Finding happiness through architecture

Finding happiness through architecture

An investigation into architecture's opportunities for fostering happiness in a culturally diverse mid-sized city in Aotearoa, New Zealand.

By

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Acknowledgments

MOTIVATION

The inspiration for this thesis topic emerged from my own experience of immigrating to New Zealand from the Netherlands when I was a child. As my second home, finding my place in a new physical and social context has made me question the difficulties that others face in a scene of unfamiliarity. As a now fluent English speaker with a 'Kiwi' accent, I find that I sometimes become forcibly detached from my cultural origins in social contexts in New Zealand.

My travels across multiple countries have given me insight into the rich diversity that exists in the world. Many of New Zealand's residents are from these culturally rich places yet I have found that there is a lack of evidence of cultural diversity in architecture here. New Zealand is a relatively isolated country, and many New Zealanders do not have the opportunity to travel overseas often or even at all. I question, as someone that seeks enrichment from other cultures, how can we all learn from each other's cultural backgrounds without necessarily travelling abroad?
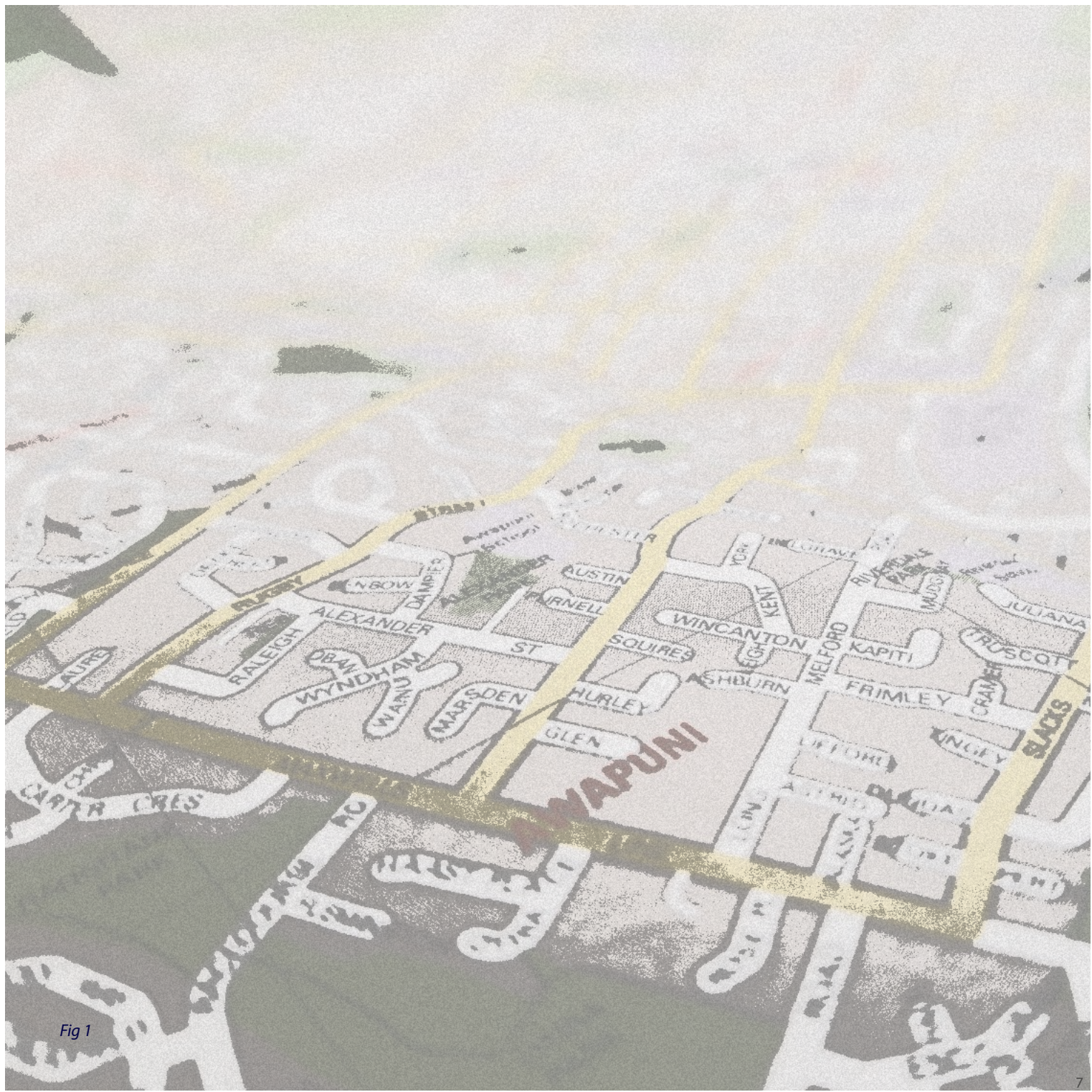
Fig 1

Abstract

Cultural diversity has consequences for happiness. However, there is currently a gap in knowledge about how architecture can foster happiness in the context of New Zealand. New Zealand's mid-sized cities are becoming increasingly culturally diverse, but happiness is shrinking. This is especially evident in Palmerston North, where the colonial-style city square fails to convey an identity that residents can relate to. This research investigates how a multi-programmatic market located at the centre of Palmerston North can improve the population's happiness, reflect and celebrate cultural diversity, and encourage sharing between cultures. The 'research through design' process involves qualitative data and analogue design tools. It is found that cities require centres that reflect and unite their populations. Architecture can achieve this by providing flexible and adaptable spaces, counteracting colonial aesthetics, incorporating expressive forms and engaging a human scale through the invigoration of the senses. Overall, the thesis serves as an example of how architecture can improve the happiness of culturally diverse populations.
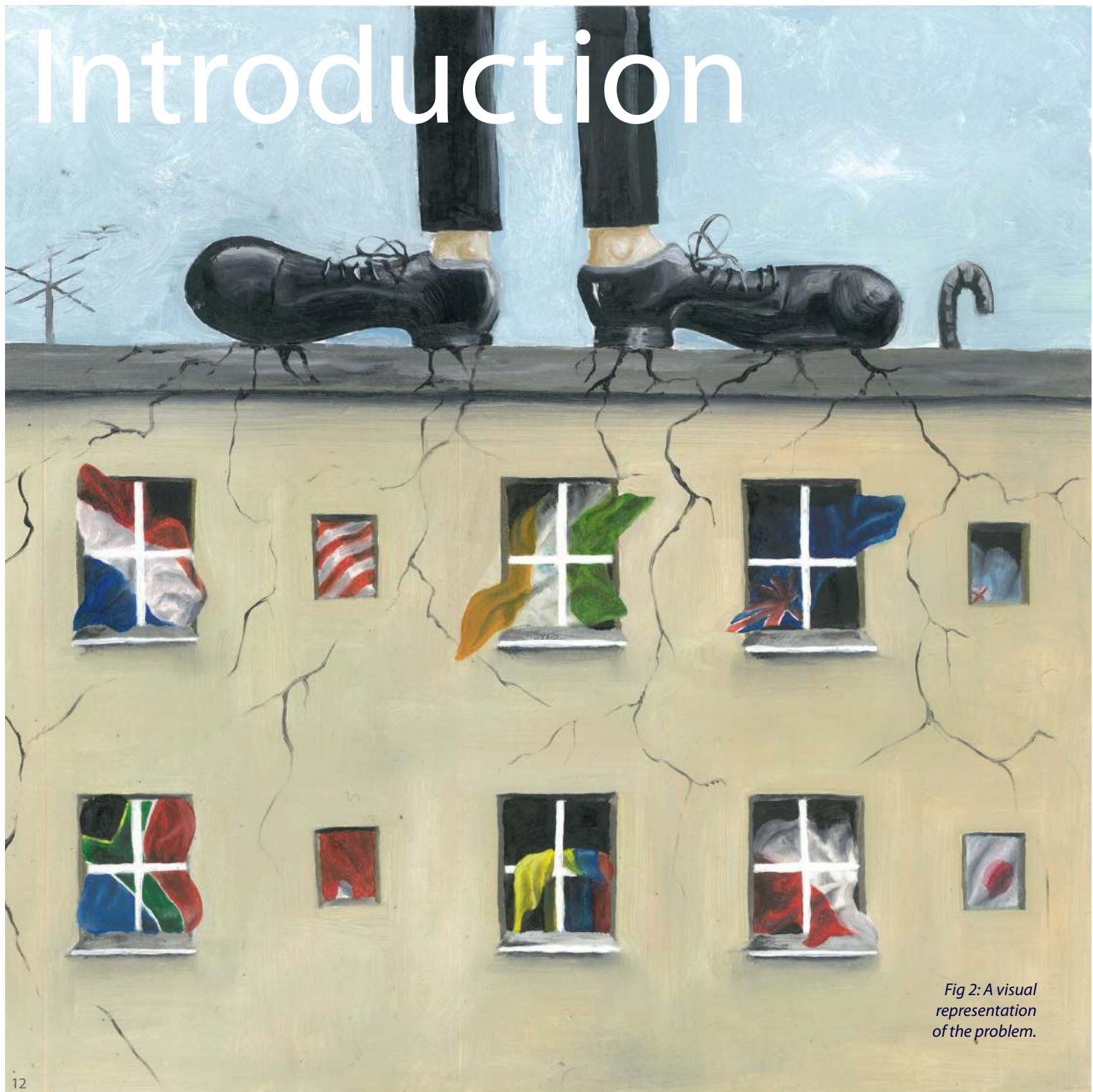
Contents

Introduction

Fig 2: A visual representation of the problem.

Problem statement:

Cities are failing to embody culturally diverse populations in the built environment, resulting in consequences for residents' happiness.

Globalisation and ease of travel have increased cultural diversity in New Zealand. As different cultures have migrated and grown within New Zealand, cities built on British colonial principles are now struggling to reflect cultural diversity in their architecture. While Western culture has defined New Zealand's colonial architecture for quite some time, Western values are in conflict with other cultures which are centred around the extended family and collectivist ideals. Interrelated with these contrasting cultures, there are often misunderstandings about how world views differ.

This is relevant to New Zealand because it is not a country of one culture. 27.4% of the population is born overseas, and there are more than 178 ethnicities (Stats NZ, 2018a). This diversity is linked with income inequalities that the built environment exacerbates. For example, access to high-quality public parks favours high-income neighbourhoods. The ultimate consequence of this is that "multicultural communities tend to be less trusting and less happy" (Trevor Phillips, 2006). Nowhere is this more relevant than in the city.

The wellbeing and happiness of city populations has become a popular topic in the last 20 years which, as described, is related to cultural diversity. Happiness has huge value for individuals because it improves health, increases life expectancy, work performance, pro-social behaviours, resilience, and strengthens social relationships (Ed Diener, 2019). Furthermore, happy people "help society. They help those around them to also lead high-quality lives" (Ed Diener, 2019). It is in the interest of everyone for the built environment to induce happiness.

New Zealand is struggling with happiness. One in five people experience depression at some point in their lives (Mental Health Aotearoa Insight 2020, 2020), and overall mental health is worsening (Wellbeing Statistics: 2021, 2022). Mid-sized cities are struggling with happiness as they battle to retain professionals and market themselves as interesting places to live (Kiernan, 2014). The effects on mental health are expected to continue as cultural diversity intensifies unless cities learn to adjust to population growth and changing demographics.

The built environment is, or should be, a reflection of its society. Wellbeing is linked to the built environment because "We look to our buildings to hold us, like a kind of psychological mould, to a helpful vision of ourselves." (De Botton, 2006, p. 107). The role of architecture is to accommodate New Zealand's increasingly diverse cultural values to ultimately produce happier populations. This thesis therefore asks:

How can architecture improve the happiness of a culturally diverse population?

Fig 3: Depression in New Zealand.

"Where 'we' are today globally is a situation in which every 'we' discovers that it is in part a 'they': that the lines between 'us' and 'them' are continuously redefined through the global realities of immigration"
(Benhabib, 1995, p. 244)

RESEARCH AIMS

- To develop an architecture that can increase the happiness of city residents.

- To accommodate, celebrate and reflect a city's cultural diversity.

- To encourage the sharing of knowledge to foster trust and understanding between cultures.

Fig 4 (opposite):
A visual
representation
of the aims.

"*a togetherness in difference*"

-(Sandercock, 2000, p.14)

METHOD

The research firstly examines the theories and ideas contained in the literature and looks to real-life examples of how this thesis' aims can be addressed through architecture. It then follows an iterative 'research through design' process that freely explores design ideas, influenced by survey research of different cultures.

The design process starts with a large-scale lens that shifts to the small scale. This is intended to interrogate the architecture's relationship to the site's context and the human body. Included in the process are focus groups to help understand the wishes and values of various cultural groups.

The tools of investigation are principally analogue, including drawing, painting and model making. This is in line with phenomenology, where the act of physically making is thought to achieve a deeper connection between the designer and design (Pallasmaa, 2009). The integration of art acknowledges the intangible qualities that architecture shares with art. It allows concepts and ideas to be explored in ways that words or technical representations could not and, because "art becomes a median to express a thought, identity, culture, and society" (Saluja, 2020), is extremely relevant to the nature of the thesis topic.

The project's scope begins at a city scale to understand the physical and social context. After the analysis of a seemingly unhappy city, the scope is reduced through the selection of a smaller site within the city centre.

Multicultural spaces

Happiness

Cultural expression and identity

Cultural context

Case studies

Literature review

Urban design

An unhappy city, Palmerston North

A place for sharing

Areas of potential improvement

Site analysis

Draw connections

Site selection
(scope reduction)

Conceptual explorations through programme

Review 1 - key concepts

Critical reflection

Focus groups

Review 2- Developed design

Critical reflection

Concepts

Developments

Bringing ideas together

Critical reflection

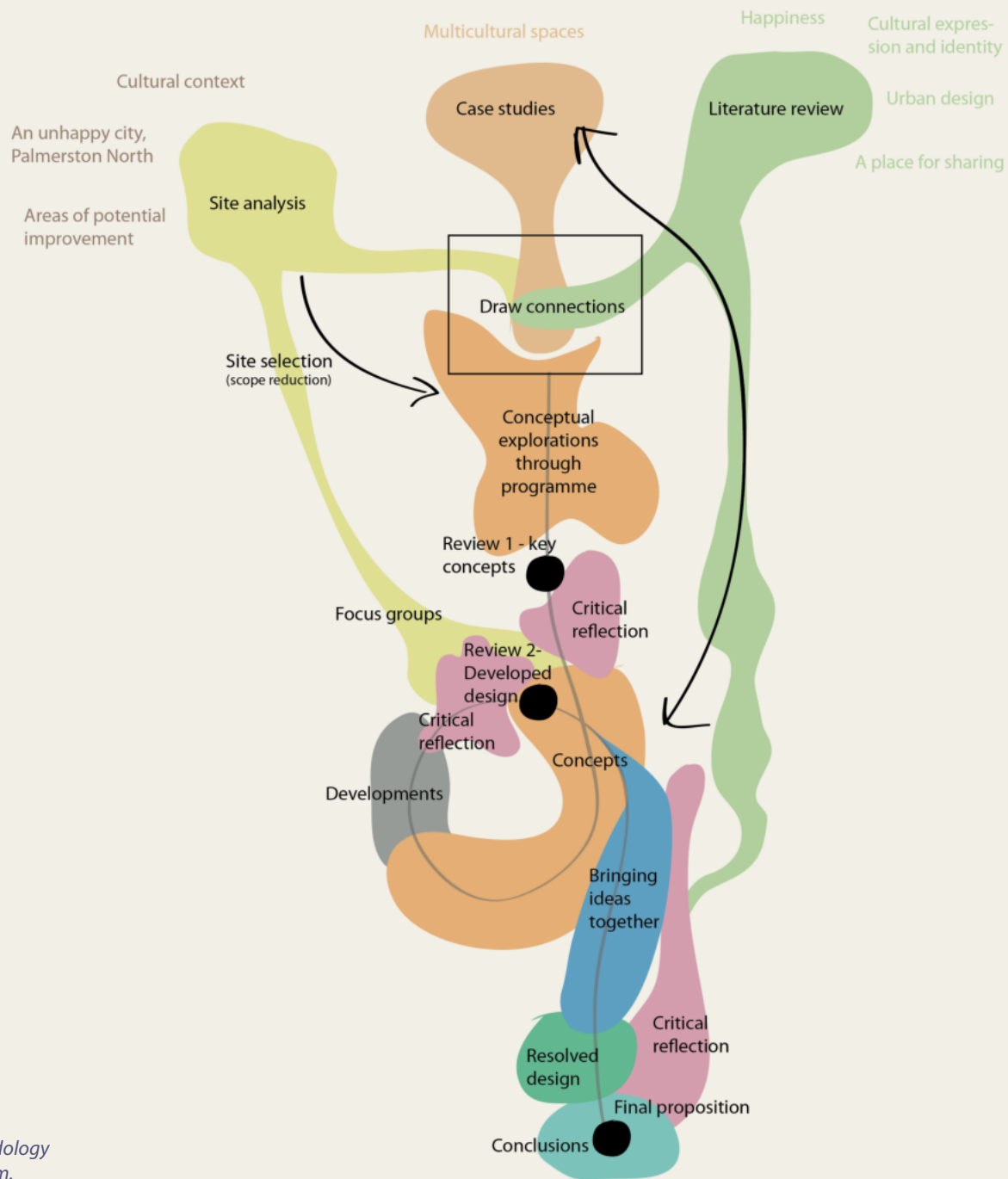Resolved design

Final proposition

Conclusions

Fig 5: Methodology diagram.

Theoretical context

The literature is reviewed to understand the known approaches to tackling the question: *how can architecture improve the happiness for a culturally-diverse population?* An overview of key theorists who are influential within the field is followed by three sections that each correspond to the aims of this thesis, namely designing for happiness, expression of identity and a place for sharing.

Theorists

This project looks to the works of Charles Montgomery, Jan Gehl, Ray Oldenburg, Leonie Sandercock, Charles Landry, and Geert Hofstede for guidance. Montgomery and Gehl discuss how the city is experienced and how it should be built for better relationships with its inhabitants (Gehl, 2013a; Montgomery, 2013). Along with Oldenburg, who coined the term "third place"(1999), their theories are key for creating meaningful urban experiences that improve happiness. Sandercock specialises in the wellbeing of people multicultural populations. She highlights the complications that multiculturalism causes for urban environments and ultimately calls for diversity could be embraced (2003). Sandercock looks toward Landry for a creative approach to design to create liveliness and express local culture (Landry, 2008). Lastly, Hofstede's cultural dimensions are accessed to better understand differences in spatial use between collectivist and individualist cultural entities. The theorists' insights will be combined to address topics of happiness and cultural diversity.

1.   Designing for happiness (amongst cultural diversity)

– Building on *liveable cities* and *ethnic distribution*

[Aim: To develop an architecture that can increase the happiness of city residents]

Happiness is a complex emotion that is influenced by many factors including those of the built environment. Happiness can be most simply understood as consisting of belonging, trust and life satisfaction (Figure 6) (Helliwell & Barrington-Leigh, 2010; Montgomery, 2013). Belonging and trust are particularly important within an increasingly culturally diverse context because urban spaces rarely foster comfortable environments that are inclusive of all cultures. The literature emphasises that belonging and trust can be realised through people-centric spaces.

Liveable cities:

Fostering happiness in cities requires a return to human-scale urban design (Gehl, 2013a).

Social relationships

Belonging

Trust increases
likelihood of
engaging

Trust in
neighbours

HAPPINESS

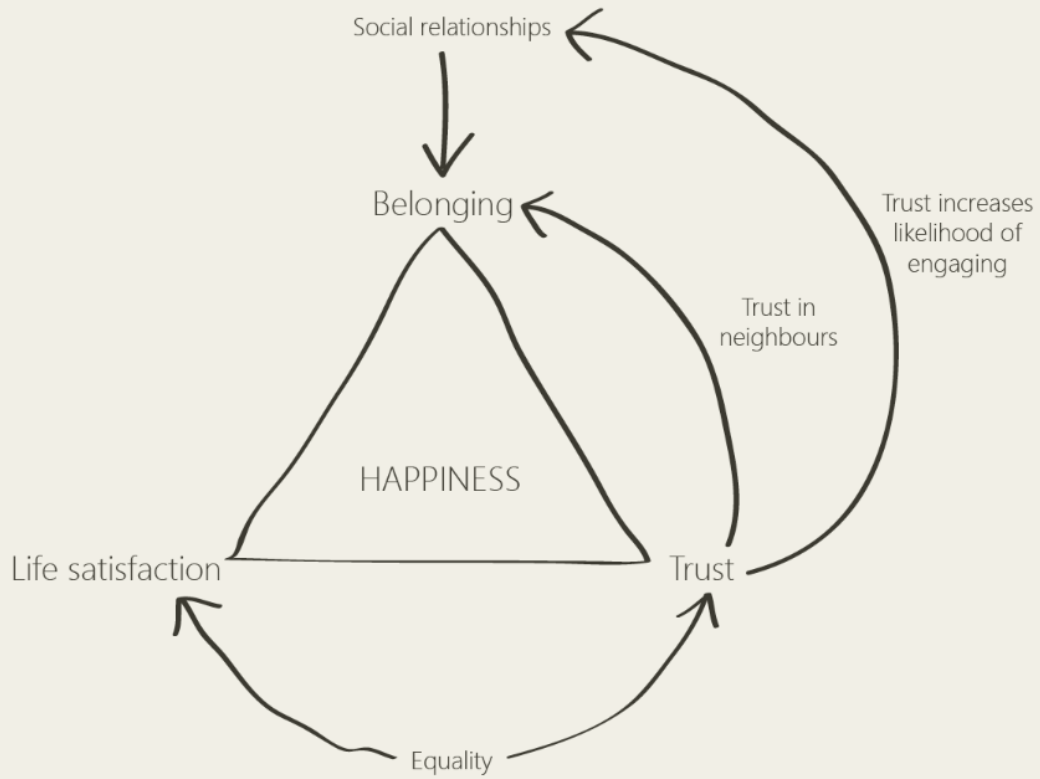Life satisfaction

Trust

Equality

*Fig 6: The
happiness
triangle.*

Since the 1960's, cities have increasingly strayed from the human scale due to the domination of cars and population increases, resulting in ever more privatised lifestyles (Gehl, 2013b). Gehl suggests returning to the human scale and revisiting the original composition of a city, being defined by a market space, meeting spaces and connection spaces (2013a). Most importantly, cities were always intended for people, and it is ultimately the people that define the success of a public space.

Public spaces should be designed using the 5 km/h rule as this can create a lively, safe, healthy, and more sustainable city (Gehl, 2013b). An environment built for walking speeds demands a detailed urban environment with enough visual interest to entertain the eye, ultimately creating attractive and interesting urban spaces. Visually complex environments also support active transport like walking and cycling, which has further health and mental wellness benefits.

Furthermore, to succeed in high usage of public space, cities require "a tempting invitation" (Gehl, 2013b, p. 17). A space can seem most inviting when it offers vibrancy and comfortable places to retreat (Montgomery, 2013). Spaces should also be made to feel safe, using lighting, sight lines and passive surveillance offered by pedestrian activity (Macmillan et al., 2020). Better city spaces using these techniques will have more use, regardless of culture (Gehl, 2013a).

Cultural distribution for a place to belong:

The distribution of cultures within a city affects how one finds their sense of belonging (Wessendorf, 2019). A relevant topic of debate in this area is the 'ethnic enclave'.

Richard Sennet fears ethnic enclaves cause isolation and segregation from the wider city, prohibiting the learning and practice of social interaction between cultures (2021). Neighbourhoods that are dominated by a culture that is not one's own can negatively impact their sense of belonging (Wessendorf, 2019).

However, contrary to Sennet's view, ethnic enclaves are also seen to foster a community and help ease one's journey to belonging (van Leeuwen, 2014). Environments with like-minded people aid the formation of emotional connections (Yuval-Davis, 2006) and trusting relationships (Putnam, 2007). Where one has no clear connection to a geographic cultural community, immigrants find it easier to belong in neighbourhoods that are characterised by visual diversity, often at the city centre (Wessendorf, 2019), where the fear of appearing different or being seen as "the other" (Sandercock, 2003, p. 4) is reduced. This highlights the need for city centres to accommodate and express diversity.

2.   **Expression of identity (through the public market)**

        – Building on *identity/place branding* and *phenomenology*

        [Aim: To accommodate, celebrate and reflect a city's cultural diversity.]

Expressing cultural identities in the built environment is important for acknowledging city residents and for upholding a positive reputation (Landry, 2013; National Research Bureau, 2016). Place branding is a strategy for promoting city reputations (Baker, 2007), but some cities need to address identity at a deeper level, doing more than simply creating catchy slogans (Landry, 2013). As Landry points out, identity "is less about branding and more about building immediate associations" (2013, p. 14). For architecture, this can include iconic buildings that provide physical and experiential references to a city's unique assets which residents, especially, can be proud of.

The market for expressing cultural diversity and identity:

The primary architectural programme of a market can underpin expressions of identity and cultural diversity. A food market is commonly seen as a multicultural space and a canvas for cultural celebration (Rhys-Taylor, 2013). Markets are significant to the earliest city concepts and a place for trade remains a key component of cities today (Gehl, 2013b).

A market can become a "portrait" (Rhys-Taylor, 2013, p. 398) of a city's demographics. A market that embraces cultural foods and crafts is an asset (Landry, 2008) that can address diversity directly and offer moments for sharing, learning and celebrating. Market environments are inherently spaces where intercultural interaction occurs, especially if they are affordable and financially accessible (Rhys-Taylor, 2013). However, the cultural exchange is not meaningful when it becomes a form of cultural tourism where wealth gaps are ignored or even amplified (hooks, 1992). This highlights the need for market architecture to be primarily for local benefits.

The sensorial experience and phenomenology:

Intercultural interactions are enhanced when the senses are engaged (Sandercock, 2003). A market space lends itself to a sensorial experience because it engages what Gehl describes as the 'close senses', which include smell, touch and taste (2013a). These are the most significant senses for interactions with people (Gehl, 2013a) and allow "regular users [to] develop an embodied familiarity … around which important forms of dialogue and exchange can occur" (Rhys-Taylor, 2013, p. 404). Additionally, food has the power to evoke memories and the comfort of 'home', which can be especially powerful for homesick immigrants (Rhys-Taylor, 2013).

Additional to social encounters, "[people] interact with the architectural form through these senses" (Li, 2019, p. 192). Phenomenology is inherently a suitable basis for designing sensorial experiences. It concerns the experiential qualities of architecture and space, often involving the senses.

A design process based on phenomenology often utilises the hand in drawing and model-making. This produces a high level of contact between the designer and architecture and "ultimately the object becomes an extension and part of the designer's body" (Pallasmaa, 2009, p. 97). This approach can capture immaterial qualities and emotions that are important to human experiences.

For architectural spaces, phenomenology can involve the manipulation of light, shadow, material and space. Architecture can play with perceptions of open-ness through ceiling heights, reflecting or absorbing sounds, using textured materials, and masking or enhancing particular smells (Spence, 2020). The combination of these can produce a holistic sensorial experience.

3.   A place for sharing

– Building on a "third place" (Oldenburg, 1999) of intercultural interaction, participatory processes, and environmental psychology

[Aim: To encourage the sharing of knowledge to foster trust and understanding between cultures.]]

Differences between cultures and their values can affect trust between cultures. Hofstede's studies on cultural dimensions provides a useful model that suggests how cultures' ways of life differ. Cultures tend to exhibit more strongly either collectivist or individualist characteristics. Collectivist groups typically value the group over the individual, whereas individualist groups value the wellbeing of themselves or their immediate family. This results in different understandings of happiness and preferences for the use of space.

New Zealand's main four ethnic groups are Māori, Pasifika, European, and Asian. Their positions on the collectivism/individualism scale (based on Hofstede Insights, n.d.; Lim, 2015) are shown in Figure 7. Connections are drawn between wellbeing models in Figure 8. Collectivist cultures have a holistic approach to mental wellbeing and tend to value lay knowledge, whereas individualist cultures tend to rely on professional knowledge (Altweck et al., 2015; Tata & Leong, 1994; Yeh, n.d.). Importantly, all four models include social conditions.
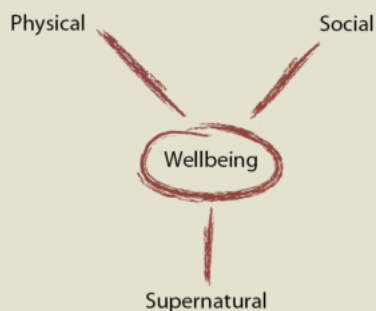
This means architecture must cater for some very contrasting ideals. The common understanding that social relationships are important for wellbeing suggests social spaces where people come together is essential. Collectivist cultures use space in a shared manner with limited personal spaces such as private bedrooms (Penn, 2019) and fewer fences (McManus, 2014). On the other hand, individualist groups prefer spaces with privacy (Pędich, 2018). A challenge for a culturally inclusive architecture therefore lies in incorporating spaces that appeal to both collectivist and individualist groups.

A "third place" (Oldenburg, 1999) for intercultural interaction:

Social interaction between cultures can overcome the barriers created by different world views when genuine interest and curiosity is provoked. Architecture can build on Oldenburg's "third place" theory to encourage frequent intercultural interactions that allow people to learn about different world views. This can increase tolerance and trust between cultures (Sandercock,

Fig 7 (opposite): Individualist and collectivist cultures in New Zealand and their respective wellbeing models.
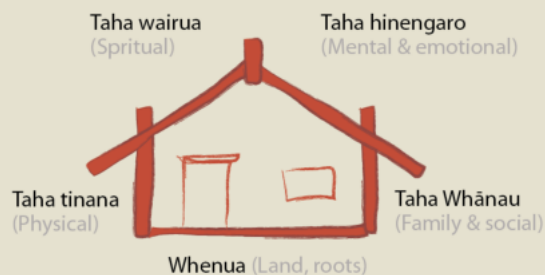
Asian wellbeing model (Based on Carteret & Ed, 2010)

Physical

Social

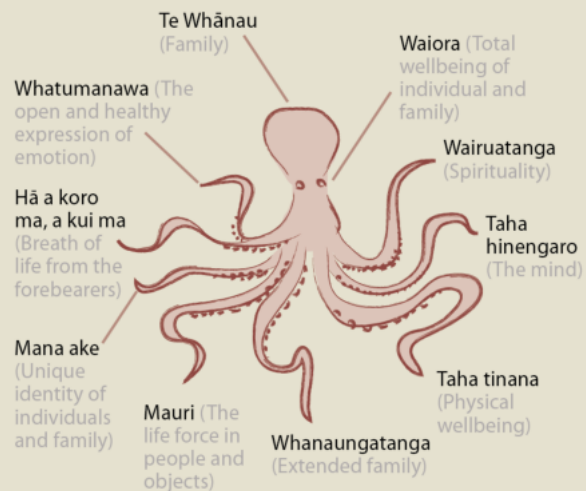Wellbeing

Supernatural

Fonofale

Time

Environment

Context

Culture

Physical

Spiritual

Mental

Other

Family

COLLECTIVE

Asian

Pasifika

Māori

New Zealand

INDIVIDUALIST

Te Whare Tapa Whā (top) and Te Wheke (bottom)

Taha wairua
(Spiritual)

Taha hinengaro
(Mental & emotional)

Taha tinana
(Physical)

Taha Whānau
(Family & social)

Whenua (Land, roots)

Te Whānau
(Family)

Waiora (Total
wellbeing of
individual and
family)

Whatumanawa (The
open and healthy
expression of
emotion)

Wairuatanga
(Spirituality)

Hā a koro
ma, a kui ma
(Breath of
life from the
forebearers)

Taha hinengaro
(The mind)

Mana ake
(Unique
identity of
individuals
and family)

Taha tinana
(Physical
wellbeing)

Mauri (The
life force in
people and
objects)

Whanaungatanga
(Extended family)

Engel's wellbeing model

Biology/
physical

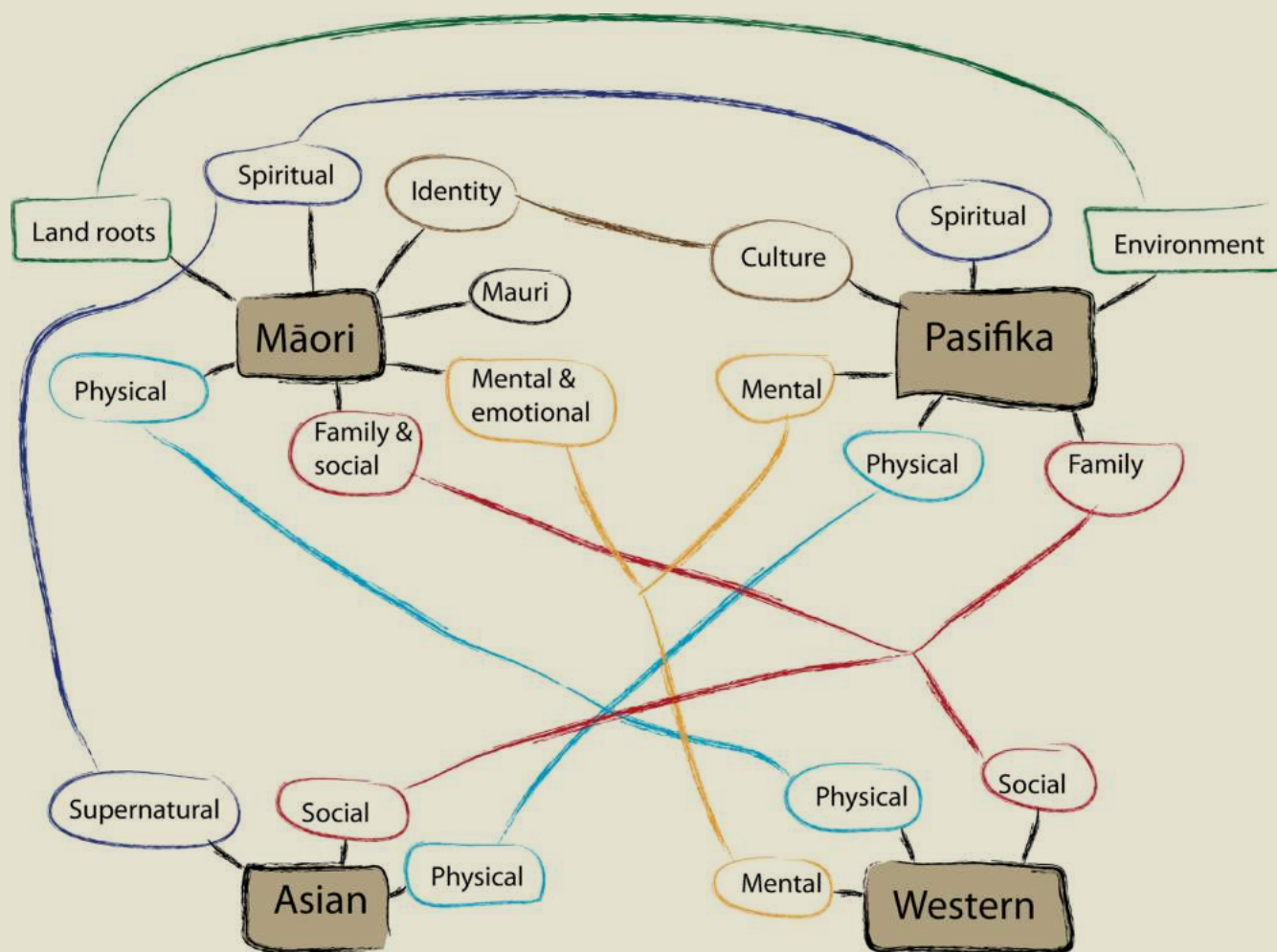Social

Psychological

27

Fig 8: Relationships between wellbeing models.

2003). However, aligned with Hofstede's theory, public space is often territorialised by specific groups, which challenges the initiation of intercultural interactions.

Architecture can foster intercultural exchange by offering diverse programmes that attract a range of cultures. Multiple activity options can appeal to both collectivist and individualist groups and often involves food, events and music (Amin, 2002).

Spaces can also encourage intercultural interaction using comfortable social distances that match the function of space, in line with environmental psychology. The four communication distances – 0-45 cm is intimate, 45-120 cm is personal, 1.2-3.7 m is social and more than 3.7 m is public (Gehl, 2013b) – should all be engaged in urban environments. Small spaces have the advantage of appearing full, conveying a sense of the importance and desirability of the space (Gehl, 2013a). This can result in an overall higher usage of space and more chance of intercultural interactions.

Conclusion:

The literature has revealed that architecture can improve the happiness of a culturally-diverse population by incorporating:

1.   A design process that utilises the hands as a tool, through drawing and model-making.

2.   Participatory design and active making.

3.   A central place that expresses diversity, that all the city's residents can find a sense of belonging to.

4.   Human-centric and human scale urban spaces.

5.   A "third place" (Oldenburg, 1999) that encourages intercultural interactions where people share and form trust.

6.   A market as the potential primary programme of an architecture that expresses a city's identity, using a sensory experience by building on phenomenology.

These points form the objectives of this research.

Precedents

The following case studies are examined to further understand how this thesis' aims can be achieved.

Recap of the aims:

To develop an architecture that can increase the happiness of city residents.

To accommodate, celebrate and reflect a city's cultural diversity.

To encourage the sharing of knowledge to foster trust and understanding between cultures.
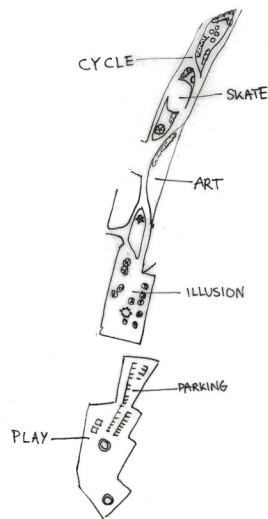
SUPERKILEN PARK

Details:
Architect/designer: Bjarke Ingels Group
Location: Copenhagen, Denmark
Year: 2012

Superkilen Park has transformed an underutilised segment of land in one of Copenhagen's most diverse neighbourhoods into a scene of art. It is filled with objects from all over the globe, aiming to "reflect the true nature of the local neighbourhood – rather than perpetuating a petrified image of homogenous Denmark" (Bjarke Ingels Group, n.d.). A manipulation of land into organic forms helps to emphasise this contrast.

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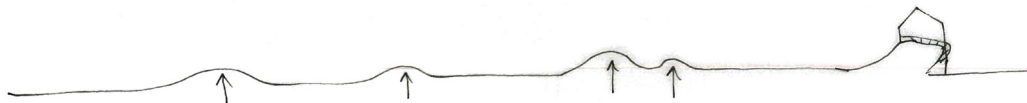
Fig 9: Superkilen Park analysis in plan and section.

connecting with surrounding buildings

optical illusion

Objects from different countries

Seating

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Bright COLOUR

cycleway. Safe from cars
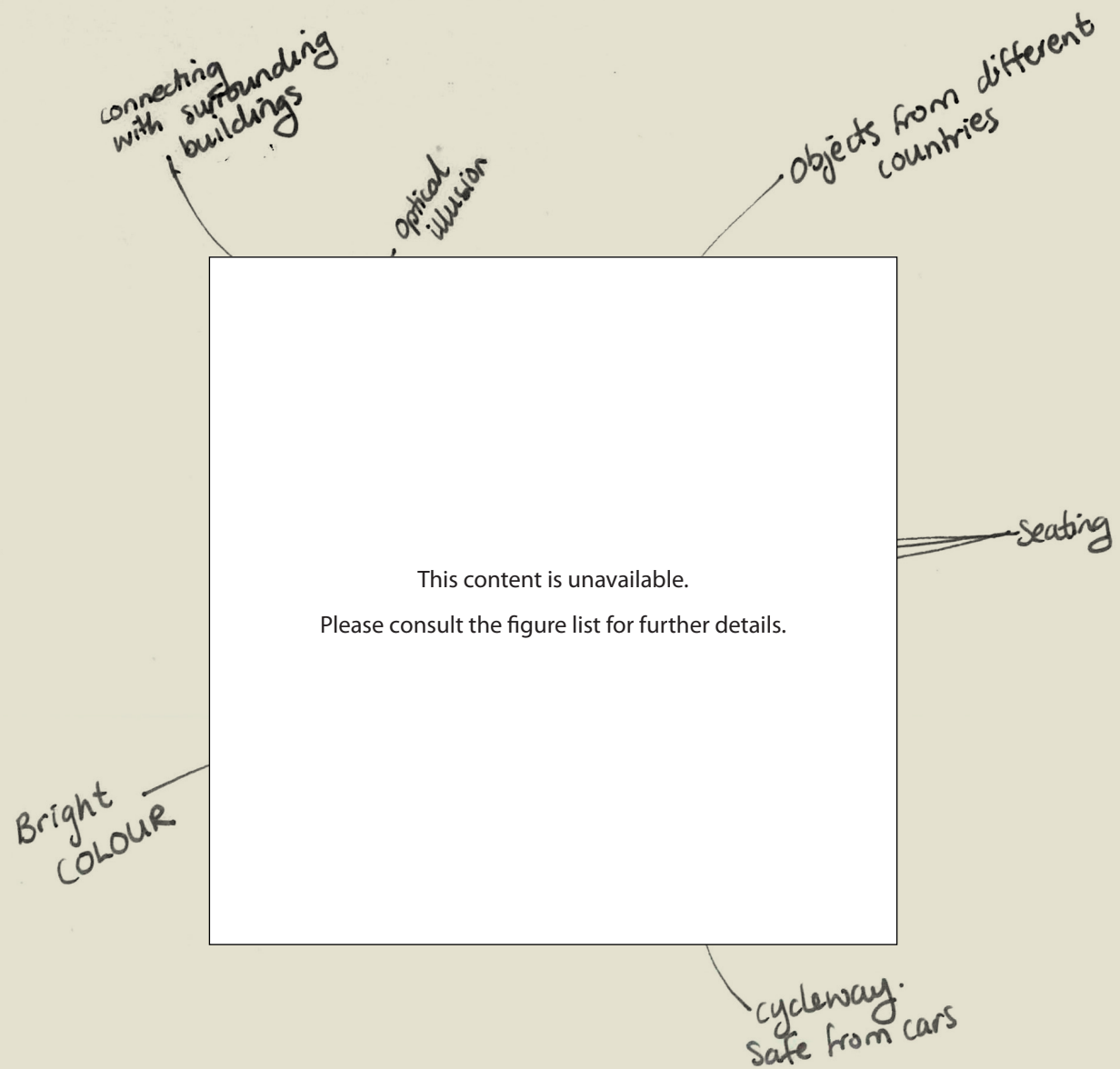
Fig 10: Superkilen Park.

Relevance:

An underutilised space that previously detracted from neighbourhood reputation has been turned into a vibrant social space.

The park includes a cycleway, providing everyday moments of joy for commuters. The path is a that incentivises people to cycle, which has mental wellbeing benefits.

Car access is limited to make the park safe for pedestrians and cyclists.

Superkilen evokes people's imagination through colour, illusions and a play with scale to create an impressive experience. This makes the park memorable and fun.

References of people's cultures/heritage are integrated in a creative manner to depict a scene of celebration.

The accessibility and safety from cars attract a range of people, e.g., families, commuters, residents.

An extensive participatory design process was used to collect the diverse objects.

SANTA CATERINA
MARKET

Details:
Architect/designer: Miralles Tagliabue EMBT
Location: Barcelona, Spain
Year: 2005

The Santa Caterina Market is all about the roof. It brings about a sense of movement, creates spaces of compression and expansion, and the space underneath is versatile.

Fig 11 (top left): Santa Caterina in section.

Fig 13 (top right): Santa Caterina nestled among buildings.

Fig 14 (bottom): Santa Caterina plan analysis.

■ Market stalls
■ Courtyard
■ Shops/cafe

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COLOURFUL & VIBRANT

views from surrounding apartments

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close to surroundings

organic. soft

older architecture

Pedestrian space

Fig 15: Santa Caterina Market

Organic
form
reflected on
inside

warm timber
material

structual
details for
visual interest

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skylights at
the back

tall ceiling
to create
space to breath
in busy market

Fig 16:
Structural
details inside
Santa Caterina

Relevance:

The market is a people-focused environment with human-scale elements and intimate spaces. Whilst the most colourful part of the roof is hidden from pedestrians, details on the ceiling keep the eye entertained. The programme invigorates other senses too.

Use of colour and imagery makes views interesting for surrounding apartment buildings.

It combines the old and the new and compliments Barcelona's iconic architecture by Gaudi. This reinforces Barcelona's identity.

Cultures are expressed through the building's function as a market but also through the organic and colourful roof.

The roof is a symbol of a tablecloth. This symbol is universally shared and speaks of celebration, sharing and food.

MARY STREET

Details:
Architect/designer: Thames Coromandel District Council
Location: Thames, New Zealand
Year: 2021

Mary Street, in the centre of Thames, was transformed from a regular car-orientated street to a pedestrian hub. Its aim was "to create a town heart … that will generate activity and foot traffic" (Thames Coromandel District Council, 2022).

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Fig 17: Mary Street concept collage.

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lights for nightlife

shading device

Human scale

Playful furniture, moveable

artificial grass (not soggy in winter)

Fig 18: Mary Street.

Relevance:

There are many human-scale elements with places to sit. Artificial grass adds vibrancy and texture underfoot.

Colour and visual interest keeps the eye entertained.

The space is multifunctional with opportunities for performances and events. Movable elements allow the space to be reorganised.

The street contains a community space that can be booked for free.
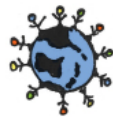
Local artists painted planter boxes and murals to reflect the identities of Thames' residents.

The street is adaptable, allowing the public to influence it over time and reducing the feeling of the council forcing change.
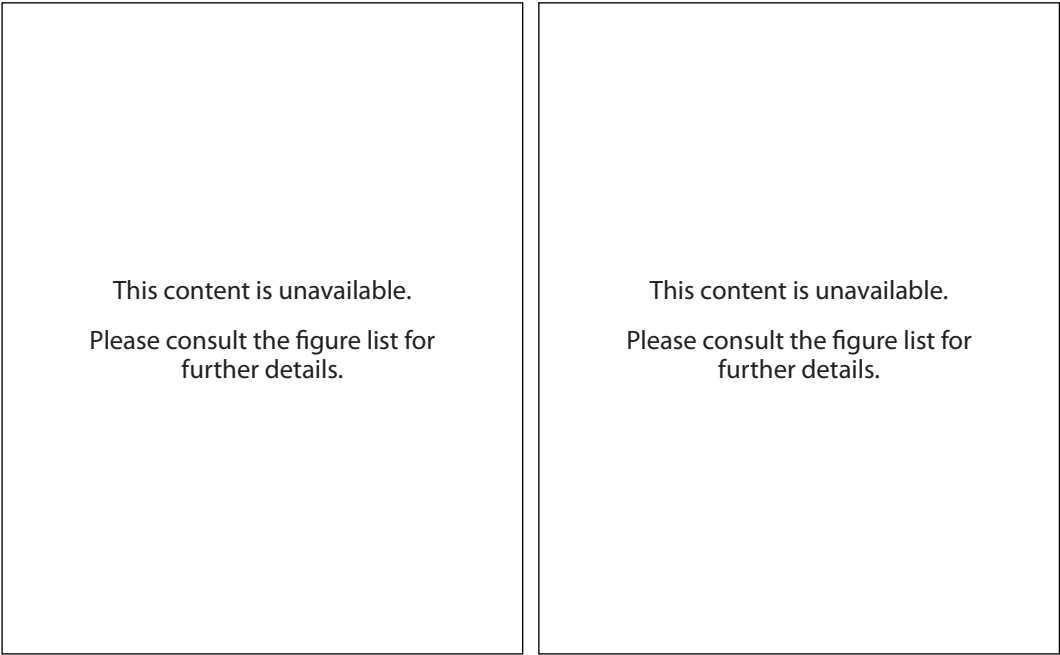
The project highlights that urban improvements can involve small interventions, and that the public can be key contributors to this.

FOLKEHUSET ABSALON

Details:
Architect/designer: ArcgencY Architects, Tal R, Allan Lyth MAA, Marianne Tuxen
Location: Copenhagen
Year: 2015

Folkehuset is a multi-programmatic community centre in Copenhagen. It can host international breakfasts, lunches and dinners, as well as exercise classes, creative activities and art exhibitions. This provides attractions for a diverse range of people and promotes social interaction.

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Fig 19 (left): Colourful interiors.

Fig 20 (right): Homely seating area.

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tall ceiling
- space to
breathe

Quiet zone
for retreat

views into
hall

Windows
for natural
light

Sound
reverberation
for busy
atmosphere

Soft colours

sport

Food

Level change
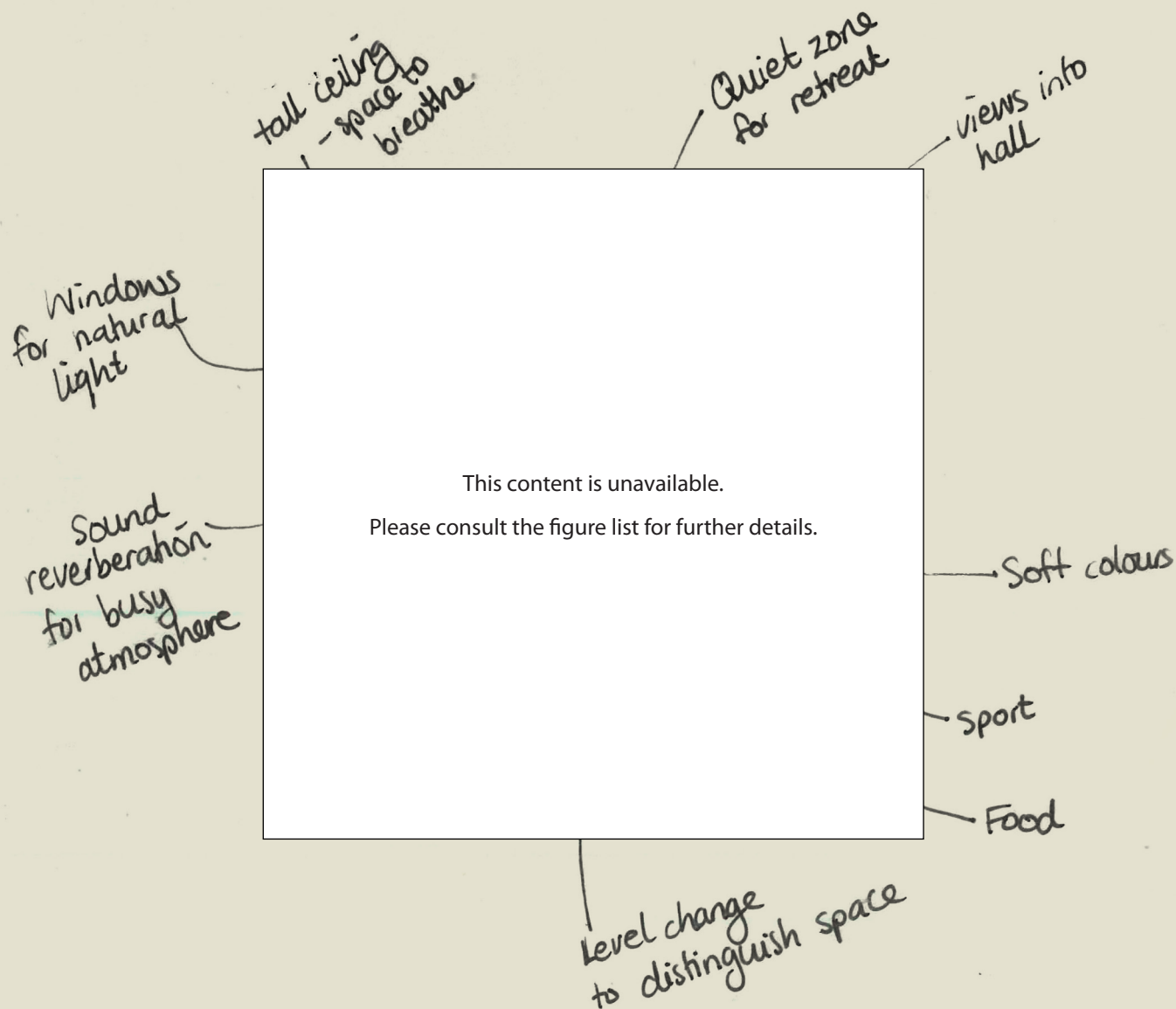to distinguish space

Fig 21:
Folkehuset
Absalon hall.

Relevance:

The design reflects the qualities of a livings room to become a comfortable place to belong. This is achieved through homely furniture, asymmetric lighting arrangements and daily activities that everybody is welcome to participate in.

Bright colours produce a cheerful space. The pastel tones are easy on the eyes.

The international cuisine and colourful interior speak of diversity.

The multi-programmatic approach, from food/dining, to exercise classes, painting/life drawing, appeals to a range of people.

The use of colours allows visitors to blend into a visually diverse environment, reducing immigrant's fears of standing out.

The adaptability of the hall, such as through movable furniture and durable flooring, facilitates a variety of collaborative community-led events.

BAXENDALE STUDIO

Baxendale Studio is an architecture firm in the United Kingdom that believes in the power of the community-led projects. Their projects often involve temporary architecture built by communities themselves that offer insight into future possibilities and inspire a desire for change.
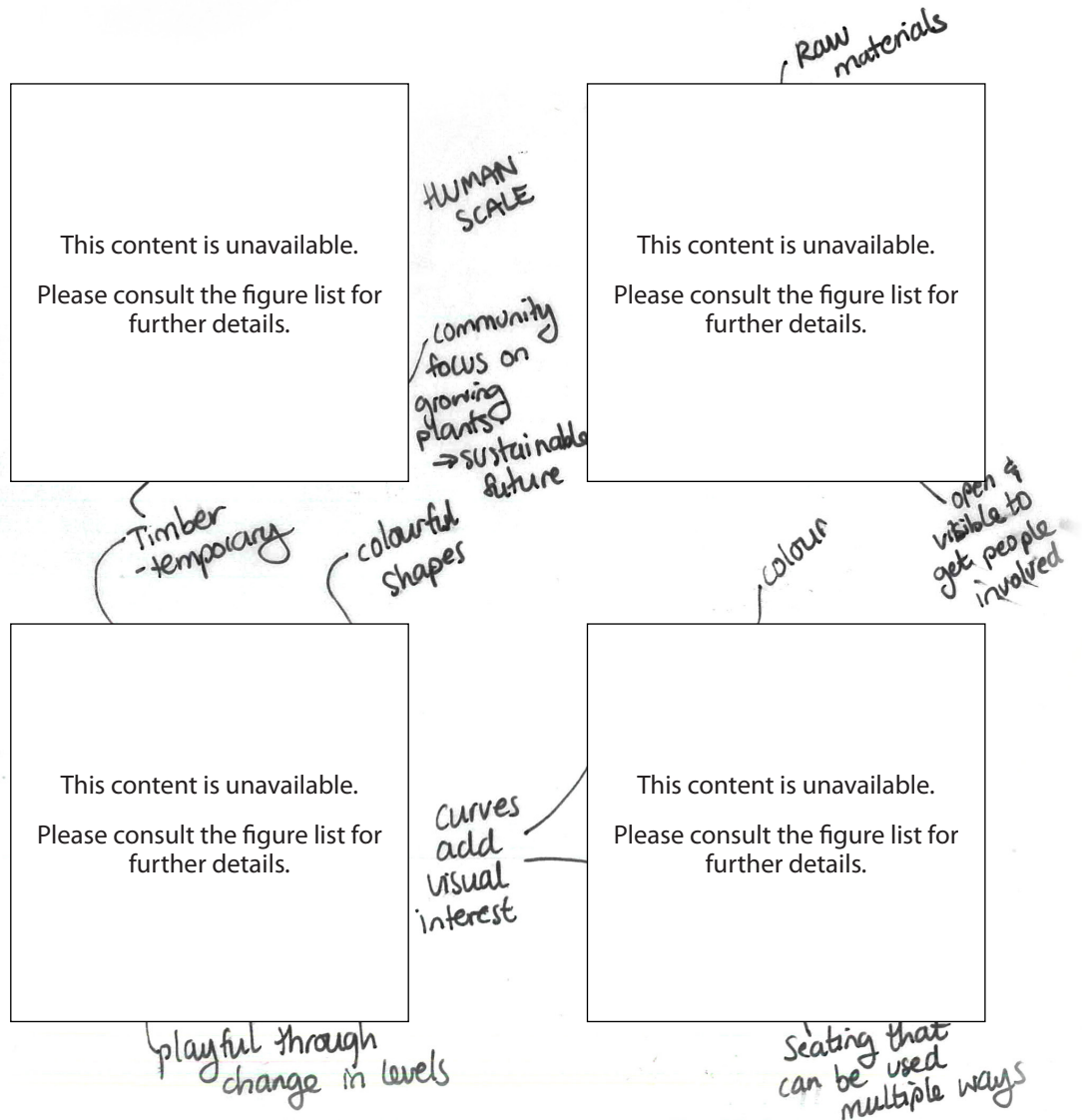

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Raw materials

HUMAN SCALE

community focus on growing plants
→ sustainable future

Timber - temporary

colourful shapes

colour

open & visible to get people involved

curves add visual interest

playful through change in levels

seating that can be used multiple ways

Fig 22 (top left): Community project.

