Porosity and Play:

Sustaining Public Life in New Zealand's Suburban Shopping Centres

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ABSTRACT

Throughout history, public plazas and town squares have provided the public realm for people to meet and "people watch". However the privatisation of public space has resulted in the demise of these traditional exterior public domains. These have been replaced by strictly controlled interior shopping malls, which place limitations on public behaviour.

The concepts of 'play' and 'porosity' are possible remedies to the limitations. The purpose of this research is therefore to discover how the concepts of 'play' and 'porosity' can guide the redevelopment of New Zealand's suburban shopping malls so as to enhance the quality of public space without detracting from the malls' commercial performance.

In essence, 'play' is the spontaneous interaction which enriches public life and space, and is an encapsulation of the ideas of Jan Gehl, Elizabeth Farrelly and Quentin Stevens. 'Porosity', a concept coined by Nan Ellin, involves mixing views, programmes, ecology and paths within the same space. This revealed itself to be a method by which a space might be manipulated to support play.

The 'boundary' is considered by both Stevens and Gehl to be an ideal space for play to occur, as it provides people with something to work against. Consequently, the boundary is investigated as the space where play and porosity interact.

The investigation of play, porosity and the boundary includes an examination of international mall precedents and New Zealand case studies. The findings from these studies and a review of relevant literature

are eventually tested in a design case study. This involves a redevelopment of Pakuranga Mall in Auckland, and includes a detailed investigation of a single boundary at an architectural scale.

The design successfully proves that that a specific type of play can interact with porosity at a boundary in order to locally enhance the quality of public space. However the design also raises further questions about the concepts of porosity and play. Porosity was achieved in both the master plan and the design of the single boundary and was therefore developed at both the macro and micro scales. However the concept of play was successfully introduced only at the micro level of architectural development at the boundary. Therefore, the conclusion to this thesis discusses whether the interaction of play and porosity is limited to the boundary, or if the two concepts can be developed further to interact at a macro scale beyond the confines of a single boundary.

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INTRODUCTION

The design and operation of shopping centres is markedly different to what it was in the 20th century. The suburban mall is no longer just a place to shop, but often needs to act as the heart of a community where social encounters occur and recreational events are held. This change has made many of New Zealand's current shopping malls dysfunctional within today's social and commercial realm. Whilst the nature of a shopping mall will always be commercially driven, it cannot successfully function in this way without a measure of social activity to attract consumers. The 21st century shopping mall should therefore represent the convergence of social and commercial activity.

Throughout history, public plazas and town squares have provided the public realm for people to meet and "people watch". Although these spaces contained commercial functions, they were transcended by the social and civic activities that took place. The privatisation of public space has had major part in the demise of traditional exterior public domains and town centres. Whilst there are many advantages in this privatised interior public realm, its tight control has the propensity to discourage social activity (Farrelly, E. 2008). A consumer may visit any mall once, on the strength of one or two of its tenants, however they may not return regularly if there is no sociable experience to be had while shopping. That is, that there is little extra experience for the consumer outside of selecting their item, purchasing it, and moving on to the next store. If the only reason people come to a mall is to shop then it has failed to become a truly public destination. And in an age where new ways of shopping allow people to

make purchases from their own home, an experience of public life becomes an important pulling factor for consumers.

The commercial goals are also an imperative part of any mall's design. The mall owner needs to attract tenants, the retailers need an environment to sell their product, and the consumer needs easy access to purchase these products at a low cost in both time and money. As well as these, it is necessary to consider the commercial goals of the host suburb, for which a major retail centre like a mall is integral to sustaining local jobs and attracting residents.

For New Zealand's suburban shopping malls, it is the convergence of these commercial goals and the need for a greater social experience which requires attention. While much literature has been published in the past regarding shopping mall design guidelines, the change in mall requirements have outdated much of the information available, and there is little available on any New Zealand case studies. Currently, there is no solid direction for how New Zealand's suburban malls need to adapt in order to solve these issues, and they therefore lack a design direction suited for the 21st century.

Two concepts, 'play' and 'porosity', form a potential method of dealing with this problem.

'Play' is an encapsulation of the ideas of Elizabeth Farrelly, Jan Gehl, and Quentin Stevens. In essence, play is spontaneous interaction, which might be social, physical, or mental. It is this spontaneous interaction which enriches public life and space. It is what enables people to experience the interaction which they might otherwise miss out on through modern ways of shopping, which do not require the consumer to leave their home.

'Porosity', a concept coined by Nan Ellin, reveals itself to be a method by which a space might be manipulated to support play. Ellin's porosity encapsulates more than the literal meaning of the word. It is about allowing some things in and keeping others out, it is about the integration of ecology, programmes, views, and permeable layers into the same space, creating thresholds which are lively and unpredictable.

Along with the aforementioned issues, the two concepts of play and porosity form the basis for the research question of this thesis:

- **How can the concepts of 'play' and 'porosity' guide the redevelopment of New Zealand's suburban shopping malls so as to enhance the quality of public space without detracting from the malls' commercial performance?**

A third concept, the 'boundary', is identified as the space where porosity and play can interact. The boundary is found to be the ideal space for play to occur. This is because life congregates at boundaries, as they give people something to work against. Jan Gehl refers to this phenomenon as the 'edge effect', stating that successful boundaries are those that are designed to create invitations to stop (Gehl, J. 2006).

The framework for approaching the research question therefore focuses on three concepts:

- Play
- Porosity
- The boundary

The scope of the research is mostly limited to the investigation of these concepts in relation to international precedents, New Zealand case studies, and the design case study of this research.

Chapter 1 further discusses the replacement of truly public space with the privatised alternative, and reviews literature and theory in order to understand the limitations it poses on public life. During this process, the three concepts of play, porosity and the boundary are discussed as possible remedies for these limitations. The interaction of play, porosity and the boundary therefore becomes the main objective for the design case study of this research.

After the establishment of the conceptual framework, Chapter 2 surveys international precedents and theory. The chapter looks at the innovations which help recent American mall redevelopments to unite the social and commercial goals previously mentioned, as well as combating suburban sprawl. The concepts defined in Chapter 1 are used to find any gaps and weaknesses of these precedents. It is found that these redevelopments involve a general 'opening up' of the traditional mall, and hence the process is labelled as 'de-malling'. While many aspects of this process are useful for answering the research question, it poses new questions of how it can be applied in the context and climate of New Zealand.

The completion of Chapters 1 and 2 places the research in a position to critique various New Zealand suburban malls in Chapter 3. Five suburban malls from Auckland and Wellington are studied. Each case study is surveyed on site for its facilities, boundaries, spatial layout, and ability to house social interaction. This process uncovers the gaps and weaknesses of the New Zealand malls in relation to the key research concepts and the international precedents. Specifically these weaknesses relate to their poor perimeter boundary conditions, as well as their lack of permeability.

Chapters 4 and 5 are the climax to this thesis, where the findings of the previous chapters are applied in a design case study. The role of this design is to test design criteria manifested from the prior research into the redevelopment of a New Zealand suburban mall in Pakuranga, Auckland. This is achieved at both a macro and micro scale, as the mall is redeveloped, and subsequently, a single boundary space is tested. Through this design, the research proves that a specific type of play can interact with porosity at a boundary in order to locally enhance the quality of public space, without detracting from the mall's function.

Finally, the conclusion ties the findings of each chapter together, and answers the research question. At this stage, issues about the concepts of play and porosity have become apparent due to conflicts with other design objectives, and therefore further questions are raised.

CHAPTER 1

LITERATURE REVIEW

The aim of this literature review is to define the conceptual framework used throughout this research, and situate the research amongst other scholarly work. The concepts explored here are used during the remaining chapters as a means to analyse various international and New Zealand malls, and they are later tested in the design case study.

The first part of this chapter discusses the positives and negatives of the privatisation of public space, and the subsequent interiorisation of the marketplace into the suburban mall. The concept of 'play' is introduced as a possible means to remedy the weaknesses of privatised public space, and the 'boundary' is identified as the ideal space for accommodating this play. The second part of the chapter discusses how the boundary space can be manipulated through the concept of 'porosity' and what positive effects this may have on the boundary's ability to contain play. This chapter therefore begins the investigation on the interaction of the these key concepts:
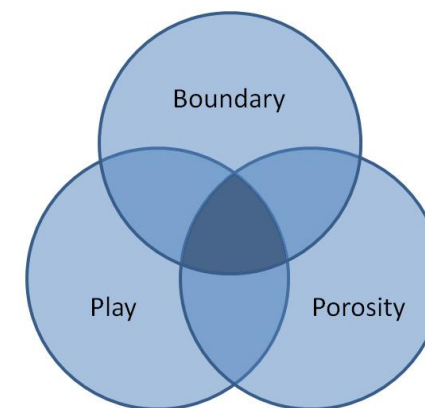
1.1 The privatisation of public space

Within cities and suburbs, significant public spaces are frequently becoming privatised. A simple definition of a truly public space is a place that is under council ownership, is accessible to everyone without restriction, and accommodates communication and interaction (Kohn, M. 2004 & Stevens, Q. 2007). Over time the privatisation of public open space has shaped and transformed the land between buildings into spaces which contrast greatly to this definition, and also to the free flowing public centres of the 19th century. The shopping mall has been a prime example of how privatisation can affect a common space, and adapt it into something fit for the efficiency demanded of the time. Essentially, the shopping mall is the 20th Century's privatised rendition of the old town square and marketplace.

The commercial benefits that privatisation have had on the market place are numerous. Besides the brutal efficiency of the shopping mall, the owner gains the benefit of absolute control over many aspects of the space, to the point where they become masters of consumer manipulation. While the 19th Century market places were, to a degree, organic in their growth and layout, the privatised spaces of a shopping mall are purposely designed to manipulate and control the behaviour of the consumer.

The control begins with the interiorisation of shopping as an activity, which contrasts with the bustling outdoor market places of old. The privatised interior shopping experience has complete control over its content. Its spaces are devoid of any threats, like a home away from home. This allows people to relax, and when they relax, they are likely to spend (Farrelly, E. 2008 & Backes, N. 1997). However the illusion does not stop at the creation of a home away from home, the privatised spaces of the shopping mall become fantasy worlds where the presentation of goods can be theatricalised to create 'retail drama'. The shopper becomes a spectator bent to the will of the retailer and architect. They can be disorientated, cut off from the sights and sounds of the outside environment into a dream like mode of consumption (Sorkin, M. 1992). Space, time and weather is suspended as they pass through dramatic central passages and large multi levelled plazas, exaggerating the difference between inside and out, and assuring a predictable level of comfort inside.

The result is a feeling of escapism, which is an attractive distraction from today's fast paced world. The meaningful walk of the shopper is slowed to a meandering stroll as their eye is focused on products through deliberate manipulation of the mall interior. This escapism leads to a timelessness, or "scripted disorientation" (Farrelly, E. 2008, pp 25). Where one was expecting to spend an hour shopping, they unexpectedly find themselves still inside the mall three hours later. The mall takes the shopper on an adventurous trip, by telling a story through a series of theatricalised views and retail drama, giving them the ability to be free from their everyday life. Whilst there is much criticism over this manipulation, it is not necessarily true that mall goers are totally naive to this, rather they willingly buy into it (Backes, N. 1997).

Through telling this story, the mall recreates the city in an intensified space. This replicates the city downtown, while keeping out the unwanted (Sorkin, M. 1992). As the mall includes more and more of a city within, the debate over private and public space gets deeper. If a mall is to contain the social vibe of a town centre, it may have to take on the public responsibilities of one. Is it acceptable for malls to remain in its current privatised form in New Zealand's suburbs?

Elizabeth Farrelly is an author on architecture and the environment who critiques shopping malls in relation to our obsession with safety, in her book *Blubberland - The dangers of happiness.* After admitting the advantages of the privatised mall, Farrelly informs us that their own power to control is what ultimately causes privatised public spaces to suffer. Their introverted nature offers security, protection, cleanliness, social filtering, and order to all things. However this will often be delivered in an architecture which is devoid of play. Play is about curiosity, it is about exploring and adventure, and is not usually purposeful. "It is something in which good cities, without exception, excel." (Farrelly, E. 2008, pp 138). If a privatised space such as a mall is to replicate the social attributes of a successful town centre, a sense of play may help to achieve this.

