THE CROSS ROADS OF HERITAGE

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THE ADAPTIVE REUSE OF HERITAGE BUILDINGS IN PROVINCIAL CITIES OF NEW ZEALAND.

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“The better we know our unique human made heritage,
the better we shall preserve its best aspects and the better
we shall build today.”

- Lewis E. Marton 1987

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Thank you.

HOW CAN THE ADAPTIVE REUSE OF INDUSTRIAL HERITAGE BUILDINGS REVITALIZE A CITIE'S IDENTITY?

*Fig. 0.01: Looking up Victoria Avenue from Durie Hill, Dalgety building
to left on corner of Ave and Taupo Quay.*

DALGETY

TOOL SHED

DALGETY

AHEAD OF YOU

ST

Fig. 0.02: Johnson & Co Facade

1.0 ABSTRACT

This research explores an approach for adaptive reuse to enhance livability and greater connection to place within provincial towns of New Zealand. There are existing buildings which are often left in disrepair or considered too expensive to refurbish or strengthen. They are often demolished with little consideration to the building's significance, therefore adaptive reuse has become a missed opportunity in New Zealand.

Many of our provincial cities have uninhabited large-scale buildings, which need upgrading due to being outdated and no longer fit for purpose. Seismic upgrading is a key factor in why these buildings are left uninhabited. One of the urban areas which this is prevalent is Whanganui. Whanganui has the opportunity to blend the old and the new built form to create a revitalized and timeless street appearance.

The regeneration of Whanganui can be achieved through adaptive reuse to enhance the crafted beauty of the town through its architecture. The revitalization of Whanganui

can give guidance to other provincial cities in New Zealand while enhancing the quality of life within the town.

An in-depth analysis of the history of Whanganui, will allow for heritage significance to play a major role in the redesign. This design will be developed at three different scales to demonstrate how the built form can enhance connection to place and livability. These scales are at an urban, a built and a detailed scale.

The main cross roads linking the city of Whanganui to its river is surrounded by character and historical buildings. It will be used as a key area illustrating Whanganui's past to better inform the future.

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01

INTRODUCTION

Fig. 1.01: Overlooking Whanganui 1913.

1.1 BACKGROUND AND PROBLEM STATEMENT

Whanganui's centre is currently underutilized with many vacant areas and lack of connection within the community (Martin, 2017). This is exemplified through the lack of connection between the main street and the river (Urbanismplus, 2016). This issue stems from the changing way our society lives and works within these provincial cities (Urbanismplus, 2016).

The centre of these cities are often left unused or under developed leading to poor urban design and buildings not being used to their best potential. This suggests that the strategy of adaptive reuse can be employed to help revitalise provincial cities, to better connect the communities to their city's centre (Douglas, 2006).

Throughout this project there is a personal connection to Whanganui as I once lived there and believe in its potential. In the context of heritage, Whanganui can be used to stand as an exemplar for other New Zealand provincial towns due to its large variety of heritage

buildings which are largely concentrated to make up its town centre.

Whanganui has a strong heritage connection with its large variety of heritage buildings located in a close proximity (Whanganui Heritage Guide 2017). This heritage is, however, being lost due to the lack of knowledge and heritage funds that often do not reach our provincial towns (Making Whanganui visible 2016). Its main street is underutilized due to the need to earthquake strengthen and retrofit a vast amount of its buildings.

Like many provincial cities it faces a loss of heritage due to being identified as a high risk earthquake prone zone (Kilmister, 2018). There is a growing gap between the benefits of leasing the building and the cost of the renovation. The steep costs to strengthen or demolish is too high for building owners, these buildings become vulnerable to abandonment. The result of this sees business occupy spaces outside the character area, while these

Fig. 1.02: Fig. 1.03: Invercargill building before and during demolition.

character buildings remain vacant (*Martin, 2017*). This raises the issue where there is an urgent need to make retrofitting and reuse of heritage buildings commercially viable (*Egbelakin, n.d.*).

Figure 1.02 shows a building in Invercargill before demolition while Figure 1.03 illustrates the demolition in preparation for the construction of an eight-story hotel. The local heritage building, and preservation society were disappointed at the loss of a heritage building but acknowledged the financial difficulties in retention and reuse (*ILT, 2018*). This is a typical example of the fate of many heritage buildings in our provincial cities today. The lack of knowledge around retrofitting and adaptive reuse is part of the

issue. This thesis looks to use Whanganui as an example to showcase how these strategies can be utilized to save these buildings.

There is often a loss of identity in our heritage buildings due to adaptations with little architectural thought towards the buildings original character (*Plevoets & Cleempoel*). In retrofitting and adaptive reuse, there is a fine line between a successful restoration that respects the building's history and one that loses its identity. An example of the loss of identity in Whanganui's historic buildings can be seen after the Napier earthquakes. This event resulted in the removal of most decorative features off the facades, creating a stripped back, simplified facade (*Urbanismplus, 2016*).

1.2 RESEARCH QUESTION AND HYPOTHESIS

How can the adaptive reuse of heritage buildings revitalize a provincial city's identity and enhance connection to place?

Figure 1.04 illustrates the how the research question relates to the number of relevant areas of study summarised a diagram.

Fig. 1.04: Key words surrounding the research question

1.3 AIMS AND OBJECTIVE

To achieve a successful design of an urban precinct to better connect the Whanganui river with the main street of Whanganui, Victoria Avenue. Through analysing adaptive reuse design strategies to showcase how the built heritage can be used to enhance connection to place.

- To create an urban precinct design which acts as a model for other provincial cities in New Zealand.
- To rejuvenate the built heritage of Whanganui through adaptive reuse architecture.
- To strengthen provincial towns through connection to place
- Propose a cohesive adaptive reuse program that builds upon the cultural heritage of Whanganui while also using sustainable solutions.
- Add connection to place at three scales, urban, building and detail to allow for multiple relationships to the designed spaces.

1.4 SOCIETAL, SCIENTIFIC AND PRACTICAL REVELANCE

Many of New Zealand's old town buildings along the river banks were designed to face the river as that was the mode of transport. Due to the automobile the main street then turned to face the city. Leaving little design through to the connection between the city and river. Today with times changing the buildings again have the opportunity to turn around, as its proven people enjoy looking at rivers.

In the past it has often been found that the heritage quality wasn't seen as relevant until it was too late. There needs to be more understanding of how adding character adds connection to place. While designing more vibrant community spaces will bring the community together. There is no advice for building owners who have little knowledge of the work necessary or the cost of structural strengthening as well as retaining heritage detail.

1.5 METHODOLOGY

A literature review will be completed to gain knowledge around the topic as well as what has been done before. This should then allow for more understanding of where more research could be undertaken.

Case studies will be used to learn from past retrofits of old recycled buildings. They collect qualitative data allowing the generation of quick design through precedential concepts. A variation of case studies gives the ability to create causal links between each study

Fig. 1.05: Flow diagram of key topics.

and they also have the power to generalize theory which will be useful for theory-based design. Case Studies allow a lot of detail to be collected which can't usually be attained by other research strategies. (Groat & Wang)

Historical research is useful to extract evidence from a past time bringing into view an interpretation of that time. Advantages are you can learn from the past and it will allow for the investigation of topics which couldn't be studied in any other way. It could create more meaning within the design concept linking the design to the cities past.

Site analysis and the collection of relevant information, to initiate potential building uses within each building. Also through case studies and literature reviews to enhance the reasoning behind design decisions.

The design will inform the research through reflection and critique of the design work and assess the validity of using international precedents to inspire the adaptive reuse approaches in New Zealand.

The intended purpose of this thesis is to

propose change within the four chosen buildings at the cross-roads linking the city to the river will be retrofitted to accommodate the need to revitalize our heritage cities. Through adaptive reuse the chosen buildings should provide more a necessary programme suited to the site itself through understanding its context.

The design needs to respect the cities past but also not be stuck in it, therefore a careful design strategy of possible solutions needs to be identified. A series of sketching, digital and physical modelling, and mapping to develop designs which will value the spaces will be carried out.

Hand drawing was used as a tool to gain a better understanding of the context of the site. The tool gives another perspective of depth and understanding of the built form.

The project will be informed by analysis of the existing site, historic importance and context, therefore cannot be replicated in another provincial city, however the same methodology could be repeated and used on other industrial sites.

The design will be illustrated at three scales to create better connection at different levels for the users. The scales include designing at an urban scale, fitting within the surrounding context of the site. At building scale to

create an adaptive reuse project to be use the building. Lastly at detail level to create a physical connection at human scale. All of these scales inform each other and creating a cohesive outcome which should be easily read.

METHODOLOGY DIAGRAM

Fig. 1.06: Methodology Diagram

1.6 ADAPTIVE REUSE

Adaptive reuse is a broad term associated with the change in use of a space. However different theorists have different definitions for the term. Robiglio uses the definition

“The process of reusing an old site or building for the purpose other than what it was built or designed for.”

This is the most commonly used definition of adaptive reuse (Robiglio, 2017).

Fig. 2.07: Vocabulary surrounding adaptive reuse.

Plevoets and Cleempoel state that adaptive reuse is the process of repairing and restoring existing buildings for new or continued use.

Today this approach is becoming much more common in architectural practice (Plevoets & Cleempoel, 2019). Plevoets and Cleempoel believe it includes a physical and functional component, adaptive reuse is the most suitable term to name the discipline of working with existing buildings as an emerging field, that intersects the more established disciplines of architecture, interior architecture, conservation, engineering and planning (Plevoets & Cleempoel, 2019). This thesis uses Plevoets and Cleempoel's ideas of restoration, being a process of repair and restore of existing buildings which intersects the wide range of disciplines.

On the other hand Douglas in 'Building adaptation' describes adaptive reuse to include any work to a building over and above maintenance to change its capacity, function or performance (Douglas, 2006). Douglas also acknowledges the wide range of terms used around adaptive reuse, such as refurbishment,

rehabilitation, renovation, restoration which are often misused. (Douglas, 2006)

Vocabulary surrounding adaptive reuse:

Renovation: can be defined as the improvement of a building to meet contemporary standards of comfort, safety, aesthetics and environmental impact. (Plevoets & Cleempoel, 2019)

Adaptation: any work to a building that goes over and beyond maintenance to change its capacity, function or performance (Douglas, 2006).

Alteration: implies significant changes to the buildings use, aesthetics and possibly its function.

Remodeling: emphasizes the physical intervention to the building and as such, tends to describe strong architectural gesture.

Refurbishment: extensive maintenance and repair as well as improvements to bring it up to modern standards.

Rehabilitation: The process of making possible a compatible use for a property through repair, alterations, and additions while preserving those proportions or features, which convey its historical, cultural or architectural value. (Douglas, 2006)

A historical black and white photograph of a busy city street, likely San Francisco, featuring trolleys, pedestrians, and historic buildings. A large, stylized pink number '02' is overlaid on the image. The street is filled with trolleys and pedestrians, with a prominent building on the right displaying a sign for 'ARMSTRONG & SHEWAN OUTFITTERS'. The background shows a hilly landscape with more buildings.

02

ADAPTIVE REUSE

This chapter explores multiple relevant theorist's approaches to address the issues surrounding the research connected to adaptive reuse. Investigating these ideas will allow for more theory based influences into design strategies and outcomes of adaptive reuse. This chapter addresses four topics regarding the issues surrounding the aims and objectives of this thesis: adaptive reuse design approaches, enhancing connection to place, sustainable methods and adaptive reuse in New Zealand.

The theory of these topics will be used with the idea of influencing the design to solve the issues relating to adaptive reuse, by better connecting the Whanganui river to the township. It will also enhance connection to place through recognition of Whanganui's built and cultural heritage. In doing so this will create an adaptive reuse solution which strengthens the community at multiple levels and rejuvenates Whanganui's cultural and built heritage.

Fig. 2.01: Victoria Avenue 1911

2.1 ADAPTIVE REUSE DESIGN APPROACHES

Adaptive reuse is becoming more of a common practice in architecture. Enabling better connection to place through design by using the existing layers of materials, history and narratives making the reuse more successful. When designing spaces through adapting or reusing it is always accompanied by the process of revaluation of its values and meanings. (Plevoets & Cleempoel, 2019)

With all adaptive reuse projects there is a risk of the project failing, in figure 2.02, the graph shows the amount of risk associated with each level of intervention from basic maintenance to total reconstruction.

Reversibility is key to a successful adaptive reuse, to allow for the building to be reversed, to bring it back to its earlier condition. Today it is seen as both valuable and even necessary as technology is forever updating and therefore less intrusive designs could be created. (ICOMOS, 2013)

- **Maintenance** basic adaptation
- **Stabilization** strengthening and major improvements
- **Consolidation** medium adaption and maintainence work
- **Reconstruction** substantial rebuilding of part or parts of the building

Fig. 2.02: Risks and levels of intervention of adaptive reuse.

<i>Philosophical considerations</i>	Policy articulated by client, conservation requirements, local policy.
<i>Location</i>	Present and proposed location within the new scheme.
<i>Dominance</i>	Relationship of building to other buildings and functions.
<i>Site</i>	Space required by the change in use.
<i>Conservation</i>	Degree of the building being protected.
<i>Significance</i>	Historical and architectural significance.
<i>Condition</i>	The buildings condition and flexibility to change.
<i>Scale</i>	Size and form of the existing building.
<i>Economics</i>	Viability, current asset value, value after adaption, costs in use.
<i>Function</i>	Potential of facilities and services.
<i>Legislation</i>	Building regulations, fire requirements, health and safety, disability access.

Fig. 2.03: Things to consider around adaptation.

Layers of history created over long periods of time can be used as an architectural design tool to allow different layers to be visible. Symbolic processes that can be reconstructed that will then leave representation that can inform the design's past creates a successful adaptive reuse (Plevoets & Cleempoel, 2019).

Physical intervention is where a specific element of the chosen space, which could include building within, building over, building around, building alongside, recycling of materials or vestiges, adapts the building to a new function (Robert, 1989). Other words commonly used around the term intervention include, insertion, installation, addition, transformation, conversion, modernisation, adaptation, replacement, corrective maintenance, reprogramming, intervention, superuse, artifice and installation.

Aesthetic relationship is the visual connection that describes the relationship between the old and new, building in the style of either. (Robert, 1989)

Figure 2.03 lists some basic considerations around adaptive reuse. These give an overall representation of some of the considerations which could limit an adaptive reuse project.

Douglas James created a flow diagram of the relationships between the different factors needed to take into consideration in an adaptive reuse project. Figure 2.04 illustrates the relationships between the design decision making factors.

Fig. 2.04: Relationships of decision making factors in building adaptation from Fig 2.2 in the Sustainable building adaptation book.

2.2 THE ART OF COPYING

Aemulatio - Copy and Improvement

To respect the historic and architectural significance of the adaptive reuse, a clear division between old and new is essential. Restoring a building is a highly specialised operation with a common aim to preserve and reveal the aesthetic and historic values of the building, respecting its original materials and historic documents (ICOMOS, 1964). New work, to places with cultural significance, should be readily identifiable as such, but must respect and have minimal impact on the cultural significance of the place (ICOMOS, 2013).

Over time many iconic adaptive reuse projects manifest the contrast between old and new, although in the past decade a new more poetic relationship with the existing building has been explored successfully. A relationship between old and new, which strives for similarity rather than contrast, incorporating the existing, hidden or lost qualities of the building and re-establishing them in a novel way. Using the buildings 'inner spirit' to build further into the 'interiority' of the space. (Plevoets &

Cleempoel, 2019)

Translation is showing parallels to the act of restoration. Returning a place to a known earlier state by removing accretions or by reassembling existing elements without the introduction of new material (ICOMOS, 2013). Restoration is interpreted to bring a building from a past existence into the present. Imitation is a more liberal adaptation of the building which becomes a more selective restoration. Aemulatio is the aim of attempting to surpass the original aesthetically as well as functionally.

There are many reasons for different forms of adaptive reuse projects. Figure 2.05 exemplifies the common adaptive reuse functions and forms related through the flow diagram.

Fig. 2.05: Forms of building adaptation graph.

FACADISM

Today facadism is a common term used in urban design. Traditionally it was used in urban conservation to describe the practice of preserving historic facades and the construction of new buildings behind it, or the creation of replicas or facsimiles of historical facades. (Plevoets & Cleempoel, 2019) The facades can also be used to make new buildings fit in with the current streetscape. Although it has been heavily criticized due to it potentially causing the loss of the buildings integrity from a conservation perspective. A loss of the values captured within the fabric behind the facade and a facade that is left out of context. (Plevoets & Cleempoel, 2019)

Retaining a historical facade may limit the opportunity for integrating contemporary architecture and may on a longer term lead to a process of ‘disneyfication’ of the historic core. It could also be seen as being a poor compromise between conservation and development towards a valuable strategy for adaptive reuse (Plevoets & Cleempoel, 2019).

The facade as a vertical division of space can be considered humans’ first invention to create an enclosure (Schumacher, 2002). Its design is about symmetry and balance, about the elevation of the centre and about maintaining the balance between blank wall and transparency. (Schumacher, 2002)

Due to technological advancements, the meaning of the facade as an architectural element may have been fully lost due to the invention of steel framing. This allows for large spans therefore the ability to design a wall which is entirely a window. (Plevoets & Cleempoel, 2019). Facadism has been used as a strategy to improve a buildings functionality, aesthetics and urban performance (Plevoets & Cleempoel, 2019).

REUSING THE RUIN

Acknowledging the building's ruins as 'Beauty of decay' can be successful as an adaptation and reuse strategy. People have been intrigued by ruins for many years, but their underlying motives and reasons for their interest have changed over time. It was previously for its archaeological and historical values, but more recently it's been more emotionally appreciated. (Plevoets & Cleempoel, 2019)

The visible signs of aging is often described as imperfections as it is the most obvious due to its immediate emotional effect. Decay, patina, crumbling and overgrown by nature are all effects of aging.

A different notion arises when the decay is not the result of gradual natural processes but is caused by an abrupt natural disaster or violent destruction by man (Sulfaro, 2014). Ruins which represent a trauma, are not merely a trace of tragic memory, they also become a sign to transmit a certain message to the future. Such ruins may become a commemorative monument, a place for remembrance or

forgetting. How they are dealt with also determines the particular message passed on (Plevoets & Cleempoel, 2019).

A main characteristic of a ruin is that it is abandoned and often has no use, therefore an informal, spontaneous or utilitarian adaptive reuse project could be executed. They are not planned therefore user-led often require minimal intervention and also done in a step by step trial and error basis.

