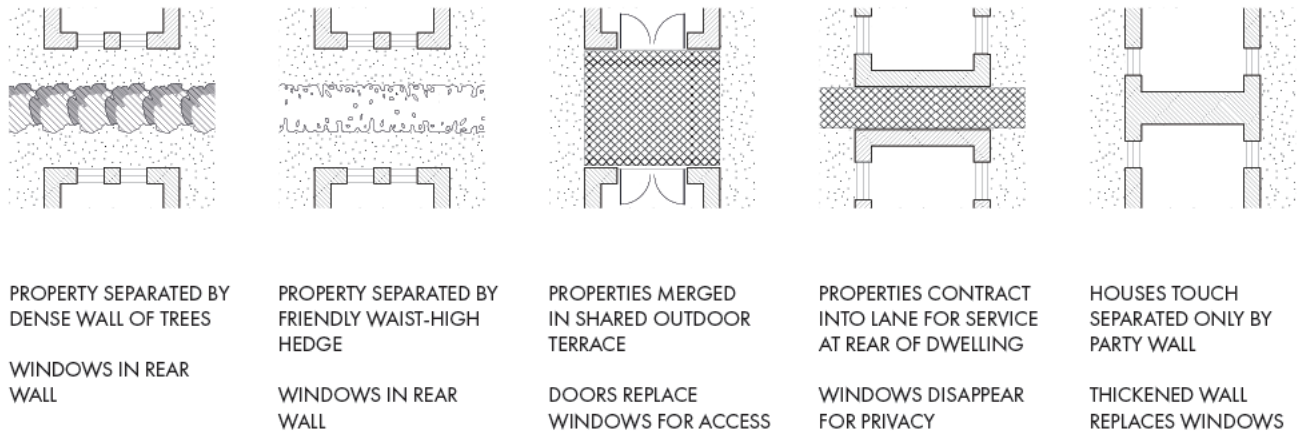


Figure 5.23 Diagram of the transformation of a single detached house and garden model to a typical row house with party wall. In an urban context, this study highlights the 'squeezing' of space to accommodate more dwellings. The loss of amenity — the suburban yard or lane — that can foster connections in the community is removed, replaced with separateness, autonomy and privacy.

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The party wall both separates and connects units, and households, in a multi-residential complex. Through their design and construction, party walls can have different consequences. Stoner's demonstration of conceptual and architectural ways to treat the party wall encourages a focus towards the "potential for social relationships to act as generators of dwelling form" (127). The spatial condition of the party wall — like the fence — can be considered a symbol of closure, however the social condition of the party wall can define relationships among households, their neighbours, and society.



The design manipulates the party wall to mediate between adjacent dwelling units. At times, the wall is made thin or with openings, as a sign of neutrality, although this challenges privacy. Constructing views into the shared spaces or voids are encouraged. Partially removing the wall, or readjusting the separation to enable more direct sharing is also explored — creating shared spaces between dwellings and increasing outdoor amenity by linking loggias, as seen in Dutch architect Herman Hertzberger's Haarlemmer Houttuinen housing (1973) in Amsterdam, The Netherlands (see fig. 5.24 and 5.25).



Here, the flexibility in the looseness of definition, the overlapping of spaces and functions, promotes spontaneity and choice. Of particular interest in this case study are the many degrees of "gradation between inside and out, and also between the public, semi-public and private realms" (Buchanan) that work to coax residents out of anonymity and provide copious opportunities to meet when coming and going.

*Figure 5.24* (Previous, left) Photograph of Herman Hertzberger's Haarlemmer Houttuinen housing showing the external access to the dwelling units and the external private space. Hertzberger employed many devices to promote personal display and community interaction, including the sharing of balconies between apartments.

*Figure 5.25* (Previous, right) Plan of Haarlemmer Houttuinen.

“ The potential for a space to become loose may lie in its relationship to other spaces. ”  
(Franck and Stevens 9)

# 06

## Looseness

Looseness and informality — the possibility and diversity of space — is measured by unrestricted spaces, a degree of freedom in the function and flexible dwelling types. In contrast to tight spaces, where regulation attempts to pre-determine activity, looseness considers the transgression of formal spatial and temporal boundaries in the lived spaces of everyday life.