Whilst the interiorisation of public space has allowed for the creation of a spectacle, and therefore the 'scripted disorientation' which drives consumers to buy, it has also created a homely and safe place which is in contradiction to this spectacle. This is the oxymoron of privatisation. It has rendered the once busy town square, into an escapist space which can be excitingly intensified, yet boring, "and boring is the antithesis of explorability, the antithesis of play." (Farrelly, E. 2008, pp139). Many outdoor public spaces gain their liveliness from graffiti, buskers, skateboarders, or makeshift stores, these are things that people often deem detrimental, and are therefore stripped from private spaces. When people are surrounded by the clean and the formal, they are less likely to act naturally, to socialize, or to play. Over secure environments, however well intentioned they may be, can even be counter-productive to wider levels of trust. Whilst removing the homeless and unwanted, the presence of an obviously visible private security to keep them out, can paradoxically make people feel on edge (Minton, A. 2006).

Although the privatisation of public space is restricting the social behaviour of people within New Zealand's suburban malls, it can at the very least unite them for the act of viewing. Secure, and sheltered from the environment and other events beyond the owner's control, the privatised space within a mall is the ideal place to organise such shows and events. Whilst this fosters a kind of social interaction, it is limited in various ways. Events bring people together, but they often do so in a way that positions them as "spectators rather than participants" (Kohn, M. 2004, pp 14). They do not facilitate interaction between people, rather, the people are linked via a one way relationship to the central focus. This form of social interaction through entertainment is limited in its ability to reach the social goals of a public space.

1.2 Play, and the boundary

It is relevant then, to consider how interaction within a shopping mall can become less controlled, and more of a spontaneous affair, incorporating the concept of play, while also satisfying retail requirements. Jan Gehl's theories on public space are intended for the city scale, but they can be well applied to the suburban mall. Gehl suggests that the chance of social activity occurring in a space is greater if there are both necessary and optional activities to be had (Gehl, J. 1996). Whilst necessary activities such as going to work or grocery shopping will always occur no matter what the quality of space, optional activities depend on the hospitality of the space and what it has to offer. This is because optional activities are voluntary, they are simple things such as standing still to think, taking a walk, or sitting in the sun. The more inviting the space, the longer necessary activities will last, and the more likely optional activity is to occur.

To Gehl, social activity is the result of the quality and length of both necessary and optional activities. This is because it is an activity which occurs spontaneously, by chance, when two people meet and interact in the same space. These spontaneous interactions are not necessarily conversations, but are often passive activities where people simply see or hear other people, developing an unspoken dialogue. But as limited as this is, it can be very appealing. For if this modest level contact is missing, the variation between complete isolation and contact becomes even greater, as people are either alone or with others. If this basic level of contact is

established within a mall, it can become a medium for more substantial contact.

- It facilitates keeping up contact with acquaintances in a relaxed and undemanding way.
- It becomes a source of information about the social world outside, about how to dress and behave etc.
- It is a source of inspiration and stimulating experience. We are inspired to relax and play by others who are relaxing and playing. (Gehl, J. 1996)

Although the architecture within a mall cannot directly influence the quality of this interaction, it can provide the opportunity for it through creating quality spaces for necessary and optional activities. Where the correct tenant mix can provide the necessary activities, the provision for optional activities is largely governed by the architect's design of spaces for sitting, watching, lying down, eating, playing, and generally relaxing. Even a simple move such as widening footpaths might allow people to pause and interact spontaneously.

In response to Gehl's theories of necessary and optional activities, Quentin Stevens' book, *The Ludic City* explores the concept of 'play' as a vital component to a person's experience of public space, and as an extension to Gehl's 'optional activity.' Stevens suggests that there is little literature focussed on playful, 'non-functional' use of public space, yet this is essential to its vitality. His definition of play is based on its oppositions with

"long-term purposes, productive work, and serious consequences," or the "counterpoint to behaviour which is 'normal.'" (Stevens, Q. 2007. pp 26). As was discussed earlier, Farrelly advised that play was about curiosity and exploring. This touches on interaction which is not just social, but also physical and mental. Stevens builds on this by stating that play requires space which is open to the free choice and spontaneous actions of people liberated from regulation. Leisure time is about the individual being in control and having a choice. If a shopping mall is to be a place of leisure, then it may need aspects that are free of defined functions.

Boundaries are ideal places for 'play' to occur, as they provide "something to work with and work against." (Stevens, Q. 2007. pp 202). Ideally, these edges are functional, but not dedicated to a single function, leaving the playful use to the choice of the user. Spaces can therefore simultaneously accommodate an overlay of activities, which can be both prescribed and spontaneous. Rather than design to limit and control how people can behave, the challenge is to design varying spaces which are semi-functional in a manner which allows people to discover their own physical, exploratory and social form of play. This way, a person may move quickly or slowly, sit or lie, converse or observe, allowing a large number of human actions in relation to the physical environment.

Gehl refers to this as the edge effect. He suggests that opportunities to walk or stay, and commence in optional activity, are increased by having irregular facades with edge effects which include "invitations to stop." (Gehl, J. 2006. pp41). The seating in shopping malls is often floating awkwardly and exposed in the middle of pathways, where instead it might serve better in a niche or corner space that provided intimacy, protection and security. A seated person then requires interesting views, be that of people, sun, or architecture, it should always involve activity, or play. Seating at the edge of a space provides the best opportunities for creating these views, and seating in transitional boundaries between two spaces allows one to simultaneously view both spaces. People should also be supplied with furniture that is designed to provide "conversation landscapes" (Gehl, J. 1996. pp171). Seating faced back to back or front to front restricts the use of the seating. Conversely, seating placed at right angles allows those seated to choose whether to talk to each other or not. Seats that are configured in this way, are configured for play.

Invitations to stop might also be situated in areas which allow people to enjoy good weather if it is available. Malls are too often perceived as a place to go during wet weather, this need not always be the case however, as the right integration interior and exterior spaces can provide enjoyment in all weather conditions. This is especially relevant as green exterior settings can help people relax, which is a key component of play. The issue is that in large open green areas "people often find it difficult to go out and sit on the grass if there is 'nothing to sit next to.'" (Gehl, J. 1996. pp155). This stresses the importance of the edge effect even in large open spaces.

1.3 Porosity and permeability

In her book titled *Integral Urbanism,* Nan Ellin discusses how the concept of porosity can be applied to boundaries in order to manipulate them. "A translucent urbanism does not eliminate or fortify borders, boundaries, and edges. Rather, it engages and enhances them." (Ellen, N. 2006. pp82). She likens the boundaries of public spaces to the edges of larger ecological systems where the majority of life exists and congregates. Porosity allows some things in but not others, creating thresholds which are lively and unpredictable, and that people are drawn to. Ellin looks at issues such as programmatic, administrative, and visual porosity which are central issues on the subject of suburban malls and town centres:

- Administrative porosity - the sharing of private spaces with the public.
- Programmatic porosity - when varying building programmes mix together, and spill into each other.
- Temporal porosity - where a space transforms over the day.
- Visual porosity - visual links between inside and out. Allowing some views in, and keeping others out.
- Circulatory porosity - when sharing streets between cars and people, cars can become part of the architecture rather than a nuisance to deal with.
- Solar porosity - the penetration of natural light and general climate.
- Experiential porosity - the variation of layers, spaces, and materials which enhances our ability to explore a space.

- Ecological porosity - green spaces, and the accommodation of wildlife and water flows. (Ellen, N. 2006).

Programmatic and administrative porosity raise questions of the retail driven environment of malls. This gives validity to the argument for the inclusion of a wider variety of building functions and owners, including civic and residential uses. Stevens compares the teachings of Jane Jacobs and Jan Gehl. He suggests that when a diverse array of programmes operate in the same space at overlapping times of the day, there is an intersection of the different functions of entertainment, retail, civic and residential settings. This creates an intersection of varying necessary and optional activities and increases their ability to occur at the early and late hours of the day (Stevens, Q. 2007). The shared and intersecting boundaries between these spaces will attract different user groups, which in turn creates greater opportunities for spontaneous interaction and play between people.

Many of these aspects of porosity are also suggestive of a blurring between the exterior to interior boundary, so that there is a sense of indoor/outdoor ambiguity. Exterior spaces have a greater ability to act as the medium for playful and spontaneous interaction, since many optional activities are reliant on an exterior setting, which can be less programmed than an interior setting. A porous boundary between exterior and interior might therefore be an area which is highly conducive to play. For example visual and experiential porosity might be applied by creating a layered space which shows some aspects of an interior and hides others, whilst

also allowing exterior ground materials to penetrate the space. This would introduce a sense of curiosity to the boundary, as well as allow users to actively discover and explore its uses in a highly sensual form of play.

These elements of porosity are not limited to boundaries within the mall however, as they can define spatial relationships in master plans, as well as influence the site boundary between the mall and the wider suburb. At a suburban scale, a mall might integrate aspects of the suburb within itself through porosity. Visual and ecological porosity in particular can be applied to the site boundary, where green passages can be linked through the mall site, or visual links can be made from within and from out of the mall.

Noticeably, Ellin does not include the term physical porosity, as this instead becomes part of her wider framework on the subject of permeability and connectivity. For the purposes of this thesis however, permeability will be included within the concept of porosity. *Responsive Environments* (Bentley, I. 1985) referred to permeability as one of the seven essential issues in making a place responsive. The text discusses how linking existing local roads, using appropriate block sizes and reducing pedestrian/vehicle segregation can help improve permeability. With the correct location of major mall arteries and entrances, the flow of pedestrians from existing outside facilities of the suburb can be taken through the mall. Highly permeable retail environments provide opportunities for people to change direction and have chance encounters thereby increasing the unpredictable and spontaneous nature of the

shopping experience. These are all elements that are often absent from the suburban mall, typified by large blank complexes with limited entrances, surrounded by expansive fields of parking.

1.4 Chapter conclusion

This chapter has identified privatisation of public space within suburban shopping malls as a problem because of the limitations it places on public life and peoples' behaviour. The aim of this chapter was to address this issue. Play has been identified as a possible remedy to such an issue, as the spontaneous interaction between people is what gives a space its public vibe. A porous, less programmed, and informal boundary between exterior and interior environments has been proposed as a better space to facilitate play. The principles of how to design such a space for play have pointed to the use of porosity at boundary spaces to create the 'edge effect'.

The second issue regarding the privatisation of public space was that privatised malls are often cut off from the surrounding suburb. Physical porosity or permeability and the integration of the wider suburb through visual and ecological porosity have been identified as necessary requirements to link the suburb to the mall.

The overall significance of these findings then, is how they can be incorporated into the design case study for this research:

- Play.

The various sources reviewed on play indicate that public spaces should integrate elements which can simultaneously accommodate an overlay of playful activities. The advantage of playful environments is that they better accommodate spontaneous social interaction. The issue to be addressed is how play translates into architecture. The theorists delve little beyond banal ways in which spaces might support sitting or people watching. The design case study therefore looks into the integration of more advanced forms of play, such as curiosity and exploration, into the suburban mall. This evolves the concept to include not just social interaction, but also physical and mental interaction.

- The boundary.

In order to utilise the way in which exterior spaces tend to be less programmed, informal and relaxed, and therefore appropriate for play to occur, exterior to interior boundary spaces are investigated in the design case study. The boundary between interior and exterior can therefore become an intensified space where play can occur. There is a conflict however, between the manipulation of these boundaries and the valued commercial edge which must be kept transparent for retailing purposes. This relationship is discussed further during the design case study chapter.

- Porosity and permeability.

Selected aspects of porosity can be used to enhance these boundaries, and facilitate play, as well as define the spatial relationships of the mall layout. It is important to note that porosity can be applied in many ways, which are both physical and non-physical, and at many scales. Porosity can therefore also be used to address the second issue of privatised public space regarding the connection of the mall to the wider suburb.

Physical porosity, or permeability, can be used as a tool to increase connectivity between the mall and suburb so that the mall can become the focal point of the suburb's urban network.

- The interaction of play, porosity and the boundary.

In order to answer the research question, the issues of the privatisation of public space must be addressed through design. Play has been identified as a possible remedy for these issues. The boundary then becomes useful as it is a space where play is likely to occur. One possible way of enhancing boundaries in order to increase their suitability for play is through the injection of porosity in its various forms and various scales.