DEMOLITION

“Deconstruction is the deepest form of adaptive reuse. When a whole building cannot be reused, there is still a way its components can.” (ReUSA)

In some instances adaptive reuse has been proved to be a cheaper alternative to demolition and reconstruction. Demolition in general is an expansive wasteful, messy, disruptive and dangerous process that can cause a lot of nuisance and expends more energy and waste than adaptation (Douglas, 2006).

Depending on a building's state, it shouldn't require demolition, although it may need to be earthquake strengthened. If buildings segments need to be deconstructed, the materials could be reused to make the project sustainable.

There is a need to preserve the existing built environment, whether these are fantastic structures of great historical or cultural significance or simply old buildings that have merely outlived their original use. There is a common need to retain them. They

are valued for their essential history, their intrinsic sense of collective memory, and the physical contribution they make to the built environment (Plevoets & Cleempoel, 2019).

Today it is seen as unacceptable to just knock a building down and start again, but actually finding a suitable function for the building is not as straightforward as it may at first seem. They are often in the wrong place for contemporary needs, of an appropriate size and shape for modern life, and unsuitable for the dynamic exchange necessary within the digital age (Plevoets & Cleempoel, 2019).

2.3 ENHANCING CONNECTION TO PLACE

The aging of an object is considered to contain the greatest value, the wear, the discoloration over time and the tarnish that repeated contact with human activity can produce, are the more pleasing characteristics. These cannot be created with a computer, constructed with an algorithm or manufactured in an offsite factory and shipped in.
(Plevoets & Cleempoel, 2019)

The appearance of age, especially within an existing building is created over time by repeated efforts of ordinary people, by the community who lived and worked in the particular situation and who infused the sense of life into it. (Plevoets & Cleempoel, 2019)

Weathering also contributes to the sense of value, the rain and win of the harsh winters or the relentless heat of summer tarnish the building. While other factors that contribute to the deterioration and decolourization that age bestows are pollution, contamination, and the carelessness of previous ages. Thus the

wear and tear of many years of abuse imparts a great authenticity to the place. (Plevoets & Cleempoel, 2019)

All existing buildings contain that sense of yearning for a time or place that is just beyond immediate memory. A move away from the artificial towards the real, the genuine, hand crafted rather than factory produced, towards things that contain character and worth rather than the anonymity of mass production. in a world of false truths and easy access to unlimited information, reality is highly prized. (Plevoets & Cleempoel, 2019)

‘Cultural heritage is today a key driver for urban regeneration in many historic towns and regions all over the world. Urban regeneration occurs through the functional use and reuse of historical buildings and sites but also as a means to create or strengthen a sense of

local identity and enhance public well-being and social inclusion’. (Plevoets & Cleempoel, 2019)

Buildings could be considered as a physical embodiment of cultural memory and historical narratives in terms of their conditions and materiality. (Fernandez-Galiano, 2000) Providing traces of our past in some cases it is hard to achieve the standards required in old existing buildings like air quality, acoustic and thermal performance requirements, fire safety and accessibility which often limit the extent of adaptation. (Langston et al., 2008)

The retention of places with ‘cultural significance’ has become an important consideration, and this significance impacts not only what is retained, but also how it is retained and what new, compatible uses can be accommodated. Where a building is considered significant, contemporary conservation policies describe compatible uses as those involving changes that require minimal impact to the significant fabric or

ones where the changes can be substantially reversible (Australia ICOMOS 1988)

Graffiti, a marker of time as a derelict site, can be preserved. This represents an attempt to avoid the erasing or obscuring of the layers of the past. Retaining these layers from the past, no matter how ‘ugly’, helps to communicate the full life of the building, and in so doing, add to its value to society. (Douglas)

Buildings are valued for their essential history, their intrinsic sense of collective memory, and the physical contribution they make to the built environment.

2.4 SUSTAINABLE METHODS

The ‘adaptive reuse’ not only extends a building’s life, but also provides the potential to improve its environmental performance and usefulness - thereby increasing its value (Ward, 2012).

The recycling of a building improves its value, use and performance. Adaptive reuse provides the opportunity to reduce the overall amount of energy consumed, to cut the amount of waste generated in construction and also to decrease the amount of operational energy used in an existing building by improving its environmental performance (Ward, 2012).

Life expectancy is an extensive issue with our built environment, as many buildings today are not built to last. ‘A buildings longevity is dependent on many factors including the components of which it is assembled, its ‘build quality’, flexibility to accommodate change in use, its location and the maintenance undertaken. External factors like rapid development in technologies as well as economic, social and political factors are hard

to predict and all have an effect on buildings life expectancy (Ward, 2012).

Today there is a need to consider alternatives to new build projects as there is widespread recognition that the construction industry has a significant impact on economies and the environment. Construction and demolition waste makes up half of New Zealand’s total waste going to landfill and each home construction generates an average of four tonnes of waste. A study done in Auckland found that construction waste is made up of timber (20%), plasterboard (13%), packaging (5%), metal (5%), and other (45%) (Material waste).

It is common practice to measure the energy consumed by buildings as the amount ‘embodied’ in their materials and construction, and the ‘operational’ energy consumed in their use. It is the ‘net energy’ of the building that provides an overall indication of its environmental impact. The net energy is determined by its combined embodied and

operational energy as well as its longevity. Therefore the longer a building lasts, the less its relative environmental impact (Ward, 2012). As industrial buildings are being left empty due to rapid advances in technology, changing consumer behaviour, the availability of labour and economic impacts these buildings have earned themselves their own terminology, often referred to as 'vips' (vacant industrial premises) or 'brown buildings' an adaption of the term 'brown field site' used to describe neglected and often contaminated industrial land.

Rick Ball (2002) noted that many of the old industrial buildings occupied prime and central locations compared with later development. Owing to their original functions, their occupation of sites such as waterfronts is seen as both desirable and valuable.

Recycling is one strategy to minimise the amount of construction waste, although there has been a slower uptake of recycling in construction compared to other industries due to the cost and energy associated with sorting and cleaning. The disposal of wastewater, the separation of materials without damage,

the need to exclude foreign materials impairing performance, and doubts about the performance standard of recycled materials.

The building's performance is not dependent on the building alone, but also the services and occupants within that building. Changing the use of the building provides opportunity to 'retune' it. When heritage and cost are constraints limiting major alterations to the building envelope, some strategies to improve thermal efficiency include, the introduction of a thermal labyrinth for pre-cooling of supply air and radiant heating as an alternative to the conditioning of the large volume.

At a larger scale one way to reduce energy consumption and pollution is through compact cities and urban containment. Adaptive reuse can also contribute to the development (and retention) of skills and knowledge at a local level. When old buildings are conserved, careful repair and reconstruction is required. This work usually uses traditional skills and locally sourced materials and can be labour rather than material intensive.

2.5 ADAPTIVE REUSE IN NEW ZEALAND

There are few examples of retrofits of buildings written about in New Zealand, although the paper 'An evaluation of successfully seismically retrofitted URM buildings in New Zealand and their relevance to Australia' evaluates the true success of existing retrofits in terms of seismic design, architectural appeal, heritage preservation, economic viability and observed performance which will provide good criteria to follow (Dizhur & Ingham, 2017).

Kiroff and Tan wrote a paper at the Institute of Technology in Auckland providing 'The foundations for an overall integrated approach to adaptive reuse' providing the factors which need to be considered when implementing an adaptive reuse policy as part of a sustainability strategy (Kiroff & Tan, 2015).

For the research of this thesis the use of international case studies in chapter four has been used to allow us to look at quality adaptive reuse projects from across the globe as New Zealand heritage is only recent history.

"Building conversion nowadays has been influenced by the ever-increasing demand for residential and commercial space." (Douglas, 2006).

Building conversions aim for economic use of materials, space, energy and a better utilization of the infrastructure, while also having the added benefits of shorter construction time, a safer and sustainable building site and reduced down time from inclement weather. Although the ongoing maintenance costs of an reuse project would usually be higher than a new build project. (Douglas, 2006)

It could be considered to be a greater employment generator in comparison to new construction, as the work is generally more labour intensive requiring 25% more employment per square meter of floor area than new builds. (Wilkinson et al., 2014)

The adaptation of existing buildings offers sustainable long term social benefits - architectural, cultural and historic aiming to suit the ever-changing community. Demolishing

an old building can now be seen as eradication of local identity, cultural heritage and socio-economic values. (Cramer & Breitling, 2007) Communities continue to recognise that future generations can profit from the conservation of heritage buildings through addressing the ever-increasing demand for properties and land. (Douglas, 2006)

It cannot be assumed that adaptive reuse projects naturally lead to improved social sustainability, gentrification of some sites, although successful in the physical regeneration of previously underused areas, can exclude people or segments of society who may have previously lived or worked there.

2.6 PRINCIPLES FOR ADAPTIVE REUSE

Based on the undertaken literature review it is possible to identify a set of key principles to consider when undertaking this adaptive reuse project, which are introduced here and then summarized in a checklist.

To gain an adaptive reuse approach which has been well designed and suits the needs of both the community and built environment a broad range of strategies should be simultaneously considered. These include conservation, the art of copying, facadism, reusing the ruin, and at the very least demolition are among the strategies discussed all to facilitate a more successful relationship between the user and designed adaptively reused space.

By creating a better connection to place the strategies identified from the literature include identifying and retaining any appearance of age which builds upon collective memory and strengthen a sense of local identity. While also reducing the stigma of it being hard to achieve current building standards in old existing buildings through adaptive reuse.

Standards consist of air quality, acoustic and thermal performance requirements, fire safety and accessibility which often limit the extent of adaptation.

When designing sustainable methods should be considered as they have the potential to reduce the amount of building waste generated or reuse elements of the existing built environment.

The main challenges surrounding adaptive reuse are the planning restrictions set by the council, the cost as many who do not believe in the benefits don't see it as an justifiable option. The earthquake strengthening of this building is also a very common threat to architectural heritage as all buildings built before 1970 are looking to be needing strengthening. Circulation, natural lighting and thermal performance are all common issues when using an existing building and changing its use. With well thought out programming and design these design issues can be mitigated.

CONCLUSION

The discussion and design that follow aspire to respond to the reviewed literature and especially to the key principles established through this literature review and discussed in section 2.5.

An checklist for adaptive reuse considerations were also conducted to address if adaptive reuse is a possible solution to revitalize a chosen building. The elements on this checklist should be conducted to gain a thorough understanding of the risks and possible outcomes.

CHECKLIST FOR ADAPTIVE REUSE CONSIDERATIONS

Fig. 2.06: Checklist Considerations.

-
-
- 1 CONDUCT A FULL HERITAGE ASSESSMENT
 - *Conditions of integrity and authenticity.*
 - 2 RECOGNISE THE EXTENT OF DECORATIVE DETAIL
 - *Solution being able to consult an regional heritage specialist.*
 - 3 UNDERSTANDING HERITAGE VALUE OF THE SITE
 - *Is this a flagship building featuring an architectural style that needs to be retained?*
 - 4 PROCESS COMMUNITY NEEDS
 - *Who to consult with: public, invi, council, families, schools, experts in the field or enthusiasts.*
 - 5 CONSIDER SURROUNDING ENVIRONMENT
 - *Has character been retained in the neighbourhood?*
 - 6 IS THE BUILDING EARTHQUAKE PRONE?
 - *Cost and will it change the historic integrity of the building.*
 - 7 POTENTIAL FUTURE USE POSSIBILITIES
 - *Options, Mixed use, creating connection to place. Encourage first floor residential where possible.*
 - 8 TIME FRAMES
 - *Achievability, objective achieved, statutory compliance, strategic fit.*
 - 9 COST
 - *Project funding*
 - 10 KEY RISKS
 - *Archaeological, Ground conditions, Asbestos / Lead paint, Access to site, Party walls (surrounding site), Lack of info on existing buildings*
 - 11 BUILDING DESIGN
 - *Building core, Circulation, Natural light, Services, Fire safety design, Building code requirements, Accessibility, Connection to place, Structural requirements, Architectural features, Character / style*

03

CONTEXTUAL POSITIONING

Fig. 3.01: Sheep under a tree on a farm near Whanganui.

A black and white photograph of a rural landscape. In the foreground, a group of sheep are standing on a grassy field. In the background, there are several large, leafy trees and a hillside. The image is slightly blurred, giving it a vintage or artistic feel.

In order to understand how to apply the information acquired through the literature review on the context, it was very important to do an analysis of the context and start positioning the project in relation to the chosen context.

Some explorations of the context, of the site, potential for the design iterations were undertaken in this chapter.

Within the contextual positioning chapter, there are two main explorations which have been explored through the analysis of existing and historic buildings .

3.1 BUILDING FORM

In order to understand how to engage and work with heritage architecture its best to understand their architectural characteristics to retain the character of the existing building.

Heritage decoration includes any additions to the facade which adds detail beyond the structure. This is some of the more common decorative features which add heritage integrity if used appropriately.

Fig. 2.02: Sketch plan illustrating a set back building.

Set backs vs no set backs

Setbacks are usually used in architecture as the recession in the profile of a larger building allows more sunlight to reach the lower floors or streets below.

Fig. 3.03: Decoration features of a architectural styles.

Pediment

The pediment is an architectural element found particularly in classical, neoclassical and baroque architecture, and its derivatives. Consisting of a gable, usually of a triangular shape, placed above the horizontal structure of the entablature, typically supported by columns.

Fig. 3.04: Street facade and its terminology.

Parapet

A parapet is a low wall projecting from the edge of a platform, terrace, or roof. Parapets may rise above the cornice of a building or form the upper portion of the wall.

Verandah

In architecture, most frequently, an open-walled, roofed porch attached to the exterior of a domestic structure and usually surrounded by a railing.

Windows

Translucent view points from the building interior through the facade. Often placed symmetrically creating the facade with detailing surrounding them to accentuate the windows.

Fig. 3.05: A canopy creating shelter for the building users.

Awning

An architectural projection that provides weather protection, identity or decoration.

Having a better understanding of heritage decoration and terminology around facade design helps to recognise the architectural detail. These are commonly stripped over the buildings lifetime. By adding or removing certain elements from a buildings facade, the building's form can become disproportionate.

In reflection of understanding elements of the architectural decoration on the building facade, it illustrates the elements which are often first to be removed.

3.2 CORNER BUILDING ANALYSIS

Figure 3.06 shows an analysis of the existing corner buildings located up Victoria Avenue in Whanganui's early days. They illustrate the proportion, placement of windows and also the architectural detail making them prominent buildings.

Figure 3.06 uses the colours and lines to graphically show the buildings form and scale. The glazing, floor levels, extrusions and decorations have been overlaid to create the imagery on top of an old photograph. This demonstrates the extent of detail, character and prominence the buildings had previously exhibited. The visual importance of these corner buildings are heightened as it takes up more footpath's footprint than a regular building.

Victoria Avenue / Ridgeway Street

Victoria Avenue / Guyton Street

Victoria Avenue / Maria Place

Victoria Avenue / Ridgeway street

Victoria Avenue / Maria Place

Victoria Avenue / Majestic square

Taupo Quay / Hill Steet

Taupo Quay / Market Place

Fig. 3.06: Corner building facade analysis shown through lines and colours.

3.3 COMPARISON IMAGES

These comparison photos of Whanganui's past and present, better illustrate how architectural detail has been lost over time.

Elements of the buildings in Figure 3.07 which were removed include the parapet, pediment, turrets, verandahs, awnings and cornice detailing. This was due to the need for earthquake strengthening after the Napier earthquake in 1931, therefore reducing the risk if collapsing.

The main reasons for these buildings appearances to change is due to structural stability but also a buildings change in use with little consideration of aesthetic style.

Figure 3.07 also emphasizes how the car has taken over the street. In the future a more pedestrianized design again in the future will create a better community development.

The structural elements have not been lost over the buildings lifecycle but the facade detail has been lost.

Fig. 3.07: Historic and current images of Victoria Avenue illustrating the heritage detail lost.

Past

Current

3.4 VICTORIA AVENUE HERITAGE ANALYSIS

In order to understand the total context of heritage buildings in Whanganui, analysis is done on what existing heritage buildings are and where they are located as well as the context between them.

Figure 3.08 is an analysis map of Whanganui indicating the different periods of which these buildings were built, showcasing the large range of building periods all located in close proximity up Victoria Avenue. Building heights are typically 2 -3 stories.

While sometimes the facades are still in contact with the adaptive reuse term of Facadism. The buildings behind them are often corrugated iron tin sheds, which are cheap to construct making the buildings feel fake.

Many of the buildings still have their façades , many in a some what in a reversible state. The large variety makes Whanganui unique and its especially evident looking down Victoria Avenue.

Fig. 3.08: Diagram illustrating heritage buildings and their period on the main street.

Figure 3.09 illustrates the street elevations. These have been sketched to exhibit the variety of architectural styles within one cross road. As can be seen in Figure 3.09, Moutoa Quay, the waterfront, has little architectural style compared to the building front facades on Taupo Quay.

Fig. 3.09: Elevation sketches of the street scape.

Taupo Quay

Moutoa Quay

Taupo Quay

Taupo Quay

Victoria Avenue

Whanganui city Bridge

3.5 HISTORIC CROSS ROADS SKETCH ANALYSIS

These sketches were done of the main cross roads up the street when analysing the main street of Whanganui, Victoria Avenue. The main finding of these sketches was that the Ridgeway / Victoria Avenue intersection was a lot better kept in terms of heritage integrity. Whereas the Taupo Quay / Victoria Avenue intersection had not only largely lost its connection to the river but also the decorative features making these buildings iconic.

The Taupo Quay sketches show these buildings need some care and attention with architectural thought to bring people into the buildings and site, as well as integrate a better connection with the river.

Figures 3.11 - 3.14 illustrates the current corner façades on Victoria Avenue. They are showing context of the existing character of the site but also represents façades which have had both their style and architectural detail looked after and stripped.

The use of the sketches to draw what is seen has given a different perception on the detail of the Victoria Avenue street facades. You begin to understand the depth of the detail within each of the building facades.

Ridgway Street / Victoria Avenue

- South East Cross-Roads Persepctive
- North West Cross-Roads Perspective

Taupo Quay / Victoria Avenue

- South East Cross-Roads Persepctive
- North West Cross-Roads Perspective

Fig. 3.10: Victoria Ave plan sketch.

Ridgway Street / Victoria Avenue

Fig. 3.11: South East Cross-Roads Perspective

Fig. 3.12: North West Cross-Roads Perspective

Taupo Quay / Victoria Avenue

Fig. 3.13: South East Cross-Roads Perspective

Fig. 3.14: North West Cross-Roads Perspective

3.6 POTENTIAL SITE ADAPTATIONS

Fig. 3.15: Multiple site adaptations shown through sketch.