Fig 23 (top right): The Portland project.

Fig 24 (bottom left): Venice Biennale playground.

Fig 25 (bottom right): Skatepark in Bentham.

Relevance:

Communities are actively engaged so that the public holds a sense of ownership, and thus belonging, to the architecture.

Projects are facilitated by professionals but active making encourages the sharing of lay knowledge amongst community members and with professionals.

The temporary essence suggests opportunity for change and development based on community needs/wants in the future. It is treated as a prototype so that a new architecture is not intimidating.

CONCLUSION

Case studies have shown that impressive and intriguing spaces can entice visitors to explore a building up close. Colour, texture and form can create bold and memorable experiences that evoke happiness and reference cultural celebration. Details add visual interest, which is important for engaging the human scale and intimate spaces within buildings can be deformalised using mis-matched furniture, interactive objects, and soft materials.

Numerous case studies transformed underutilised urban spaces into lively hubs. Employing multiple programmes encourages social interaction and interesting architecture produces an invitation. Revitalisation can increase an area's vibrancy and improve city or neighbourhood reputations.

Architecture can include aspects of active making, involve local artists or incorporate movable elements that can be adjusted for events or future desires. This fosters a sense of power, pride and belonging for the public.

Site

New Zealand has a historically complex cultural make-up that encompasses indigenous Māori culture, British colonisation and recent increases in other cultures due to globalisation. 27.4 % of New Zealand's population were born overseas (Stats NZ, 2018b) and people identify with more than 179 ethnicities (Stats NZ, 2019).

This project focuses on the second-tier city of Palmerston North – an arguably unhappy city.
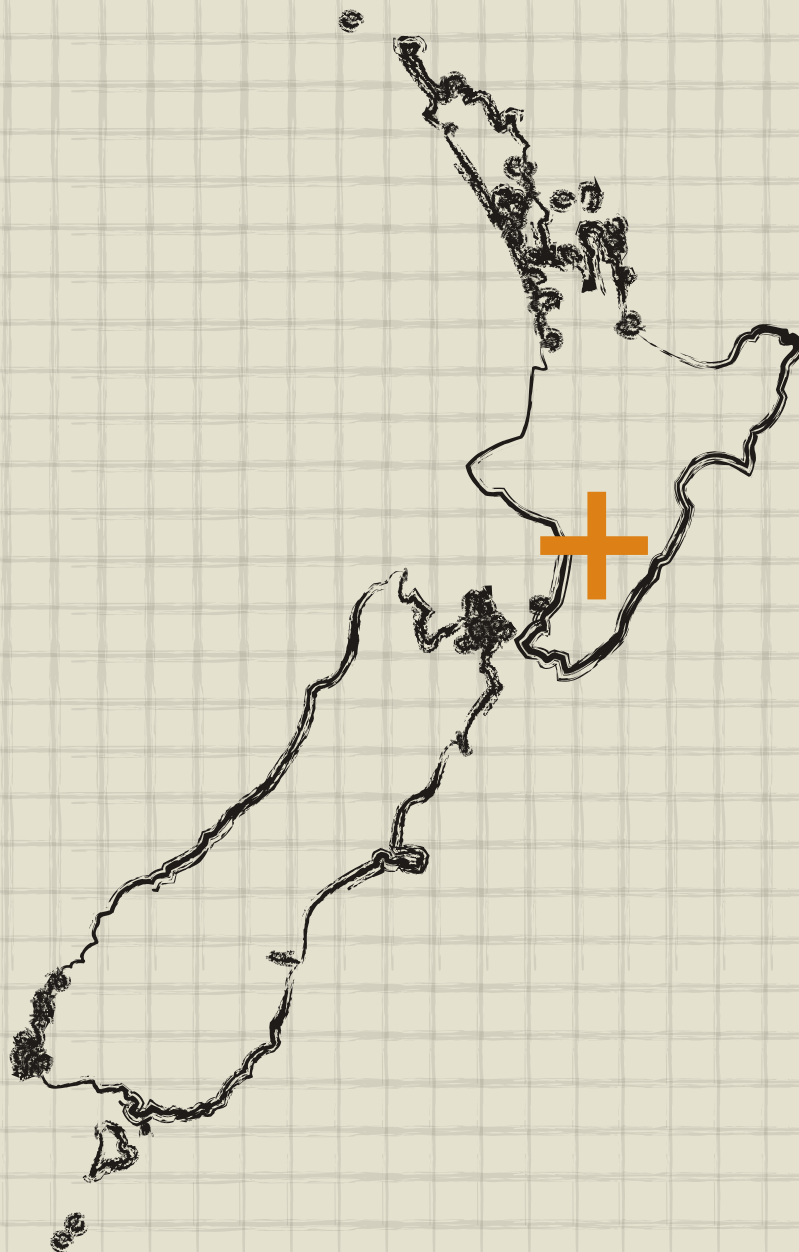
Fig 26 :
Palmerston
North's location
in New Zealand

PALMERSTON NORTH'S SETTING

Airport

The Square

Main Park

Racecourse

1km

Industrial area

Manawatu River

Lagoon

Ruahine Ranges

Research hub

Fig 27:
Palmerston
North's main
features.

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Fig 28: Palmerston North has a backdrop of the Tararua Ranges. Housing developments suffer from urban sprawl.

AN INTRODUCTION TO PALMERSTON NORTH

Palmerston North is a typical mid-sized, inland, diverse city that struggles with happiness (Happiness of New Zealand, 2012). The region suffers from high suicide rates (Chief Coroner & Ministry of Health, 2021), low levels of social support, high levels of deprivation, higher mortality rates (Health Equity Data Report, 2018), and more reported loneliness than the rest of New Zealand (Wellbeing Statistics: 2021, 2022). With one of the highest levels of cultural diversity per capita in the country (Naylor, 2012), Palmerston North is an important site where cultural diversity has significant consequences for people's happiness.

Palmerston North is expected to become increasingly diverse- (Health Equity Data Report, 2018), making cultural diversity highly relevant for its future. As one of New Zealand's key refugee centres, the city is has the responsibility to provide a home for those who had no choice but to leave their original home behind (Refugees Coming to New Zealand, 2021).

Palmerston North's built environment does not recognise the city's cultural diversity. This is evident throughout the city due to an overabundance of state-housing styles in neighbourhoods and territorialised inner-city streets with high-end shops, cafés and colonial architecture. In spite of its wealth of potentially exciting diverse cultures (Figure 29), Palmerston North's centre is described as "pretty bland" and "a bit of a hole" (residents cited in National Research Bureau, 2016). It has often been the city's perception from outsiders that has defined Palmerston North's image rather than residents themselves.

The development of Palmerston North's fringe suburbs is resulting in urban spawl and does little to express the identities of its residents. There is an orientation towards cars, which are then accommodated in oversized parking lots in the city centre, producing unwalkable distances and unpleasant streets. High car-usages produces a privatised way of life, reducing opportunities of social interaction between residents and cultures. This is especially problematic because Palmerston North is lacking a space where all residents can come together. These issues have ultimately contributed to Palmerston North's poor reputation.

Palmerston North has evidence of ethnic concentration, which has benefits for belonging (van Leeuwen, 2014).
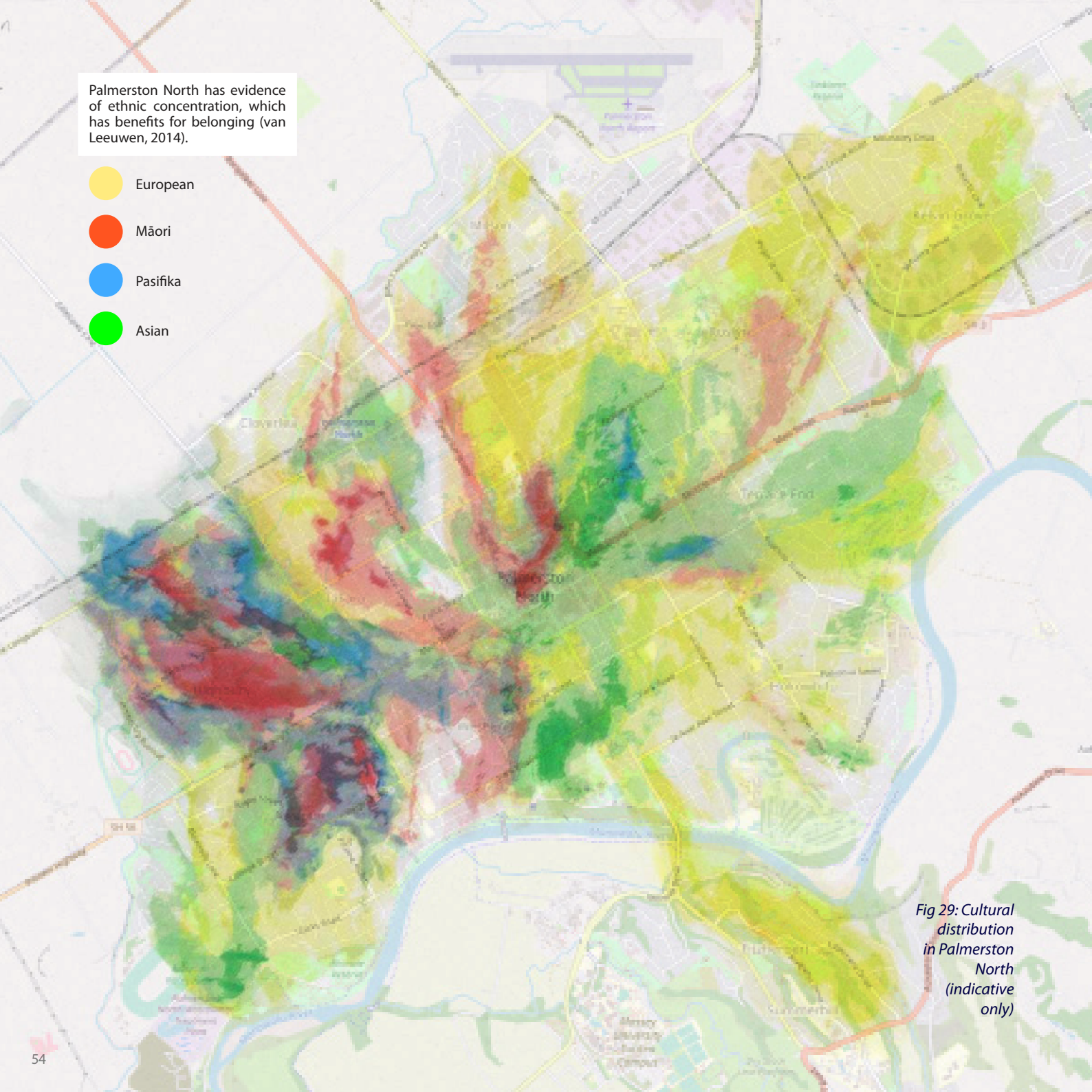
- European
- Māori
- Pasifika
- Asian

Fig 29: Cultural distribution in Palmerston North (indicative only)

"It's not a place that you say 'Yeah! Come visit Palmy, it's really cool'. No one says that - ever."

(Resident cited in National Research Bureau, 2016, p. 21)

Palmerston North lacks "distinctiveness, diversity [and] vitality" (Landry, 2013, p. 25), and Landry points to the dangers of suppressing the city's diversity because people want greater acknowledgement (2013). A lack of expressed identity is highlighted in photographs of the city (Figure 31); it is difficult to grasp the places' identities. Behind neighbourhoods' facades, however, lies a rich cultural diversity that is often unique to each suburb. Lacking evidence of cultural diversity is especially evident in the city's square. This is despite a desire for more cultural celebration (How Important Is Culture?, 2009).

Eighty two percent of New Zealanders "say they are at least quite interested in culture and cultural activities" (How Important Is Culture?, 2009, p. 17) but only 38% say that "culture and cultural activities have a high profile in NZ" (How Important Is Culture?, 2009, p. 5). New Zealanders also consider they have a stronger identity as a country rather than as individual communities (How Important Is Culture?, 2009), which supports the need to focus on identity at the city scale.
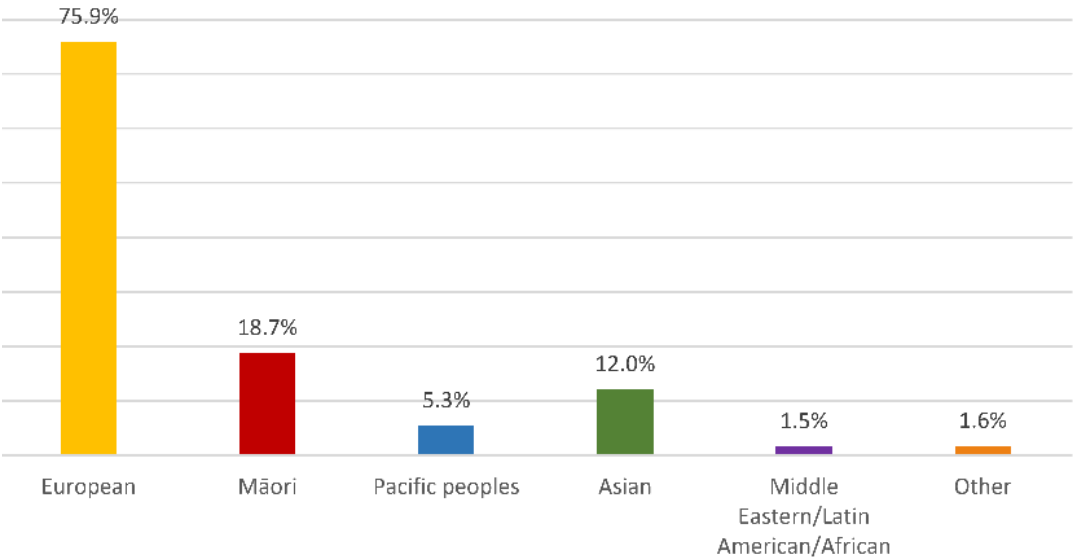

75.9%	European
18.7%	Māori
5.3%	Pacific peoples
12.0%	Asian
1.5%	Middle Eastern/Latin American/African
1.6%	Other

Fig 30 (left): Ethnicities in Palmerston North.

Fig 31 (opposite): Lacking cultural expression in Palmerston North.

Awapuni

Centre of Neighbourhood

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Community Centre

This content is unavailable.

Please consult the figure list for further details.

| European 70.3% | **Māori 25.3%** | Pacific 9.2% | Asian 10.6% | Other 2.8% |

Kelvin Grove

Centre of Neighbourhood

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Community Centre

This content is unavailable.

Please consult the figure list for further details.

| European 78.8% | Māori 10.9% | Pacific 2.3% | **Asian 13.9%** | Other 4.2% |

Milson

Centre of Neighbourhood

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Community Centre

This content is unavailable.

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| **European 83.3%** | Māori 14% | Pacific 3.4% | Asian 8.5% | Other 2.1% |

Westbrook/Highbury

Centre of Neighbourhood

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Community Centre

This content is unavailable.

Please consult the figure list for further details.

| European 67.8% | **Māori 33.1%** | **Pacific 13.0%** | Asian 6.6% | Other 1.9% |

Terrace End

Centre of Neighbourhood

This content is unavailable.

Please consult the figure list for further details.

Community Centre

This content is unavailable.

Please consult the figure list for further details.

| European 69% | Māori 24.3% | Pacific 6.3% | **Asian 15.1%** | Other 3.4% |

City Centre (The Square)

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There is a disparity between what the Palmerston North City Council does for the city and what the people want. Urban developments, such as new road layouts, are often opposed by the public because it seems like 'authority' is creating permanent change without considering the public, as evidenced by social media (Figure 33). Opportunities for residents to voice their desires are limited, resulting in dwindling trust for governing bodies and a lack of desire from residents to engage in design processes. Furthermore, a lack of trust entrenches a resistance to urban changes.

The council building is overpowering. It portrays a sense of dominance and authority through its brutalist style and towering form over the central square (Figure 32). "Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody" (Jacobs, 1961, p. 238), which is especially important when reflecting culturally diverse populations. The council building is missing an opportunity to incorporate spaces where the public council can design together.

Fig 32 (opposite): The dominating PNCC building.

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Fig 33: Public responses to council initiatives.

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Fig 34: A visual representation of Palmerston North.

N

0   500   1000m

PALMERSTON NORTH OVERVIEW

Palmerston North is arranged on a grid, centred around The Square. The city's edges are framed with the valued Manawatū River towards the southeast, and a railway with industrial areas towards the northwest. Overall, suburbs vary in visible wealth, values and community spirit.

·· Kelvin Grove is packed with new cookie-cutter houses for those in search of privatising fences and lush green football fields.

·· Milson's wide streets render the area with little character.

·· Highbury is battling with poverty but has a big heart created by Māori and Pasifika groups.

·· Hokowhitu is a 'pretty' neighbourhood where many houses are presented with delicate flowers. Southern Hokowhitu appeared to have a higher presence of Pacific ethnicities and is scattered with old couches.

·· Awapuni has a community spirit led by its community garden, next to tennis courts where Saturday afternoon tennis keeps the retired entertained.

·· Summer Hill overlooks the city, elevated by their wealth and position of power. It could be said they have the seat at the 'head of the table'.

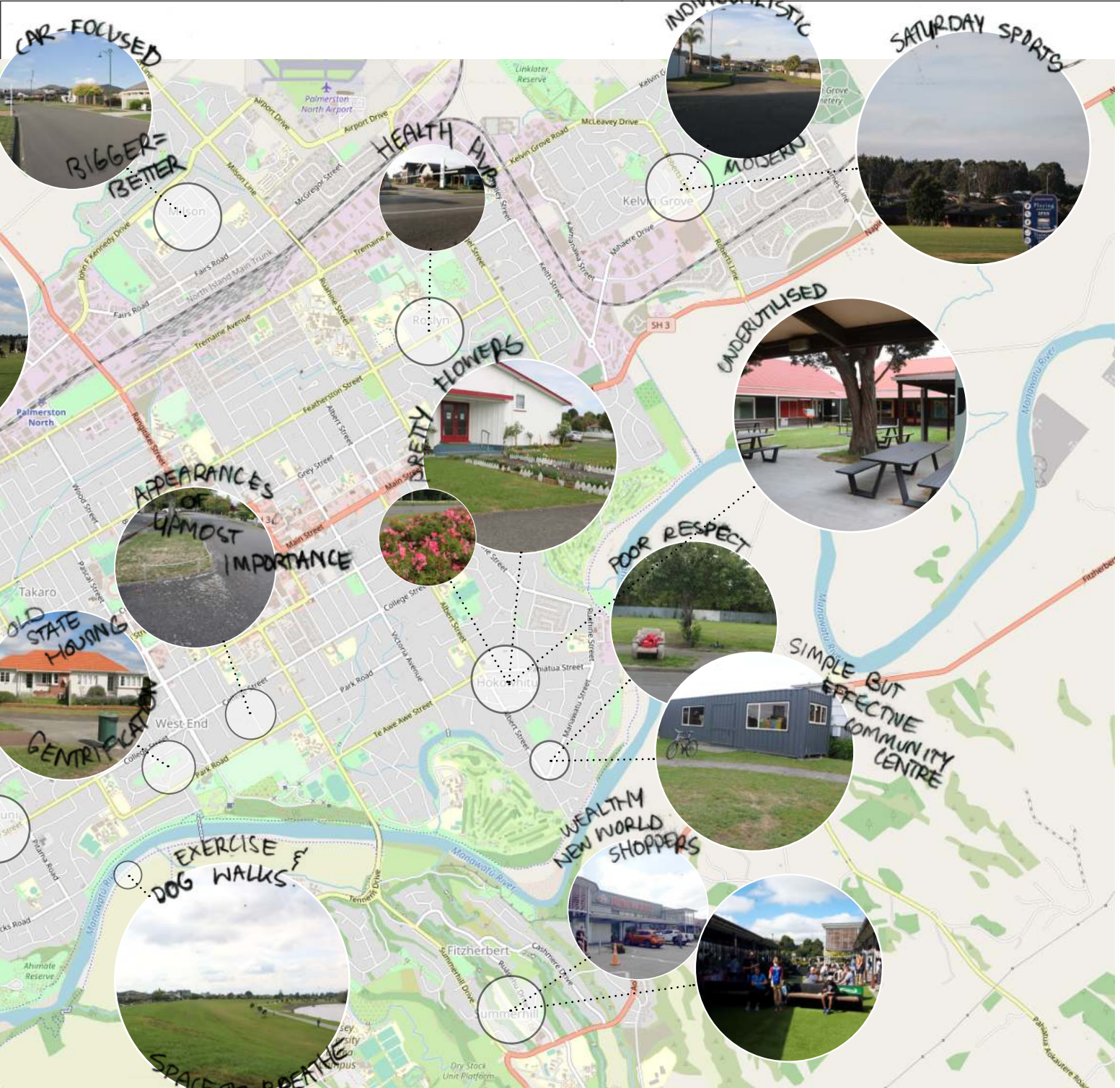COMMUNITY PRIDE

SHARED RESOURCES

HIDDEN GEMS

TEAM SPIRIT

FRONT-LAWN LIVING

N2 DAIRY CULTURE

COLLECTIVE CULTURE

COMMUNITY

Fig 35: Palmerston North snapshots.

N

0   500   1000m

CAR-FOCUSED

BIGGER = BETTER

INDIVIDUALISTIC

SATURDAY SPORTS

HEALTH HUB

MODERN

UNDERUTILISED

PRETTY FLOWERS

APPEARANCES OF UTMOST IMPORTANCE

POOR RESPECT

SIMPLE BUT EFFECTIVE COMMUNITY CENTRE

OLD STATE HOUSING

GENTRIFICATION

WEALTHY NEW WORLD SHOPPERS

EXERCISE & DOG WALKS

SPACE TO BREATHE

Fig 36: An expression of culture on a porch in Hokowhitu.

Fig 37:
Playground at
Crewe Crescent.

Fig 38: Signs of community spirit in Highbury.

Fig 39: Front lawn in Hokowhitu.

Agriculture

Palmerston North's surroundings has rich soils for agriculture and farming.

Cultures

Traditions, rituals, cultural expressions, stories and food are recognised in the annual festival of cultures but not during the rest of the year.

Lifestyle

Palmerston North's residents love the laid-back lifestyle, work-life balance and ease of getting around the city. However, this does pose risk to lack of ambition and change.

What are Palmerston North's attributes?

Manawatū River

The river is an important asset as it is the only blue space of the city.

Landscape

Ruahine and Tararua Ranges offer bushwalks and an escape from the city. Wharite Peak is a well-known viewpoint and often visible from within the city.

Fig 40: Palmerston North's attributes.

The PNCC ten-year plan aims to keep the
relaxed lifestyle but introduce more creativity
and vibrancy to enhance future prospects
(PNCC, 2020)

Better active transport
infrastructure and use

What does Palmerston North aspire to?

(Based on the PNCC 10 year plan)

Better
nightlife

To become a destination for
tourists and regional residents

Increase in
density and
vibrancy

*Fig 41:
Palmerston
North's
aspirations.*

F1 (Students Group)
Art, craft, food (gourmet and 'cheap') markets.
Cultural events in square, concerts, Holi festival, Mexican festival.
Advertise better on Facebook, what's going on in our city directed at our age group.
Better student discounts.
Better advertisement of activities/things to do - walks, parks, petting zoo, etc.
More emphasis on community activities and groups.

F2 (Students Group)
Provide up-to-date messages, such as new policies, new facilities, or public services available.
Advertise or promote more about public services on campus - such as Te Manawa, library, etc.
Bus tours to sightseeing.

F3 (Students Group)
Communication between the University and the Council - use the university to reach students.
A student input, have a presentation day at Massey to get students involved - get their suggestions
and tell them more about what the Council does.
A what's-on Facebook page or app; have events, shops, places to eat, exhibition, etc.
More music events.
Free entertainment at the park or square, a concert or more where you can bring a picnic and
something to drink.

F4 (Students Group)
Outdoor movies.
Outdoor concerts.
Free rubbish.
An app to show what is on.
Palmerston North city runs - timed each week.
More freedom camping spots.

YOUNG FAMILY GROUP
(NB one person did not complete a wish list)

M1 (Young Family Group)
Cyclist friendly, road rules and designs
Water meter, water-saving initiative.
Footpath more friendly to wheels.
Waste recycling more flexible.
More activities arrangement for students and newcomers.
More involvement with people living in the city.

M2 (Young Family Group)
Free events to bring people together.
Cover Central Energy stadium.
Look at opening land on south side of Palmy for development.
New up-to-date children's play areas with science/nature themes.

M3 (Young Family Group)
Cycleways.
Rubbish disposal.
Parks and reserves.
The Square.
Public consultation on projects.
Footpaths.

F1 (Young Family Group)
The water quality of the river.
Footpaths.
More planting in 'poor areas'.
Nicer playgrounds in 'poor areas'.
More diverse cultural events.
Revamp Broadway area.

F4 (Young Family Group)
Clean up the river.
Even footpaths.
More gardens.
More spaces...
...that have overflowed with household rubbish.
...re pools fit for toddlers.
...clothing bins.
...park, bigger pools and more playing at...

Fig 42: Palmerston North's residents' wish list.

M2 (Young Singles/Couples Group)
Really needs a skid pad or something to stop people from doing burnouts.
Better skatepark.
More free parking in town.

M3 (Young Singles/Couples Group)
Fix skatepark.
Build free skid pad for boy racers so no more congested roads or antisocial.
Try make more jobs for everyone.

M4 (Young Singles/Couples Group)
Music clothing shop (board shorts 90's style ripped jeans, etc).
Another swimming place and have winter stuff in there like spas, etc.
More music studios (like The Stomach aka Creative Sounds).

F1 (Young Singles/Couples Group)
Fixing the red lights that never change around CBD and Rangitikei St.
Improve the Regent - needs to be dressed up (eg. carpets, etc).
Events at Te Manawa being promoted.
Homelessness is an issue. Not just moved off the streets but given help and...

F2 (Young Singles/Couples Group)
More activities to do when it comes to school holidays.
Not waste money on unnecessary roadworks.
Make streetlights brighter, making people more secure when walking at night.
More frequent public rubbish disposal, ie, outside dairy's, etc.
Cheaper rubbish dumps/bags.

F3 (Young Singles/Couples Group)
Make it safer to walk around at night.
Cheaper rubbish bags.
More awareness of the Council to the public, perhaps younger people.
More communication of proposed ideas or projects.

F4 (Young Singles/Couples Group)
Drinking culture - security step up.
Cheaper parking/longer time frame.
Give the 'homeless/beggars' options of things to do.
Man made beach.
More opportunities for things to do in Palmy.

What do the people want?
(National Research Bureau, 2016)

F5 (Young Family Group)
More rubbish bins.
Fix footpaths.
Shade at playgrounds.
Clean Manawatu rivers.
Cheaper bins/bags.

F6 (Young Family Group)
Fix footpaths.
Shade at more playgrounds.

F7 (Young Family Group)
Beautiful river with attractions on it.
Better cycling lanes in city centre/intersection.
More skateparks.
Public toilets on every playfield, and open on...
Playgrounds/areas for pre-teens.

uts on the street.

ial behaviour.

food,

t.

teenage kids.
the cultural side more.
think outside the box with some of the dead areas around town.
Spend more time in the rough areas around town.
Make it easier for people to be involved with the decision making around the city.

M2 (Mature Family Group)
Lower rates.
Fix footpaths in smaller streets not just the major streets.
Have cheaper or free green waste dumping to help clear sections making it nicer.
Use other media (social) more, newspaper is a lost media to inform.
More things for youth to do ie get away from computers, school holidays hard to find things for them to do which do not cost a lot.
When cars been a pain in neighbourhood something can be done about it (eg, coming in and stealing my food).

M3 (Mature Family Group)
Evaluate: the exact resources we have and access their meeting the needs of the community.
Inform: have a local television channel dedicated to the region.
Express: find out what the 'real world' changes that are affecting other communities our site.
Inclusive: bring the younger 17 - 25 age groups into Council feedback.
Plan big for the future.
Innovate: make the most of what we have and yell about it (we are too quiet).

M4 (Mature Family Group)
Improve community communication.
Improve cycle access within the city.
Improve waste management to encourage waste recycling without extra cost.
Increase amenities for young teenagers to encourage them off the sofa.
Ease access across river.
Improve use of river amenity.
A place for teenage motorists to let off steam and improve driver skill.

M5 (Mature Family Group)
Improving rates - dropping them.
Looking after rubbish - waste.
Looking for something for the secondary school kids to do.

F1 (Mature Family Group)
More free/reasonably priced events for under-20's (and others).
Utilise the river recreationally.
Improve storm waterways.
Involve social media in communications/adverts regarding Council activities and decisions.
Encourage local industry especially in retail by making parking cheaper and building rentals, especially those buildings sitting empty.

M2 (Students Group)
Frequent buses later in the day/night.
Larger skatepark.
More accessible events promotion.
More black recycling bins for glass.
Cheaper rubbish bags.
Orientation week: music events.

M3 (Students Group)
Easier access between town and Uni.
Youth (18 - 25) designated planning and consultation.
Enhanced public transport.
Establish an entertainment hub - museum/theatres/bars.
Clean up the river - Horizon's responsibility.
Access to green space.

M4 (Students Group)
Start adding more future big trees now, everywhere.
Add lights on the riverside footpath.
Develop the riverside footpath; food shops, lights, decks.
Improve roads.
Express culture of city in town better.
Take glass each week with recycling.

M5 (Students Group)
Maintain sportsfields. Perhaps have a place that they charge a kick around in.
Let the community know their plans for future.
Advertise events more, things to do for free.
Involve university students with event planning as they are
Advertise the arts more, bring in cool acts, let people know
More social sports leagues around town that are advertise

F2 (Mature Family Group)
No dog registration fee.
Teenage youth group held by City Council.
Few more late nights open at library.

F3 (Mature Family Group)
Create more activities for young people (teenagers to early 20's).
Keep the rates down.
Free parking in the CBD.
Keep Lido swimming pool clean.
Do not move Saturday flea market to Broadway.

F4 (Mature Family Group)
Improve traffic flows and synchronise traffic lights.
Fix all footpaths.
Make dump fees cheaper.
Remove paid parking.
Make private swimming pool rules more simple and user friendly.
Improve safety for cyclists within city.

(Mature Family Group)
man made lake for recreation.
bish bags free.
the rates please please please.

d for recreation.
d make an action plan to help these people.
t facilities available around the suburbs.

ns.

weekends.

6   51

73

CONCLUSION

Palmerston North lacks architecture that fosters wellbeing as it continues to develop with urban sprawl, ignore the human scale, neglect residents' identities and retains a poor reputation. The built environment poorly conveys the city's cultural diversity which has a negative effect on residents' happiness. In line with resident's desires, Palmerston North needs a more vibrant city where cultures and contrasting ways of life can be shared. Palmerston North offers the ideal testbed for this thesis.

Scope

The scope of this research is reduced to Palmerston North's central square. This is where urban happiness, cultural expression and as sense of sharing is significantly lacking. It also provides an accessible central location, providing the highest potential for a happier population.

In line with the literature, this thesis will focus on an urban-scale multi-programmatic market design. It aims to address issues of happiness for culturally diverse populations by focusing on the human experience, cultural expression and encouraging sharing through architecture. The result of this thesis is an architectural design that provides a conceptual guide for designing culturally inclusive architecture in the context of New Zealand.

The project uses a multicultural lens because an increasingly multicultural population cannot remain ignored if New Zealand's cities are to become happier. However, it should be acknowledged that New Zealand is officially a bicultural country, and Māori still face injustices caused by colonization. This thesis does not wish to deny the need for Māori-focused design, but instead speculates what a celebration of all cultures would look like.

The
Square

A city's centre is the heart of the city, tasked with expressing the creative ideas and identities of its residents. Palmerston North's square, however, dominates the city centre and does not openly express the cultures of its people.

Ironically, The Square has a significant history regarding cultural diversity. During the colonisation of Palmerston North, a Māori leader, Te Peeti Te Aweawe, advocated for peace between Pākehā and Māori (Tennant et al., 2020). The Square became an important symbol of such peace after being named 'Te Marae o Hine' – 'the courtyard of the daughter of peace' (Tennant et al., 2020, pp. 41–42). This name references a Marae in the Waikato that was dedicated to be a place of safety, shelter and peace for "refugees of conflict" (White, 2016). Correspondingly, Te Marae o Hine/The Square in Palmerston North is a place where all people of Palmerston North, particularly the city's diverse cultures, are welcomed.

Fig 43: The Square is located at the centre of Palmerston North.

HISTORY

From the natural to the ordered.
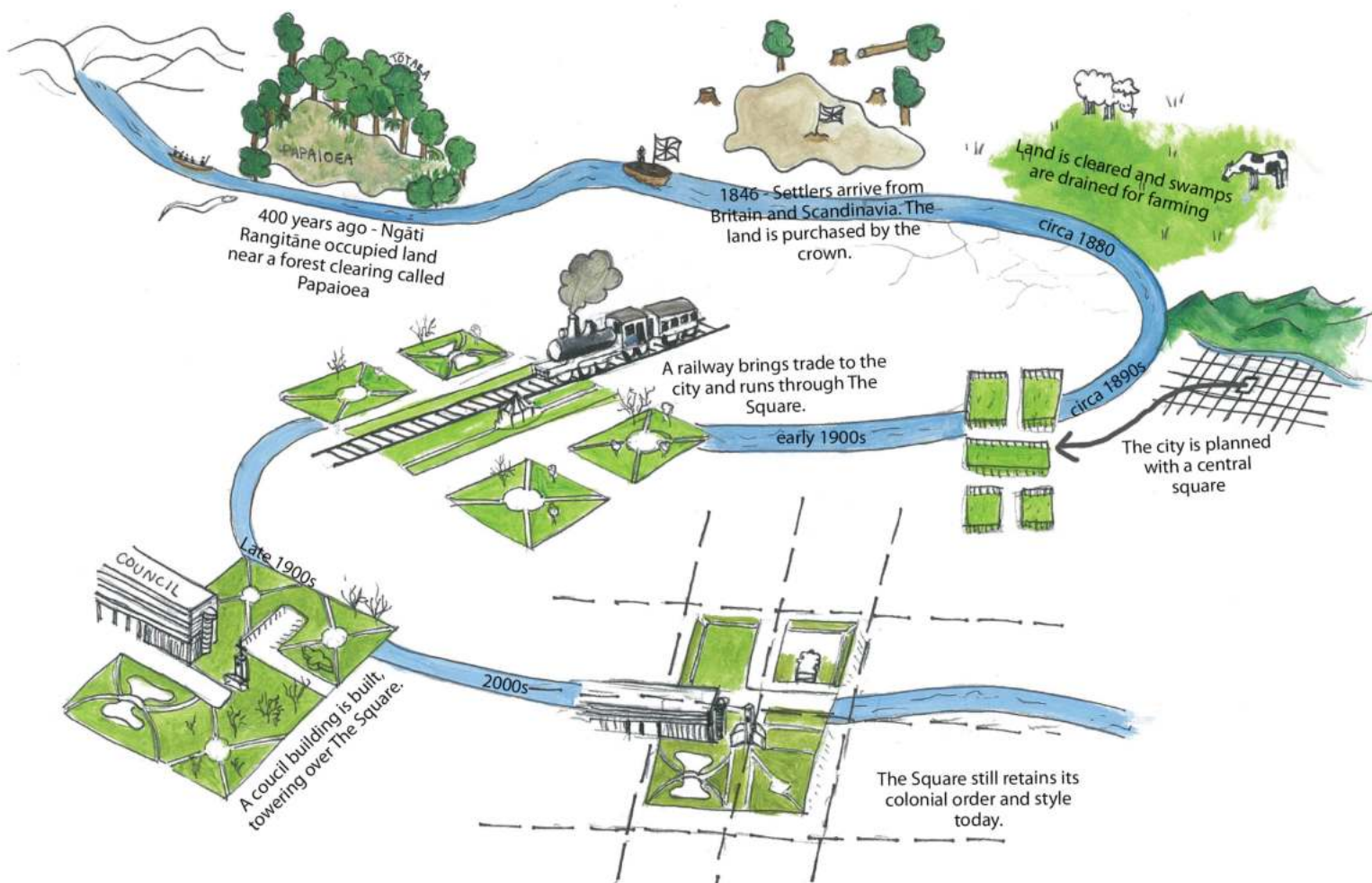
Fig 44: Timeline of The Square.

400 years ago - Ngāti Rangitāne occupied land near a forest clearing called Papaioea

1846 - Settlers arrive from Britain and Scandinavia. The land is purchased by the crown.

Land is cleared and swamps are drained for farming

circa 1880

circa 1890s

The city is planned with a central square

A railway brings trade to the city and runs through The Square.

early 1900s

Late 1900s

A coucil building is built, towering over The Square.

2000s

The Square still retains its colonial order and style today.

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Fig 45: The Square 1878.

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Fig 46: The Square circa 1893, planted with exotic trees.

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Fig 47: The Square circa 1906-1907.

The Square's design follows a traditional colonial approach. This is evident from the war statues, the giant clocktower and the picturesque duck pond surrounded by roses. Green grass covers most of the area yet appears only as a feast for the eyes because it becomes too soggy to sit on. The Square is sometimes used for public events like the festival of cultures, which are successful but only for their given day.

Opportunities surround The Square, like cultural restaurants, shops, cafes, a mall, art galleries and a library. Currently their relationship to the Square is poorly executed with unclear entrances and degrading facades. These opportunities could become key points of connection for a proposed multicultural hub.

"The inner city is a ghost town. Most people only visit the Plaza. You could fire a shot gun down Broadway on a weekday afternoon and not hit anyone."

(Resident cited in Palmerston North Annual Residents' Survey 2020/2021, 2021, p. 11)
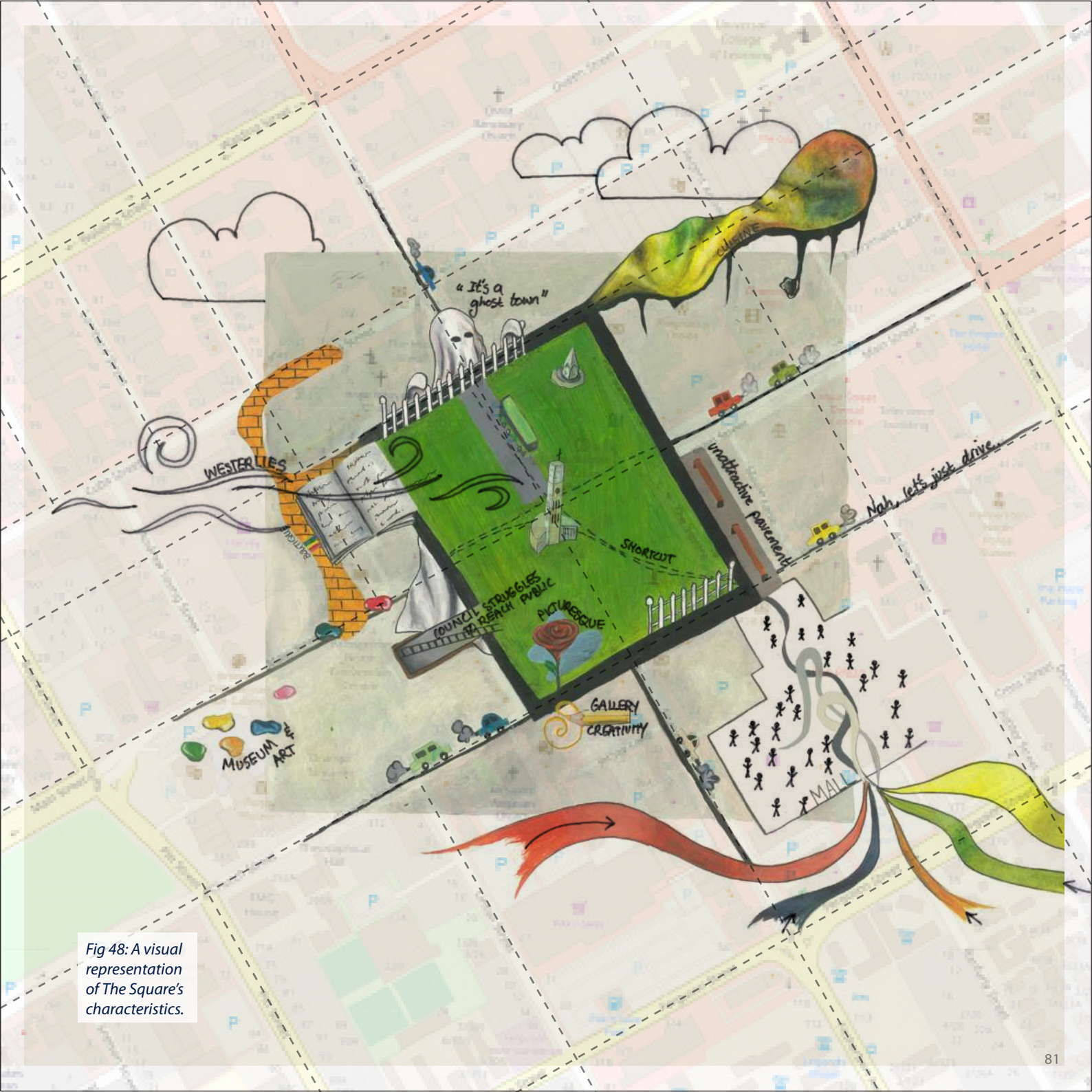
Fig 48: A visual representation of The Square's characteristics.

"It's a ghost town"

WESTERLIES

COUNCIL STRUGGLES TO REACH PUBLIC

PICTURESQUE

SHORTCUT

unattractive pavements

Nah, let's just drive.

GALLERY & CREATIVITY

MUSEUM & ART

MALL

This content

Please consult the figu

Fig 49: The Square in birds-eye-view

is unavailable.

re list for further details.

City Library

Broadway

King Edward VII memorial fountain

Event site

Intercity Bus Terminal

w.c

i site

Soldier's memorial

Council building

Hopwood clock tower

250 000

Duck pond

Statue of Te Peeti Te Awe Awe

108 000

72 000

177 000

Art gallery

Mall

N

50m

Fig 50: The Square in plan.

Wind

Site boundary

SCALE 1:1000

5 10   25   50

Fig 51: Site conditions.

BUILDING OCCUPATION TYPES

Buildings that surround The Square mostly consist of shops. The council building is dominant on the site and inner-city residences are sparse.

Legend:
- Shop
- Cafe
- Office
- Restaurant/takeaway
- Unoccupied
- Hair/beauty
- Council
- Civic
- Finance

Fig 52: Buildings' function.

**ARCHITECTURAL TYPOLOGIES
SURROUNDING THE SQUARE**

Fig 53.

SITE AFFORDANCES

An analysis of positive and negative site elements.

Fig 54

Handwritten annotations on map:

- multiple unoccupied b... without active st...
- INFINITY SCULPTURE → everyone knows about it
- LIBRARY → successful library, many visitors of different ages → entrance not clear
- Field soggy & not used often (unless events are held here)
- CAR P...
- George St → Human-scale street → Boutique shops
- makers space → fun & innovative → could do with better marketing
- Native trees
- people protest here
- cafe → meeting place for elderly
- Basketball hoop → Not obvious & not well-known → Liked by kids
- sculptures & Maori art
- Not inviting. No public space → Intimidating → people stay away
- COUNCIL → Overpowers public square
- COURT → people avoid → feels sterile → Not inviting
- Powers
- WAR MEM...
- POND → picturesque → Feed the ducks - fun for kids
- successful active façade, but not many people walk past here.
- No pedestrians
- Art Gallery & cafe → regular exhibitions → kind of hidden → Decent pavement art celebrated more

Legend:
- ⊕ Positive behaviours
- ⊖ Negative behaviours

88

Handwritten annotations on aerial map:

⊖ buildings on street facades pleasant to walk along, body pauses here

BROADWAY → lots of restaurants → Buildings poorly maintained → people dont use street space ⊖⊖

People avoid parking here ⊖

Bird poo smells & dirty, People do not spend time here.

PARK spacious maintained used → $$ paid by ethnicities professionally

seats ⊖ — often dirty & wet. Lots of benches but people dont spend time here

can feel dodgy at night — Henry IV sculpture → not significant to most people.

well maintained & pleasant ⊕

W.C. i

Unoccupied heritage building → unattractive → avoided   old night club

Art-deco style Not representative of Palmy's culture   ← ⊖ Dirty →

truent students go here

MEMORIAL → important to some, not so much others

can feel dodgy at night ⊖

site for Xmas tree

BUS Not used very much → poor pedestrian connection

CLOCK TOWER → Dominating → Stark → During day Not inviting → Fun colours & lights at night that kids enjoy

Deciduous trees. Nice for shade in Summer. Does not link to NZ native Nature. → adds to colonial style of the Square

Te Peeti Te Aweawe monuments → Not many know its meaning → walkced past

Recently modernised footpath ⊖ → Looks bare, with lots of hard materials → Not many people use seating here → Feels uncomfortable

Never used → Feels to formal & 'not allowed' to touch.

⊕⊖

FERN ARCH → inviting entrance → links to rooftops ⊕

⊖ ← No pedestrians →

⊕ MALL → Rainy day destination → has free parking → Kids after school → Busy on public holidays → truent kids might go here

N

⊖⊕

Photographs (right column):

Lawns are soggy in the winter. Alternative ground materials could provide better utilisation throughout the seasons.

Fig 55

The council building's ground floor space is not friendly to the public. There is opportunity to create an inviting space that can be shared between council staff and the general public.

Fig 57

The Te Peeti Te Aweawe monument conveys the important message of peace.

I HAVE DONE MY DUTY
DO YOU LIKEWISE.

KUA KAUPAPA IAU TE AROHA
MA KOUTOU E WHAKAOTI.

I HAVE LAID THE
FOUNDATION OF FRIENDSHIP
FOR YOUR CONSUMMATION.

Fig 56

The Square includes carefully designed sightlines which could be preserved.
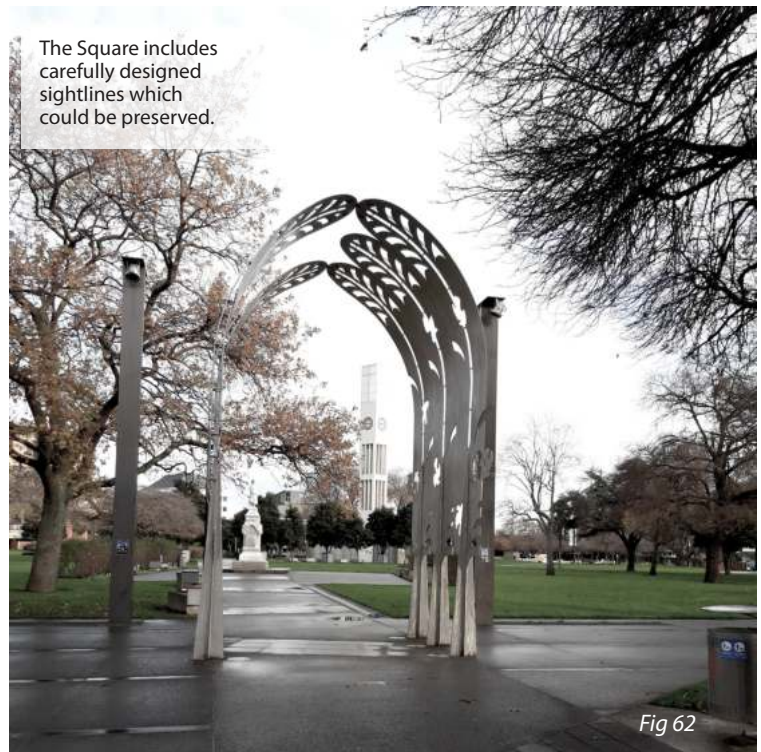
Fig 62

The trees at the northern corner of The Square have been overtaken by birds. Pavements are covered in bird poo and an awful stench, deterring people from using the space.

Fig 58

The council building juts into The Square and has a brutalist style; this is the opposite to being inviting and peaceful.
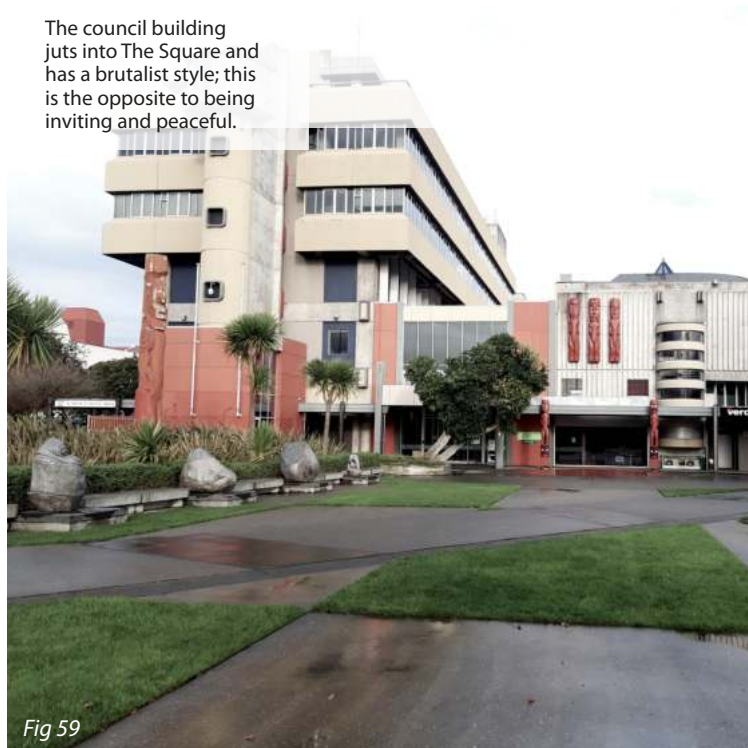
Fig 59

This view from the city library should be enticing people to explore The Square after their library visit.

Fig 60

The Square's atmosphere feels grim on overcast days. There is little colour or vibrancy to make the space feel lively.

Fig 61

Asphalt

Textured pavement

Grey tiles

Grass

Pohutakawa flowers
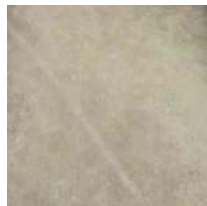
Limestone

Roses

Water
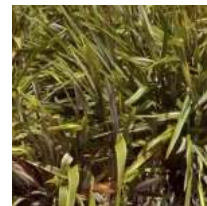
Flax
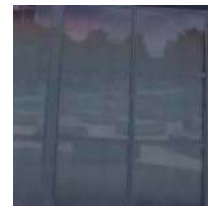
Glass (with lights at night)

Painted concrete (?)

SITE MATERIALS

The Square is dominated by grey hard materials. Grass and vegetation are the only elements that bring softness and colour to the scene. It is missing architectural materials like timber.