---

FLEXIBILITY

HARD + SOFT

CENTRALISED + COLLECTIVISED

# Flexibility



Continuing Herman Hertzberger's investigation into the use of the free plan and a reaction again functionalism, the opportunities for flexibility in housing seems sensible, but the tendency to design buildings — or dwellings — that correspond to a specific type of household at a specific point in time is a common trend (Schneider and Till). Argued in their paper that outlines the opportunities and limits of flexibility, Tatjana Schneider and Jeremy Till state that “flexibility is an important consideration in the design of housing if it is to be socially, economically and environmentally viable (157). Their definition determines flexible housing as “housing that can adapt to the changing needs of users” (Till and Schneider 287). Intentionally broad in definition, the degree of flexibility is resolved in two ways:

- In-built opportunity for adaptability: defined as *capable of different social uses*
- Opportunity for flexibility: defined as *capable of different physical arrangements*

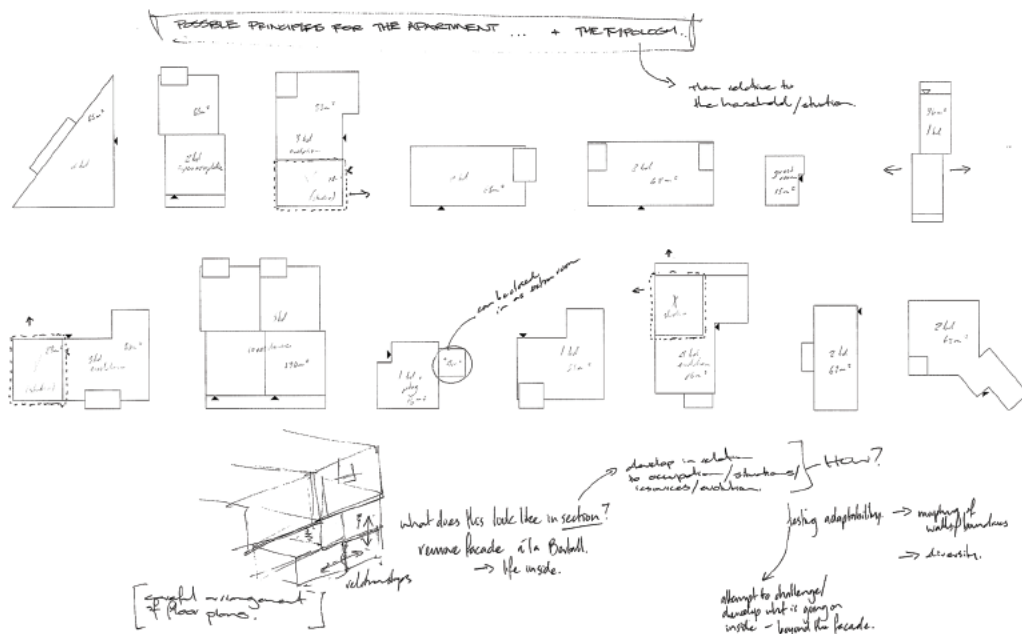
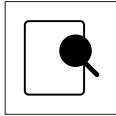


Figure 6.1 Early sketch designs of apartment typologies in an attempt to create variety whilst maintaining flexibility. The problem with this approach was that the variation created too many options. From here a decision to maintain a spatial grid was established.



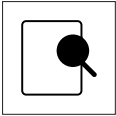
EM2N Architekten's Siedlung Brombeeriweg housing project in Zürich, Switzerland, offers a model of flexibility based on a spatial grid, isolated services, and the internal rearrangement of walls (see fig. 6.2, 6.3). This potential of different apartment layouts makes it possible for occupants to react to their changing demands and needs.

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**Figure 6.2** View into one of the large apartments (93 m<sup>2</sup>) consisting of two rooms — a very large room with kitchen and a standard size room to the right.

**Figure 6.3** Diagram indicating the twenty-five possible scenarios of the variable plan, achieved through the rearrangement of internal walls.