As the conceptual framework for this research has now been established, it is possible to use these concepts to find strengths and weaknesses in various precedents and case studies. The next chapter therefore looks at recent international mall redevelopments and theory.

CHAPTER 2

INTERNATIONAL THEORY
AND PRECEDENTS

International mall redevelopments

2.1 Emerging mall theory

This chapter discusses recent and emerging international mall types and theory. These mall types are critiqued for their ability to convey the design principles contained within the conceptual framework discussed in Chapter 1. Following this, selected existing and developing precedents of these new types are analysed further. The chapter conclusion evaluates what aspects of the selected precedents can be used to support the design case study of this research, and therefore completes the aim of this chapter.

Emerging mall types

From the opening of the first enclosed shopping mall in 1956, the fully enclosed mall has been perfected down to precise spacing and measurements. The standard layout for the enclosed mall is a straight central passage linking two larger anchor stores at each end, similar to the shape of a dumbbell. Over time different variations of this enclosed model were built, until late in the 20th century, when new mall types began to emerge.

Leisure components were added to the traditional mix of retail and fast food outlets in an attempt to attract a wider range of people to shopping malls. Highly controlled outdoor environments were introduced to malls labelled as hybrid centres, which still retained some interior space (note that a case study of a New Zealand hybrid mall, Botany Town Centre, is analysed in Chapter 3). Even more recently there has been a chain of development of retail resort malls, which include luxury hotels. These additions to the traditional mall have climaxed into what is now known as the lifestyle centre. Designed to replicate main shopping streets, these developments are usually completely external (Coleman, P. 2006).

There is another emerging movement in mall design however, which was not officially recognised by scholars until the start of the 21st Century. Recently, some focus has been turned to the retrofitting of existing malls, rather than the creation of the new. Using ideas that stem partly from New Urbanist principles, existing dying malls are being converted into suburban town centres. The degree to which the existing mall's buildings are retained varies between each development. Some commentators refers to this process as 'de-malling', as it is essentially turning the traditional mall inside out (Folger, T. 2008 & Goodspeed, L. 2005).

Lifestyle centres versus 'de-malling'

Of all the new mall types, lifestyle centres are most prevalent in the American retail scene (Blum, A. 2005). The increased permeability and integration of the automobile give this mall type a much needed boost in connectivity to the wider suburb. The incorporation of exterior public spaces provide a more relaxed environment, where play is more likely to occur. Their clean and unique outdoor environments offer a condensed, pedestrian friendly alternative to the main city street, and their developers promote them as malls with a strong sense of place (Thomas, I. 2006).

However there is much scepticism over the statements of their developers. In her paper which critiques the privatisation of public space, Anna Minton suggests that whilst developers of lifestyle centres may tout a sense of place, they still end up looking bland and sterile. This is because they are too narrowly focussed on creating a place with shopping and leisure in mind. To Minton, they are essentially "malls without walls," still policed by private security. The lifestyle centre design aesthetic is often too carefully themed and contains uniform street furniture and streetscapes, creating fake, "placeless-places" that can be likened to theme parks (Minton, A. 2006). They are almost too clean and perfect to the point where they become unreal, and their over prescriptive style reduces the capacity for incremental improvements to their architecture (Dunham-Jones, E. 2009).

While the concept of 'de-malling' is similar to lifestyle centres, it is important to recognise the difference between the two. Like de-malling, lifestyle centres borrow from New Urbanism in design, but they focus almost exclusively on retail. The process of de-malling differs by introducing a more balanced mix of uses, including residential and civic (Steuteville, R. 2003 & Bohl, C. 2002). De-malling usually involves a public-private partnership, as public infrastructure and civic amenities are carefully integrated with private retail stores (Valley, M. 2002). By attracting a range of different users to a public space you offer a chance of positive interaction between people who would not normally mix, thereby improving chances for play. Also of note is that when people actually live in a space, they seemingly take ownership of the public realm, contributing to its security and vitality by simply carrying out their daily routines (Bohl, C. 2002).

The other key difference between the two types is that de-malling involves the conversion of existing malls into exterior town centres, unlike lifestyle centres which are built on greenfield sites as 'instant architecture', which therefore lack any history. In acknowledgement of the problem of dying malls on 'greyfield' sites (dying malls surrounded by empty parking lots), the Congress for the New Urbanism released a document entitled *Malls to Main Streets.* This document summarises their research on various case studies of mall conversions, and insists that a well designed mall conversion will combat sprawl by intensifying an existing central site. (Congress for the New Urbanism. 2005)

Because of these differences, the remainder of this chapter looks at various international examples of de-malling, in order to find their techniques for redeveloping existing malls on greyfield sites. A 'before and after' Space Syntax analysis will be utilised to test each mall conversion for permeability. The Space Syntax uses warmer colours to represent a well connected passage, and cooler colours for a poorly connected passage. AJAX (Batty, M. 2005) is the software used to conduct each Space Syntax, and the maps are taken from Google Earth (Google Inc. 2010). Note that the main images showing each mall transformation are all depicted at the same scale.

2.2.1 Precedent one: Mizner Park, Florida

- Original mall: Bota Raton Mall, built 1974.
- Redeveloped to: Mizner Park, 1987-1998.
- Lead Designer: Cooper Carry Inc.
- Clients: Private developer and council.

The redevelopment of Bota Raton Mall into Mizner Park is considered the pioneer of successful dying mall redevelopments. Although it is now aging, it is significant to this study as it was the first ever successful de-malling of an enclosed shopping mall. (Bohl, C. 2002).

It is important to note how the introduction of a public-private partnership helped to bring non privately owned public space to Mizner Park. The local council invested money in the scheme to ensure that two thirds of the redevelopment became public space, while the other third was leased for mixed use development. In contrast to the square shape of most central spaces, there is a long linear park running the length of the retail street. This is publicly owned and maintained, removing the negative effects of the privatisation of public space. A mix of retail stores and restaurants line

■ Built form
■ Structured parking
■ Surface parking
■ Green space
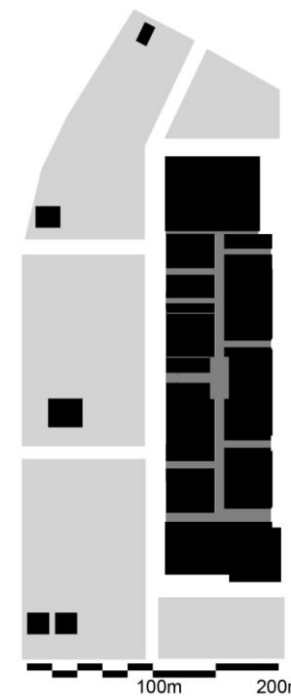
*Figure 2.1 Boca Raton Mall, 1974.*   *Figure 2.2 Mizner Park, 1998.*
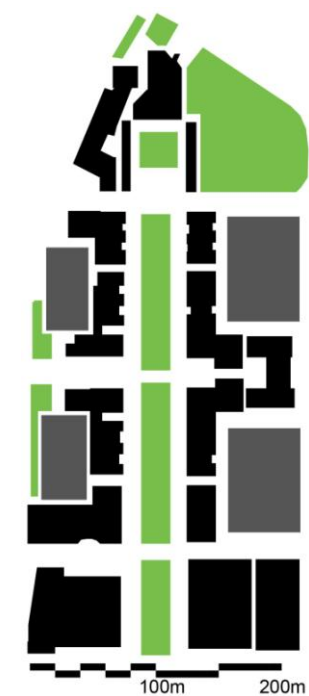
each side of the park to help give the scheme a healthy night life. And three to five story office spaces and residential units were placed above the retail stores. In an attempt to break up the monotony of the edge, portions of each building are recessed, and building heights vary. While this treatment of the boundary might create invitations to stop, it is not an ideal edge for retailers. After the success of the first phase, larger office and residential structures were added, as well as civic components, including a concert hall, an arts museum and an outdoor amphitheatre.

The parking lots have been replaced with four parking structures, one in each quadrant. This frees up space to allow some existing roads to be extended through the site. These parking structures are partially hidden by housing and offices which also help to create a human scaled transition between mall and suburb. However, as the sides which face the rest of the suburb are still in full view, there are blank facades at all the extremities, generating long flat boundaries which lack porosity and play.

For its time Mizner Park showed positive changes in mall design, and the inclusion of housing units on the top floor, particularly those overlooking the central park "has been the most successful part of the project." (Bohl, C. 2002. pp177). However it is still very much internally focussed like a traditional shopping mall. The linear park may be a truly public space, and an attempt at ecological porosity, but it is surrounded by roads, cut off like an island, and therefore isolated from the rest of the development and the suburb. This means that potential opportunities for the intersection of ecological and retail boundaries are lost.

Space Syntax - Old
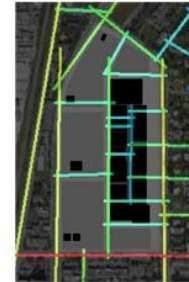
Space Syntax - New
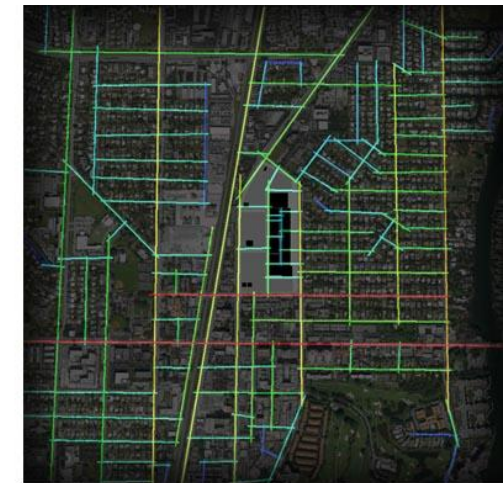
2km

Figure 2.3 Mizner Park Space Syntax before and after.

■ Built form
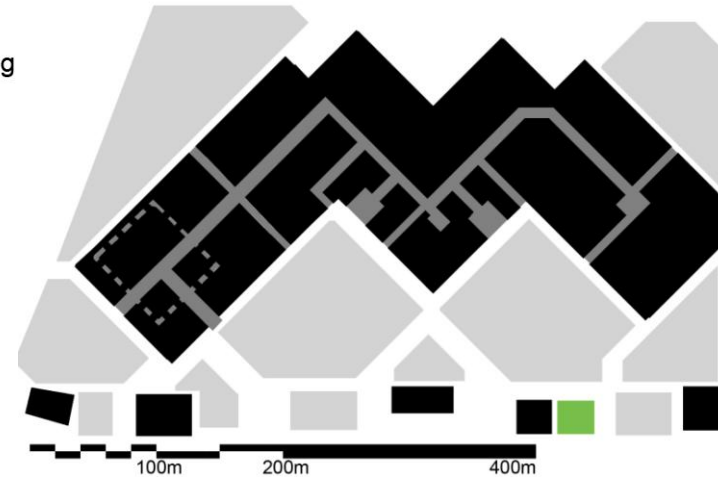■ Structured parking
■ Surface parking
■ Green space

2.2.2 Precedent two: CityCenter Englewood, Colorado

- Original mall: Cinderella City Mall, built 1968.
- Redeveloped to: CityCenter Englewood, 2001.
- Lead Designers: David Owen Tryba Architects, Calthorpe Associates.
- Clients: Local council, retail developer, residential developer.