Addition of floor area,
although less light into lower
levels. Green roof
opportunity.

Additional floor and more
encroachment towards the
river for greater connection.

Addition of multiple stories
in prime real estate as well as
fitting building with its
surrounding context.

Connection of buildings
either side of city bridge
creating entrance to city.

Additional buildings as well as
purposely left space for green
area.

Demolishing of this buildin
to create park in city centre
and greater connection to
river.

Subtraction on southern face
to add additional light and
larger entrance / walkway to
river.

Shelter provided at street
level.

POTENTIAL SITE ADAPTATIONS

This series of adaptations in Figure 3.15, of the cross roads illustrate several potential adaptive reuse solutions. All of which were created to fit the site and create better use of the existing buildings, enhancing connection with the river and having community based design.

The intention was to explore a wide range of potential adaptations which could suit the site and achieve the objective of better connection to place.

The drawings were done in an iterative fashion through sketching over top of the existing buildings with translucent paper. These design explorations were created from ideas taken from the literature.

From this iterative process, this showed multiple design options quickly and allowed the decision making process of multiple solutions to manifest quicker.

CONCLUSIONS

Conclusions that are starting to position my design include; when working with or around heritage buildings, building form in terms of proportion and architectural style is important and can be often lost through multiple renovations within a buildings lifetime.

Creating a design which fits within the building's surrounding context will achieve a better connection to place. Therefore intervening on four buildings rather than one is a decision going forward due to the importance of the context which was identified in section 3.5.

Due to the cohesion and the way the façades interact with each other it is important to interact with more than one building at the same time.

Having a more subtle intervention could be beneficial for this thesis so it can intern, fit with an existing context as well as recognise the potential of urban space which each building effects.

Having a strong understanding of heritage building terminology can greatly benefit the adaptive reuse outcome due to sometimes a more sympathetic response to the buildings history.

Pedestrianising the streets making them better designed for people rather than cars can also be used as a design tool to revitalise the street scape.

Having a large range of adaptive reuse potential site adaptations gives opportunity to discover possibilities and create connection more quickly.

A black and white historical photograph of a busy wharf. Several large sailing ships with multiple masts and complex rigging are docked along the pier. In the foreground, a group of men in period clothing are standing on the wooden deck of the wharf. To the right, there are stacks of lumber and other cargo. The background shows a body of water and distant hills. A large, stylized pink number '04' is superimposed over the center of the image.

04

PRECEDENT STUDY

Fig.4.01: Whanganui Wharf 1890

The precedent study was conducted to gather inspiration and analyse the existing adaptive reuse projects to learn from their successes and failures.

These case studies were chosen as they all had elements or attributes that best showcase strategies of adaptive reuse. These are made up of mainly intentional examples as many nations around the world have been successfully adapting and reusing buildings for many decades longer than New Zealand.

4.1 GROSVENOR TAVERN

367 Moorhouse Avenue, Christchurch

Type: Formerly Grosvenor Hotel converted mixed commercial and hospitality.

Year of construction: 1877

Adaptive reuse: 2010 - 2012

Fig. 4.02: (Left) Exterior

Fig. 4.03: (Above) Interior

Fig. 4.04: (Below) Night exterior

The commercial classical building was designed by pioneering Canterbury architect Samuel Farr. The masonry building had many common features of Farr's commercial buildings including segmental-arched windows with prominent architraves, and a heavily corbelled parapet incorporating his favourite circular motif. The large segmental pediments above the door cases on the corner and Moorhouse Avenue frontages are particular to this building however.(Vair-Piova, n.d.)

The fate of Grosvenor's was questioned in the early 2000's due to loss of traditional industries and change in New Zealand drinking culture which saw its closure. The hotel became vacant for some time and was at risk of demolition. Before it underwent extensive renovations in 2010, which secured the building's future and ensured that it survived the 2010/2011 Canterbury Earthquakes. (Vair-Piova, n.d.)

Earthquake strengthening was crucial to the life of the building being prolonged. The concrete roof was replaced with a lightweight corrugated iron roof, structural steel

reinforcing was added to exterior masonry brick walls and new interior concrete block and timber walls were constructed. (Vair-Piova, n.d.) The addition of structural steel frames allowed the interior to have a stripped back aesthetic and the open plan layout which was designed to maximise collaboration and create a welcoming environment for clients. (Strategy circa 1877, n.d.)

The building has new internal steel framing and concrete foundations, yet retains its 1877 facade. Farr's unique heritage details within the facade have been highlighted by the use of a well chosen paint palette. In particular the segmental-arched window surrounds were highlighted as they have been painted white. The Grosvenor hotel's facade restoration is one in which takes the building back to its heyday. The chosen colour palette and details work well in today's environment and bring it into the 21st century.

That being said, there has been no boundaries pushed with the external appearance of the building. This case study has used the adaptive

reuse type of Facadism, with a large influence of restoration which is common when dealing with heritage buildings. As discussed in chapter two, a common issue is a town being stuck in its past with old facades or the creation of 'fake' heritage when the building

becomes a replica. This building, in terms of adaptive reuse has been successful due to its facade. However due to the internal layout of the building being unrecognisable it could be seen as having lost connection and identity.

Fig. 4.05: Sketch illustrating the addition of structural support and foundations to the heritage building.

REDACTED

4.2 ABBOTSFORD WAREHOUSE APARTMENTS

Melbourne, Victoria, Australia

Who/Architect: ITN Architects

Type: Formerly a Catholic Technical College converted into residential apartments.

Area: 590m²

Adaptive reuse: 2012

Fig. 4.06: Left - Abbotsford Warehouse Facade.

Fig. 4.08: Bottom left - Upper floor apartment.

Fig. 4.07: Above - Interior living room.

Fig. 4.09: Bottom right - Balcony behind existing facade.

REDACTED

Fig. 4.10: Second Floor Plan.

REDACTED

Fig. 4.11: First Floor Plan.

REDACTED

Fig. 4.12: Ground Floor Plan.

This former Catholic Technical College has been converted into two, three storey warehouse apartments by removing the roof, retaining the lower floors and constructing a new upper floor which has been set back on all sides to create upper decks and balconies (ITN Architects, n.d).

Many of the former industrial buildings simple details were retained as well as the external walls and lower floors. New elements and materials sit side by side with the old to create contemporary apartments with some old world charm. (ITN Architects, n.d).

Four metre high windows were converted into the steel and glass front doors and electric garage doors to create an overwhelming effect upon entry, and match the scale of the four metre high ceilings. Old timber columns were removed, repaired and reinstated with concealed steel columns within for strength (ITN Architects, n.d). Hiding these structure can be diminishing although in this case, this did allow the building style to be the same.

A large roof terrace was obtained by removing the roof structure which compensates the lack of back yard space and gained the same

housing quality as a conventional family dwelling. It needs to be highlighted that this intervention was done without any influence and disturbance of the visual historical identity of the building from ground level (Petković-Grozdanovića et al., 2016).

The buildings stepped back floors from the facade creates a unique design feature bringing natural light into the building on multiple levels. This feature opens up opportunity for natural daylight to enter places in which light usually does not shine. It also does so without sacrificing any of the facade.

REDACTED

4.3 THE GREEN BUILDING FER STUDIO

East Market district, Louisville, Kentucky, United States

Who / Architect: (fer) studio

Type: Formerly dry goods store turned into a mixed-use commercial building

Area: 945m²

Year of construction: 1900

Adaptive reuse: 2008

REDACTED

REDACTED

REDACTED

Fig. 4.13: Left - Exterior view of The green building.

Fig. 4.15: Above Right - Work space.

Fig. 4.14: Above Left - Ground floor gallery space.

Fig. 4.16: Bottom Right - Interior view.

REDACTED

Fig. 4.17: Above Left - Ground floor.

REDACTED

Fig. 4.18: Above Middle - First floor.

(Fer) Studio wanted a design which created an experience of place within the buildings surrounding environment. Having an understanding of the building and its context to determine its weak points was key. Through the design of triple height spaces adjacent to single height creating contrast to have a sense of openness then more intimate spaces for the buildings many different uses. (The Green Building / (fer) studio).

In addition to reusing the buildings original shell, a lot of the materials were reused also. Recycled materials, including 100% of the flooring, 70% of the windows, and 80% of the insulation, were also made from recycled blue jeans (The Green Building / (fer) studio).

This precedent was chosen for its clever design of multi height spaces with the incorporation of a mixed use programme. The long narrow site of the former dry goods store needed light and fer studio did a good job of bringing light into the buildings core. This was done with the large modern curtain wall addition through the middle of the building. This large structure bought a modern feel to the building going away from the heritage of a dry goods store. This dramatic change has resulted in the

Fig. 4.19: Above Right - Second floor.

interior of the building no longer feeling like a historic building, disproportionate to the heritage facade.

One of the strongest features of this design are the sustainable features. These were architecturally designed to complement the buildings history. The reuse of the original materials grounds the new design within the buildings history. This makes it stand out as a case study exemplifying its sustainable success.

Fig. 4.20: Bottom - Long section.

Fig. 4.21: Above - Original Facade before the adaptive reuse.

Fig. 4.22: Bottom - Original façade of the 115 year old former dry goods store.

4.4PARAMOUNT HOUSE HOTEL

80 Commonwealth St, Surry Hills NSW, Australia

Who / Architect: Breathe Architecture

Type: Formerly warehouse associated with film pioneers
Paramount Pictures into a boutique hotel

Year of construction: 1930

Adaptive reuse: 2018

Fig. 4.23: Above - Street view of Paramount House Hotel.

Fig. 4.24: Above Left - View from bathroom through to bedroom in room.

Fig. 4.26: Bottom Left - Contrast of facade of old and modern.

Fig. 4.25: Above Right - Textured existing wall and modern furnishings.

Fig. 4.27: Bottom Right - Varying textures through the wall.

Fig. 4.28: Above - First Floor Plan.

Fig. 4.29: Middle - Ground Floor Plan.

Fig. 4.30: Bottom - Section through Hotel.

The paramount hotel is a three story 1930's brick warehouse located in Sydney. Its surrounded by other heritage buildings in the inner city located on an irregular block corner. Its adaptive reuse takes inspiration from its past life and historic context as Paramount Pictures Studio.

The idea behind the design was about marrying the past and present in a way that captures "the spirit and excitement of the golden era of film," explains Jeremy McLeod, the director of Breathe Architecture (Breathe Architecture).

There is a clear contrast between old and new as the old is exposed with existing brickwork stripped and expressed (Breathe Architecture). Breathe Architecture have successfully bought forward the historic nature of this building in through its adaptive reuse. They have done this through expressing the imperfections of decay and years of layers of wear. They have celebrated the character of the historic building by making them a feature within the modern retrofit. This design principle aligns with the literature on reusing the ruins, which they have done with great effect.

The facade creates a subtle extension to the building as it contrasts the existing brick exterior below. The detail of the panels allow for it to be seen as one from a distance while looking out from the interior of the facade, it acts as a barrier. The panels manage the amount of light and ventilation into each of the hotel rooms. It also creates an unique view from each of the rooms. This design's facade addition can be considered to be successful due to the choice of materiality and transparency of the design. The modern styled addition complements the historic facade below as it fits into its surrounding context.

Fig. 4.31: Left - Hotel room view of window seat and facade.

For Breathe Architecture sustainability was a priority for the design. While they did not reuse the old materials they did intend to reduce the amount of building waste produced. Where possible they also locally sourced materials.

Fig. 4.32: Right - Close up of mesh facade.

4.5 STANDARD BUILDING

201 Princes Street, Dunedin, New Zealand

Who / Architect: Baker Garden Architects Ltd

Type: Formerly insurance company building converted cafe.

Year of construction: 1875

Adaptive reuse: 2015

The Standard Insurance Building underwent an extensive restoration to have earthquake strengthening as momentum grew in Dunedin to revitalise its old buildings. The facade got a face lift as well as an internal addition of an innovative light-filled multilevel atrium linking all the floors and bringing light into the lower spaces (Gibb, 2015). In the early 2000's it sat vacant until its conservation process began in 2009.

The restoration included the reinstatement of the historical facade, it was previously stripped, therefore the original plaster details and mouldings were replicated, based on early photographs (Kerr, 2011).

Fig. 4.33: Left - Standard building facade.

Fig. 4.34: Right - Facade before the restoration project.

"It's an 'absolutely incredible' conservation and adaptive reuse project. It's a real big leap forward in terms of what people are doing with heritage buildings."
- Dr Hazelton

This precedent shows a successful restoration of the building's original facade, with replicated plaster detail and mouldings. Knowing which period and style of facade to redesign is interesting as over its lifetime, there would have been many alterations in colour and depth. The addition of fire exits and plumbing would also create a very altered building facade. Today it can be seen as a replica of its historic state which is doing itself justice through proportion, colour palette and decorative detail.

While this is seen as a replica or 'fake' heritage, the attention to detail in recreating the original facade can be applauded. The recreation of the facade has reinstated the life and history of this building.

Fig. 4.35: Above Left - Historic image of the standard building in its early years, 1880.

Fig. 4.37: Middle Left - Standard building in 1920's.

Fig. 4.36: Bottom Left - Addition of staircase and light well.

Fig. 4.38: Right - Standard building during the restoration.

CONCLUSION

These case studies have been used to initiate design strategies and ideas which could be trailed in my design experiments. The case studies allow for critical design analysis of both successful and failed design strategies. These strategies can then be joined or added to the strategies established in the literature review chapter.

To draw people back into a site, the building needs to be brought back to its heyday. With the design being of high quality, it then has the opportunity of empowering the occupants and therefore can create better connection to place. This in turn is designing for the users and the future generations.

Inclusion of expression of the buildings past can bring the design to life, while also allowing the idea of memory to create design. Designing at multiple scales allows the design to be read uniquely to each occupant who uses the building therefore creating an unique relationship with the area.

Natural light, proportions of areas and circulation are crucial to creating an adaptation that should succeed, as well as having a cohesive design style which is authentic or compliments the modern addition. This can be achieved through a well-chosen heritage colour palette and wise materiality choices.

Above all, these case studies show that these projects needed first of all someone to believe in the buildings potential, they all show high quality well thought out designs which in turn give the opportunity for the revitalization of the building's surrounding area. Therefore the design need to reflect the surrounding community and be adaptable to change in the future. An aspect that was beyond my scope of this research was talking to local community groups, the council and enthusiasts. This is a common theme of these adaptive reuse projects and one of the main factors that help them succeed as a design.

05

SITE ANALYSIS

Site analysis was undertaken for the design potential of the site itself, therefore key decisions were made on intervening on four buildings rather than one.

Having understanding of the site and surrounding context for an adaptive reuse project is very beneficial at the design stage. As the needs of the community, future design developments and success of the existing can be analysed.

Designing for the future will encourage growth by others in the surrounding area.

Fig. 5.01: Drafting sheep at a woolshed in 1930's.

5.1 WHANGANUI

Whanganui was chosen as an example in this thesis due to it being a rural town of New Zealand with a rich cultural heritage with both Maori and European. This distinct character of early settlement in Whanganui is irreplaceable and needs to be recognised and protected for both the present and future generations of Whanganui (Wanganui Town Planning Dept, 1978).

Having the river in the heart of the project makes it relevant to many other New Zealand towns which also have strong identities to rivers. This adaptive reuse project should also benefit any revitalisation of old towns in New Zealand with connection to place.

A key design driver of the site is the connection between the town centre and river as well as the existing heritage of Whanganui. A coherent collection of architecture from many eras makes it a feature. Victorian and Edwardian styles co-exist with mid-twentieth century modern architecture. This creates a strong sense of place and identity especially due to the concentration of significant heritage buildings (Cochran, 1990). Making sure the town doesn't get stuck in its past is also a key driver.

WA

“Here one can live

– A letter

WHANGANUI

in ease, without cost or trouble, in one of the most genial and healthy climates in the world,
and where it only requires the hand of man to make a Paradise.”

Letter to England describing the Whanganui Settlement by Dr G Rees December 1842

Fig. 5.02: Sketch of Whanganui city from Durie Hill.

5.2 EUROPEAN SETTLEMENT

Whanganui is an area of early European settlement due to being the Second New Zealand Company settlement in New Zealand (Cochran, 1990). The ships arrived in the area in 1814 from London.

The possible agricultural potential of the area was then seen. The first real European settlers were the whalers and traders, which led to the falling out between Maori and European due to unfair trade leading to the local Maori selling the heads of visitors in the 1830's.

The New Zealand Company sold a lot of land from London, all unseen, un-surveyed and land in which they did not own. In May 1840, the local land was sold by the native chiefs to the New Zealand Company however the fact that the Maori chiefs returned gifts was a clear indication they had not understood the nature of the land transaction. This led to the beginning of many land troubles.

In February 1841, the first settlers arrived in Whanganui from Wellington by boat. But many

made the five day walk from Wellington along the beach. The area of Whanganui continued to be attractive to settlers for its flat land which could easily be cleared cheaply, while the river also provided excellent communications.

By 1860, Whanganui had grown to 1,500 inhabitants and the next period of conflict began between Maori and settlers. It had become a thriving rural servicing centre and port as well as still being a military centre.

Whanganui like many early New Zealand towns was very much a town of timber and tin resulting in fire being an ever-present danger. Flooding too was a danger with serious flooding of the town centre in 1858, 1891 and 1904 and this is still a problem today. The boom years in Whanganui were considered to be the 1910's and 1920's where the port was busy, farming was prosperous, and many new buildings were built. Many of these buildings are those standing today.

In 1900 the population of 8,524 then grew to

27,000 by 1940. The main industry was rural produce, it was Whanganui largest income and was once regarded as New Zealand's largest cattle shipping centre. Wool sales were also a big income earner with the wool being shipped directly from Whanganui all around the world.

There has been little thought gone into the heritage value of industrial and commercial buildings, which makes up Whanganui's heritage due to the river bringing in a large amount of trade via ships to New Zealand. When the industrial buildings use was no longer required, they were often left vacant and can only be seen as an eye sore to the general public while deteriorating. Lack of respect to heritage, the buildings are often demolished. Therefore denying the buildings potential to have another life cycle.

5.3 WHANGANUI DEMOGRAPHICS

Whanganui is a city located on the west coast of the north island of New Zealand.

After many years of population decline the city population has grown in the last year by 700 people. (Waters 2018)

The test census figures show the population now stands at 44,500 people.