105 housing units for Madrid is an unbuilt project by Spanish architects TEd'A arquitectes. Much of the practice's research centres on the use of housing as a means to test the possibility and diversity of tight spaces — analysed through the perceived inhabitation of human activity. Here, a small footprint — usually associated with containment and regulation — is activated by formal spatial and temporal boundaries that respond to everyday life. They are *lived spaces*.

#### A NEW DAY EVERY DAY

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In daily use, three areas of the home are sorted diagonally and enjoy both the visual relationship between them, and their independence.

Tonight, a party with friends. The removal of some furniture allows the dwelling to become a container for social activity.

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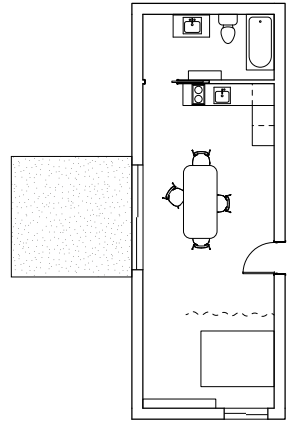
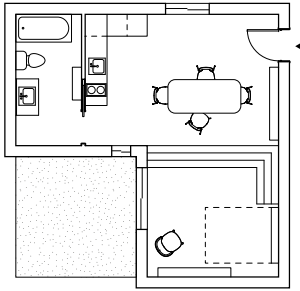
Lunch today with extended family and friends. Two of the three areas, the kitchen and living room, are connected with a large table and views to the outside.

On a hot day, retreat to the terrace and open all doors enabling cross ventilation

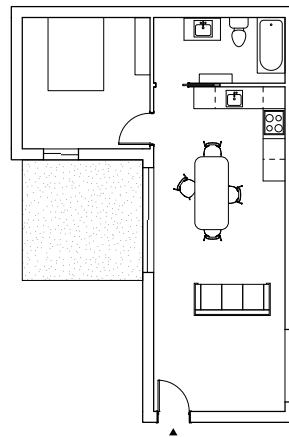
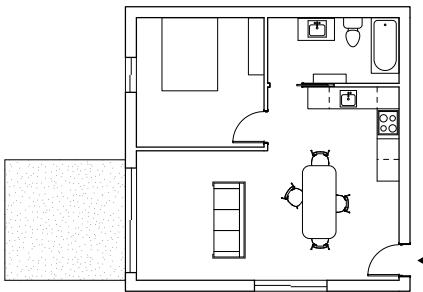
**Figure 6.4** Developed analysis of TEd'A arquitectes' 105 housing units for Madrid dwelling plans. The observation of daily activity is noted and contributes to an understanding of how flexible spaces can be arranged through simple yet careful spatial planning.



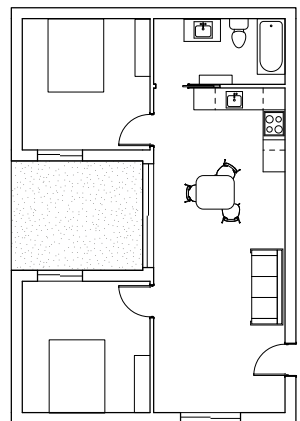
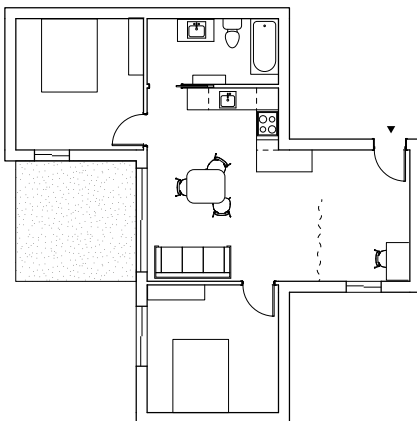
#### VARIATIONS OF A TYPICAL STUDIO APARTMENT



#### VARIATIONS OF A TYPICAL ONE BEDROOM APARTMENT



#### VARIATIONS OF A TYPICAL TWO BEDROOM APARTMENT



0 1 2 4 5 METERS

Figure 6.5 Examples of floor plan configurations at 95 Victoria Street, allowing for flexible inhabitation of spaces. The use of a 3.6m x 3.6m spatial grid to plan the dwellings ensures that minimum standards for occupiable rooms are met. The basic services (kitchen and bathroom) are centralised for efficiency.