Polycarbonate

Painted carvings

Concrete

Plaster

Timber

Stone

Stainless steel

Stone

Steel
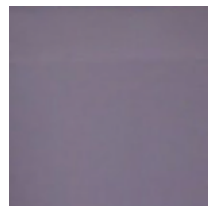
Painted concrete
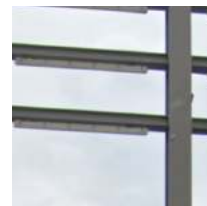
Steel street lights

Pōhutakawa

Fig 63: Site materials.
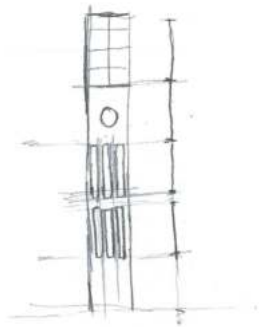
CLOCKTOWER
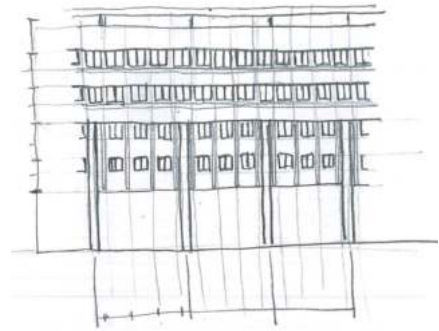
COUNCIL
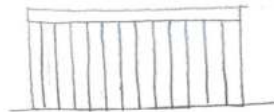
CLOCKTOWER BASE

COLONIAL SITE ELEMENTS

i-site (front)

TE PEETI TE AWE AWE
MONUMENT.

i-SITE TOILETS.
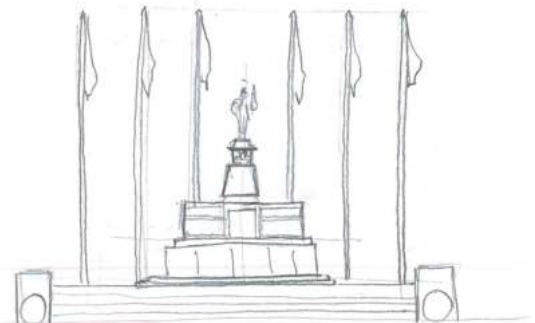
*Fig 64: Colonial
elements
dominate The
Square. They
are based on
symmetry and
order.*

CORONATION MEMORIAL
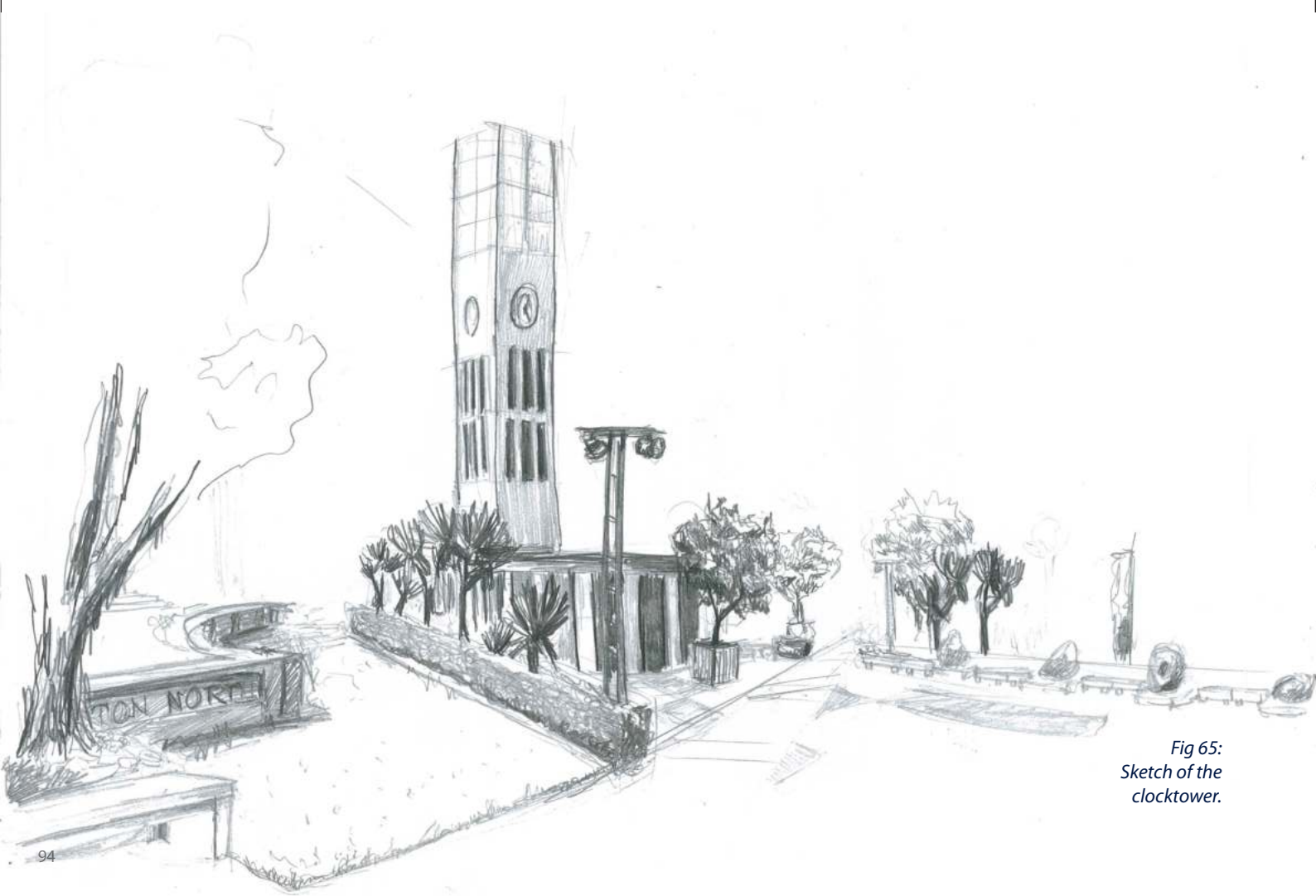
Fig 65:
Sketch of the
clocktower.

SITE VISIT EXPERIENCE AND REFLECTIONS

The following observations and ideas are based on site visits to The Square:

- Shelter could encourage people to use the site on rainy days.

- The Square has many mature trees that were carefully planted many years ago. While most are exotic, there are also some natives such as pōhutukawa that should be retained where possible or relocated.

- New architecture should work to reduce the dominance of the central colonial-style war memorial and clocktower.

- With knowledge about the meaning behind Te Marae o Hine, as a space for peace between all cultures, it feels sacred. Any architecture should appear to touch lightly on the ground to acknowledge the site's historic and cultural significance.

- New architecture should contrast the site's homogenous materials, forms and styles in a playful manner. This could include using colour, timber or curves.

- The park is empty at night, as is the rest of the city due to poor nightlife, resulting in an unsafe feeling.

CONCLUSION AND CRITICAL REFLECTION

City centres have been a fundamental part of cities since their very earliest formations. However, The Square is battling for attention in a time when considerable focus is placed on housing developments at the city's edges. The resulting urban sprawl and reluctance to transform The Square into a city centre that is relevant to today's population is ultimately causing The Square to lose its purpose.

The Square is currently an open space that is missing an opportunity to fulfil its role to be a "third place" (Oldenburg, 1999) for the city's diverse residents and fails to portray an identity that can improve the city's reputation. The Square requires a transformation that will bring people together by introducing programme that will attracts residents. Importantly, rather than lingering in the past, it should reflect Palmerston North's current diverse population.

A NOTE ON PARTICIPATORY DESIGN

Participatory processes had been planned, however, due to the timeframe of this project and COVID-19 restraints, focus groups with a variety of cultures could not go ahead. Recruiting participants was unsuccessful apart from the Pasifika community because there was a reluctance of the public to engage and the research did not have enough time to build trusting relationships with cultural communities to overcome ethical issues, particularly that the outcome of this research has no direct benefit to participants. It also became apparent that there is no clear process for cultural community engagement. This surfaced questions about how researchers, architects, and governing bodies can ensure there is equal participation when only a select few, or type of, people are proactively engaging.

The Pasifika focus group was helpful for reinforcing collective ideals that are important to Pasifika cultures. Some key findings include their value of performance, sharing food, sport and retaining strong social relationships. For the design of this project, spaces for gatherings where these activities can occur will be incorporated.

Big moves

This section explores how The Square can be improved by adopting programme.

DESIGN GOALS

The design intentions of Figure 66 are identified opportunities in and around The Square.
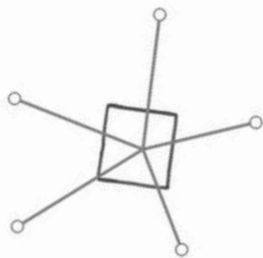
Connect The Square with cultural neighbourhoods, producing a "third place" (Oldenburg, 1999)
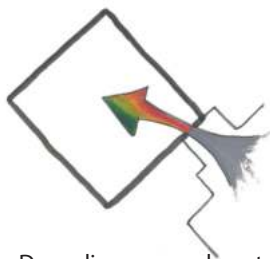
Draw diverse people out from the mall

Retain people on site
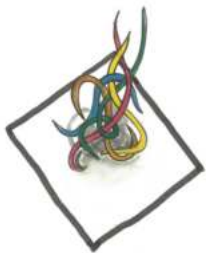
Encourage intercultural interaction

Utilise Broadway's diverse food scene
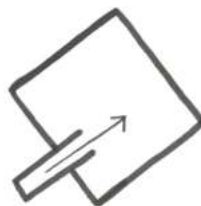
Connect the council and public

Pull back the European lawn

Expose/extend the library
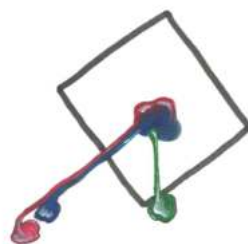
Promote creative arts scenes and cultural expression

Fig 66: Design goals.

CONNECTING WITH CULTURAL NEIGHBOURHOODS

To address the first goal, connecting with cultural neighbourhoods, accessibility to The Square is important. Palmerston North is currently dominated by the use of cars, making up 76.8% of people's transport to work (Place Summaries - Palmerston North City, 2018), which negatively affects people's happiness (Taylor et al., 2006).

The Square could benefit from free public transport such as those identified in Figure 67, and well-connected cycle lanes. When connected to Palmerston North's neighbourhoods (Figure 68), residents can more easily access The Square amenities in and around the site. This could ultimately increase the city centre's use and vibrancy.

Community-painted buses: Community involvement in decorating buses could strengthen neighbourhood identity and allow others to learn about that community as the bus travels to The Square.

City bikes: Offer physical exercise that is beneficial for happiness, and is more sustainable than vehicular options. Palmerston North would require safer cycle lanes.

Train-style bus: Reference the city and The Square's history as a train route.

Sight-seeing bus: Encourage people to notice the city. However, these buses could seem too 'touristy' and not suitable for regular use.

Fig 67: Transport options.

CLOVERLEA
MILSON
WESTBROOK
TAKARO
Trains?
HIGHBURY
KELVIN GROVE
ROSLYN
Buses?
WEST END
HOKOWHITU
bikes?
AWAPUNI
SUMMER HILL
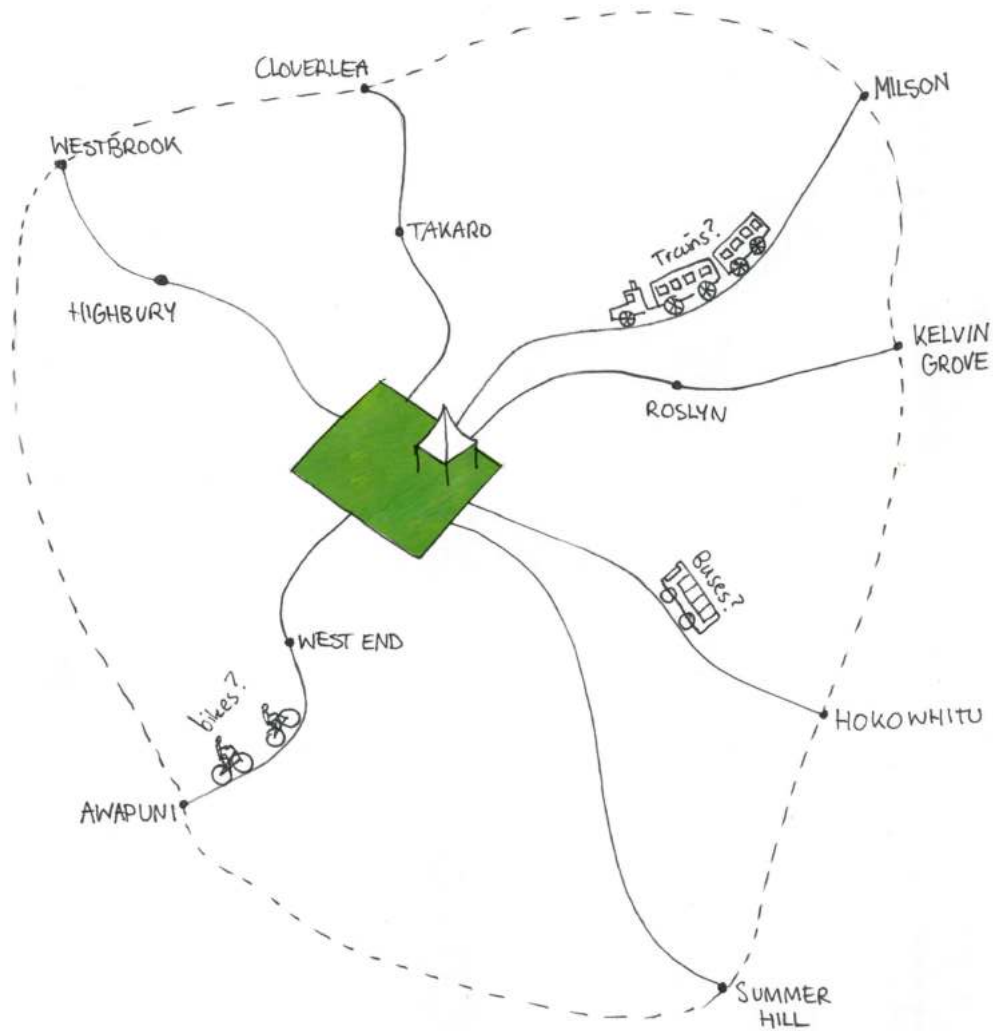
Fig 68:
Connecting
neighbourhoods
to The Square.

Integrating more public transport creates opportunities for community-led projects during the design of bus stops, which celebrates neighbourhoods' identities. The result could be a spectacular display of unique expressions of culture throughout the entire city like the international bus stops in Figure 69. The scope of this project, however, is limited to the city centre. These transport ideas will not be explored as detailed designs, but connections to bus stops will be considered.

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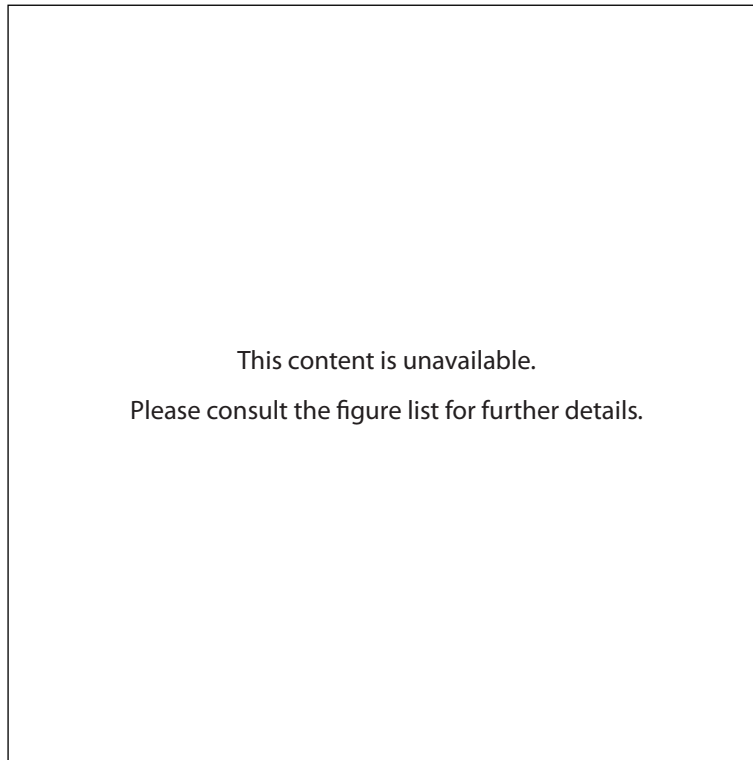
Fig 69: Unique bus stops that express identity.

PRIMARY PROGRAMME FOR THE SQUARE: A MARKET

The Square is to become a hub that invites people from all over the city. It is proposed that a
The Square is to become a hub that invites people from all over the city. A market will form the
primary programme because food is fundamental to many cultures and provides opportunities
to taste new flavours. Currently, there is only one small weekly produce market in an eastern
suburb. A central market will provide residents with easier access to culturally significant food
as residents often struggle to find specific ingredients.

A theme of food also relates to Palmerston North's agricultural assets and to Māori legends that
recall the region being named 'Te Taperenui o Whatongā', meaning 'the great district (or food
basket) of Whātonga' (Māori History, 2019). Palmerston North's identity for food is currently not
apparent in the city's architecture so a market can enhance the city's identity and ultimately its
reputation.

Fig 70: Produce market in Wellington.

INTERNATIONAL MARKET TYPOLOGIES

To understand the characteristics of markets that Palmerston North's diverse population are familiar with, the following images study typical market typologies from around the world (Figures 71 to 77).

The comparison between market typologies shows the following differences:

- Produce is displayed differently throughout the world, such as on the ground, in baskets, on tables, and hanging on walls. The Square's market should therefore provide flexibility for vendors to display items/produce how they prefer.

- International markets have a range of indoor and outdoor settings. The Square should include opportunities for both but should consider more shelter suit Palmerston North's climate.

Aspects which international markets have in common should be incorporated into The Square's market. These include:

- Lots of colour and texture. This adds visual interest and suits the human scale.

- Closely packed stalls which produce intimate settings.

- Stalls which sell unique local products, conveying the identity of place.

- A sense of temporality, where stalls can be totally removed or change vendor from one day to the next.

PASIFIKA:

- Open air

- Simple shelter

- Food on ground and tables

- Chairs for vendors at each stall

- Meats and fish separated from the rest of the market

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Fig 71: Pasifika markets.

CHINA:

- Stalls on streets in front of shops
- Wet and dry markets
- Linear form
- Food on tables

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Fig 72: Chinese markets.

INDIA

- Food on ground, on blankets or in baskets

- Vibrant colours of food

- Shelters made from tarpaulins

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Fig 73: Indian markets.

WESTERN EUROPE

- Linear form
- Temporary, using tents
- Special markets for Christmas
- Food/items displayed on tables

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Fig 74: Western European markets.

EASTERN EUROPE

- Bazaars are common, and internal spaces are like alleyways

- Small, intimate and at the human scale

- Walls used to hang things

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Fig 75: Eastern European markets.

AFRICA

- In public open spaces amongst trees

- Food and items displayed on ground, crates and in baskets

- Temporary shelters constructed with blankets and parasols

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Fig 76: African markets.

SOUTH AMERICA

- A variety of market types, indoor and outdoor

- Shelters with umbrellas and light fabric for shade

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Fig 77: South American markets.

MARKET TYPES

As seen in images of international market typologies, market stalls can also range in scale and degree of permanence. The types of market depicted in Figure 78 could all be included in The Square.

*Fig 78
(opposite):
Matkets range
in scale and
permanence.*

Permanent

Truck

Mobile/wearable

Container

Cart

Tent
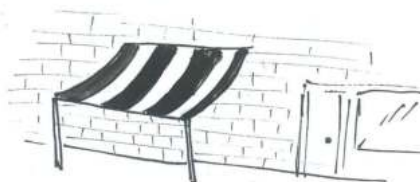
Street canopy

Carboot

Table

On ground

EXPANDING ON PROGRAMME

In addition to a market, a range of activities can help attract both collectivist and individualist cultures. Offering an "invitation" (Gehl, 2013b) can begin with programme. For example, Pasifika cultures enjoy gathering to watch a rugby game or performing traditional dances, so sports and performance spaces will appeal to them. Cross-programmatic techniques offer familiar and new activities, which could introduce people to important aspects of another culture too. Potential programmes, identified in Figure 79, are intended to attract diverse cultures and allow cultures to be celebrated in many ways (e.g. through food, sport, performance etc.).

Parking

Recreation hall

Entrance

Change

Toilets

Maintenance

Cleaners

Storage

Offices

Reception

Viewing tower

Coldrooms

Temporary market stalls

Dining spaces

Greenhouse

Storage

Garden

Toilets

Offices

Reception

Stage and seating

Busking stations

Playground

Café

Cooking class venue

Permanent market stalls

Sports field
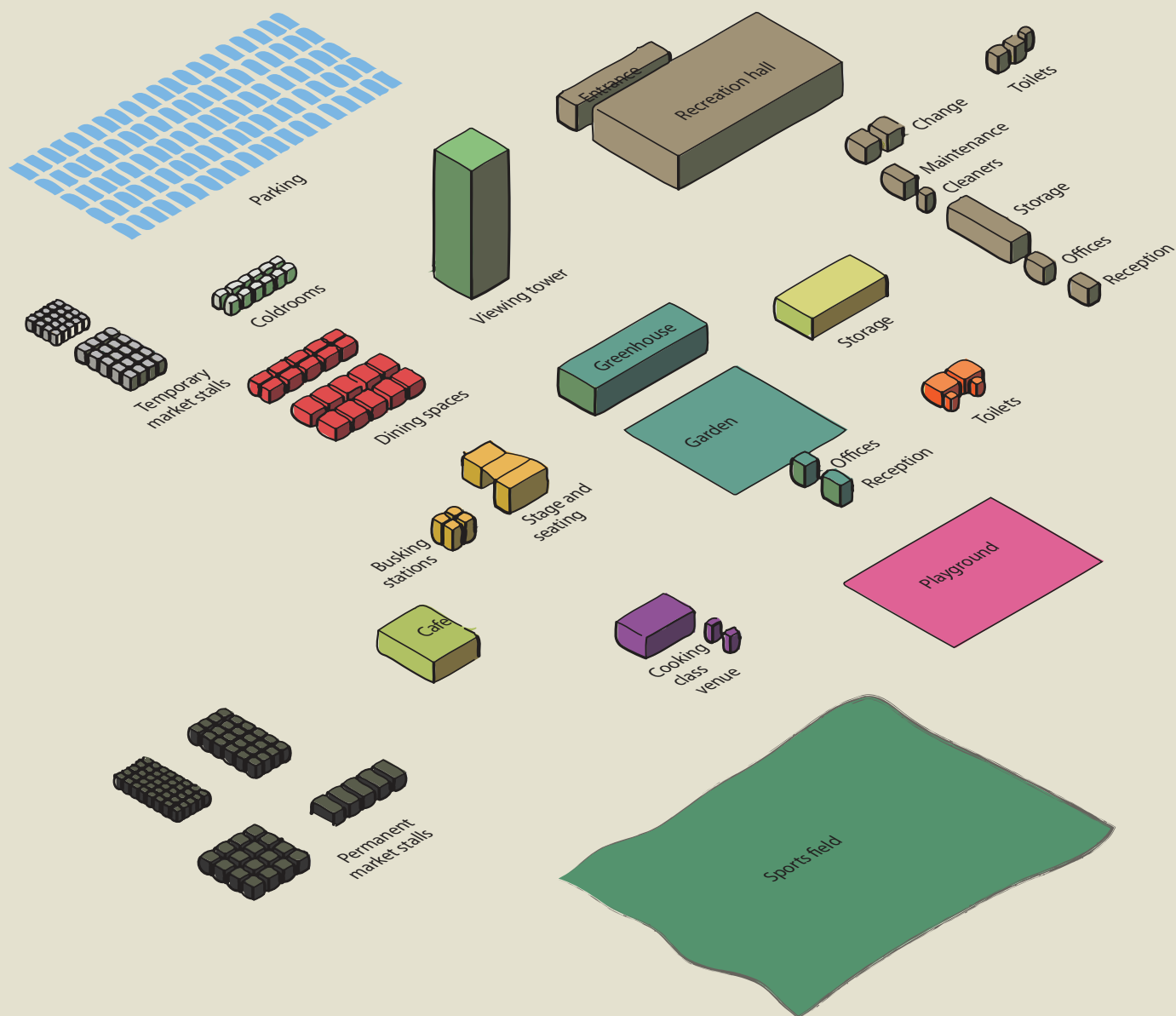
Fig 79:
Potential
programme.

SENSORIAL AND SPATIAL QUALITIES OF PROGRAMME

Before spatial arrangements are considered, ideal spatial qualities are investigated. As suggested by Rhys-Taylor, the greatest intercultural experiences are created through bodily senses (2013). The design of the market should engage all the senses. Figure 80 explores the senses and these are then related to the market's potential programme in Figure 81.
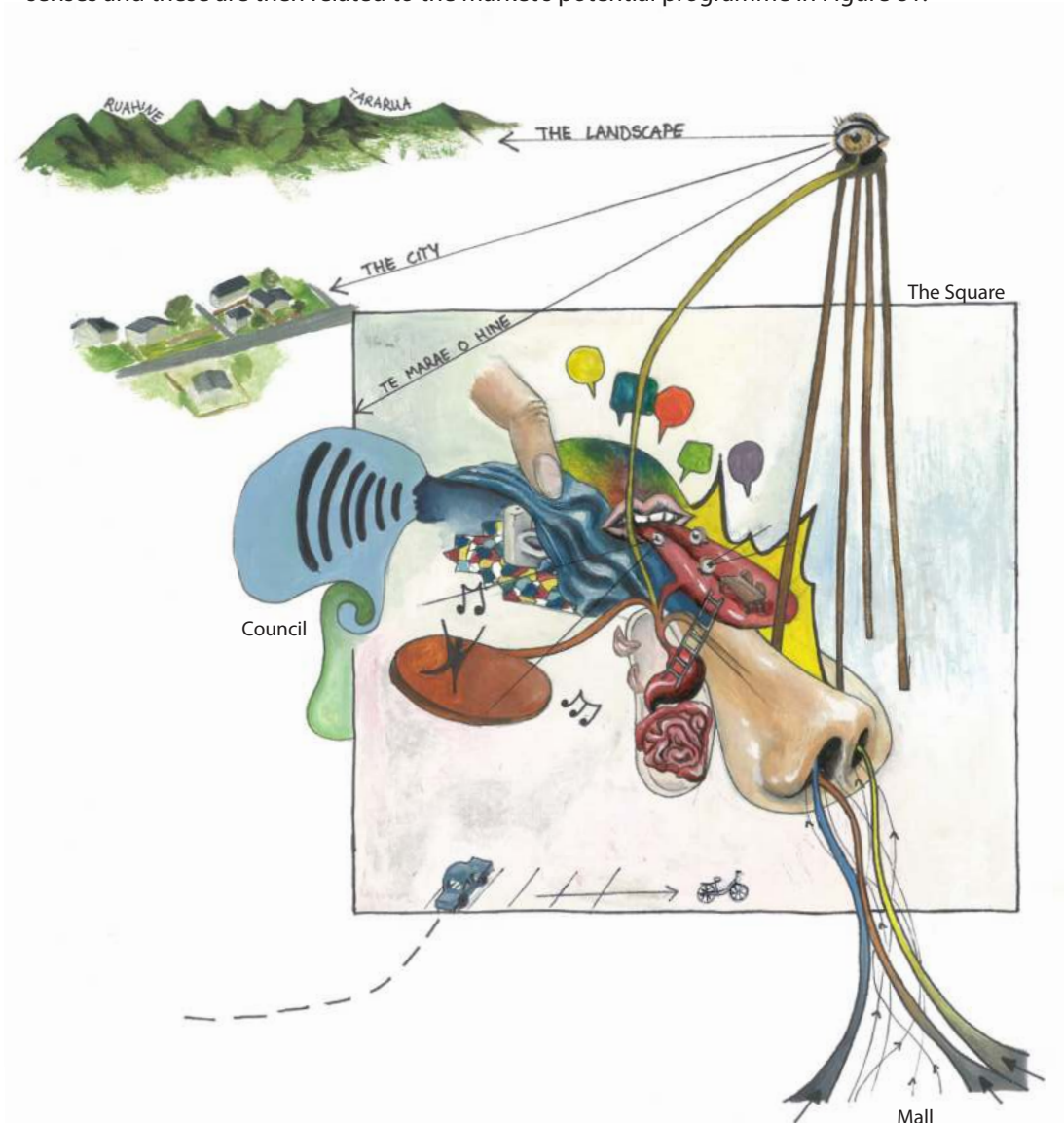
Fig 80 : Visual exploration of the senses on The Square.

RUAHINE   TARARUA   THE LANDSCAPE

THE CITY

TE MARAE O HINE

CONNECTION WITH COUNCIL
- interaction
- local art
- Not intimidating
EMPOWER
⤷ voices heard

MARKET

TOILETS
- community mosaic?

- textures
- hear different languages

Respect existing monuments

VIEWING TOWER
Different scale!
- City
- Immediate
  ⤷ Market Square
- Ranges

DINING
- side by side
- taste
- views

MARKET
- colours

PERFORMANCE STAGE
- viewpoint/focus
- movement - dress!!!
- music - clapping

- chatting

DIGEST
⤷ the experience

- smells
  ⤷ memories

PARKING
- equal access
- safe   - potential other future use

Lure people out

SURROUNDING BUILDINGS
- Mall   - Library

Fig 81:
Sensorial
opportunities
with
programme.

IDEAL SPATIAL RELATIONSHIPS

Figure 82 shows some isolated clusters of spaces that find the best spatial relationships. The bubble diagrams show that many spaces are ideally connected to the main market, so the main market should become the core of the building/urban space.

All spaces are linked together in Figure 83. While most programme is on the ground floor, there is potential for parking to be located underground. Dining spaces can be located on the first floor to create views into spaces below and out towards the surroundings.

Fig 82: Bubble diagrams.

FIRST FLOOR

GROUND FLOOR

BELOW GROUND
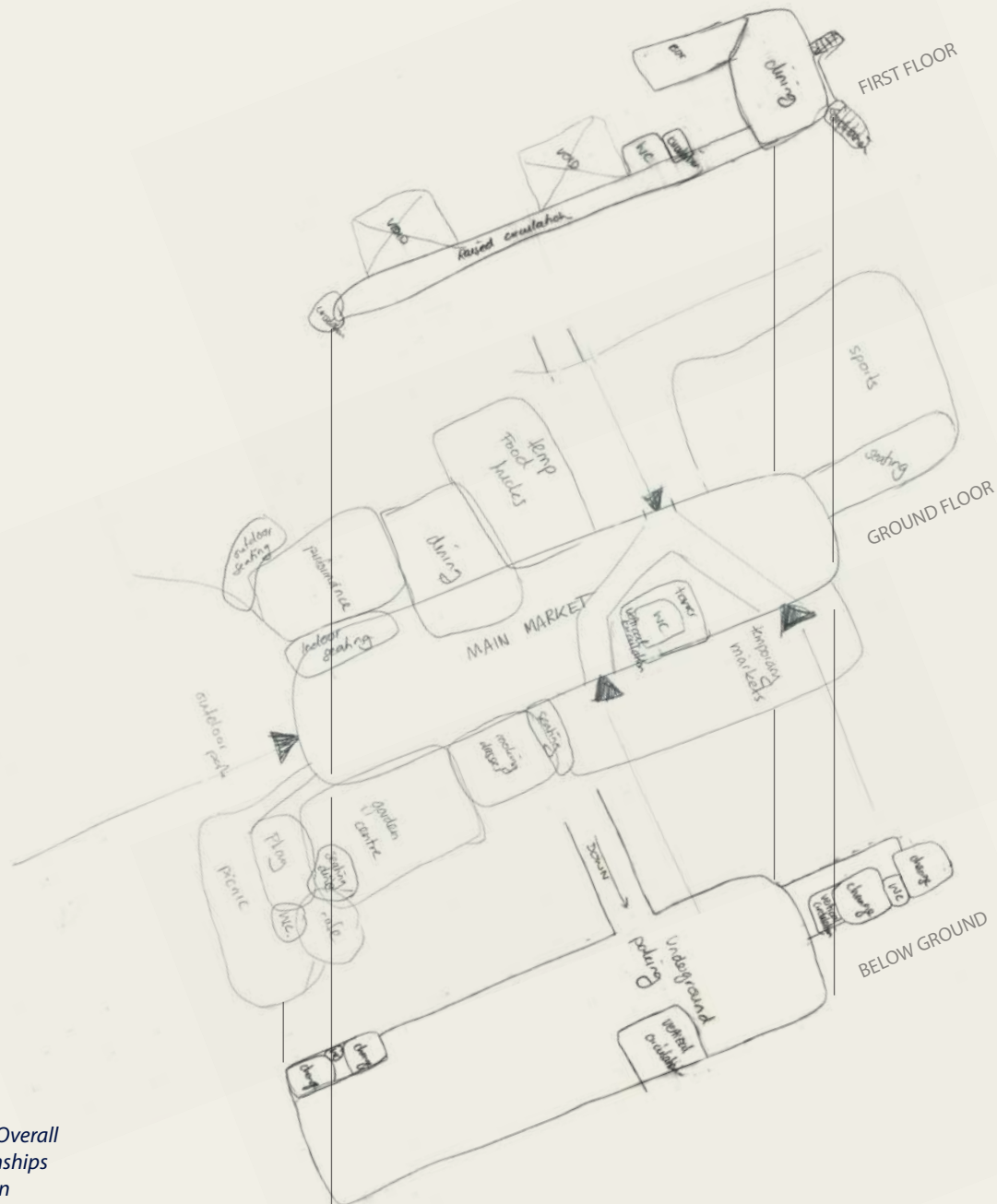
Fig 83: Overall relationships between spaces.

With suitable internal spatial relationships in mind, Figure 84 explores how these are best connected to The Square's surroundings. It is found that the connection to the library, Broadway Avenue, bus stops, the mall and the council building are important for achieving the design goals. Areas for leisure such as picnic spaces and a playground should be well connected to the mall where shoppers can take a break and children can play. The market is expected appeal to the diverse population that visits the library and mall, so connecting paths will be important between these spaces.
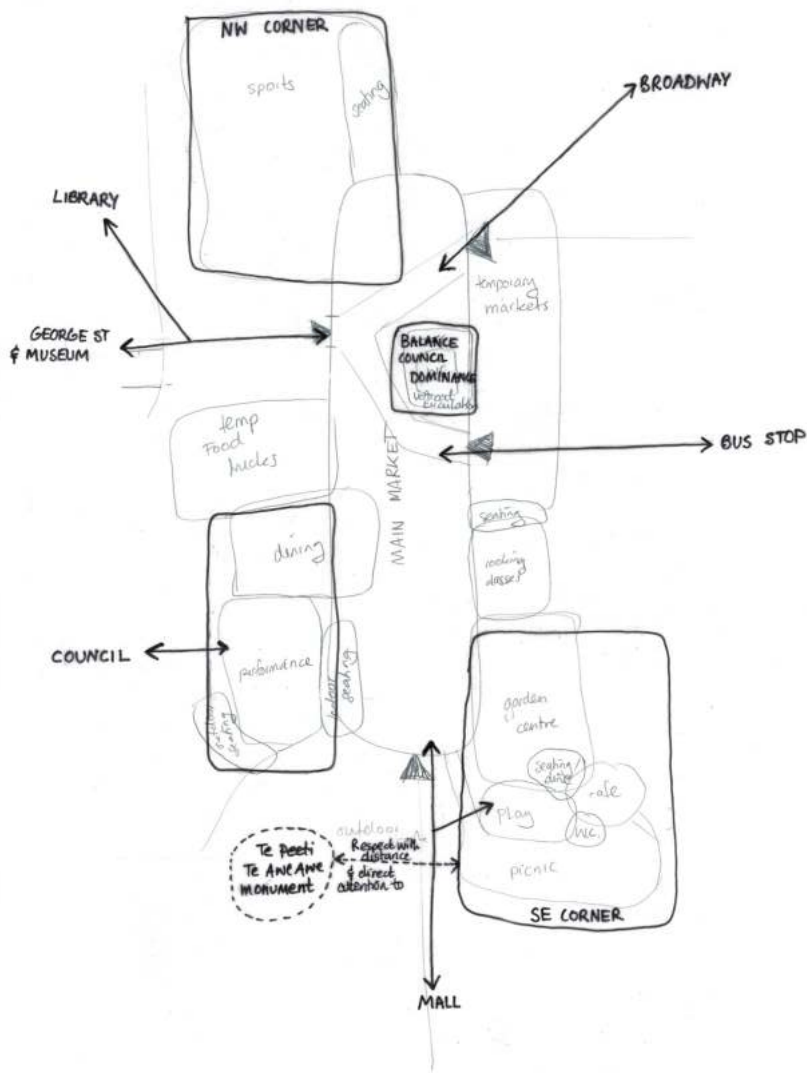
Fig 84:
Programme
relationships
with context.

Figure-ground drawings explore the organisation of building parts on site (Figure 85). Concepts begin on The Square's southeast corner, which was identified as The Square's most underutilised area. Three concepts (in red boxes) which have very contrasting arrangements are explored with programme in Figures 86 to 88.

Fig 85: Exploring organisation as figure-ground drawings.
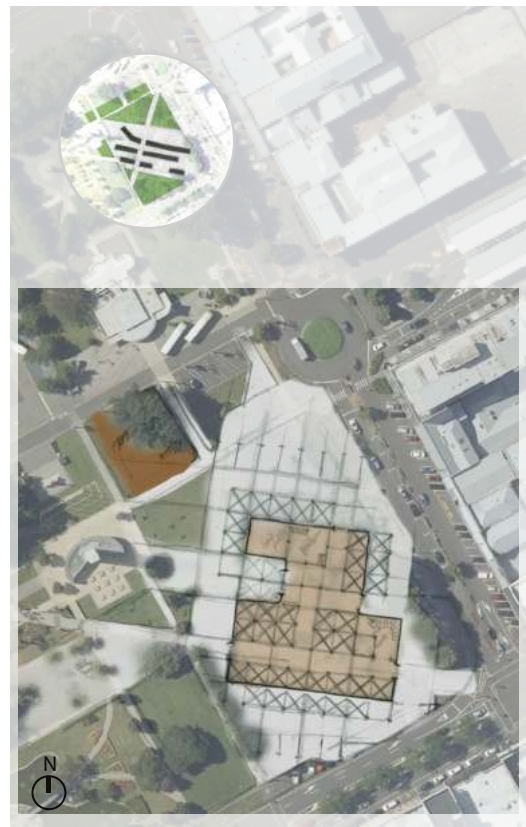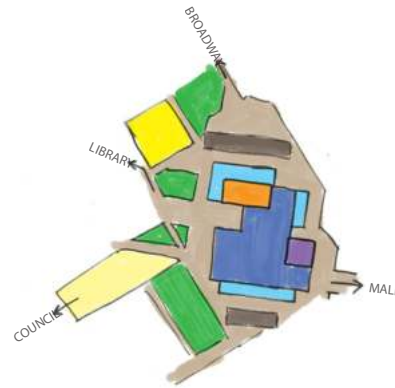
Permanent indoor market

Outdoor market stalls

Bus terminal

Viewing tower

Outdoor seating with public art

Grass

Pathways

Playground

Temporary market truck parking spaces

Carparks

Cycle lane

Bike racks

Raised seating platforms

Curved spatial (Figures 86 and 88) positively contrast the city's grid and help deformalise The Square. A gridded layout (Figure 87) is unsuccessful because it reinforces the colonial city grid.

These iterations only focus on The Square's southeast corner, limiting potential connections with the council building and library, which were deemed important.

The circle is a symbol of social unity and equality. The central space could become focal point where performances can be held.

Creates an opportunity for a linear journey. Potential disconnect between inside the market and outside the market.
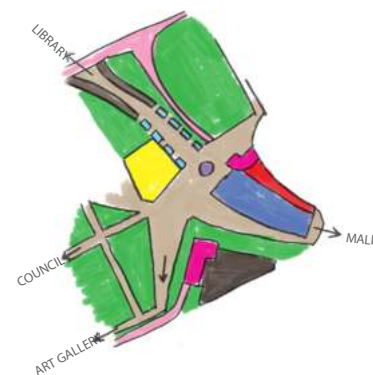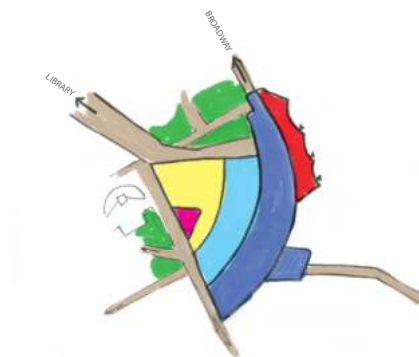
Fig 86: (opposite): Gridded arrangement

Fig 87 (left) Curved arrangement

Fig 88(right): Organic arrangement

Programme should take over more of The Square (Figure 89). The arrangements at the site's centre, which link to the mall and library, utilise the site's opportunities more and address the design goals. However, it is difficult to design for the human experience in plan, so they are explored in three dimensions in Figures 90 to 97.

Fig 89 (this page and opposite): Dispersing programme to engage with the site's edges.
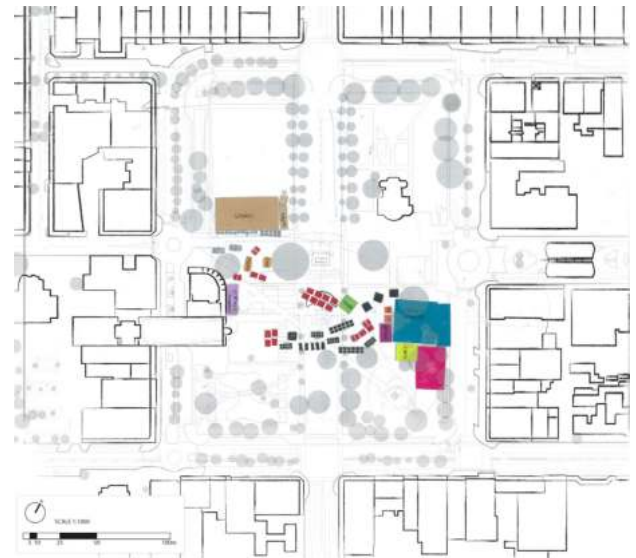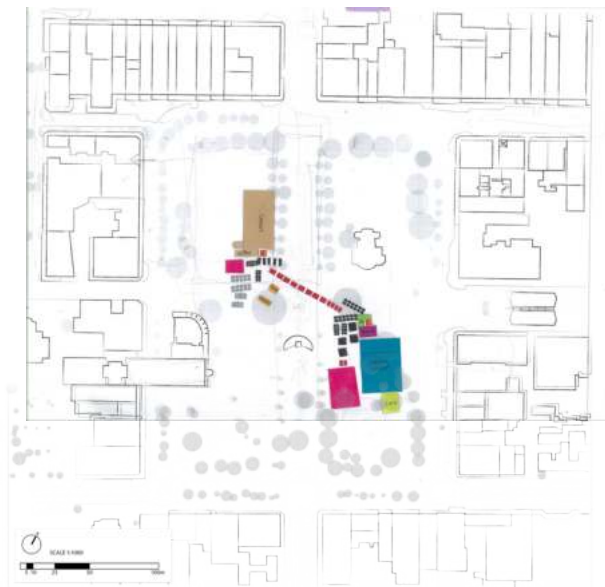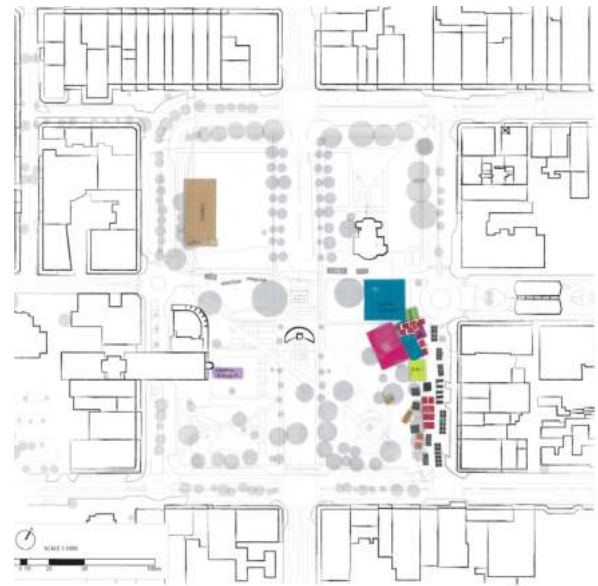
1.

Option one (Figures 90 and 91), successfully offsets the city grid through an organic form. The connection between the mall and library is clear, however, the connection to the council building could be improved.
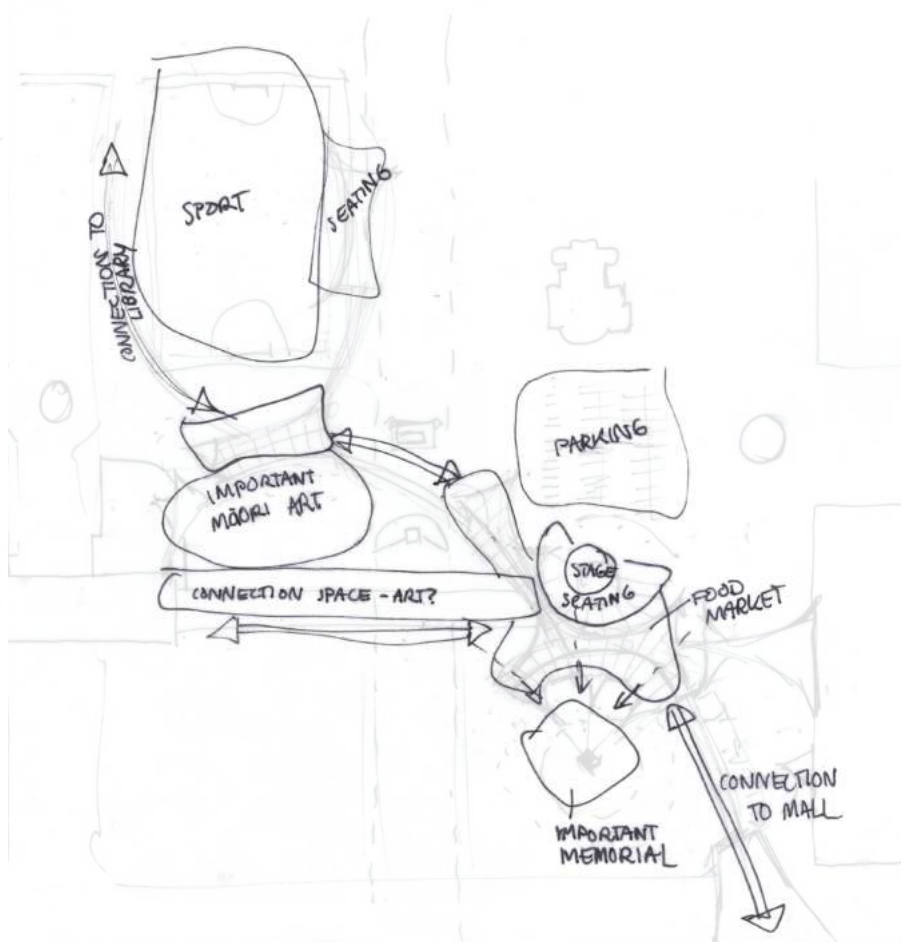
Fig 90: Diagonal arrangement, connecting the mall and library.

Increasing
pedestrian focus by
removing vehicle
access along the
eastern edge of The
Square.

The arrangement reinforces
the importance of the Te
Peeti Te Aweawe monument.

The market can
draw out diverse
visitors from the
mall.

Performance is the core
of this market, exposing
visitors to song and dance
while they shop or eat.

Physical attachments
to buildings provide
shelter and visual cues
of entry points.

Council

Fig 91:
Diagonal
arrangement
in 3D.

Mall

129

2. Option two (Figures 93 and 94) improves the potential connection with the council building. However, the linear form is conforming to the council building's rigidity, emphasising the council building's power. A performance space next to the council is a positive contrast, but could become more playful if it further 'took over' the council space.
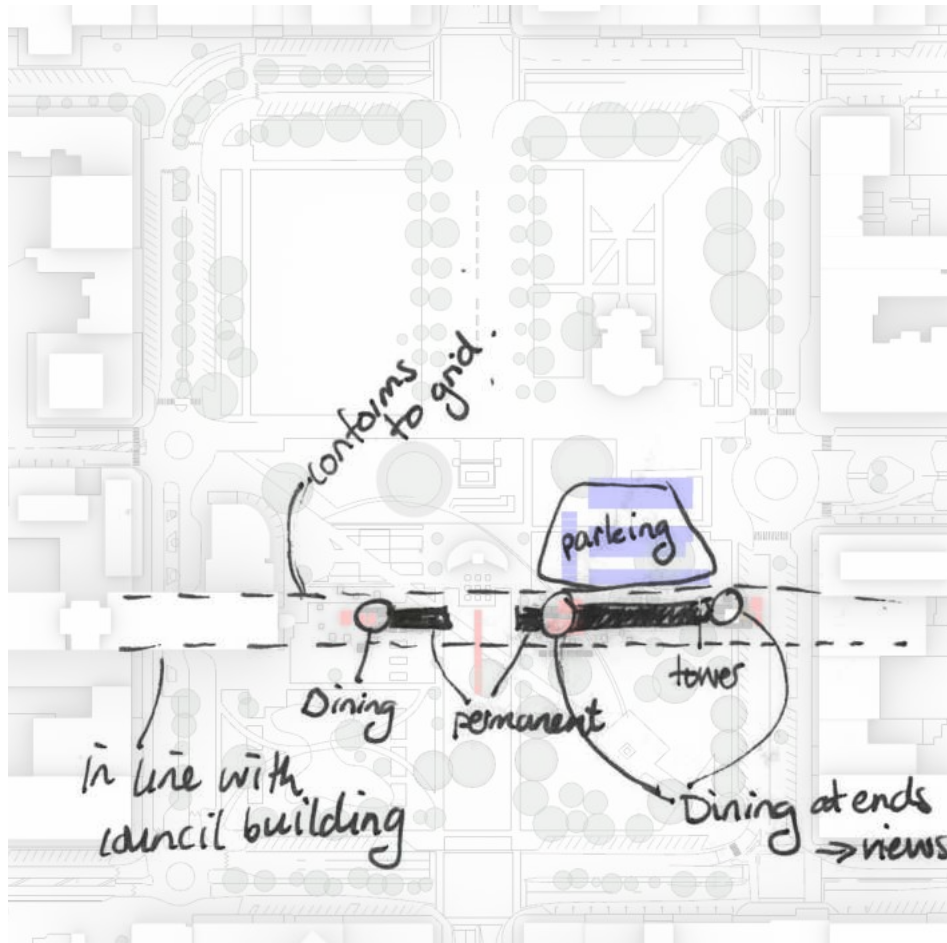
Fig 92: Aligning spaces with the council building.

This arrangement highlights monuments such as the clocktower and war memorial, which immigrants might not be able to relate to.

Council

STAGE

PERMANENT

TEMP

DINE

EAT

W.C.

TEMP

PERMANENT

W.C.

TOWER

PARKING

EAT
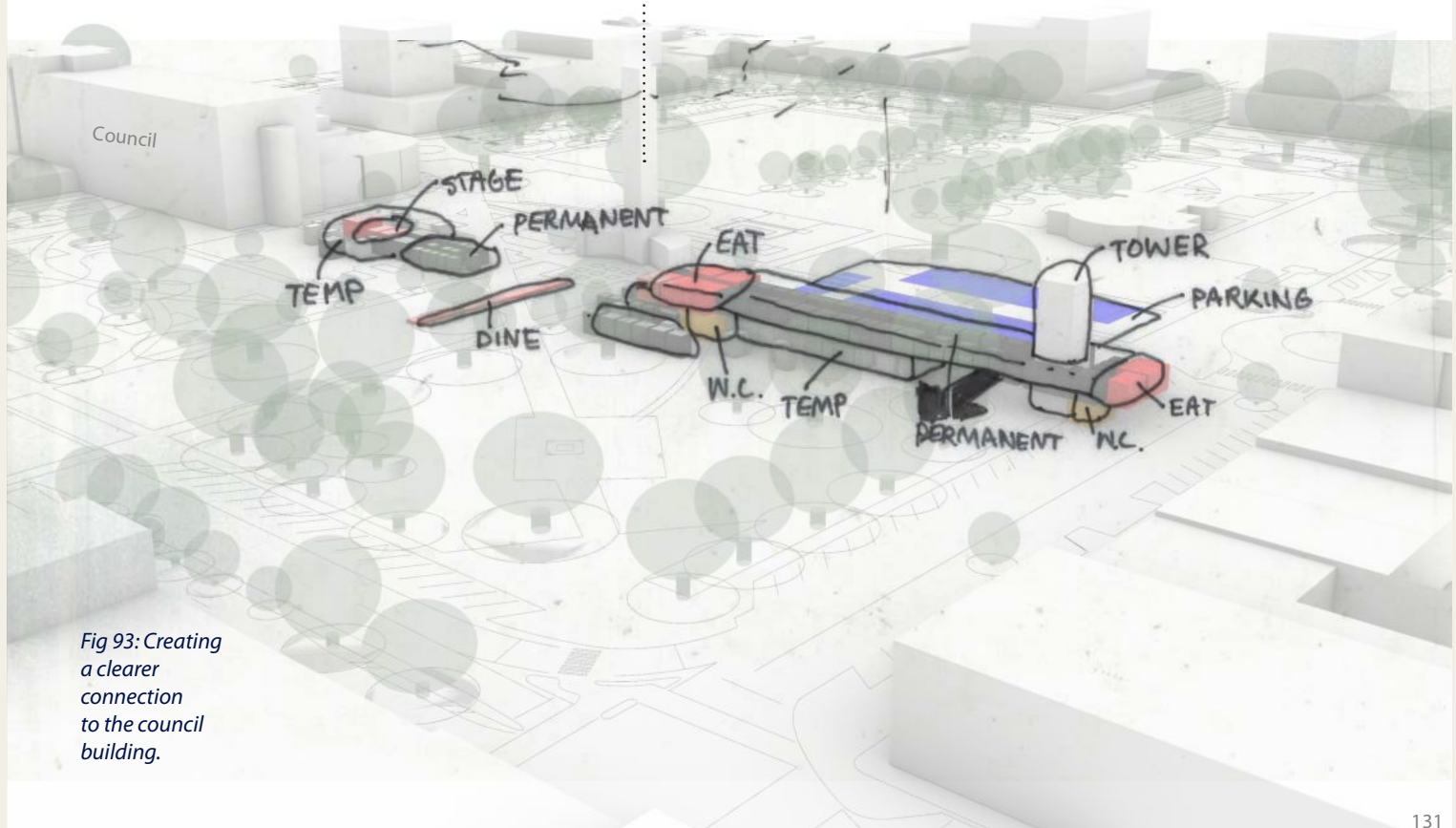
Fig 93: Creating a clearer connection to the council building.

3.

Option 3 (Figures 94 and 95) attempts to balance the bulk of the council building by locating tall elements opposite The Square. However, the low-lying market at the site's centre becomes overpowered by the clocktower. Adding mass to the council building was unsuccessful; the viewing platform only increases the council building's bulk and dominance.
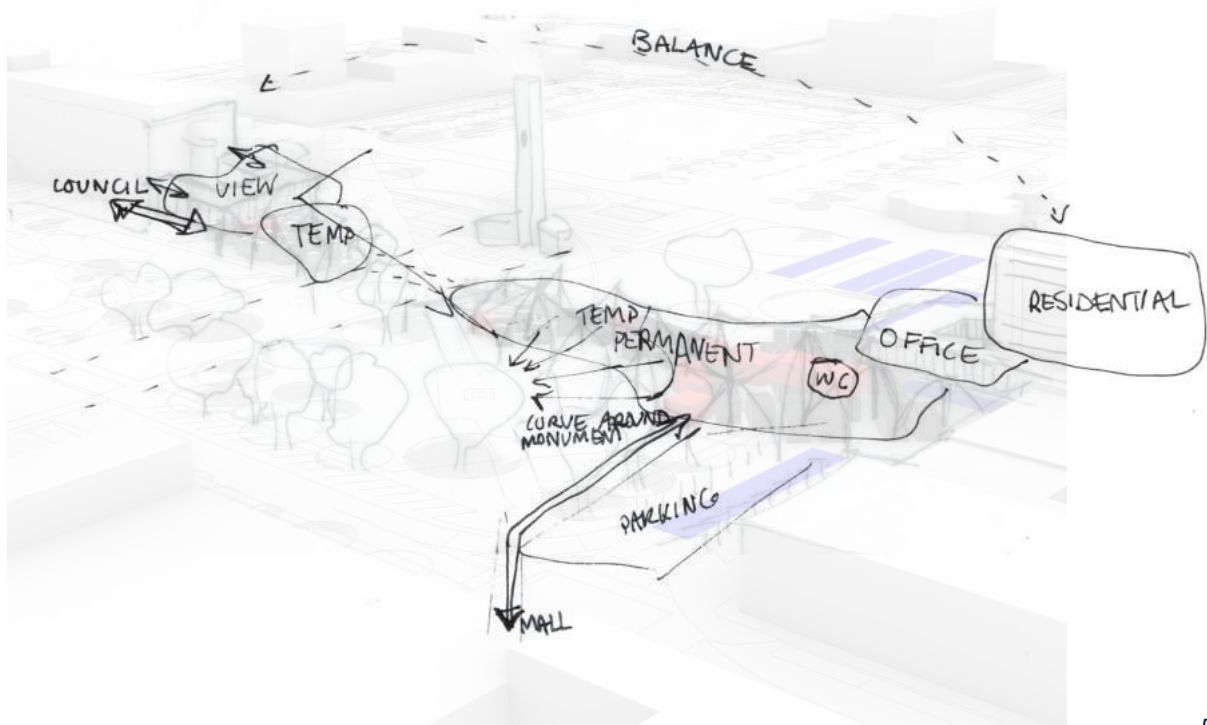
Fig 94 : Programme arrangement.