“The population increase reflects what people are experiencing – a lot of Whanga-newbies, rising house prices, and a growing economy”. - The mayor Hamish McDouall

It has now become an attractive place to live with more jobs available and cheaper rent than other cities. There has also been a growth in international migration.

Fig. 5.03: Map of New Zealand indicating the region of Whanganui.

	Whanganui		New Zealand
Population	44,500		4,951,500
Maori Population	9,687	23%	15%
	Speaks Maori	2,202	5.2%	3.1%
New Zealand Born	34,611	82.1%	70.3%
Average Household Size	2.36		2.66
Median Home Value
1 Bedroom	\$146,000		
	2 Bedroom	\$162,500		
	3 Bedroom	\$205,000		
	4 Bedroom	\$227,000
Median Weekly Rent	\$300 / week
Annual Growth	+16%		
	Dwellings Unoccupied	1,908 / 17,391	9.8%	11.1%

Source: NZ Stats Dept

5.4 WHANGANUI CURRENTLY

Currently there are recommendations on the guidelines for the conservation, restoration and enhancement of heritage buildings within the conservation areas in Whanganui.

The most cost effective and dramatic method of improving individual heritage buildings and the street scape is the heritage paint colours.

Signage on the heritage buildings is a major problem in Whanganui, traditional signage was always painted on and was usually located on the parapet of the building, on the verandah fascia or painted on the window glass.

Verandahs should be of suspended or cantilevered style and posts occur they should be non-structural. There is encouragement for the replacement of traditional verandahs and architectural detail.

The historic architectural features are often altered on the shop fronts of commercial buildings and with sensitive rehabilitation the revitalisation is possible. In Whanganui many

of the heritage buildings suffered from a loss of significant towers and very commonly decorative ornaments and pediments are missing. A large amount of the detail seemed to have been removed after the 1931 Napier earthquake. They could have been replaced with lightweight materials although due to cost it was believed not necessary.

5.5 MAKING WHANGANUI VISIBLE

‘Making Wanganui Visible’ by Urbanismplus Ltd, is a key document due to it recognising the needs for Whanganui’s future. It discusses the opportunities and challenges the town faces in Whanganui’s town centre. The potential sustainable urban solutions and a vision for the upgrade of the town centre. All while taking into account retail, arts and culture, tourism, employment, community, built form, river connection, transport and nature.

positioned to serve its community, attract additional residents and investors and those who may wish to do business, live or play here in the future.

There is a significant level of oversupply of town centre retail and office floor-space with low levels of occupancy above ground floor level. Some early interest in the conversion of retail property to residential use is evident although low capital and rental values together with Building Act requirements make such proposals marginal at best.

Whanganui has an attractive town centre environment with a lot of potential but some tough decisions around land use and floor space in the town centre are necessary if Whanganui is to be strongly and positively

Fig. 5.04: Strategies taken from 'Making Whanganui visible' to regenerate Whanganui's town centre.

Within the regeneration strategy issues which could be accomplished through the chosen site include;

- Significance of the river and river-front linkage
- Physical shift of town centre retail towards the river in the last decade.
- Reflection of multi-cultural community in the physical urban environment.
- Enhancement of the built heritage resource, recognition of earthquake prone building and design guideline issues and opportunities.
- Technology, government policy and earthquake prone building implications for the existing town centre.
- The potential for new technology to significantly impact the built environment through reducing demand for retail premises and demand for flexible, mixed use developments.
- Implications of the trend for commercial activities to establish in locations beyond the existing commercial area on the

residential fringes or adjacent to key transport routes.

- Integration and enhancement of transportation facilities consistent with objectives of the Whanganui Urban Transportation Strategy 2011.
- Commercial and residential location and development trends. Impediments to potential demand for future residential development within the town centre area.
- Creating an attractive shopping experience

Whanganui's stock of preserved historic buildings defines the town's character for a large part. However, many of these buildings are underutilised or vacant or even under threat of demolition. For the well-being of the centre, these buildings generally deserve revitalisation, supported by public space enhancements.

WHANGANUI DISTRICT PLAN.

Fig. 5.05: District plan map indicating the land use.

- Residential Zone
- Rural Lifestyle Zone
- Green Area
- Outer Commercial Zone
- Inner Commercial Zone
- Rural Production Zone
- Rural General Zone
- Arts and Commerce Zone
- River / Sea
- Manufacturing Zone
- National Roads
- Urban Boundary

Whanganui has a strong agricultural community. With manufacturing zones taking up a lot of prime real estate along the riverfront.

WHANGANUI CITY PLAN

Fig. 5.06: City plan show the citys sprawl along the river.

The city is centred around the river with sprawl along the river's edge. The area attracted people because of its flat plains which were seen to be great for agriculture. It's surrounded by hills. The three car bridges make better connection to suburbs and link the Taranaki with the lower north island. The river was the primary way of transportation before the railroad and state highway were seen to be more economical.

500m

CITY CENTRE PLAN

Fig. 5.07: City centre plan representing zones and roading.

Due to the flat lying town centre the sprawl of residential is up the large hills on the east side of the river to gain the views. The green areas situated within walking distance of the town centre create perfect outdoor spaces.

150m

PANORAMIC VIEW OF WHANGANUI

A	River bank walkway running the length of Taupo Quay.	F	River looking south, 6km to the sea.
B	Whanganui river upstream from site, often used for rowing and waka ama and boating activities.	G	Industrial area of Whanganui with the board walk wharf.
C	No connection to river with harsh concrete retaining wall. Road to kowhai park and Whanganui East.	H	Central city.
D	City to sea bridge, looking towards Durie Hill, which is mostly residential.	I	Looking up Victoria Avenue.
E	Main road entry into Whanganui city centre. Again harsh concrete with no connection to river.	J	Chosen building.

Fig. 5.08: Panoramic view from the city bridge of Whanganui.

Fig. 5.09: Sketch of Whanganui's main street.

VICTORIA AVENUE

5.6 RIVER IDENTITY

In New Zealand the Whanganui River is the longest navigable river running from Mount Tongariro to the Tasman Sea. The river has provided both physical and spiritual support to the local iwi and their hapu. It also provided for the Maori population until the arrival of Europeans.

New Zealand's longest standing legal battle ended in March 2017 with the Whanganui river becoming the first river in the world to gain its own legal rights as a human entity. Just five days after the same legal person-hood was given to the river Ganges in India. This shows the potential of how influential and innovative New Zealand is to the rest of the world. (Innovative bill protects Whanganui River with legal personhood)

"The new status of the river means if someone abused or harmed it the law now sees no differentiation between harming the tribe or harming the river because they are one and the same." – Eleanor Ainge Roy

(After 140 years of negotiation, Maori tribe wins recognition for Whanganui river, meaning it must be treated as a living entity.)

In May 1940, the crown got involved with the Whanganui iwi and eight years later it purchased its first large block of land and started to claim authority over the river. The following 100 years lead to a steam service being introduced, forest cleared from the river banks, gravel and sand extracted from the river bed and water diverted into a power scheme all damaging the health and wellbeing of the river. (Change-maker—The Whanganui River, n.d.)

The Whanganui, then, was a river without beauty, in a region without a sense of place, in a community without a developed sense of belonging. In the name of progress, the post war town turned its face away from the river.

- (Young, 1998)

*Ko au te Awa, ko te Awa ko au
I am the river and the river is me.
– Traditional saying of Whanganui iwi.*

Fig. 5.10: Above - River view looking towards the cross roads.

Fig. 5.11: Left middle - Walkway looking south towards the sea.

Fig. 5.12: Right middle - Looking up river to the location of the Saturday markets.

Fig. 5.13: Bottom - Looking across the river to the Saturday markets.

The river played an important role for the social life of the Whanganui township with picnics, swimming, boating and rowing being popular. The tribes of Whanganui river travelled by waka, caught tuna (eels), built pa (villages) on its banks and fought for it for centuries. The river includes the whole river system, its spirit, and the people related to it.

Today due the river now being respected, changes are being made. The river banks are being replanted to prevent erosion and the use of the river is monitored. There is currently not enough widespread knowledge about how the river has gained its own identity. The move reflects Whanganui's unique relationship with the river and better understanding of its deep spiritual connection.

*Turangawaewae as foundation.
One of the most well known and
powerful Maori concepts.
Turanga – standing place
Waewae – feet
Often translated to 'a place to stand'
Where we feel especially empowered and
connected.
Inner sense of security and foundation.
(Taonga, n.d.)*

Fig. 5.14: Left above - Looking up river towards the mountains.

Fig. 5.15: Left middle - The Waimarie paddle steamer.

Fig. 5.16: Left middle - River flooding diagram of the 100 year flood.

Fig. 5.17: Left bottom - 2015 flood in the town's centre.

Fig. 5.18: Middle top - Whanganui flood 1940 from Taylorville.

Fig. 5.19: Middle middle - 1904 flood eroding the bank opposite the city centre.

Fig. 5.20: Bottom middle - 1940 flood on the corner of Taupo Quay and Victoria Ave.

Fig. 5.21: Above right - Tourism on the Whanganui river.

Fig. 5.22: Bottom right - The multiple Maori settlements up the Whanganui river.

REDACTED

REDACTED

REDACTED

WHANGANUI CITY BRIDGE

The city bridge originally opened to allow for ships and cargo to pass through it, although in the 60's this aspect changed due to the need to run water mains and electricity across the bridge. In 1970 the new large bridge was formed to allow for the town's growth in population and as vehicles became the main mode of transport.

Due to the widening of the bridge this also changed the connection pedestrians had with the river from Victoria Avenue. The bridge now passes close by the Johnston and Co building creating a small alleyway often cold and shaded due to being either side of the bridge and the three story building. A small water feature at child's height was installed to bring some friendliness to the space but the space needs to be better designed.

Fig. 5.23: Original Arches of the bridge 1919.

Fig. 5.24: The old bridge and Johnston and Co .

Fig. 5.25: Todays view from the City bridge to the town centre.

Fig. 5.26: Whanganui viewed from Durie Hill.

Fig. 5.27: Whanganui 1872, The barque "Malay" which sailed direct from England to Whanganui.

Fig. 5.28: The old town bridge with open span. It last opened in 1902.

This model shows the landscape of the river in relation to the chosen site. The blue lines indicate the transportation routes of cars, while the yellow indicates pedestrian flow through the site. The pink illustrates the most common meeting points or clusters of people.

Fig. 5.29: Left - Plan view of physical model with digital analysis.

Fig. 5.31: Quote meaning 'I am the river, The river is me.'

Fig. 5.30: Bottom left - Physical model photo.

Fig. 5.32: Close up of physical model showing shading, traffic and pedestrian flow.

Fig. 5.33: The cross roads of Whanganui.

CONCLUSION

The site analysis gives an opportunity to understand all aspects of Whanganui's history and context. Having this information and understanding how it may affect the design decisions later in the design stage is greatly beneficial.

Having the council's future development plans from 'Making Whanganui Visible' allowed for a strong source of projected futures and a view of what they believed Whanganui needs in its future.

The analysis of the existing regional and city plans illustrated the large amount of rural / agricultural areas which make up a lot of Whanganui's population.

The surprising demographics were the population growth of Whanganui as well as its percentage of Maori and Pacifica population is also considered larger than other regions.

Reflecting on these findings will give the design a better grounding within its context

as well as reasoning behind the design choices. It also provides an example of the process undertaken to gain a strong understanding of the site.

A historical black and white photograph of a busy waterfront street. In the foreground, a small boat with two people is on the water. The middle ground shows a street with horse-drawn carriages and pedestrians. The background features multi-story buildings with various signs, including "JAMES W. HARRIS" and "HARRIS & SONS".

006

EXISTING BUILDING APPRAISAL

This chapter looks closely into each of the chosen buildings and their history's to therefore be able to revitalize them, through design while respecting their heritage.

A time line and collage of images has been used to gain a snapshot of the changes made to the building over its life cycle and give understanding of the buildings past. As many of the buildings have undertaken many small alterations to suit the changes in building use and can be seen visually.

Fig. 6.01: Original Fosters Hotel.

CHOSEN BUILDINGS

The reason for doing four buildings is to have the opportunity to deal with different issues and create multiple uses within the area establishing a revitalised town centre. Choosing to do Johnston and Co building more in depth allows the amount of detail necessary to be explored to express a successful adaptive reuse.

Fig. 6.03: Illustration showing the four chosen buildings.

6.1 JOHNSTON AND COMPANY BUILDING

Fig. 6.04: Location plan of the building.

Fig. 6.05: Street view of Johnston and Co Company.

49 Taupo Quay, Wanganui

Architect / Designer: L J Atkinson

Architectural Style: Edwardian Baroque

Built: 1923

Thematic Context: Rural Servicing, Industry, Transport & Trade

Significance: Historic, Architectural, Technological, Townscape. Class B Heritage item in the Whanganui District Plan meaning it has high heritage values at a regional or local level.

History: The building was built by Johnston and Company General Merchants who occupied the site until at least 1955. Johnston and Co were merchants, woolbrokers, shipping insurance providers, land stock and station agents for various shipping and air companies. Between 1831 - 1912 Johnston and Co ships usually travelled between Whanganui, London, Liverpool and Westport.

It was later taken over by Toop and Co and was used by various tenants after they left the building. In 1990 it was owned by R.G Trott who used the building as part of an indoor rowing centre.

It is currently for sale.

Fig. 6.06: Collage of images of Johnston and Company building.

JOHNSTON AND CO'S NOTICES.

JOHNSTON AND CO.

AVE ON SALE:—

IOWA BARB WIRE CO.

sed under botto m Patents.

PATENT FOUR-BARBED WIRE.

MAKES THE BEST AND CHAPEST FENCE IN THE WORLD.

Maximum in Strength—Minimum in Weight.

MESSRS JOHNSTON & CO.,
LIMITED.

ARE prepared to book passengers to
England, America, and the Con-
tinent by the following lines:—
CANADIAN-AUSTRALIAN LINE (the
All Red Route).
NEW ZEALAND SHIPPING COM-
PANY LTD.
P. AND O. STEAM NAVIGATION
Company.
ORIENT PACIFIC COMPANY, LTD.

TIME LINE

Description: Three story brick building with corrugated iron mansard roof containing an attic story.

Cast iron columns support timber floors. At the time of construction the architecture was described as “Georgian renaissance” Today the building is more of an Edwardian Baroque style, an good representative example with round headed windows, exaggerate keystones, rusticated base, decorative cornice and parapet, pilasters at corners expressed in the parapet and aprons under windows.

The Johnston and Company building was chosen because of its location to the river. Its non-existent facade on the southern city bridge face is poorly designed and has had little upkeep although it is the most visible. The colour palette of the exterior could be more sympathetic.

Fig. 6.07: Johnston and Company building time line of events associated with the building.

1960

1970

Addition of fire escapes
- October 1970
Addition of entrance way
and toilet to commercial
building

1980

Removal of Parapet and
replaced with new mortar
- December 1980

1990

Removal of section of
roof and build of new wall
- February 1990
Addition of windows into
rowing centre
- January 1991

Conversion into licensed cafe/bar
Erection of service area
(toilets, fire exit and kitchen)
Repairs to north facing wall
- February 1994
Alteration of toilet and kitchen
area - June 1997

2000

Internal wall modified for
new entrance way
- August 2002
Addition to restaurant
- May 2003
Alterations to ground
floor lobby
- May 2004
Flooding of ground
floor - June 2005

2010

Bar deck addition
- February 2014
Flooding to ground floor
- June 2015
Proposal for earthquake
strengthening - September 2016

2020

EXISTING FLOOR PLANS

REDACTED

REDACTED

REDACTED

Fig. 6.08: Above - Ground floor plan

Fig. 6.10: Middle - Kitchen area.

Fig. 6.09: Bottom left - Bar at the river end of the ground floor.

Fig. 6.11: Bottom right - Street side bar.

First Floor

REDACTED

REDACTED

REDACTED

Fig. 6.12: Above - First floor plan

Fig. 6.14: Bottom left - Open area.

Fig. 6.13: Middle - Looking through to street side of the building.

Fig. 6.15: Bottom right - River side of the building.

REDACTED

REDACTED

REDACTED

Fig. 6.16: Above - Second floor plan.

Fig. 6.18: Middle - Floor area looking towards river.

Fig. 6.17: Bottom left - Floor area looking towards street.

Fig. 6.19: Bottom right - Stairs between floors.

Fig. 6.20: Above - Third floor plan.

Fig. 6.21: Right - Looking through to river side balcony.

Fig. 6.22: Bottom left - roof truss looking towards the street.

IMAGES OF BUILDING AND SURROUNDING SITE

Fig. 6.23: Left - Alleyway connecting river board-walk to Victoria Avenue.

Fig. 6.24: Above middle - Signage on the Johnston and Co building parapet.

Fig. 6.25: Below middle - Decoration around the windows of ground floor.

Fig. 6.26: Right above - Street Facade detail.

Fig. 6.27: Below right - River facade.

6.2 FOSTERS HOTEL BUILDING

Fig. 6.28: Location plan of the building.

Fig. 6.29: Street view of Johnston and Co Company.

2 Victoria Avenue (corner Taupo Quay) Whanganui

Architect / Designer: Atkins & Bacon

Built: 1925

Thematic Context: Rural Servicing, Transport and Trade, Civic

Significance: Historic, Architectural, Technological, Townscape

History: The totally reinforced concrete building was designed to be earthquake and fire proof after the original burnt down 1857 - 1918. The tiled friezes above the upper windows are an unusual feature in Whanganui buildings of this era. Alterations were made over time, primarily to the bars and the upper floors turning into the apartments. The building compliments the Edwardian buildings in the neighborhood.

Fig. 6.30: Collage of images of Fosters Hotel.

TEL, LIMITED

E. FRONTAGE

TEMPORARY BUILDING SCHEME

The war is having a serious effect on all building operations, not only on account of the high price of materials, but also owing to the uncertainty of the future. The destruction of Foster's Hotel, and its rebuilding, are a case in point. Under existing conditions, Mr Foster does not deem it wise to make more than a temporary expedient of his rebuilding scheme. The hotel will not be rebuilt on its old site, but Mr Foster proposes to convert the corner building (of which he has secured a lease) into an hotel. The proposal was before the Council last evening, when the Works Committee reported as follows:

"The committee has received an application from Mr J. B. Foster for an extension of his temporary building permit for the building on Tapanui Quay, and to join the same to the existing wooden building on the corner of Victoria Avenue. The committee recommend that on the production of complete plans a temporary permit be granted for the above work. For a period of three years from the 1st August, 1918, provided that Mr Foster leaves the Council from any claim damages he may have in connection with the proposed raising of the road anticipated at the above corner. An agreement embodying the above is to be drawn up by the Borough Solicitor at Mr Foster's expense."