## Hard + Soft

---



Alongside the argument for flexibility in urban housing is a suggestion of categorising the use of space into ‘hard’ and ‘soft’ — referring to tactics that affect the potential for flexibility.

Soft use is associated with spaces which allow a certain “indeterminacy”, whereas hard use refers to elements that determine the way in which the space may be used (Till and Schneider 289; Sommer). Soft use allows the user to adapt the space according to their needs, the principles of which are embedded in the detached house in a garden model. Historically, this has allowed a range of often do-it-yourself responses to the changing demands of those who dwell at the address. In the apartment typology, soft use tactics are evidenced in the application of furniture and possessions in the interior but rarely extend beyond the private dwelling (see fig. 6.6).

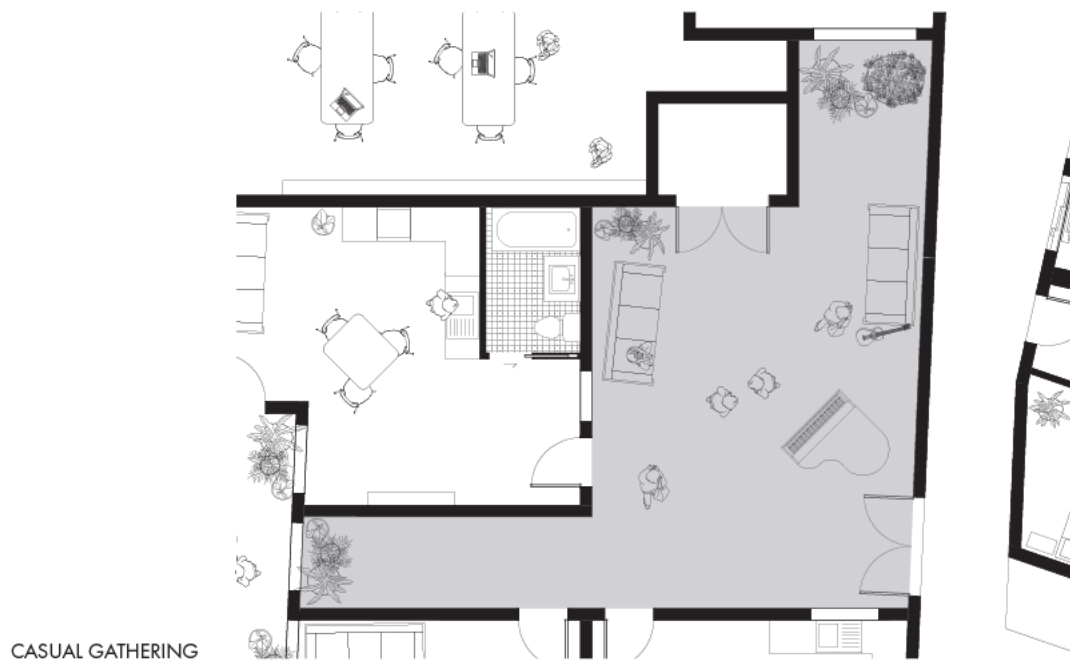
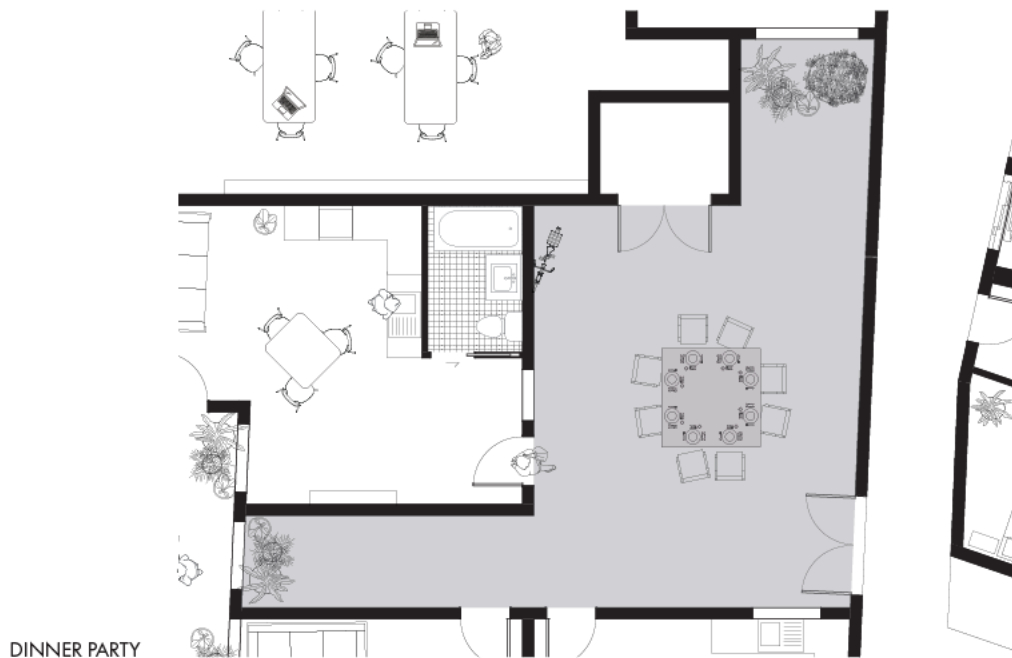


