THE URBAN BACKYARD

RESILIENT SPACES FOR URBAN
DWELLERS.

BY

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The unsustainable nature of New Zealand's ongoing suburban expansion is reflected by our self-entitled obsession with owning space or land. In a survey commissioned by Mitre 10 (Mitre 10, 2014), 1500 New Zealanders were asked for their opinions of the size of backyards and how they use them. "Most survey respondents, 84 per cent, agreed they liked the idea of the traditional Kiwi quarter-acre paradise - a large plot of land with a standalone house on it, and almost all said they would rather live on the traditional quarter-acre section than in high-density housing." (Small, 2014) The backyard is a classic space that New Zealanders feel entitled to possess ownership, but if all we require is "enough room for a barbecue" and want "a bit of grass out the back" then we are consuming more space than we need. (Small, 2014)

Here, begins an argument for a change in planning. Living in closer and more compact cities has been the catalyst to a more life-filled and active space in American and European cities. But close and compact are not typical to the vernacular in New Zealand. A hybrid form of city living could be found by experimenting with the typical New Zealand suburban lifestyle in urban spaces. By doing so more New Zealanders may decide to live in these new urban spaces. This research explores how a dense urban settlement can integrate the suburban model of a backyard to help facilitate better living spaces in Wellington. Smoothing the barrier between public and privatised space will help these spaces become more appropriated for encouraging human interaction and eventually promoting a sense of ownership and community over the shared backyard space.

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part one.

INTRODUCTION

BACKGROUND

NEW ZEALAND'S TENDENCIES

1.0

The unsustainable nature of New Zealand's ongoing suburban expansion is reflected by our self-entitled obsession with owning space or land. New developments create problems of sprawl, privatisation, polarisation and transportation. We are radiating outwards from the urban core where space is more readily available essentially expanding the extent of the city. If the city cannot work with nature then by expanding continuously, we are exhausting our own natural resources. Furthermore by choosing to become increasingly spread out, pressure to connect these settlements acquires more land from nature.

Here, begins an argument for a change in planning. Living closer and more compact environment is seen as unhealthy and unrealistic for New Zealanders but may be what is required to halt our need for acquiring and developing more land. Our ideologies for new families to move to the suburbs, buy a house with a nice backyard and raise a family is becoming more unobtainable and is causing sprawl. A hybrid of urban and suburb lifestyles should be reached for not only families to have the choice of living and raising children in the city, but elderly and other ages groups that currently reside in the suburbs. A middle ground between space for activities like a backyard and public space could allow an urban-suburban hybrid.

This research explores how a dense urban residential dwellers can associate and have a relationship with a public space so that it feels like a backyard in Wellington. Finding a balance between public and private space will help generate resilient communities and allow residents to appropriate public space as a backyard while still maintaining access to the rest of the city.

1.1 The ‘problem’

“The world’s urban population is expected to increase to 66 per cent by 2050.” (UN, United Nations)

New Zealand is a small country that has a large culture for having access to cars. If we have an increased urban population, there is more people in the city and therefore less room for cars. Cars become a problem for the city; requiring space, creating barriers and disrupting pedestrian activity (Tachieva, 2010). Our large cities are widely dispersed and lack the density of other overseas cities with large transport infrastructure which makes the car so popular. The future urban growth will require us to transition towards active and public transport to preserve space.

Large populations with access to cars also create sprawl. Sprawl is a fragmented ongoing expansion and acquisition of space to facilitate population growth outside the city (Tachieva, 2010). By expanding outwards we are carelessly repurposing the landscape for our own lifestyle, damaging

ecosystems and encouraging similar development for the future until we finally run out of space.

Instead of expanding outwards we should densify existing urban environments. This can be achieved by having a less car-accessible city, hierarchy of pedestrian movement will dictate future urban growth, devising a more people friendly city.

By densifying the urban environment we are reducing our care for the landscape we occupy. What we need is to develop a system where urban development can work with nature to reduce the effects of urbanisation on the landscape and in turn improve the quality of the city.

TRENDS OF URBANISATION

DECENTRALISATION AND SPRAWL

fig 01. Diagram of the travelling tendencies of the suburban lifestyle.

Opposite Page

fig 02. Wellington's satellite cities

DECENTRALISATION

DEALING WITH POPULATION DECENTRALISATION

DEALING WITH POPULATION INTENSIFICATION

fig 04. Intensification options diagram

Opposite Page

fig 03. Diagram of suburban expansion in Wellington

OPPORTUNITIES DENSIFYING CITIES

WORLD
URBAN
POPULATION

54%
2017

+33y
→

66%
2050

WELLINGTON
CITY RESIDENTS

250,000
BY **2043**

1.2 The opportunity

Forecast increases in urban population are similar both globally and locally in Wellington. In 30 years we will see a 10-15% increase (Nations, 2015) in people living in cities, this means that people are not only populating cities but moving from rural conditions into the urban environment.

An increase in the urban population generates escalation in congestion and spatial pressures, amongst other problems. Opportunities for Landscape Architects and the discipline as a whole to solve these rising issues are continually becoming a more critical issue.

Many solutions to congestion and spatial pressure can be solved by restricting the use of or eliminating the automobile from the city. This can be seen by reviewing how cities first established in the medieval ages, where citizens lived within walking distance to amenities, work and leisure space. Our discipline is becoming more familiar with implementing these ancient city values such as walkability and green space to improve the quality of our cities and quality of life of the city's citizens.

Opposite Page

fig 05. The trend of urbanisation in the world and in Wellington

IDEOLOGIES OF MEDIEVAL CITIES FOR THE PEOPLE

fig 06. Medieval cities model diagram

Opposite Page

fig 07. Contemporary pedestrianised city model

PAST

THE POST-MODERN CITY

VALUES OF ACCESSIBILITY +
LIVING WITH THE NATURAL

ECOSYSTEMS

RECREATION

WORK

HOME

FUTURE

LIVING IN CITIES TE ARO RESIDENTS

1.3 Te Aro, Wellington

This research will focus on the Te Aro suburb because it has a very limited diversity of age groups living within.

Te Aro takes up the majority of Wellington's urban area. It is made up of cafes, bars, restaurants, other commercial, light industrial as well as apartments and some low density housing (Stats NZ, 2013). Te Aro supports a large percentage of students and young professionals because of its proximity to institutions, amenities and public space. As urban populations increase, opportunities arise for Landscape Architecture to provide more friendly environment for children, parents and elderly. This in turn will diversify the age groups living in the city and lessen the need for long distance transport into the city.

Opposite Page

fig 08. Wellington vs The City population data, sourced from Stats NZ in 2013

DISCONNECTION

TE ARO PARK + RESIDENTS

chapter two.

THE PROBLEM

DISCONNECTION AND DISSOCIATION

2.0 A more detailed problem

Increasing populations challenge the standards of space, well-being and quality of life in cities. This is seen in dense cities and causes not only health risks but makes the overall experience of the city poorer. As the urban population rises, more accessibility is necessary to help offset the congestion. Residents access to space is important for leisure and wellbeing, often just creating public space is not the solution, the space needs to fit into peoples daily schedule so that it becomes functional.

Physical barriers disrupt the residents connection with public space meaning they do not form a relationship with the space. The public space becomes meaningless to the adjacent residences who cannot associate easily with that space. A lack of use and care of the space is a result of the poor relationship shown on the opposite page and therefore this space does not function or even feel like backyard to these adjacent residents. Instead the park is fairly neglected in a busy area of the city.

Opposite Page

fig 09. Diagram of Dixon street apartment's disconnection to Te Aro park

BEGINNINGS OF CONNECTION
FREDERICK ST + RESIDENTS

2.1 Existing inklings of socialness

This narrow and semi-enclosed one way street has become a small social community hub for walkers and residents. These apartments have an overhanging veranda which allows the residents to engage with the life in the street, whether intentionally or not. The resident can be playing music, drinking a cup of tea or reading a newspaper and still be part of the life on the street. The flexible socialness identified on this street in Te Aro gives residents the opportunity for public interaction and could help to generate a sense of community not only on this street but in other parts of Te Aro as well. The street itself becomes a monitored safe space but does not yet feel like a backyard.

Opposite Page

fig 10. Diagram of Frederick st apartment's connection to the street life

RESEARCH QUESTION:

Can the traditional model of a New Zealand backyard become **functional** in an urban setting to help residents **associate** with adjacent public space?

chapter three.

THE EXPERIMENT

URBAN BACKYARDS

3.0

The urban backyard is a response to the increasing pressure on cities to facilitate more citizens. By facilitating for a more diverse range of ages, the city can become a place for everyone.

Currently there is a lack of family and middle aged groups living in the city (Stats NZ, 2013). Looking at where these age group dwell we can find they tend to appropriate the suburbs and enjoy a suburban lifestyle.

Breaking it down further we can find that families tend to seek the suburbs because of the increased space allocation. Children like space to run around and play in and parents enjoy a space where they can bring guests and socialise. (Small, 2014)

A backyard is the centre point of the suburban lifestyle, so can the backyard become functional in an urban setting to create a family-friendly urban environment?

FLOOR PLAN
SCALE 1:150

QUALITIES:

ADJACENCY TO BACKYARD
INDOOR-OUTDOOR
CONNECTION

PRIVACY, OWNERSHIP
AND ASSOCIATION WITH
BACKYARD

3.1 Functionality of a backyard

To experiment with a backyard in a urban setting we will first have to identify what a backyard is and how it works. By studying a typical to low socioeconomic suburban dwelling that happens to be situated in Ngaio and have a modestly sized backyard for Wellington, we can start to breakdown the elements that are working in a New Zealand backyard.

Elements that produce a feeling of backyardness include:

i. Adjacency to residence

A backyard is usually connected to the back of a residence via decking, stairs, or simply a door.

ii. Indoor-outdoor flow

Usually a backyard will have good connection to the backdoor of a residence so it can become an extension of the interior, effectively creating a large outdoor room.

iii. Enclosed private space

The typical New Zealand backyard is surrounded by fences to enclose the space and shut it off to neighbours for privacy.

iv. Ownership and association over the space

A backyard uses the fore mentioned elements to give residents a feeling of ownership and association over the space.

Opposite Page

fig 11. Breakdown of typical New Zealand backyard

URBAN DWELLING
VICTORIA ST, WELLINGTON CITY

SUBURBAN DWELLING
TARIKAKA ST, NGAIO

3.2 The opportunity

The future of New Zealand's housing cannot continue to sprawl as a solution to our increasing population and rapidly appreciating housing economy. The new generation of families will have a harder time than ever purchasing a house and this situation will only continue to deteriorate. Now is the time to think about alternative living conditions for families and other age groups, the city is where this opportunity exists.

Intensification of the urban environment allows more people to live in a set amount of space. This is a great answer to the problem of sprawl but unfortunately reduces the quality of life of citizens. There is an opportunity here to support urban intensification with a key New Zealand suburban element - the backyard. The backyard is a element that generates a high quality of life and therefore is sought after by many, this is reflected in our tendencies as New Zealanders to live in suburbs rather than in city apartments.

Through implementation of these urban backyard the city may become a more desirable place to live for a wider range of age groups.

Furthermore, looking at the sizes of an example of floor space, we can see that the actual floor area of suburban and urban residences are similar. The space a backyard takes up can be translated into a shared space in an urban environment, this way the feeling of a backyard will be retained but leaves the large problem of privacy to be thought about and experimented with through the design process.

Opposite Page

fig 12. Adele Leah - Tarikaka State Houses
fig 12.1 Victoria Street Apartments - <http://vsprecinct.co.nz/wp-content/uploads/2015/08/vsp-n-apt-floor-plans-all-level-1.pdf>

RESEARCH PROCESS

3.3 Design-led research

Design-led research is a design experimentation process which allows the researcher to use creative techniques, practises and methods to form a research output.

Lastly, this research will reflect on the success of the design techniques and the design outcomes of the Urban Backyards in the context of Wellington. Then it will look at how the framework can be used to develop these spaces in other contexts.

3.4 Research method

The research methodology begins with identifying what a backyard does and how that informs how it is typically used both locally and internationally.

Once the elements of a backyard have been identified, they can be experimented with in an urban setting to test their success.

After testing the success of suburban backyard elements, further experimentation will lead to a simulation of an Urban Backyard where it can be reviewed and this research will speculate on the successfulness of the simulation.