Wanganui Chronicle

AND PATEA AND RANGITIKEI ADVERTISER.

Foster's Hotel, Wanganui, N.Z.

FOSTER'S HOTEL.

Description: Purpose built hotel, three story concrete construction. The Avenue entrance retains its original character, denoting its status as a quality hotel. Currently the building occupies bars, restaurant and function spaces on the ground floor, with the upper floors refurbished into apartments.

Land Area: 991m²
Building Area: 1108m²

Reinstatement of original verandas should be considered, as well as building fabric below on Victoria Avenue elevation. Has potential as a quality period hotel.

1910

**FOSTER'S HOTEL DESTROYED.
ADJOINING PREMISES SUFFER.
BLAZE AT TAUPU QUAY.
MANY EXCITING INCIDENTS.**

A most destructive fire occurred early yesterday evening, Foster's Hotel, on Taupo Quay, being completely destroyed, while Ross and Glendinning's Warehouse, adjoining, was badly damaged, and other premises in the locality suffered more or less severely.

It is believed the fire started in one of the bedrooms on the top floor, and at the time some of the guests were at dinner. So quickly did it spread that there was little to do except make a hasty exit.

At this time there was considerable confusion and great excitement. One of the guests rushed out on to an upstairs balcony calling "fire." Other guests, who were in the lounge and smoking-room on the ground floor, tried to ascend the stairs to save their belongings, but they were unable to get above the first floor, where the smoke drove them back. Senr. Sergt. Bourke was one of the early arrivals on the scene, and he also reached the first floor, and as far as he could ascertain there was nobility in the upper rooms.

1930

Construction of new building - January 1924

1940

1920

Foster's Hotel, Victoria Avenue, photo 1926
Taita Collection, ATL-G21472 M.

APPLICATION FOR BUILDING PERMIT

This application, together with plans and specifications shall be sent to the City Engineer's office, where after notice is given to start the work referred to.

WANGANUI

No 2374 A

13 July 1929

To the CITY ENGINEER

I hereby make application for a permit to make alterations to the Hotel

in Block No. 1489

for the Hotel

Builder

Address

Particulars of work

Cost £

Water Fee

Electricity Fee

Other Fees

1929

Alterations made to form a new private bar - July 1929

Fig. 6.31: Foster's Hotel time line.

50

PROPOSED PRIVATE BAR FOR FOSTERS HOTEL

Alterations to priver bar
for lavy - July 1954
APPLICATION FOR BUILDING PERMIT

No 867 6199
WANGANUI,
2nd September 1955
TO THE CITY ENGINEER,
I hereby apply for permission to *erect fire escape*
at *Fosters Hotel Ltd, Wanganui*
for *Fosters Hotel Ltd* of *Wanganui*
Additions of fire escapes
- September 1955

1970

Internal alterations
to convert hotel bedrooms
into rental spaces with
hand basins and shared
bath facilities on upper
floors - April 1970.

1990

Internal alterations into apartments
on upper floors - April 1995

PHOTO
REFERENCE
Film 1
Neg 18
Date 2/8/50

2010

Flood repairs
- June 2015

0

Dear Sir,
re *Fosters Hotel Ltd*
For your information we enclose herewith a copy of
the instructions received by us from the Insurance Assessors,
to reinstate the fire damage to the kitchen of the above premises
we propose to commence on Monday the 16th inst.
Yours faithfully,
JOHN JONES AND SONS LTD.
J.J. Jones
Manager

Reinstate the fire damage
in kitchen - January 1961

Alterations to ground
floor bar - August 1962

1980

Demolition of outbuildings
for proposed lane - November 1980

1960

Erection of fire escapes
- September 1967

Replacement of Neon Light
- April 1968

Alteration of bar toilets
- February 1969

2020

Redevelopment of Tavern
- December 2000
Structural redevelopment
- February 2001

Photo Reference:
WDC File Ref: Heritage Inventory 85 14m & n
See p. 6 for additional photographs
Date: December 2003

Internal alterations to create
cafe - June 2001

Renovation of existing apartment
spaces - August 2004

Alterations to toilet facilities - May 2005

2000

Internal alterations into night club
- October 1987

Rain shelter installed over outdoor
seating at the rear of stella bar
- October 2008

EXISTING FLOOR PLANS

Ground Floor

Fig. 6.32: Ground floor plan.

First Floor

Fig. 6.33: First floor plan.

Second Floor

Fig. 6.34: Second floor plan.

IMAGES OF BUILDING AND SURROUNDING SITE

Fig. 6.35: Above left - Original grand entrance to Fosters hotel.

Fig. 6.36: Below left - Stella Bar on corner.

Fig. 6.37: Above right - Taupo Quay facade from street.

Fig. 6.38: Back alley way of Fosters Hotel.

Fig. 6.39: Bottom right - Vic bar on Victoria Avenue.

6.3 THAINS AND COMPANY BUILDING

Fig. 6.40: Location plan of the building.

Fig. 6.41: Street view of Dalgety / Thains Building.

1 Victoria Avenue (corner Taupo Quay), Whanganui

Architect / Designer: T H James

Built: 1908

Construction: By Nicholas Meuli

Thematic Context: Rural Servicing, Transport and Trade

Significance: Historic, Architectural, Technological, Townscape
Class B Heritage item in the Whanganui District Plan meaning it has high heritage values at a regional or local level.

Land area: 1247m²

Floor area: 1850m²

Description: Three storey building, concrete frame with brick infill. Ornate parapet with high central pediment to Victoria Avenue has been removed and replaced with a fascia with art deco motifs.

History: Site of John Duthies small hardware store which opened in 1868. In about 1888 the business was brought by James Thain and W.H.

Fig. 6.42: Street view of Dalgety / Thains Building.

UNCERTAIN FUTURE: The Thain's building owner is applying for consent to demolish it.

SHEARING SEASON, 1894

We have just landed our First Shipment
of
SHEEP SHEARS,
Ex "Aorangi."

We have every reason to believe the demand will be greater than the supply this season, so buyers should order early to prevent disappointment.
Our Agents write:—"We shall have to cancel many thousands of dozens makers being unable to supply in time."

IN STOCK—
Marking Oil, Hone's assorted Needles, Twine, Stencils, Stencil Ink, Ruddle, Lamp Black, Sheep Dip, &c.

JAS. THAIN & CO.,
IRON & HARDWARE MERCHANTS,
Victoria Avenue, Taupo Quay, and
St. Hill Street,
WANGANUI.

Whanganui heritage building beyond repair after blaze

Taupo Quay.

Demolition of fire-ravaged Thain's Building in Whanganui under way

Chapham who built it up to become one of the largest hardware shops in New Zealand. It was later bought by Dalgety & Company, the stock and station agents. James Thain & Co - The sale of household goods and agricultural supplies. Since 1980 the building has been leased for retail and office space. In July 2019 the building suffered a large fire resulting in demolition mid August.

Fire broke out in a building, on the corner of Taupō Quay and Victoria Ave, about 8.45pm on Saturday, 20th July engulfing the top two floors, which was finally extinguished by 12.55am. Fire and Emergency New Zealand shift manager Gill Webley said the building - a mix of office and residential flats - had received “extensive damage”.

The Thain’s building is a Class B heritage building in the Whanganui District Plan but has no national heritage status. The three-storey unreinforced masonry building is severely earthquake-prone at 5 percent of new building standard (NBS) and the ground floor was flooded in the June 2015 floods.

<https://paperspast.natlib.govt.nz/newspapers/WC18921025.2.4.2>
Page 1 Advertisements Column 2 (Wanganui Chronicle, 25 October 1892)

SHEARING - EASON, 1892
We have just landed our First Shipment
of
SHEEP SHEARS,
Ex "Aorangi."

We have every reason to believe the demand will be greater than the supply this season, so buyers should order early to prevent disappointment.
Our Agents write:—"We shall have to cancel many thousands of orders makers being unable to supply in time."

IN STOCK—
Marking Oil, Hono's assorted Needles
Twine, Stencils, Stencil Ink, Ruddle,
Lamp Black, Sheep Dip, &c.

JAS. THAIN & CO.,
IRON & HARDWARE MERCHANTS,
Victoria Avenue, Taupo Quay, and
St. Hill Street,
WANGANUI.

1890

1910

1930

1900

1920

JAMES THAIN & Co.
(Limited)
Iron and Hardware
Merchants,
IMPORTERS OF
Agricultural Implements,
WANGANUI.

WEDDING DRESSES
TRAVELLING TRUNKS
GARDEN HOSE
PRESERVING PANS

JAMES THAIN AND CO.
(Limited)
WANGANUI.

Jas. & Co. Victoria Avenue, 1911
The Collection, ATL G 16875 1/1
On the back of this photo is a caption reading:
"Messrs Jas Thain & W H Chapman the (Duthie) business in 1888. The photo shows
Thains Establishment built in 1908."

<https://paperspast.natlib.govt.nz/newspapers/WC19070209.3.4.8.5>

Page 7 Advertisements Column 5
(Wanganui Chronicle, 09 February 1907)

Victoria Avenue from the bridge, Wanganui

Date: 1909
Ref: 11/02005 G
Victoria Avenue from the bridge, Wanganui, 1909. A sign hanging from a bridge archway reads: "Wanganui Borough Council Motor Speed Limit 8 miles per hour over bridges, crossings, and round corners." Photograph taken by Paula J. Dorman.

Fig. 6.43: Time line of events associated with the building.

6.4 PROPERTY BROKERS BUILDING

Fig. 6.44: Location plan of the building.

Fig. 6.45: Street view of the Property Brokers building.

PROPERTY BROKERS BUILDING

51 Taupo Quay, Whanganui

\$314 / rent per week

Rental Yield 6.86%

Land Area - 1242m²

Floor Area - 540m²

Construction 1970's

Construction - Concrete external
walls, Iron roof

Information from oneroof.co.nz

Fig. 6.46: Collage of Property Brokers Building.

A black and white photograph of a vintage bakery storefront. The storefront features three large arched windows. The left window has a sign that reads "SOLE Agent For the BIRKBECK". The middle window has a sign that reads "WEDDING BREAKFASTS. Bulse Bulse's CATERED FOR". The right window has a sign that reads "REFRESHMENTS At All HOURS". Below the windows, there is a large display case filled with various cakes and pastries. Four men are standing in front of the bakery: one man is standing on the far right, another is standing in the center, and two men are sitting on the ground in front of the display case. A large, stylized pink "07" is overlaid on the image, with the "0" positioned over the left window and the "7" positioned over the middle window.

07

POSITIONING STRATEGY

Positioning strategies for the design for this research within this chapter will help to achieve the objectives below.

- To revitalise heritage buildings and their surrounding context.
- To enhance a provincial cities identity
- To strengthen connection to place culturally.

Considering the potential development and program of the site with its surrounding context will better ground the project.

Looking at the design in multiple scales will establish numerous connections and links between the community and its environment. This will then enhance connection to the provincial city as well as improving tourism and community revitalisation.

Fig. 7.01: Whanganui shop front 1909

7.1 POTENTIAL CIVIC DEVELOPMENTS

HERITAGE

When developing a strategy to revitalise a town centre, you first need to understand the urban context. Which buildings have heritage value and or need earthquake strengthening and prioritise these.

Recent changes to the national earthquake upgrade incentive programme has enabled a more affordable option for building owners in the regions. The programme offers up to 67% of the cost of the seismic upgrade work to be paid by the Heritage EQUIP fund if one of the buildings is heritage or a listed property (Heritage Equip , 2020). These modifications provide better support to building owners in medium or high seismic risk areas like Whanganui. (Maslin, 2019).

Figure 7.02 is an image of Whanganui's Central Business District and the shaded buildings indicate the heritage buildings listed by New Zealand Heritage. Victoria Avenue

has a strong sense of identity due to its variety of outstanding architectural features from multiple periods in close proximity to each other.

Figure 7.03 illustrates the high number of buildings that need earthquake strengthening in the town centre. First priority buildings are located adjacent to the chosen site along Victoria Avenue.

Fig. 7.02: Heritage buildings.

Fig. 7.03: Earthquake Strengthening Plan.

- First Priority
- Second Priority
- Third Priority
- Completed

ARTS AND CULTURE

Whanganui has a strong arts and culture sector which is visible in many parts of the town centre. Amplifying the arts will give Whanganui a stronger identity. Council led initiatives include an artist led shared studio, introduction of an iwi dimension, introduction and enhancement of arts events and activation of public art spaces.

Figure 7.04 illustrates Whanganui's two greatest assets which are the Whanganui River and the Sarjeant Gallery which creates an axis to Cooks Gardens. Although the linkage between the two is poor. The linkage is also the relationship between the mountains of the central plateau and the Whanganui river mouth. The enhancement of this should bring social cohesiveness.

Local street art illustrated in Figure 7.05, painted on old buildings is also common in Whanganui as a way of bringing life back into

spaces, as well as allowing locals to express their talent.

Bringing cultural connection back to Whanganui will better integrate artistic elements into the town's design and generate more opportunities for Whanganui.

Fig. 7.04: *Arts and Culture area.*

- Arts Enterprise
- Culturally Significant Connection
- Informal Arts and Culture Route
- Cultural Significant Place
- Arts and Culture facility / venue

Fig. 7.05: *Street art.*

COMMUNITY

An appealing and vibrant town centre needs to have good community facilities that are accessible by all. They need to be connected and designed with the whole community in mind.

“Whanganui is an attractive city with a strong local sense of identity and a commitment to improvement.” In Whanganui there is a need to focus on community and civic amenities especially those along the waterfront (Making Whanganui Visible).

Like many provincial towns the region lacks accommodation, conveniently located adjacent to town centre amenities. This lifestyle is enjoyed in New Zealand’s larger cities within apartments in mixed use buildings and brings life back into the city centre.

There is opportunity in Whanganui to create affordable accommodation for the continuing care of older people from retirement through

to advance care. This is necessary due to New Zealand’s growing ageing population and the increasing demand for affordable housing.

Community care approaches such as ‘ageing in place’ appeal because the idea of segregating the older people into rest homes will become less desired. More intermediate care such as home care, supported living and similar arrangements are becoming more desired.

Care related accommodation needs support services in close proximity like a doctors general practice, pharmacy and supermarkets. Figure 7.06 illustrates the common community facilities in close proximity to the chosen site.

It is desirable for older people to live close to these facilities as they are convenient and less expensive to access. Also being well integrated in the surrounding community means they can stay longer in this ‘supported care’ type accommodation thereby avoiding loneliness and enabling passive surveillance and interaction with different age groups.

Fig. 7.06: Community areas.

This approach is likely to lead to significant heal benefits and a more vibrant community.

Community spaces should be designed with all ages in mind and when all amenities are in easy access a more vibrant community with strong connections is created.

However if any additional essential amenities are still required in the immediate facility. For example a library and its development would suit the chosen site and the existing building structure then this could be an alternative proposal in the future.

TOURISM

There is growing opportunity for tourism in the region, as Whanganui becomes a more popular destination due to its outstanding natural and cultural features.

For centuries the Whanganui River has been considered a scenic wonder - “The Rhine of New Zealand”, yet it remains relatively ‘untouched’ so outdoor tourism is a significant draw card to both international and domestic visitors. They can enjoy the river on an historic river boat, by jet boat or self propelled canoe. Alternatively visitors can hike or cycle including two ‘Great Rides’ which are part of the national cycle trail network. Nga Haerenga (The Journey) formerly the ‘Timber Trail’ and ‘Mountains to Sea.

Cycling’s popularity is now a world wide phenomenon as most ages can ride a bike and now with the surge of electric bikes, cycling is like to result in significant tourism growth in the region.

Mt Ruapehu is two hours north and offers many attractions including the Sky Waka gondola and snow skiing in the winter.

There is an opportunity to tell the ‘Whanganui River Story’. The mountains and river have a unique spiritual character and the many marae settlements along the river banks mean visitors can have an authentic hands on experience showcasing Maori history, architecture, traditions and values.

“Growing cultural tourism experiences which connect marae of the Whanganui River to the growing interest in the tourism, educational and recreational experiences to be had in Whanganui National Park.” Unlocking Maori cultural and spiritual dimensions.

(Manawatu-Whanganui Growth Study 2015)

Visitors get to understand the Te awa Tupua legislation passed in 2017, giving person hood to the river and the concept of the river being a treasure, a food basket, medicine cabinet, highway and defensive moat; teacher, priest and parent; source of prestige and core of their being (Kennedy, 2019).

Domestic tourism also offers visitors a unique experience, strip retail shopping amidst character architecture in an attractive vibrant setting. Whanganui can be a recognised

destination, celebrating its revitalised appearance, acknowledging its past yet valuing its vital cultural connection to the river.

A strong tourism sector with vibrant tourist attractions positively adds to Whanganui's strong sense of identity which in-turn strengthens its cultural connection to place.

The city's strong historical character would become a tourist attraction in itself. This can be done through 'telling the historic story',

using colour and through design by uplifting the existing heritage building facades.

The growth of any region is dependant on attracting people, both domestic and internationally to enjoy the space. With the hope that some of these visitor's will be tempted to relocate to the area upon discovering its value. Hence the importance of tourism in our rural provincial towns and cities. This is still considered a significant growth opportunity for the Whanganui region.

Fig. 7.07: Tourism attractions.

7.2 URBAN DESIGN CHANGES

The Whanganui City Council plans was used as a starting point for the redesign strategy for the cross-roads at an urban scale (Making Whanganui Visible,2016).

The largest change aims to reduce the levels of car traffic and create a more pedestrian friendly environment. These improvements are typical of what many cities are doing to future proof and re-pedestrianize crowded urban spaces. Further reducing the amount of parking by changing angled parks to parallel parks will encourage walking and increase levels of time on the footpath. This will also result in more room for wider footpaths to accommodate more seating, attractive urban landscaping or the potential to house temporary stalls. Finally creating a slow vehicle zone at the lower end of Victoria Avenue ensures an improved pedestrianized design strategy.

Fig. 7.08: Whanganui's current urban plan.

MAKING WHANGANUI VISIBLE IDEAS

Figure 7.09 illustrates the additional pavement space if the cars are parked parallel compared with angled parking. The additional pedestrian area can be used by the shops down Victoria Avenue for seating or food trucks could park up and use the pavement area.

Less parking on Victoria Avenue will encourage walking and increase levels of time spent on the street. While slowing cars down will create a more safe centre. A slower Victoria Avenue slow zone will also create a more people oriented city centre.