The indeterminacy approach of soft space is harnessed in the design of 95 Victoria Street and exploited through the use of shared spaces at the threshold to the individual apartments. Physically fixed but socially flexible, the common space is provided as “raw space” that can then be used or divided according to the needs of the occupants of the adjacent apartments (Till and Schneider 290) (see fig. 6.7). The principle of this provision in higher density urban living environments is an attractive opportunity to create desirable neighbourhoods between a small number of apartments. However, it could be seen as inefficient in terms of space usage and storage.

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*Figure 6.6*

*10/1*, by photographer Bogdan Gîrbovan, is a series of ten photographs taken in ten single room flats in an apartment building in Bucharest, Romania. The vertically stacked dwellings are identical, both in the hard detailing of the interior and the exterior. By taking a photo of each apartment from the same angle, the project is an insightful offering that reveals how differently people can live in identical apartments. Described as “mere boxes” Gîrbovan illustrates the soft use opportunity for the individualisation of spaces making identical rooms their personal homes.



*Figure 6.7* Opportunity for the use of space in the commons. Speculating on how the shared space could be used by apartment dwellers enabled critique of this space, resulting in the need for a more fluid arrangement — between public and private, larger and smaller, open and intimate, quiet and loud. The opportunity to offer a range of different qualities in the spaces allows people to find their preference and make choices within that.



YOGA



PARTY

# Centralised + Collectivised

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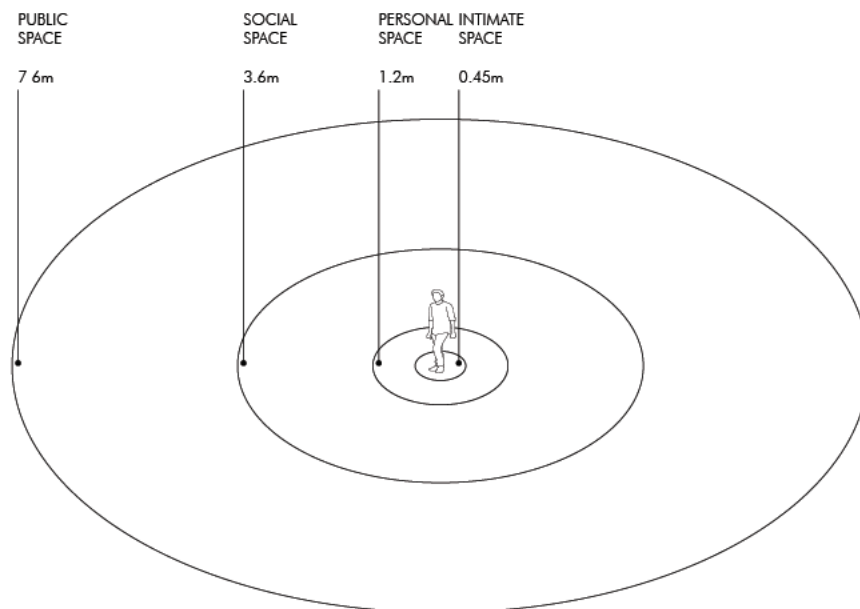


The design of common spaces at appropriate distances for various social interactions provides an opportunity to develop a new way of living collectively. This research explored small groupings of apartments around shared spaces at sizes that can provide space for activities requiring larger or more diverse configurations (see fig. 6.10).