Integrating apartments and offices increases the diversity of building types and occupants around The Square.

The 'scattered' stall layout approaches culture in a celebratory manner by inviting a sense of freedom to express, unrestrained by gridlines.

Council

Residential/offices

Mall

Fig 95:
Balancing
the council
building's bulk .

4. Option four (Figure 96 and 97) returns to an organic spatial arrangement and utilises height to balance the bulk of the council building. A combination of organic forms and placing programme more widely on site is more successful than the previous options.

Hall

pool connection

temporary

tower

main market

Green-house

cafe PLAY

Balance council mass

SCALE 1:1000

10   25   50   100m
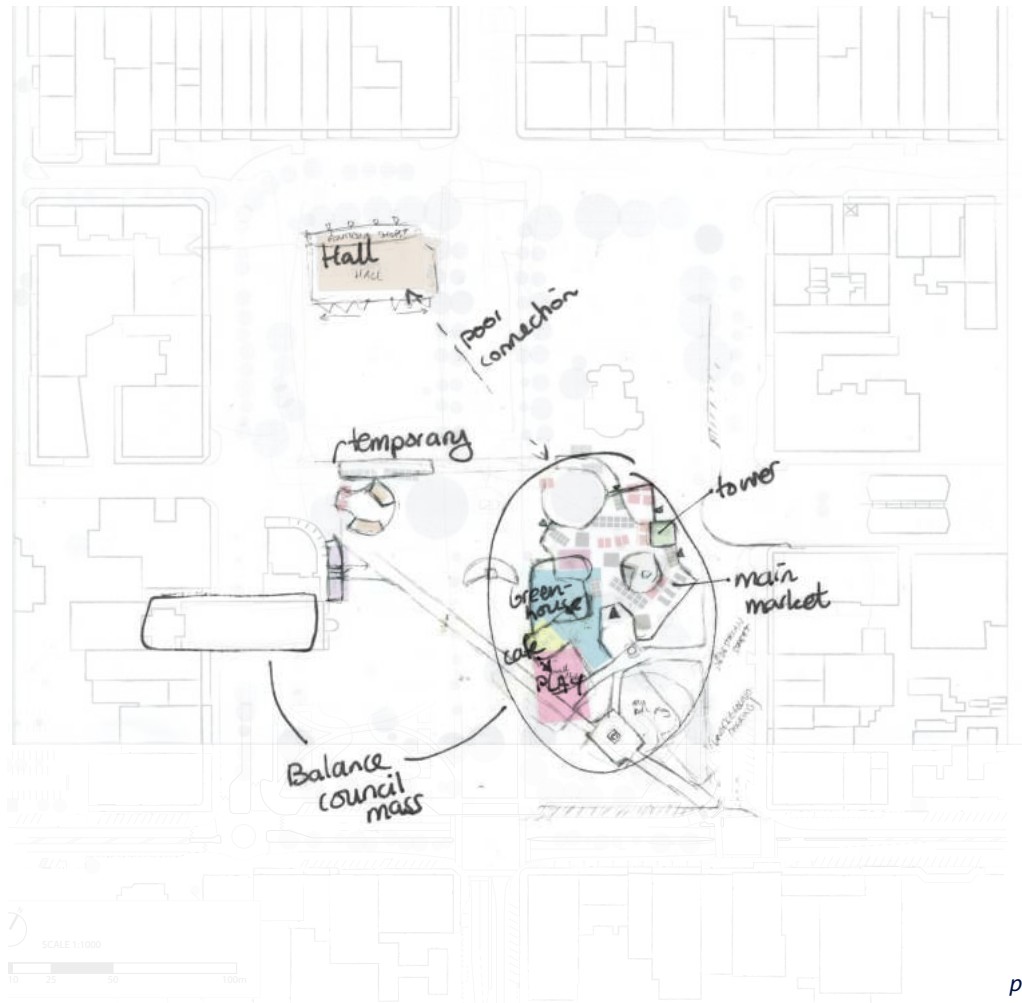
Fig 96 : Arranging programme widely on the site.

The clocktower still dominates the site and does not express residents' cultural diversity. This needs to be addressed.

Fig 97: Organic arrangement helps to break the city grid.

CRITICAL REFLECTION

A range of programme is required for a diverse population. A cross-programmatic approach includes the ability to stage unexpected interactions between spaces and people. While the food market is a common multicultural programme, the addition of other programmes such as a performance space, viewing tower and cooking class venue makes the architecture unique and specific to Palmerston North. Massing iterations have so far focused on the primary programme. The integration of additional programmes will need to be further explored.

The Square's central clocktower dominates the site, just like the council building. Future explorations should investigate how the impact of the clocktower's presence can be reduced. The war memorial is another central element that exhibits colonial order which many residents might not feel a connection with. Like the clocktower, the position of the memorial should be investigated.

Massing iterations predominantly focused on the southern half of The Square with the intention of keeping a connection with the mall. However, there is an opportunity to interact with the library more, which is a key place where residents can find a sense of belonging. The connection with the council building can also be enhanced, which is important for addressing the disconnect between the council and public.

After an appropriate spatial arrangement has been found, circulation and internal planning should be conducted in more detail.

Secondary moves

CLOCKTOWER EXPLORATIONS

The Square's central clocktower has become an icon that all Palmerston North residents are familiar with. However, it dominates The Square by towering over pedestrians, accentuating the ordered grid and the city's colonial origins, and it does not express the city's cultures (Figure 100).

Palmerston North is often known for and sometimes prided on being an easy-going city with a relaxed work-life balance where time does not rule. A clock, which is symbolic of pace, is not an accurate reflection of the lifestyle people live in Palmerston North.

A positive aspect of the clocktower is the wall of coloured lights that creates visual interest at night (Figure 98); this would be worth retaining.

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Please consult the figure list for further details.

Fig 98 (left): Clocktower lights at night.

Fig 99 (right): The clocktower sticks out behind the duck pond.

Fig 100 (opposite): The clocktower forms a symmetrical backdrop behind the war memorial, reinforcing the grid.

Moved next to the mall

This content is unavailable.

Please consult the figure list for further details.

Rotated

This content is unavailable.

Please consult the figure list for further details.

Replaced by structure

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Please consult the figure list for further details.

Shrunken

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Please consult the figure list for further details.

CLOCKTOWER IDEAS

These concepts imagine creative ways that the clocktower can be altered to reduce its dominance. They include options of removal, modification or retainment. Their integration with market concepts and massing is explored thereafter.

Fig 101 (this page and opposite): Alternative clocktower uses.

Totally removed

This content is unavailable.

Please consult the figure list for further details.

Moved to the Council building

140

Replaced with art

This content is unavailable.

Please consult the figure list for further details.

Wrapped to form a viewing tower

This content is unavailable.

Please consult the figure list for further details.

Bent

This content is unavailable.

Please consult the figure list for further details.

Encased

This content is unavailable.

Please consult the figure list for further details.

Wrapped with new form

This content is unavailable.

Please consult the figure list for further details.

Ruined

This content is unavailable.

Please consult the figure list for further details.

Encased

This content is unavailable.

Please consult the figure list for further details.

Turned into tower

This content is unavailable.

Please consult the figure list for further details.

Moved next to the Council building

Partly removed

This content is unavailable.

Please consult the figure list for further details.

Added viewing/dining deck

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Please consult the figure list for further details.

Option 1: Removed

Removing the clocktower reduces the formal feel of The Square, possibly encouraging people to be themselves and supporting belonging. The central space to become occupied by the market and connect more easily to places of cultural diversity such as the library and mall. The market becomes the central expression of the city rather than the colonial clocktower.

However, the removal of the tall clocktower, which once helped to balance the council building's height, causes the low-lying market to become belittled.
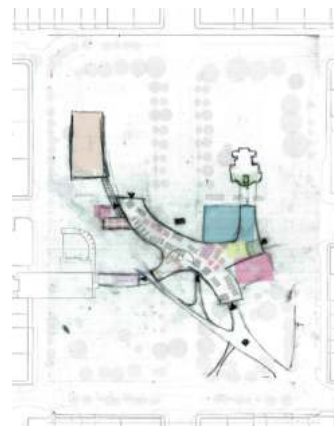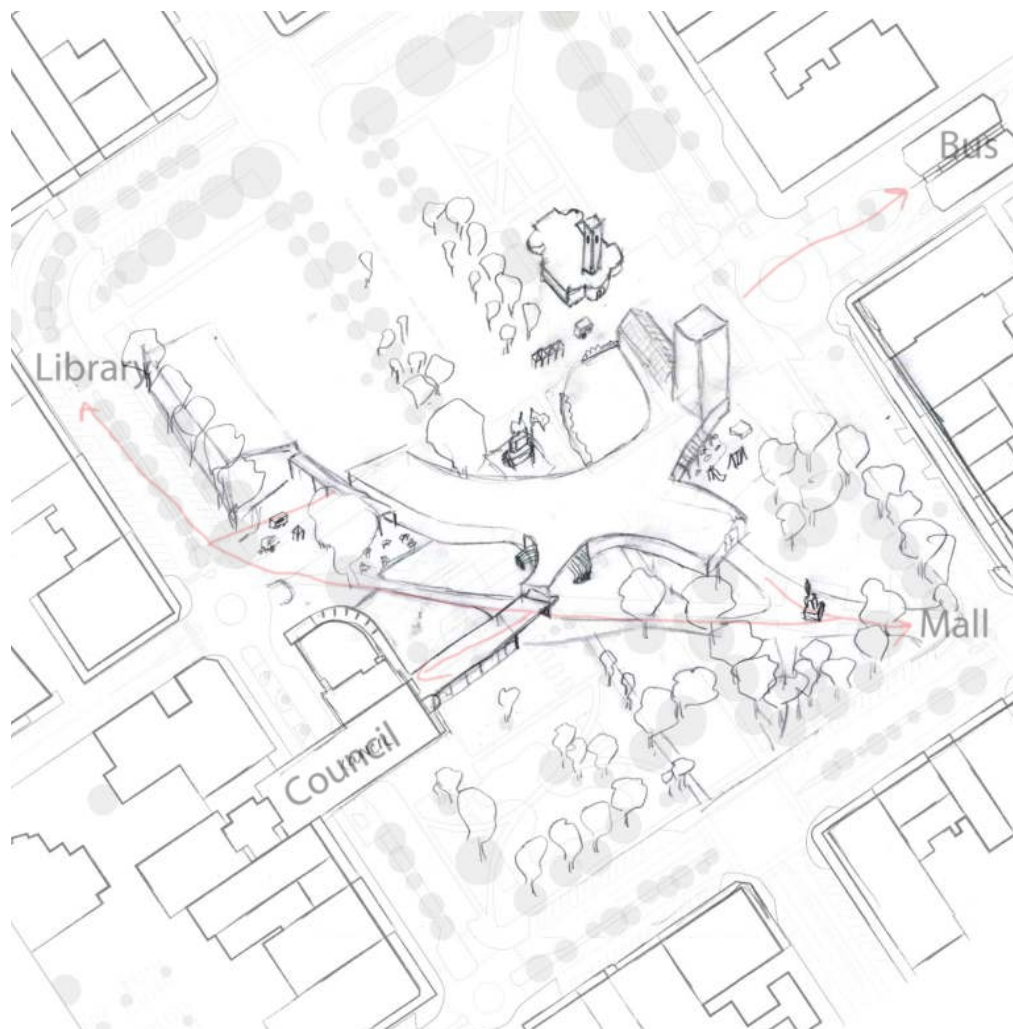
Fig 102 (left): A potential mass when the clocktower is removed.

Fig 103 (opposite): Spatial arrangement that overtakes the clocktower's location.

Option 2: Kept

By keeping the clocktower, The Square remains in its current state and this market concept is poorly connected to the site's surroundings (Figure 105). The city's sense of place is still defined by the formal colonial aesthetic of The Square and clocktower, demanding formal behaviour.

Fig 104 (left): Spatial arrangement is avoiding the site.

Fig 105 (right): The Square remains in its current state.

Option 3: Modified

The modification of the clocktower expresses a more inviting scene because the public can occupy the tower's structure as a viewing tower or as integrated in the market. (Figures 107 and 110). Retaining a tall element reduces the dominance of the council building but the central location still reinforces the city grid. If the tower is used to express cultures successfully, it could transform into a positive landmark that is visible via sightlines.

3a:

Fig 106 (top left): Concept of inspiration.

Fig 107 (main image): A viewing tower is less formal than the clocktower.

Fig 108 (top right): Spatial arrangement with viewing tower

3b:
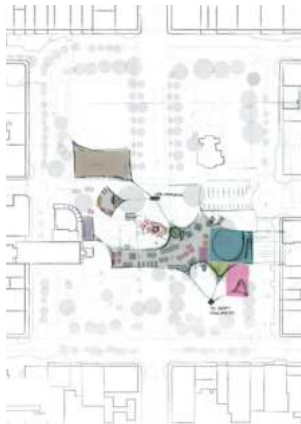
Fig 109 (left): Spatial arrangement with rooftop deck.

Fig 110 (opposite): A raised viewing deck reduces the perceived height of the clocktower.

Clocktower Conclusion

Upon reflection, the clocktower either needs to be removed or modified. Design explorations showed that the clocktower is imposing a sense of power and dominance which avoids the human scale and does not express ideas of cultural diversity; keeping the clocktower is in conflict with the goals of the market. Whether to modify or remove the clocktower should be decided in further massing iterations.

RE-EVALUATING MASSING

With the option of modifying or removing the clocktower, the market can occupy and interact with more areas of the site. Figures 111 to 116 show that when massing is located at the site's centre, the connection with the council building and library is improved.

Library

Council

Fig 111

Library

Council

Fig 112

Library

Council

poor connection

Sport

BUS

COUNCIL

moved i-site

one shared dining space

Fig 113

Library

LIBRARY

Better connection

Council

BUS

? connect to council

MALL

Fig 114

Library

Council

DISCONNECTED

incorporates
i site

Disconnected

SCALE 1:500

Fig 115

Library

more connected

Council

Tower too
dominant
at centre.

good
connection

SCALE 1:500
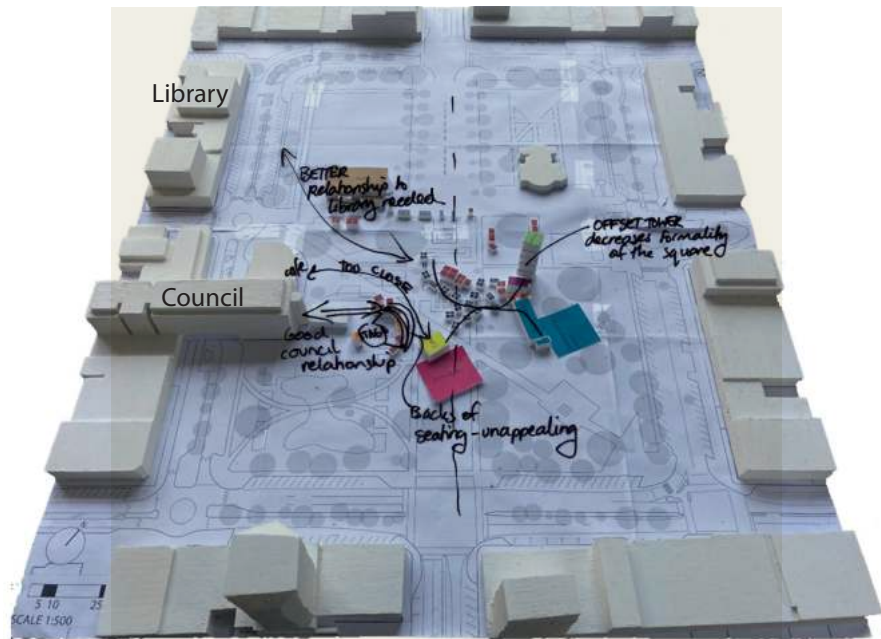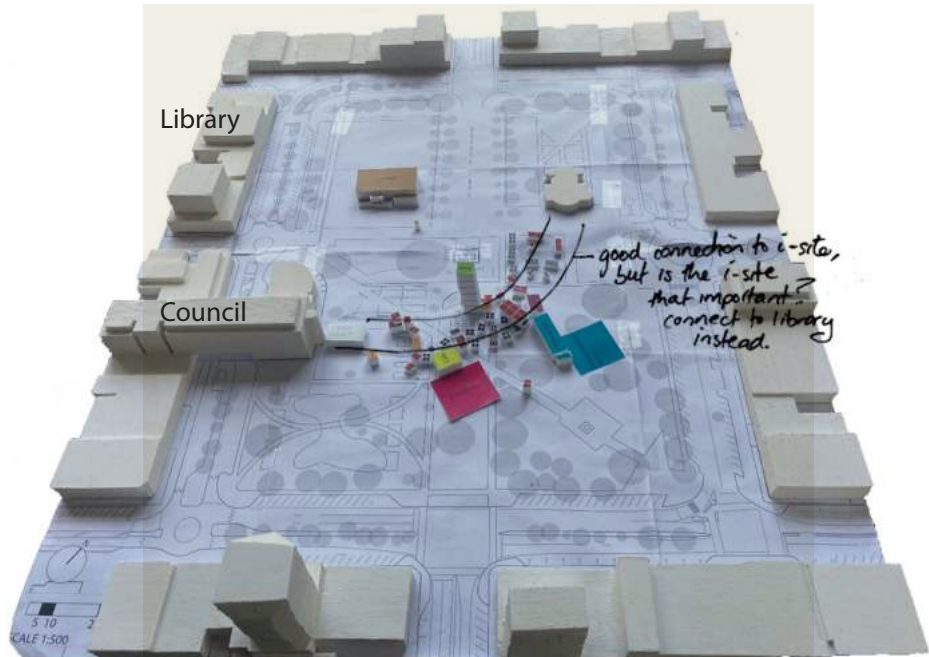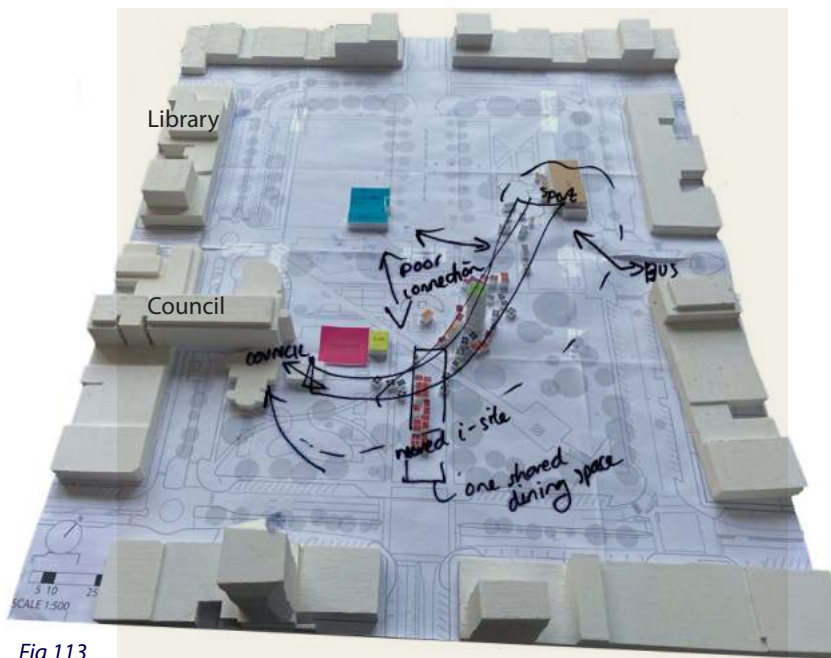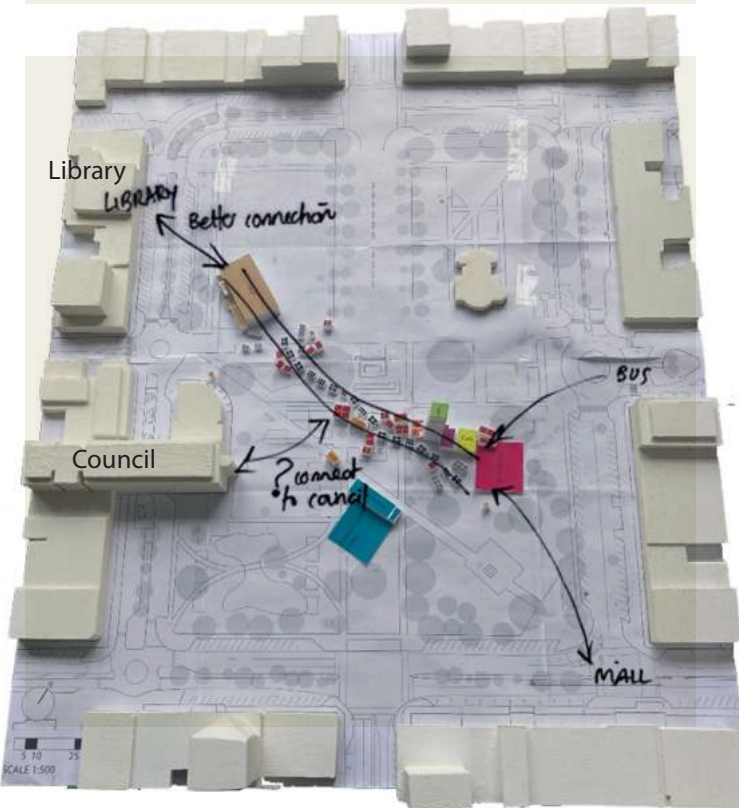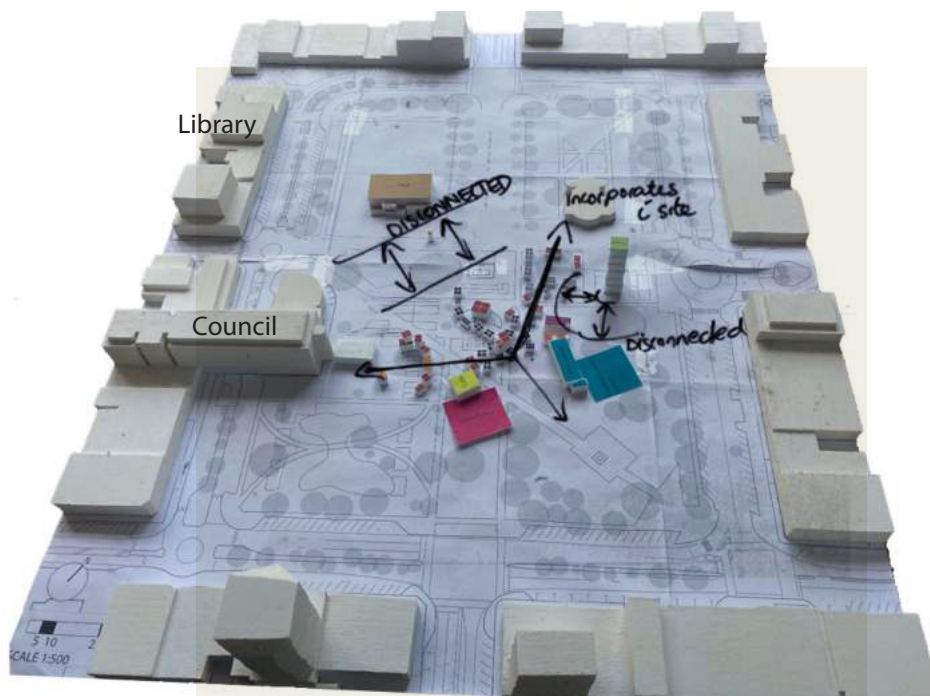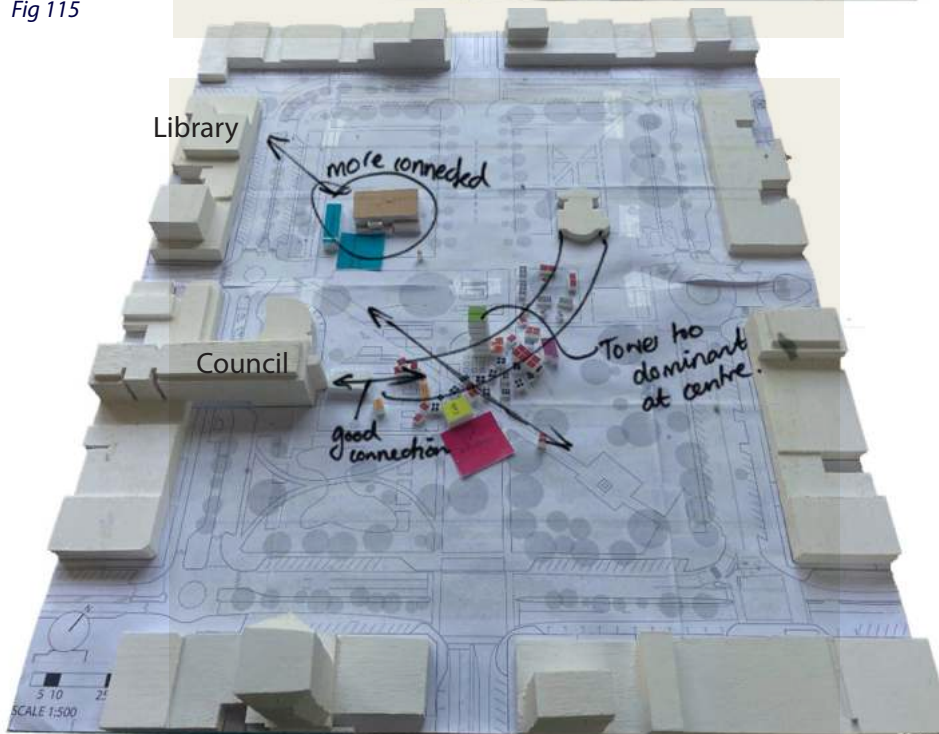
Fig 116

Issue with scale:

Massing explorations on a physical site model have revealed that the proposed programme is relatively small compared to the site, and there are few vertical elements. This creates difficulties for connecting to multiple surrounding buildings it limits opportunities for a human-scale building. Rather than occupying the centre of The Square where the market is dwarfed by the surrounding empty space, it could benefit from occupying the northwest corner next to the library and council building.

Library

Council

Library

Council

Massing on the Northwest Corner

On the northwest corner (Figure 117), the market has a better relationship to the council and library buildings. Massing concepts that follow (Figures 118 to 120) explore massing digitally to evaluate proposed arrangements in greater detail than the physical model.

Fig 117 (This page and opposite): Massing next to the council building and library.

Library

Council

Library

Council

Library

Council

Library
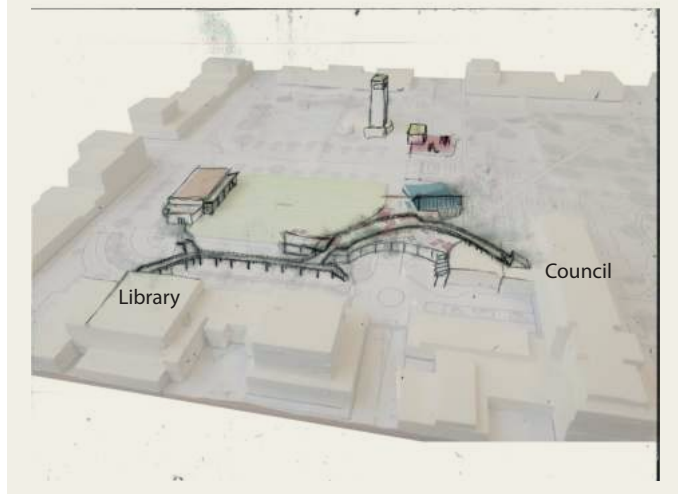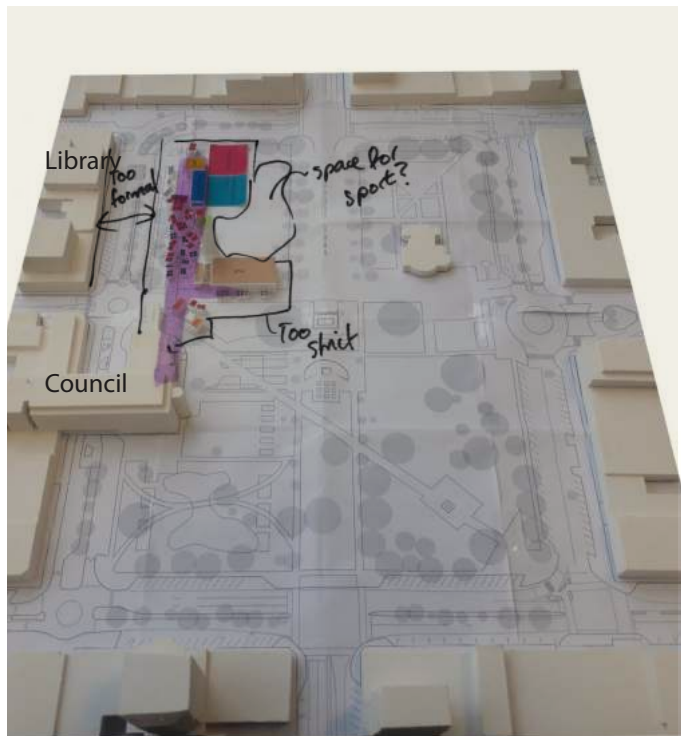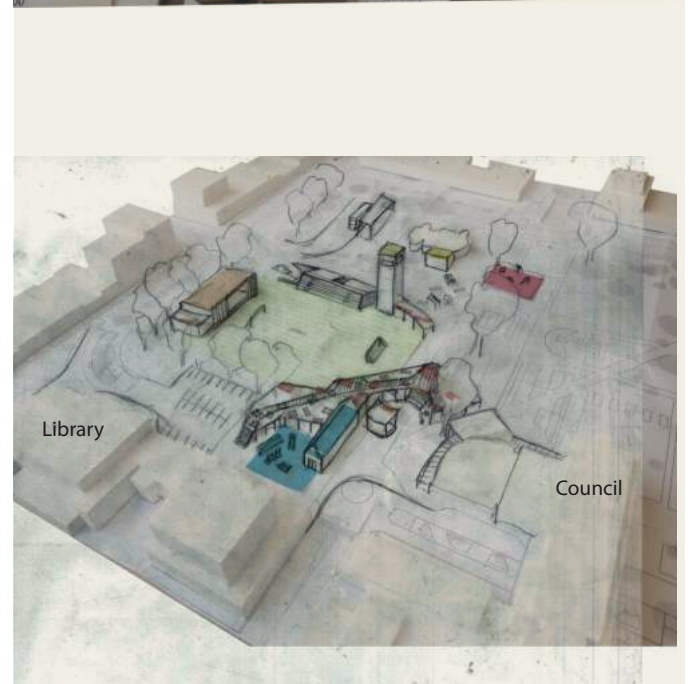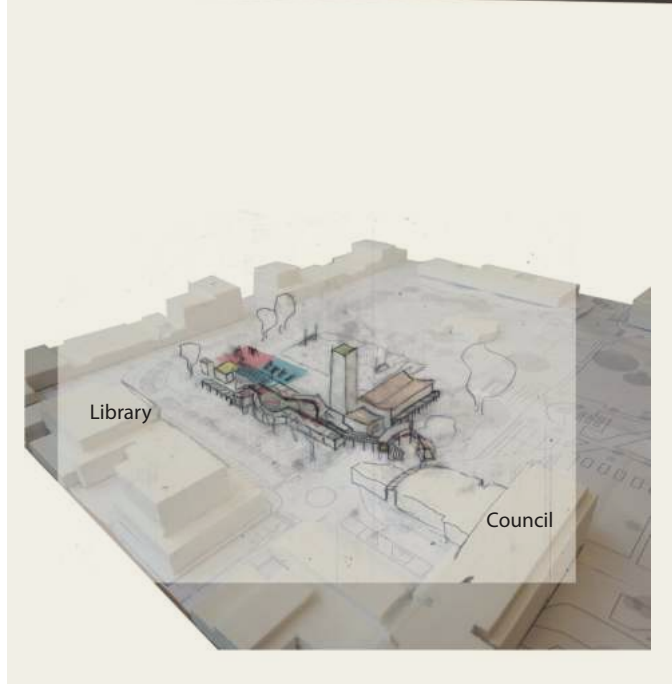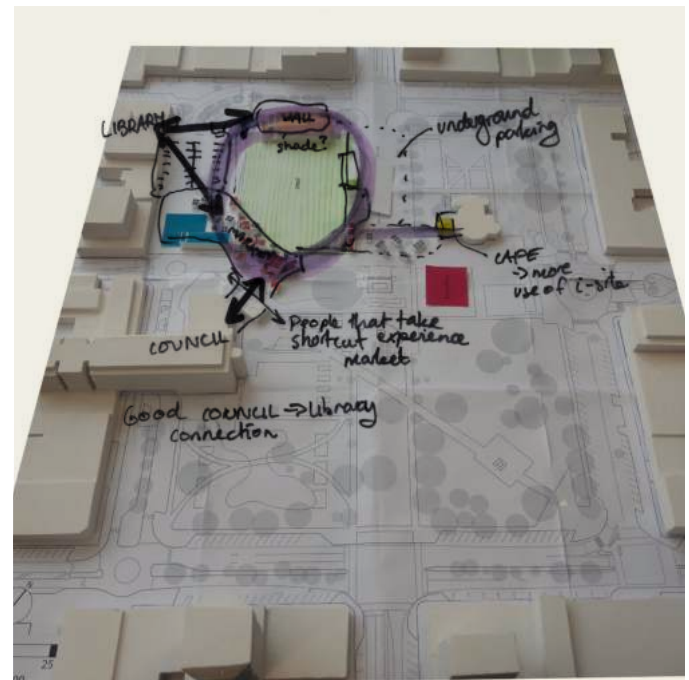
Council

The sports field seems cut-off from the surroundings, limiting accessibility.

There is a good relationship between the market and council building.

The location and height of the tower balances the bulk of the council building.

i - site
Cafe
Temp
Viewing tower
Sports
Indoor
Dining space
Library

Indoor market
Cooking classes
Indoor market
Cafe
Council info
Council

pohutakawa
Library
DINING
HALL
taller than clocktower
SPORT
tower
council
MF
cafe
temporary

152

Fig 118

The field is more accessible.
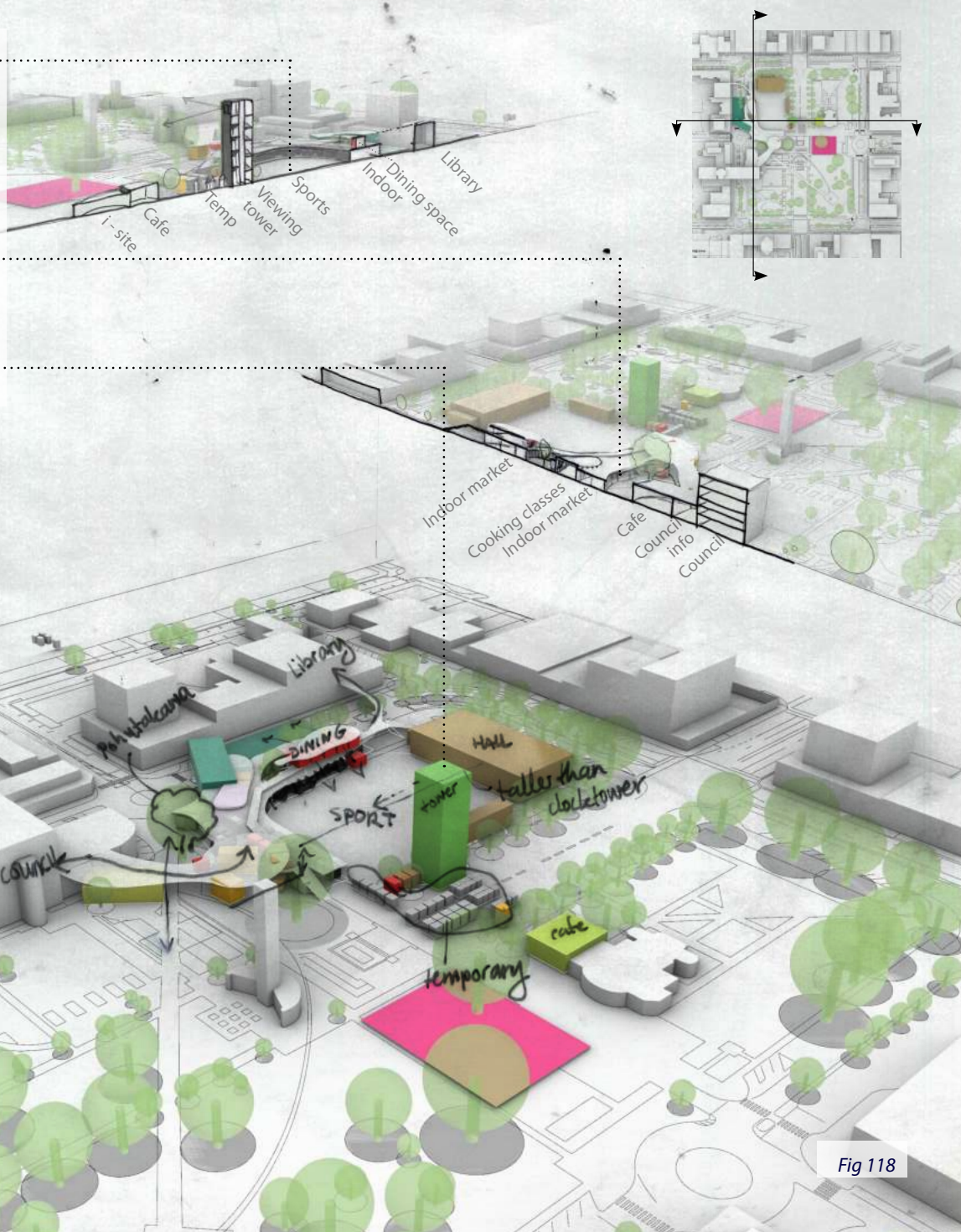
There is a close connection between the market and council building, but the overall building is losing its connection to the library.

The diagonal path through the market is too narrow.

Seating

Sports field

Hall

Viewing tower

Dining space

Cafe

Council info/exhb'

Council

Issue: taller than council

temp

too high?

Hall

field

seating

underground parking

permanent

exposure to stalls via shortcut

PLAY

council connection space

views

Dining

Views

Garden centre

performance

temporary stalls

CAFE
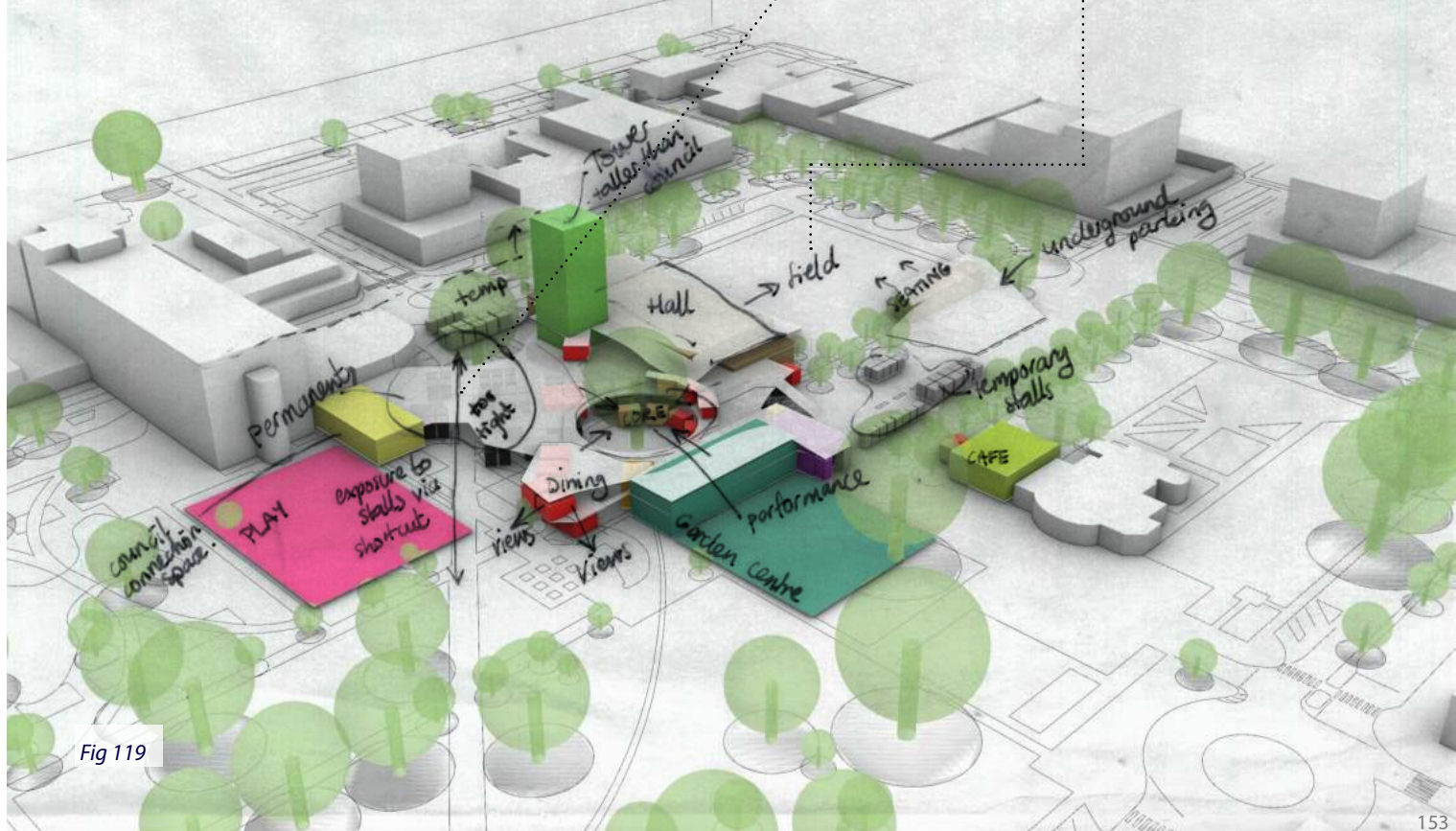
Fig 119
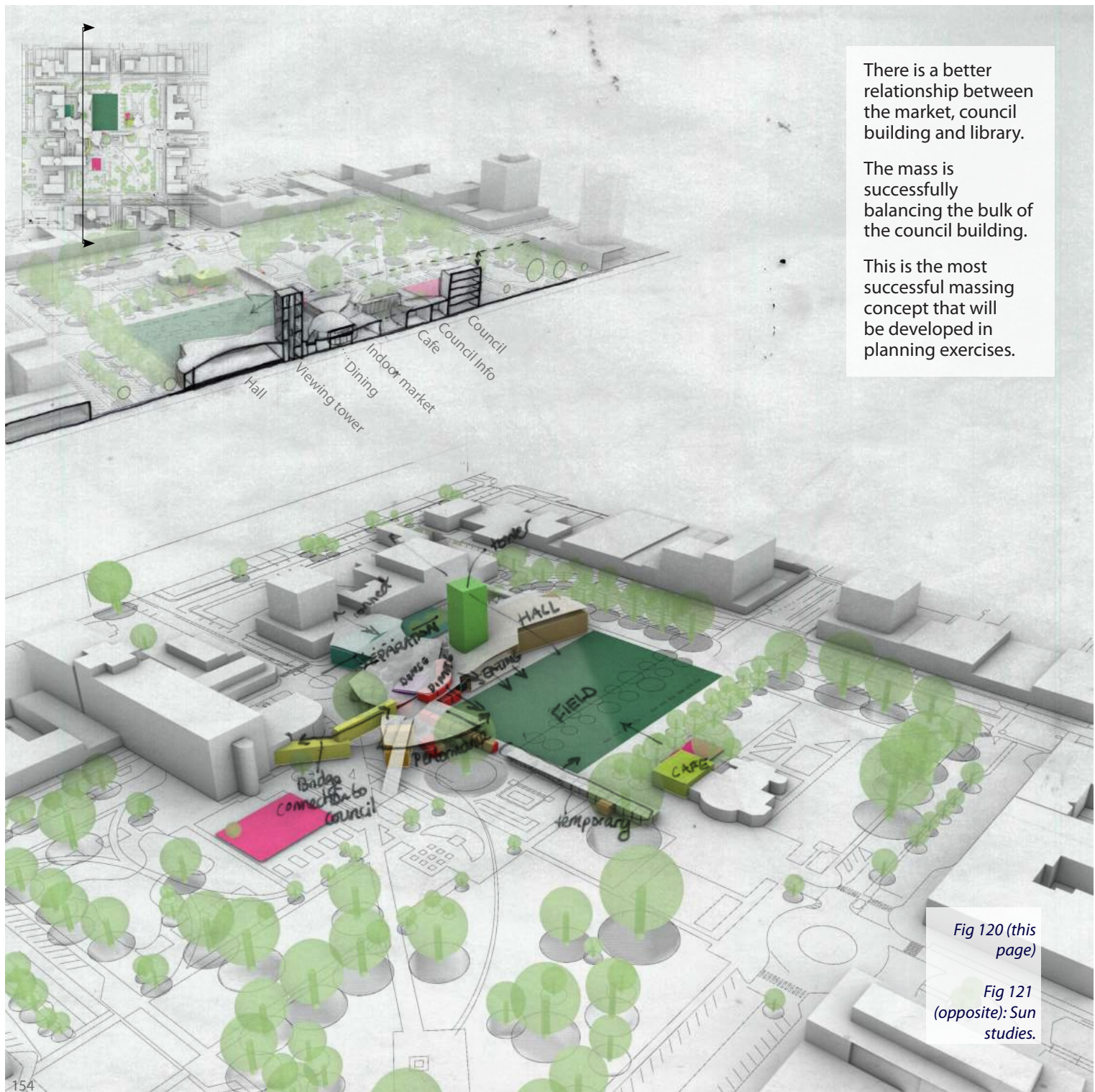
There is a better
relationship between
the market, council
building and library.

The mass is
successfully
balancing the bulk of
the council building.

This is the most
successful massing
concept that will
be developed in
planning exercises.

Council
Council Info
Cafe
Indoor market
Dining
Viewing tower
Hall

DEPARTMENT
HALL
DRUG &
DINING
DINING
FIELD
PEDESTRIAN
Bridge
connection to
council
CAFE
temporary
tower

Sun Studies

The massing of Figure 120 is tested for shading at different times of the day and year. It is found that the tower creates some issues for shading, but no major alterations are required.

MORNING

NOON

LATE AFTERNOON

SUMMER
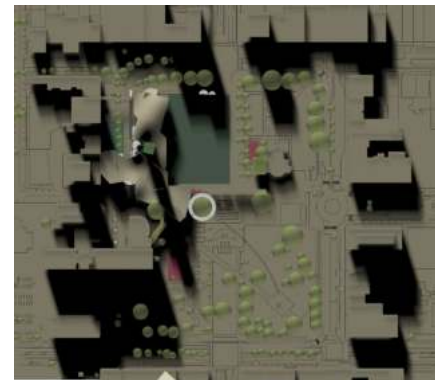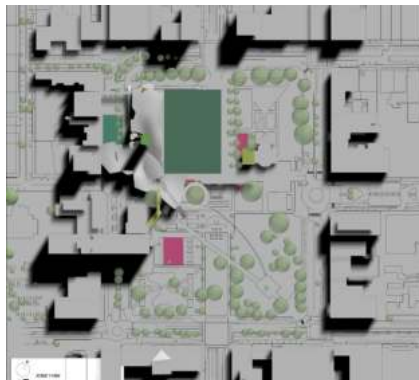
WINTER

CIRCULATION AND PLANS

Masterplans and internal plans are developed based on the latest massing concept. The first edition of the masterplan is shown in Figures 123 and 124 and is evaluated in Figures 125 and 126.

Fig 122:
Developing
the floor plan
involved lots of
layering.

Ground floor plan

LIBRARY

MAKERS SPACE

PARKING

CHANGE

ENTRANCE HALL

HALL

TOWER

WC

STALLS

MAIN ENTRANCE

STALLS

STALLS

STALLS

STALLS

STALLS

COOKING CLASSES

DINING

STALLS

DINING

STALLS

DINING

STALLS

OUTDOOR DINING

DINING

STALLS

SEATING

SPORTS FIELD

PLAY

OUTDOOR SEATING

CAFE

WC

i site

BUS SHELTER

INTERCITY BUS STOP

CITY BUS STOP

TEMP TEMP TEMP

STAGE

CAFE

COUNCIL INFO CENTRE

EXHIBITION

COUNCIL

GREENHOUSE

OUTDOOR GARDEN CENTRE

PLAYGROUND

TE PEETI TE AWEAWE MONUMENT

MALL

5 10 25

Fig 123: Ground floor plan.

Roof plan

LIBRARY
MAKERS SPACE
HALL
PARKING
SEATING
SEATING
SPORTS FIELD
BUS SHELTER
INTERCITY BUS STOP
PLAY
CAFE
TOWER
MAIN ENTRANCE
1ST FLOOR DINING
OUTDOOR DINING
TEMP STALLS
CITY BUS STOP
ROOF WALKWAY
EXHIBITION
CAFE
COUNCIL INFO CENTRE
PLAYGROUND
GREENHOUSE
COUNCIL
OUTDOOR GARDEN CENTRE
TE PEETI TE AWEAWE MONUMENT
MALL

Fig 124: Roof plan.

5 10   25

159

BROADWAY

LIBRARY

MAKERS
SPACE

PARKING

HALL

to open
as a stage

INTERCITY
BUS STOP

PLAY

WC

CAFE

i site

visual
connections

SPORTS
FIELD

TOWER

STALLS

MAIN
ENTRANCE

roofto
dining

accessible
by truck

BUS
STOP

CITY BUS
STOP

CAFE

COUNCIL

COUNCIL

PLAY — safe distance from road

Māori
Garden?

GARDEN
CENTRE

OUTDOOR
GARDEN
CENTRE

PARKING??

important
⇒ to disrupt
pathway

MALL

MALL

5 10   25

*Fig 125:
Evaluating site
connections.*

160

Evaluations:

Based on the evaluations of Figures 125 and 126, the main market space should be shifted to allow for future growth. The playground and greenhouse should shift north to be closer to parking and the market. An underground carpark could increase accessibility to the market and library. Temporary market spaces should be better integrated with the main market so that it can seamlessly grow and shrink.

Fig 126:
Evaluating
spatial
relationships.

LIBRARY

MAKERS SPACE

PLAYGROUND

PARKING

ENTRANCE

HALL

CAFE

PLAY

INTERCITY BUS STOP

BUS SHELTER

MAINTENANCE

SPORTS FIELD

CHANGE STORAGE

TOWER WC

SEATING

i site

MAIN ENTRANCE

STALLS

STALLS

GARDEN CENTRE

GREENHOUSE

STALLS

TEMPORARY STALLS

STALLS

COOKING CLASSES

DINING

STALLS

DINING

CITY BUS STOP

STALLS

STALLS

PERFORMANCE

DINING

The War Memorial is still conforming to the city grid.

CAFE

EXHIBITION

COUNCIL INFO CENTRE

COUNCIL

TE PEETI TE AWEAWE MONUMENT

5 10 25

MALL

Fig 127: Developed masterplan.
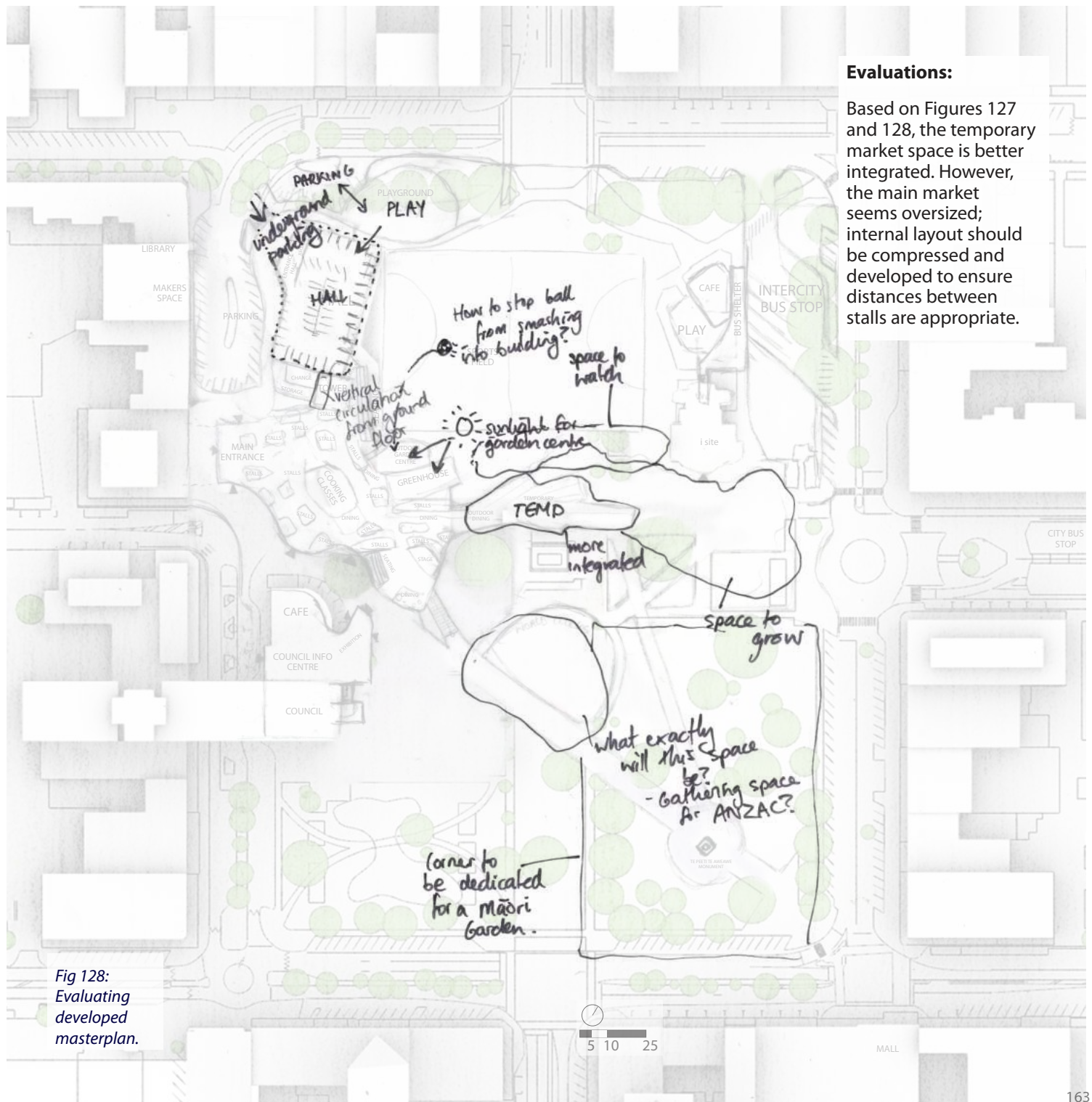
Fig 128: Evaluating developed masterplan.

Evaluations:

Based on Figures 127 and 128, the temporary market space is better integrated. However, the main market seems oversized; internal layout should be compressed and developed to ensure distances between stalls are appropriate.