The conversion of the three storey mega mall to CityCenter Englewood is a relatively conservative approach compared to the other precedents discussed in this chapter. The old mall was bought by the local council, who formed a non-profit organisation to oversee its redevelopment (Dunham-Jones, E. 2009). Rather than attempting to mix all the various uses together, they are to an extent zoned into different areas. Starting from west to east, a light rail station (not shown on the plan) is bridged to a civic plaza and green, which fronts onto a main street of retail stores. To the north of this street are residential and office buildings, which contain their own parking space. The main street then leads through the site until it reaches a collection of big box stores and expansive parking lots.
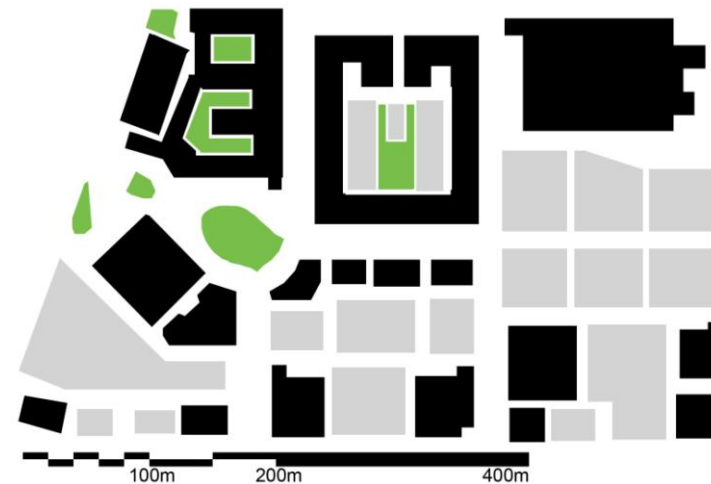

Figure 2.4 Cinderella City Mall, 1968.
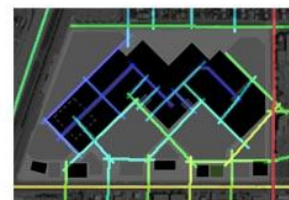

Figure 2.5 CityCenter Englewood, 2001.

Due to the council funding, the civic area is strong. A city hall, inside an old retrofitted anchor store, lies next to a new civic arts centre. These buildings sit adjacent to a public park, which contains sculptures overflowing from the arts centre in a form of programmatic porosity. However, some of the public park's potential is lost by the zoning of the development (Figure 2.6). As the retail dedicated parking is all at the opposite end of the main street, and there is no on street parking, the park and surrounding retail spaces are under used. This is the danger of having no anchor tenant or retail destination on the west side of the park, as people therefore have less reasons to cross through it.

This redevelopment also makes no effort to consider the boundaries of its main parking lot or big box store. The council group approached the Wal-Mart developer to ensure it was built with a custom facade with murals painted on its walls, but this hardly works to the same effect as some of the other precedents in this chapter. (LeCavalier, J. 2007 & Dunham-Jones, E. 2009).

Figure 2.6 Zoning and segregation of building types.

Space Syntax - Old
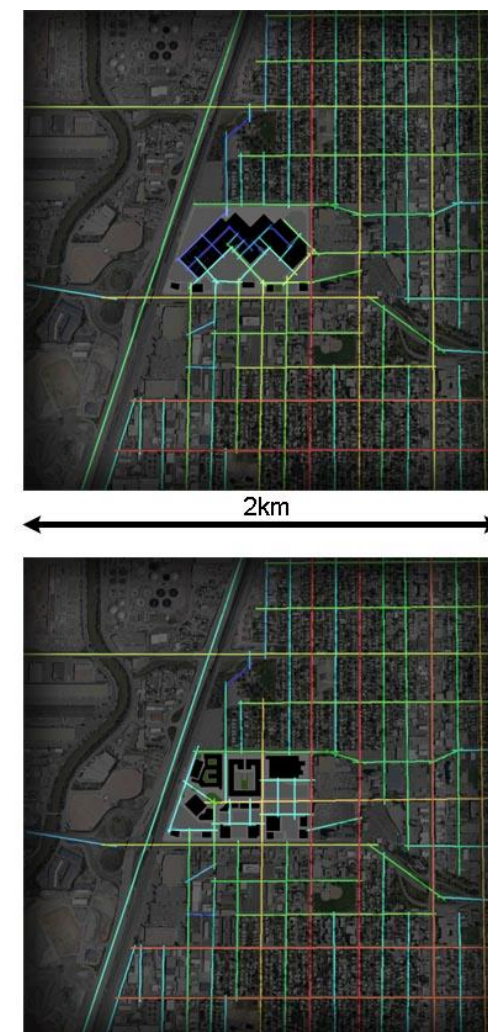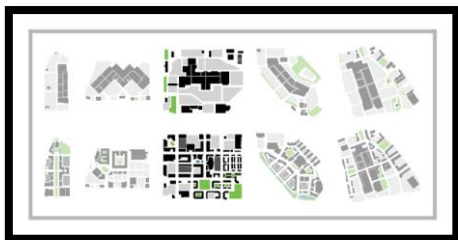

2km
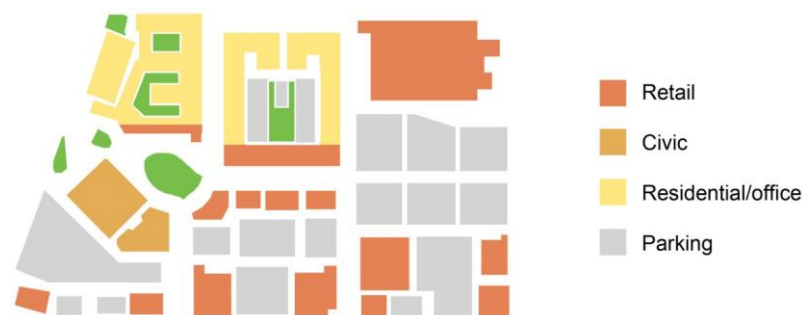
Space Syntax - New

Figure 2.7 CityCenter Englewood Space Syntax before and after.

2.2.3 Precedent three: Belmar Village, Colorado

- Original mall: Villa Italia Mall, built 1966.
- Redeveloped to: Belmar Village, 2001 - 2012
- Lead Designer: Elkus/Manfredi Architects, Ltd.
- Clients: Private developer and council.

Belmar Village is considered an exemplary mall redevelopment (Congress for the New Urbanism. 2005). Apart from one grocery store in the north western corner, the old dying mall super block has made way for existing suburban streets to be extended through the site to subdivide it into 23 smaller sized blocks. These vary in size between 50 and 200 metres long.

Almost half of the new development is reserved for residential use, with the remaining split 55/45 between retail and office use as well as a cultural arts centre, and a public library.

There are two main public spaces, a large green intended as a quiet retreat for local residents, and a plaza for attracting larger audiences. The plaza is deliberately surrounded by buildings containing social functions, including a bowling alley and dining areas. Like for Minzer Park, there is a

public-private partnership. All the buildings are owned by developer, but the streets, sidewalks and parks are publicly owned and therefore truly public. The 'real' social vibe gained from these truly public spaces is described in an interview with the Lakewood City Manager: "One of the best places is that plaza. Kids pushing the round ball that sits on the water, all the young people there on Friday night sitting outside the pub, 'cause you can smoke outside. In winter you have people skating. That's real, it's not an artificial dynamic." (Dunham-Jones, E. 2009. pp 161)

Much attention was given to the edges of large buildings. The awkwardly shaped cinema (in one of the central blocks) is fully wrapped (with a gap between for servicing) by mixed use buildings and a parking structure at its rear. The parking structure itself is lined at its base by many small artists' studios. The retained grocery store is also partially wrapped in this manner except for its entrance which has been opened up with windows and sky lights. With mixed use buildings lining the edges of big box tenants, it allows developers to focus resources into the architecture of the entrance boundary only. (Steuteville, R. 2008)

The project was delivered over various phases, with the inner blocks being developed first, as a 'seed' for future growth. The potential issue here is that the extremities of the site are last to be developed, and therefore can ruin the approach to the centre of the site during the phased process. This occurred at a similar redevelopment called Winter Park Village, where the central retail street was finished but the project lost the financial backing

Built form
Structured parking
Surface parking
Green space

100m   200m   400m

100m   200m   400m

Figure 2.8 Villa Italia Mall, 1966.

Figure 2.9 Belmar Village, 2010.

before further mixed uses could be established on site. This left the development as little more than a lifestyle centre surrounded by big box stores. (Dunham-Jones, E. 2009). What may have helped Belmar Village succeed where Winter Park Village failed is that a central gathering plaza was established early, and that several building types were developed in each phase without ever over building a single category.
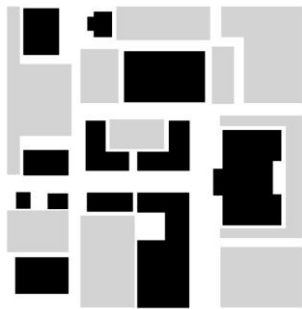

Figure 2.10 The failed Winter Park Village.

Although some streets were not able to be pushed all the way through the site due to ownership problems, Belmar Village is a redevelopment which shows excellent use of site permeability (see Figure 2.11). As well as making the site more permeable, the small scaled blocks are flexible in their use, making an overall more organic place. The attention to the edges of blocks, as well as an emphasis on 'real' public space, gives Belmar Village the potential for accommodating play. It is questionable however, why more of the existing mall could not be retained, as some of the existing interior concourse could have fitted into the new grid, and been used as a pedestrian only space.
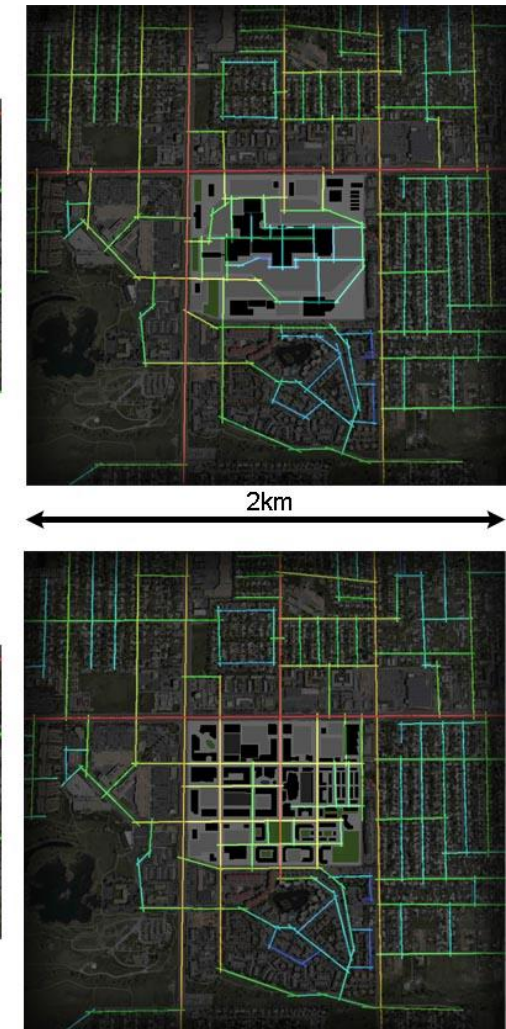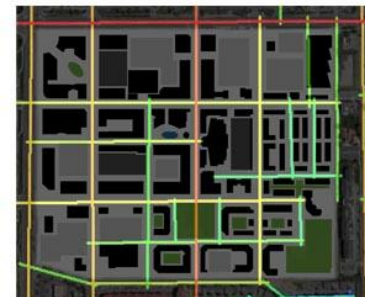
Space Syntax - Old

2km
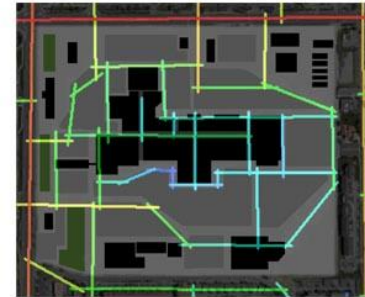
Space Syntax - New

Figure 2.11 Belmar Village Space Syntax before and after.

2.2.4 Precedent four: Cottonwood New Neighbourhood, Utah

- Original mall: Cottonwood Mall, built 1962.
- Redeveloped to: Cottonwood New Neighbourhood, 2010 - 2014
- Lead Designers: Duany Plater-Zyberk & Company, RTKL, SB Architects, Sasaki Associates, Torti-Gallas and Partners.
- Client: Private developer.

Unlike at Belmar, the developers of Cottonwood New Neighbourhood wish to maintain private ownership over the streets and squares, so they can control their maintenance. However the council and public have been strongly involved in the design process to ensure it is publically supported (Dunham-Jones, E. 2009).

The design will happen over a short four year period, with most of the mall being demolished aside from the northern anchor store. Because of this, there is a risk here of developing an instant architecture which is lacking in history and identity. Various measures have been taken to avoid this fate.

The design emphasis is on the development becoming a dense and real 'neighbourhood'. To achieve a diverse and more realistic set of buildings, various architects are being involved in the design process. Rather than a single dwelling type, a range of over 500 residential units (inclusive of town homes, single family lots, cottages, condominiums and apartments) are being designed. To distinguish the places identity, visual porosity is utilized in the main street by planning it around specific view corridors. The main street is also bent to create terminated vistas on a central clock tower, and strong retail corners.