Edward T. Hall, an American anthropologist and cross-cultural researcher, defines four social distances as:

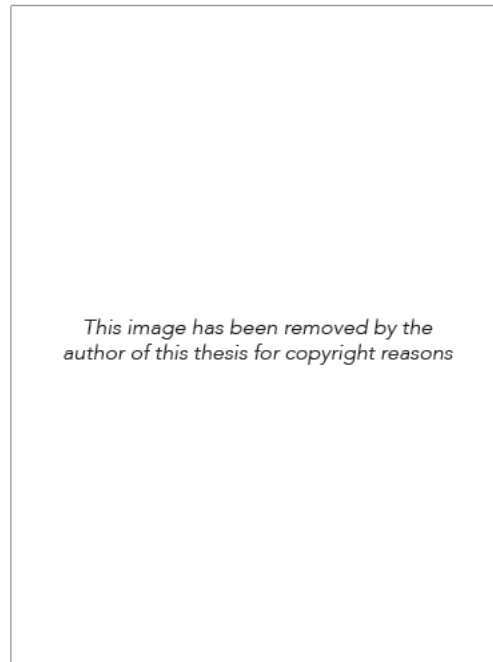
- Intimate: in which intense feelings are expressed
- Personal: the conversation distance between close friends and family
- Social: the “sofa group” distance for ordinary conversation
- Public: used in more formal situations (qtd. in Gehl 69).



*Figure 6.8* Diagram of Edward T. Hall's four distance zones of proxemics — the branch of knowledge that deals with the amount of space that people feel it necessary to set between themselves and others. From this study the common spaces in the design of 95 Victoria Street should measure 3–5 meters in any direction and larger spaces will be read as public.



Karel Teige's discussion of the tension between architecture and a sociology of dwelling is surveyed in his book *The Minimum Dwelling*, which advocates for a new mode of dwelling based upon the sharing of collective services combined with the utmost respect for the individual who is entitled to his or her own dwelling. A convinced Marxist, Teige promoted how the reform of dwelling types might correlate to a new social organisation (see fig. 6.9) — no longer based on the ideal of the nuclear family, but on the recognition of each adult as an active agent in public life.



*Figure 6.9* Schema of a collective dwelling in Karel Teige's *The Minimum Dwelling*. This extreme scenario reduces the apartment to an individual living cell; a combined living room and bedroom. The social, cultural and economic factors of dwelling are centralised and collectivised in this organisational basis for a collectivist reconstruction of dwelling.



For New Zealanders, our private space is private. Higher density living environments are fundamentally closer living environments, and within these it is important that we don't feel too exposed. This is achieved in the design at different scales and levels: through multiple access points both at street and floor levels, and through smaller groupings of apartments. This simple change creates a psychological shift, creating small communities within the building.





# 07

## A Resolution

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DESIGN EXEGESIS

OPPORTUNITIES + LIMITATIONS

A FUTURE HOME



# Design Exegesis

---

Housing in New Zealand has long been defined by the 'quarter-acre dream', a large, individual and privately owned section with a detached single-family house. Yet today, this mythical paradise is unavailable, unaffordable and unsuitable for many. As New Zealand experiences rapid transformations in how we live, work and socialise, this thesis argues a new model for urban dwelling is needed. Two situations were identified as being critical to this problem: the changing face of New Zealand's population, and points of resistance to higher density living. It argues that apartments are a necessary part of our future and the move towards higher density living in New Zealand's major cities provides an exciting opportunity for architecture. The design seeks to resolve some of the problems associated with New Zealand's initial round of higher density development.