Annotations on plan:

PARKING
underground parking
PLAYGROUND
PLAY
LIBRARY
MAKERS SPACE
PARKING
HALL
How to stop ball from smashing into building?
space to watch
vertical circulation from ground floor
sunlight for garden centre
CHANGE STORAGE
MAIN ENTRANCE
STALLS
COOKING CLASSES
DINING
STAGE
GREENHOUSE
OUTDOOR DINING
TEMP
more integrated
CAFE
PLAY
BUS SHELTER
INTERCITY BUS STOP
i site
space to grow
CITY BUS STOP
what exactly will this space be? - Gathering space for ANZAC?
corner to be dedicated for a Māori Garden.
CAFE
COUNCIL INFO CENTRE
COUNCIL
MALL

5 10 25

163

War Memorial Explorations

The war memorial is poorly integrated with the current concept. While the war memorial does not necessarily celebrate or represent Palmerston North, it remains important to New Zealand's history. It is used for ANZAC Day services and requires a gathering space in front of it. It should therefore remain on site but could be reorientated or moved (Figures 129 to 131).

It is found that shifting and rotating the monument successfully deformalises the surrounding space while remaining signified as an important element of the site.

Rotate
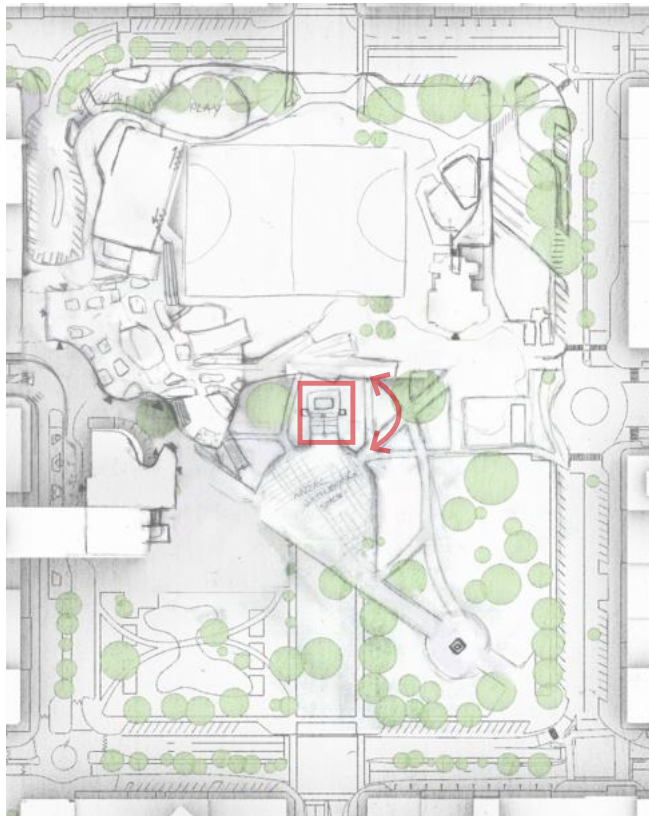
Fig 129: Rotated war memorial.

Shift

Fig 130: Shifted war memorial.

Shift and rotate
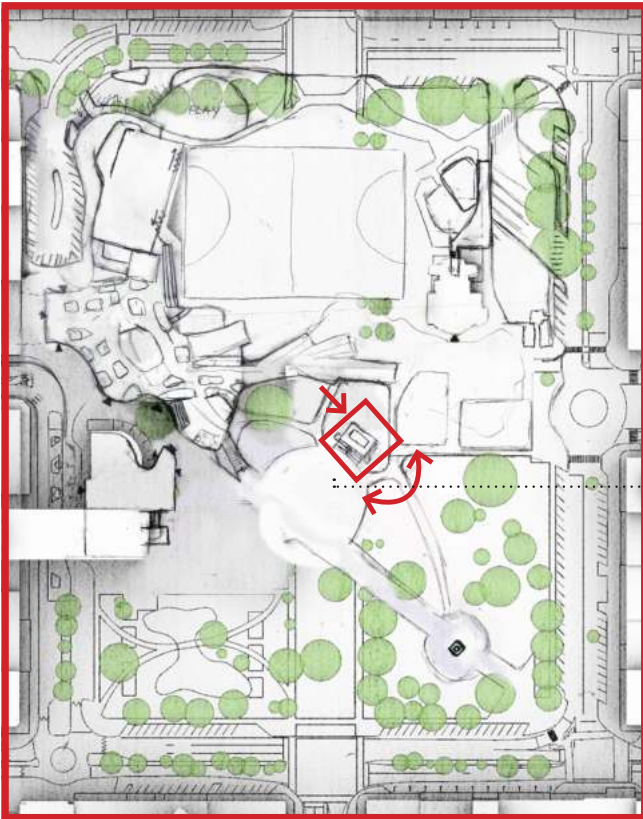
Fig 131: Shifted and rotated war memorial.

The open space in front of the war memorial could reintegrate the clock from the clocktower, which had been removed in previous concepts. Along with this, clocks from other parts of the world that tell the time of that place could create a gallery of clocks. The retention of the clock will appeal to generations of residents that recognise part of their city's identity in the clock but its treatment in the gallery achieves the transition towards a culturally inclusive space.
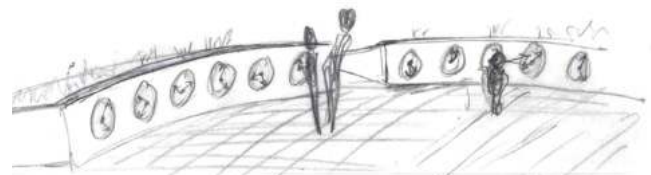
Fig 132: Gallery of clocks concept.

Internal Layouts and Circulation

Circulation is split into primary, secondary and tertiary paths and conforms to the building's shape (Figure 133). Distances between stalls are appropriate for creating personal and intimate social distances (Figure 134). The resultant internal layout (Figure 135) has a meandering stall arrangement that is not working. Existing market layouts should be analysed to inform stall arrangements.

Primary circulation

Secondary circulation

Vertical circulation
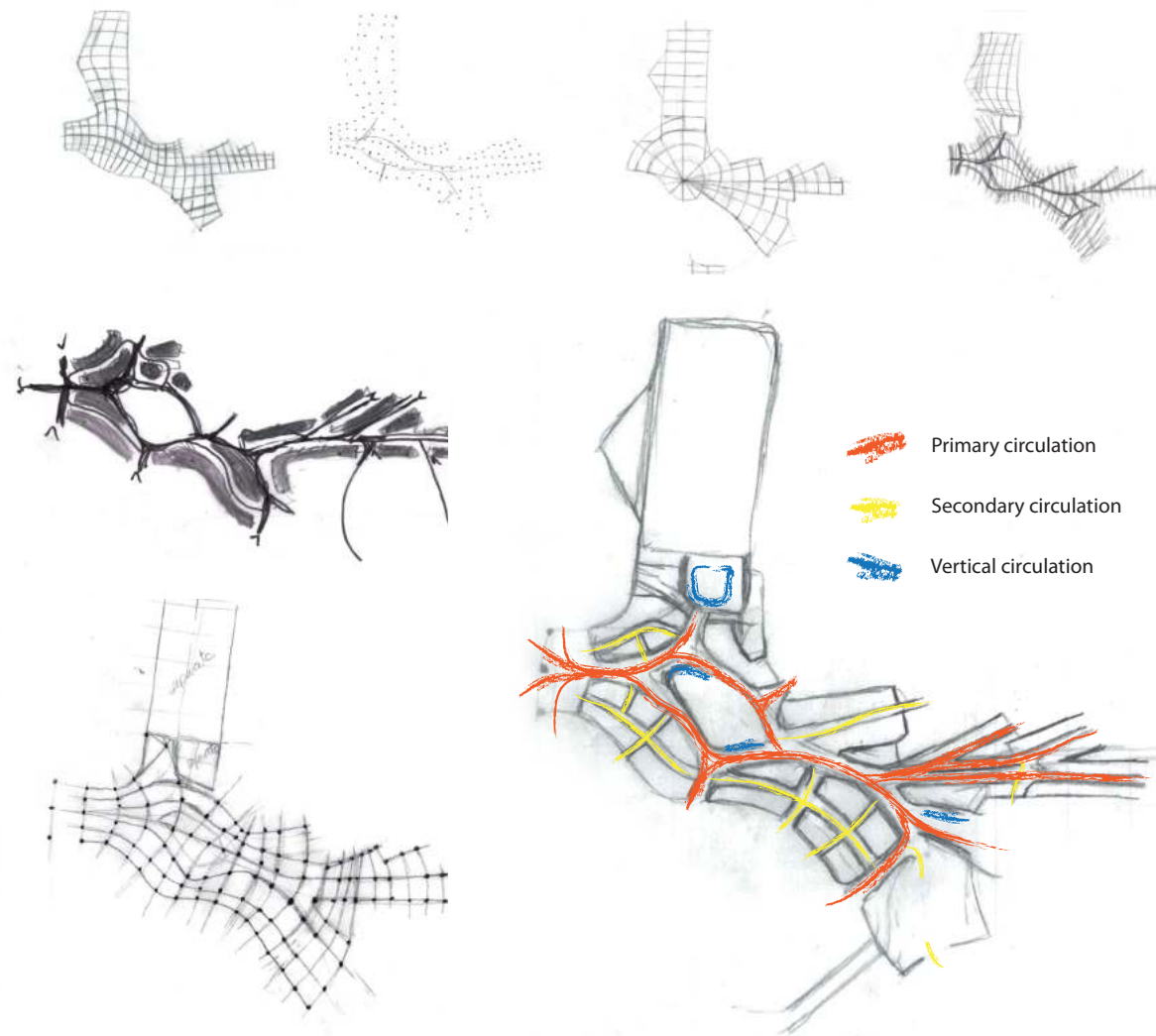
Fig 133 (this page): Circulation based on building shape.

Fig 134 (opposite top right): Evaluating social distances.

Fig 135 (opposite main image): Internal layout using circulation paths.

Personal

Personal

intimate

Distances between stalls are between 2 and 3 meters

3m

LIBRARY

LIBRARY

Hall entrance

Hall

Seating

Tower

Main entrance

Stalls

Stalls Stalls

Stalls

Cooking viewing

Stalls

Stalls Stalls

Stalls

Stalls

Cooking classes

Stalls Dining

Rooftop dining

Rooftop Walkway

Stalls

Dining

Garden centre

Stalls

Temp stalls

Temp stalls

Dining

Temp stalls

Temp stalls

Temp stalls

Stage

Stalls

Pohutakawa tree

CAFE

Council exhibition and connection space

Bridge

COUNCIL

5 10   25

167

Common Market Layouts

Four indoor markets are analysed based on stall type and arrangement (Figures 136 to 139). Stalls tend to have a regular form. Meats and fish are often clustered together. Takeaway stalls and cafés are often located at the building's perimeter where outdoor dining spaces are near. Other stall types are randomly dispersed throughout the building. The overall building forms are simple.

Santa Caterina, Barcelona

Riverside market, Christchurch
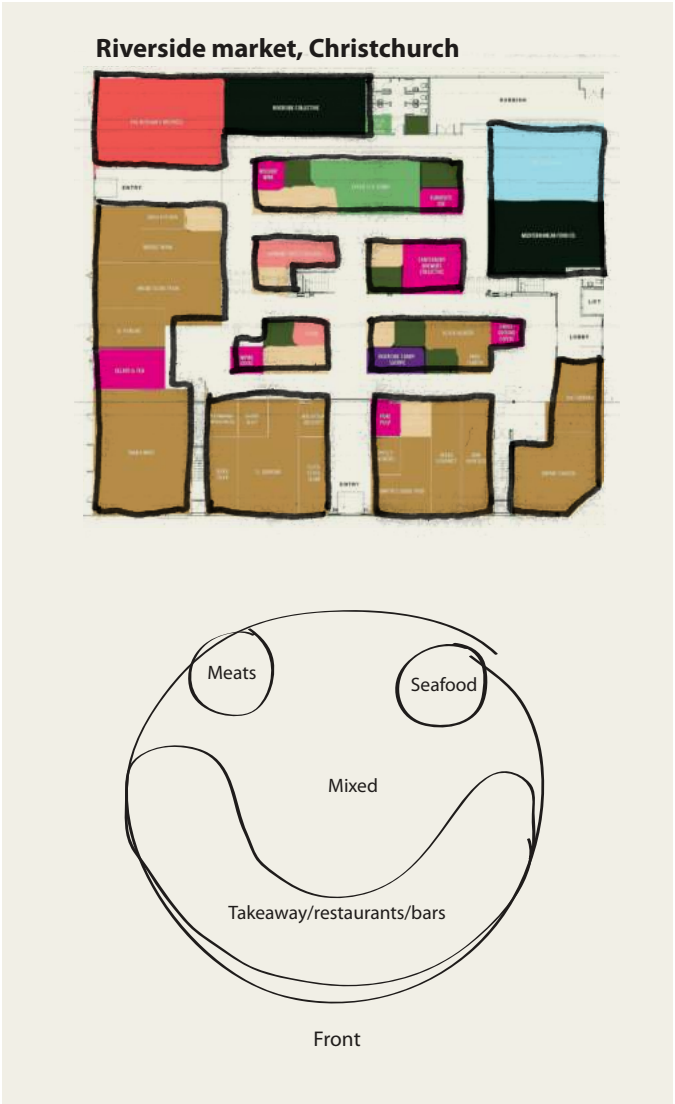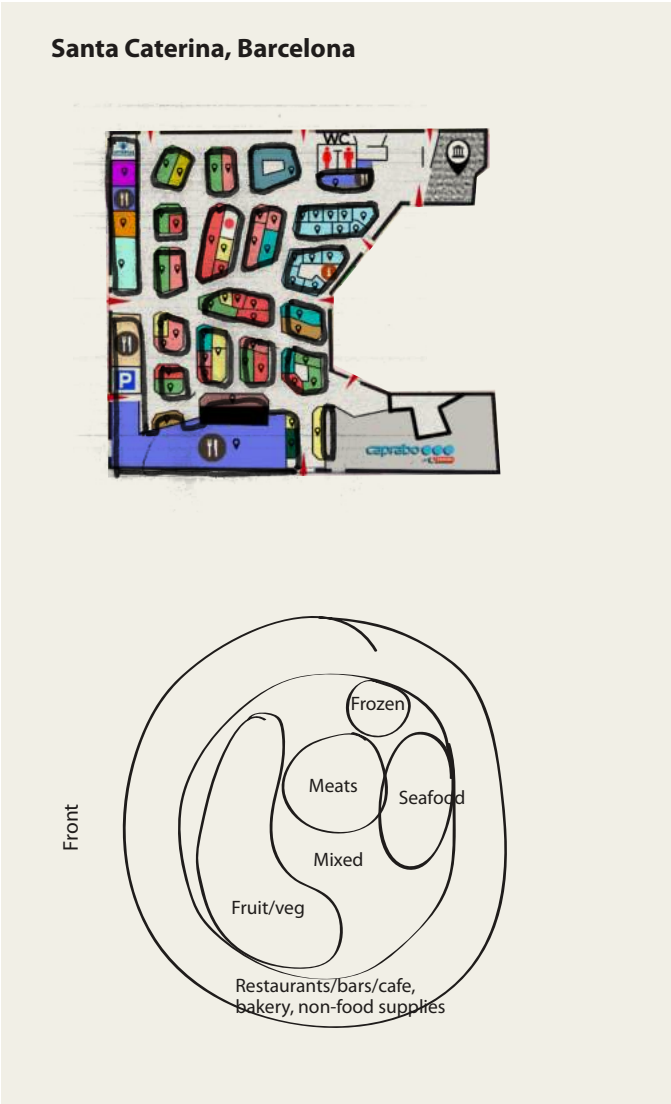
Fig 138 (left):
Markthal
layout

Fig 139 (right):
Granville Island
market layout.

Legend:

- Oils/nuts
- Bar/restaurant
- Groceries
- Accessories
- Butcher
- Ceramics/decor
- Frozen food
- Cold meats/cheese
- Fruit/veg
- Herbalist
- Seafood
- Poultry
- Takeaway food
- Bakery
- Cleaning products
- Preserves
- Candy/sweets
- Spices
- Drinks/ice cream

Markthal, Rotterdam

Supermarket/
restaurants/bars

Front

Front

Mixed
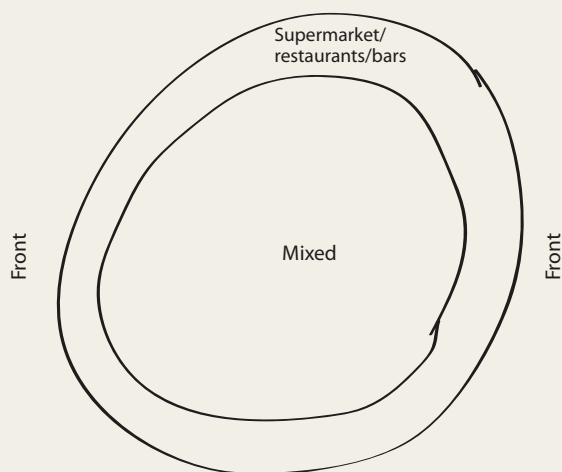
Granville Island market, Vancouver

Access to waterfront courtyard

Takeaway food

Seafood

Seafood

Mixed

Front
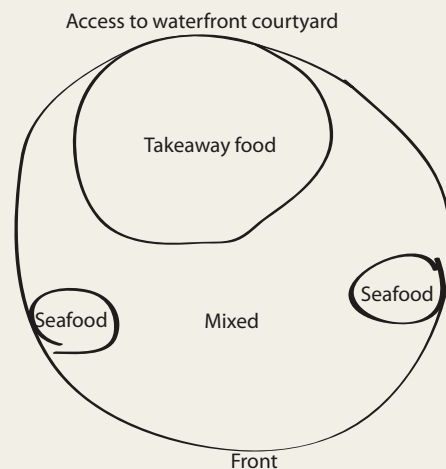
Re-evaluating Stall Layout

The existing design is adjusted using a more logical organisation of stalls that follows market trends (Figure 140). It is found that a simplified form (Figure 141) can achieve a more suitable internal plan.
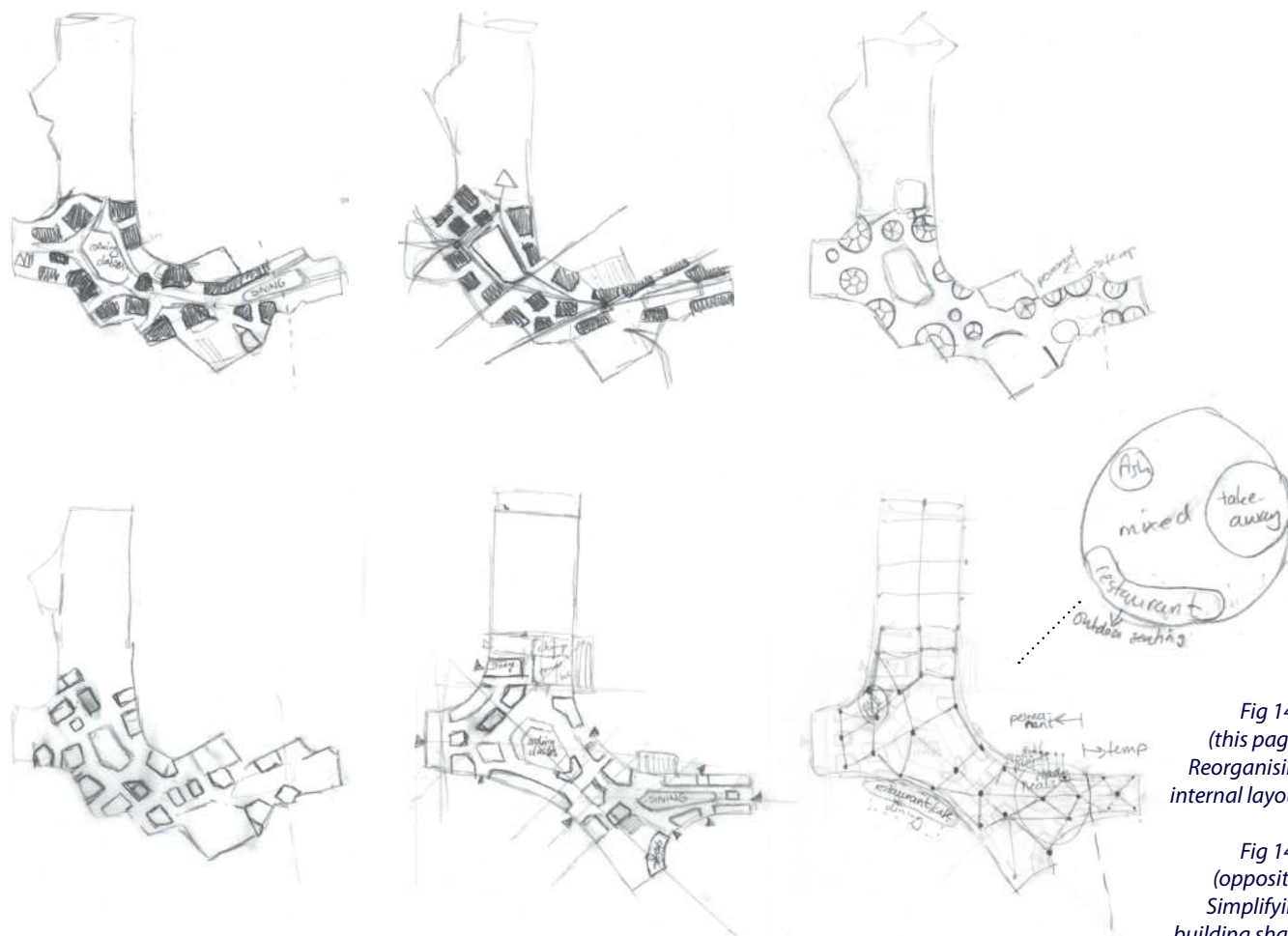
Fig 140 (this page): Reorganising internal layout.

Fig 141 (opposite): Simplifying building shape for easier navigation.
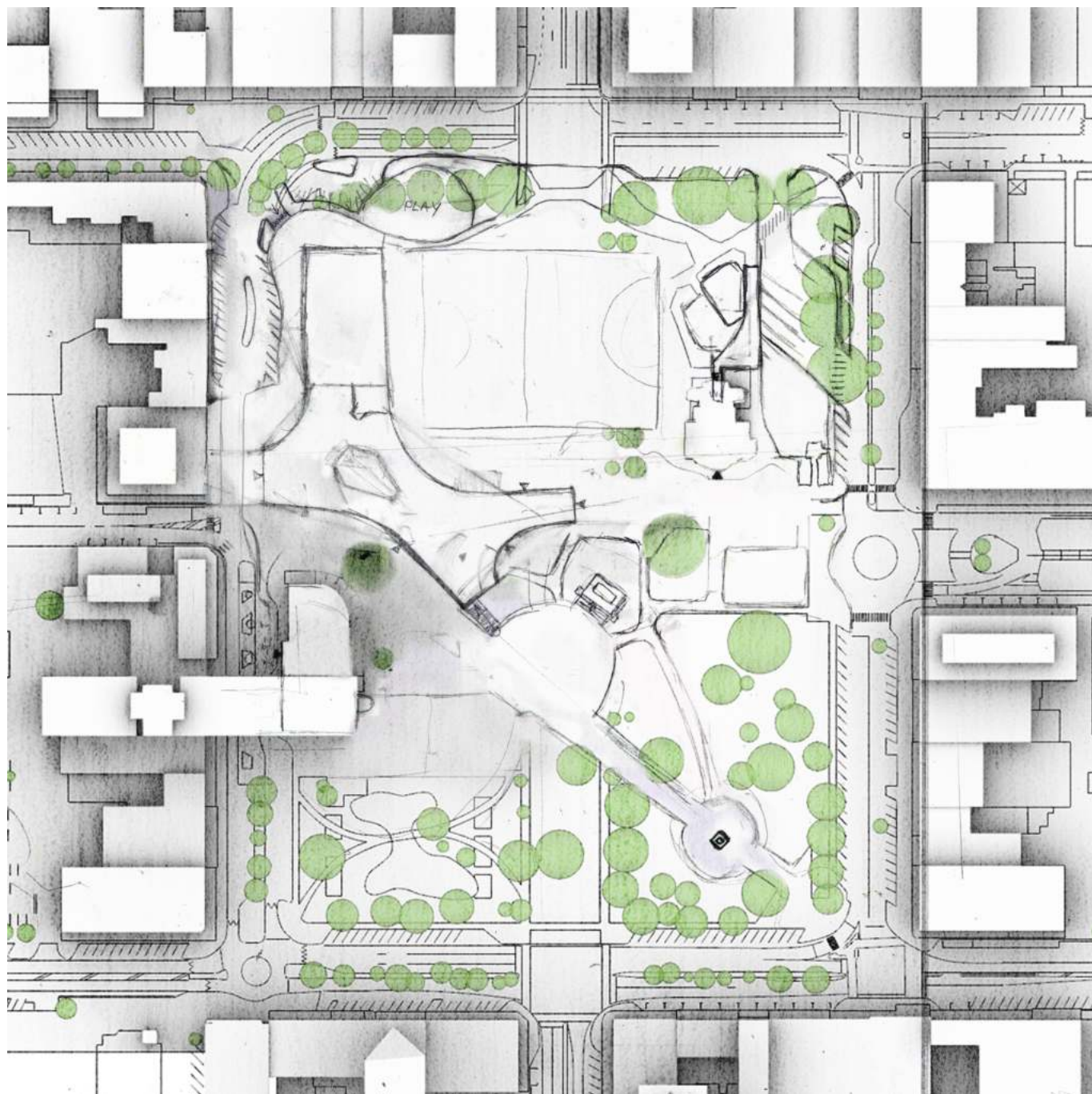
Through layering plans (Figure 142), relationships between vertical spaces are examined. The building consists of an underground carpark, the main market and other facilities on the ground floor, and a roof-top space and viewing tower on the first floor. Plans are shown in further detail in Figures 143 to 146.
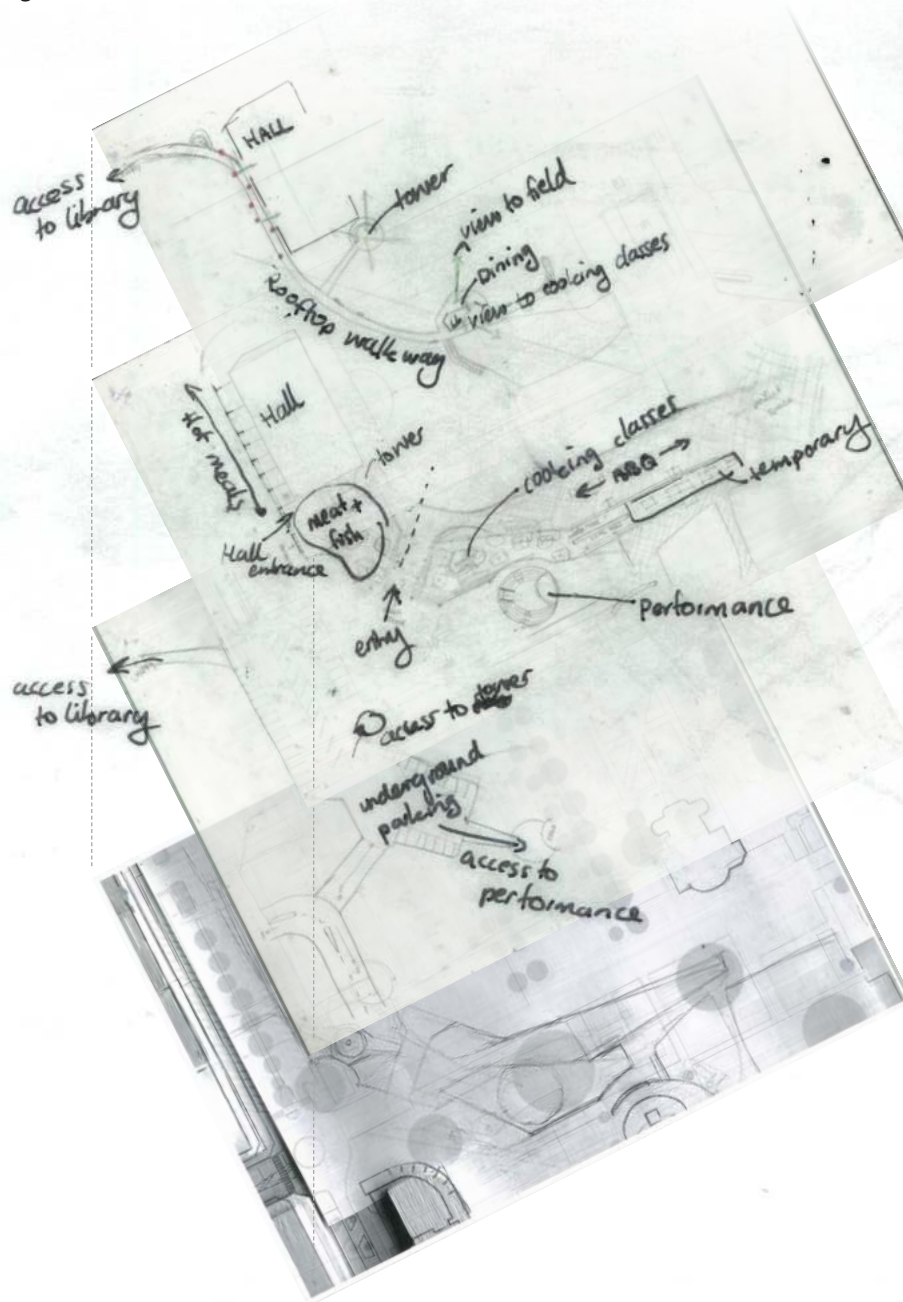
Fig 142: Stacked floor plans.

Fig 143 (opposite): Site plan.

SITE PLAN
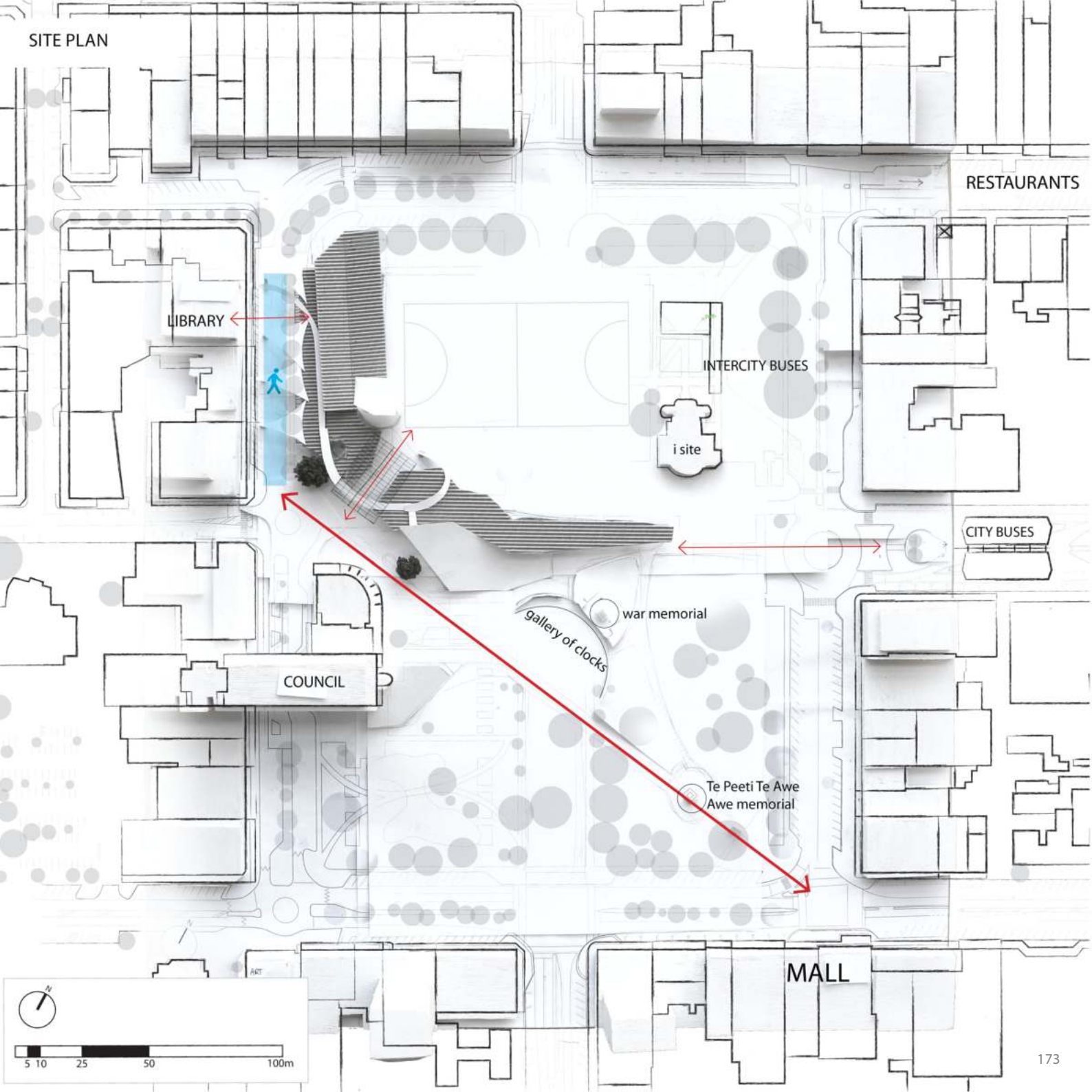
LIBRARY

RESTAURANTS

INTERCITY BUSES

i site

CITY BUSES

war memorial

gallery of clocks

COUNCIL

Te Peeti Te Awe
Awe memorial

MALL

N

5 10   25   50   100m

To library

Viewing tower

Performance stage

Fig 144:
Basement plan.

Fig 145
(opposite):
Ground floor
plan. Stalls
are distributed
based on
precedents.

5   10   25

GROUND FLOOR

Ready meals

Hall

Hall entrance

Fish and meats

Viewing tower

Vegetables, fruits and items

Cooking classes

Temporary market space

Performance

Dining table

5   10   25

Library

Hall

Viewing tower

Dining deck

Void looking into cooking classroom

Rooftop walkway

Council

5   10   25

Fig 146: First floor plan.
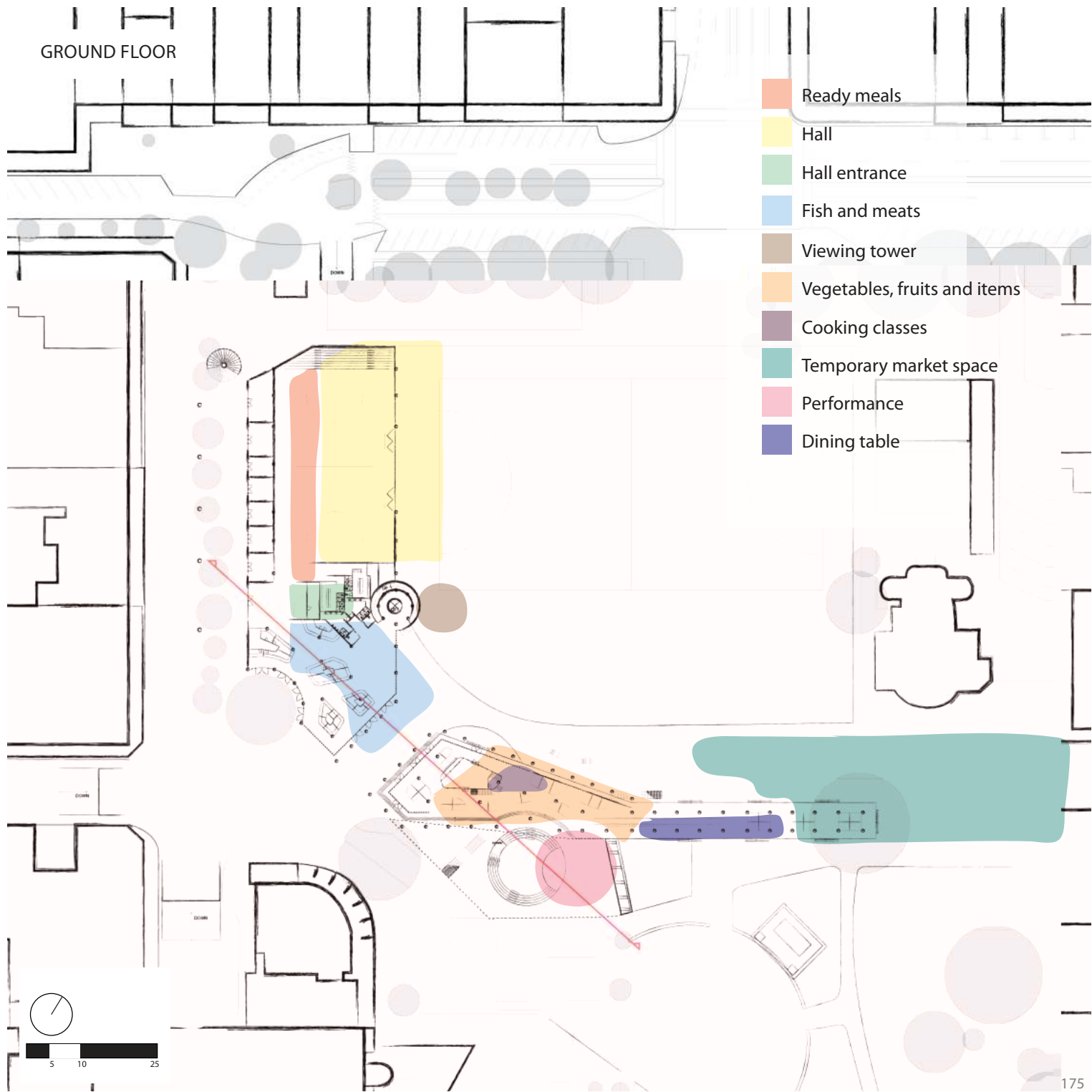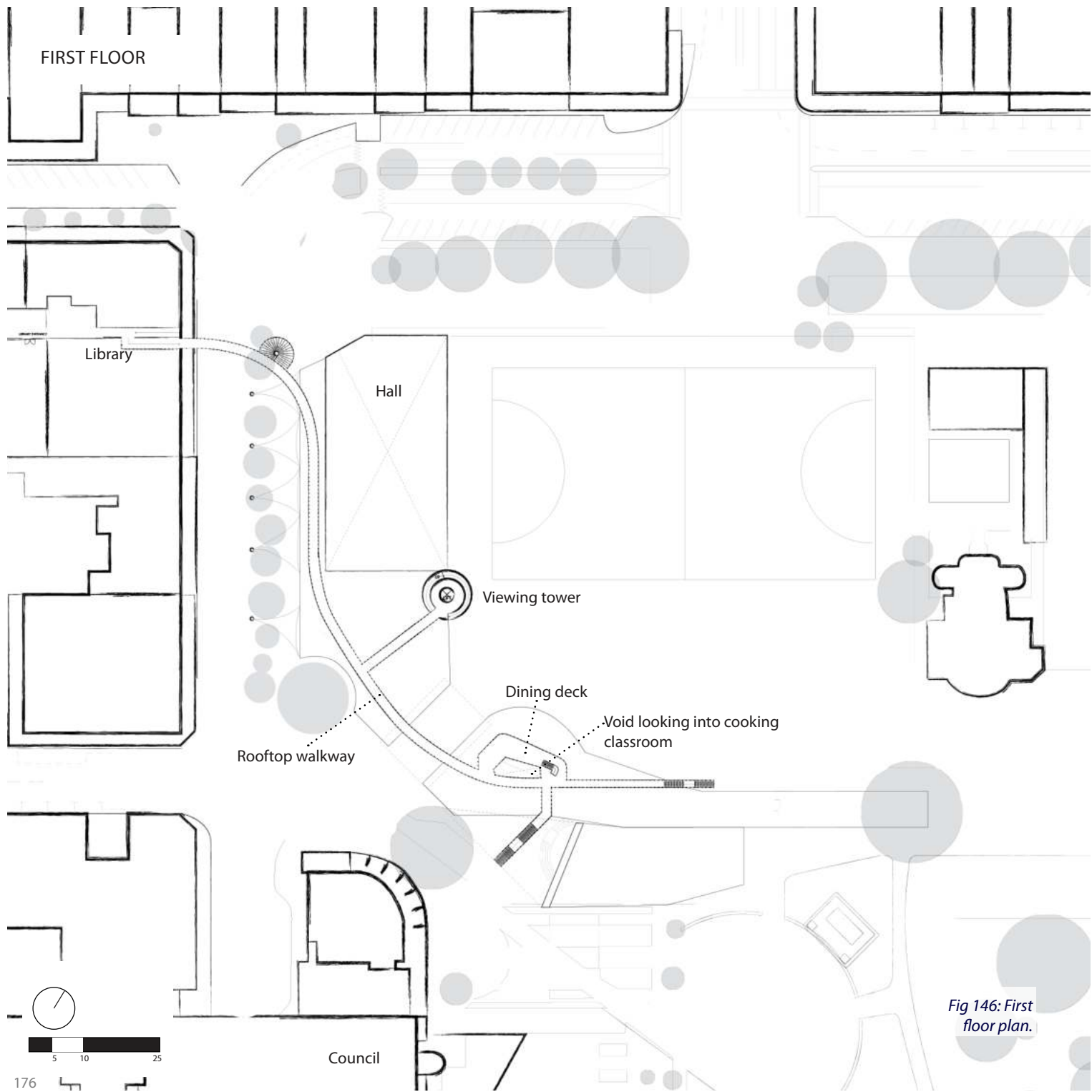
CRITICAL REFLECTION

The Square is a clear example of architecture's inflexibility. This challenges its ability to adapt to shifting cultural contexts. While histories of place evident in colonial architecture can be an important for cities and their people, it becomes problematic when they hinder the expression of current cultures. As such, The Square's colonial elements were deemed to be moved or modified to let other cultures become more pronounced within The Square.

The option to remove or modify existing site elements allowed new architecture to become the focus of the space. The architecture no longer had to conform to the city grid. Connecting with multicultural spaces (the library) and improving the connection between the council building and public spaces ideally situated the market on the northwest corner of The Square.

Although parking is important to consider for Palmerston North, due to its high car-usage and rural surroundings, an underground carpark is destructive and environmentally unsustainable. There are many opportunities for parking in other areas around The Square, so the underground carpark will be removed.

A celebration of cultures cannot be achieved through programme alone. The architecture's form and materiality will have a significant impact on how the building is perceived and whether residents will feel welcomed or inspired to visit.

Approach to form

Humans, in basic terms, "seek shelter" (Knowles, 2006, p. 3). This section explores the market roof and its potential to become a landmark, connect to existing buildings and shelter a diverse space beneath. Three types of roof forms are tested, using inspiration from the market crate, the surrounding landscape and tent structures. They aim to express and celebrate Palmerston North's cultural diversity.

The market crate

Reflecting the landscape

The tent

Fig 147:
The three
approaches to
form.

THE MARKET CRATE

Market crates are iconic to produce markets all over New Zealand. The colourful selection of baskets reflects the vibrancy of fruit and vegetables and can exhibit symbolic ideas like protection and cradling.
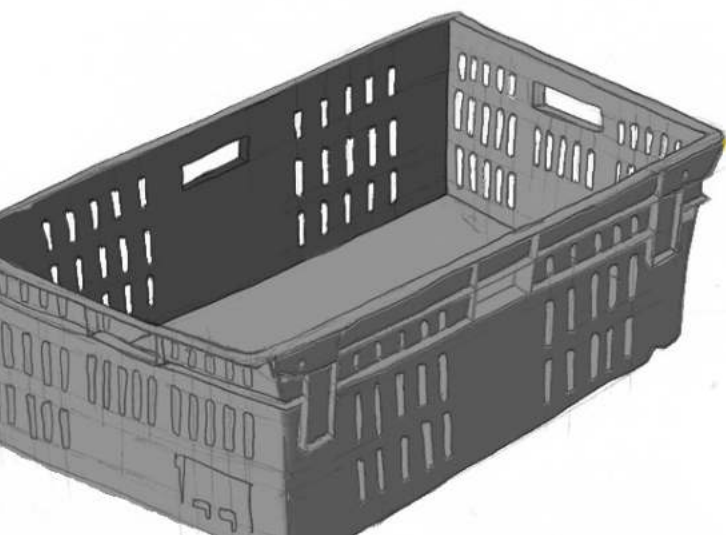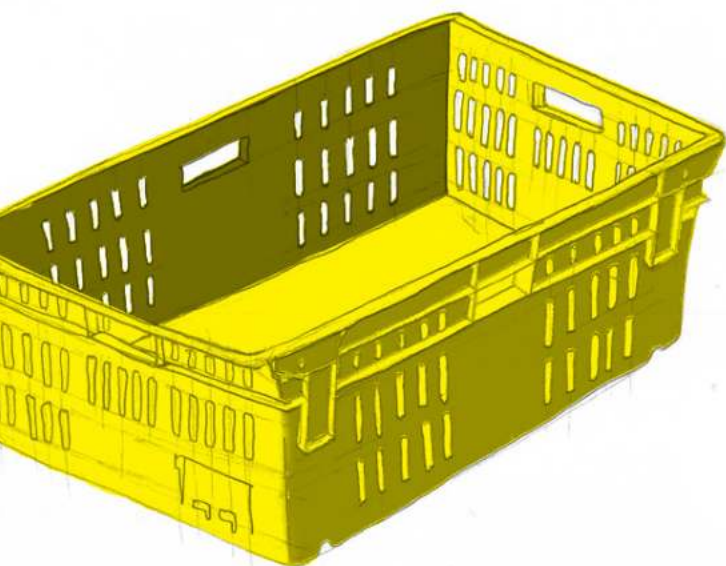
The market crate is first modelled as parts (Figure 149). These can be arranged to form walls, arches, windows and fences. Market crate colours are reintroduced in Figure 150 to form a variety of coloured walls with perforations. Using a combination of these forms at different scales, the parts are put together (Figure 151) and visualised as occupiable space (Figure 151).
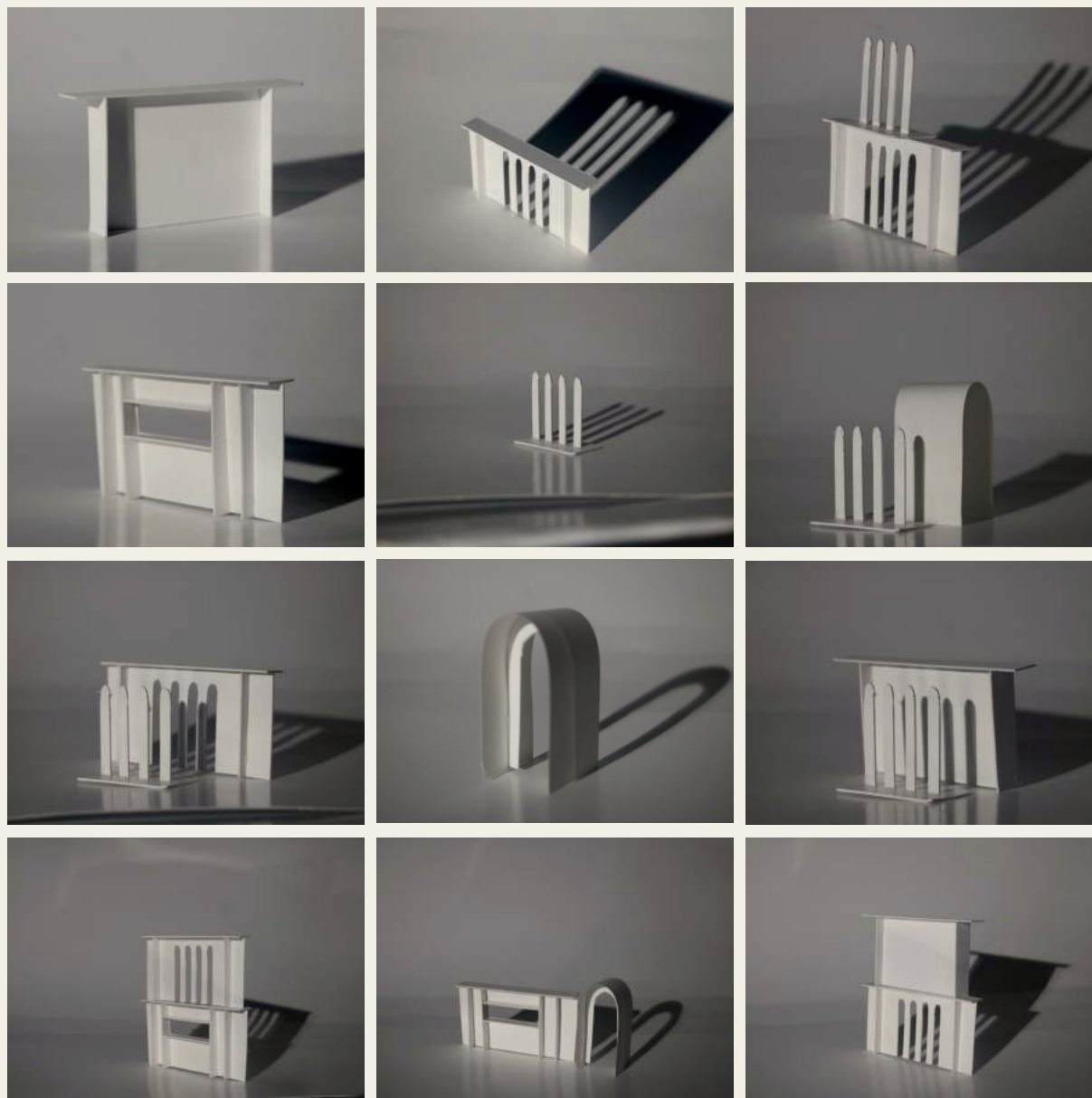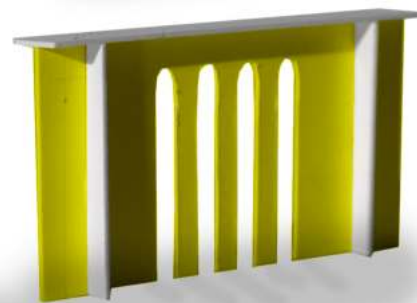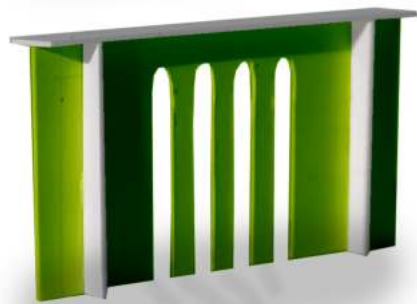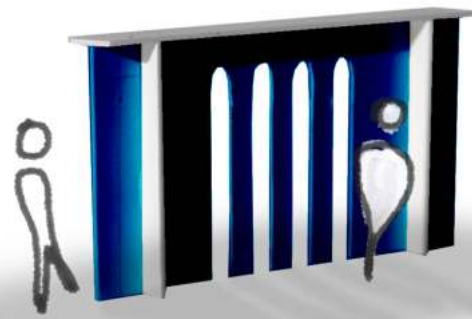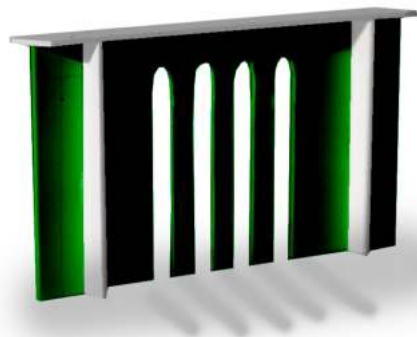
Fig 149 (opposite): Parts of a market crate modelled.

Fig 150: Walls in typical market crate colours.
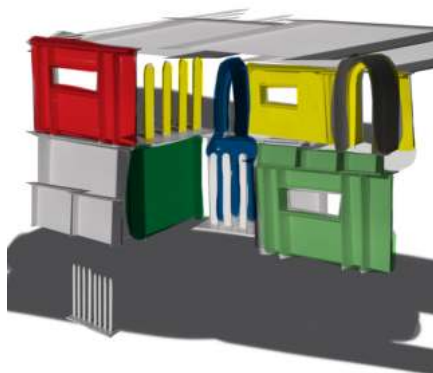
*Fig 151:
Combining
crate elements.*

Fig 152: Combining elements to construct occupiable space.

While the occupiable spaces are colourful and create intimate nooks, their roof forms are uninteresting. This hinders the form's potential to become a landmark visible from a distance (Figure 153). The concepts in Figure 154 aim to create a more interesting roof form using the arched elements present in market crates. In combination with the original colour palette (Figure 155), this creates a much more eye-catching and exciting architecture. With the addition of rooftop spaces and the viewing tower, the roof's arches can be experienced up close.

Fig 153: A market crate form viewed from a distance.

Fig 154 (opposite): More expressive roof forms.
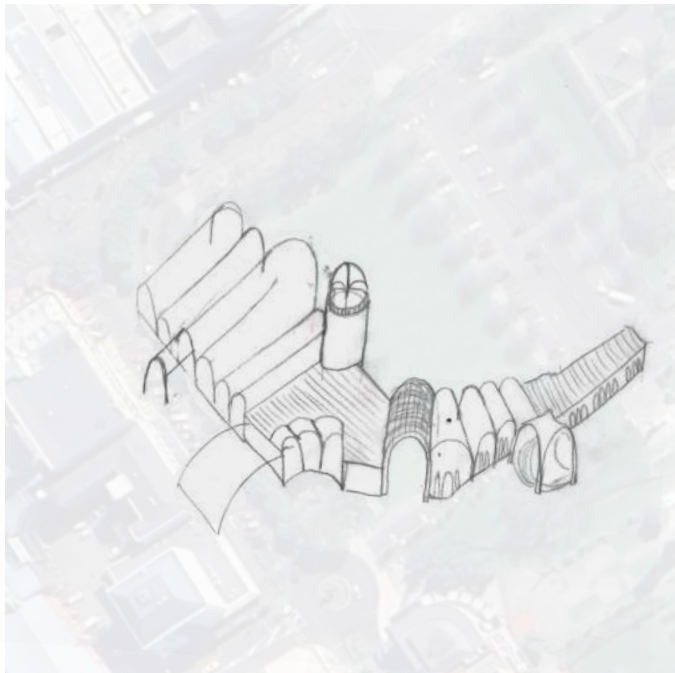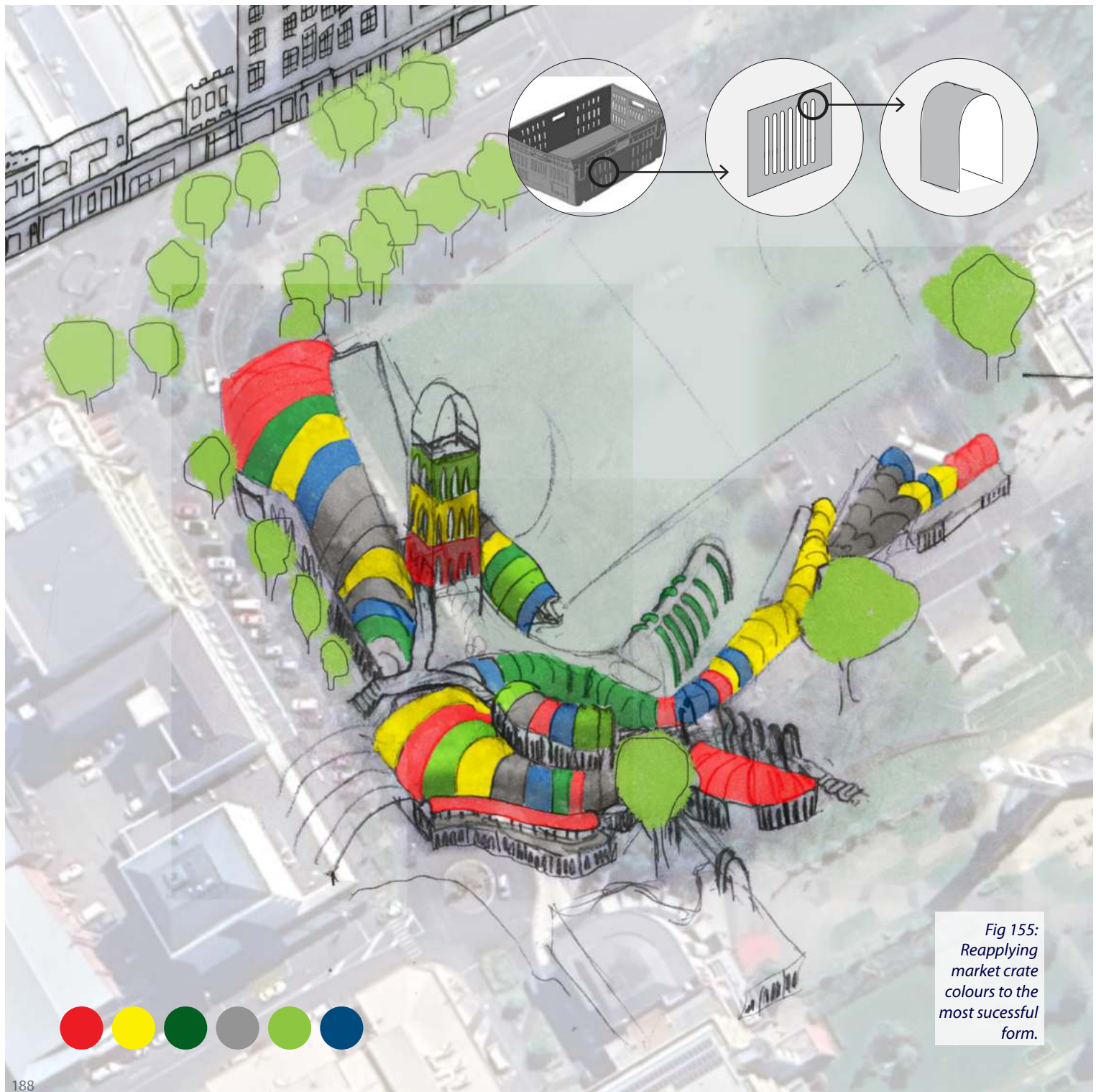
Fig 155:
Reapplying market crate colours to the most sucessful form.