Fig. 7.09: Pedestrian orientated design .

Fig. 7.10: Lower Victoria Avenue Slow Zone.

Fig. 7.11: Proposed urban changes.

7.3 BUILDING PROGRAMMES

Any potential building program needs to consider a design that meets the needs of its community. That is to accommodate the needs of all ages not simply the elderly.

“The Whanganui City council’s goal is to make Whanganui a Family Friendly City, a great place to live, that will attract visitors and new residents.”

For Whanganui to be a safe and a pleasant place to live, enhancing the quality and liveability of the central area is key.

Life is being brought back into abandoned buildings all over the world through being creatively re-purposed.

The list below was formed through acknowledgement of amenities which a successful city has within easy access.

Design programme ideas include:

Culture, leisure, sports, research, education, design, services, production, housing, agriculture, retail. Some are later being re-inhabited by other stores. However, the longer a premise is empty the harder it is to overcome the perception that retail cannot succeed at

that location. (Retrofitting Suburbia)

Regreening – Globally “Pocket parks and community gardens are known to increase the sale prices of surrounding homes by as much as 30% in the process.” It’s also low maintenance (Douglas 2006).

When choosing a program for the buildings it’s important to explore all possibilities and have a good understanding of the existing market and what the community needs. Non-profit groups often generally can’t afford new construction so adaptive reuse gives an opportunity for cheap unused spaces to have alternate uses. (Retrofitting Suburbia)

When considering retrofitting or adaptively reusing an existing structure and changing the buildings use; accessibility, connections, services, neighbouring areas, visibility and views should be weighed up (Douglas, 2006).

A program which is seen as beneficial to the community and fits into its surrounding context is achieved through having a good understanding of the surround context.

PROGRAM DEVELOPMENT

The site model including the river, bridge and cross roads, shows the surrounding site. The stacked blocks of different colours indicate the different types of building use.

Potential building programmes:

- Residential Apartments for multiple ages
- Shared artist studio
- Art Gallery / Art Classroom
- Keep current existing building use
- Tourism Hub
- Back Packers
- Roof top Bar / Garden

Fig. 7.12: Above left - North view of cross roads.

Fig. 7.13: Below left - West view of cross roads.

- Residential
- Retail
- Bar / Restaurant
- Shared workspace.

Fig. 7.14: Above right - East view of cross roads.

Fig. 7.15: Below right - South view of cross roads.

- Residential
- Retail
- Bar / Restaurant
- Shared workspace.

Fig. 7.16: Above left - Victoria Avenue looking towards the Property Brokers Building.

Fig. 7.18: Middle left - Looking towards the Johnston and Co building.

Fig. 7.17: Below left - Looking towards Fosters Hotel.

Fig. 7.19: Right - The physical model representing the cross roads of Victoria Avenue, Taupo Quay and the City Bridge.

7.4 DESIGN CONSIDERATIONS

CIRCULATION

Quality and Comfort - Accessibility, Natural light, views and fresh air are all requirements for better living. With an adaptive reuse project, more design process is necessary to achieve these goals.

There are often significant economic advantages of building upwards. A central corridor turns a single-storey apartment into a single orientation dwelling, therefore depending on the orientation, it may receive too much or too little sun.

With a standard ceiling height, adequate natural light extends about 5m from facade into a dwelling. Therefore higher ceilings allow for natural light to penetrate deeper into the dwelling.

An obvious location for a bathroom and storage is where light can't reach. A central core allows more freedom to organise the spaces around the exterior of the building.
(Leupen & Mooij, 2012)

NATURAL LIGHTING

With a conversion to residential, natural lighting is necessary to provide a quality living space. The often large industrial buildings have big spans allowing easy transformation into new uses. This is also a disadvantage getting light into the depth of those spaces.

If a building has a much greater depth, the introduction of an atrium may be necessary. This is in order to ensure adequate quality of daylighting for residential use. It will also result in improved natural ventilation. With increased natural lighting and ventilation also comes increased heat gains and privacy issues.

The large structural systems of industrial buildings is favourable for flexible living spaces which can be customised and adapted to the different users needs. "Open plan" living solves the problem of unknown future users and makes the building more sustainable.

ADAPTIVE REUSE FOR HOUSING

The trend started in the 70's when the transformation of industrial buildings such as warehouses were converted into residential buildings. People enjoyed the symbolic characteristics of industrial such as large open spaces, large windows and found raw materials like exposed brick, iron and polished wooden floors, as fashionable. (Plevoets & Cleempoel, 2019)

Grouping the fixed facilities like kitchen, toilets and building core allows for more flexibility everywhere else achieving greater spatial flexibility and adaptability of the dwelling (Petković-Grozdanovića et al., 2016).

UPPERFLOOR VACANCY

Many provincial town centres like Whanganui face the issue of disuse or under-use of upper-floor spaces above shops and other commercial properties. Even when demand for retail space is high, this problem usually still exists.

There is a variety of reasons for upper-floor vacancy including over-stringent regulations (fire), poor physical amenity (accessibility and parking), multiple ownership (poor communication, sharing cleaning and repairs), commercial pressures (shop frontage and building management) and zoning (council laws).

7.5 SITE ISSUES

NARROW ALLEYWAY

The issue with the main walkway between Victoria Avenue and the river walkway is this alleyway which is often shaded and narrow making it not inviting.

The physical model was used to better understand possible design solutions to mitigate the issue of an unwelcome entry.

The alleyway between the city bridge and the Johnston and Co building is the main connection to the river from Victoria Avenue

This model indicates the issue of the narrow corridor created, which can be problematic due to giving the feeling of being cold and damp. Within the design strategy this issue needs to be minimized as much as possible.

Fig. 7.20: Above - Isometric of the physical model.

Fig. 7.21: Middle left - Elevation view from Taupo Quay,

Fig. 7.22: Middle right - Sectional view through the bridge looking from the river.

Fig. 7.23: Bottom - Close up of the bridge arch and its connection to the adjacent building.

RIVER CONNECTION

The connection with the river itself is also an issue. The board walk was an amazing addition to the area. But with a little more design consideration the connection to the river could be possible.

Fig. 7.24: Looking north to the city bridge.

Fig. 7.25: Looking south, showing the lack of connection to the river.

Fig. 7.26: Shipping at the town wharf adjacent to the present Whanganui town bridge.

Fig. 7.27: The "River City" berths at the town wharf on her maiden voyage from UK March 3, 1952.

7.6 RIVER CONNECTION

The strategic direction of Melbourne City's future development of its river corridor would also benefit the Whanganui context. It was valuable to compare the Whanganui context to cities where the river connection has been successful.

From Melbourne's strategic plan, the element which connected with Whanganui the most was the reintroduction of a riparian zone to improve water habitat, biodiversity and create a healthy river ecosystem. (Appleton, 2019)

Pre-settlement, the Whanganui river would have thrived with natural riparian zones alone, both sides providing wildlife habitat and movement corridors. The vegetation would have slowed the flow of the river, therefore reducing soil erosion and flood damage. Due to more concrete infrastructure today the river is becoming channelled but the inclusion of a riparian zone would support the diversity of species and improve water quality. When designing the riparian zone active water uses like rowing and boating need to be considered as interference of the fragile area could be damaged.

Fig. 7.28: Sectional view of a potential wetland area with retaining wall to river.

Fig. 7.29: Different relationships between the river and land.

Fig. 7.30: Hard surface.

Fig. 7.31: Steps for easy accessibility.

Fig. 7.32: Raised rivers edge to reduce flooding.

Fig. 7.33: Wetland restoration.

Fig. 7.34: Wall protection.

Fig. 7.35: Floating buildings.

Fig. 7.36: Restored bank.

Fig. 7.37: Stilted structure reducing impact on habitat.

Landscaping and urban design are very important elements in the rehabilitation and revitalisation of Whanganui. Appropriate paving, lighting signage, street furniture and planting must be considered.

There has long been a tendency for Whanganui to turn its CBD back on the river, lining its banks with industrial backyards. There would appear to be a wonderful opportunity for Whanganui to reverse the trend and refocus on the river. (Cochran, 1990)

Fig. 7.38: Native riparian zone with gravel walkway.

Fig. 7.39: Water curtain for digital projection and seating.

Fig. 7.40: Floating pavilion.

Fig. 7.41: Raised stilted viewing platform.

Fig. 7.42: Organic new walkways with planting.

Fig. 7.43: Cycle lane and walkway with green area.

Fig. 7.44: Jetty which is floating and moves with the tide.

Fig. 7.45: Canopy for shelter and shading.

Fig. 7.46: Steps with planting and the option to use steps as seating.

Fig. 7.47: The chosen concept to integrate connection to the river.

Fig. 7.48: Concept with the addition of a ramp for easy accessibility to all.

Fig. 7.49: Planted areas between ramp.

CONCLUSIONS

This chapter allows the research to be more grounded within its context, by acknowledging the sites surrounding environment and its strategies to revitalise through design.

By identifying and upgrading the prioritized existing heritage buildings in Whanganui's town centre, this will create a strong picture of heritage architecture in a New Zealand city. This will make the town centre more attractive and therefore would attract more tourism.

Having art and culture better integrated into Whanganui, can also make the city more appealing, it will appeal to people and create growth for Whanganui.

Designing town centre urban spaces with community in mind, while intentionally designing with all ages in mind will form an mixed use, easily accessible, more vibrant, pedestrian focused town centre. While not having community engagement limits the understanding of the committee's immediate needs, having more understanding of context

minimises this issue.

The river connection to Whanganui is crucial to the design strategy as its linkage to Whanganui's past, heritage, culture and growth is the key to the cities success. Having that linkage both physically and spiritually is going to strongly situate the design.

08

DESIGN EXPLANATIONS

These explanations were undertaken to develop the design process of each building.

Design explanations were explored at three different scales, to construct a better understanding of how design can be used as a tool to achieve the research objectives.

The goal of revitalisation of provincial towns, creating heritage identity and cultural connection to place can be seen at the urban scale and within the well planned Johnston and Company building.

The Johnston and Company building was a well thought out design with multiple stages of review and changes. While the other three buildings were designed to a conceptual stage to therefore illustrate at an urban scale.

The design of a column gives opportunity to work in detail with an element to create physical connection.

Fig. 8.01: Victoria Avenue fountain 1881

8.1 PROGRAM CONCEPT DESIGNS

These initial program bubble diagrams were made to understand the necessary building uses and the linkages between them.

JOHNSTON BUILDING

Fig. 8.02: Bubble flow diagram of Johnston Building amenities.

THAINS BUILDING

Fig. 8.03: Bubble flow diagram of Thains Building amenities.

FOSTERS HOTEL

Fig. 8.04: Bubble flow diagram of Fosters Hotel amenities.

PROPERTY BROKERS BUILDING

Fig. 8.05: Bubble flow diagram of Property brokers Building amenities.

Before the decision of which amenities will be located in the existing buildings, the literature gave an overview of how adaptation is possible. The site analysis was also used to better understand the community needs and the surrounding setting, precedent studies provided an outlook on possibilities of adaptive reuse projects. While most of all the existing building structure was analysed to critique and understand the heritage elements and the story within each of the buildings.

The design process was more thoroughly illustrated on the Johnston & Company building to create a more in depth understanding of the strategy generated throughout this research.

The other three buildings, Property Brokers building, Thains/Dalgety building and Fosters Hotel have been designed at conceptual scale to better recognise the overall scheme at an urban scale.

8.2 JOHNSTON AND COMPANY BUILDING FLOOR PLAN EXPLORATION

1.

Fig. 8.06: Two sectional views of the Buildings surrounding context.

2.

Fig. 8.07: Early conceptual diagrams of floor layouts.

Understanding the surrounding built environment, including the river, bridge and surrounding buildings.

The initial idea was to have apartments to bring more people into the site. While also creating a safer area due to passive surveillance. The ground floor can be used as a learning and exhibition space, as well as the lobby.

3.

Fig. 8.08: Private decks for the rooms as well as a roof top bar.

After more research into what the community needs, the idea of a boutique backpackers was created. The rooms would have their own private decks and bathrooms with a shared communal space on the second floor. The dashed line indicates the roof line symbolic to the relationship between mountain and sea.

4.

Fig. 8.09: Concepts of floor layout of rooms and rooftop.

The idea of a roof top bar was established. This would be unique in Whanganui and fit in with the surrounding existing night life. On the first and second floor there would be a mix of room options including private and shared rooms.

5.

Fig. 8.10: Concepts of circulation and lobby layout.

The location of the core is key to developing a successful building layout. The lobby area needs to be located in the centre of the building for the best use of space and minimise circulation space. These basic sketches illustrate the rooms and circulation at each level.

6.

Fig. 8.11: Concepts of structural elements penetrating through floors.

Services need to be thought about, how they will be directed through the building. A boxed out universal column creates room for services to be distributed from floor to floor. Also rubbish will be an issue as there is no back to the building, and therefore no car park.

Fig. 8.12: Core concepts and ground floor layout.

Re-figuring the core of the building to fit all the required elements including suitable fire safety design, which meant closable doors at each floor. The structural elements and existing heritage facade will need to be taken into account when doing floor plans.

Fig. 8.13: Stacked bathroom for ease of services concept floor plans.

Bathroom and bedroom layout was explored to maximise the best possible circulation for each room.

Having the bi-folding doors on the ground floor narrow enough to fold into the wall width was a design feature to encourage access through the interior space.

9.

Fig. 8.14: Fernery bringing light into the building as well as linking all the floors through the atrium.

An introduction of a fernery linking all the floors in the buildings core creates a larger hole in the buildings diaphragm adjacent to the buildings staircase. The core / lobby space needed to be redesigned.

10.

Fig. 8.15: Concept entrance to the hostel and roof top bar through the side alleyway.

An angled entrance way subtracting into the ground floor was created to form an entrance due to the minimal space between the building and bridge.

11.

Fig. 8.16: Concept of bathroom layout.

Communal bathrooms at each level were stacked for ease of services.

12.

Fig. 8.17: Glass extrusion bringing light into floor levels and circulation areas.

Having the fernery extrude 400mm into the alleyway from the existing building line, reduces the width of the alleyway. However, this was a conscious decision to allure the community into the building. It is a unique feature which the extrusion further highlights.

13.

Fig. 8.18: Concept section in relation to site.

Fig. 8.19: Concept of stepped back facade allowing light into the lower floor levels.

A stepped back floor from the existing heritage facade at each floor, allows for more light to access the lower floors and allowing each floor have a unique vantage point through the old facade. This also allows each room to gain its own private deck.

8.3 THAINS - DALGETY BUILDING CONCEPT

The initial design of this building was to design a new building connected to the existing heritage facade as it needed earthquake strengthening.

Due to the building being denied demolition due to being a heritage building this thesis proposed keeping the buildings facade but designing a modern building behind it. However since the building suffered severe fire damage mid 2019, a new building became the only option.

A mixed use building was the proposed to bring people into the space. On the ground floor, an educational space as well as two retail spaces along Victoria Avenue have been designed. Large bi-folding doors out onto the backyard would be a feature of the educational area. As well as large wall dividers allowing the space to be adaptable for large group sizes and multiple groups at one time. The backyard will habitat a community vegetable garden as well as hangi pits.

On the first floor, a shared studio with numerous different types of workspaces will cater for different work environments. The services and toilet block has been stacked for ease of services. While on the top floor their is residential apartments. These were designed as one or two bedroom apartments to contribute to the lack of housing in Whanganui's centre. The apartment is low maintenance and easily accessible. Its unique location also makes the building very attractive in the property market.

Fig. 8.20: Above - Ground floor concept of art gallery.

Fig. 8.21: Right - First floor of Art Gallery as a shared work studio.

8.4 PROPERTY BROKERS BUILDING

The current one story property brokers building is in prime location to the Whanganui river. It has much more potential to bring people into the space and create a community feel.

Through change in use, the design can revitalise the building and with it, its surrounding area. On the ground floor, it is an eatery which will provide the community with a casual, modern outpost for coffee, seasonal breakfast and lunch eats. While also being accompanied by an organic fruit & veg, groceries, and whole-foods store.

The eatery serves people during the daytime everyday, while can be transformed into a bar and restaurant at night for events. The key change being variation in lighting and furniture layout. The loose furniture allows for an open plan function space which could be hired out for temporary events or art exhibitions.

An additional two floors were added to allow the 1970's building to fit in with its surrounding context and make use of the views looking out across the river.

Occupying the building on the first and second floor would be large offices which could be leased out by a large firm. This opens opportunity to bring more jobs to the town. The office layout will have multiple different settings for different types of work.

Surrounding the upper stories is a metal mesh which shades the amount of light and glare into the building. While deliberately creating a minimal facade, it highlights the surrounding heritage buildings.

Linking the two office floors is large pop out windows. These serve different purposes, as the first floor window can be walked into while the second floor is more of a balcony form only letting light in.

Overall the addition of the two floors creates the successful revitalisation bringing more foot traffic into the space. While the mesh has been used as architectural decoration to compliment the surrounding building heritage features.

Fig. 8.22: Ground Floor layout of potential eatery and super market.

Fig. 8.23: Isometric of exterior illustrating the existing facade still in contact.

8.5 FOSTERS HOTEL

Due to the ground floor of the Fosters hotel still in use as a restaurant, bar and function room, little design changes were made on this level. Storage and accessibility of toilets were the main design changes.

On the first and second floors, are one and two bedroom apartments. Each room has a private outdoor area. This was done without extruding from the heritage facade. This meant the verandah had to be set back behind the facade.

As the Fosters hotel underwent many alterations over its time, it was striped away of its heritage decoration. Bringing detail back into the facade through the re-installation of the fire exit, as well as the canopy verandah is are key to allowing the building to be proportional again.

A roof top garden was also added to the top of the ground floor roof, in the centre of the 'C'. This allows the apartments to look out over the garden instead of the corrugated iron roof.

Fig. 8.24: Floor plan of existing building with each apartment colour coded.

Fig. 8.25: Elevation view of historic entrance way and verandah illustrating the heritage detail which has been altered.

Fig. 8.26: Old drawing of the Southern facade emphasizing the symmetrical design which has been lost.

HYPOTHETICAL DESIGN

Hypothetical design of the principals
/ strategies on the particular site of
Whanganui cross-roads.

This chapter illustrates a design proposal
which achieves the aims and objectives of
this research.

Fig. 9.01: Victoria Avenue from old bridge.

SITE PLAN

Fig. 9.02: Site plan illustrating the relationship between the chosen cross roads buildings and the surrounding buildings, streets and river.