The investigation of a 'big picture view' of domestic architecture in the urban environment was aided by a definition of the complex qualities and methods concerning the relationships between oppositions. Case studies and literature reviews, along with various design experiments, provided an approach to explore these relationships through three strategies: Hybrid, Separations & Connections, and Looseness.

This research discovered the following:

### ***A conceptual framework***

The research offers a conceptual framework with a series of strategies that demonstrate the potential of the apartment building to re-define urban living and the peculiar New Zealand urban dream. The architectural devices tested contribute to ongoing research in the profession that seeks to “make density in the city as sexy as it was to live in the suburbs” (Bossley).

### ***The significance of new typologies***

Moving closer to the peculiar New Zealand urban dream requires an unusual approach to urban living. In this project, the generic terms of zoning, typology and form are challenged, allowing an exploration of spatial conditions that encourage dwelling diversity, promote sociability, and create conditions for neighbourliness. The research suggests we need to continue with the invention of a new typology that can produce hybrid, flexible environments, and an organisation of space that transfers agency to the users to inhabit them as they wish.

### ***From diagram to building***

It was a challenge translating two-dimensional diagrams exploring opportunities for horizontal and vertical integration, and visual and physical connections, into three-dimensional space that attempted to be an efficient and desirable arrangement for urban living, working and socialising. This was negotiated through a shift in scale and approach to the design but the final design outcome still requires additional development and resolution. This raises further questions: What does this mean for this approach to design? Is it only appropriate at early concept phase? Or, can it be utilised in more detailed phases of design?

## Opportunities + Limitations

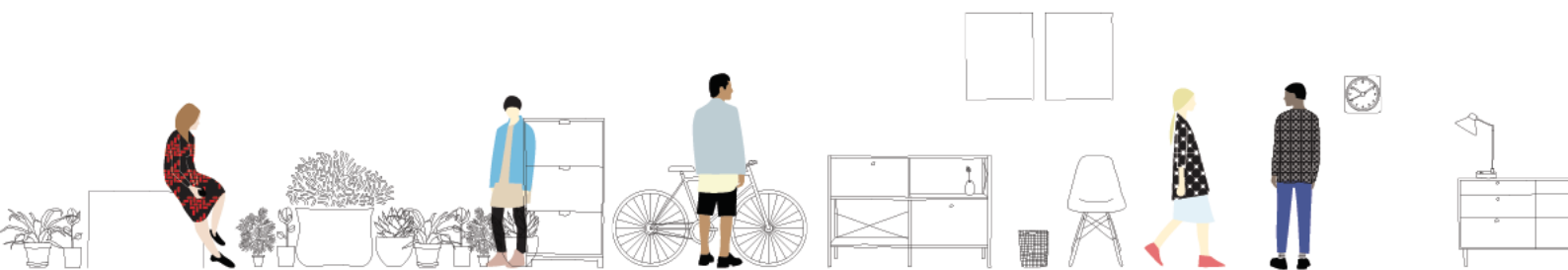
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We need a new name for density. As suggested by Keiren McNerney, it demands “a charming new euphemism that describes a rich and complex layering of life and culture” (51). If we can explain density and shift public perception, the design of a twenty-first century urban dream will be easier to grasp.

Using strategies and devices, this thesis focussed on general lessons in designing buildings that mix public and private usage in dense, complex and amenity-rich urban areas. Housing often falls back on a formulaic approach. This research wanted to avoid that and contribute a holistic methodology to the development of homes in the city with the perceived benefits of the mythical ‘kiwi dream’. It is intended that these strategies could be harnessed to this purpose through further development.

The research is a concrete attempt at solving the ever-present problem of mass-housing. Early in the design research, characters — representing “the Forgotten People” (see p. 30) — were created to imagine the occupants of 95 Victoria Street. The quantity of data to qualify the diversity of dwelling types was mind-boggling at the time. This led to an approach that instead identified broad categories of household units to ensure a mix of types and flexible configuration. A criticism of this project could be seen here; the analysis of the success or failure of the design has had to be done without the voice of likely residents.