A framework of Urban Backyard design guidelines can be developed after finding a successful simulation by isolating the design decisions and techniques.

Opposite Page

fig 13. Research Methodology

chapter four.

SITE ANALYSIS

WELLINGTON

4.0

This chapter will explore large scale analysis of the design site, Wellington City. Wellington City was chosen for this research experiment because of its growing urban culture and already high quality of life. Wellington's urban population suffers a lack of diversity in age groups, which has meant very large population of suburban dwellers. This research will observe the tendencies of urban dwellings and open spaces to then inform a more age group inclusive design outcome for improving the quality and diversity of the urban realm.

4.1 Large scale analysis

Wellington's urban suburbs are located around its harbour and have been developing slowly southwards since European settlement in 1840.

Wellington City is largely populated by suburban low density housing. Due to increasing spatial restrictions for new housing developments more and more Wellingtonians are finding it easier to move into the urban suburbs.

The current zoned inner residential and city centre area is defined as urban. This thesis will focus on experimenting with how future intensification in this area can develop in a way where it becomes a good place to live for a diverse range of age groups.

Opposite Page

fig 14. Extents of Wellington's inner urban zone

THE URBAN CURRENTLY INTENSIFIED

SCALE 1:50000

- URBAN EXTENTS
- BORDERING SUBURBS

THE NATURAL
PRESERVED LANDSCAPE

SCALE 1:50000

- CONSERVATION AREA
- GREEN SPACE
- ORIGINAL STREAMS
- ORIGINAL COASTLINE

chapter five.

DETAILED SITE ANALYSIS

KENT+CAMBRIDGE CORRIDOR

5.0 Site location

Cambridge and Kent Terrace are two large arterial roads that run parallel to the edge of the city zone area. As they sit on the edge of this zone, they should theoretically help transition the city into the residential suburb of Mt Victoria. Instead, these two arterial roads create a large pedestrian barrier which has hindered the development of this area for a long time.

There is a great opportunity to take this dilapidated north south corridor and experiment with development in a way that can benefit Wellington in both short and long term way.

Previous Pages

fig 15. Diagram of Wellington City's intensified area

fig 16. Diagram of Wellington City's green space area

SCALE 1:15000

- TRANSPORT HUB
- PUBLIC SPACE
- RETAIL & RESTAURANT PRECINCT
- CENTRAL BUSINESS DISTRICT

5.1 Active public places

Wellington City has a bustling pedestrian network which makes it an easily traversable city. But plans for future growth and development are focused predominantly on the southern end of the city - where there is less intensification and far less pedestrian permeability. The diagram on the opposite page illustrates the gaps in the urban fabric and suggests access and walkability in these areas may be responsible for the lack of activeness.

The focus site Kent and Cambridge Tce sits at the end of Courtenay Place - a popular pedestrian area - and continues south towards Pukeahu Park in the industrial area of Wellington City. This corridor of roads have the potential to accommodate a diverse range of activities and pedestrian thoroughfares to link up to the currently active

Opposite Page

fig 17. Active public places

SCALE 1:10000

- HISTORIC BUILDINGS
- ORIGINAL COASTLINE
- ORIGINAL STREAMS
- WAITANGI SWAMP

5.2 Historic landforms

To make design decisions in the site, it is important to understand how the landform works currently. It is therefore helpful to firstly understand the natural processes that existed before the urbanisation of this area.

Under this urban corridor runs the Waitangi Stream, which begins in Mt Cook, travels north under the Basin Reserve and finishes at Waitangi Park where it is partially filtered by wetlands then transferred into the harbour. The urbanisation of this area led to the Waitangi Stream being culverted 5 meters below the two arterial roads, Kent and Cambridge Terrace where it collects the stormwater for Mt Victoria, part of Mount Cook and part of Te Aro.

Opposite Page

fig 18. Historic landforms along Kent and Cambridge Terrace

KENT & CAMBRIDGE LAND USE

SCALE 1:7000

- RESIDENTIAL
- COMMERCIAL / RESIDENTIAL
- COMMERCIAL
- HOSPITALITY
- PUBLIC SERVICE BUILDING

**KENT &
CAMBRIDGE LAND USE**

SCALE 1:7000

- TRANSIT ROUTES
- CYCLE ROUTES
- COMMON PEDESTRIAN ROUTES
- BUS STOPS

EXISTING STRUCTURE

I DESIGN MOVE

ALTERNATIVE PATHS

5.3 Initial design move

Due to the opportunities available, this site was chosen to experiment Urban Backyard designs as a means of good residential and urban development.

The initial design move looks at the existing pedestrian and public space structure of Wellington and plans to reforge the broken link down the Kent and Cambridge corridor in a way that provides pedestrian thoroughfare, public space and restoration of natural systems.

Previous Pages

fig 19. Diagram of land use along the Kent and Cambridge corridor

fig 20. Diagram of transport options along the Kent and Cambridge corridor

Opposite Page

fig 21. Diagram of the links that need repairing or connecting from site analysis work

chapter six.

PRECEDENTS

EXAMPLES OF URBAN BACKYARDS

6.0

This chapter presents the key findings and ideas from a study of relevant built precedents. In particular these precedents focus on urban interventions that are both valued and critiqued for their attempts at establishing a subtle transition between public and private space in a variety of scales and urban settings. Through these intervention's different techniques, an appreciation of how these opposing spaces can work together in an urban environment can be found.

Urban Shared Spaces:

i. Local examples of New Zealand backyards:

Suburban Auckland backyard.

ii. Overseas examples of urban backyards:

European urban backyards.

iii. Examples of green corridors that work as urban backyards:

American and Asian water-way public corridors.

iv. Local examples of New Zealand public space that could be used as urban backyards:

Pocket Parks in Te Aro, Wellington.

fig 22. Backyard, photo by Jack Devine

AUCKLAND

SUBURBAN BACKYARD

1.0 ELEMENTS OF A NEW ZEALAND BACKYARD

- .1 Adjacent to residence
- .2 High level of privacy
- .3 Large grassed space
- .4 Strong ownership over the space
- .5 Smooth transition between fully interior and fully exterior space

6.1 New Zealand suburban backyard

The typical New Zealand backyard is a quarter-acre grass space backing onto the residence. This space is normally used for recreation, social and leisure activities so its very flexible.

Currently backyards in fairly urban suburbs are becoming smaller as land is subdivided, residents are finding they are still happy with a small backyard “as long as there is still a bit of grass out the back” (Small, 2014).

The backyard is typically made up of two different social thresholds: the deck or patio and the grassed lawn area, these two thresholds enable completely different activities.

The deck or patio space is often connected directly to the backdoor at the same elevation to allow an indoor-outdoor flow between interior space and exterior. This space is an intermediate space between the backyard and interior, it allows residents to partially enjoy the qualities of being outdoors while retaining some of the calmer feeling of a lounge space produces. The deck is sometimes covered and often elevated above the lawn area as to watch over the space, a typical New Zealand family can be found sitting at an outdoor bench spectating their childrens activities in the yard while reading the paper.

The grassed lawn area is a place for activities and recreation, this makes it ideal for families with young children. This space becomes a private park for the residents and guests, it is rarely not looked after, maintained or used.

Above

fig 23. Diagram of typical New Zealand backyard thresholds - a smooth transition from interior to exterior

fig 24. Terraced house backyard photo by: ReplacementDesignInc

LONDON

BRITISH TERRACED HOUSING

1.0 ELEMENTS OF A TERRACED HOUSE'S BACKYARD

- .1 Adjacent to residences
- .2 Decent level of privacy
- .3 Small grassed areas
- .4 Strong ownership over the space
- .5 Mainly for social and leisure activities

6.2 British terraced housing

Terraced Housing exists in fairly urban suburbs and allows a higher density of people per square metre. Terraced housing is a response to spatial pressures and rethinks the backyard as a small cubical of private and enclosed space. These spaces often include a mixture of garden, grass, decking and social space similar to a large suburban backyard but in a far more confined space. Arguably these cubicles are the best example of urban backyards as they achieve a similar feeling to a more suburban backyard. The problem with these cubicles is the lack of space for activity such as backyard sport that New Zealanders very often take part in. The lack of space make these spaces largely a target market for young professionals and new home owners who do not have children and enjoy the leisure and socialness of these backyard spaces.

Above

fig 25. Diagram of typical terraced housing backyard thresholds - a mash up of elements

BARCELONA

INTERNAL COURTYARDS

*fig 26. Barcelona's Internal courtyards photo
by: Guido Berges*

1.0 ELEMENTS OF AN INTERNAL COURTYARD

- .1 Adjacent to residences
- .2 Minimal privacy
- .3 Small grassed areas
- .4 Some ownership over the space
- .5 Little to no feeling of a backyard

6.3 Barcelona's internal courtyards

The internal courtyards make up the backyards for residents of Barcelona's super block grid city layout. These internal courtyards are normally residents access only but occasionally they provide a pedestrian thoroughfare. These spaces are very interesting because they are a shared backyard for adjacent residents, this, unlike the New Zealand or British backyards studied is a backyard space without full privacy. Also unlike the other backyards these spaces are paved, bricked, concreted or sand surfaces and focus predominantly on providing space for recreation activities rather than leisure. Due to the lack of privacy, leisure is likely to feel uncomfortable without a sense of community because of the number of people looking onto the space. It is therefore fundamental for these residents to meet and form respect for their neighbours so that these backyard spaces can be used comfortably.

Passive surveillance from the adjacent residents help to monitor the backyard to ensure the safety of the space. An open apartment frontage onto the backyard also allows for casual interactions with people in the space. A mixture of both community, surveillance and casual interactions helps to make this courtyard functional and successful.

Above

fig 27. Diagram of typical internal courtyard backyard thresholds - an abrupt and rough transition

fig 28. Chicago Riverwalk photo by:
Armando L. Sanchez

CHICAGO CHICAGO RIVERWALK

4.0 RIVER WALKWAY AS URBAN BACKYARD

- .1 Semi-adjacent to residences
- .2 Disconnected by busy road, no indoor-outdoor flow
- .3 Moments of intimacy in a public thoroughfare
- .4 Minimal ownership and association with the park
- .5 Some grassed areas

Above

fig 29. Diagram of river corridor backyard thresholds - secluded river corridor backyard

6.4 Chicago Riverwalk

Chicago Riverwalk is an urban backyard for adjacent residents. This riverwalk corridor is secluded away from the busyness of the city to create a level of intimacy for city dwellers to enjoy.

On a macro-scale a level of intimacy is established by lowering the pedestrian corridor 6m, this creates a threshold of busy street above and calm pedestrian walkway below. Furthermore the individual 'rooms' are the open areas of the river, have been given names and different features to establish character. These 'rooms' are around a 150-200m long experience for the pedestrian, this establishes a sense of character, intimacy and community for each room.

On a human scale intimacy is created by forming thresholds along the riverwalk so pedestrians perceive the spaces in three different ways:

1. A seated cafe area, a little to no movement space.
2. A pedestrian thoroughfare, the main movement space.
3. A rest and leisure area, a slow movement and play space.

By separating the fast moving traffic from the rest, leisure activities can exist in the eddies. Pedestrians feel comfortable to stop and sit here because of the perceived thresholds such as change of height and seated edges, these thresholds help to separate the activities happening in this space. Each threshold frames a room for the users, this manages to create a well thought out sense of intimacy in a busy area.

fig 30. Cheonggyecheon stream photo by:
Kimmo Raisanen

SEOUL CHEONGGYECHEON STREAM

2.0 TE ARO PARK AS A BACKYARD

- .1 Semi-adjacent to residences
- .2 Disconnected indoor-outdoor flow
- .3 No privacy and quite exposed
- .4 Minimal ownership and association with the park
- .5 Some grassed areas

6.5 Cheonggyecheon Stream

This daylighted stream in Seoul is similar to the Chicago Riverwalk in structure but focuses more on achieving a prompt linear pedestrian corridor through the car dominated city.

This stream corridor is used as the main pedestrian thoroughfare through this part of Seoul because of its ability to cut through the city, its lack of stoppages and the pedestrian only hierarchy. Along the edge of the thoroughfare are opportunities for leisure and informal activities such as playing in the stream and crossing stepping stones. The use of curvature along the stream edge creates eddies from the fast traffic movement making a more distinguished gap between walking space and sitting space.