Built form
Structured parking
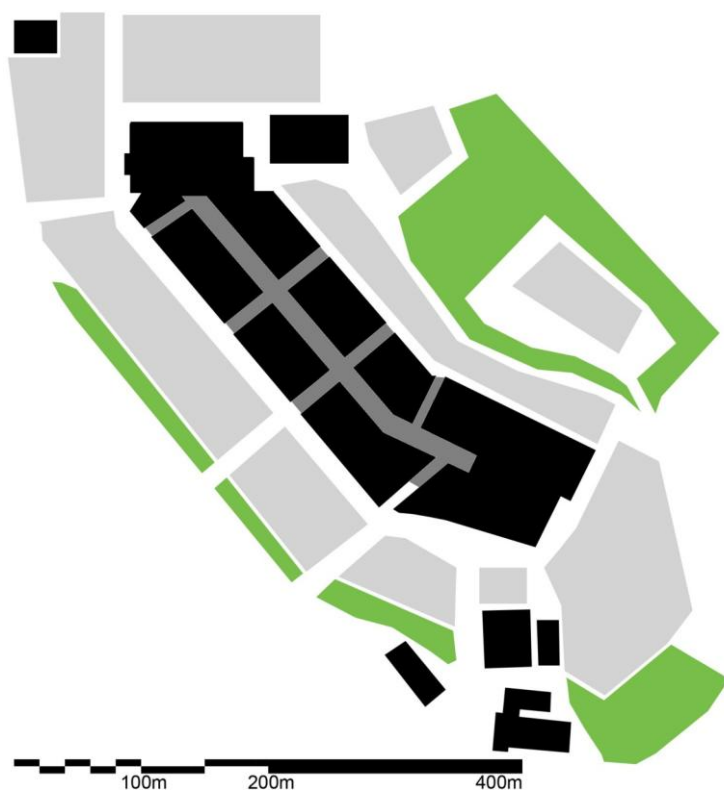Surface parking
Green space

Figure 2.12 Cottonwood Mall, 1962.

Figure 2.13 Cottonwood New Neighbourhood, 2014

The scheme is driven by the site's natural features and view corridors. Instead of keeping people on their feet like at traditional malls, the idea is to design places for people to explore or to sit and enjoy the views of the surrounding mountains. The long frontage will become a tree lined park which centres on a restored creek. The integration of the creek was particularly important. Drainage from the green roofs feed the creek, and strategies are being implemented to ensure that the water is always visible, even when it is low during the dryer months. It is unfortunate that this green corridor cannot be taken directly through the site, as it may now be underused. However, this may not be the case with the strong residential link along its edge.

Figure 2.14 The strong residential presence (shown in yellow).

The Space Syntax shows that there has been some effort to create new permeable links between the mall and the suburb's major arterial roads. However there is little building development along these roads, generating an unfriendly pedestrian edge with no boundaries to work against. This has may isolate Cottonwood New Neighbourhood from its suburb.

Space Syntax - Old

Space Syntax - New

2km

Figure 2.15 Cottonwood New Neighbourhood Space Syntax before and after.

2.2.5 Precedent five: Eastgate Town Center, Tennessee

- Original mall: Eastgate Mall, built 1962.
- Redeveloped to: Eastgate Town Center, 2000 - Ongoing.
- Lead designer: Dover, Kohl & Partners.
- Clients: Mall developer, local council, residential developer,

A long term plan has been in progress to reconnect Eastgate Mall to the surrounding neighbourhood and nearby office park (Benfield, K. 2001). Whilst it is still not entirely known how the development will pan out, the first phase has been underway for some time, and conceptual images of the later phases have been released.

Unlike the previous precedents, this redevelopment reuses most of the existing mall, gradually turning it inside out. Figure 2.17 depicts the current phase of this transformation. At this phase part of the existing mall has become open aired, and the outside edges of the mall have been remodelled to produce a better edge effect at the mall's interior to exterior boundary. Streets from the nearby residential area and office park have been extended through site, increasing permeability (see Figure 2.18).
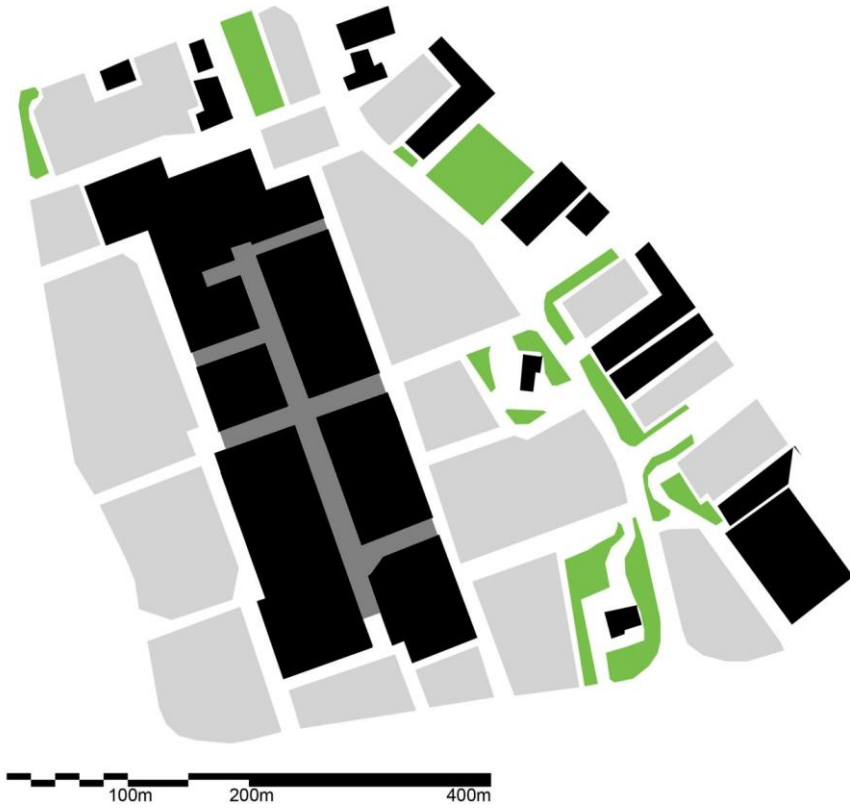
Figure 2.16 Eastgate Mall, 1962.

Figure 2.17 Eastgate Town Center, 2010.

At later stages it is planned that more minor streets will eventually break through the mall, and the redevelopment of smaller individual buildings along their edges will commence (Congress for the New Urbanism. 2001). As the precise details of this redevelopment are not yet completed, it is difficult to be critical of the development as a whole. However it is significant to note that this redevelopment is actively attempting to reuse the existing mall. Whilst the final phase may yet prove to be too ambitious to be fully realised, the initial phases take a more financially realistic approach to mall redevelopment.
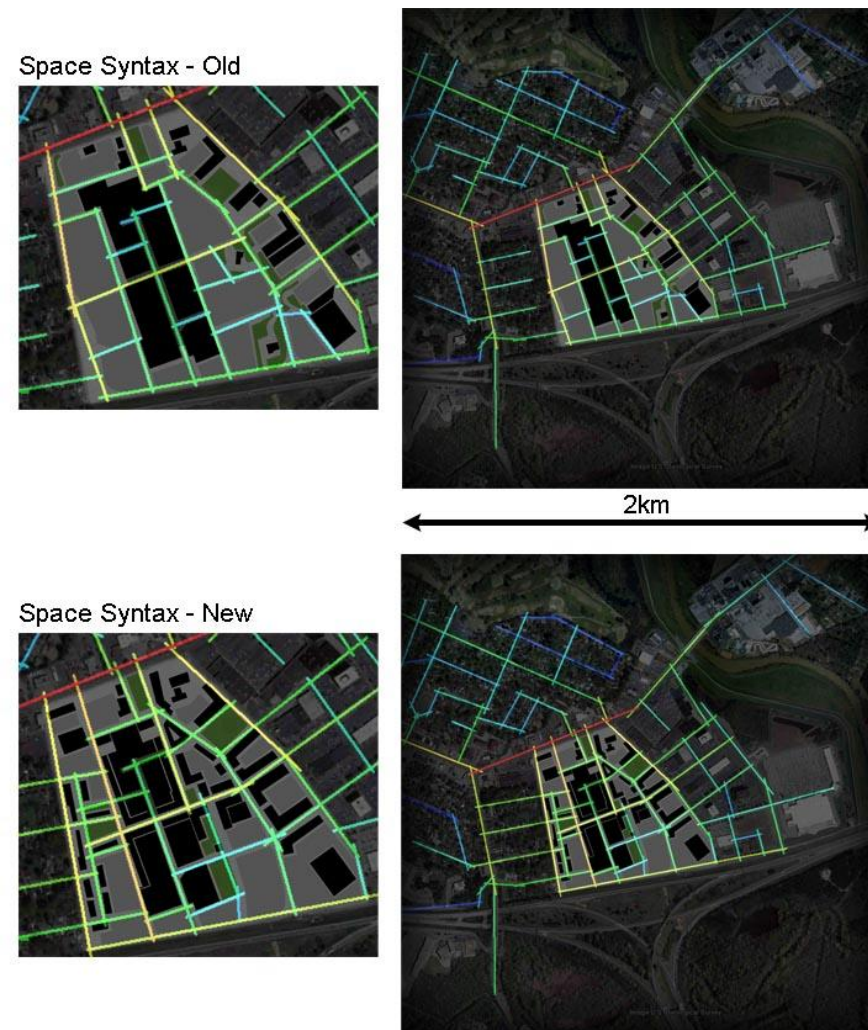

Figure 2.18 Eastgate Town Center Space Syntax before and after.

2.3 Chapter conclusion

After discussing the merits of lifestyle centres versus de-malling, this chapter investigated five precedents of de-malling in order to find how boundaries were handled, and how porosity was incorporated into their designs. There were obvious limitations in how much information could be gathered without actually visiting the malls however. This meant that porosity tended to be addressed at a macro rather than micro scale, and there was an inability to comment on play.

The majority of cases made good use of perimeter block development by wrapping smaller building units around parking blocks and big box stores. At a basic level, this removes the long blank boundaries typical of New Zealand's shopping malls (see Chapter 3), and allows a less intrusive insertion of parking structures. These parking structures freed up old fields of parking for street development, which allowed street networks from the surrounding suburbs to be taken through the site, increasing permeability.

Subsequent to the increased permeability, each case involved a general 'opening up' of every street, often in both the physical sense - by placing cars and pedestrians in the same exterior circulation paths - and in the administrative sense, as some developments used a public-private partnership to split the control and maintenance of various areas. This administrative porosity may help to create spaces which are truly public.

The downside of this however, is that there is little evidence of enclosed, pedestrian dedicated areas in these precedents. In New Zealand's climate and urban context, it would be difficult to justify leaving out enclosed pedestrian spaces, and doing so would also forgo the opportunity to create lively boundary spaces between interior and exterior circulation passages.

While there was often an increase of permeability, opportunities for ecological porosity were missed, as there was little effort to make links to outside green areas and public spaces, with the exception being the celebration of the river that will run alongside Cottonwood New Neighbourhood. Because of this, their public squares might feel like very isolated spaces, and not part of a larger suburban network.

As discussed when comparing lifestyle centres to de-malling, programmatic porosity was a distinguishing part of de-malling. As such, all the precedents contained a mix of programmes. However at times the placement of public open space, civic and residential areas seemed peripheral to commercial content. Rather than intersecting civic, residential and retail boundaries, they were often distinct and isolated entities, which was particularly the case at CityCenter Englewood. This is in conflict with the idea of programmatic porosity, and means that civic components are liable to be underused. It is important then, to ensure that civic functions become a central item in the master plan for the design case study, rather than being left at the extremity of the site.

Whilst the idea of de-malling suggests these developments should make use of their existing mall structure, it is apparent that many of them do not. In New Zealand, it may be more financially realistic to reuse more of the

existing mall in the earlier phases of development, and then perhaps evaporate areas of it in later stages.

While it is probable that none of these developments will have the life and vitality of a 100 year old central plaza, they go a long way to improving what already exists. The next chapter looks at five examples of what malls exists, and what can be improved upon in the New Zealand mall scene. As there was an inability to comment on the concept of play with these international precedents, the next chapter addresses this.