SCALE 1:500

TAUPO QUAY

MOUTOA WALKWAY

WHANGANUI CITY BRIDGE

TAUPO QUAY

JOHNSTON FLOOR PLANS

Fig. 9.03: Isometric of the exterior of the Johnston and Company Building showcasing the roof top bar as well as the relationship between the existing heritage facade and the new addition of the glass atrium extrusion.

Fig. 9.04: Ground floor plan.

Fig. 9.05: First floor plan.

SCALE 1:200

Fig. 9.06: Second floor plan.

Fig. 9.07: Third floor plan.

Fig. 9.08: West elevation.

Fig. 9.09: South elevation.

Fig. 9.10: East elevation.

SCALE 1:500

Fig. 9.II: Exploded isometric.

Fig. 9.12: Section A

Fig. 9.13: Section B

Fig. 9.14: Property Brokers Building Isometric.

PROPERTY BROKERS FLOOR PLANS

Fig. 9.15: Ground floor plan.

SCALE 1:200

Fig. 9.16: First floor plan.

SCALE 1:200

Fig. 9.17: Second floor plan.

Fig. 9.18: South elevation.

Fig. 9.19: West elevation.

Fig. 9.20: East elevation.

th elevation.

Fig. 9.21: North elevation.

t elevation.

Fig. 9.22: Section A

Fig. 9.23: Section B

ion B

Fig. 9.24: Dalgety / Thains Building Isometric.

THAINS DALGETY BUILDING FLOOR PLANS

- 1 lobby
- 2 retail shop
- 3 sbared bathroom
- 4 car park / potential shops
- 5 flexible educational space
- 6 hangi pits
- 7 community vedgetable garden
- 8 courtyard
- 9 sbeltered entry

Fig. 9.25: Ground floor plan.

SCALE 1:200

VICTORIA AVENUE

Fig. 9.26: First floor plan.

SCALE 1:200

Fig. 9.27: Second floor plan.

SCALE 1:200

Fig. 9.28: West Elevation.

Fig. 9.29: North Elevation.

Fig. 9.30: Section B

FOSTERS FLOOR PLANS

- 1 *main entry*
- 2 *foyer*
- 3 *restaurant*
- 4 *small bar*
- 5 *kitchen*
- 6 *large bar*
- 7 *dance floor*
- 8 *lobby*
- 9 *function room*
- 10 *storage*
- 11 *dining room*
- 12 *bathroom 1*
- 13 *bathroom two*
- 14 *outdoor area*
- 15 *fire exit*

Fig. 9.31: Isometric of Fosters Hotel.

SCALE 1:200

Fig.

TAUPO

Fig. 9.33: First Floor.

SCALE 1:200

Fig. 9.34: Second Floor.

SCALE 1:200

Fig. 9.35: View from City Bridge of the cross roads.

Fig. 9.36: Perspective view of Johnston and Co Building.

Fig. 9.37: Perspective view of Property Brokers Building.

Fig. 9.38: Perspective view of Dalgety / Thains Building.

Fig. 9.39: Perspective view of Fosters Hotel.

PERSPECTIVES

Fig. 9.40: View through alleyway up Victoria Avenue.

Fig. 9.41: Atrium view of staircase and fernery.

Fig. 9.42: View of shared common area in boutique hostel, looking through stepped back facade.

Fig. 9.43: View of rooftop bar.

PERSPECTIVES

Fig. 9.44: View from river looking towards the cross-roads.

10

DESIGN DETAIL

Designing at a detail scale was a way to create physical cultural connection to place. Chapter 10 introduces more theory based design which looks into the construction of a new column.

In many adaptive reuse, earthquake strengthening and restoration projects in New Zealand, it is common to use a strong, economical method of strengthening. This is usually an universal column, which has no architectural design or relationship with an heritage building.

Fig. 10.01: Men in Sharing shed, Whanganui.

10.1 COLUMN DESIGN

Many adaptive reuse projects require earthquake strengthening, which might not receive much careful architectural thought. As illustrated in chapter 7.1 Whanganui's heritage is largely effected by the need to earthquake strengthen.

In many cases, engineers design the structural system, and due to an emphasis on lower costs, the strengthening often results in large steel framing. Hence the use within the design chapter with standard universal columns. These can override other design elements within the space and do not enhance the building's identity or heritage detail, which were aimed to revitalise the space.

It is clear that the prominent use of universal columns is due to the efficient properties of steel compared to that of wood or masonry. This allows for a slim profile that does not impact the footprint too dramatically.

An unique architecturally designed column, which enhances the connection to place, could strengthen the overall adaptive reuse scheme designed for the cross-roads of Whanganui. The role of the structure for strengthening old buildings can be seen as expanding upon theories relating to the process of making. The detailing in that process can enhance the connection to place. The book 'Frampton Studies in 'Tectonic Culture' details these processes of making and detailing. The column offers an opportunity to make a statement of the identity of Whanganui (Frampton, 2001)

Looking into the identity of Whanganui through the design of the column intensifies the relationship between the city's main street and the river. This will allow these columns to be exclusive and symbolic.

While this conceptual column will be larger than a standard universal column, it has representational value and will act as a feature to the design rather than just a necessity.

There are many aspects which make Whanganui's river special, as acknowledge in Chapter 5.6. These include the river's own legal status, it is the third longest river in New Zealand, but also the longest navigable river in New Zealand (Change-maker—The Whanganui River, n.d.). It was once an important communication route to the central North Island and during the 20th century the river was one of New Zealand top tourist attractions with its rugged beauty and Maori villages dotted along its banks. For the local Maori it has both special and spiritual importance (Hindmarsh, n.d.).

The idea of using rope to symbolise the connection between the river and the township came about as 'taura here' binding of ropes symbolises urban kinship used to help retain identity and link people back to their tribal homelands.(Maori Dictionary)

The Maori use flax to make rope as it was readily accessible and perceived as one of the strongest natural fibers in the world. The

flax is also woven as it is seen as a metaphor for family bonds and human relationships. Many New Zealanders associate it with their homelands.

10.2 EARTHQUAKE STRENGTHENING IN NEW ZEALAND

Today, capacity design is now well established in the world's leading seismic design codes, it is where the damage on a structure has hierarchy so when inertia forces exceed the design, the damage is concentrated to less vital sacrificial members. (Charleson, 2008)

In New Zealand capacity design was not incorporated into buildings until the 1970's, therefore a lot of our cities building stock is vulnerable. This has resulted in the need of retrofitting and strengthening our existing buildings. (Charleson, 2008)

Seismic resistant design is intended to achieve two objectives; to protect human lives and limit building damage. Through the main seismic resisting systems of structural walls, cross-braced frames and moment frames buildings designed to reduce the risk of the objectives can be achieved. However, looking into current buildings retrofitting is necessary to reduce the building's vulnerability and improve seismic performance. (Charleson, 2008)

Life-safety issues are foremost and, fortunately, there are various approaches which can save historic buildings both from the devastation caused by earthquakes and from the damage inflicted by well-intentioned but insensitive retrofit procedures. Building owners, managers, consultants, and communities need to be actively involved in preparing documents and readying irreplaceable historic resources from these damages (Wong and Augustus).

Retrofitting existing buildings is most often driven by structural engineers and economic concerns rather than architects. New knowledge on seismic strengthening to existing buildings is introduced continually leading to improvements.(Charleson, 2008)

Utilising the capabilities of the existing structure minimises intervention which is a key to the success of retrofits. Building weight should always try to be reduced as less weight means less seismic force. Reinforcement systems should be in the same style as the existing building and need to be tied and structurally connected to each other. (Charleson, 2008)

The main seismic design approaches for adaptive reuse include upgrading diaphragms, shear walls, braced frames, moment frames and base isolation (Charleson, 2008). New diaphragms can be constructed above or below existing floors or ceilings. Adding concrete shear walls is by far the best seismic retrofit although steel braced frames are most common and cost effective. Steel braced frames also have less impact upon views and intrusion of space. Seismic base isolation is the most severe intervention. Although they are best for its seismic performance in terms of mitigating seismic damage. (Charleson, 2008)

For greater architectural sensitivity both technical strengthening requirements and architectural conservation need to be balanced. Wong and Augustus recommend using three principles to protect the buildings fabric:

- Historic materials preserved and retained.
- New seismic systems weather exposed or hidden should respect character and integrity as well as being compatible.
- Seismic work should be ‘reversible’ consequently to allow for future use of improved systems.

(Wong and Augustus)

Columns can be used to carry the gravity load of the building. They will need to have strong connections and typically spaced between 3-5 metres. Wrapping the existing columns with steel casing can create column confinement, bending and shear strength as well as ductility. (Charleson, 2008)

10.3 THE ORIGIN OF ANCIENT GREEK COLUMNS

In the past, other civilisations have used the architectural columns to convey symbolic meaning. In many ancient cultures, columns were initially wooden pillars which eventually evolved into the column (Millwork, 2013). Ancient Greek columns are generally tall, symmetrical, balanced, have intricate detail and harmony (Encyclopaedia Britannica, 2016). The recognisable feature is the grooves in the columns known as fluting which gives the feeling of depth and balance.

There are three types of Greek columns called orders, Doric, Ionic and Corinthian. Doric are the most simple type which is the thickest of the Greek style and taper with little to no decoration at the base with simple capital at the top. The ionic column is thinner than the Doric and has a base with the capital decorated with scrolls on each side. Lastly the Corinthian is the most decorative, the capital is decorated with scrolls and leaves of the acanthus plant (Encyclopaedia Britannica, 2016).

10.4 THE THEORY OF GOTTFRIED SEMPER

Gottfried Semper's theory has been used to better understand the methods of basic building construction of traditional structures.

Gottfried Semper (1803 - 1879) an architect and writer on art and also known as a principal practitioner of the Neo-Renaissance style in Germany. In Semper's influential writings he expressed interpretation of techniques as a source of style, while also proposing colour in decorative arts and architecture.(Gottfried Semper | German architect and writer, n.d.)

In 'Frampton Studies in Tectonic Culture' Semper's general theory of architecture is discussed (Frampton, 2001). Semper considers what assembles and systems are universal in all indigenous primitive structures. It is a theory of which functionalism is a prerequisite to intentionality while also being archaeologically driven. (Frampton, 2001) His theory of 'making' is what has been extracted from the Frampton's studies.

'Semper maintained that the earliest basic

structural artefact was the knot, from which follows the primary nomadic building culture of the tent and its textile fabric.

(Peter Blake, *The Master Builders* (New York: Knopf, 1960), p207.)

Semper was fully aware of knot and joint and how both words are connected through binding. He characterised the knot as “the oldest tectonic, cosmogonic symbol”. His emphasis on the joint between the base of the building and its tectonic frame curating the transitions are the very essence of architecture. (Frampton, 2001)

In the writings on ‘The four elements of architecture’ Semper assigned certain tectonic crafts to each of the elements:

- Textiles applied to the art of enclosure (side walls and roof)
- Carpentry to the basic structural frame
- Masonry to the earthwork
- Metallurgy and ceramics to the hearth

(Frampton, 2001)

Having an understanding of the traditional making of structures through the use of the knot at the joint gave the idea of binding a column with a beam. In New Zealand’s

architectural history, the Maori used woven flax to bind the two structural elements.

This concept brings cultural identity into the adaptive reuse project.

Fig. 10.02: Gottfried Semper. Primitive Hut. 1851.

10.5 COLUMN DESIGN CONCEPTS

Evaluation Criteria

Based on the reviewed material it was possible to formulate the following key design principles. These allow the analysis of physical models to easily form and determine satisfactory outcomes.

- Strengthening capabilities- its essential for the column to carry the gravitational load as well as resist seismic forces in both directions and torsion.
- Materiality - As the column will be used in a heritage context materiality is crucial for the design to fit the existing integrity of the building.
- Design Complexity
- Beauty - The beauty relates to the reasoning behind why the column will be architecturally designed, it needs to be beautiful.
- Functionality - The column needs to be designed to be functional within the space.

Fig. 10.03 - Fig. 10.14 Concept series one of Columns with evaluation criteria.

With these key principles in mind, a series of design explorations were undertaken. The models in figures 10.03 - 10.43 represent analysis of patterns used to enhance details and all show tensional qualities. The models which represented structural capabilities often had a hidden material creating the strength. This point is taken back to the point of not wanting to create 'fake' architecture. The conclusion from this series was the subsequent work should include a structural material to the design.

The unreinforced masonry building needs to support the additional gravity loads created through the adaptive reuse program, it also needs to support the seismic forces in both directions and torsion. The structurally designed system additionally needs to be tied and connected to the existing buildings structure.

Wood was chosen as the additional material due to its natural appearance as well as it being a local material. The natural material will also work coherently with the existing building and retain some of the original aesthetic qualities the building had initially.

Fig. 10.15 - Fig. 10.27 Concept series two of columns with evaluation criteria.

This pays respect to its character.

Using the ‘making’ aspect to join and combine the connection between the column and beam is the step forward in this design. It will then accentuate the detail creating strong connections to both the structure and buildings identity.

The next design development explored the use of string imitating rope and weaving as a way to hold the joint together

Fig. 10.16 - Fig. 10.35 Concept series three of weaving / binding with evaluation criteria.

Fig. 10.36 - Fig. 10.39 Concept series four of knotting with evaluation criteria.

Fig. 10.40 - Fig 10.43 Woven sketches of twine ans wood.

Fig. 10.44 Sketch of binding of wood with rope at intersection.

Fig. 10.45 Sketch of binding of two parallel pieces of wood.

Fig. 10.46 Diagonal connection of binding between wood and rope.

CONCLUSIONS

Allowing a more in depth detail of design grants meaning and identity to be a main driver of the design.

The small design change of materiality and construction introduced a lot more cultural significance into the building's design. While using timber makes the addition of earthquake strengthening less intrusive of the space.

Using the rope allowed the design to have multiple linkages including back to Semper and his theories of 'making'. As well as the cultural traditions of Maori and their use of woven flax as a way of binding structures together.

Through more design exploration it would be possible to test these ideas more for the possible impact on the totality of the design.

Overall, the introduction of a column design, is greatly beneficial to this design research. It enhances the connection to Whanganui's heritage through a crucial and functional

element. This is particularly successful as it replaces the standard known commodity of steel framing and replaces it with an uniquely designed feature.

While these columns will need further refining and specific engineering, this provides a basis for this new column to be built upon.

11

CONCLUSIONS

Fig. 11.01: Whanganui river 1890.

11.1 CONCLUSIONS

The concept of adaptive reuse has been widely recognised and researched around the world, although little thought has gone into its relationship with enhancing connection to place.

In New Zealand, Adaptive reuse is more commonly known as a retrofit of an heritage building. Most of these projects having had no thought of character integrity. There is limited New Zealand literature based on this research, although internationally it is much more widely identified. This is due to the heritage architecture in New Zealand being only around 100 years old compared with European buildings which have a significantly older history.

This research shows how the built heritage can enhance connection to place through well thought out design. Having a contextual understanding of the chosen buildings, in terms of heritage, history, environment as well as its needs and opportunities, were crucial to having a successful adaptive reuse

project. Whanganui created a great case study for other provincial towns of New Zealand due to its rich variety of architectural heritage.

The research began with a literature review which created a clear picture of Adaptive reuse and what it is today. The design led research was achieved through basing the knowledge gain and design decisions firmly within the research question, aims and objective. The use of drawing was beneficial to the growth of personal understanding of the context. It was a successful tool to see the setting more fully.

One of the main challenges with an adaptive reuse project is that in order to have a succinct and strong design, it is imperative to have a comprehensive understanding of a range of relevant contextual information. This inherent characteristic of the adaptive reuse has influenced this project to respond with a set of important contextual analyses. This in depth review of the context ended up limiting the design of the buildings.

11.2 LIMITATIONS

The initial focus of this project was on an urban re-visualization and activation, which meant that the design work commenced with the work on four buildings, however the scope was too large. The choice to reduce the scope to one building with more detailed design would be beneficial. Narrowing the scope earlier in the project would have lead to a deeper insight on specific areas of the design. However, the chosen path did provide benefits of developing work and insights at a broader context which developments could be had at an urban context.

Cost was not integrated into the thesis scope, although it was an underlying factor due to justification that adaptive reuse is more beneficial than a new build. This thesis promotes the idea that adaptive reuse is more cost effective due to being more sustainable over demolition and a new build. However, most importantly the process of adaptive reuse of our built heritage, if done well, creates better connection to place.

The chosen case studies gave an overall understanding of adaptive reuse around the world. Using international case studies was an intentional decision as there is much more variety and a wider understanding of this particular type of design. This is due to the depth of knowledge built upon through years of adaptive reuse, which New Zealand is yet to achieve. Although this was a strategic decisions, a stronger grounding in New Zealand context could have offered some additional opportunities. Looking at local attempts of adaptive reuse would have been very beneficial even if they were not successful. This would have allowed for an analysis on localised issues that this design could have focused in achieving.

11.3 FURTHER RESEARCH

Upon completing the design led thesis, there were multiple areas which could have been done in a different way. There are also many avenues in which the research can be pushed further if the study were to be ongoing.

A further study, or a series of studies, could be undertaken on the adaptive reuse specifically in New Zealand. The issue highlighted here is that smaller provincial towns have different needs than the large centres. Although heritage architecture can still play an important role in their urban activation. Comparative investigations of a series of provincial towns could have led to identifying some very relevant patterns.

Engagement with the community could have created a richer design. This decision to not consult was due to limited time available under a 12 month research time frame. Enabling community workshops allows the council or building owners to express their thoughts and critique on the design. This input at different stages in the design would have been very

valuable for decision making. Information obtained in this way would have been very site specific less beneficial to use in other provincial cities around New Zealand. However, this process could have been repeated for each individual town. Having the insight of public opinion could have gathered more knowledge in addition to the literature. These elements combined could have enhanced the research aimed to bring something new to New Zealand and Whanganui.

The literature gained a perspective of what adaptive reuse is today, while using international cases studies gave international influence. Considering the reasoning of why New Zealand has not faced a high amount of adaptive reuse today could have created a better argument for choosing adaptive reuse in New Zealand's future.

The design development was a step by step process which was a time consuming exercise. Due to time constraints in the research, the outcome was only one design approach.

If more time was available, multiple design outcomes using the design strategy could have been achieved. This would have given a stronger argument behind the design as refinements could have been made through each iterative concept. A stronger framework to critique the design would allow for a more robust design. This framework would have facilitated a critique and analysis in the conceptual designs to reinforce the research behind it.