Above

fig 31. Diagram of stream corridor backyard thresholds
- linear public thoroughfare

Furthermore, steps down to the water creates an edge away from the thoroughfare and allow people to face into the stream. By creating a step down it there is a new threshold which segregates a busy space from a calm space, this is achieved by having a lower eye level. The seated people can converse on the edge or sometimes across the stream when it is near its narrowest and because they are lowered and facing away from the thoroughfare it makes it hard to feel involved in the fast movement. There is a subtle sense of intimacy in this stream edge space.

fig 32. Te Aro park photo by: Amy Newman

WELLINGTON

TE ARO PARK

6.6 TE ARO PARK AS A BACKYARD

- .1 Semi-adjacent to residences
- .2 Disconnected indoor-outdoor flow
- .3 No privacy and quite exposed
- .4 Minimal ownership and association with the park
- .5 Some grassed areas

fig 33. Glover parkphoto by: Jbworks

WELLINGTON

GLOVER PARK

6.7 GLOVER PARK AS A BACKYARD

- .1 Semi-adjacent to residences
- .2 Some feeling of an indoor-outdoor flow
- .3 Some feeling of privacy and enclosure
- .4 Beginnings of ownership and association with the park
- .5 Some grassed areas

6.8 Wellington public space

The tendencies for public space design in Wellington is grass pocket parks surrounded by residential and commercial. These spaces are normally designed in previously dilapidated areas or car parks where pedestrian thoroughfares already exist.

These spaces are the urban dwellers backyard but currently lack the elements that make them functional as an urban backyard. From studying backyards in other urban contexts, creating a sense of intimacy helps the space become a functional urban backyard space.

These public spaces in Wellington have residential adjacent and therefore the opportunity to become associated with local residents.

The problem is the exposure, openness and lack of privacy in these places. For places like these to become an urban backyard experimentation on creating privacy, increasing association and establishing intimate spaces is needed.

I.

2.

3.

Above

fig 34. Reflection on international precedents

6.9 Summary of key learnings from precedent study

From this precedents review, three key techniques to achieve a backyard feeling were found:

1. Using different thresholds to inform activities in different spaces. These can be height changes, material changes or planting.

2. Creating a sense of enclosure helps urban spaces feel calm away from the busyness of the city. The enclosure also establishes a sense of intimacy in the space.

3. Connecting the adjacent residents helps the space to become a backyard, if they associate with the space then they are likely to feel as if they have some ownership of it.

These techniques will be translated into the design experimentation of how a suburban backyard can become function in an urban setting.

chapter seven.

LITERATURE REVIEW

URBAN DESIGN THEORY ON
ASSOCIATION TO PUBLIC SPACE

7.0

This chapter presents the key findings and ideas from relevant literature. Urban design theory on citizens association with space and functionality of public space were reviewed to develop the understanding of an urban backyard. From the reviewed theorists three key ideas were found:

1. Diversity of land use
2. Passive Surveillance
3. Human scale urban design

The relevance of each idea will be discussed in terms of its application to designing urban backyards in Wellington.

Above

fig 35. Diagram of proposed pedestrian accessways and development in light industrial and residential site

7.1 Diversity of the city

Jane Jacobs was an American journalist best known for her influence on urban planning in the 1960s. She argued that the urban planning of her time polarised communities and activities by zoning them into specific areas of the city. Instead of categorising land use, Jacobs argued, we should have a mixture of parks, squares and public buildings as a collective street fabric, increasing the complexity and diversity of the fabric and creating multiuse neighbourhoods. In her most recognised book she states:

“Intricate minglings of different uses in cities are not a form of chaos. On the contrary, they represent a complex and highly developed form of order.” (pg 222. J. Jacobs, 1961)

Here, she explains that this level of complexity of a city makes it work and operate like a machine so that different schedules cross paths, by segregating land use into categories one would create a disorder in the urban fabric. Public interactions fuel the activity in a city, pedestrians create life and variation, haphazardness and diversity maintains the city's character and generates spaces for activities and life to happen. Jacobs states four pillars of good neighbourhood planning:

1. Foster lively and interesting streets
2. The fabric of the streets as continuous a network as possible throughout a district of potential sub city size and power.
3. Parks, squares, and public buildings as part of the street fabric, intensifying the fabric's complexity and multiple uses rather than segregating different uses

4. Foster a functional identity at the district level.
(J. Jacobs, 1961)

Many town planners now use the diversity and multiuse aspects of Jane Jacobs's research as a framework for development in cities. Planners have found that increasing pedestrian permeability, diversity of land use and pedestrian walkability has a direct relationship with the quality of life of citizens.

To take this research into the Wellington urban backyard context we can use Jacobs's method to design our light industrial site that previously had been zoned as commercial only. The focus while developing this light industrial site is to maintain the productive industrial buildings that can function in the vicinity of cafes, pedestrians and residential housing to preserve the feeling and character of the space. This way when new residential is introduced into the site and urban backyards are established there will be an audience for these spaces.

To introduce a pedestrian flow in the intended design site a consistent and continuous street fabric is required for it to be pleasant to walk down. To achieve a continuous street fabric some current businesses such as car yards that take up huge amounts of space and take away from the active frontages of the street will need to be relocated, others such as auto-repairs, commercial printing or tyre shops that tend to have an active street engagement should remain. Once a social capital is built up the streets in this site will become active pedestrian places.

RESIDENTS ASSOCIATION WITH
WHAT IS HAPPENING ON THE STREET

RESIDENTIAL

7.2 Passive surveillance

Another important area of research Jane Jacobs talks about the importance of active streets to provide ‘eyes on the street’. Eyes on the street or passive surveillance as it is known is the subconscious “network of voluntary controls and standards among people themselves, and enforces by the people themselves” on the street. Based on the criminology theory that “isolation makes crime both easier and more likely”, passive surveillance can help to make public spaces safer by having pedestrian presence in these places (Spacey 2016) (J. Jacobs 1961). Local residences with street frontage can also provide passive surveillance, these residents look out over the street or public space and therefore have some sort of relationship with it. This relationship helps build a sense of association to the space and by associating the residents are more likely to monitor activity and look after this space.

While designing public space, thought about the public use, access and appropriation is essential to understand how the space will function. To properly speculate the success of a designed urban backyard space research into safety, access and appropriation of the space is necessary.

Passive surveillance is a tool that would allow these backyard spaces to become more controlled by the residents, while establishing a sense of ownership over the space so it feels like their backyard.

Passive surveillance is often used by designers to offer security in public places. In Melbourne, the city council states that: “...all buildings at upper levels must provide passive surveillance over the street by locating habitable rooms or commercial spaces to the street frontage at all upper podium levels” (Council 2006). Arguably people on the top floors of high rise buildings will not dissuade unwanted activity on the street, these residents are too high and too disconnected from the street. Instead, more focus should be on the presence of the bottom 1-4 floors of the buildings, these are the residents that still have connection to the street and through design we can improve the presence they have in the space to improve the quality of passive surveillance.

To speculate more accurately on the functionality of the urban backyard spaces, experimentation on spatial layout to give hierarchy to the residents so they have presence in these backyard spaces is needed.

Opposite Page

fig 36. Diagram illustrating passive surveillance on a street

STREET LIFE CREATED BY ACTIVITIES ON
THE STREET

- RESIDENTIAL
- COMMERCIAL

Above

fig 37. Diagram illustrating casual public interaction on
a street with car repairs.

7.3 Human scale urban design

Jan Gehl, a Danish architect established in Copenhagen, has dedicated his career to urban design exploring human scale oriented design. Gehl's research largely reflects on the work he has done in Copenhagen, improving the quality of life for pedestrians. He argues that past urban design has heavily focused on the automobile as a driver for cities, this has produced fragmented cities that do not accommodate for pedestrians which adversely affects the quality of life of citizens. Instead Gehl recommends the absence of private automobiles in the city stating that:

“Neither the city planners nor the traffic planners put city space and city life high on their agenda, and for years there was hardly any knowledge about how physical structures influence human behaviour. The drastic consequences of this type of planning on people's use of the city were not recognized until later.” (pg X. Gehl, 2011)

Gehl's work in Copenhagen has influenced a new era of pedestrianisation. The need for private transport in Copenhagen has dropped dramatically as the city becomes more convenient to transverse by foot, bike or public transport. (Weihe, 2017)

In New Zealand, as we transition into a more urban lifestyle, changes to the hierarchy of cars and pedestrians will need to be made. Gehl's guidelines on urban design highlight the need for pedestrian permeability in cities, in Wellington specifically he has

provided a study and suggested a framework for the future of the city to transition into a more pedestrian friendly environment. From this guideline he has recommended the following:

1. Increased legibility of streets
 2. Improve pedestrian prioritisation
 3. Connect key links
 4. Have a consistent street frontage
- (Council, Miskell and Architects 2011)

Gehl research goes on to look at a more detailed scale to identify why and how pedestrians travel, experience and interact in the city. He calls working at this detail 'The Human Scale', the research focuses on the pedestrian's experience of the city broken down into spatial mapping of how they tend to travel through squares, how they congregate and where they sit. He states that if activities exist then other activities will be stimulated, he can use an example in the Wellington site where car repair places along Fifeshire Ave tend to work at the front of their business and sometimes on the street, pedestrians walking past will often say hello because their activity creates a social setting and stimulates public interaction. These casual public interactions create a sense of community through the recognition and respect generated by each interaction.

'The edge effect', is an important discovery from Gehl's research, it identifies the edge as "the preferred location for standing or

sitting when people first occupy the borders and edges of the public spaces...” (Gehl, 2011). A primal human instinct such as occupying the edge gives urban designers a foundation to speculate on the use of their designed space before it is built. Other than an element of safety, Gehl states that: “The edge effect exists because people prefer to sit in areas facing the pedestrian flow, and therefore the location on the boundary of the public spaces will provide the best views, with extensive and richer visual fields.”

The specificity of Gehl’s research on the human scale and the edge can help formulate how the urban backyard spaces will operate with human traffic, and establish guidelines for activities and interactions. By speculating on the movement and activities in the urban backyard space it makes it easier to design the space so that residents can still feel like the space is a backyard and have some sense of ownership over the space.

7.4 Collected ideas from design theory

From this theory review, three key techniques to achieve association to space and functionality of public space.

1. Create a diverse neighbourhood so the likeliness that citizens will be around at anytime is higher. By doing so the city will have more active and social neighbourhoods.
2. Have residences facing into a public space so they can monitor the space and have a sense of ownership over it, this will make the space more likely to be used by the residents.
3. Design public spaces by first experimenting with how pedestrians will use the space, testing the human scale spatial relationships will allow an idea of the activities citizens may appropriate the space for.

These techniques will be translated into the design experimentation of how a suburban backyard can become function in an urban setting.

Opposite Page

fig 38. Reflection on techniques learned from theory

chapter eight.

CASE STUDIES

USING THRESHOLD AND HIERARCHY TO
ESTABLISH PRIVACY IN SHARED SPACES

8.0

This chapter presents the key findings and ideas from built examples of urban backyards. In particular these case studies focus on private or semi-private space that functions in a socially inclusive way. This chapter will look intensively at how these case studies have used spatial arrangements to facilitate both privacy and socialness.

These case studies use three methods to achieve privacy:

1. Hierarchy and authority
2. Moments of meeting
3. Perceived barriers

Each case study will be reviewed on how it has used a certain method to create privacy whether intentional or unintentional.

ZELTERSTRASSE 5 RESIDENTIAL ESTATE

COMMUNITY-CENTRIC ARCHITECTURE

- TOWNHOUSE
- GARDEN HOUSE
- PENTHOUSE

(CURRENTLY)
A PRIVACY INVASIVE YARD

EXTENTS OF YARD

(MORE SUCCESSFUL)
STRUCTURED AND MONITORED YARD

EXTENTS OF YARD

Previous Pages

fig 39. Photos of ZE05 taken by Zanderorth Architects

fig 40. Section through ZE05 apartments

Opposite Page

fig 41. Diagrams illustrating the effects of a change of elevation to social hierarchy

Next Pages

fig 42. Holistic diagram of Ze05's context and how it fits in

fig 43. Holistic diagram of Ze05's context and how it could become a more publicly integrated space

8.1 Hierarchy and authority

ZE05 is a popular example of a shared internal backyard. The apartment block faces into a shared garden space which looks great but arguably does not function as the backyard space was intended to.