CHAPTER 3

NEW ZEALAND CASE
STUDIES

International mall redevelopments   New Zealand case studies

3.1 Methods of analysis

During this chapter, New Zealand suburban malls are analysed in order to discover their strengths and weaknesses in relation to the precedents and theory discussed in the previous chapters. A brief outline of the methods for analysis leads, followed by the examination of each mall, and finished with the concluding findings for the current New Zealand mall scene.

There are no lifestyle centres or instances of de-malling currently under development in New Zealand, instead it is largely dominated by the traditional enclosed mall, with some hybrid centres being recently developed. The five malls which follow, cover a variety of scales and include a mix of fully enclosed to partially exterior environments.

Space Syntax diagrams are the main method of comparison to the international precedents. This enables the New Zealand malls to be scrutinised for their permeability, in comparison to the permeability that de-malling offers.

The concept of play is looked at by observing and plotting the stationary activities in each area. This analysis indicates the likelihood for an individual to stop in a given area of the mall, thereby giving a signal of the play that might occur. To achieve consistency, this was done by taking three sweeps of each mall, evenly spaced between 10am and 12.30pm on a weekday during July 2010.

This data is compared to the tenant plan and a general spatial analysis to find whether the programmatic porosity and spatial layout of each mall had an impact on the stationary activities around it. Note that the plans displaying this data are all at the same scale, however they are at an enlarged scale compared to the plans of the international precedents (for an equally scaled comparison between all the malls, view the chapter title page). The plans only deal with the ground level activity within each mall. In situations where a second level has a significant role in the mall, it is discussed within the text.

Lastly the exterior edges and boundaries will be looked at for their propensity to be visually porous and complex. For this is important for accommodating pedestrian movement, and relating to the wider suburb. Two coloured lines will be used to show the edge condition (as in the example shown in Figure 3.1). The red line will define the totally blank edges, whilst the blue line will show edges which are windowed yet offer no visually stimulating experiences for pedestrians. The edge depicted in blue is likely to be typical of banks or office spaces. If there is no line then the edge is considered acceptable for accommodating pedestrian flow.

Figure 3.1 An example of how the edge conditions are displayed in this chapter.
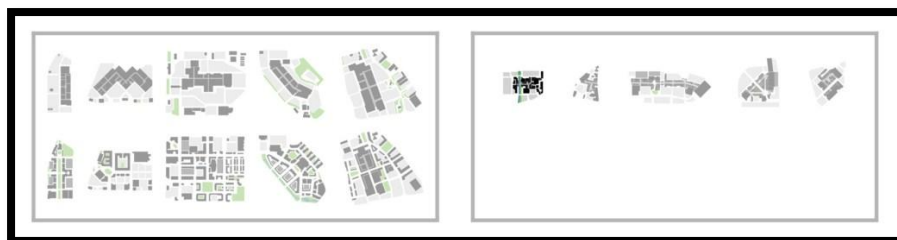
3.2.1 Coastlands Mall, Paraparaumu, Wellington

Coastlands mall forms the central shopping hub of three suburbs to the north of Wellington. The most notable issues here are the absence of stationary activity in the more recently developed western wing, and the awkwardly composed food court situated over the punctuating river.

The likely reason for the lack of stationary activity in the western wing might be because there is little programmatic porosity here. Service stores are overly represented and there is no anchor store to draw people to this end of the mall.

The food court is placed over a river that runs beneath the mall. Yet it misses out on the opportunity to make a feature of this as the river has not been glorified in any way. However the stationary activity shows that people are still drawn to sitting by the windows overlooking the river, emphasising the importance of ecological porosity, no matter how minimal. Unlike the rest of the malls studied, this mall situates the food court directly adjacent an anchor site (although this site is currently vacant). This is potentially a lost opportunity for the food court to act as an anchor in its
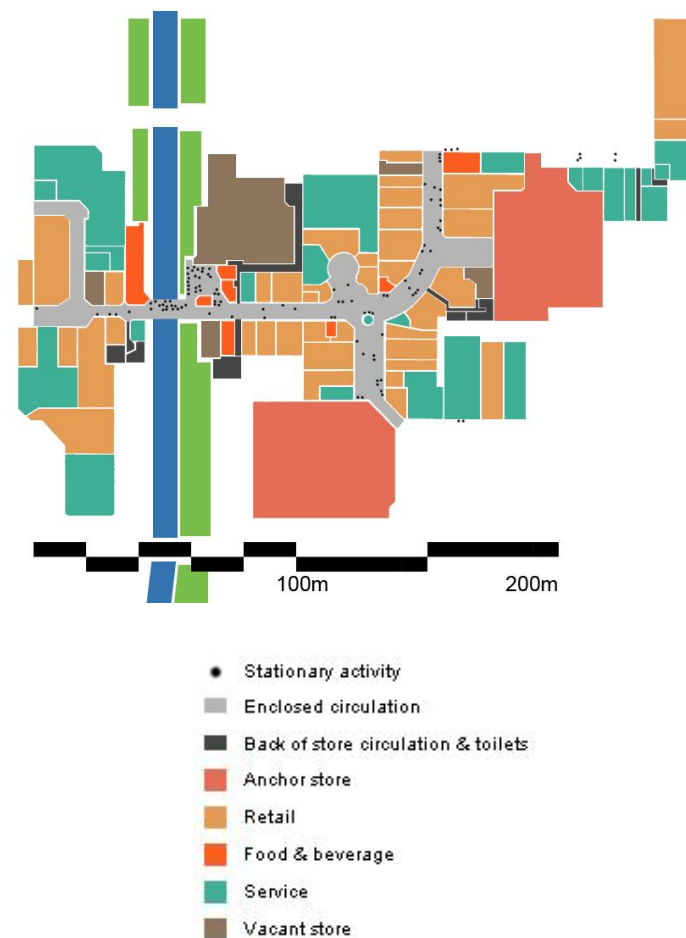

100m   200m

- Stationary activity
- Enclosed circulation
- Back of store circulation & toilets
- Anchor store
- Retail
- Food & beverage
- Service
- Vacant store

Figure 3.2 Coastlands Mall's stationary activity and tenant mix.

own right. The spatial width and height of Coastlands Mall is varied enough for the mall to not become monotonous, however the food court feels cramped and provides little room to pause within the space.

Figure 3.3 The unglorified river runs beneath the food court.

Another minor downfall is the lack of store frontages, and therefore porous boundaries, along the internal entrance to the eastern anchor store. As can be seen by the lack of stationary activity near the anchor's entrance, this space feels dead, cutting the anchor store from the rest of the mall.

Exterior edges

The exterior edges of Coastlands Mall have little to offer pedestrians to engage with. Offices display blank windows to pedestrians, and the areas by the river have been relegated to service lanes. However the placement of the smaller retail development to the east of the mall does help box in the long blank facades of the anchor store and service lane.

Figure 3.4 Coastlands Mall's exterior edge conditions.

Permeability and the local context

The poor permeability of Coastlands Mall can be partial excused as its location between some large scale big box stores and an empty green field gives it little to connect with, nor is there an established street grid for it to orient with. However the only side that fronts residential buildings (as well as a nearby school and community centre) is boxed in by another retail development. This removes any direct connection to the housing network. The mall also bears little connection to the nearby public bus or railway transport systems.
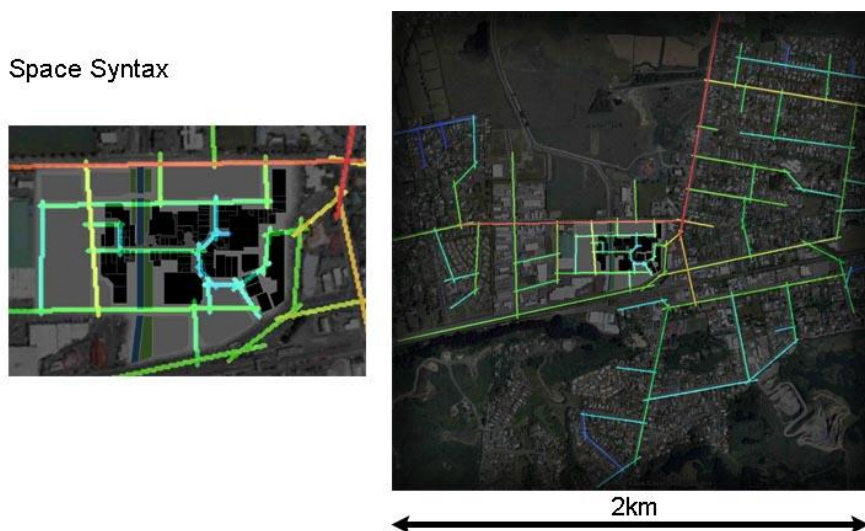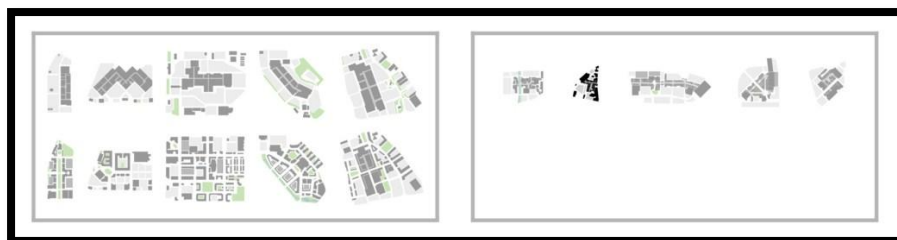

Figure 3.5 Coastlands Mall Space Syntax.

3.2.2 Johnsonville Mall, Wellington

Johnsonville Mall is a smaller mall which services the single suburb of Johnsonville. It consists of two very contrasting spaces. The food court felt dead and empty at all times, yet the cafe situated within the main crossing felt lively and welcoming. Some of the difference between these two spaces was likely due to their density. The food court felt too large for such a small mall, and contained a sunken pit which unnecessarily separated people apart. Yet the cafe felt lively because of its tightly packed nature. The space dividing these two areas (Figure 3.7) was large and dull, with no boundaries to accommodate interaction, and little variation in height or light. This was in contrast to the thinner passages which contained smaller 'temporary' retail kiosks to break up the open spaces, and provide boundaries for people to work against.
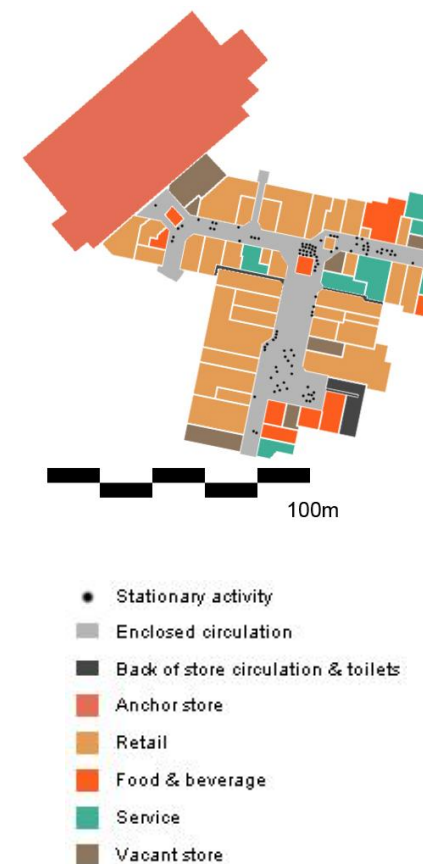

100m

- Stationary activity
- Enclosed circulation
- Back of store circulation & toilets
- Anchor store
- Retail
- Food & beverage
- Service
- Vacant store

Figure 3.6 Johnsnoville Mall's stationary activity and tenant mix.

Figure 3.7 The large open central space contained little stationary activity.