Whilst I write, the Unit Titles Act (2010) is being reviewed to ensure that the law regulating unit titles is functioning well and is fit for a growing market. Increased public education and awareness is a significant part of any successful reform; this could go some way in challenging the resistance towards apartments. On reflection, the management of higher density living environments raise questions beyond what architecture can provide answers for. It is the role of the designer to challenge this, providing new and acceptable solutions to desirable higher density dwelling.



## A Future Home

---

“ It is something that architects will always be exploring.  
The way we dwell. ”

(Booth 3)

The strategic principles of the design could be replicated, modified and extended to contribute to the continued exploration of apartment design, and the potential for the apartment building to re-define urban living amidst a transforming urban New Zealand identity. In addition, the context of other sites could further inform ways to acknowledge the cherished aspects of our suburban ideals, and provide further opportunities to create a new model of urban intensification.

The architectural devices could be applied to new residential development across many under-utilised sites in New Zealand's urban centres. There is an opportunity to contribute to the mitigation of New Zealand's escalating housing problems by increasing density and resolving some of the issues associated with our initial round of higher density.

The promotion of higher density development does not spell the extinction of the single detached dwelling. Rather, it provides a choice to be able to live in a connected neighbourhood, with universal qualities of good amenity and convenient location. It offers the opportunity for many kinds of people to better live within and contribute to our cities, and our peculiar New Zealand urban dream.



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“ I have a dream that architecture can bring something to contemporary society.  
Architecture is how people meet in space. ”

(Sejima qtd. in Roux)

*Figure 7.1* (Previous) Apartment dwellers living the peculiar New Zealand urban dream.

*Figure 7.2* Rolf Sachs, *Alone in a Crowd*, 2010. The opportunity to discover random and humorous frames of everyday life is seen in this piece of furniture, representing all walks of life, genders and ages 'alone in a crowd' just beneath the surface of a table.

# List of Case Studies

*[in order of appearance]*

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The Commons, 2013  
Melbourne, Australia  
Architect: Breathe Architecture

Figure 7.3

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Portal, 2003 – 2007  
Wellington, New Zealand  
Architect: Architecture +

Figure 7.4

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Block/Tower, 2011 – 13 (unbuilt)  
New York City, United States  
Architect: Stan Allen, Rafi Segal

Figure 7.5

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Bryghusprojektet, 2006 – ongoing  
Copenhagen, Denmark  
Architect: OMA

Figure 7.6

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Rue des Suisses Apartment Buildings, 2000  
Paris, France  
Architect: Herzog & de Meuron

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Rue de L'ourcq, 1993  
Paris, France  
Architect: Philippe Gazeau

Figure 7.8

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Doldertal Apartment Houses, 1936  
Zurich, Switzerland  
Architect: Marcel Breuer, Alfred and Emil Roth

Figure 7.9

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Nexus World Housing, 1991  
Fukuoka, Japan  
Architect: OMA

Figure 7.10

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Moriyama House, 2002 – 05  
Tokyo, Japan  
Architect: Office of Ryue Nishizawa

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Upper House, 2014  
Melbourne, Australia  
Architect: Jackson Clements Burrows Architects

Figure 7.12

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Formosa 1140, 2008  
Los Angeles, United States  
Architect: Lorcan O’Herlihy Architects

Figure 7.13

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Layfayette Park, 1962  
Detroit, United States  
Architect: Mies van der Rohe

Figure 7.14

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Metropolitan Housing Studies, 1996  
Japan  
Architect: Kazuyo Sejima

Figure 7.15

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Silodam, 2002  
Amsterdam, The Netherlands  
Architect: MVRDV

Figure 7.16

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Dorset Street Flats, 1956 – 57  
Christchurch, New Zealand  
Architect: Sir Miles Warren

Figure 7.17



Figure 7.18

Mount Victoria, 2016  
Wellington, New Zealand

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Figure 7.19

Haarlemmer Houttuinen, 1973  
Amsterdam, The Netherlands  
Architect: Herman Hertzberger

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Figure 7.20

Siedlung Brombeeriweg, 2003  
Zürich, Switzerland  
Architect: EM2N Architekten

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Figure 7.21

105 housing units in Madrid, 2011 (unbuilt)  
Madrid, Spain  
Architect: TEd'A arquitectes

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