Currently the courtyard is unsuccessful because residents using the shared courtyard feel uneasy looking into adjacent apartments, while ground floor residents lose their privacy, this can be broken down spatially as seen on the opposite page.

By experimenting with different heights of the courtyard and adjacent residential apartments, a change of authority can help the courtyard become more pleasant to use for the residents.

Raising the apartments just 0.5m above the courtyard will increase the privacy of the residents and give them subtle and subconscious authority over this shared space while still achieving a similar outdoor-indoor flow that the space was intended to have.

ISOLATED AND STATIC COMMUNITY SPACE

LARGE SCALE ANALYSIS

CONNECTED AND DYNAMIC COMMUNITY BLOCKS

LOCAL HOUSE BY MAKE ARCHITECTURE

COMMUNITY LANEWAY HOUSING

SEMI-PRIVATE SPACE

SEMI-OPEN INCLUSIVE YARD

EXTENTS OF YARD

CLOSED PRIVATE YARD

LANE

EXTENTS OF YARD

8.2 Moments of meeting

Local House is a house that backs onto a public laneway. This laneway is currently derelict and uncared for due to unwanted attention and activities in the space which has caused homes to raise fences to separate themselves from the laneway.

Local House creates an opportunity to revitalise this laneway by creating moments of controlled openness into this space. The studio garage allows an openable work space and controlled edge separating public and private space in a far smoother way. This allows residents to choose when they want to have a social space and when they want to have a more private space.

Previous Pages

fig 44. Photos of Local House taken by Make Architects

fig 45. Section through Local House and the public laneway behind

Opposite Page

fig 46. Diagrams illustrating the socialness of Local House's backyard space during day and night

SEMI-OPEN INCLUSIVE YARD

SMOOTH TRANSITION BETWEEN PUBLIC AND PRIVATE

8.3 Community and Safety

The moments of meeting allows pedestrians using the laneways to capture small views into Local House's backyard. Passers-by could wave hello to a resident playing in the lawn, moments like these create familiarity with locals, establishing a sense of community. More moments like these helps to formulate a strong and social community and in turn develops a sense of security and safety in the public laneway.

Opposite Page

fig 47. Diagram illustrating the moments of casual meeting from passers-by in the laneway

RAYEN VEGANO RESTAURANT BY (FOS)

EXPERIMENTAL EPHEMERAL INSTALLATION

CREATING 'INVISIBLE' BARRIERS

ENLIGHTENING SPATIAL BARRIERS USING MATERIAL AND COLOUR

8.4 Perceivable barriers

Rayen Vegano Restaurant exists on a narrow lane in Madrid. This restaurant establishes a strong sense of territory through the use of colour and texture.

Cars and passers-by know that the colourful pavement is part of the restaurants territory and therefore tend not to travel through it. By communicating boundaries visually and not physically, i.e., kerbs or fences the space can cater to a larger range of activities. Since it is a street, this allows large service trucks to still have access by removing the outdoor furniture. When the restaurant is shut at night, people can use this space for other activities.

Previous Pages

fig 48. Photos of Rayen Vegano Restaurant taken by FOS Architects

fig 49. Section through Rayen Vegano and the street in front

Opposite Page

fig 50. Elevation of Rayen Vegano showing its painted yellow facade

8.5 What designers have done to create Urban Backyard spaces:

1. Created an indoor-outdoor flow
With the interior space seamlessly linking with the exterior space, a physical and visual connection is established.
2. Created a sense of enclosure
An enclosed area feels more private and intimate than a wide open area.
3. Used mechanisms to include or exclude the public
Opportunities to control whether the residents want to include themselves in the space or not is an option to attain full privacy when needed.
Changes in materiality can also be used to be perceived as publicly inclusive or exclusive but isn't easily changeable.

8.6 Design Strategies for an Urban Backyard:

1. Create an indoor-outdoor flow
2. Create a sense of enclosure and intimacy
3. Create mechanisms for the adjacent residents to include or exclude themselves to/from the space
4. Use materiality and texture to establish perceivable boundaries

part two.

DESIGN

KENT AND CAMBRIDGE CORRIDOR

The Queen's Statue, Kent Terrace, Wellington, N. Z.

Kent and Cambridge Terraces, Wellington, N. Z.

2563.

chapter one.

DESIGN CONTEXT

SITE: KENT AND CAMBRIDGE CORRIDOR

1.0

Kent and Cambridge Terrace are north-south arterial routes connecting the southern suburbs of Wellington City to the city. These roads have always been an important transport route since first European settlement in Wellington and therefore have developed into a heavy transport corridor. The light industrial nature of the corridor is due to the fast moving traffic of Kent and Cambridge Terrace, now chosen as a future development site by the Wellington City Council.

Previous Pages

fig 51. Wellington City Map

Opposite Page

fig 52. Photos of Kent and Cambridge Terrace in the early 1900's photos from: Wellington City Recollect

- PARKING BUILDING
- OFF-STREET PARKING
- CAR YARDS

LAND USE

SCALE 1:7000

PROBLEMS

SCALE 1:7000

1.1 Lack of permeability

In the southern end of Kent and Cambridge corridor problems with impermeable block create tough-to-traverse pedestrian environments. As a result this block tends to be very actively walked around but not through and therefore a poor place for business and future development.

Barriers such as retaining walls, fences and private car yards may be opened to public thoroughfare to improve the quality and traversability of this block. This site has, therefore, been chosen for a more detailed study and experiment to look into how it can be developed in a way that improves accessibility, business opportunity and quality of space using the Urban Backyard typologies as a catalyst.

Previous Pages

fig 53. Diagram of Kent and Cambridge Terrace land use

fig 54. Diagram of Kent and Cambridge Terrace problems

Opposite Page

fig 55. Images of barriers that limit pedestrian movement in the design site

LOCATION PLAN

SITE 1

SCALE 1:5000

ROOF TOP BACKYARDS

LANE BACKYARDS

STREAM BACKYARD

chapter two.

SMALL SCALE

TOP OF TORY BLOCK

2.0

After identifying opportunities a specific block on the southern end of Kent and Cambridge Terrace was chosen as the focus site to experiment with Urban Backyards in detail. Within this block there is potential to increase permeability, develop residential dwellings, develop a hospitality precinct and provide access to public space. The Urban Backyard will be used as a tool to explore how these opportunities formulate and then collaborate together.

The character of this piecemeal industrial precinct will be reserved by designing spaces between, on top and adjacent to the existing commercial and industrial activities. In this fashion this space can cater to a functional industrial precinct, an active pedestrian zone and a quality residential neighbourhood. To achieve these three goals this research will look into detail about how this space functions at the moment, WCC plans for this space in the future and design typologies of Urban Backyards for this area.

Opposite Page

fig 56. Location plan of site 1: Top of Tory block

SECTION 01

KENT + CAMBRIDGE TERRACE EXISTING STREETScape

SECTION 01

KENT + CAMBRIDGE TERRACE PROPOSED STREETScape (WCC)

- ROOF TOP
- STREET LEVEL
- STREAM (-5M)

BACKYARD TYPOLOGIES VERTICAL APPROPRIATION

2.1 Design Strategies

Due to the current factors in this site, three design backyard typologies were created to help solve the problems and take advantage of the opportunities. These typologies work with the variable typography, existing natural systems and current pedestrian thoroughfares around this site to create a framework for urban backyards in the site.

The backyard framework for this entire site is as follows:

1. Commercial rooftops as backyards:

The commercial rooftops in this site are usually at 2 storey height and flat. The accessibility to them from the Top of Tory centre needs only a step from the car park to these rooftops. Currently there is a concrete wall in the way but removing this would allow pedestrian access to the commercial rooftops.

2. Commercial lanes and accessways as backyards:

Due to the inaccessible nature of this site it is important to form new pathways to increase pedestrian access. Existing commercial lanes present in this site are a perfect beginning for these pathways and with adjacent residential development can become a social urban backyard space.

3. Daylighted and revitalised stream corridor as a backyard:

A heightened focus for the safety and accessibility of pedestrians along the old light industrial corridor has been realised by

the WCC and action to attempt daylighting of the Waitangi Stream is planned. To plan for the future development of Wellington, a consideration for greater infrastructure is necessary. By turning this space into a pedestrian corridor and urban backyard for adjacent stream-side residents the space would improve the quality of life for citizens in a large radius around this area.

Previous Pages

fig 57. Diagram of site 1

fig 58. Section of the existing Kent and Cambridge streetscape

fig 59. Section of the proposed WCC streetscape

Opposite Page

fig 60. Isometric diagram of site 1 split into three backyard design typologies

2.2 Rooftops

The majority of commercial and industrial rooftops along Fifeshire Ave and Barker Street sit at two storeys. The access to these rooftops are reasonably straight forward and could easily become part of the pedestrian realm with some minor barrier removal. Some rooftops even allow pedestrian access already but lack thoroughfare as seen in the image at the bottom, opposite. Opening up these rooftops to the public would allow pedestrians to have new shortcuts from the street, Pukeahu park and Top of Tory car park.

These rooftops could become public space rather than car parks or unused spaces. Residential dwellings border on this public space to provide surveillance. The beginnings of permeability in this tough-to-transverse site can be seen by taking advantage of these unused or under utilised spaces. An experiment with how these spaces can work with public access and residential dwellers will test the Urban Backyard model which may validate the success of a “rooftop backyard”.

Opposite Page

fig 61. Images of the commercial and industrial rooftops in the design site

ROOFTOP BACKYARD
ROOF LEVEL EXPERIMENT

2.3 Laneways

Being a commercial and industrial site, there are many small accessways and back alleys between buildings. Creating a network of connections using these accessways by turning these spaces into shared zones will increase pedestrian permeability in this site while retaining the majority of industrial functionality of these lanes. By introducing tactical interventions down these lanes recognition of pedestrian activities will resonate to make these shared spaces pedestrian friendly.

Residential dwellings and hospitality could be developed in retrofitted commercial buildings adjacent and above these lanes. These laneways could provide space for both residents backyard activities and public thoroughfare and leisure.

Previous Pages

fig 62. Visualisation of rooftop backyard on existing rooftop carpark

fig 63. Section of the proposed rooftop backyard and apartment dwelling

Opposite Page

fig 64. Images of the commercial laneways in the design site

**LANEWAY BACKYARD
STREET LEVEL
EXPERIMENT**

PEDESTRIAN BARRIER

UNUSED & ISOLATED STRUCTURE

2.4 Waitangi Stream

Culverted underneath these two arterial roads shown opposite, is the Waitangi Stream. This stream corridor is key to flood management and harbour water quality in Te Aro yet is disregarded and replaced by roading infrastructure like many urban streams. Daylighting the stream corridor could not only enhance the ecology in the site but provide a new urban space for recreation and leisure.

Development of residential above existing commercial on the peripheries of this corridor could provide surveillance while residents used the corridor as their backyard.

Previous Pages

fig 65. Visualisation of laneway backyard in an existing commercial access lane

fig 66. Section of the proposed laneway backyard and apartment dwelling

Opposite Page

fig 67. Images of the arterial road corridors and traffic islands in the design site

STREAM BACKYARD BELOW GROUND LEVEL EXPERIMENT

chapter three.

LARGE SCALE

KENT AND CAMBRIDGE
EXPERIMENTATION

3.0

After exploring how backyards could exist at the site in a detailed scale, a consideration for how these spaces will link together and the new connections set up on larger scale is necessary.

This chapter will explore what could become of this area, new pedestrian connections and new residential developments.