Exterior edges

The edges of Johnsonville Mall consist of an almost entirely blank facade. However other retail buildings along the eastern street edge do well to hide the service zones, and create a reasonable pedestrian experience along the main road of the suburb.
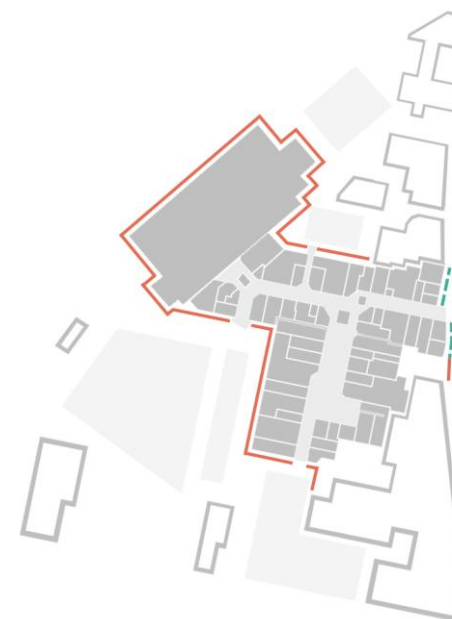
Figure 3.8 Johnsonville Mall's exterior edge conditions.

Permeability and the local context

On such a small site, it is difficult to improve permeability on any significant level. What the mall does do well is that it takes people between the big box retail stores across the road to the east, and the super market to the west, the mall's only anchor tenant. Unfortunately the transition in scale between the super market and the surrounding residential area is abrupt.

Interestingly however, this mall is soon to be redeveloped. The new plan connects the south-east corner of the mall to the suburb's main street, improving permeability. However the winding horse shoe interior has the opposite effect, disorientating the mall with the local street grid.
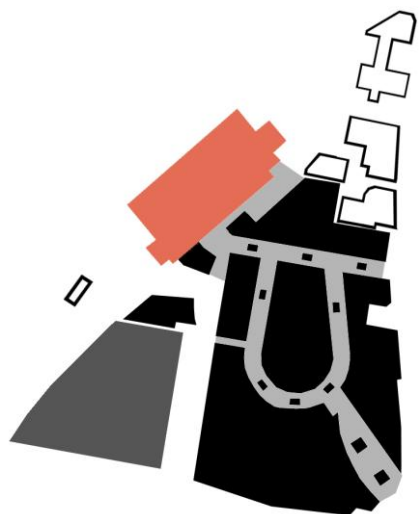

Space Syntax - Current

2km

Space Syntax - Proposed
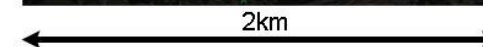
Figure 3.10 Johnsonville Mall Space Syntax before and after.

Figure 3.9 The new proposal for Johnsonville mall complete with new structured parking (dark grey) and the retained supermarket (red).
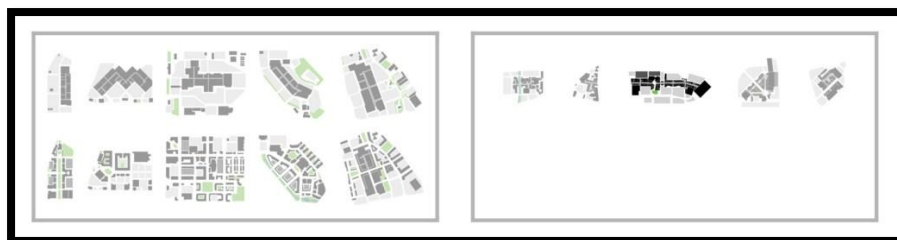
The separation of the restaurants from the square removes any programmatic porosity, so that restaurant users cannot partake in people watching whilst they eat. Unfortunately, the north eastern food court suffers the same fate. This is in contrast to the layout at Botany Town Centre (Chapter 3.2.4).

Figure 3.11 Sylvia Park's stationary activity and tenant mix.

3.2.3 Sylvia Park, Auckland

Sylvia Park, the largest of the New Zealand malls studied, attempts to be a hybrid mall by including a large exterior square. However as can be seen by the small amount of stationary activity in this space, it has not been realized to its potential. This may be because it is too open and lacks any edges or boundaries within it for people to work against. This makes it feel like a space to pass through quickly rather than somewhere to mingle.

100m   200m   400m
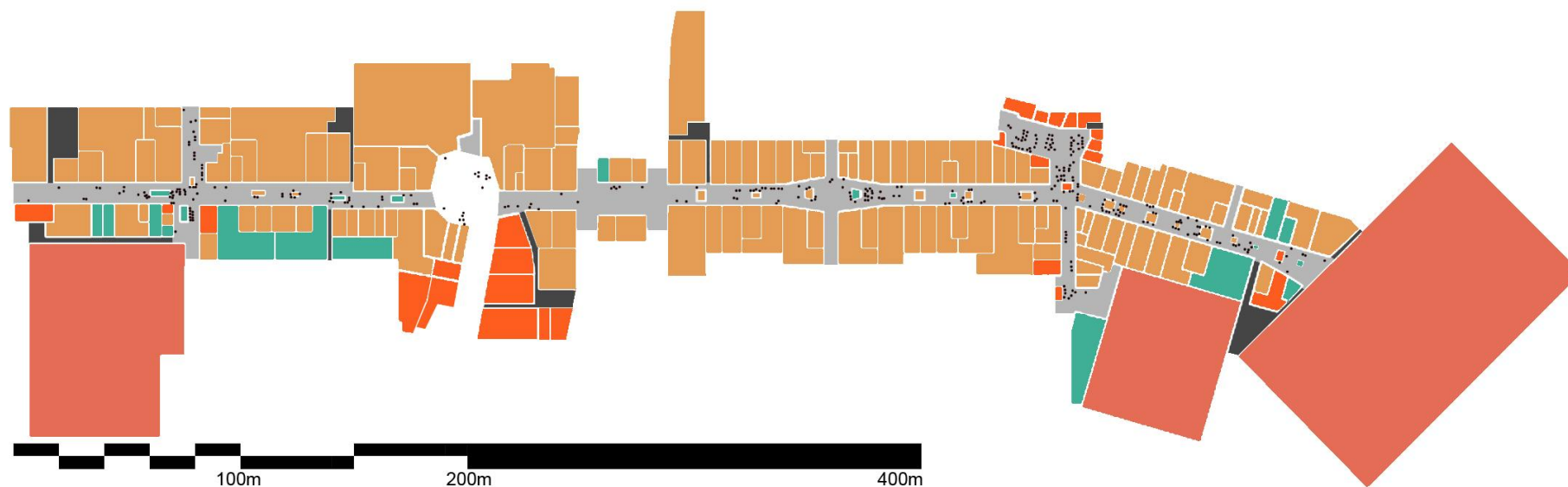
As Sylvia Park is the largest of all the New Zealand malls, it is important for it to provide squares or other spaces where people can momentarily rest. Instead however, Sylvia Park is long and linear, containing roughly the same width of passage way along its entire length. Whilst the other malls studied contained spaces which one might walk calmly within, the feeling at Sylvia Park was a strictly fast paced and fatiguing retail orientated environment.

Exterior edges

Sylvia Park was the epitome of inwardly focussed shopping malls. The northern edge (as Figure 3.13 is orientated) can be excused as its exposed structured parking was facing only onto a railway and industrial buildings (although this railway could have been better integrated). However the southern edge contained three exposed blank big box store facades, coupled with a long, crudely landscaped edge of empty windows.

Figure 3.12 The long and crudely landscaped edge does little to hide the fact that there is nothing for pedestrians to engage with here.

Figure 3.13 Sylvia Park's exterior edge conditions.

Permeability and the local context

The Space Syntax shows that Sylvia Park is not well suited for the local residents. Whilst the mall is orientated with the existing street grid, few connections are made. As was just mentioned, the mall fails to connect with the local rail way, and the transition in scale between mall and suburb is harsh. The parking lots in front of the mall act as barriers to pedestrians, blocking the direct walking routes and distancing nearby bus shelters. Interestingly however, the western entrance, the only entrance not blocked by parking lots, contains many civic services including child care on the upper floor, as well as small cafes and the super market tenant. Because of this permeability and tenant mix, this section contained a sense of local civic activity.
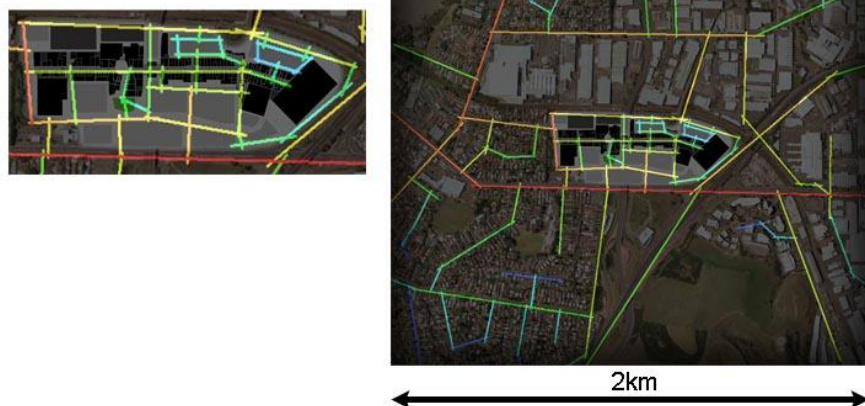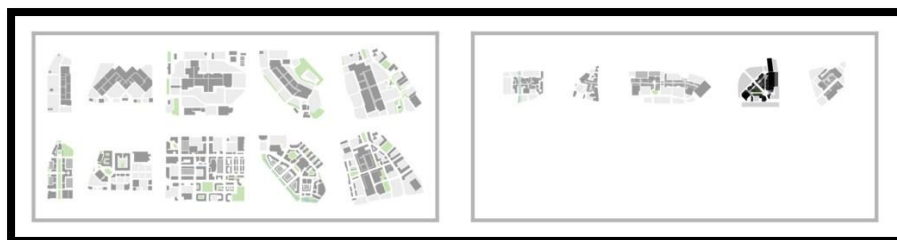

Figure 3.14 Sylvia Park Space Syntax.

3.2.4 Botany Town Centre, Auckland

Botany Town Centre, an interior-exterior hybrid mall, is a significant shift away from the predominantly enclosed New Zealand mall. Like Sylvia Park, Botany Town Centre contained a large circular open space. Unlike Sylvia Park however, the open spaces here come complete with accommodating boundaries and edges within and around them. The main open space contains abundant places to sit, including restaurant seating spilling into the space. Its boundaries are made up of a green corridor, an interior food court, and a street open to vehicular traffic. Surprisingly the curb of this road was a common place for people to stop and talk. The food court and the floor above it overlook onto an adjacent water feature. This boundary allows people gathered at the interior edge to people watch as children engage with the water. Its glazed edge could also be removed by folding it together, blurring the boundary between interior and exterior.

Significantly, out of those studied, this mall is the only instance which incorporates a significant amount of green space. Whether it is successful as a space is debatable though. Whilst it does provide a refreshing
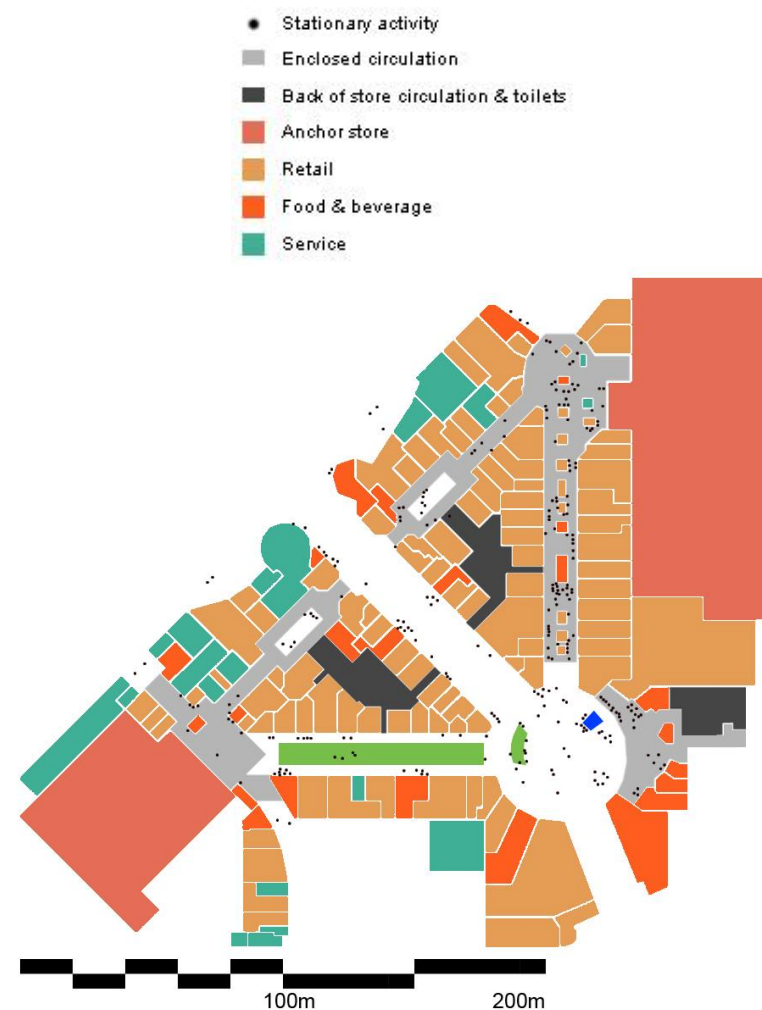

Figure 3.15 Botany Town Centre's stationary activity and tenant mix.

contrast to the opposing interior wing, it did not appear to encourage stationary activity to the same degree. This may have been because the space was too densely packed with planting, rather than providing areas to sit and stay. The exterior setting also forgoes the opportunity for centre aisle stores to create a livelier space.