This thesis recognises that there is still a large issue surrounding adaptive reuse. This includes the knowledge and the need for earthquake strengthening in New Zealand. This is particularly important in our provincial cities due to the limited access to guidance from heritage specialists.

This thesis pushes the idea of enhancing connection to place through adaptive reuse to revitalise a community. With more research on humans connections to spaces, there could be a shift in perception on adaptive reuse.

Responding to and designing for, human connections will have had another strong effect to many of the design outcomes.

The design of the column initiated the use of adding multiple theory related cultural connections to certain elements of the design. This in particular was through the addition of earthquake strengthening structure that had strong ties to connection to place. Using the design tools gained from chapter 10, this idea could have been pushed further across other parts of the building. This would have created a more overall cohesive connection to the surrounding context.

BIBLIOGRAPHY

- Abeling, S., Dizhur, D., & Ingham, J. (2018). An evaluation of successfully seismically retrofitted URM buildings in New Zealand and their relevance to Australia. *Australian Journal of Structural Engineering*, 19(3), 234–244. <https://doi.org/10.1080/13287982.2018.1491820>
- “Absolutely incredible” revamp of heritage building* | Otago Daily Times Online News. (n.d.). Retrieved January 15, 2020, from <https://www.odt.co.nz/news/dunedin/absolutely-incredible-revamp-heritage-building>
- Adaptive Reuse of the Built Heritage: Concepts and Cases of an Emerging Discipline*. (n.d.). CRC Press. Retrieved August 22, 2019, from <https://www.crcpress.com/Adaptive-Reuse-of-the-Built-Heritage-Concepts-and-Cases-of-an-Emerging/Plevoets-Cleempoel/p/book/9781138062764>
- Appleton, E. (2019). *DRAFT CITY RIVER STRATEGY FUTURE ASPIRATIONS FOR MELBOURNE’S INNER CITY RIVER*. CITY OF MELBOURNE. <https://www.melbourne.vic.gov.au/about-council/committees-meetings/meeting-archive/MeetingAgendaItemAttachments/854/15253/APR19%20FMC2%20AGENDA%20ITEM%206.1%20size%20reduced.pdf>
- APR19 FMC2 AGENDA ITEM 6.1 size reduced.pdf*. (n.d.). Retrieved December 19, 2019, from <https://www.melbourne.vic.gov.au/about-council/committees-meetings/meeting-archive/MeetingAgendaItemAttachments/854/15253/APR19%20FMC2%20AGENDA%20ITEM%206.1%20size%20reduced.pdf>
- architecture in existing fabric—Google Search*. (n.d.). Retrieved March 27, 2020, from https://www.google.com/search?gs_ssp=eJzj4tFP1zc0SiqwSCs3MzVg9JJPLERoyCxjTS4pLUpVyMxTSK3ILC7JzEtXSEtMK-spMBgBrDhA3&q=architecture+in+existing+fabric&oq=architecture+in+existing+fabroc&aqs=chrome.69i57j46j0l2.15003j0j7&sourceid=chrome&ie=UTF-8
- Brown, M., & Buranakarn, V. (2003). Emergy indices and ratios for sustainable material cycles and recycle options. *Resources, Conservation and Recycling*, 38, 1–22. [https://doi.org/10.1016/S0921-3449\(02\)00093-9](https://doi.org/10.1016/S0921-3449(02)00093-9)
- Bush, S. (2017). *Warehouse Home: Industrial Inspiration for Twenty-first-century Living*. Thames & Hudson.
- Change-maker—The Whanganui River*. (n.d.). Retrieved December 17, 2019, from <https://natlib.govt.nz/he-tohu/learning/social-inquiry-resources/cultural-interaction/cultural-interaction-supporting-activities-and-resources/change-maker-whanganui-river>
- Charleson, A. (2008). *Seismic Design for Architects*. Routledge. <http://ebookcentral.proquest.com/lib/vuw/detail.action?docID=405228>
- Cochran, C. (1990a). *Wanganui heritage study / for the Wanganui District Council ; Chris Cochran & Murray North Limited*. The Council.
- Cochran, C. (1990b). *Wanganui heritage study / for the Wanganui District Council ; Chris Cochran & Murray North Limited*. The Council.
- Corbusier, L. (1973). *The Athens charter*. New York: Grossman Publishers.
- Corner sites—Auckland Design Manual*. (n.d.). Retrieved January 23, 2020, from <http://www.aucklanddesignmanual.co.nz/sites-and-buildings/mixed-use/guidance/thebuilding/mixeduseconfigurations/designingforcorners>
- Cramer, J., & Breitling, S. (2007). *Architecture in Existing Fabric: Planning design and building*. <https://www.book->
-

- depository.com/Architecture-Existing-Fabric-Johannes-Cramer/9783764377526
- CUR FINAL Whanganui TC Strategy Report—161216.pdf. (n.d.). Retrieved April 1, 2019, from <https://www.whanganui.govt.nz/our-district/major-projects/town-centre/Documents/CUR%20FINAL%20Whanganui%20TC%20Strategy%20Report%20-%20161216.pdf>
- Douglas, J. (2006). *Building Adaptation*. Butterworth-Heinemann.
- Dunham-Jones, E. (2009a). *Retrofitting suburbia: Urban design solutions for redesigning suburbs* / Ellen Dunham-Jones and June Williamson. John Wiley & Sons.
- Dunham-Jones, E. (2009b). *Retrofitting suburbia: Urban design solutions for redesigning suburbs* / Ellen Dunham-Jones and June Williamson. John Wiley & Sons.
- The Editors of Encyclopaedia Britannica. (2016, June 23). Column. Retrieved June 7, 2020, from <https://www.britannica.com/technology/column-architecture>
- Egbelakin, D. T. (2017, December 21). *Provincial New Zealand towns face abandoned town centres, loss of heritage*. Stuff. <https://www.stuff.co.nz/manawatu-standard/opinion/100029748/provincial-new-zealand-towns-face-abandoned-town-centres-loss-of-heritage>
- Fernandez-Galiano, L. (2000). *Fire and Memory: On Architecture and Energy*. <https://epdf.pub/fire-and-memory-on-architecture-and-energy.html>
- Former Standard Insurance building 201 Princes St, Dunedin | What if? Dunedin... (n.d.). Retrieved January 15, 2020, from <https://dunedinstadium.wordpress.com/2011/10/24/former-standard-insurance-building-201-princes-st-dunedin/>
- Frampton, K. (2001). *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture* (J. Cava, Ed.; Reprint edition). The MIT Press.
- Gospodini, A. (2006). Portraying, classifying and understanding the emerging landscapes in the post-industrial city. *Cities*, 23(5), 311–330. <https://doi.org/10.1016/j.cities.2006.06.002>
- Gottfried Semper | German architect and writer. (n.d.). Encyclopædia Britannica. Retrieved February 27, 2020, from <https://www.britannica.com/biography/Gottfried-Semper>
- Heritage Equip. How much funding is available? (n.d.). Retrieved from <https://heritageequip.govt.nz/funding-your-project/heritage-equip-funding/how-much-funding-available>
- Hindmarsh, G. (n.d.). Flax - the enduring fibre. Retrieved from <https://www.nzgeo.com/stories/flax-the-enduring-fibre/>
- Historic Places Trust. (n.d.). *Heritage redesigned. Adapting historic places for contemporary New Zealand*. [file:///stustocois-cifs1/FAD Users\\$/dalgetphil/Downloads/AdaptiveReuse%20\(4\).pdf](file:///stustocois-cifs1/FAD%20Users$/dalgetphil/Downloads/AdaptiveReuse%20(4).pdf)
- Hodgson, T. E. R. (1990). *Looking at the architecture of New Zealand* / Terence Hodgson ; [edited by Anna Rogers]. Grantham House.
- ICOMOS. (1964). *The Venice Charter: International charter for the conservation and restoration of monuments and sites*.
- ICOMOS. (2013). *Burra Charter. Australia: ICOMOS*. Retrieved from <https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>
- ILT proposing to demolish historic building to save money on hotel. (n.d.). Stuff. Retrieved January 7, 2020, from <https://>

-
-
- www.stuff.co.nz/southland-times/news/106478049/ilt-proposing-to-demolish-historic-building-to-save-money-on-hotel
- Inside the office: Strategy Design and Advertising* | *Stuff.co.nz*. (n.d.). Retrieved January 15, 2020, from <http://www.stuff.co.nz/business/unlimited/innovation/10700241/Inside-the-office-Strategy-Design-and-Advertising>
- ILT proposing to demolish historic building to save money on hotel*. (2018, August 22). Retrieved from <https://www.stuff.co.nz/southland-times/news/106478049/ilt-proposing-to-demolish-historic-building-to-save-money-on-hotel>
- Kilmister, S. (2018, September 14). *Small towns could be marred beyond recognition in earthquake-prone buildings saga*. Retrieved from <https://www.stuff.co.nz/national/nz-earthquake/106805921/small-towns-could-be-marred-beyond-recognition-in-earthquake-prone-buildings-saga>
- Kiroff, L., & Tan, X. (2015). *Adaptive reuse of industrial buildings in a new precinct in Auckland's CBD*. <https://unitec-researchbank.ac.nz/handle/10652/3178>
- Kouzminova, A. (2012). *The Adaptive Reuse of Warehouse and Factory Buildings into Residential Living Spaces in Wellington, New Zealand*. Victoria University of Wellington.
- Krejczisz, C. A. (2012). *The Craft of Conversion: Enhancing New Zealand's Industrial Heritage through Adaptive Reuse*. Victoria University of Wellington.
- Langston, C., Wong, F. K. W., Hui, E. C. M., & Shen, L.-Y. (2008). Strategic assessment of building adaptive reuse opportunities in Hong Kong. *Building and Environment*, 43(10), 1709–1718. <https://doi.org/10.1016/j.buildenv.2007.10.017>
- Lehmann, S., & Crocker, R. (2012). *Designing for zero waste: Consumption, technologies and the built environment* / edited by Steffen Lehmann and Robert Crocker. EarthScan.
- Leupen, B., & Mooij, H. (2012). *Housing Design: A Manual* (2nd ed. edition). nai010 publishers.
- Li, H.-W., & Lui, W.-B. (2013). Sustainable reuse of derelict industrial area buildings – case studies in Taiwan, Japan, and Germany. *International Journal of Sustainable Building Technology and Urban Development*, 5(1), 1–9. <https://doi.org/10.1080/2093761X.2013.865571>
- Ltd, B. (2020). *Minimising waste when building*. <http://www.level.org.nz/material-use/minimising-waste/>
- Machado, R. (1976). *Old Buildings as palimpsest: Towards a theory of remodelling*. Progressive Architecture.
- Manawatu-Wanganui Growth Study Opportunities Report July 2015*. (n.d.). 285.
- Martin, L. E. (1987a). *Points of view: In praise of the New Zealand built environment* / Lewis E. Martin. Price Milburn.
- Martin, R. (2017, September 21). *Heritage enthusiasts fear domino effect*. Retrieved from <https://www.rnz.co.nz/news/national/339928/heritage-enthusiasts-fear-domino-effect>
- Maslin, J. (2019, February 20). *Government boost for Wanganui's heritage building owners*. https://www.nzherald.co.nz/wanganui-district-council/news/article.cfm?c_id=1504487&objectid=12205679
- Millwork, W. (2013, October 1). *Brief History on Columns/ Pillars*. Retrieved June 7, 2020, from <https://blog.worthingtonmillwork.com/bid/201549/Brief-History-on-Columns-Pillars>
- New Zealand's industrial heritage* / Geoffrey G. Thornton. - 64VUW. (n.d.). Retrieved March 15, 2019, from https://teawaharoa.victoria.ac.nz/primo-explore/fulldisplay?docid=64VUW_INST21135853250002386&context=I&vid=VUWNUI&lang=en_NZ&search_scope=64VUW_ALL&adaptor=Local%20Search%20En-
-

- [gine&tab=all&query=any,contains,new%20zealand%20industrial%20heritage&sortby=rank&offset=0](#)
 NZ “losing its heritage buildings at a massive rate.” (2019, August 3). RNZ. https://www.rnz.co.nz/news/national/395904/nz-losing-its-heritage-buildings-at-a-massive-rate?fbclid=IwAR0XI1prDcAhKszF-FKymJu-aU1PQ_IQxP8mlexf0a_wXrJdFODBJcTadq2I
- Paramount House Hotel / Breathe Architecture* | *ArchDaily*. (n.d.). Retrieved January 15, 2020, from <https://www.archdaily.com/914140/paramount-house-hotel-breathe-architecture>
- Petković-Grozdanovića, N., Stoiljković, B., Keković, A., & Murgul, V. (2016). The Possibilities for Conversion and Adaptive Reuse of Industrial Facilities into Residential Dwellings. *Procedia Engineering*, 165, 1836–1844. <https://doi.org/10.1016/j.proeng.2016.11.931>
- Plevoets, B., & Cleempoel, K. V. (2019). *Adaptive Reuse of the Built Heritage: Concepts and Cases of an Emerging Discipline* (1 edition). Routledge.
- Provincial New Zealand towns face abandoned town centres, loss of heritage*. (n.d.). Stuff. Retrieved January 7, 2020, from <https://www.stuff.co.nz/manawatu-standard/opinion/100029748/provincial-new-zealand-towns-face-abandoned-town-centres-loss-of-heritage>
- Robert, P. (1989). *Adaptations: New uses old buildings*. (Editions: du Moniteur).
- Robiglio, M. (2017). *RE-USA: 20 American stories of adaptive reuse, a toolkit for post-industrial cities* / Matteo Robiglio ; foreword by Donald K. Carter. Jovis Verlag GmbH.
- Sandler, D. (2011). *Counterpreservation: Decrepitude and memory in post-unification Berlin*.
- Scally, B. (2017). *Forget me not: Critical intervention of Tōtara North's decaying industrial heritage ; Research question: How can a derelict and forgotten piece of significant industrial heritage be revived and made purposeful through strategic architectural intervention?* <http://hdl.handle.net/10652/3934>
- Schumacher, T. (2002). “The outside is the result of the inside”: Some sources of one of modernisms most persistent doctrines. *Journal of Architectural Education*.
- Scott, F. (2008). *On altering architecture*.
- Securing parapets and facades on unreinforced masonry buildings*. (2018). 88.
- Southcombe, M. (2014). *[Re] Cuba: Renegotiating seismic resilience in Cuba Street Wellington* / Mark Southcombe & Andrew Charleson. Wellington City Council.
- Strategic assessment of building adaptive reuse opportunities in Hong Kong—ScienceDirect*. (n.d.). Retrieved March 27, 2020, from <https://www.sciencedirect.com/science/article/abs/pii/S036013230700203X>
- Strategy circa 1877*. (n.d.). Retrieved January 15, 2020, from <https://www.strategycreative.com/jp/news/strategy-circa-1877>
- Sulfaro, N. (2014). *A memory of Shadows and of Stone: Traumatic Ruins, Conservation, Social Processes*. ArcHistR.
- Sydney's Paramount House Hotel Recalls The Golden Era Of The Movies* | OPUMO. (n.d.). Retrieved January 15, 2020, from <https://www.opumo.com/magazine/sydneys-paramount-house-hotel-recalls-the-golden-era-of-the-movies/>
- Taonga, N. Z. M. for C. and H. T. M. (n.d.). 5. – *Papatuanuku – the land – Te Ara Encyclopedia of New Zealand* [Web page]. Retrieved December 17, 2019, from <https://teara.govt.nz/en/papatuanuku-the-land/page-5>

-
-
- Teal, D. (2013). Rewriting History Through Adaptive Reuse. *Environmental Design + Construction*, 16(12), 31–35.
- The Abbotsford Warehouse Apartments* / ITN Architects | ArchDaily. (n.d.). Retrieved January 15, 2020, from <https://www.archdaily.com/269623/the-abbotsford-warehouse-apartments-itn-architects>
- The Green Building* / (fer) studio | ArchDaily. (n.d.). Retrieved January 15, 2020, from <https://www.archdaily.com/118709/the-green-building-fer-studio>
- The Green Building in Louisville, Kentucky* by (FER) Studio. (n.d.). Retrieved January 15, 2020, from <https://www.10aeca.com/blogs/arch-showcase/2011/03/25/the-green-building-in-louisville-kentucky-by-fer-studio/>
- Thornton, G. G. (1982). *New Zealand's industrial heritage* / Geoffrey G. Thornton. Reed.
- Urbanismplus Ltd. (2016). *Making Whanganui Visible—Regeneration Strategy for the Whanganui Town Centre*. Whanganui District Council.
- Vair-Piova, M. (n.d.). *FORMER GROSVENOR HOTEL AND SETTING – 367 MOORHOUSE AVENUE, CHRISTCHURCH*. 4.
- Völker, S., & Kistemann, T. (2013). Reprint of: “I’m always entirely happy when I’m here!” Urban blue enhancing human health and well-being in Cologne and Düsseldorf, Germany. *Social Science & Medicine*, 91, 141–152. <https://doi.org/10.1016/j.socscimed.2013.04.016>
- Vujadinovic, M. (2004). *Preserving old buildings: Adaptive use for residential purposes in Montreal*. National Library of Canada = Bibliothèque nationale du Canada.
- Wang, J., & Zeng, Z. T. (2007). *Conservation and adaptive-reuse of historical industrial building in China in the post-industrial era*. *Frontiers of Architecture and Civil Engineering in China*. <https://link.springer.com/article/10.1007/s11709-007-0064-5>
- Wanganui Town Planning Dept. (1978). *Historic places, Wanganui* / [prepared by Town Planning Department, Wanganui City Council]. Wanganui Town Planning Dept.
- Warne, Kennedy. (2019, April 24). This river in New Zealand is a legal person. How will it use its voice? Retrieved from <https://www.nationalgeographic.com/culture/2019/04/maori-river-in-new-zealand-is-a-legal-person/>
- Whanganui-Heritage-Guide-04_17.pdf*. (n.d.). Retrieved April 1, 2019, from http://www.stagingvisitwhanganui.nz/wp-content/uploads/2017/04/Whanganui-Heritage-Guide-04_17.pdf
- Wilkinson, S. J., Langston, C., Remøy, H., & Remøy, H. (2014). *Innovation in the Built Environment: Sustainable Building Adaptation: Innovations in Decision-Making*. John Wiley & Sons, Incorporated. <http://ebookcentral.proquest.com/lib/vuw/detail.action?docID=1597997>
- Young, D. (1998). *Woven by Water: Histories from the Whanganui River*. Huia Publishers.

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ADDENDUM

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