Previous Pages

fig 68. Visualisation of stream corridor backyard under the existing town belt in the middle of Kent Terrace

fig 69. Section of the proposed stream corridor backyard and apartment dwelling

SITE 2_KENT+CAMBRIDGE_COURTENAY

SITE 1_KENT+CAMBRIDGE_BASIN

COURTENAY PLACE

VIVIAN STREET

VIVIAN ST

HANIA ST

BROUGHAM ST

KENT AND CAMBRIDGE EXPERIMENTAL MASTERPLAN

SCALE 1:7000

PROPOSED TRANSPORT

SCALE 1:7000

- TRANSIT ROUTES
- CYCLE ROUTES
- COMMON PEDESTRIAN ROUTES
- BUS STOPS
- NEW PEDESTRIAN CONNECTIONS
- DEVELOPED AREAS

REMOVED BUILDINGS

SCALE 1:7000

- RESIDENTIAL
- COMMERCIAL
- CENTRAL AREA ZONE EXTENSION
- CURRENT EDGE OF CENTRAL AREA ZONE

ROAD CONNECTIONS

SCALE 1:14000

- ARTERIAL ROUTES
- BACK ROADS

CYCLE CONNECTIONS

SCALE 1:14000

- NEW CYCLE ROUTES
- EXISTING CYCLE ROUTES
- CONNECTION POINTS

LATERAL CONNECTIONS

SCALE 1:14000

- EXISTING PEDESTRIAN THOROUGHFARES
- NEW PEDESTRIAN THOROUGHFARES
- PEDESTRIAN BRIDGES
- CONNECTION POINTS

LONGITUDINAL CONNECTIONS

SCALE 1:14000

- EXISTING PEDESTRIAN THOROUGHFARES
- NEW PEDESTRIAN THOROUGHFARES
- BUS STOPS
- CONNECTION POINTS

STREAM CORRIDOR SECTION THREE TIERS OF THOROUGHFARE

SECTION 01 (PG 118)
SCALE 1:300

56.0m

3.1 Experimentation results

After freely exploring the opportunities along the Kent and Cambridge corridor and how it will contribute and fit into the area surrounding a concept design has been found. The concept design will be broken down and developed in the next few chapters but the overall idea will remain.

The stream corridor backyard which requires the daylighting of the Waitangi Stream has informed a new layout of the Kent and Cambridge corridor, which will not only make it a thriving backyard space but allow the improvement of pedestrian walkways and new pedestrian connections.

Implementation of the more subtle urban backyards such as the laneway and rooftop backyards that will exist in the peripheries of the Kent and Cambridge corridor will need to be developed in a more precise detail to achieve the backyard feeling.

Previous Pages

fig 70. Experimental masterplan for the Kent and Cambridge corridor urban backyard implementation

fig 71. Overview diagram for site 1,2 and 3 - the research focus area

fig 72. Diagram of proposed transport options

fig 73. Diagram of removed buildings

fig 74. Diagrams of the individual transport options and new connections

fig 75. Section through the proposed urban backyard design along the Kent and Cambridge corridor

chapter four.

A FEASIBLE APPROACH

SITE 1_KENT+CAMBRIDGE_BASIN

4.0

Experimenting with ‘what could be’ on a large scale has forged a new consideration for feasibility. To make this design feasible, a look into phasing was explored. This chapter focuses on the potentials available that can be used strategically to achieve this design.

The overall design scheme will be broken into phases to help better implement it into the site and validate its feasibility. The phases are:

i. 5 years

The introduction of new pedestrian pathways to help generate more thoroughfare and public life in this area. This begins with examining the WCC’s proposed plans for this site and adds a few different connections laterally which will become laneway backyards for future residential dwellings in the area.

ii. 10 years

The demolition of old, earthquake prone and dilapidated buildings along Kent Terrace to widen the corridor for the daylighting of Waitangi Stream. This phase focuses on intensifying existing commercial buildings to implement housing and implementing the rooftop backyards

iii. 25 years

Introduction of a lowered urban stream corridor to daylight the Waitangi Stream to the New World at the end of Cambridge Terrace.

NEW PEDESTRIAN MOVEMENTS INTRODUCING MORE PERMEABLE BLOCKS

SCALE 1:7500

- HEIGHT RESTRICTION ALONG KENT+CAMBRIDGE
- NEW PROPOSED RESIDENTIAL

COMMERCIAL RETROFITTING

WCC PROPOSED HOUSING DEVELOPMENT PLANNING

4.1 WCC Strategies

The WCC has recently provided a urban planning and development strategy for this corridor stating that the height restriction will increase from the original 12-16m to 18-22m (WCC, 2017). By doing so an opportunity for residential development above the existing commercial buildings presents itself. By introducing urban design strategies, pedestrian access and public space this area will become desirable for residents.

Previous Pages

fig 76. Diagram of the initial 5 year strategy for the focus area

fig 77. Overview diagram displaying how the focus area fits into the surrounding pedestrian connections and new pedestrian routes created.

Opposite Page

fig 78. Isometric diagram of the potential for retrofitting with the proposed height restriction increase

- INTENSIFIED BUILDINGS
- NEW BUILDINGS
- NEW PARKS

MID TERM STRATEGY (10 YEARS) A THRIVING PUBLIC CORRIDOR

SCALE 1:2500

A CATALYST FOR SOMETHING BIGGER

PREPARATION TO UPGRADE WAITANGI STREAM CORRIDOR

SCALE 1:2500

COMMERCIAL RETROFITTING WORKING WITH POTENTIAL DEVELOPMENT TO CREATE BETTER URBAN LIVING CONDITIONS

- NEW RESIDENTIAL INVOLVED IN THE STREET LIFE
- NEW RESIDENTIAL
- COMMERCIAL/PUBLIC THOROUGHFARE LANES

COMMERCIAL RETROFITTING
WORKING WITH POTENTIAL DEVELOPMENT TO
CREATE BACKYARD OPPORTUNITIES

HOUSING PLAN

CURRENT AND PROPOSED RESIDENTIAL

SCALE 1:2500

Previous Pages

fig 79. Diagram of the 10 year strategy for the focus area

fig 80. Diagram of the removal of buildings and widening of the Kent and Cambridge corridor

fig 81. Isometric diagram of the implementation of rooftop backyards and surrounding residential dwellings

fig 82. Isometric diagram of the implementation of active street backyards and surrounding residential dwellings

Opposite Page

fig 83. Diagram of the housing plan for the focus site

4.2 Residential development

Wellington's urban residential population is forecast to continually increase and housing pressures have already surfaced. It is important that Wellington City, specifically Te Aro, can increase its residential development to meet the demand of the new urban residents. The chosen research site is a perfect space to incorporate a residential development strategy because of its untapped nature. In this site there are few existing residential dwellings, with the new height restriction reductions there are plenty of existing buildings that could facilitate residential dwellings.

This site sits on the eastern edge of the city zone - meaning its on the border of high density zoning, allowing the development of apartment dwellings.

Currently the city boundary meanders through an industrial and inner residential Mt Victoria edge. To improve the quality of this site for pedestrians and residents, a more consistent building frontage should be established. A steady transformation of this edge will help in establishing stronger lateral connection into the city and a more prominent north/south public corridor as well as a city edge.

- SECTION LINE
- NEW BUILDINGS
- STREAM CORRIDOR
- NEW PARKS

LONG TERM STRATEGY (25 YEARS)

A PUBLICLY ACTIVE AND NATURAL CORRIDOR

SCALE 1:2500

4.3 Planning for future intensification

A steady increase in density for the urban zoned area will impact this city edge most significantly. As this area goes through zoning changes, new opportunities for not only greater density living but an intensification of commercial activities will be seen. This predicted intensification can be used as a catalyst for improving the quality of life in this area. More people living and working in this site will increase the need for public space, pedestrian walkways and green spaces. For these residents, a feeling of localness and community can be achieved by creating parks or public space close to their residence, creating an urban backyard. A combination of three typologies of urban backyard: rooftop, laneway and stream corridor will be implemented to help residents live well in this site. These space also double as public space for pedestrians and workers.

Opposite Page

fig 84. Diagram of the 25 year strategy for the focus site

Next Page

fig 85. Section through the redesigned Kent and Cambridge corridor

- COMMERCIAL
- OFFICE
- RESIDENTIAL

KENT + CAMBRIDGE TERRACE PROPOSED STREETScape NEW DEVELOPED RESIDENTIAL'S PASSIVE SURVEILLANCE OF COMMERCIAL ROOFTOPS

SECTION 01

part three.

DETAILED DESIGN

THE INTIMATE SCALE INTERACTIONS

chapter one.

SITE 1 - FIFESHIRE AVE

BACKYARD SPATIAL EXPERIMENTATION

1.0

Fifeshire Ave is a small no exit road servicing some industrial businesses off Cambridge Terrace. This street has been chosen as Site 1 because of its central position in proposed public space and pedestrian thoroughfare. The street holds plenty of opportunities to both allow and become an active pedestrian and residential area while maintaining its current activities. On the opposite page is a strategy plan showing the proposed design areas. A breakdown of how this space works will give an idea of its potentials to be designed with.

Opposite Page

fig 86. Location plan for site 1 - Top of Tory block

Next Page

fig 87. Elevation of Ffeshire Ave and part of Top of Tory

(COMMERCIAL STRIP)
FIFESHIRE AVE

CAMBRIDGE TCE

4.0M

PEDESTRIANS USE STREET AS
THEIR FOOTPATH

SOME RESIDENTIAL
ALREADY EXISTS ABOVE THE
COMMERCIAL BUILDINGS

ROLLER DOOR STREET
FRONTAGE OF COMMERCIAL
ACTIVITIES CREATES A
SOCIALNESS WHILE WALKING
PAST BY HAVING STREET
PRESENCE

SMALL AREA OF CONCRETE
IS USED AS EXTENSION OF
COMMERCIAL ACTIVITY

Above

fig 88. Photo of commercial activity on Fifeshire Ave
taken by Author

Opposite Page

fig 89. Elevation of commercial street frontage on
Fifeshire Ave

FIFESHIRE AVE WORKINGS COMMERCIAL STREET FRONTAGE

ELEVATION 01

NARROW STRETCH OF FOOTPATH IS OFTEN FILLED UP BY OVERPARKED CARS FROM THE CAR YARD

PEDESTRIANS TEND TO USE STREET AS THEIR FOOTPATH

SOME RESIDENTIAL ALREADY EXISTS ABOVE THE COMMERCIAL BUILDINGS

SMALL AREA OF CONCRETE IS USED AS EXTENSION OF COMMERCIAL ACTIVITY

Above

fig 90. Photo of Fifeshire Ave a narrow, dead-end street taken by Author

Opposite Page

fig 91. Section displaying how commercial street frontage informs a sense of community

COMMERCIAL LANES

A SENSE OF COMMUNITY

NO KERB ALLOWS STREET TO BE SHARED BY PEDESTRIANS

RESIDENTIAL ABOVE ALLOWS THE STREET TO BECOME MONITORED IN THE HOURS WHEN HAVANA IS CLOSED

OPENING ROLLER DOORS GIVES STREET FRONTAGE TO COMMERCIAL ACTIVITIES, WHICH IS INTERESTING FOR PEDESTRIANS

PARKING AREA ON A NICE DAY IS GIVEN OUTDOOR SEATING AND USED BY CUSTOMERS

Above

fig 92. Photo of Francis Place an interesting, dead-end lane taken by Author

Opposite Page

fig 93. Section displaying how this existing commercial street includes residential dwellings above.

FRANCIS PLACE

EXISTING RESIDENTIAL ABOVE COMMERCIAL IN A
SOCIAALLY COLLABORATIVE WAY

FIFESHIRE PROPOSED CROSS SECTION

ACTIVE STREET WORKINGS

■ DISENGAGED RESIDENTIAL

FIFESHIRE PROPOSED CROSS SECTION

TALL RESIDENTIAL APARTMENTS BECOMING DISENGAGED WITH THE STREET

FIFESHIRE TO VIVIAN PROPOSED CROSS SECTION

ROOFTOPS AS THE NEW STREET LEVEL

MONITORED AND ENGAGED STREET

ROOFTOPS AS A STREET FOR TALL APARTMENTS

DISENGAGED RESIDENTIAL APARTMENTS CAN USE ROOFTOPS AS ACTIVE 'STREETS'

Previous Pages

fig 94. Section of the proposed Fifeshire Ave dwellings

fig 95. Section showing the new dwellings disconnection from the street

fig 96. Section of the rooftop backyard feeling like a 'street' for surrounding residents

fig 97.

Opposite Page

fig 98. Rooftops becoming an active street for residences that are too high for engagement.

1.1 The Rooftop Backyard

The rooftop backyard creates an active street front similar to that existing in Fifeshire Ave for apartments that are too high to be engaged in street activity.

Creating a public space on the current parking rooftop is an initial step towards turning this space into a urban backyard. This step has largely been mid scale planning to create a surrounding framework for the rooftop urban backyard.

The framework consists of:

1. Surrounding residential over looking
2. Pedestrian connections through the space
3. Use of 2 storey commercial rooftops

This framework is the base for rooftop backyards in this site and could be used in different contexts with some revisions.