Reflection:

Market crate explorations have colourful and vibrant forms. They are new and unfamiliar to Palmerston North's context, providing a positive contrast to The Square's colonial architecture. A play with scale and arched elements has been successful at creating hierarchy between spaces and eye-catching roof forms.

However, the degree to which forms have been abstracted could make the concept unrecognisable to the public. There is a danger of the market seeming too closed-off and vertical perforations looking like prison bars. The transition between indoor and outdoor spaces would therefore need development.

REFLECTING THE LANDSCAPE

The Ruahine and Tararua Ranges and agricultural land surrounds Palmerston North. The Ranges provide a visual reference from within the city, but the natural and agricultural landscape could be better portrayed in Palmerston North's built environment.

This section explores how an organic form can contrast the current city grid and redefine a relationship between the city and natural environment.
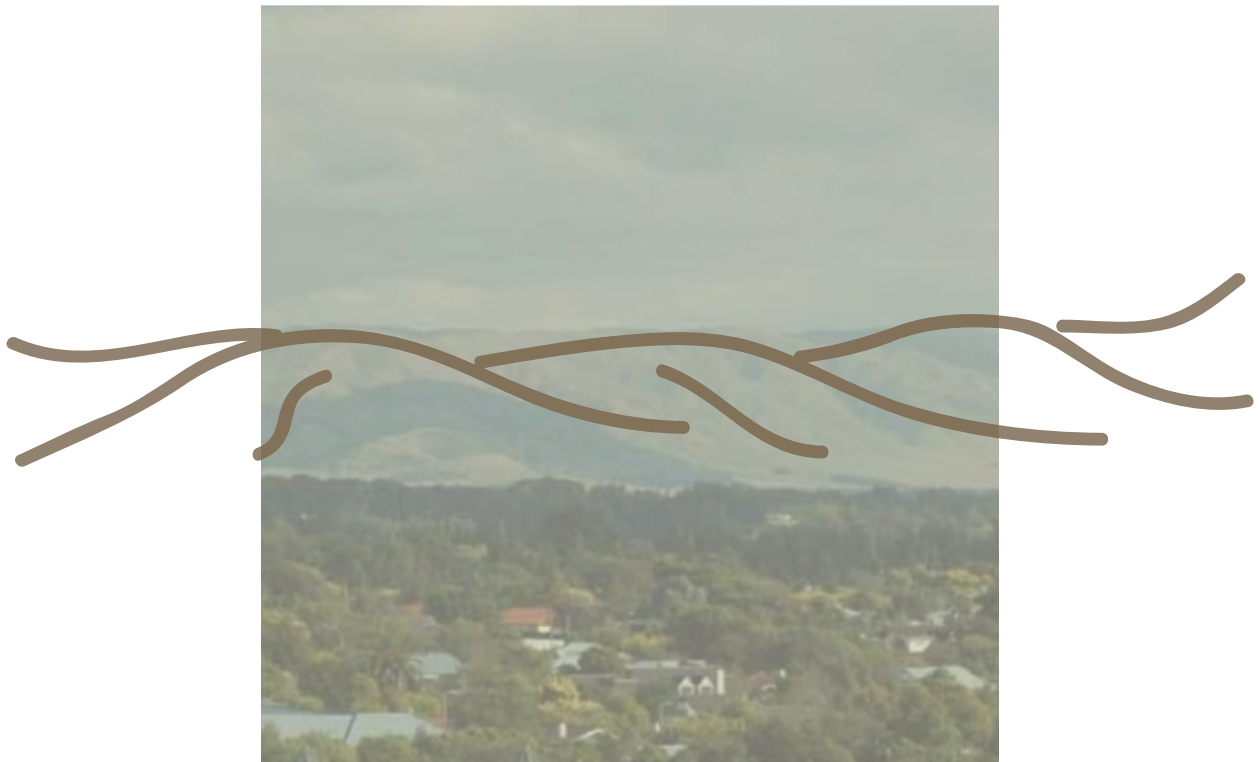
Fig 156: The Tararua Ranges viewed from Palmerston North.

The first organic roof concept is based on desired indoor ceiling heights (Figure 158). Intimate spaces can be created where ceilings are low, and spaces with a feeling that there is room to breathe occur where ceilings are high. When applied to a concept of programme, the resultant roof form is reflective of an organic landscape nestled amongst trees (Figure 157).

The form can further connect to surrounding buildings and multiple panels can produce a more dynamic roof with various levels (Figure 159). It is organic in plan and successfully contrasts the city grid.
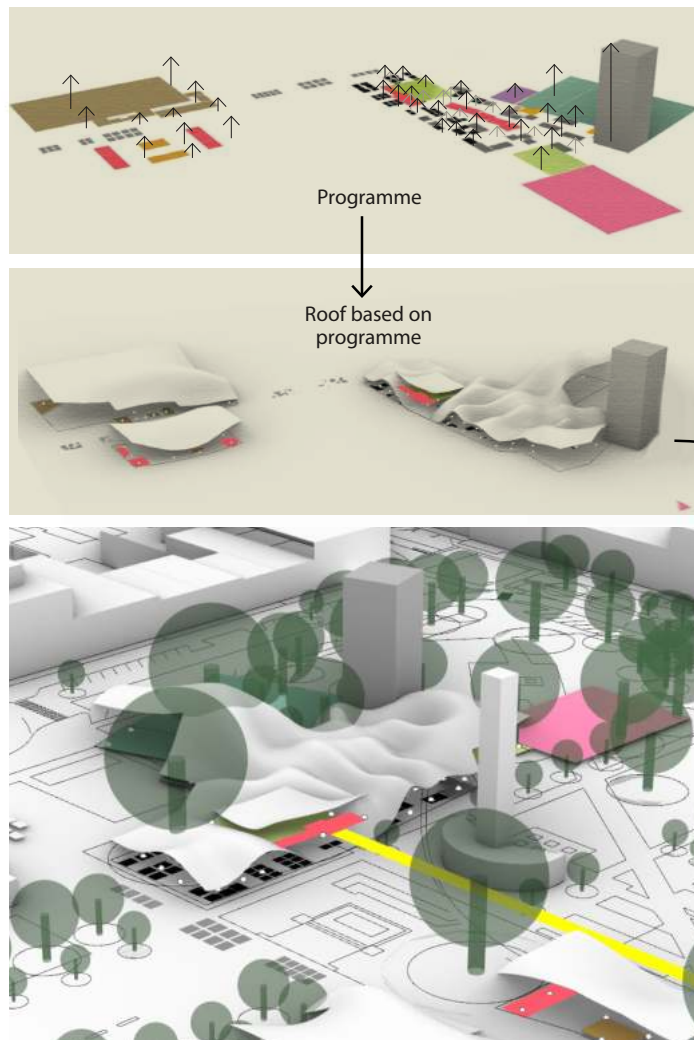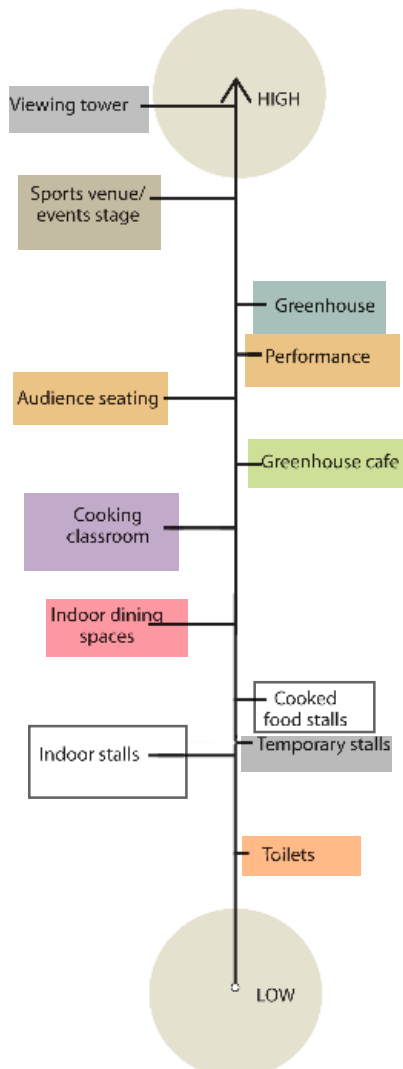
Fig 157 (left) Preferred ceiling heights on scale.

Fig 158 (right): Organic roof form influenced by desired ceiling heights.

connection to
current buildings

views to Ranges

views to sport

Rooftop walkway
to experience roof
form

Fig 159: A
dynamic
organic roof
connected to
surrounding
buildings
shown in plan
and perspective
views.

193

The connection with the landscape can be enhanced when the ground becomes part of the roof itself (Figures 160 and 161). This allows users to occupy the market in multiple ways and a sense of fluidity is expressed. The form gently lifts up to shelter occupied spaces beneath (Figure 162) and is instantly recognisable when viewed from side streets due to the form's contrast to regular buildings (Figure 163).
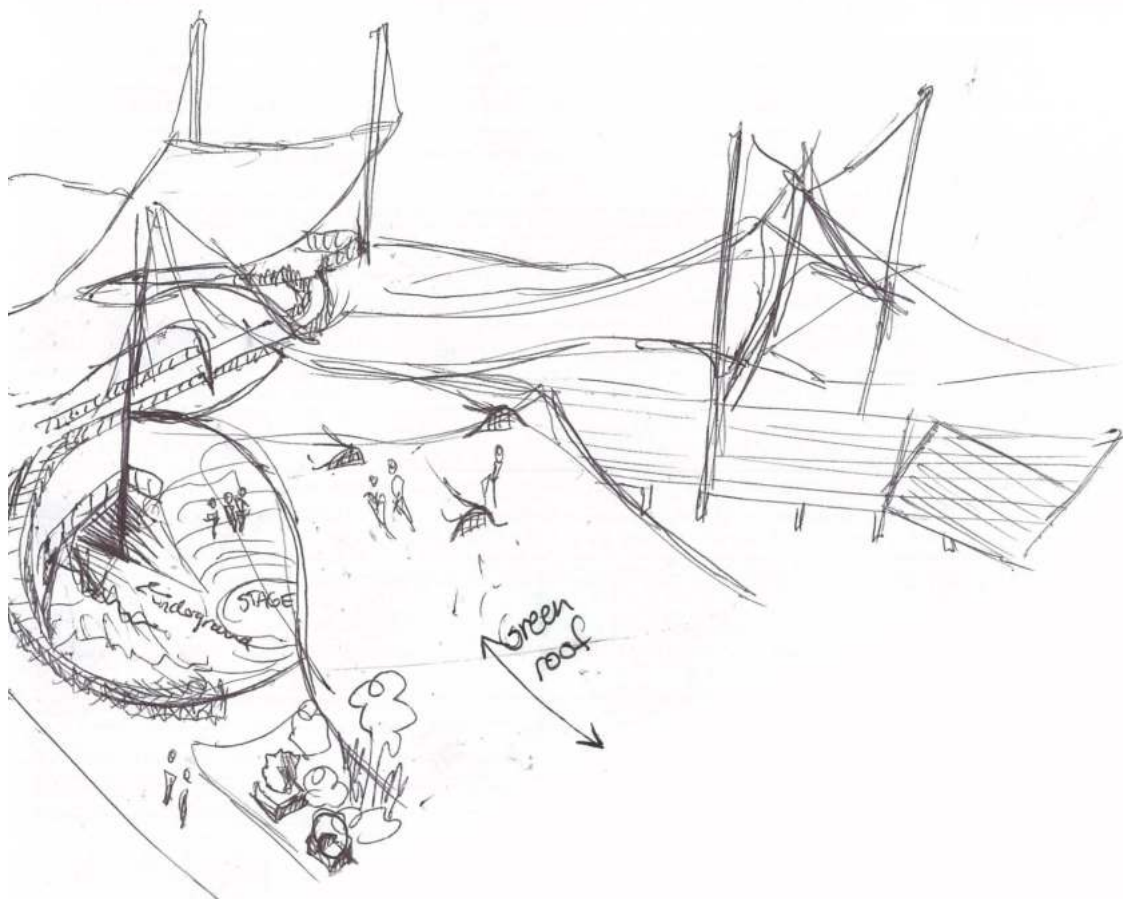
SECTION

Fig 160: Sketches of a green roof in perspective and section.

Fig 161 (opposite): An organic form with a green roof on site.

physically connected

'floating' roof

performance
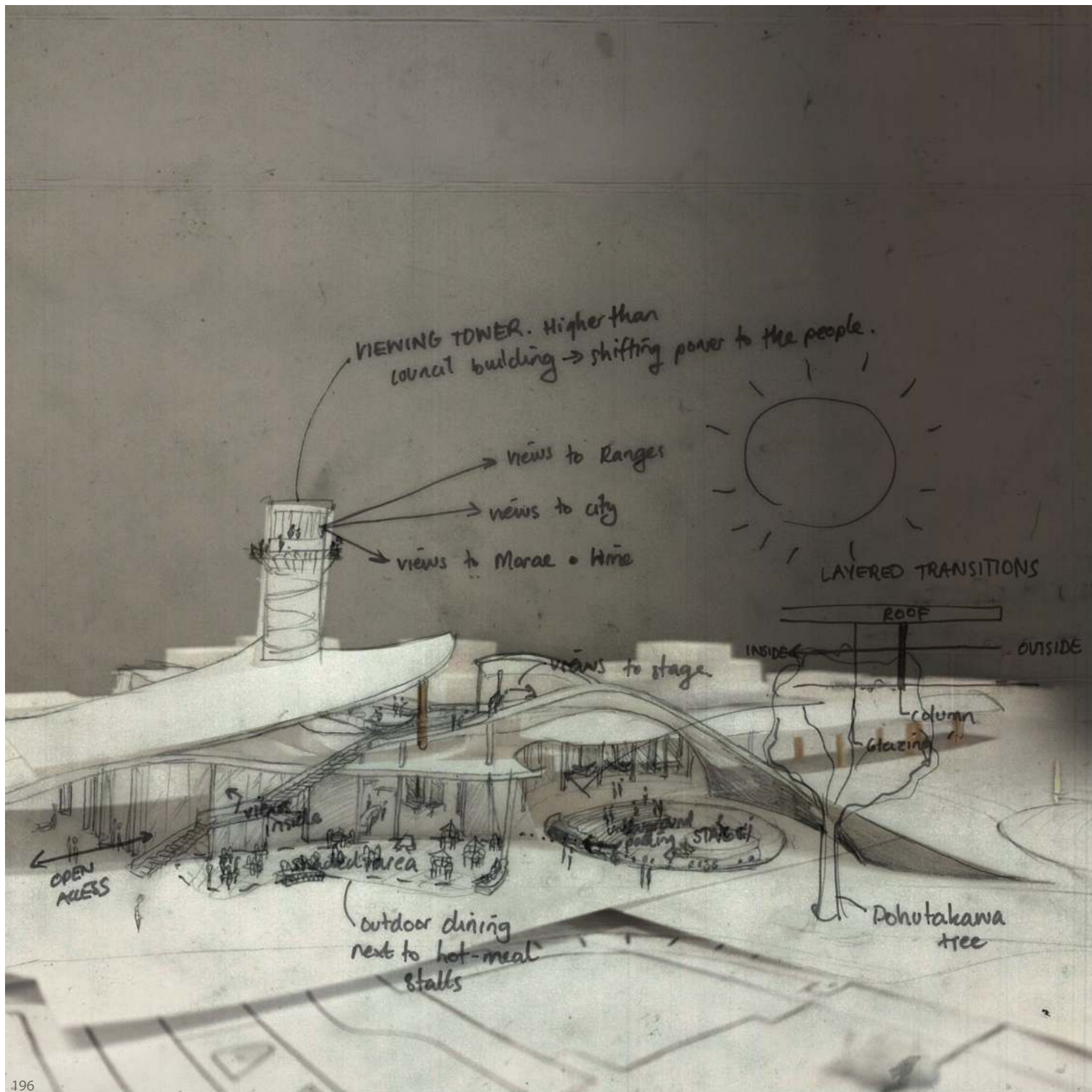
VIEWING TOWER. Higher than council building → shifting power to the people.

→ Views to Ranges

→ Views to city

→ Views to Marae · Hine
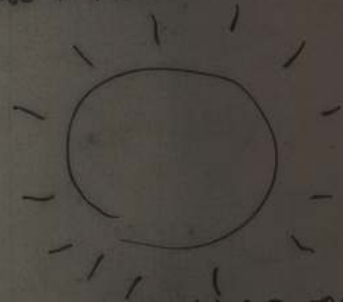
LAYERED TRANSITIONS

ROOF

INSIDE ← → OUTSIDE

column

Glazing

Views to stage

OPEN ACCESS

Views inside

outdoor dining next to hot-meal stalls

Pohutakawa tree

Fig 162
(opposite): The
organic roof
occupied with
performance
and market
spaces.

Fig 163:
Organic form
viewed from
side streets.

The form has thus far ignored materiality, yet colour and material can add vibrancy and depth. To reference Palmerston North's surrounding agricultural landscape, corrugated iron is applied as a material. The typically imperfect nature (Figure 164) of corrugated iron and rusty weathering could deformalise space.

A corrugated texture is applied to the organic form (Figure 165) but the plain grey colour is not appealing. Corrugated iron can readily be painted in a myriad of vibrant colours so painted patches are explored in Figure 166, using colour palettes that relate to the context. The cultural colour selection is the most vibrant and reflects the intent of the market. The joins between the panels are detailed with stitches which serve as a metaphor for bringing cultures together (Figure 167). These will be visible from rooftop spaces and create visual interest at the human scale. When the coloured pattern is applied to the original corrugated roof, it becomes more eye-catching (Figure 169).
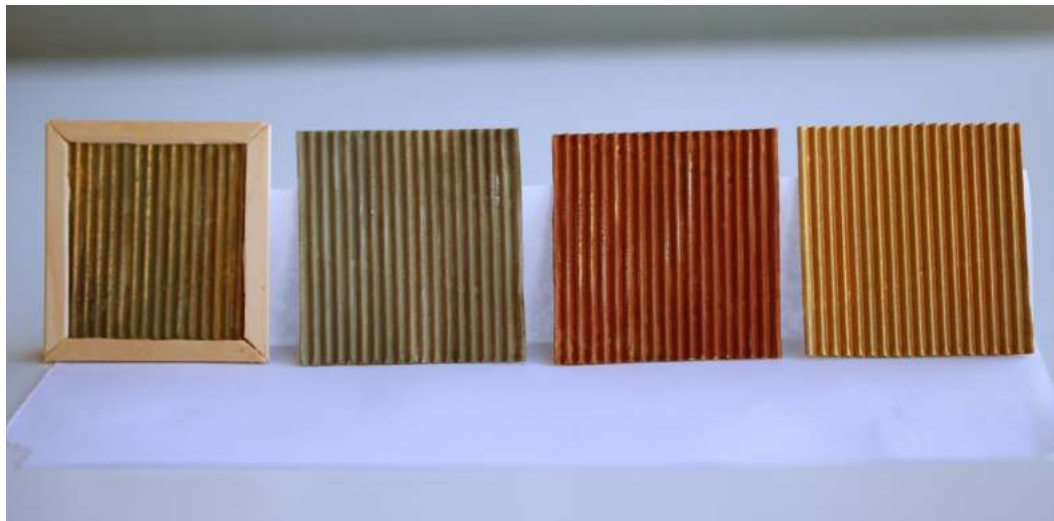
Fig 164: A selection of corrugated panels.

Fig 165 (opposite): Corrugated iron applied to the form.

Earthtones

Site buildings

Culture

Green
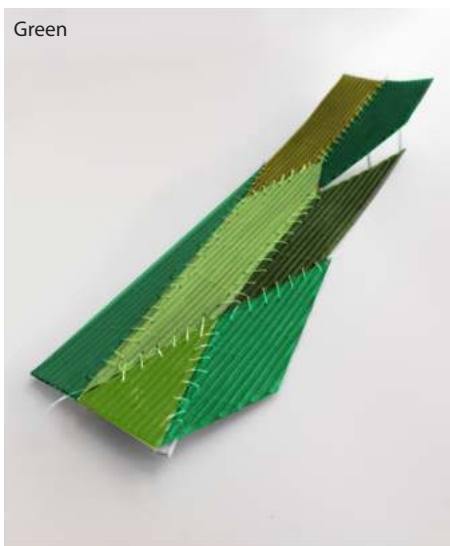
*Fig 166:
Roof panels
of different
colours add
vibrancy.*

*Fig 167
(opposite):
Stitching detail.*
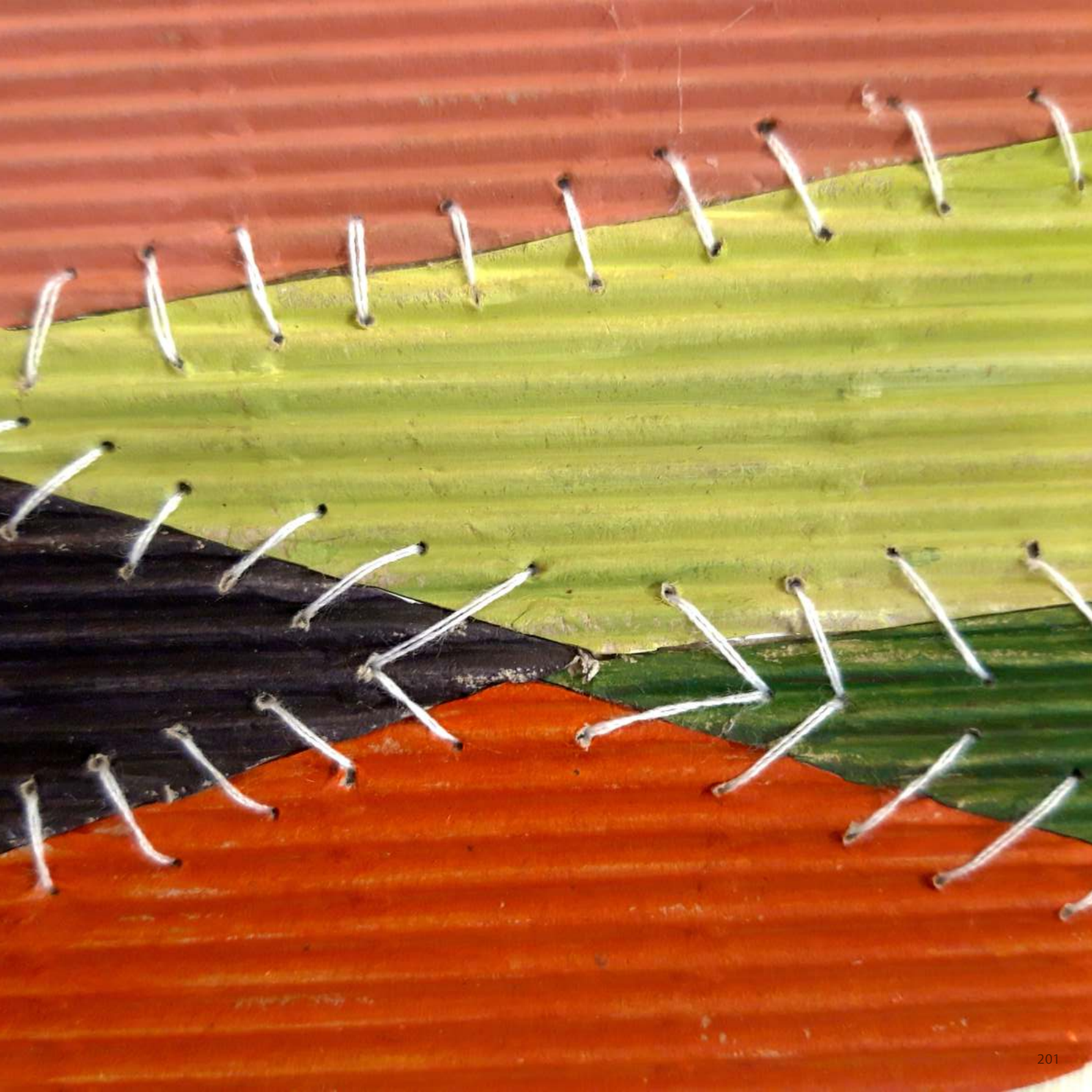
Fig 168 (left): Colours on a flat corrugated roof, priot to testing them on an organic roof.
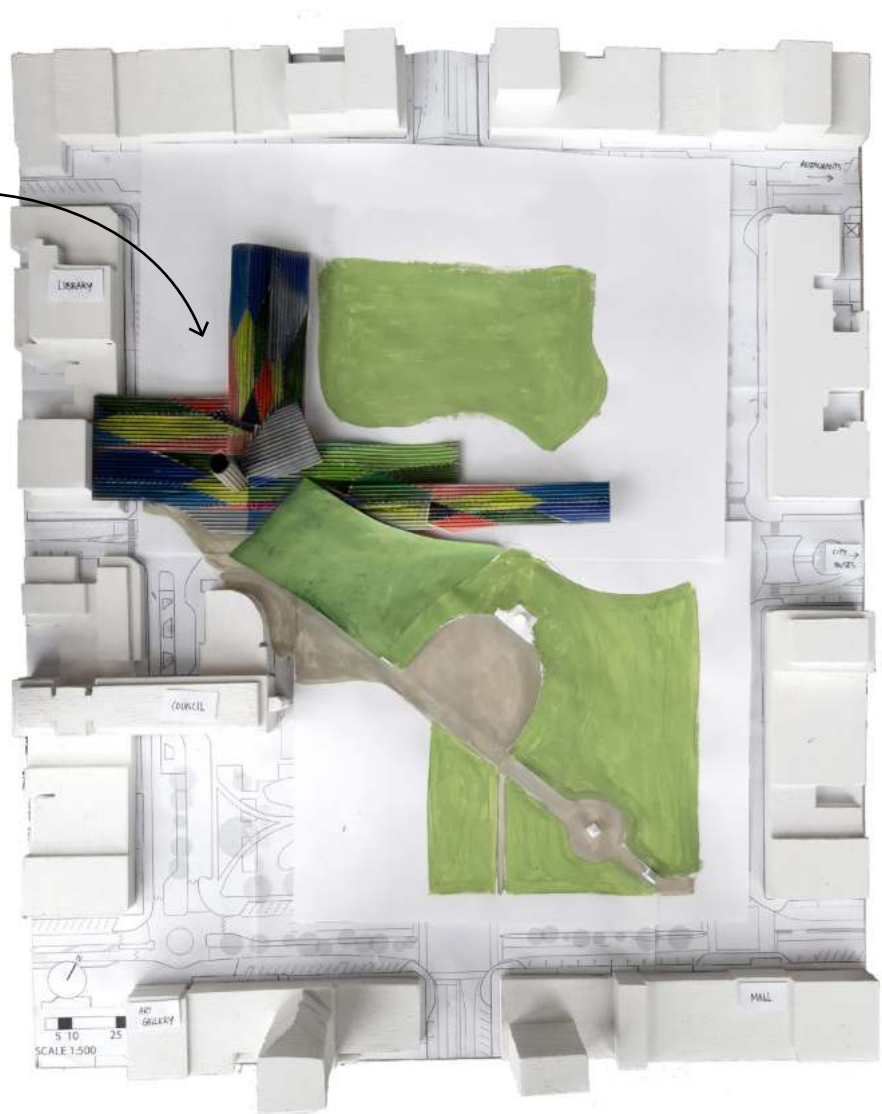
Fig 169 (right): Coloured panels applied to the organic roof.

Fig 170: The angled green roof rises to meet the colourful corrugated roof.

The corrugated panels curve upwards, creating skylights which illuminates the market below (Figure 171). This creates moments of interest both internally and externally.
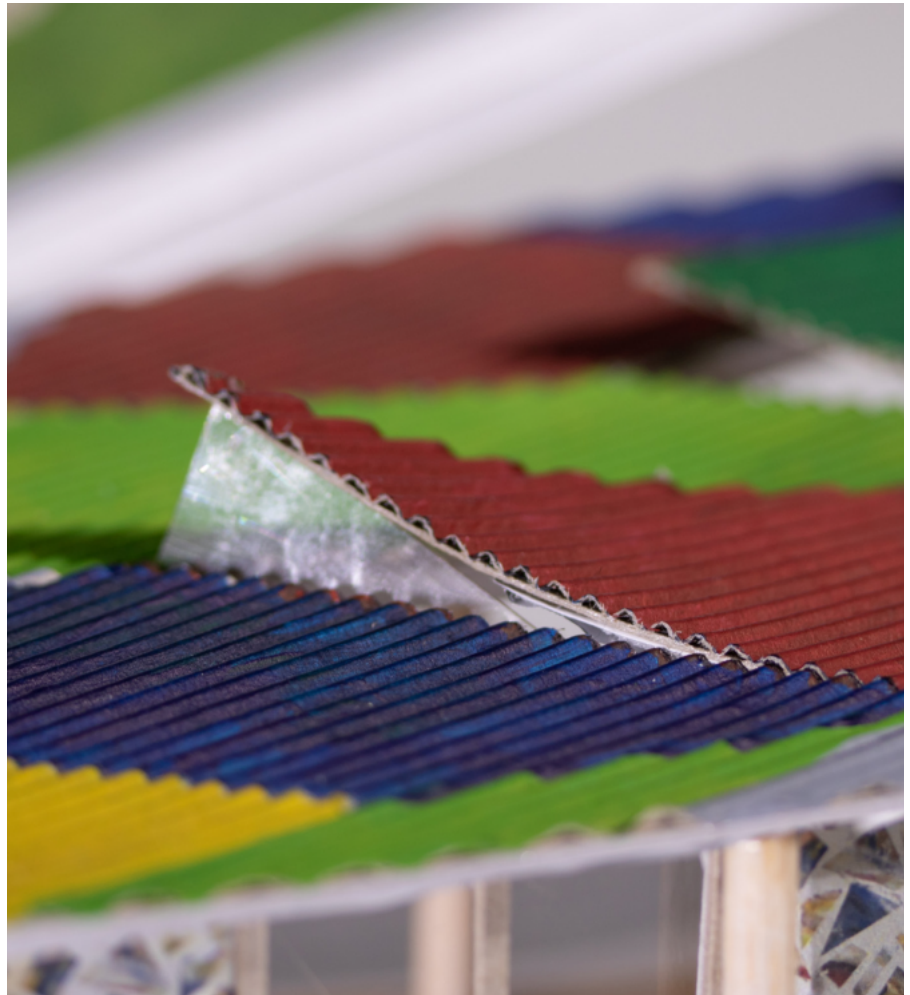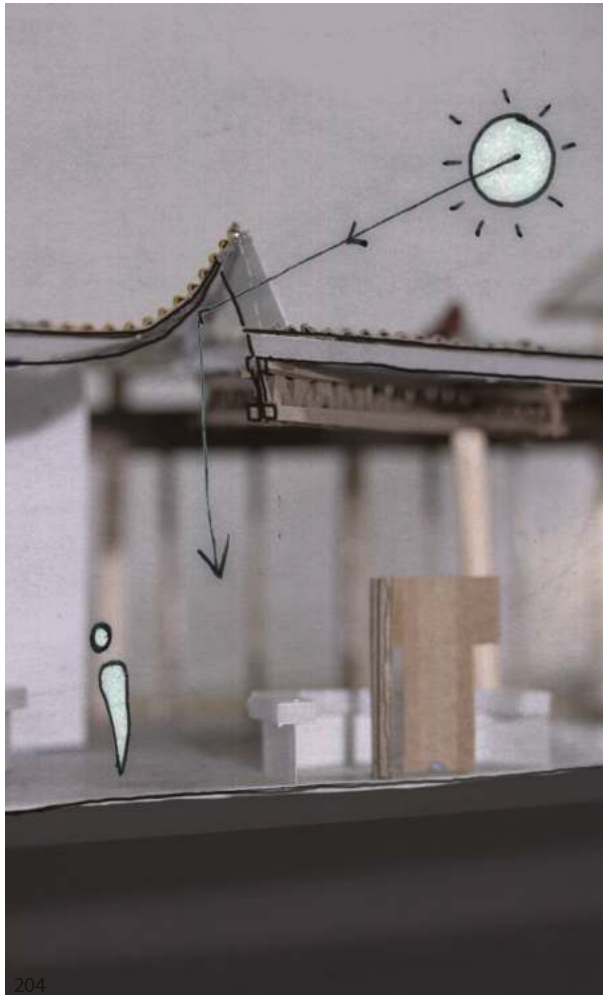
Fig 171
(opposite left
and right):
Skylights
emerge from
the roof.

Reflection:

Organic forms are a positive contrast to the city grid and help to reflect the natural landscape. They relate to the fluidity of diverse cultures, which was enhanced when the ground and roof were merged together.

Corrugated iron was material relevant to Palmerston North's rural assets. An exploration of connection details, using stitching and colour, served as a metaphor for bringing cultures together but would need to be explored at deeper levels to become more than a simple visual symbol.

THE TENT

The tent is arguably the most basic form of shelter. It finds its way into market scenes all over the world, signifying a place of trade. In the following roof form explorations, inspiration is taken from tents' display of bright happy colours like yellows, reds and greens, and fabric's elastic ability to create confident peaks that speak of celebration.

Fig 172 (opposite): Types of market tents.

Tent forms are explored in physical models in Figure 173. Combinations of different tent forms and colours hint at a diversity that could occupy the space underneath. Forms that cradle each other or overlap express a sense of support, cohesion and community.
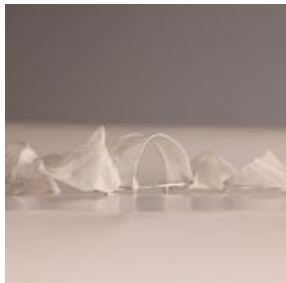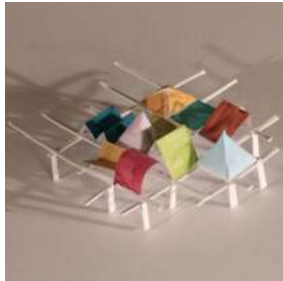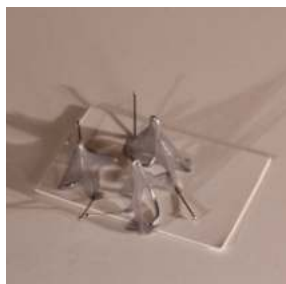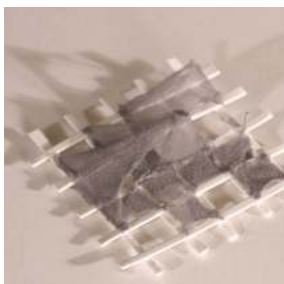
The physical models are explored as occupiable space in Figures 174 to 178. Organic and peaking forms are different to the regular compositions The Square's building facades, conveying a sense of curiosity for the market. The roofs of Figures 176, 177 and 178 include multiple colours, which are more appealing and expressive of diversity than the monochromatic roofs of Figures 174 and 175. The quirkiness of Figure 178 is particularly successful at communicating a sense of character and friendliness.
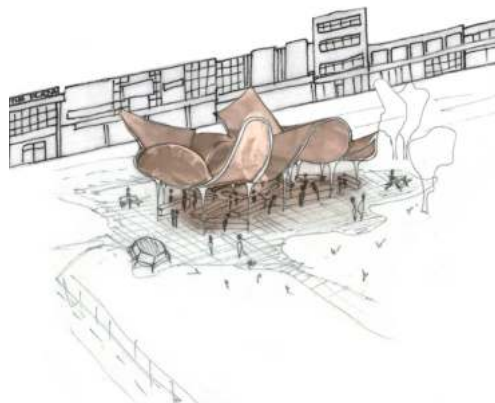
Fig 174 (top left: Emphasised peaks speak of celebration.

Fig 175 (top right): Organic tensile roof allows a random layout of stalls underneath.

Fig 176 (bottom left): Regular tent forms are known to markets. The gridded structure conforms to the current city grid.

Fig 177 (bottom right): Overlapping arched tent forms are disconnected from the context and the size appears too dominating.
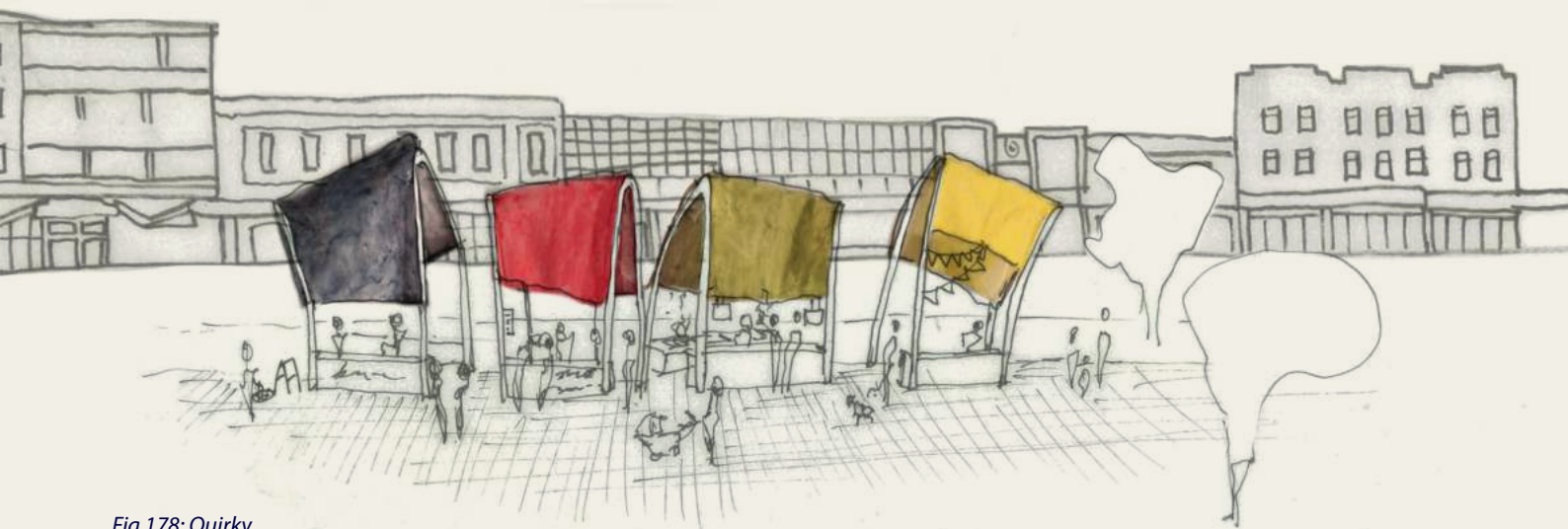
Fig 178: Quirky tent forms have a sense of character. Spaces in front of stalls could benefit from shelter on rainy days.

The colourful tent forms are explored further on site in Figures 180 to 181.

The quirky, half-round forms are incorporated in the concept of Figure 179 with additional indoor shelter. Flag patterns are projected on tent forms; however, this is a poor way to represent cultures because it can seem like a bid for territory rather than cultural unity. Figure 180 shows a return to traditional tent colours. While the collection of different roof forms and colours add visual interest, these would be hard to experience at the human scale. In Figure 181, towers and level changes are incorporated to let users experience the roof at eye level and from above. However, the repeated regular forms and gridded arrangement fails to break the city's colonial grid.

Figure 182 introduces a greater sense of hierarchy that signifies important spaces and revisits the quirkiness that was successful in Figure 178. The playful and organic form positively contrasts the city grid, and roof structures successfully interact with the site's surrounding buildings.

Mall

Section

Council

Fig 179
(opposite left):
Market roof
using quirky
semi-round
forms.

Fig 180
(opposite right):
Market roof
using a range of
tent forms and
colours.

Fig 181: Market
roof using
repeated forms
of different
colours shown in
bird's-eye view
and section.
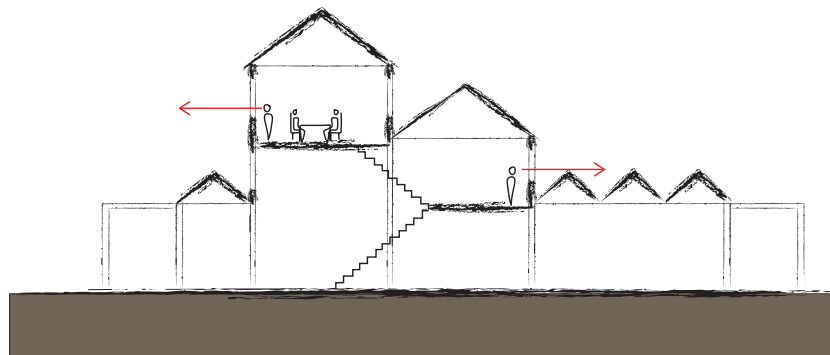
Fig 182: A more expressive and quirky tent form that engages with site more.

Performance

Roof deck

Tower

Formal qualities are further explored in three dimensions (Figure 183), where tent structures that disperse at the edges promote smooth transitions between internal and external spaces. The translucent qualities of tent structures (Figures 185 and 186) allow internal light to create a lantern-like source of dispersed external light. The architecture itself becomes the light source, accentuating the tent forms. This creates well-lit public spaces for a safer feeling at night and intimate atmospheres, particularly on the roof deck, which facilitates nightlife scenes.

Fig 183: Exploring the tent in three dimensions.

Fig 184: Roof forms are fun and express celebration.

Fig 185: Translucency facilitates nightlife.

Fig 186 (opposite): The roof deck at night.
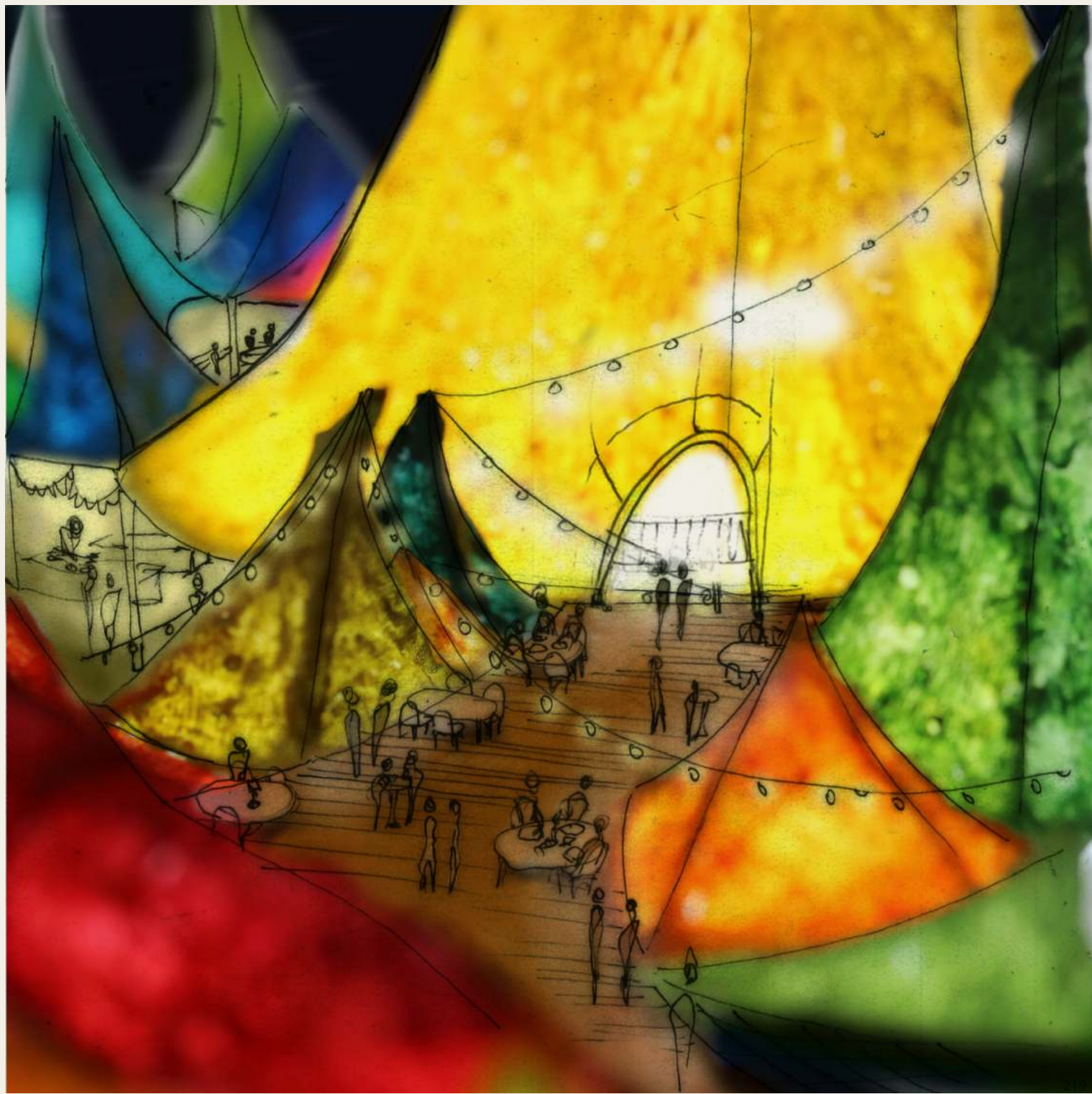
Reflection:

Forms inspired by the tent are quirky, fun, playful and expressive of happiness. It signifies celebration and the contrast to the surrounding colonial architecture of The Square strengthens its potential as a landmark. The contrast to colonial elements and the council building is enhanced by the forms' sense of temporality. This has potential benefits for reflecting the ever-changing cultures that are present in Palmerston North and to adapt to seasons and events.

Despite the success of the forms, it is questioned if this approach is reflective enough of Palmerston North's cultures, given the traditional market tent's Western origin. An improved version could explore alternative materiality in combination with the playful qualities.

CRITICAL REFLECTION

The most successful formal attributes were quirky and colourful forms that contrasted The Square's current rigid architecture. A bold form aligns with residents' desire for a more interesting and exciting city centre.

Upon reflection, tent forms were most expressive of cultural celebration and evoked a sense of curiosity. A particularly appealing attribute of the tent concept was its temporality. It makes for a less dominating or overpowering architecture because the form and materiality had a delicacy. This demonstrates a sense of respect for The Square's land by 'lightly' touching the ground. Temporary elements also have the opportunity to grow and shrink with seasonal changes and events.

Elements from other forms were successful, such as corrugated iron as a material and colours referencing market crates. These could be explored in conjunction with tent forms.

While the roof forms were beginning to engage the human experience, internal spaces and architectural elements that relate more to the human scale will be important to explore next.

Exploring the experience

Architecture's close encounters are essential for cultivating meaningful human-scale experiences. This section explores ideas of architectural elements that are important to a multicultural market space. These include:

Fig 187:
Exploring
the human
body through
drawing.

A SENSORIAL JOURNEY OF CULTURES ON THE ROOFTOP WALKWAY

The roof should be experienced not just from afar or below, but also within and on top. The rooftop walkway has been dotted with opportunities for cultural experiences (Figure 188) that engage the human scale and senses.

The architecture invites selected sensorial experiences to be heightened at locations shown in Figure 189. As explored in Figures 191 to 193, visitors are given unique glimpses of market scenes through windows and roof openings. Cultural food aromas waft through pipes, so that visitors get enveloped with a range of smells as they walk past. Penetrations let sounds escape, carrying with them a variety of languages, voice tones and music.

SMELL

SOUND

VIEWS

RAISED BOARD WALK

(GROUND FLOOR MARKET)
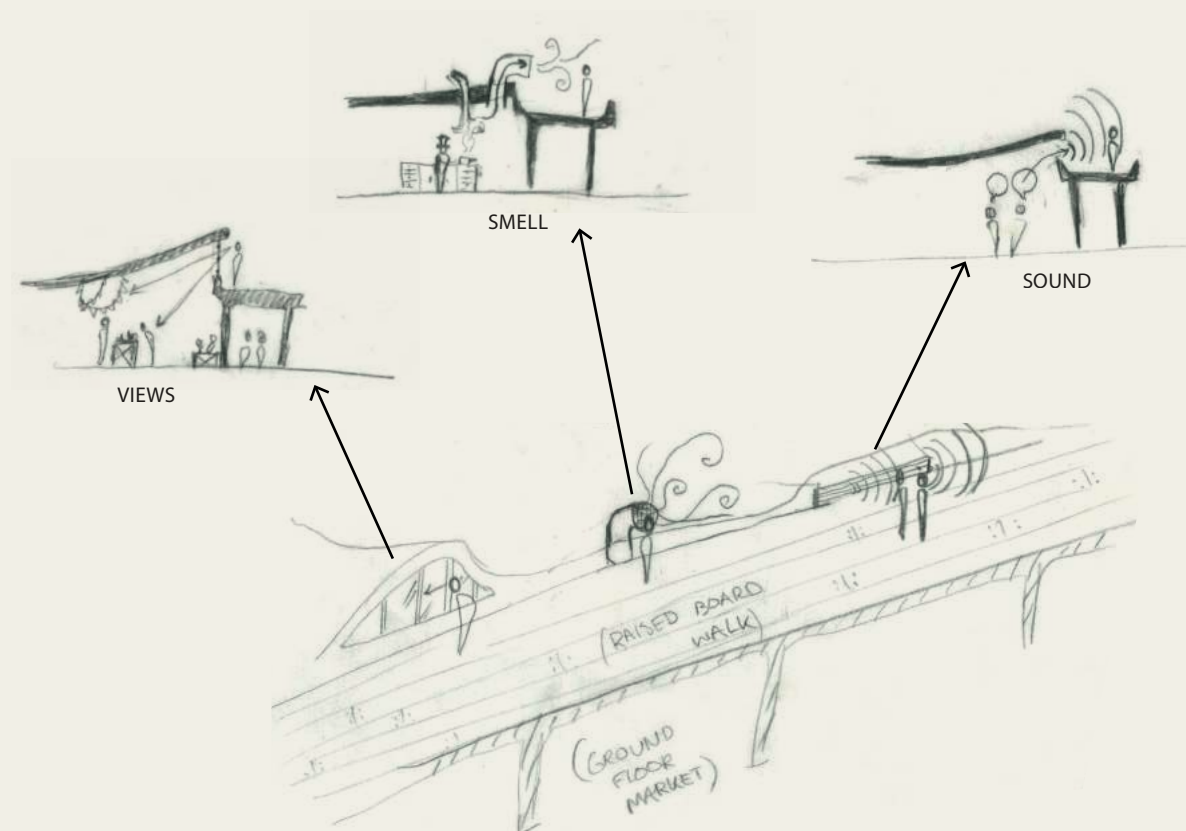
Fig 188: Sensorial experiences on the rooftop walkway.