Next, looking into how the human scale connections will work with the residential dwellings that surround this public space is necessary to work out how these spaces might function. Currently this connection is unresolved. This connection is the most important detail because the residents need to maintain a sense of privacy. Without a sense of privacy, residents will not feel comfortable living in these places.

1.2 Exploration of residential frontage

To deal with how residential apartments can be adjacent to this rooftop urban backyard as a public space, experimentation with preserving privacy while maintaining connection to the space was conducted.

The proposed residential apartments built above the current roof height of the existing residential building adjacent will face directly onto the existing rooftop carpark - where the backyard space is proposed.

A process of spatial configuration focusing on the bridge between public and private space and establishing a smooth transition rather than abrupt will help maintain the privacy of the residences facing onto this space.

Initially the proposed conditions of residential directly adjacent to this backyard space was tested. Problems arose as the residents gave up privacy to open out into the backyard space, opening a door would mean walkers-by would peep in.

Through the experimentation process a successful model was reached:

- The program of the room opening onto the backyard space should be one that requires minimal privacy such as a workshop.
- A barrier such as a seat from the main flows of traffic creates an eddie which helps transition into a more private space.
- An overlooking position created by difference in height gives more privacy to the residence but also helps the residents establish a hierarchy over the space.

Opposite Page

fig 99. Experimentation process of residential frontage onto the rooftop backyard

ROOFTOP BACKYARD SPATIAL MODELLING

EXPERIMENTING WITH ADJACENT RESIDENTIAL INTERACTIONS WITH PUBLICLY ACCESSIBLE BACKYARD SPACE

1.3 Threshold of spaces

To further explore the spatial relationships of the rooftop backyard, a physical model of a portion in the most interesting part of the space was made. Testing the success of the rooftop backyard as a backyard that residents feel associated with while maintaining their privacy is a lot less speculative with a scale model.

The opening from workshop space onto the backyard sits around head height for passers-by, as a direct visual connection to the grass space, meanwhile residents can watch over the space from the deck above.

The spatial configuration of the backyard has been explored by challenging turning points of human interaction and comfort zones. The points at which comfort become discomfort is the threshold of the space. Instead of using barriers such as fences as found in most New Zealand backyards, to solidify the threshold between public and private space a more subtle element could achieve a similar effect. Here, the potential of exploring the threshold of these spaces could help a space feel more like a backyard for the residents.

Opposite Page

fig 100. Physical model, a slice of the rooftop backyard

FIFESHIRE AVE PLAN
 25 YEAR MASTERPLAN
 SCALE 1:1000

1.4 Fifeshire Ave masterplan

After focusing on the functionality of the rooftop backyard, a focus on more accurate work on how this backyard fits into the site is conducted.

This is the masterplan for the Fifeshire Ave site where a new public life has been established from the catalyst rooftop backyard. A new sense of pedestrian permeability is the key to development of this block where currently there is a complete lack of access.

While still keeping the existing car sales yards, Fifeshire Ave will connect through to 'Top of Tory' and bridge the disjointed pedestrian thoroughfare throughout this block. A connection through Lynn Road from Vivian St to Fifeshire Ave will allow a north south accessway through the existing dilapidated Car Repairs building, which will be bought and opened permanently to pedestrians to allow thoroughfare. A more casual walkway along the rooftops and then down into a laneway behind the French Art show on Cambridge Terrace will give pedestrians an option for recreation in these small pocket park spaces along the walkway.

Opposite Page

fig 101. Masterplan of Fifeshire Ave

FIFESHIRE AVE PEDESTRIAN MOVEMENT BEFORE

CAR PARK DOMINATED INDUSTRIAL PRECINCT

SCALE 1:1000

FIFESHIRE ROOFTOP BACKYARD

ROOFTOP BACKYARD PLAN

SCALE 1:400

LEVEL_03

LEVEL_04

LEVEL 3 & 4 BUILDING PLAN
SCALE 1:400

Previous Pages

fig 102. Existing pedestrian movement along Fifeshire Ave

fig 103. New proposed pedestrian movements along Fifeshire Ave

fig 104. Plan of Fifeshire Ave rooftop backyard and surrounding dwellings

fig 105. Floor plans of the surrounding dwellings

Opposite Page

fig 106. Rooftop backyard schematic in isometric

1.5 Human scale design

From modelling the backyard, a sense of the human scale of the space was realised. A careful consideration into the heights and widths of each element in the backyard allows to speculate on the activities that users may take part in.

The raised grass area is 800mm above the walkway which is around the height that people tend to lean on things or jump up and sit. By raising the grassed area, a new threshold is created separating itself from the public walkway. Walkers-by can perceive that this space is not as public as the walkway and will know that they can use the space, however it will be under surveillance from the nearby residences.

The stacked railway sleepers are 400x400mm, they are around the ideal sitting height and therefore become seats for people wanting to rest, socialise or eat lunch. These sleepers also double as an eddie from the main thoroughfare, establishing a smoother transition between a public thoroughfare and a private workshop space for residents. By doing so the residents are more comfortable opening out onto this space.

The small scale design details discussed help make the space an environment for pedestrians and a social space for interaction to occur while retaining resident's privacy. This will help to generate a sense of localness, socialness and community in this area.

ROOFTOP BACKYARD FINDINGS

DESIGN TECHNIQUES TO MAKE ROOFTOP SPACE FEEL LIKE A BACKYARD

2.0

Through the experimentation on the rooftop backyard a contribution can be made to the framework for how a backyard can become functional in an urban setting.

This framework is the basis of the urban backyard allowing the design to be transferred into different contexts.

The framework identifies how the specific typology of the Urban Backyard produces the elements that create the feeling of backyardness, these are:

i. Adjacency to residence:

A backyard is usually connected to the back of a residence via decking, stairs, or simply a door. For each of the three typologies, adjacent residential is planned on the typologies masterplan rather than designed on a small scale.

ii. Indoor-outdoor flow:

Usually a backyard will have good connection to the backdoor of a residence so it can become an extension of the interior, effectively creating a large outdoor room.

iii. Enclosed private space:

The typical New Zealand backyard is surrounded by fences to enclose the space and shut it off to neighbours for privacy.

iv. Ownership and association over the space:

A backyard uses the fore mentioned elements to give residents a feeling of ownership and association over the space.

SEATING DOUBLES AS ACCESS
AND CREATES AN EDGE

GARAGE DOOR ALLOWS RESIDENTS
TO EXPAND THEIR WORKSHOP
OUTSIDE AND HAVE MOMENTS OF
PUBLIC INTERACTION

SEATED HIERARCHY OVER
PEDESTRIANS

2.1 Framework for Rooftop Backyards

A base framework can be established from the experimentation on the thresholds of the rooftop backyard. These thresholds help the space to become functional and allow the residents to associate with the backyard. These key features can be used in other contexts to create a functional backyard space combined with sensible contextual design.

The Rooftop Backyard framework consists of:

1. Creating eddies to separate public from private spaces. These eddies help to smooth the transition between public and private space so residents can maintain a sense of privacy and pedestrians understand the extents of where they are welcome.

The eddies are a space away from the main thoroughfare and act as a public edge for pedestrians.

2. Making opportunities for residents to open their space onto the backyard. This creates moments for residents to have minor social interactions with neighbours and pedestrians, while creating an indoor-outdoor flow. A network of community is established by these initial quick social interactions that help generate a sense of trust and respect. With a good sense of community, the urban backyard becomes safer, well looked after and a more social space.

To have an openable space, residents need to maintain a sense of privacy or have a space

that does not require privacy. A workshop or garage requires minimal privacy and is normally a fairly social space, where a resident can be working in this space while opening onto the backyard.

3. Using height to establish hierarchy and a threshold of public to private space. The raised grass area as well as the raised workshop space helps users of these spaces to maintain a sense of hierarchy over the pedestrians travelling by. This allows residents to keep order and control in the space and maintain a sense of ownership over the backyard.

By using height to establish perceived thresholds, pedestrians can easily understand where they are welcome in the space.

Opposite Page

fig 107. Rooftop backyard framework, from the design move outcomes

Next Page

fig 108. Section of proposed Rooftop Backyard on existing rooftop car park along Fifeshire Ave

ROOFTOP BACKYARD

SECTION 2

WORK SPACE

RESIDENTIAL

SCALE 1:200

LOCATION PLAN

SITE 2
SCALE 1:5000

- LANEWAYS
- LANE BACKYARDS
- INTENSIFIED BUILDINGS

chapter three.

SITE 2 - EAST LANES

BACKYARD SPATIAL EXPERIMENTATION

3.0

The East Lanes are a proposed development area on the current city zoned boarder of Wellington City between Te Aro and Mt Victoria. This boarder is currently very intermittent travelling through both industrial buildings and residential houses. A more linear and prominent city edge is proposed to accentuate the north/south view shaft while allowing for a more permeable lateral thoroughfare. The strategic plan on the opposite page shows the design areas and new proposed building intensifications in the area. The strategy suggests removing the existing low density residential and developing medium-high density living with an allowance for commercial and industrial activities below. A breakdown of how this space works currently will help to inform this intensification and street scape design while maintaining the original character of the site.

Opposite Page

fig 109. Location plan of site 2 - East Lanes

DENSE RESIDENTIAL
PROPERTIES ENCLOSE BOTH
SIDES OF THE STREET

PEDESTRIANS TEND TO WALK
DOWN THE STREET RATHER
THAN THE FOOTPATH DUE TO
THE CALMNESS OF THE STREET

LOW FRONT GATES CREATE
A SOCIAL AND LOCALNESS
AROUND PEDESTRIAN
ACTIVITY ON THE STREET

Above

fig 110. Photo of Moir Street a narrow, residential lane
taken by Author

Opposite Page

fig 111. Section displaying the layout of this narrow
street on the fringe of the Hania Street industrial
precinct

MOIR ST

EXISTING RESIDENTIAL ON THE EDGE
OF AN INDUSTRIAL PRECINCT

(PROPOSED)
NEW RESIDENTIAL DWELLINGS

← BROUGHAM ST

LANE BACKYARD

SECTION 1

SCALE 1:150

3.1 The Laneway Backyard

The laneway backyard establishes an active shared space thoroughfare built upon the existing bones of the pedestrian network.

Creating these active laneways is a strategy to encourage pedestrian activity, enhance business opportunity and establishing a safe, active streets for local residents. The framework for designing laneway backyards is as follows:

1. Surrounding residential over-looking the lane.
2. Pedestrian connections through the space.
3. Use of existing streets, pedestrian routes, driveways and other corridors.

The laneway backyard shares both public and private activities. To support this, perceived barriers such as planting is used to separate public from private. An exploration into how these perceived barriers allow these public/private presences to appropriate themselves depending on the activity will be completed.

[Previous Page](#)

fig 112. Section through the entirety of East Lanes showing existing and proposed buildings

[Opposite Page](#)

fig 113. Section of the proposed development and backyardness on Moir street

3.2 Exploration of residential frontage

To deal with how residential apartments can be adjacent to an active pedestrian thoroughfare while retaining privacy in these laneway spaces, spatial privacy experimentation was conducted. The proposed residential developments will back onto these active pedestrian laneway spaces, an iterative process was used to form a functional hierarchy for these residents to not only give more privacy in their home but establish perceivable boundaries.

In the beginning the residences back onto a shared park space similar to the ZEO5 case study. Problems of privacy loss arose when introducing a public thoroughfare into the space so the apartments were elevated with windowed above pedestrian sight lines. Furthermore, a designated space for residents to call their backyard was designed by creating a public edge to the thoroughfare with stairs and the space split into two by a planter. This space is broken into smaller spaces with perceivable barriers and height changes rather than physical barriers such as fences, which allows for an optional socialness and the beginnings of a local community.

Through the experimentation process a successful model was reached.

- An overlooking position created by difference in height gives more privacy to the residence but also helps the residents establish a hierarchy over the space.
- Planting can be used as a semi-permeable barrier creating more enclosed spaces and shielding certain viewshafts.
- A barrier such as a seat or stairs from the main flows of traffic creates an eddie which helps transition into a more private space.

Opposite Page

fig 114. Experimentation process of residential privacy in the Laneway Backyard.

LANEWAY BACKYARD SPATIAL MODELLING

EXPERIMENTING WITH ADJACENT RESIDENTIAL INTERACTIONS WITH PUBLICLY ACCESSIBLE BACKYARD SPACE

3.3 Threshold of spaces

To further explore the spatial relationships of the rooftop backyard a physical model of a slice in the most interesting part of the space was made.

The pedestrian thoroughfare space funnels into a more open space where there are backyards on either side. Here, there is a break up of two 'rooms' including half the thoroughfare and a backyard, inciting an interaction between the pedestrian and the resident. The stairs establish a public edge which is perceived as the edge of public space where - at the top - the more private backyard space begins.

Opposite Page

fig 115. Physical model, a slice of the laneway backyard.

EAST LANES PLAN
25 YEAR MASTERPLAN
SCALE 1:2000

ELLICE ST

3.4 East Lanes masterplan

After detailed spatial arrangements of these laneway spaces, an arrangement on a larger scale is conducted to test how these spaces both fit together and fit into the movements of the larger design context.

The East Lanes masterplan is a series of new accessways building off the existing small lane. A new sense of public life has been established from the catalyst laneway backyards. A new sense of pedestrian permeability is the key to development of this block where currently there is a complete lack of access.

While retaining the industrial buildings to the west, the existing residential housing will be over time intensified into 4-3 storey buildings consisting of commercial on the ground with residential above. This will allow the urban edge to become prominent, permeable and active rather than the existing jumble of inaccessible spaces. New connections laterally help to repair the bond between Mt Victoria and Wellington's City making it a more accessible, recreational and social area.

Opposite Page

fig 116. Masterplan of Moir street, the East Lanes site

FIFESHIRE AVE PEDESTRIAN MOVEMENT BEFORE

CITY EDGE INDUSTRIAL AND RESIDENTIAL PRECINCT

SCALE 1:1000

EAST LANE PEDESTRIAN MOVEMENT AFTER

PEDESTRIAN DOMINATED INDUSTRIAL
& RESIDENTIAL PRECINCT

SCALE 1:1000

3.5 Human scale design

From physically modelling the larger laneway backyard a sense of the human scale of the space was realised. Through the iterative experimentation process, a consideration for heights and widths of each element in this space allow us to speculate on the activities that residents and pedestrians may take part in.

A lower paved space - 800mm below the two raised backyard spaces - allows for a pedestrian thoroughfare through the space. This space is split up by the middle planter to create two different edges onto the backyards, giving pedestrians stopping points and places to create optional interaction with locals. The stopping points are enhanced by the recessed ground level planters which establish eddies from the pedestrian movement to give people the option to stop and sit away from the busy areas, where they might enjoy eating their lunch. By creating these different areas of movement, a smooth transition from public space to private space is established.

This space is designed to become a socially active area while maintaining a sense of privacy and backyardness for residents. This will help to generate a sense of localness, socialness and community in this area.

[Previous Page](#)

fig 117. Existing pedestrian movement along Moir Street

fig 118. Proposed pedestrian movement in the new East Lanes area

[Opposite Page](#)

fig 119. Laneway backyard schematic in isometric

LANEWAY BACKYARD FINDINGS

DESIGN TECHNIQUES USED TO MAKE
LANEWAY SPACE FEEL LIKE A BACKYARD

4.0

Through the experimentation on East Lanes laneway backyards, a deduction of a framework for how a backyard can become functional in an urban setting can be found. This framework is the basis of the techniques used and can be used to transfer the design into different contexts.

The framework identifies how the specific typology of the Urban Backyard produces the elements that create the feeling of backyardness, these are:

i. Adjacency to residence:

A backyard is usually connected to the back of a residence via decking, stairs, or simply a door.

ii. Indoor-outdoor flow:

Usually a backyard will have good connection to the backdoor of a residence so it can become an extension of the interior, effectively creating a large outdoor room.

iii. Enclosed private space:

The typical New Zealand backyard is surrounded by fences to enclose the space and shut it off to neighbours for privacy.

iv. Ownership and association over the space:

A backyard uses the fore mentioned elements to give residents a feeling of ownership and association over the space.

PLANTERS CREATE EDDIES OF CALM SPACE AWAY FROM THE MOVEMENT

RAISED YARD ESTABLISHES HIERARCHY OVER WALKWAY

RAISED YARD CREATES A SOCIAL EDGE AND A PERCEIVED BARRIER

RAISED YARD CREATES A SOCIAL INDOOR-OUTDOOR FLOW

4.1 Framework for Laneway Backyards

A base framework can be formed from the experimentation on the thresholds in the laneway backyard. The threshold experimentation has helped the backyard space cater to both public and private use of the space while retaining intimate spaces, a feeling similar to a backyard.

The Laneway Backyard framework consists of:

1. Creating eddies to separate very public from private spaces. These eddies help smooth the transition between public and private space so residents maintain a sense of privacy and pedestrians understand the extents of where they are welcome. The eddies are a space away from the main thoroughfare and act as a public edge for pedestrians.
2. Using height to establish hierarchy and a threshold of public to private space. The raised grass area helps residents of these backyard spaces maintain a sense of hierarchy over the pedestrians travelling past. This allows residents to keep order and control in the space and maintain a sense of ownership over the backyard. By using height to establish perceived thresholds pedestrians can easily understand where they are welcome in the space.

3. Using public edges to establish perceived barriers for pedestrians. An edge is a place to stop and sit for pedestrians and local residents. This could be to meet someone, a lunch break or simply to rest. Here, there is the bones needed for public interaction - pedestrian thoroughfare, a public edge and recreation/park space. Pedestrians stopping in this space can feel included while not being intrusive in the residents backyard because of the height difference and perceived barrier of the 800mm concrete edge, this incentivises interaction between residents using the backyard and pedestrians. These casual interactions will continue to become more regular, establishing a sense of localness and community in this area.

4. Having residential dwellings adjacent to the backyard space allows residents to open up their dwellings onto the space and have an indoor-outdoor flow. As the backyard is fairly privatised to just the surrounding dwellings, residents should feel more comfortable doing so.

Opposite Page

fig 120. Laneway Backyard Framework, from the design move outcomes.

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fig 121. Section through a laneway backyard

SEMI-ENCLOSED BACKYARD

SECTION 2

- PRIVATE (RELATIVE)
- PUBLIC (RELATIVE)
- PERCEIVED BARRIERS

SCALE 1:200

SEMI-PRIVATE BACKYARD

ALMOST COMPLETELY PRIVATE SHARED BACKYARD

TRANSITION FROM PUBLIC TO PRIVATE

SITE 3
SCALE 1:5000

SITE 3
SCALE 1:5000

STREAM WALKWAYS

chapter five.

SITE 3 - KENT AND CAMBRIDGE TCE

BACKYARD SPATIAL EXPERIMENTATION

5.0

This Masterplan for the upgrade of Kent and Cambridge Terrace is the final part of the Urban Backyard development area. The development includes making way for a revitalisation of the Waitangi stream in an urban corridor, rerouting Kent Tce to Hania St and removing some dilapidated buildings along the old Kent Tce.

This stream corridor development will continue to New World at the very north point of Cambridge Tce to act as both a pedestrian corridor and backyard for adjacent residents. The strategic plan on the opposite page shows the lowered stream corridor design linking up with Pukeahu Park and the Basin Reserve to provide new recreation opportunities for locals as well as repairing the pedestrian accessibility in this north/south corridor.

A breakdown of how this space works currently will help to inform improvements and changes to this space to reduce the hierarchy of cars and improve the quality of pedestrian accessibility.

Opposite Page

fig 122. Site 3 location plan - Waitangi Urban Stream Corridor

LIGHT INDUSTRIAL AND
COMMERCIAL BUILDINGS
BOARDER THESE ARTERIAL ROADS
MAKING A PIECEMEAL STREET
FRONTAGE AND AN UNFRIENDLY
PEDESTRIAN ENVIRONMENT

OPEN AND UNUSED SPACE
BECOMES PART OF A
PEDESTRIAN THOROUGHFARE
TO MOVE THROUGH THE
SPACE QUICKER

ISOLATED PLANTED
AREAS ARE COMPLETELY
DISCONNECTED FROM
PEDESTRIAN ACTIVITY AND
CAN ONLY BE USED AS
TRAFFIC ISLANDS

EDGE OF PUKEAHU PARK
DEVELOPMENT AND AN
OPPORTUNITY FOR A
CONTINUATION INTO THIS
AREA TO CONNECT THIS LINK

Above

fig 123. Photo of the southern end of Kent and
Cambridge Terrace taken by Author

Opposite Page

fig 124. Section displaying the layout of these arterial
streets

KENT & CAMBRIDGE TCE

EXISTING ARTERIAL ROADS THROUGH THE INDUSTRIAL
EDGE OF WELLINGTON CITY

(BRIDGE)
CAMBRIDGE TCE

WAITANGI STREAM PUBLIC CORRIDOR

(PEDESTRIAN STREET)
OLD KENT TCE

PLANTER

WAITANGI STREAM
CROSS SECTION

SECTION 01
SCALE 1:400

5.1 Exploration of residential frontage

To make this large stream corridor feel like a backyard to local residents experimentation was conducted. The proposed residential developments will boarder and oversee this stream corridor, an iterative process was used to form a public stream corridor that could feel and act like a backyard for these residents.

To start, the existing WCC design for this space was adopted, where the Waitangi stream is pumped to the surface and pedestrians can walk adjacent. This design is a good start for this space but lacks any connection with potential residential development or even pedestrian thoroughfares due to the busy arterial roads either side. A more backyard feel can be created by dropping the space down so the space becomes sheltd from the busy roads, a sense of intimacy and privacy is generated. Furthermore by establishing different heights of paths and texture, different activities with varying levels of publicness will existing in these spaces. Residents will find semi-private spaces as backyards and pedestrians will use thoroughfares and make use of stopping points.

Through the experimentation process a successful model was reached.

- A sense of intimacy created by difference in height gives a sense of intimacy and privacy to the stream corridor and makes it feel more like a backyard for adjacent residents.
- Planting can be used as a semi-permeable barrier creating more enclosed spaces and shielding certain viewshafts.
- A barrier such as a seat or stairs from the main flows of traffic creates an eddie which helps transition into a more private space.

[Previous Page](#)

fig 125. Section of proposed Waitangi Urban Stream Corridor

[Opposite Page](#)

fig 126. Experimentation process of the stream corridor backyard

STREAM BACKYARD SPATIAL MODELLING

EXPERIMENTING WITH HOW ADJACENT RESIDENTIAL INTERACTS WITH PUBLICLY ACCESSIBLE BACKYARD SPACE

5.2 Threshold of spaces

To further explore the spatial relationships of the stream corridor backyard a physical model of a slice of the space was made. Residential dwellings boarder old Kent Tce which is now a shared space for cyclists, maintenance vehicles and pedestrians, while 5m below the shared street the Waitangi stream corridor offers a more recreational walking experience. The stream corridor is a backyard to these residences who look over it becomes part of their actively travelled routes everyday, where they might meet their friends or take their children to play in the stream after school.

Opposite Page

fig 127. Physical model, a slice taken from the stream corridor backyard

WAITANGI STREAM PLAN
25 YEAR MASTERPLAN
SCALE 1:2000

5.3 Waitangi Stream Corridor masterplan

After working out the dimensions of the Stream Corridor at a human scale, an arrangement of these spaces and how they fit into the site is conducted on a larger scale masterplan.

The Waitangi Stream Corridor is an urban restoration of the culverted Waitangi stream underneath Kent and Cambridge Terrace. This corridor creates a pedestrian dominated space which connects the waterfront to the Basin Reserve. The corridor acts as both a recreation park space for the public and a backyard for adjacent residents. With this revitalisation, the dilapidated buildings and intermittent frontage surrounding this space can be enhanced to support a more active pedestrian area.

After the demolition of the earthquake-damaged and run-down buildings on Kent Tce from Vivian street to the Basin Reserve the new street front is brought back to remaining buildings that fronted onto Hania street and large buildings divided up to face onto both streets. Kent Tce is routed to Hania St to allow the stream corridor a decent width and a safe cycle and pedestrian street where Kent Tce existed, named Old Kent Tce. The buildings surrounding the corridor will be intensified where able to accommodate for residential dwellings above the existing commercial activities. This new pedestrian corridor will help Mt Cook, Newtown and Mt Victoria residents travel easily into the city and incite public transport upgrades along side to minimise private transport.