Fig 189 (opposite main image): Key moments on the walkway

Legend:
- Rooftop walkway
- Views
- Sound
- Smell

takeaway shops

sport Hall

main market

viewing tower

views to field

MAIN MARKET

cooking classes

performance space

Precedent: Metropol Parasol by J Mayer H

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Please consult the figure list for further details.
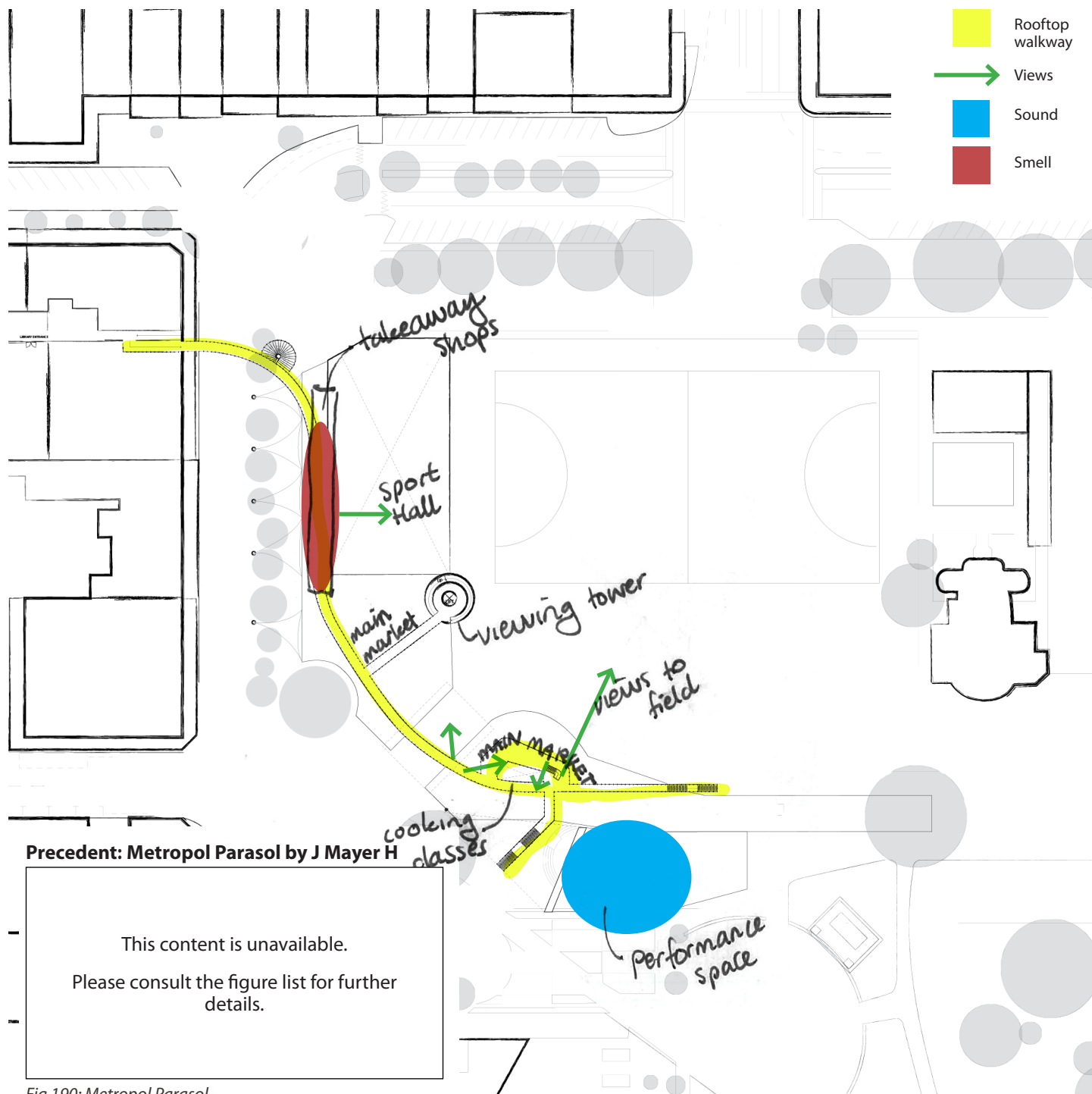
Fig 190: Metropol Parasol.
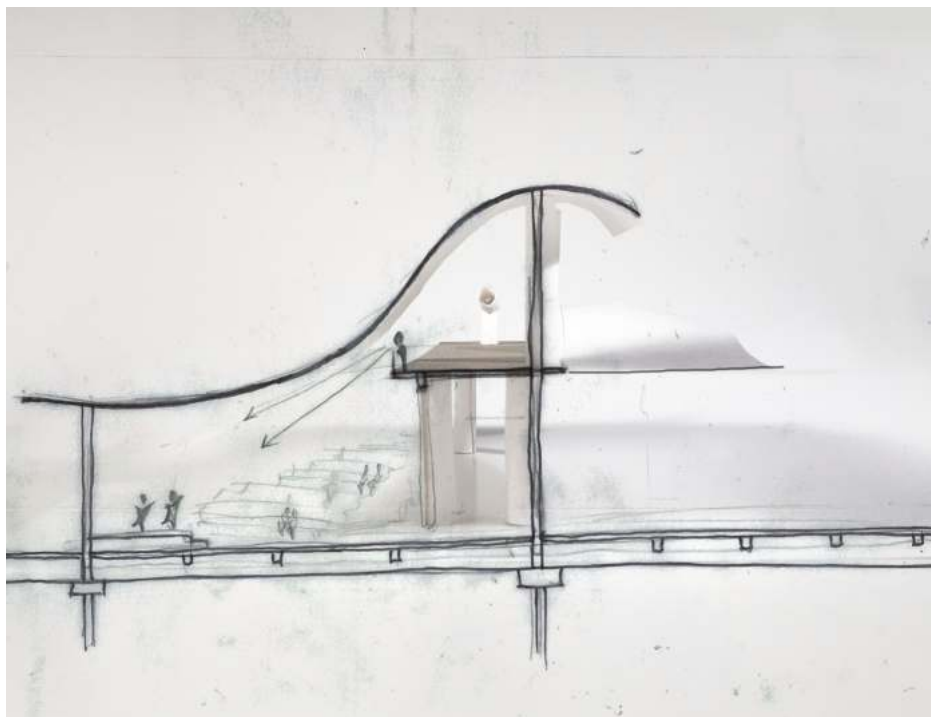
Fig 191: Views to the stage through lifting the roof up.
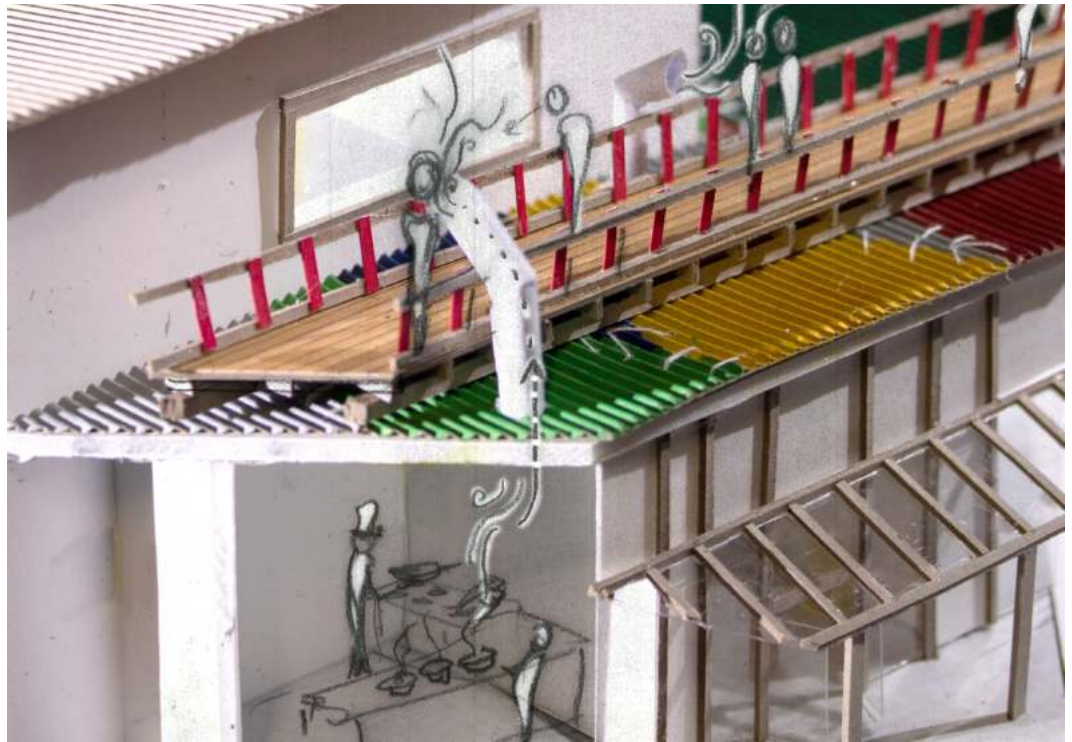
Fig 192 (top): Smells on the rooftop walkway.

Fig 193 (bottom): Sounds from performance travel through the green roof.

LEARNING TO COOK

A cooking class venue is desired by the multicultural community (Arora, 2022). Lay knowledge and cultural traditions in cooking are shared in cooking classes. The space is designed for the people partaking in classes and spectators who can also watch and learn (Figure 194).

Fig 194: Cooking class venue in section shows spectators watching.

DINING
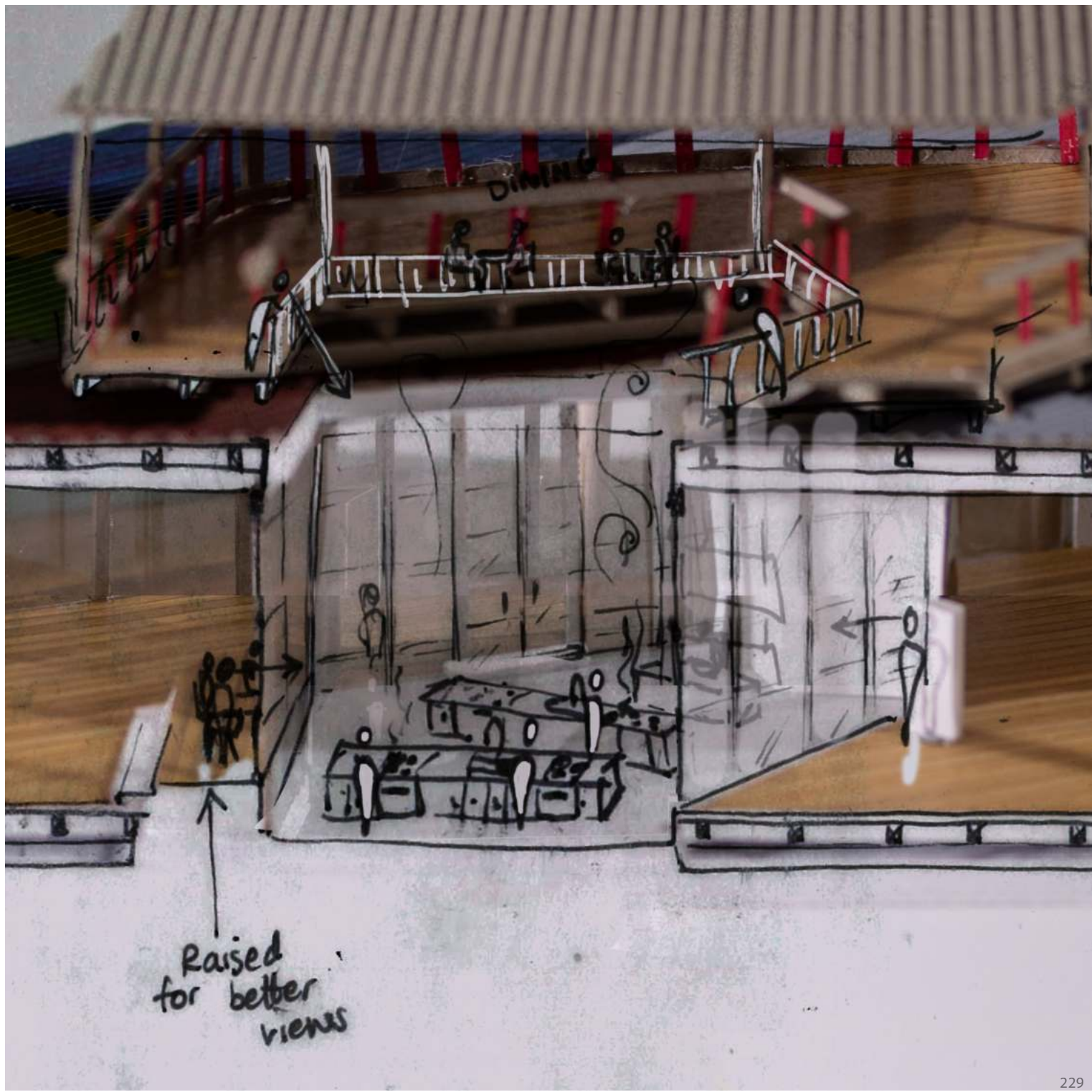
Raised
for better
views

REFLECTING ATMOSPHERE AND DIVERSITY

To help imagine the market's ideal atmosphere, paintings explore the fluidity and mix of cultures that create scenes of cultural celebration (Figures 195 and 196). Interior spaces are imagined to be vibrant, colourful and filled with different sounds, smells and tastes. The presence of light to illuminate colour and filter through space is also explored in these paintings.

Fig 195: Atmospheric exploration of people in the market.

Fig 196 (opposite): Atmospheric exploration of people, colour and light.

The architecture can facilitate expressions cultures by emphasising them. A reflective ceiling can mirror and amplify the vibrancy brought by the market's users, ultimately building on the diverse users' own characteristics. Like Mercat dels Encants (Figure 197), colours are reflected to create an explosion of colour (Figures 198 to 200).

Precedent: Encants Market by B720 Fermín Vázquez Arquitectos

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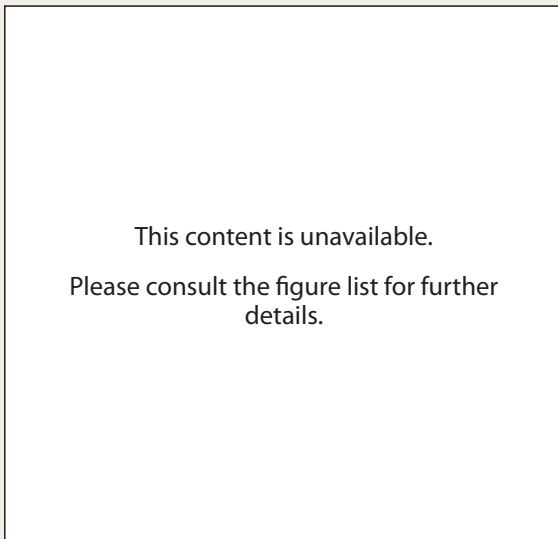
Fig 197: Mirror roof precedent

Fig 198 (opposite): Reflecting market colours.
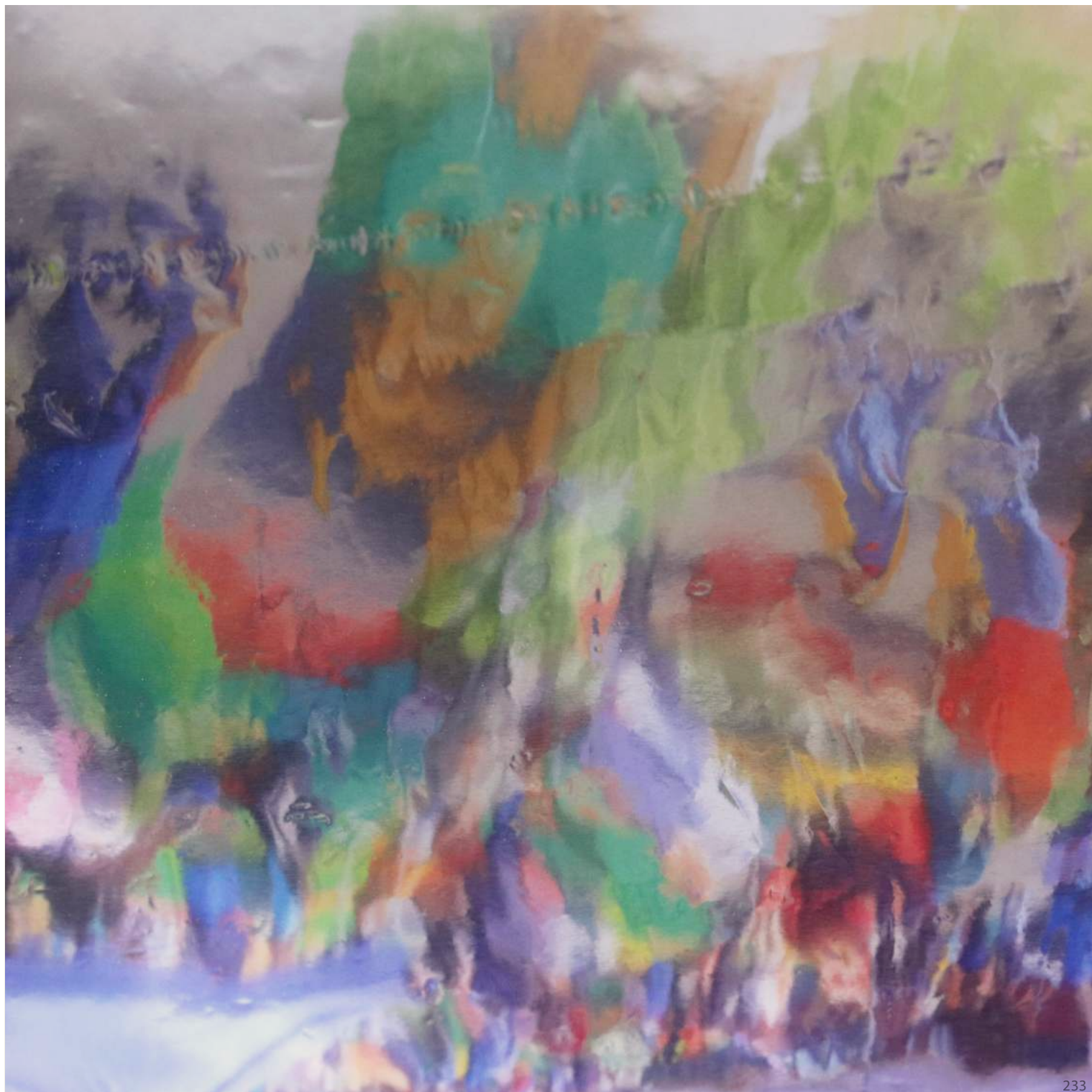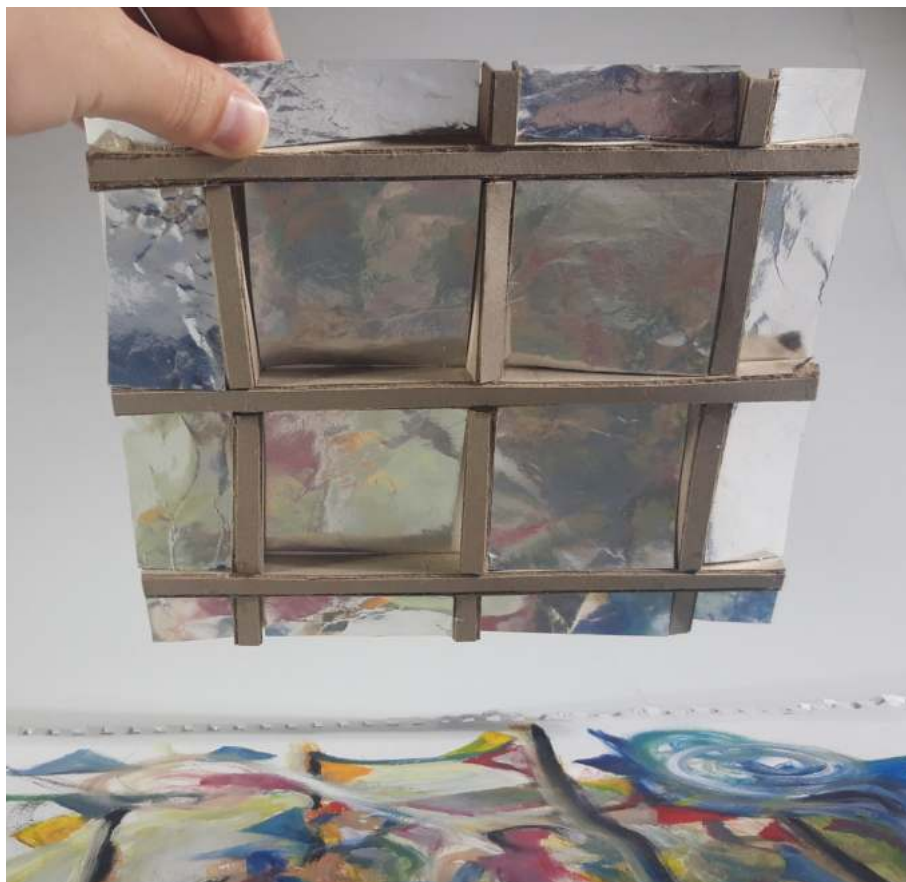
Fig 199 (top):
Reflecting the atmospheric painting.

Fig 200 (bottom):
Integrating structure allows reflective panels to be angled, distorting scenes from recognisable images to a display of colours.

The reflective ceiling can also reflect sound to produce an acoustically buzzing atmosphere. Sound absorption panels are considered where sound needs to be controlled, such as near the performance space (Figure 201). The roof can incorporate skylights, bringing natural light into large indoor spaces to enhance the mirroring effect.

Lift up to let natural light through

Sound-
absorbing
panels

Sound
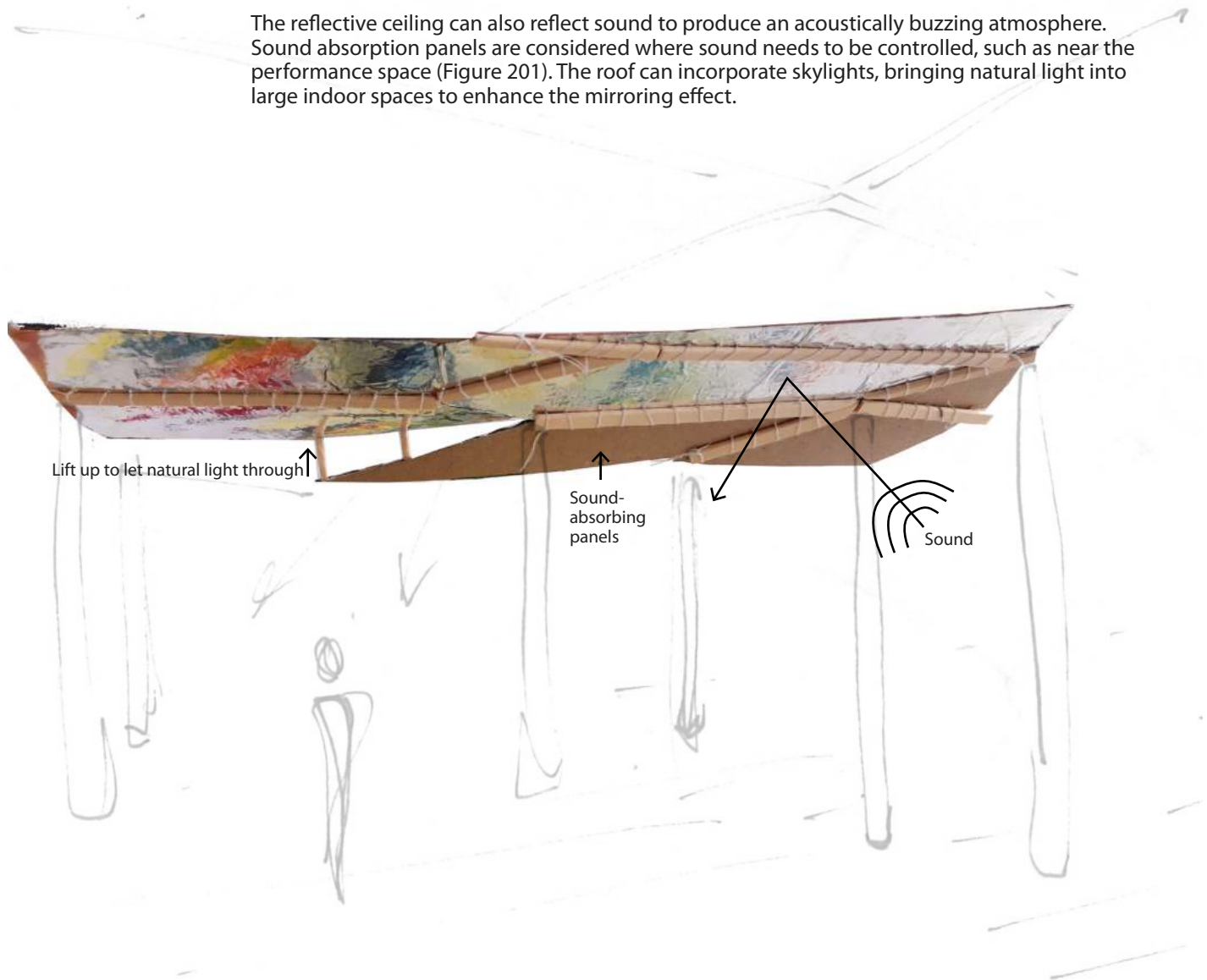
*Fig 201: Roof
composition.*

PERSONALISATION

Personalisation and community projects can integrate authentic cultural involvement from Palmerston North's residents and empower local communities.

Market stalls will be personalised and decorated by stallholders (Figures 202 and 203). A services shaft will be central to some stall clusters for ventilation needs.
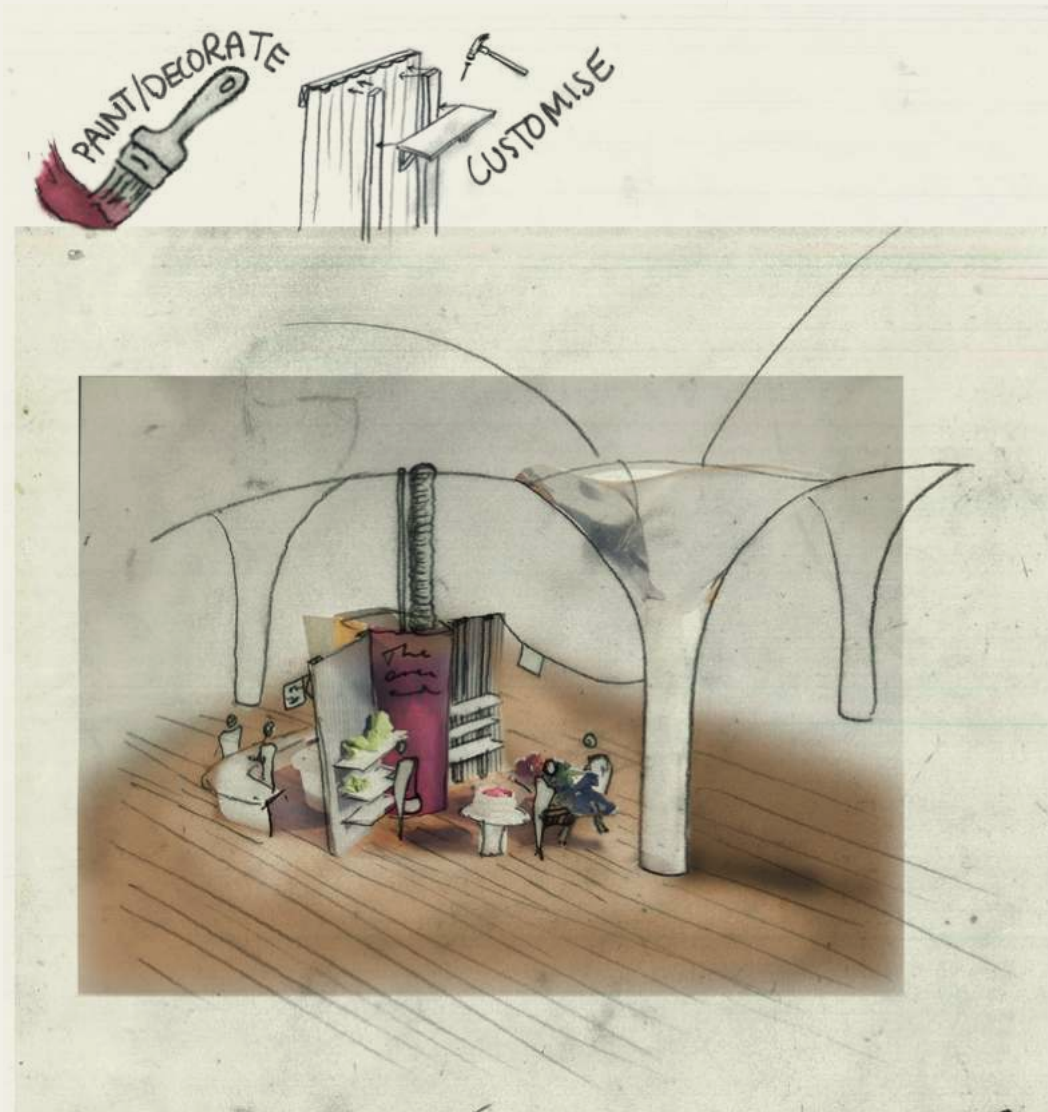
Fig 202: Customisable stalls.
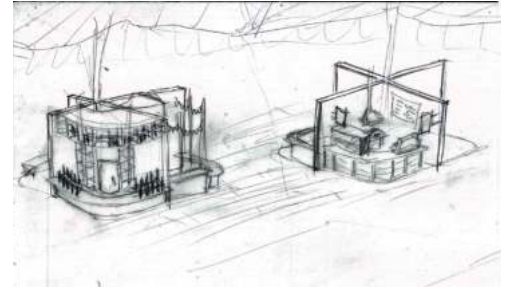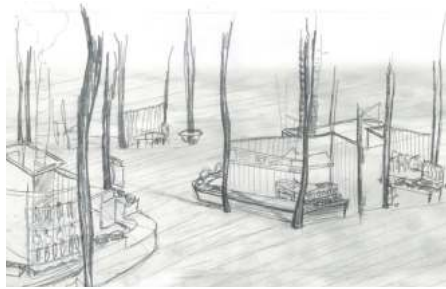
Timber adds warmth and balances the hard materials of The Square. Timber flooring also references the iconic New Zealand deck. The raised floor can provide space for services beneath.
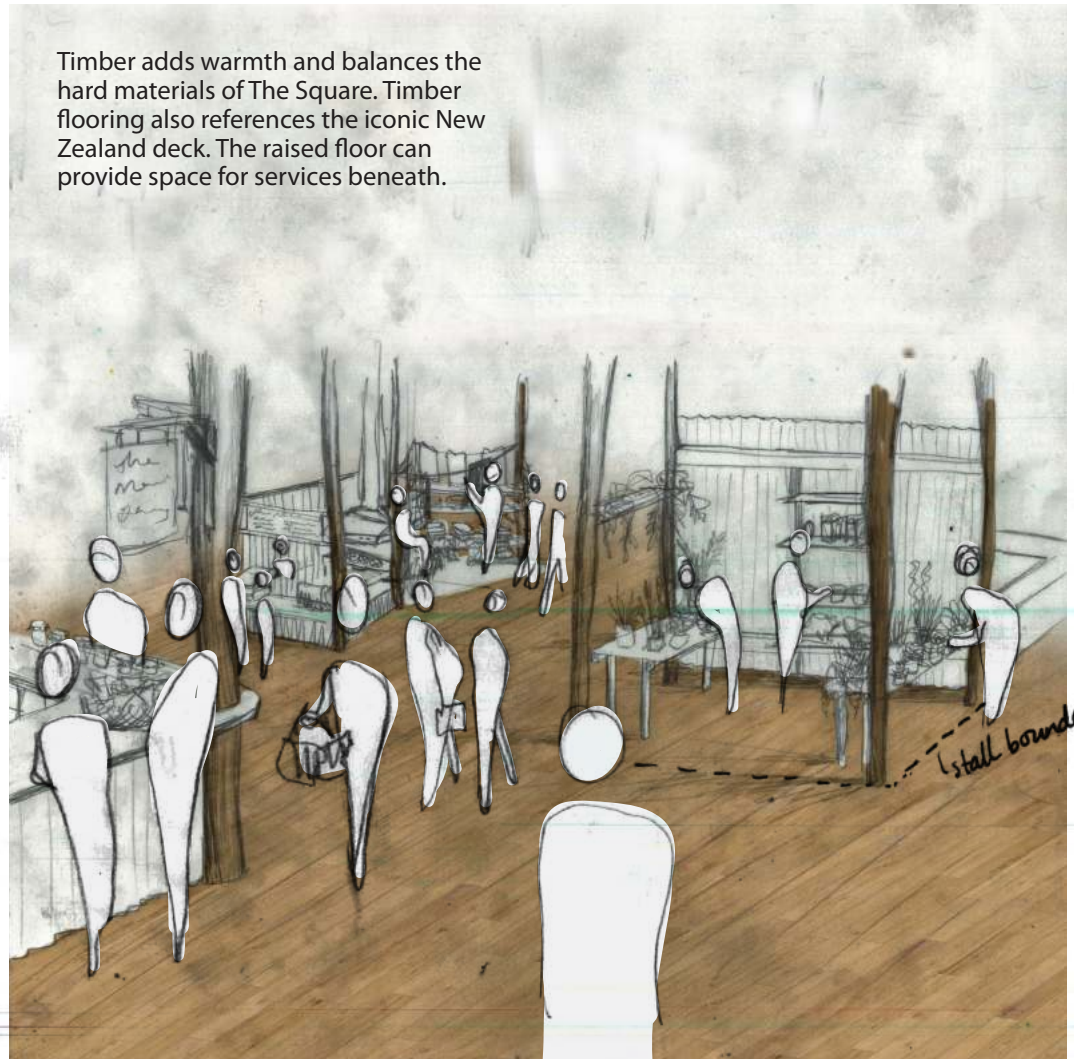
Fig 203: Market stalls decorated and used in different ways.

Other community involvement is integrated in mosaics, textured walls and murals (Figures 204 to 205). This allows residents to "leave their imprint" (Gillick & Ivett, 2017, p. 77), enhancing the sense of belonging residents have with the architecture and place. These ideas return a sense of power to residents, who in turn offer a contribution for the wider city.

Fig 205: Mosaic walls made by communities encourage people interactions with the architecture through touch.
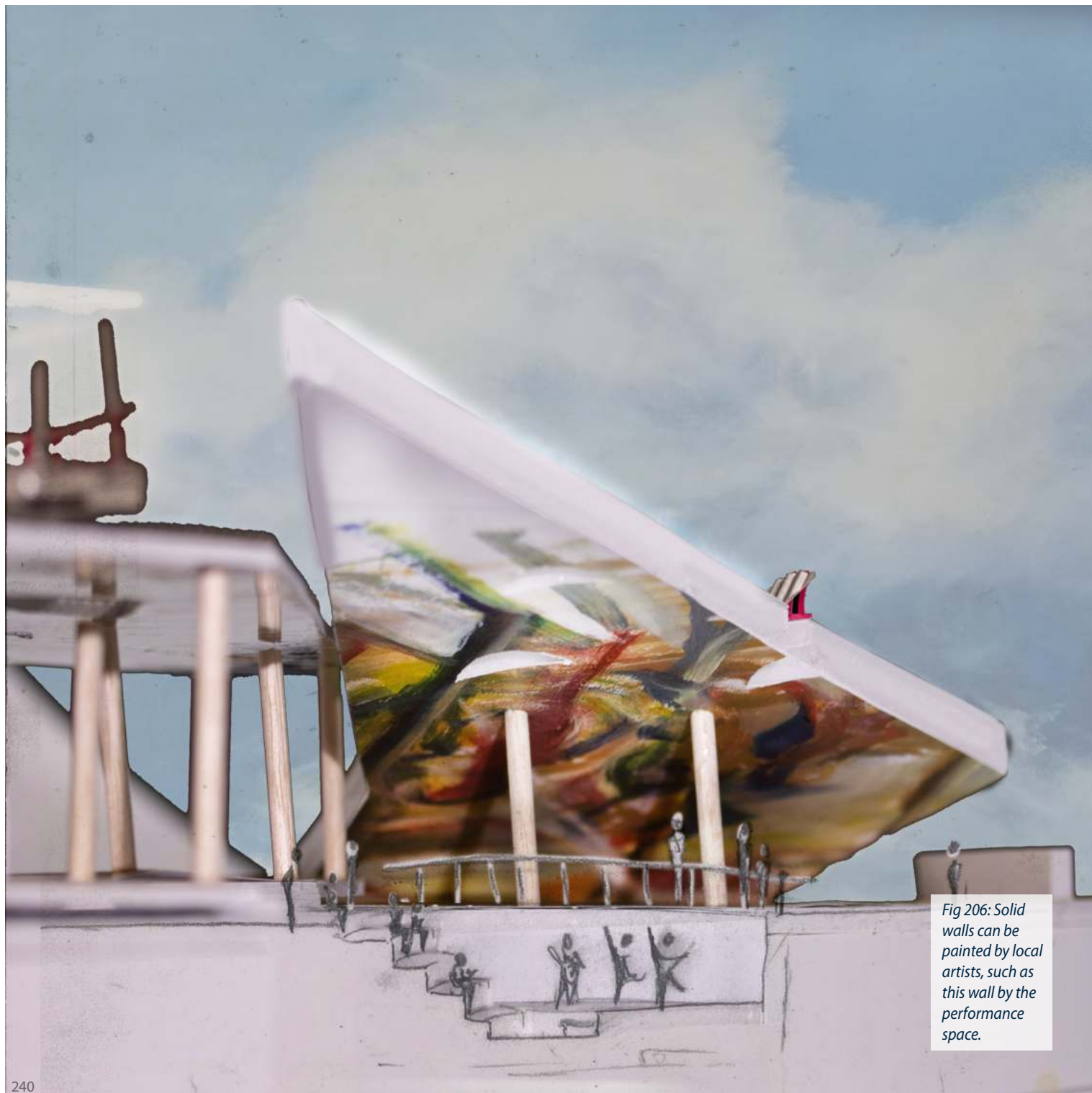
Fig 206: Solid walls can be painted by local artists, such as this wall by the performance space.

Flora-imprinted materials can be integrated into floors (Figure 207). This can showcase the significance of New Zealand's natural environment using a sense of permanence.
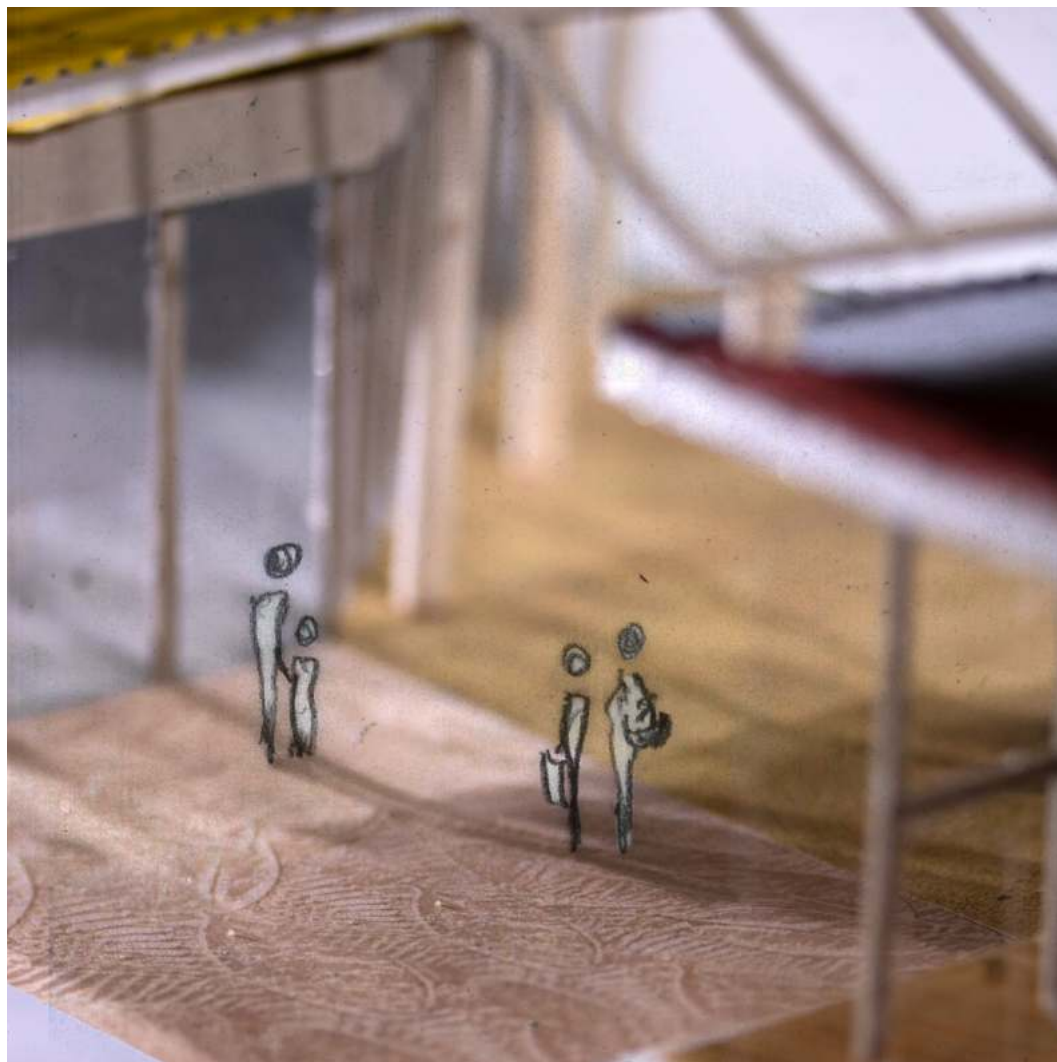
Architectural elements like columns can also come in a variety of types (Figure 208). Natural materials can add warmth and reference the outdoors. Alternatively, they could be painted, clad or nailed with hooks which vendors can use to display products.

Fig 208: Column options.

THE DINING TABLE

A place to gather and indulge in food is essential to a food market. This concept explores the dining table as a place where people are equal and driven to share (Figures 209 and 210). An extra-long table protected with shelter symbolises unity. There is no 'head of the table'; instead, cultural groups, that would typically isolate themselves at separated tables, are brought together.
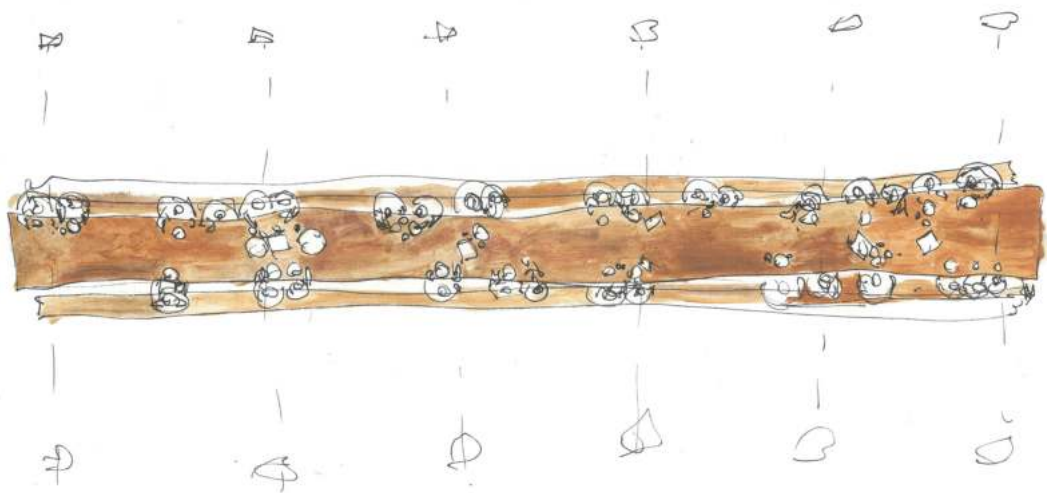

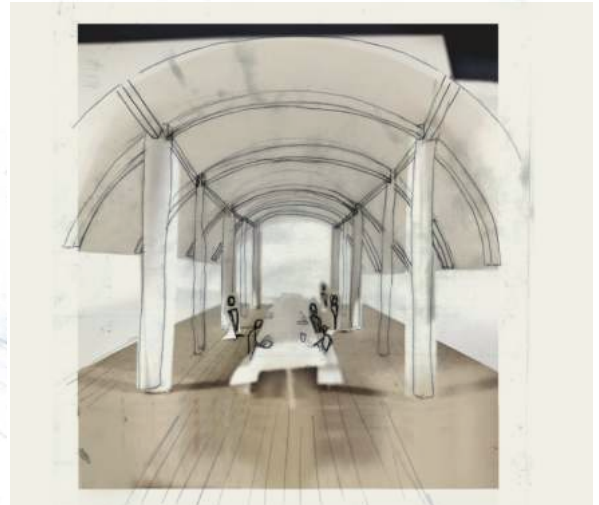
Fig 209: A shared dining table in plan.

Fig 210: Framing the table with architecture.

CRITICAL REFLECTION

A pin-up of design ideas was reviewed by peers (Figure 211). There was no oral presentation, so the responses were based on visual understandings only (Figure 212).

Fig 211: The display of architectural elements.

HAVE YOU LOOKED AT SPACES, OF EXPOSURE, OF REFUGE/RETREAT

THRESHOLDS PERMITTING ENGAGEMENT IN SOCIAL SPACE

public space?? integration of the roof as public space?? Ux of 8th mar/ market beg... ing whole day/ week??

Gallery & library can create a great sense of 'place'

could be interesting

EXCELLENT COLOUR RENDERS EVOCATIVE —

WHAT LED TO THE SELECTED FOCUS?

Your overall exploration + methodology seems really clear + logical. I seem to be able to follow your thinking.

Would love to see how the roofspace could be utilised!

The history of the space is great knowledge and great to know.

The iteration process could be a bit clearer though.

is this representing old form to new form?

Would love to see this process in more detail! (□ ⇒ ⌒)

- really clear models + drawings to show all views of potential form + material
- This iteration brings in ideas from maori culture with the form which ties into eating etc...

LOVE THESE!

a really sensoral experience.

love the idea of reflection + diversity.

Depict vibrant life
Ls Good to do perspective drawings

Hard to see areas within market - undefined? Plan

Nature and Wellbeing go hand-in-hand.
How can you incorporate nature indoors?

Colours really creat a nice vibrancy. Off the reflective roof reads v easily in pin-up.

This sketch feels very successful to show how space will be filled inside

this is very clear - very engaging!

This (mosaic wall) is very engaging

The images you have drawn are very strong and show a great sense of atmosphere

- Paintings inspire mural art.
  Ls could there be a space for painting?

ooooh, great question! I second this!

what if you merged these ideas together

246

Sensorial experiences of cultures were successful for relating to the human scale and offered rich intercultural interactions, especially on the rooftop walkway. By isolating particular smells or sounds, visitors are encouraged to become curious and explore the market to find the origins of the smells and sounds.

Human-scale elements were best designed when they engaged light and textural materials. The reflective ceiling, which symbolises the diversity of cultures in the market, brings attention to the roofs form, making it interesting from outside and within the space.

The dining table concept explores how space could be shared by a range of cultures and symbolises unity. It could be enhanced if users could arrange or move parts of the table themselves.

Appropriate ideas will need to be selected, refined and assembled to orchestrate moments of unique and new cultural experiences. These novel moments can challenge people's preconceptions so that their perspectives on other cultures can evolve.

The
assembly

This section develops architectural ideas into a conclusive design that provides a theoretical solution to the research question.

A Final Design Proposal

Figure 213 shows a proposal of the final market design. The northwest (where the library is) and southeast (where the mall is) corners are connected through the building's form and rooftop walkway. The organic form contrasts the rigid city grid and colonial elements, and the market's mass balances the bulk of the council building. Furthermore, the permanent/heavy materials that dominate The Square are offset by incorporating softer and temporary materials like timber. Introducing colour and playful forms transforms The Square into an eye-catching and exciting place.

The clocktower had been removed in previous iterations, however, the removal creates unnecessary environmental impacts. The tower is reintroduced, using its structural integrity to suspend tent material. The tower is accompanied by a viewing deck that claims the clocktower as an occupiable space.

This proposal uses tent forms in combination with corrugated iron materials. It is questioned whether the roof form and materiality are indeed the best option. Alternative options are explored in Figure 214.

Fig 213 (opposite): A proposal for the final design.

Development

The tent roof is still found to be the most fun and expressive but it has a Western aesthetic. A corrugated iron version of tent forms as in the design proposal (Figure 213) is more suited to The Square because it uses the tent's playful attributes and references Palmerston North's rural context through material. However, its peaks could be emphasised more. When tent forms are deconstructed into parts (Figure 215), the form relates more to international market tent types rather than the typical gazebo-style tents prominent in Western countries.
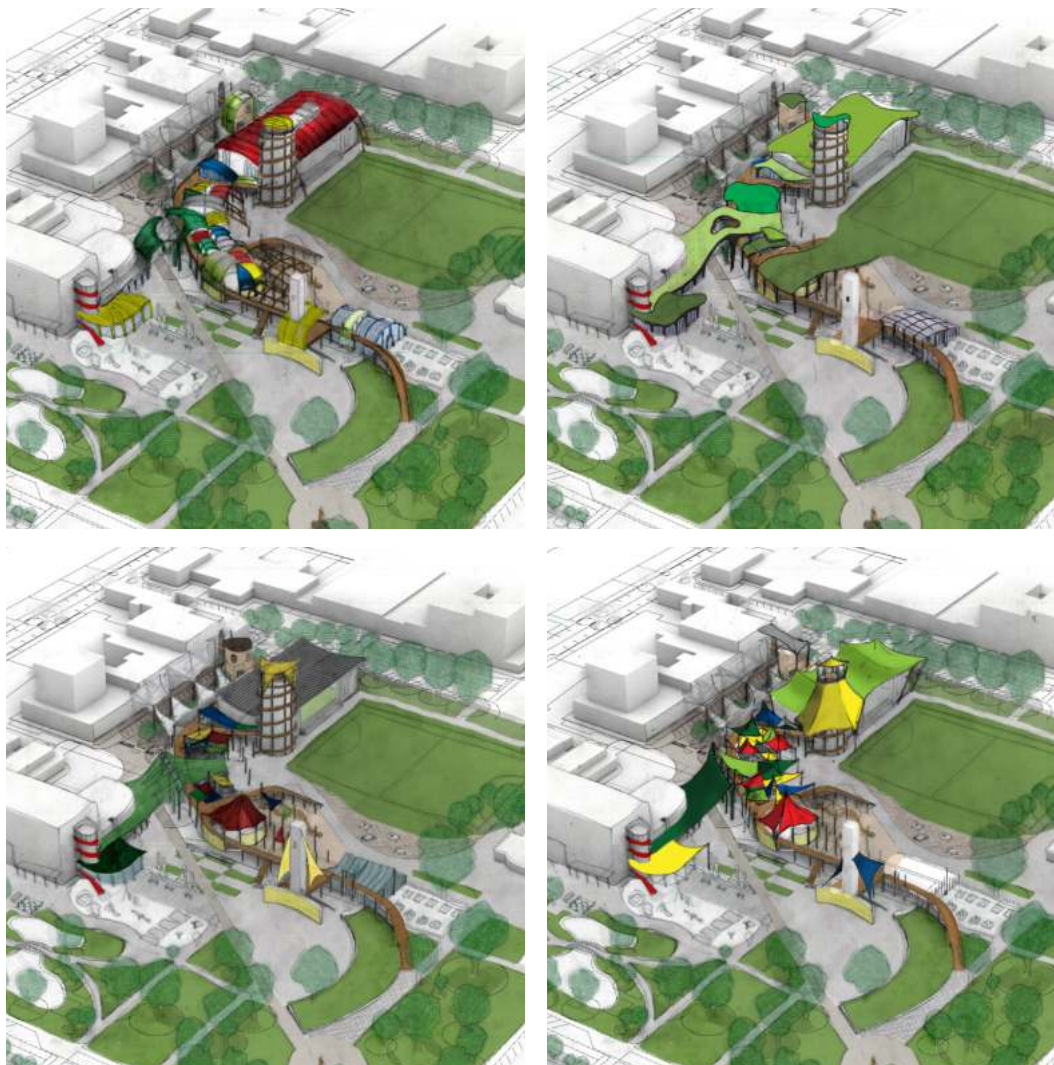
Fig 214: Roof form options for the final design.

Fig 215: A deconstructed version of the tent roof in perspective and section. The forms still exhibit a sense of celebration.

Tent forms in corrugated materials are tested in Figure 216. The dark shadows in the material's grooves accentuate the form and artificial lighting at night can illuminate colours to aid nightlife scenes. A combination of corrugated iron for permanent structures and fabric for temporary structures shows how temporary additions can seamlessly grow the market's shelter due to matching forms (Figure 217).

Colour palettes are explored in Figure 218. The market crate colours of the first two options are vibrant but the deeply contrasting colours are unpleasant on the eyes. The most suitable colour palette incorporates a variety of softer pastel colours.

Fig 216 (left): Tent forms in corrugated iron.

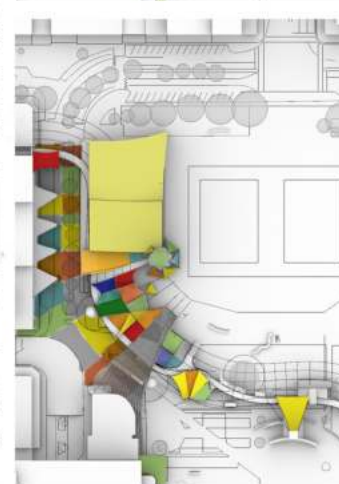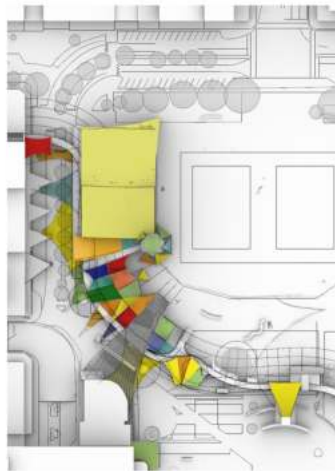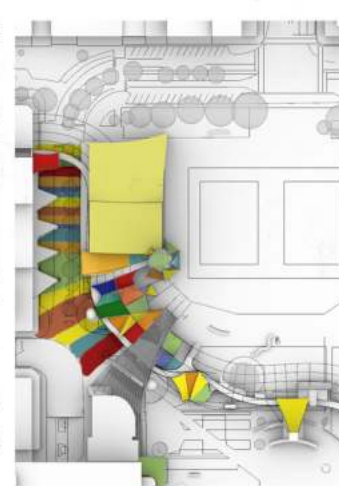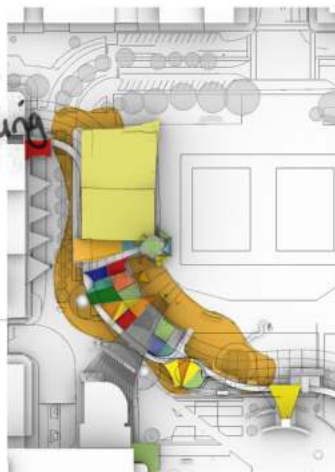*Fig 217 (right): Combining corrugated iron and tent materials.*

Fig 218 (opposite): Roof colour options.
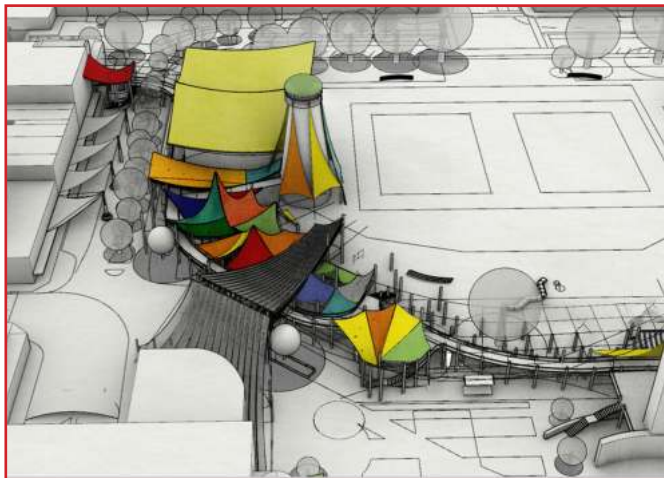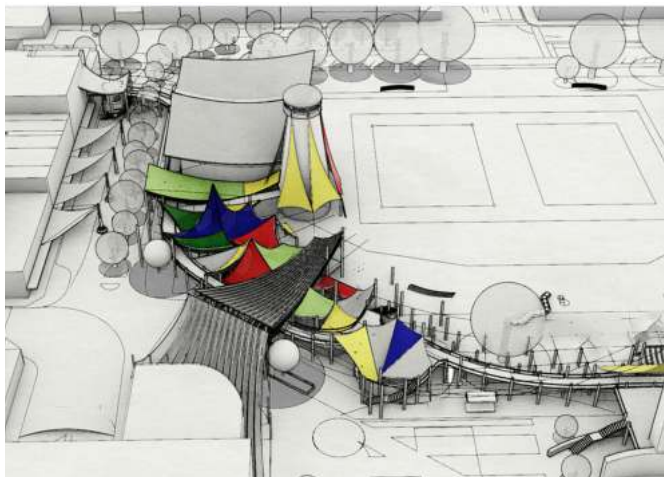
To make the pedestrian-orientated street next to the library more interesting, colours are tested on ground surfaces (Figure 219). Colours and shapes mimic those of the market's roof. This creates a dialogue between the ground and the roof by extending the roof's vibrant and playful qualities into other areas of public space. Three options are selected and tested in perspective (Figure 220). The first option is most successful because there is a clear circulation path.