Opposite Page

fig 128. Masterplan of Waitangi Stream Corridor

KENT & CAMBRIDGE PEDESTRIAN MOVEMENT AFTER

PEDESTRIAN LINKS CONNECTED THROUGH DAYLIGHTED STREAM CORRIDOR

SCALE 1:1000

5.4 Human scale design

From physically modelling a slice of the Stream Corridor Backyard a sense of the human scale of the space was realised. Through the iterative experimentation process, a consideration for heights and widths of each element in this space allow us to speculate on the activities that residents and pedestrians may take part in.

A 5m tall retaining wall at either side of the stream corridor separates the pedestrian from what is happening above. By doing so, the pedestrian is isolated from the noise and busyness of the city and will have a more relaxed and intimate experience travelling through the space. Smaller moments of enclosure created by veering paths and planting allow for residents or pedestrians to feel isolated from others in this already isolated space which make these space feel more private similar to a backyard.

A planted area on the top edge of Old Kent Tce - the new pedestrian street, allows a sense of enclosure within this space too, enhancing the opportunity for public interaction as people will be more focused on the building frontages if views to the stream are hindered.

This space is designed to become a socially active area while maintaining a sense of privacy and backyardness for residents. This will help to generate a sense of localness, socialness and community in this area.

Previous Pages

fig 129. Existing pedestrian movements down Kent and Cambridge Terrace

fig 130. Proposed pedestrian movements down the new Waitangi Urban Stream Corridor

Opposite Page

fig 131. Stream corridor backyard schematic in isometric

STREAM CORRIDOR BACKYARD FINDINGS

DESIGN TECHNIQUES USED TO MAKE
URBAN STREAM CORRIDOR SPACE FEEL
LIKE A BACKYARD

6.0

Through the experimentation on the Stream Corridor Backyard, a deduction of a framework for how a backyard can become functional in an urban setting can be found. This framework is the basis of the techniques used and can be used to transfer the design into different contexts.

The framework identifies how the specific typology of the Urban Backyard produces the elements that create the feeling of backyardness, these are:

i. Adjacency to residence

A backyard is usually connected to the back of a residence via decking, stairs, or simply a door.

ii. Indoor-outdoor flow

Usually a backyard will have good connection to the backdoor of a residence so it can become an extension of the interior, effectively creating a large outdoor room.

iii. Enclosed, private space

The typical New Zealand backyard is surrounded by fences to enclose the space and shut it off to neighbours for privacy.

iv. Ownership and association over the space

A backyard uses the fore mentioned elements to give residents a feeling of ownership and association over the space.

SEGREGATED LEVELS OFFER
DIFFERENT EXPERIENCES

STREAM EDGE PLANTING HELPS
CREATE INTIMATE MOMENTS

THE LOWERED STREAM CORRIDOR
GIVES SURROUNDING RESIDENTIAL
DWELLINGS A FEELING OF
OWNERSHIP OVER THE SPACE AS
THEY LOOK OVER IT

PEDESTRIAN STREET ALLOWS
RESIDENTS AN OUTDOOR-INDOOR
FLOW TO THE CALM STREET

6.1 Framework for the Stream Corridor Backyard

A base framework can be formed from the experimentation on the thresholds in the Stream Corridor Backyard. The threshold experimentation has helped the backyard space cater to both public and private use of the space while retaining intimate spaces, a feeling similar to a backyard.

The Stream Corridor Backyard framework consists of:

1. Using public edges to establish perceived barriers for pedestrians. A seat or stairs can be used as an edge to separate pedestrian activity, those that want to move quickly from those that want to meander. These edges also act as stopping places for pedestrians to rest, watch or enjoy food from the nearby shops.

2. Creating eddies to separate very public from private spaces. These eddies help smooth the transition between public and private space so people using the more private spaces maintain a sense of privacy while pedestrian movement continues parallel.

The eddies are a space away from the main thoroughfare and act as a public edge for pedestrians.

3. Using height to establish a sense of ownership and association to the space for local residents that overlook the corridor. By building this relationship with the space, residents will be more likely to use and care for the space. Furthermore, a cared-for space becomes a safer place during the night time as residents monitor passively (Jacobs).

4. As the Stream Corridor is lowered to meet the Waitangi Streams level a safe connection to the space is required to establish an indoor-outdoor flow. Old Kent Tce is a wide pedestrian street that allows residents and commercial activity to sprawl into the street creating a more active street frontage. The lack of privacy in this area means that the outdoor-indoor flow onto the pedestrian street may not feel very comfortable for residents, therefore it is best to have commercial activities on the ground floor and residential dwellings above. The above dwellings can overlook the space with windows and decks which provide visual approximation to the backyard space but limited physical approximation.

Opposite Page

fig 132. Stream corridor backyard framework

Next Page

fig 133. Section of the public stream edge condition and backyard

STREAM EDGE BACKYARD

SECTION 2

SCALE 1:200

chapter seven.

LARGE SCALE

HOW SMALL SCALE INFORMS BACK ON
THE LARGE SCALE

7.0

A concentration and design of the detail in each of the backyard spaces in the focus site will now have implications back onto the larger scale masterplan for the entire Kent and Cambridge corridor. After designing the focus block as a model for how this space can transformed with the Urban Backyard the remaining blocks can use the framework produced by the experimentation.

COURTENAY PLACE

VIVIAN STREET

FURTHER DEVELOPMENT BY APPLYING BACKYARD FRAMEWORK

EXPERIMENT AREA

7.1 Revisited Masterplan

Through the implementation of Urban Backyards into this site the overall block combining the three typologies can be reviewed.

The focus block of this research has been fairly successful at resolving design issues in the space while developing a more permeable pedestrian network, an increase in residential dwellings and a strong city edge for Wellington City. By planning at this scale this research has created a more permeable block that proposes an influx of residential dwellings which influences an increase in residents and pedestrians using this area. With the mixture of residents and pedestrians the Urban Backyard models can be tested on their success for producing a feeling of backyardness.

Opposite Page

fig 134. Remastered masterplan

chapter eight.

CRITICAL REFLECTION

HOW WELL HAS THE EXPERIMENTATION
ANSWERED THE RESEARCH QUESTION?

Critical reflection

8.0

The Urban Backyard is a concept to improve the quality of life for the increased population's forecast in the future for New Zealand cities. This research set out to test how a classic New Zealand suburban backyard could become functional in an urban setting to help residents associate with adjacent public space in Wellington. After numerous failed concepts, vigorous tests and detailed development designing these backyard spaces in the Wellington context a final output was found to successfully address the research question. To review the final design output of the urban backyard there are three factors to be addressed:

1. Does the urban backyard reflect the values of the initial suburban backyard?
2. Is the urban backyard space functional?
3. Does the urban backyard help residents associate with adjacent public space?

While the evidence of each factor is present, it was noticed that first point – the feeling of the suburban backyard – was not well established in each of the small-scale sites. Considering why these spaces did not fully represent the feeling of a suburban backyard, this research found there are no permanent differentiations in a suburban New Zealand backyard than Australian or European. Physically, the New Zealand backyard is just a backyard, what makes it a New Zealand backyard is the appropriation of specific activities. The New

Zealand backyard is a bit of grass out the back, a place for barbecues, social events, recreation and backyard cricket. This space is extremely flexible for activities and has become the centre point for raising a family in New Zealand. Therefore, to improve the feeling of New Zealand backyard in an urban setting space is needed for specific activities to take place. Arguably these activities could happen in the designed urban backyards anyway and after initial familiarisation with these spaces, residents would find that the urban backyards are more social and inclusive versions of the classic suburban New Zealand backyard.

Values of a typical New Zealand Backyard:

- i. Adjacency to residence
- ii. Indoor-outdoor flow
- iii. Enclosed, private space
- iv. Ownership and association over the space

Implementing the values of a suburban backyard in an urban setting was a large part of the experimentation process and still could be refined further.

Through a process of masterplanning right down to the detailed plans and sections of how the space works design moves have been tailored towards creating a space that feels like backyard for local residents. The design moves have been compiled for three different typologies of Urban Backyard to form a design framework. Each typology of

the Urban Backyard uses its own framework for creating a sense of backyardness in a specific context. Each context has had varying levels of success in creating a backyard-feeling space, the smaller spaces being more successful as they feel more enclosed. It is, therefore, recommended that Urban Backyards occupy small spaces that are enclosed to form a greater feeling of enclosure.

The design experiment of the Urban Backyard allows the space to not be reserved to a single function and become an integral part of the cities bustling network by enhancing common thoroughfares, creating new access ways, creating new park and recreation spaces and inciting pedestrian oriented development. On a more detailed scale this research has tested and then provided a framework of techniques that have been successful in helping these backyard spaces feel like a backyard for residents, establishing a sense of privacy and intimacy in a public space. To create a space that can be a private backyard for local residents and a public walkway, a heavy consideration for the functionality of the space was required to form transitions between these two opposing users. The crux of each Urban Backyard space is the transition points between public and private space, these points are perceived like a fence but without the complete visual or physical barrier. Through the research experiments, the framework for transition points in Urban Backyards has been made up of the most successful tests in each typology. This framework may work for different contexts

but will mostly likely need to be adapted for each different space depending on how it is designed.

An association with something is a forming relationship with it. The Urban Backyard requires residents association with the space so it becomes used and looked after, forming a safer space when cared for and overlooked. Creating a space that feels like the residents own but is publicly accessible is a speculative and challenging part of creating a successful Urban Backyard. Therefore, the focus of the detailed design of each typology of Urban Backyard was the transition points between public and private space. In the transition spaces, subtle design moves can make the most important differences in experience and feeling of association. Techniques such as perceivable barriers, eddies and height changes helped define the difference in public and private space without creating physical and visual barriers such as a fence that limit the resident's ability to look over the space, access the space or feel involved in the space. By taking out any barriers separating the space from the surrounding residences, residents can still see, access and feel involved in their backyard space easily. It still feels like an extension of their lounge. A combination of the aforementioned techniques allow them to maintain a sense of privacy, a centre point of the typical New Zealand backyard. Residents surrounding these urban backyard spaces can feel more comfortable associating with the space as they feel like it is theirs. The feeling of ownership over the space is a combination of adjacency, which gives a sense of authority over the space and privacy in the space, which makes it feel like a private space to be looked after rather than neglected.

CONCLUSION

HOW HAS THIS RESEARCH CONTRIBUTED TO THE LANDSCAPE ARCHITECTURE DISCIPLINE?

The Urban Backyard is made up of both public and private space. It functions as a 'private' feeling backyard for local residents and a public space that enhances pedestrian accessibility for the public. An Urban Backyard uses key design moves that focus on the spatial arrangements of the space organising specific activities. These organised activities allow the space to have both public and private areas.

Through the experimentation process of creating a semi-private feeling space that is a publicly accessible space, the possibility for blurring boundaries between these public and private spaces is realised. By neglecting common barriers such as fences, kerbs and gates and instead establishing a softer, smoother barrier, a more permeable, pedestrianised and socialable city is created. These values create safer cities that are easier to transverse, improving the overall quality of life and making a more desirable city that a diverse range of age groups could easily live in.

The idea that each Urban Backyard space is shared between residents and the public

assumes that residents will talk between themselves or form relationships with each other. For these spaces to function, they require a formation of community around the space. Furthermore, to feel comfortable in the backyard, residents need to be comfortable with sharing with other locals and therefore need to know them or become familiar with them so they aren't strangers. Doing so with form a tight-knit community around these shared backyard spaces. A lack of mutual respect could turn these Urban Backyards into unused, disregarded spaces. The typologies with smaller areas and closer dwellings such as the laneway and rooftop backyard have been more successful at achieving these social community type spaces because of their small size. It can only really be speculated upon whether these spaces have achieved a sense of privacy and resident's association.

The research produced displays how urban spaces can be designed to fluctuate between a public and private feeling space. This allows for more intensified cities as these spaces perform multiple functions and therefore become a more efficient use of

urban space.

Furthermore, these Urban Backyards have created a resilient model for urban community development by establishing a space that allows a more diverse range of age groups to live in. Introduction of a more diverse range of age groups in the city can help to create more vibrant and interesting cities. Accommodation in an urban setting for families and other common suburban dwelling age groups helps these dwellers make a move into the city, reducing the need for sprawl and private transport.

These Urban Backyards could be implemented in various contexts nationally and internationally to help integrate a more diverse range of age groups into the city and improve the overall well-being of the urban environment. The framework for each of the three typologies established in the research can be used as a base to design with but will require further thought about how these spaces fit into their surroundings.

part four.

NOTES

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