Fig 219: Colour option for the pedestrian-orientated street.

opposes roof pattern

connect roof & ground

not connected to surrounding buildings

too linear.

too small

too gridded

257

circulation

Confusing where to go.
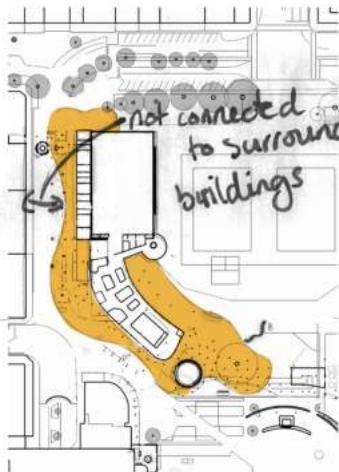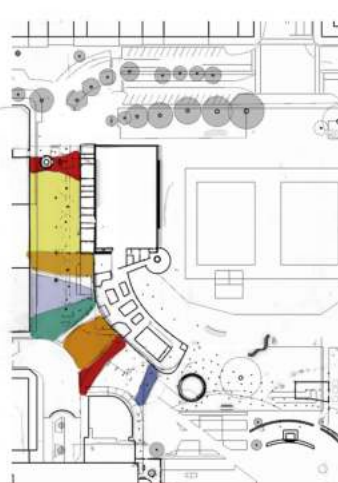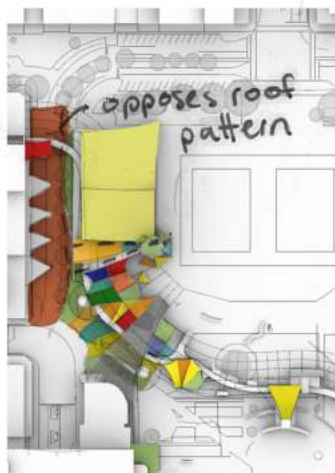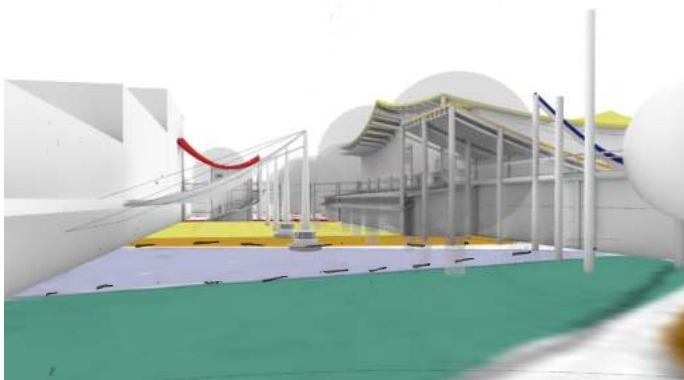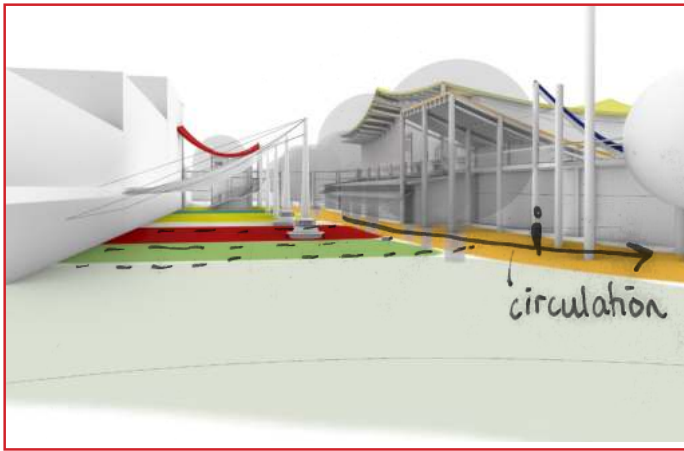
*Fig 220:
Colourful
ground from
the human
perspective*

THE FINAL DESIGN
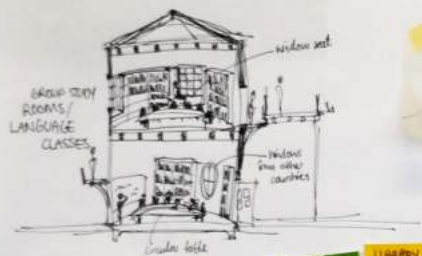
Info & legends of Palmerston North's history

WHARITE PEAKS

Balustrade that follows surrounding landscape

VIEWING DECK

VIEWING TOWER

connection to nature

GROUP STUDY ROOMS / LANGUAGE CLASSES

Window seat

Windows from other countries

Circular table

LANGUAGE CLASSES

LIBRARY EXTENSION

Circular

LIBRARY → Belonging

shelter from sun & rain

Library shelves International books

Trees

outdoor seating

Pedestrian scale, safe

SMELL

PEDESTRIAN STREET

SOUND BAR

PERFORMANCE

- connected to boardwalk
- visual connections

Neighbourhood council connection space

Movable on truck

SOUL CONNECTION SPACE

LIGHT GAP

Walkway

light gap

TEXTURED WALL

textured wall

TEXTURE EMPHASIZED BY LIGHT - encourage touch

SLIDE

Why not claim the dominant council building for children? For Palmerston North's FUTURE GENERATION?

COUNCIL IDEAS, EVENT PROJECTS?

INSIDE CAFE

Local artists work for sale

Shelves to display

Spot lighting

Art on sliding doors between

Seating to watch sport

Social Sports @ lunchtimes

evening & social interaction

opens to a performance stage

No alcohol situation

Outdoor cinema
- movies
- sports

chairs from over the world
- variety of wood, textures, colours, patterns

EXTERNAL WALL GALLERY

Lit up at night

Safety at night

TEMPORARY MARKET SPACE

Permanent awning columns

Temporary shelter

Separation between food stalls

Intercity bus stop - tourists

NURSERY

Learn & participate in growing native plants

Food/days identity

GREEN HOUSE

SEEDLING SHARING SHELF

Lockable at night

Pavement with stones from different countries

GARDEN OF THE GLOBE

NAME OF PLANT

Light-up walls

For attraction at night

- opportunity for digital art

Blackboard

MOVABLE DINING TABLE

1. Library learning space

2. Recreation hall

3. Car-free street

4. Lookout tower

5. Permanent market

6. Performance space

7. Council connection space

8. Temporary market

9. Light-up wall

10. City garden

11. Cafe

12. Intercity bus stop

i-site

1 Library learning space
2 Recreation hall
3 Cooked meal shops
4 Hall entrance
5 Office
6 Change room
7 Change room
8 Toilets
9 Viewtower lifts
10 Rubbish and recycling
11 Indoor market
12 Cooking class venue
13 Indoor temporary stalls
14 Performance stage
15 Temporary market space
16 Sports field
17 BBQs and seating
18 City garden
19 Cafe
20 Toilets
21 i-site
22 Intercity bus stop
23 Cafe
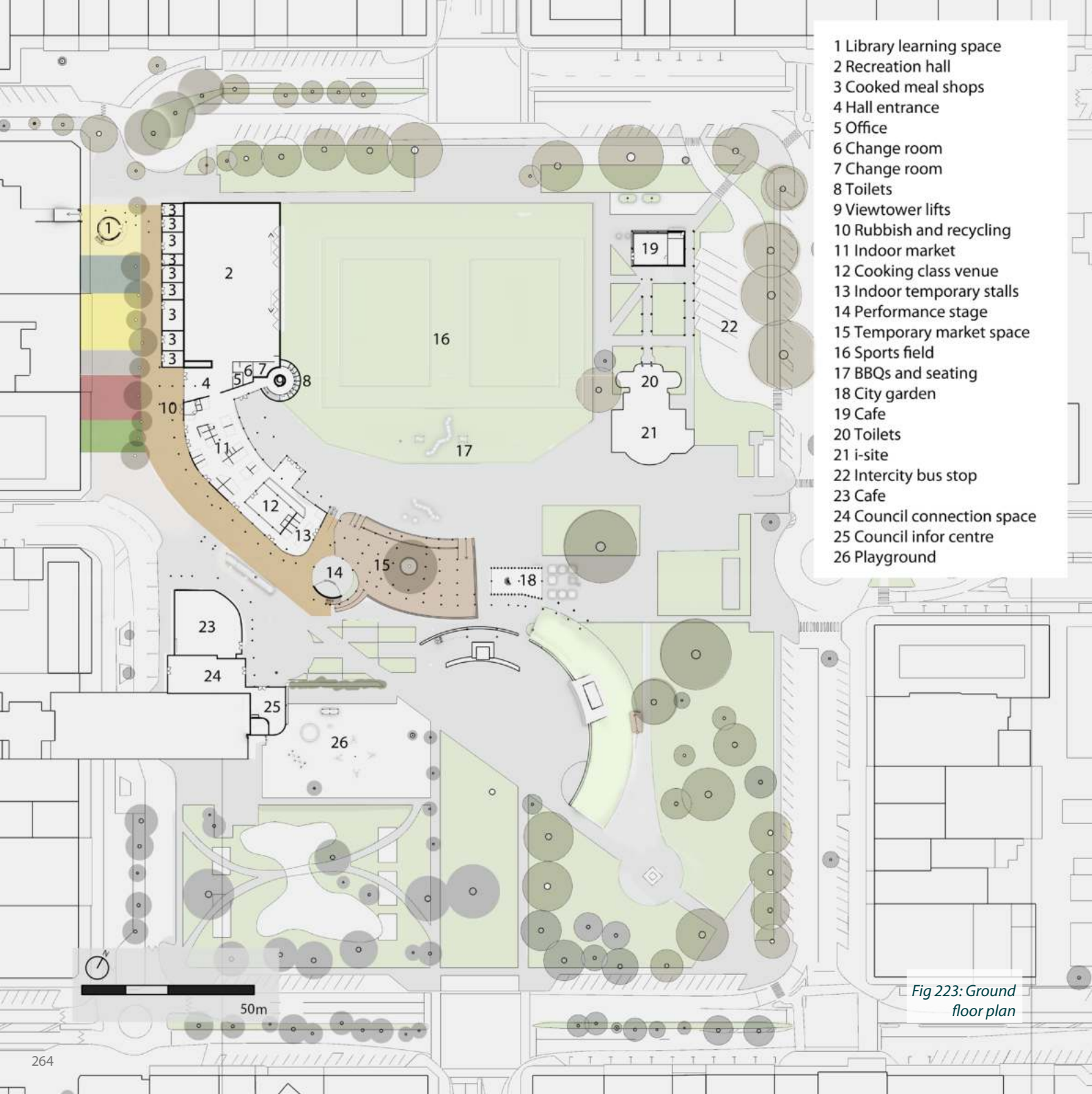24 Council connection space
25 Council infor centre
26 Playground

Fig 223: Ground floor plan

50m

1 Pathway to the library
2 Learning space
3 Hall viewing platform
4 Tower
5 Rooftop dining
6 Performance viewing
7 First floor entry to greenhouse

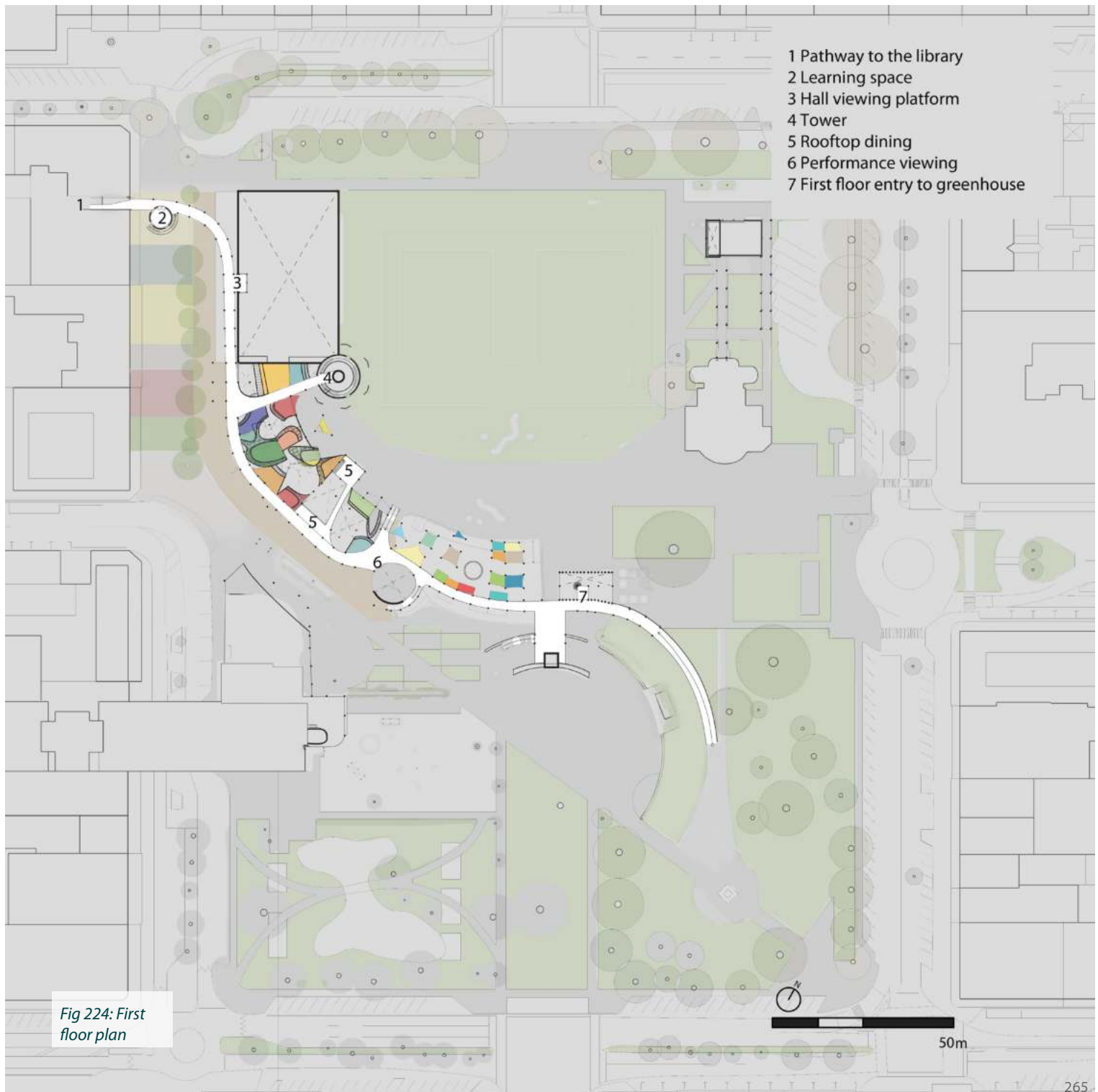Fig 224: First floor plan

50m

LOOKOUT
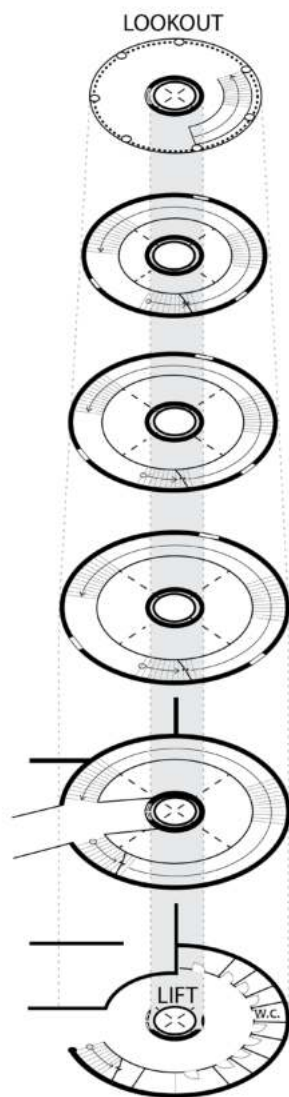
Fig 225: Tower
floor plans
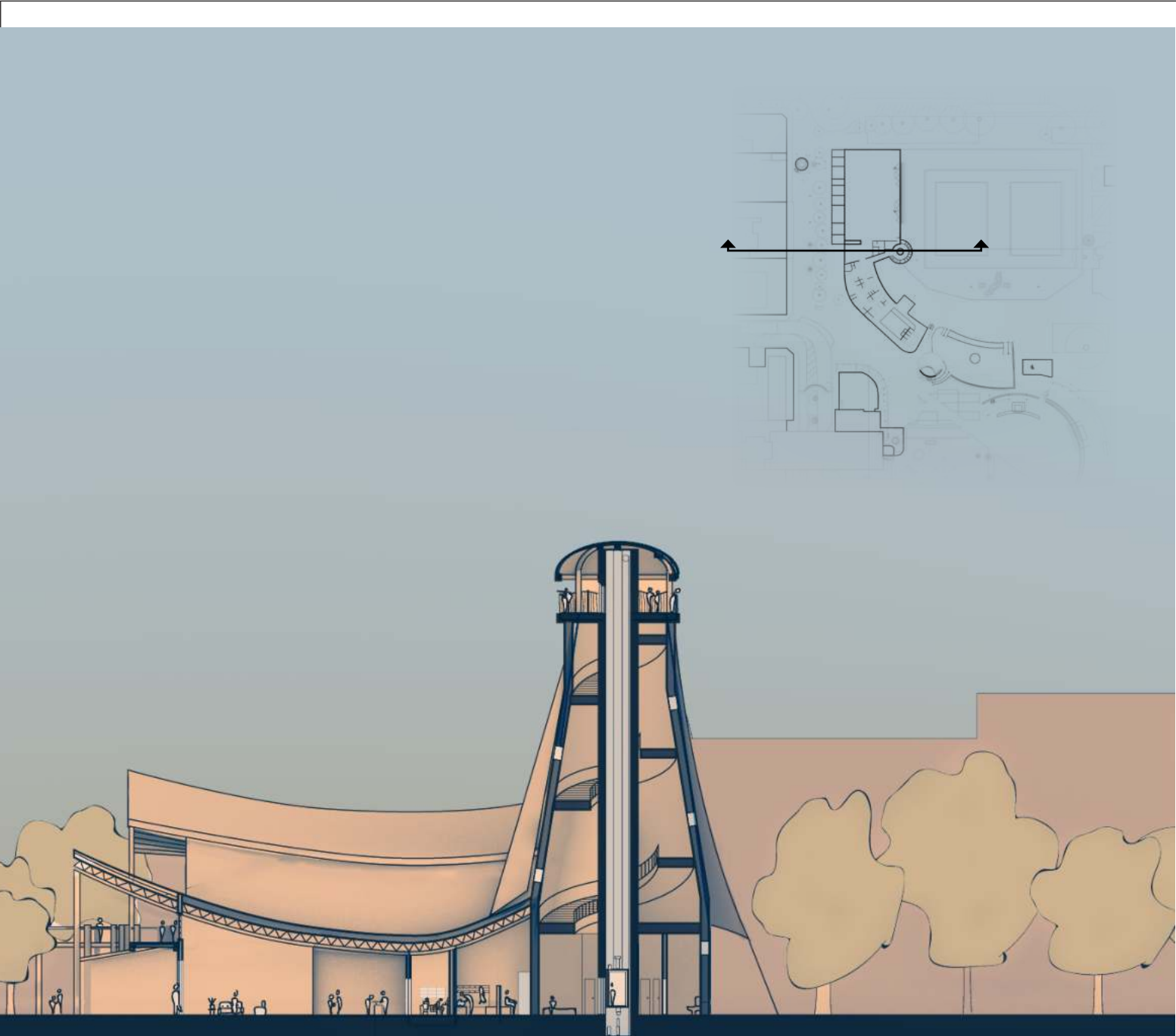
Fig 226: Section

EXPRESSING DIVERSITY

Permanent Market

The permanent market offers spaces where cultures can express themselves. A reflective ceiling increases the colourfulness of the atmosphere, and is further enhanced by the curves in the roof form. High ceilings relieve any sense of overcrowding amongst market stalls.

Corrugated roof

Roof structure

Insulation

Reflective ceiling

Columns, truss beams and shear walls
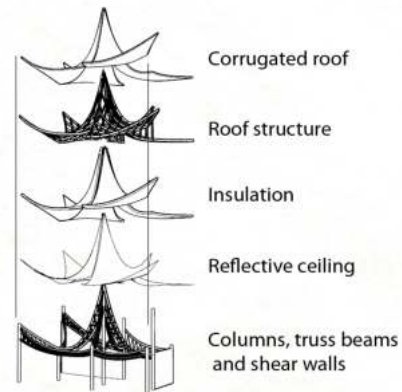
Fig 227 (top): Roof structure.

Fig 228 (bottom): Inside the market, reflecting diversity.

Fig 229 (opposite): Cultural stalls and views into the cooking class venue.

Temporary Market Space

The temporary market space can be adjusted to the seasons, weather and events like cultural festivals or Christmas markets. This versatility reflects the fluidity of cultures. It includes a raised deck, an iconic architectural feature of New Zealand homes, which connects to the performance space, main market and the sports field. Additional paved space is available for food trucks and trailers.

Fig 230: Initial sketch of temporary market.

Fig 231 (opposite top left): Evolution of temporary market space

Fig 232 (opposite main image): Temporary market in use.
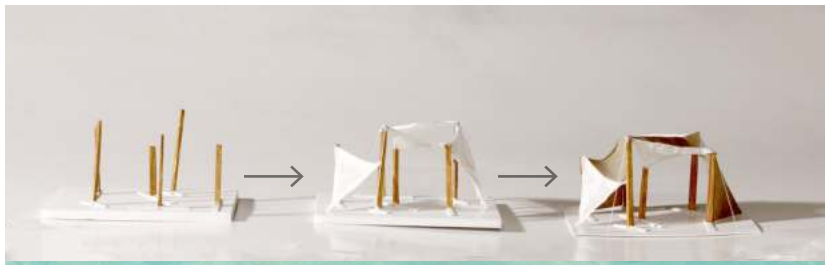
Fig 233: Walking through the temporary market.

PARTICIPATION

Council Connection Space

This space aims to build trust between the council and public by offering ways that participatory design can occur. It connects to the council building but reaches out to The Square, exposing itself into the public realm. Glass, rather than the council building's prominent solid walls, provides literal and metaphorical transparency. Windows are lined with information boards, urban proposals and event posters so that passersby can become informed. An external blackboard wall invites the public to express their desires and council staff to actively ask questions.

Inside the connection space, a multifunctional meeting table has mismatching chairs for a homely feel. A kitchenette for refreshments is available to aid participatory design functions.

Fig 234: Initial sketch of council connection spaces.

Fig 235 (opposite): Approaching the council connection space.

Fig 236: Inside the council connection space

A Playful Council Building

A playground and slide envelopes the council building, blurring the boundary between the public and council. This creates a better connection between future generations and the council.
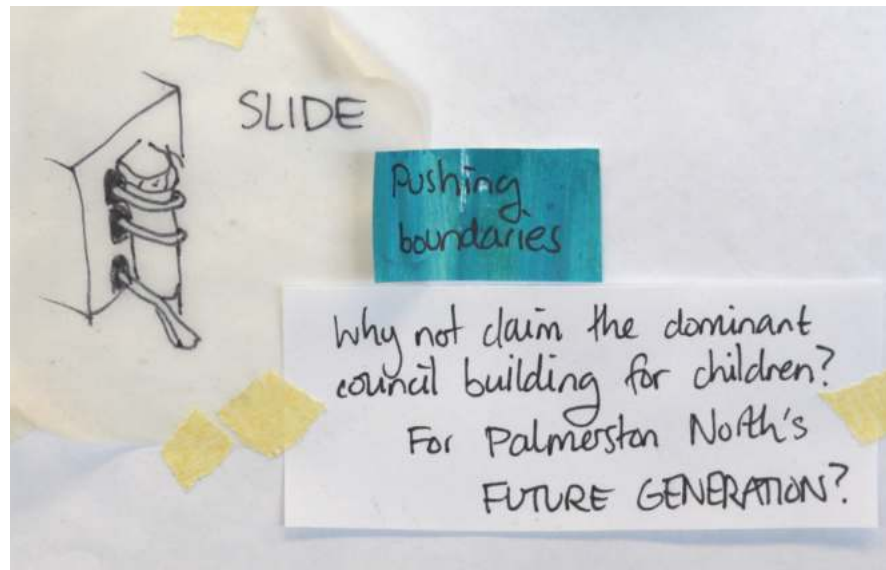
Fig 237 (top): Sketch of the slide.

Fig 238 (bottom): The slide in section.
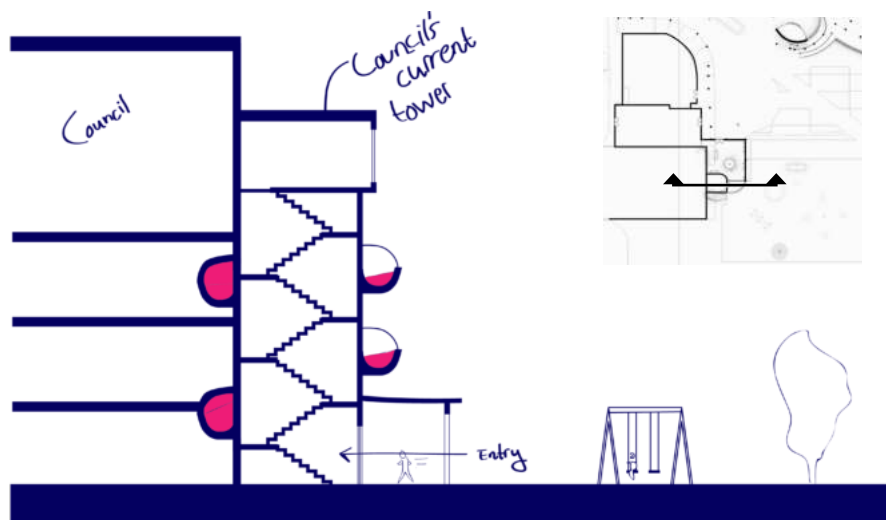
City Garden

The city garden can be used to grow plants for local restoration projects and help residents learn skills to grow their own cultural food in an affordable way. The sharing of knowledge on growing plants can foster trust between residents.

Fig 239: Initial sketch of the city garden.

Fig 240 (opposite): The city garden. Volunteers are busy constructing a new garden bed.

Performance Space

Cultures can share traditional songs and dance in the performance space. Circular forms are used for inclusivity, and the stage is visible from the rooftop walkway. The openness allows sound to travel throughout The Square.
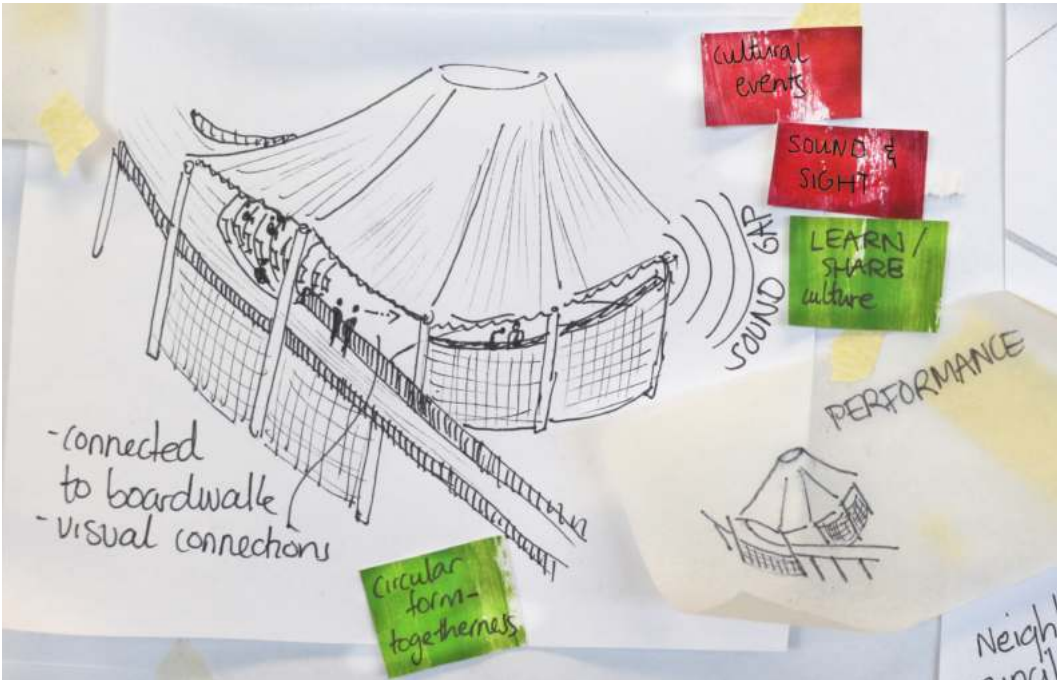
Fig 241: Initial sketch of the performance space.

Fig 242 (opposite): The roof lifts up, inviting people to watch and listen to performances.

**A THIRD PLACE FOR
INTERCULTURAL INTERACTION,
SHARING KNOWLEDGE AND
BUILDINGS TRUST**

Cooking Class Venue

Cooking classes can be observed from within the main market and from rooftop dining spaces.
People can both witness and partake in cultural traditions through these classes.

Fig 243:
Spectators
watching a
cooking class.

Recreation Hall

The hall can be transformed into a stage to support large events. When the doors are closed, the steps become seating for observing social sport on the field. The wall can also become a cinema screen for nighttime movies.
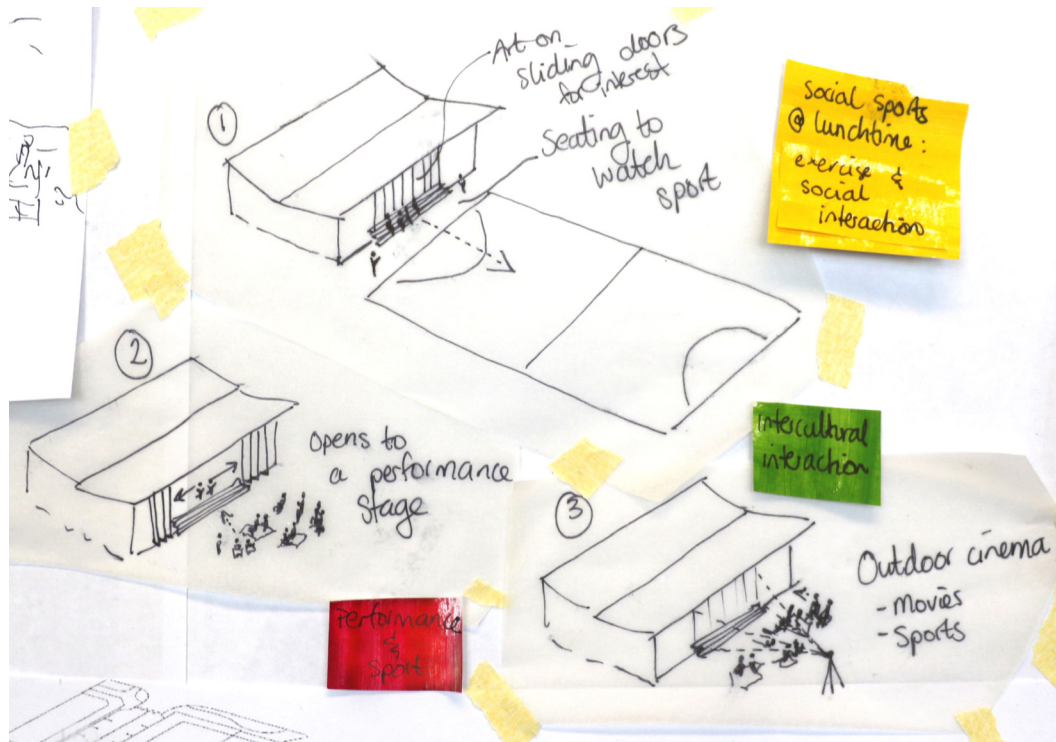
Dining Table

The dining table is shared amongst residents who might not know each other. Made up of parts, it is adjustable by the public. The curved form reduces the formality compared to a traditional table, offering an informal space for social interaction.

Fig 244 (top left): Sketches of the recreation hall's uses.

Fig 245 (top right): Precedent, The Gehua Centre.

Fig 246 (bottom): Initial sketch of the dining table.
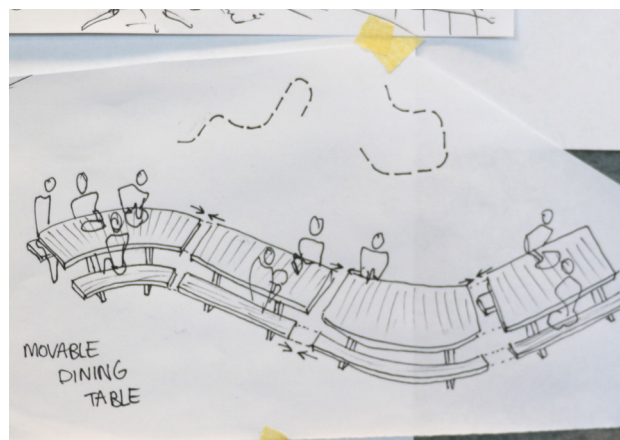
Fig 247 (opposite): The dining table is placed next to outdoor barbeques. It looks over the sports field, and the recreation hall is seen in the background.

Car-Free Street:

Vehicles are completely removed from the space between the market and the library. Indicators of the library are introduced through outdoor bookshelves accompanied by seating. Cultural food restaurants and café's line the edge of this street, spilling out into outdoor dining spaces.
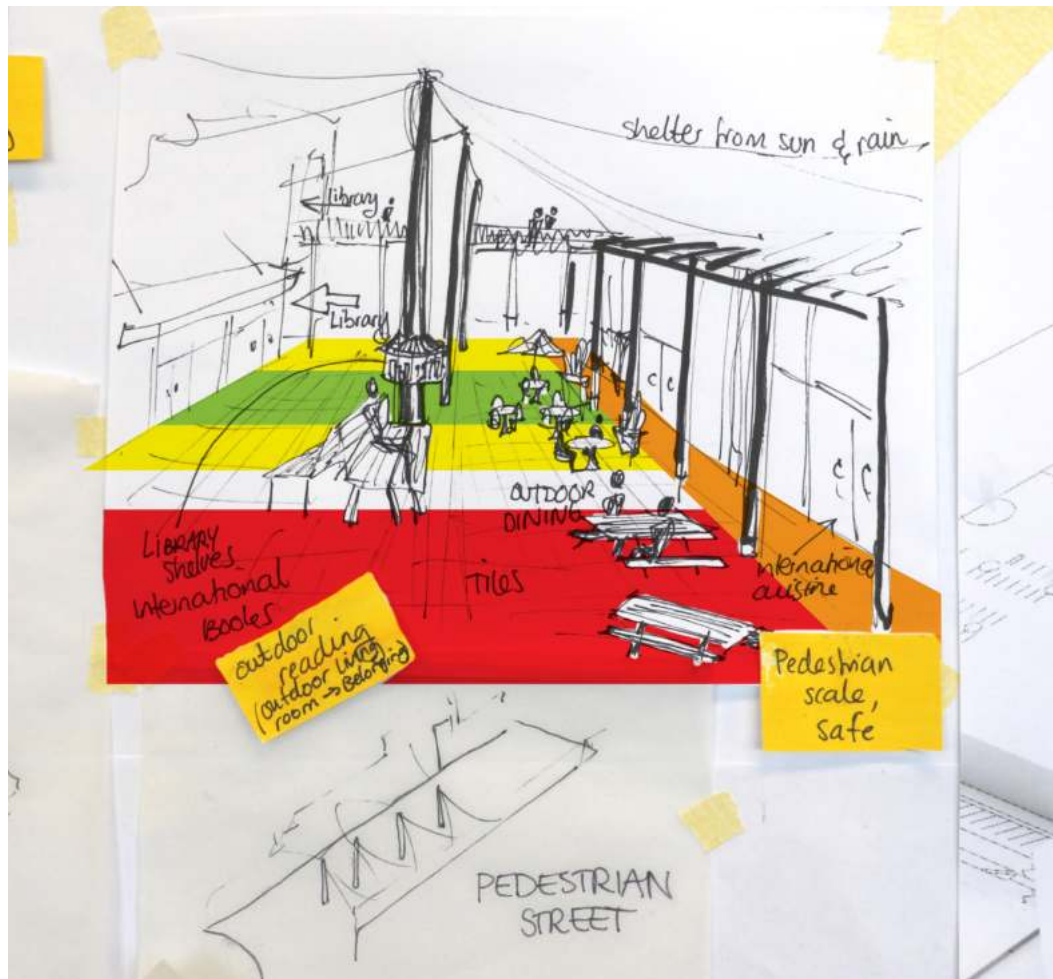
Fig 248: Car-free street

Library Learning Space

A circular building is placed near the entrance of the library intended for language classes, cultural meetings and a variety of group work. It acts as a visible extension of the library that can be used in the evenings.

Internal walls are lined with bookshelves to create a comfortable 'nest' where visitors can find a sense of retreat. The circular layout is inclusive and promotes discussion.

Fig 249 (top): Sketch of the building next to the library.

Fig 250 (bottom): Library learning space.

Bus Stop Café:

The relocated Intercity bus stop is accompanied by a café. The café has sight lines to the market to aid tourism and improve the city's reputation. Local art and crafts are showcased in the café to enhance Palmerston North's identity.
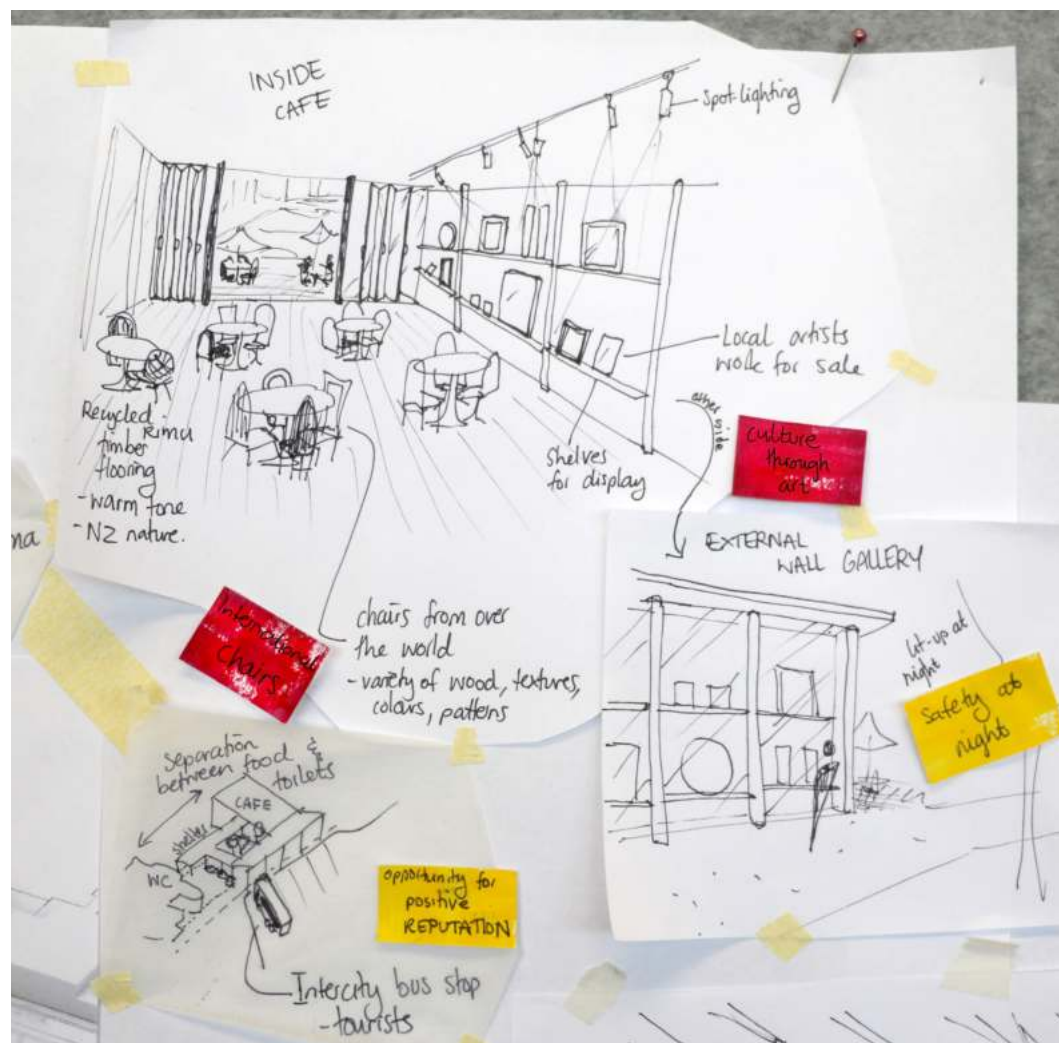
Fig 251: Sketches of the café, inside and outside..

Fig 252 (opposite): Walking past the café at night, the lit-up wall increases a feeling of safety and displays local art. The roof swoops up, drawing the eye to the market.

A SENSORIAL EXPERIENCE

Sensorial Rooftop Walkway

Cultures are experience through the senses on the rooftop walkway.

Fig 253: Sketch of the rooftop.

Fig 254:
Looking inside
the market on
the rooftop
walkway

Fig 255:
Interacting
with smells on
the rooftop
walkway

Light-Up Walls

Digital art and colours can be displayed on light-up walls. They are fun for children increase safety at night, potentially improving nightlife.
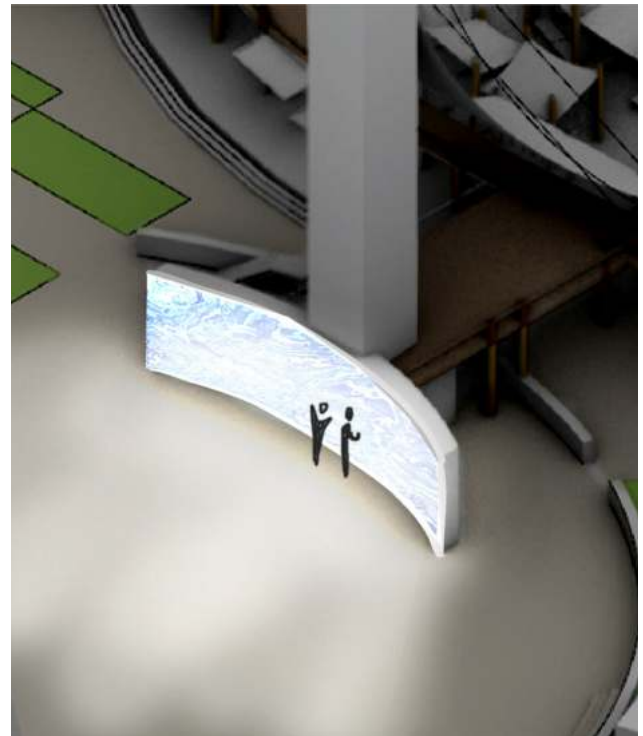
Imprinted Walls

Textures encourage touch. Shadowing from downcast light emphasises the imprints.
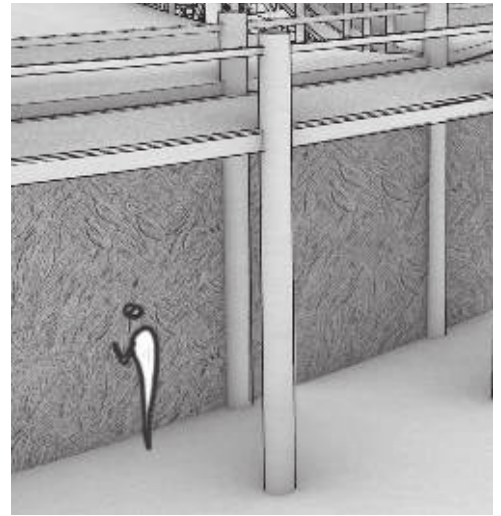
Fig 258 (top): Imprinted walls.

Fig 259 (bottom): Sketch of concept.
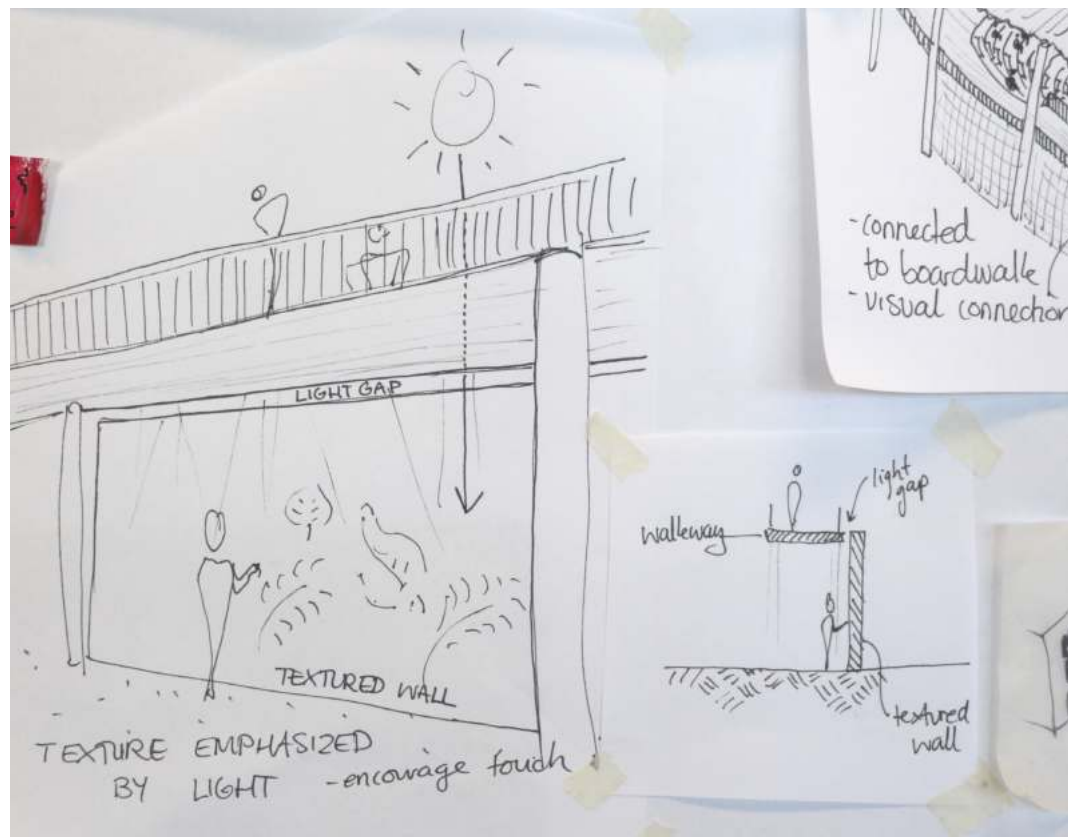
Lookout Tower

The lookout tower raises residents above the city and council building to appreciate the surrounding natural landscape. The ranges are showcased to improve the city's identity.

FINAL DESIGN SUMMARY AND REFLECTION

This research sought to develop an architecture which:

• can increase the happiness of city residents (Aim One)

• accommodates, celebrates and reflects a city's cultural diversity (Aim Two)

• encourages the sharing of knowledge to foster trust and understanding between cultures (Aim Three)

The final design addresses Aim One by reclaiming The Square for the people of the city. It brings the things which are important to the community into Palmerston North's core. Sports, gardening, performance, play and more are uniquely incorporated into the design so that residents will want to visit. Architectural elements like walls can be decorated by local artists or lit up to encourage interactions with the building. The design's multifunctionality means the hall can open up as a stage to host exciting events or close to form a movie screen for intimate outdoor cinema events. It can also operate during the day and night, using lighting to bring new life to night scenes and appeal to younger populations. All year round, residents can come to The Square for experiences that bring joy. The city centre has become a reputable space that speaks of pride.

To address Aim Two the design becomes a landmark that announces the exciting opportunities of cultural diversity through form, colour and materiality. The height, peaked forms and temporality of the roof are utilised to balance The Square's dominating colonial elements and the council building. An architectural language of cultural celebration blankets The Square.

Architecture's typically inflexible nature makes adapting to shifting cultural contexts difficult. To overcome this issue, the final design proposes an adaptable skeleton that can expand and contract with cultural events and seasonal changes, accommodating the natural flow of demographic changes and cultural celebrations.

To achieve Aim Three, the architecture enhances intercultural interactions through sensorial experiences of cultural practices. These experiences evoke a sense of curiosity to encourage residents to learn more about other cultures. The senses were especially featured on the rooftop walkway.

Furthermore, the council building has become humanised. It allows a wide range of cultures to share their thoughts on their city. The building is transformed from an oppressive concrete mass to a fun and playful place to visit. Architectural elements such as blackboard walls, information panels and a round discussion space assist participatory design. It unites the council and public, setting the foundation for cultural values to become more pronounced in future urban projects.

Project critical reflections

Research focus

In a globally connected world, cultural diversity has become ever more prominent. Cities are struggling to adapt to the increasing diversification of their populations. This affects resident's health, wellbeing and general happiness. People want to feel their identity reflected in their city, especially city centres. In New Zealand, city centres are engrained with a traditional colonial monocultural approach and dominated by colonial elements. The values exhibited within these spaces are losing relevance to a shifting demographic. They are failing to attract and reflect the identities of their people.

This project proposed a multicultural lens that recognises architecture's role in improving resident happiness, expressing cultural identities and accommodating diverse cultures to foster trust. As one of New Zealand's most multicultural cities, Palmerston North was chosen as the testbed for the research. Palmerston north is typical of mid-sized cities in New Zealand as it has a poor sense of identity, poor reputation and lack of cultural acknowledgment. These are most prevalent in the central square. Choosing a central site was critical to ensure an architecture could have the most impact on the entire city's happiness.

Process

The design process began with identifying suitable programmes – a market was chosen as the primary space. Initially, programme was relied on too heavily because it was the most

obvious way that multiple cultures could be accommodated in the architecture. Additional programmes were selected to accompany the market, providing a more sophisticated scheme with new types of multicultural spaces relevant to the context. It was difficult to begin designing specific architectural elements that could enhance the multicultural space because it was not known how to prevent personal cultural prejudices from improperly influencing the design. However, the potential for architecture to foster happiness, trust and sharing between cultures largely comes from the experience of architectural elements. A shift in thinking occurred under that realisation that the role of the designer is to facilitate the ways that cultures could occupy space and enhance how cultures are experienced using the senses, rather than assuming responsibility for expressing other people's cultures. The chapters about form and human experiences were critical design stages which began tackling architecture's role in multicultural spaces beyond programme. Part of the approach included flexible and adaptable space, providing opportunities for stakeholders to personalise the architecture. Upon reflection, the large focus on programme was essential for transforming the site into a utilised space, but the investigations of architectural elements were more important for designing a space that fulfilled the research aims. Balancing both of these was critical to a successful process.

The first four design chapters - big moves, secondary moves, approach to form and exploring the experience - tested many ideas. The free approach to design meant that singular ideas were relatively unrefined until the final design stage; a large part of the design process was focused on explorations to ensure the architecture addressed the many elements which make up an urban space. This approach was taken because a large-scale collection of ideas was anticipated to have a greater impact on resident happiness. The final design stage was crucial for bringing a distilled selection of ideas together. Although it incorporated many different ideas, this ultimately contributed to a vibrant and diverse space to meet the needs of its multicultural users.

Analogue design tools were successful for encouraging a physical connection between the architecture and designer and engaging the senses through the process. The greatest benefit of this approach was the opportunity, through painting in particular, to be unconstrained and entirely creative in exploring the immaterial qualities of space. Painting throughout the process also helped to reconnect the design with emotions, which was important for the purpose of the project, happiness.

Findings and conclusions

The final design more openly acknowledges Palmerston North's diverse population. Its successes lie in expressive forms, colours, materials, opportunities for community engagement, sensorial experiences and architectural elements for interactions. These elements are key to addressing the research aims. Happiness is induced by making the residents the focus of the city centre, cultures are expressed through form and mirrored inside the building, and residents are encouraged to share ideas in a revolutionary council connection space.

The design is a significant urban change. When compared with the original state, the site is completely converted from an ordered but empty space into a bold statement of residents' identities. People will find opportunities for telling the stories of their past, sharing the present and having a say about their future. It shows the potential for city centres to serve and listen to their residents.

A mere focus on retaining pleasant aesthetics in central spaces does not appeal to all residents, consequently causing centres to become underutilised. The architectural elements of the final design starkly contrast the surrounding cityscape. Residents may initially be taken aback by the boldness of the change. However, the architecture's display of excitement and playfulness will entice people's curiosity to visit and explore the space. Within, experiences that the architecture promotes can overcome people's conservative natures by broadening their understanding of cultures. Ultimately it is the abrupt nature of an architecture such as the final design that can shift mindsets into today's setting where cultural diversity should be appreciated and reflected in cities. New Zealand's mid-sized cities could all benefit from bold interventions in their city centres.

The inhabitation and customisability of a building or urban space is essential for completing a multicultural space. Therefore, a multicultural space cannot be achieved by architecture alone. Architecture's role is to adapt to and facilitate unique cultural experiences and opportunities that allow cultural expression, ultimately to challenge people's preconceptions of cultures. This has the potential to increase trust between residents and thus improve their happiness.

City centres based on colonial principles are out of date. They require a decolonisation of space. This can involve the modification, relocation or elimination of colonial elements, as well as offsetting gridded plans and heavy facades with contrasting architectural forms and materials. However, any design proposal which repurposes the space is inherently at risk of becoming a recolonisation, where ethnic groups consider the urban redevelopment to retain conditions of colonisation. Future engagement with cultural groups will therefore be crucial.

Limitations and future research

The inability to engage with cultural groups during this research exemplified difficulties in designing for other cultures. As a single designer, it is only possible to speculate how people will interpret a design. The project mainly relied on the literature and personal interactions with other cultures to produce appropriate design ideas. The project lacked testing against the affected community. With more time, future research requires community engagement to accurately reflect the wants and needs of diverse cultures in New Zealand. In particular, engagement with Māori will be important for acknowledging New Zealand's status as a bicultural country.

For architecture to have a bigger impact on happiness, future research should adopt a broader scope to include spaces where people's everyday lives take place, such as neighbourhoods. This means that architectural and physical connections between neighbourhoods and the city centre should be investigated. By introducing new architecture into neighbourhoods,

future research could examine how the city centre's intervention can permeate the wider city. Additionally, research should look at how transport can become utilised to connect people to the city centre. This also has opportunity to address high-car usage issues, which affects residents' wellbeing. In mid-sized cities, it will be important to consider how rural visitors can be accommodated and how incentives can overcome the reluctance of the public to change their habits. A city-wide focus is expected to have a more prevalent impact on happiness.

Another topic for future research is the incorporation of non-cultural aspects of identity in architecture. The thesis has stated the importance of expressing resident's identities in a city's architecture. The project has shown that architecture can be adaptable to cultures, so it is possible that architecture can do the same for other factors of identity. Further research can investigate how these can also be celebrated in a city's centre. Collective identities of local institutions or groups, occupations, sexuality and religions could all be explored. This will allow cities' architecture to celebrate people who consider non-cultural aspects of their person more important to their identity.

Closing remarks

Overall, the research builds on the shoulders of the likes of Leonie Sandercock, Jan Gehl and Charles Landry. The findings are intended to contribute to the field of architecture and urban design as an example of building better central public spaces that enhance city identity, reputation, reflection of resident's cultures and, of course, happiness. New Zealand's cities need to be improved for their residents' wellbeing, and architecture can make this happen.

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