The design concept was of a hierarchy of layers that would subtly unravel (Sally, G. 2000). The layout and spatial variation of this mall has therefore been carefully composed so that each space feels new and refreshing, limiting the feeling of fatigue that was present at Sylvia Park. This manifests in a non linear layout, rich in experiential porosity, and containing many variations in widths and enclosure, mixing intimate spaces with main retail paths (see Figure 3.16).

Figure 3.16 Intimate exterior courtyards were located within interior passage ways. These contained a strong sense of enclosure due to the civic and office tenants located on the upper floor.

Figure 3.17 Botany Town Centre's exterior edge conditions.

Exterior edges

By placing some retail stores at its exterior, this mall does a slightly better job of engaging pedestrians at its perimeter in some areas. These edges are separated from the suburb by large parking lots however.

Permeability and local context

The Space Syntax depicts the main road through the mall as a well connected passage, however this strong connection to other arterial roads is misleading and not taken advantage of. This is because both ends emerge from the mall into areas surrounded by parking lots, and the northern end fronts onto further big box retail, removing the appeal for pedestrians to walk to the mall. Opportunities for this road to connect with the adjacent college and residential areas have therefore been missed. Further to the mall's discredit is its poor orientation compared to the existing street grid.

Of positive note was that many of the mall's stores had two frontages (not shown on the Space Syntax), allowing people to pass through them into other pathways, thereby improving permeability and visual porosity.

Finally, this was the only mall studied to make use of nearby public transport by properly integrating the bus system it into its design.
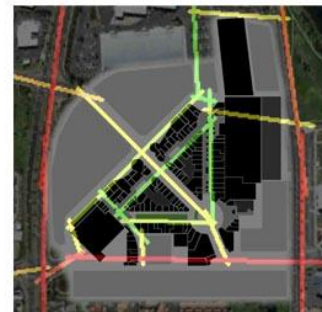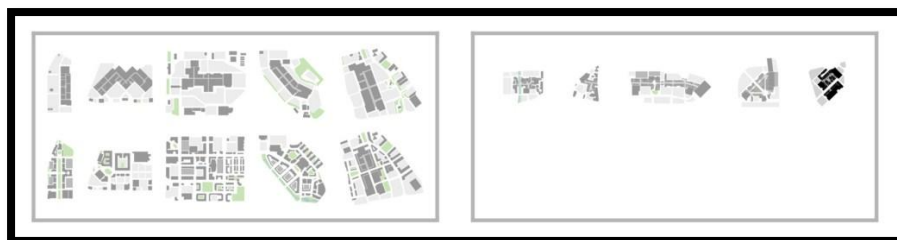

Space Syntax

2km

Figure 3.18 Botany Town Centre Space Syntax.

3.2.5 Pakuranga Mall, Auckland

Pakuranga Mall comes close to creating some quality spaces, but misses opportunities to make it a more complete package.

While this mall included civic functions on its ground level, they are barely integrated into the mall, and display terrible frontages.

The food court is lively and well laid out with a mix of more casual seating areas. However it suffers from the fact that it focuses inward on to itself, whereas at Botany Town Centre the food court focussed outward onto a public space, which is more suitable for people watching.

Once again, this mall contained temporary shops within the centre of its main concourse. These act as an edge for shoppers to engage with, providing opportunities for stationary activities. However the concourse also suffers from little variation in the height, lighting and colour of spaces, creating a monotonous environment in some areas, similar to Johnsonville Mall.
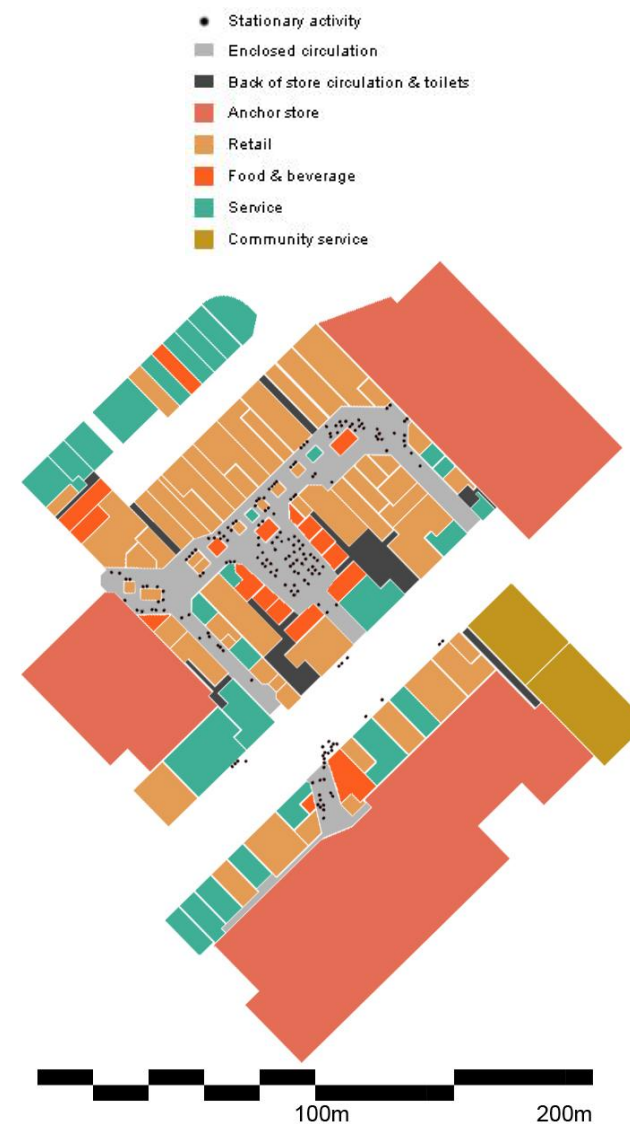
Figure 3.19 Pakuranga Mall's stationary activity and tenant mix.

Exterior edges

The biggest opportunity missed is that of the central exterior street which is accessible to vehicle traffic. The potential of this exterior street is ruined by an inconsistent set of edges along either side of the street. The edges along the northern most side of the street present predominantly blank edges, and the edges along the southern side are raised above street level, physically cutting them off from the street. When comparing this street to the main exterior passage through Botany Town Centre, there is a distinct lack of spatial definition, as the street feels too wide for its single storied height.

Figure 3.22 Pakuranga Mall's exterior edge conditions.

Figures 3.20 and 3.21 The exterior street at Pakuranga Mall (left) lacked the sense of enclosure, and therefore spatial definition, found at Botany Town Centre (right).

Permeability and local context

Rather than connecting the major roads of the suburb, the exterior street runs awkwardly parallel to them, offering no new connections or shortcuts. The interior passages feeding off this street are therefore poorly connected to the wider suburb. This is not helped by the fact that the rest of the mall is surrounded by parking lots. Also, as the site of this mall is at the convergence of various conflicting street grids, it is difficult for the mall to be orientated correctly on every side.

Aside from a close grouping of larger scaled commercial buildings and an arts centre to the south of the mall, the surrounding built form is of smaller residential developments. Unfortunately the arts centre is separated from the mall due to the impermeable edge of the large southern anchor tenant.
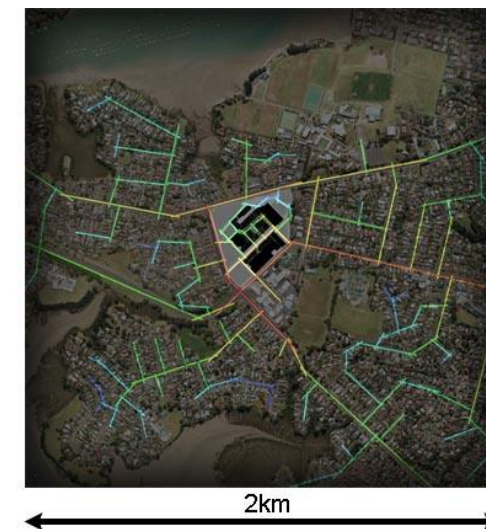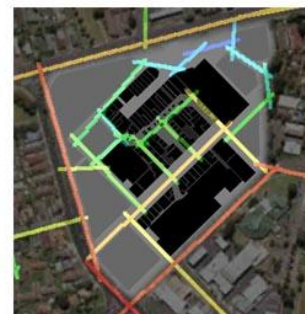
Space Syntax

2km

Figure 3.23 Pakuranga Mall Space Syntax.

3.3 Chapter conclusion

This chapter set out to discover what weaknesses were present in the New Zealand malls studied. In particular it looked to discover the current boundary conditions of each mall, as well as the permeability of each mall in relation to its suburb. It also investigated which areas of the malls were successful at attracting stationary activities, in order to estimate their propensity to contain playful activity.

As expected, the main issue which was apparent at every mall was the lack of direct connections with their suburb's street network. And in the cases where the Space Syntax showed strong connections, it was sometimes misleading, as a Space Syntax alone does not describe the pedestrian experience along any given route. People would often have to approach the malls through car parks, only to meet solid blank facades. This had adverse effects on permeability and visual porosity, and created boundaries which had nothing to offer in terms of playful experiences.

In many cases, boundaries were blank out of necessity because a store required natural light to be blocked, or because it was a servicing area. There is an obvious need then, for the utilisation of the techniques for dealing with these blank edges discussed in Chapter 2.

Aside from some selected areas of Botany Town Centre, the exterior to interior circulation boundaries of all the malls consisted of hard glazed sliding doors, offering nothing for people to engage with or work against. This left the malls with only two spatial conditions that were either completely interior or completely exterior. Of special note, and the exception to this, was the exterior to interior boundary of the food court at Botany Town Centre, which contained a large folding glazed facade. This facade could be opened up to give people in the food court a choice between the interior and exterior condition. This also situated them in a space overlooking the main exterior square, primed for people watching, a basic form of play.

Taking from this, the design case study might therefore attempt to create a third condition, as a transition zone between this boundary, blurring the distinction between interior and exterior. The 'bleeding' of materials, and habitable spaces within the transition, might also assist people to physically feel, touch and experience the transitional environment.

With no residential units, and limited office spaces, programmatic porosity was limited in the cases studied. Again with Botany Town Centre as the exception, the food courts were often placed as inwardly looking isolated entities, limiting a person's ability to people watch. In terms of the individual cafes and restaurants, genuinely the more isolated an eating space was from other retail, the less it was used. In acknowledgment of this, and to push the idea of programmatic porosity, the design case study therefore explores the stretching of the traditional food court model, so that it mixes into other retail areas.

From observing the stationary activities in each mall, it became apparent that people scarcely stopped in large open spaces with little variation in light, height, or materials. This could have been because there are no

boundaries or layers to explore within such a space, and there was therefore no experiential porosity. Conversely, people were attracted to the narrow passages which contained the centre aisle retail kiosks or cafes. These kiosks acted as small boundaries within spaces for people to work with, as well as sometimes providing the surrounding retail stores with programmatic porosity via a cafe kiosk. Multiple factors might contribute to why the kiosk is ideal for initiating play:

- It has boundaries on all four sides, as opposed to the single boundary of a retail store.
- It is both visually and physically accessible on all sides.
- It gets pedestrian circulation past all sides.
- It is convenient.
- Its staff are usually trained to engage with customers.

The square kiosk therefore becomes an important tool to be used for the design case study of this research.

Whilst observing and plotting stationary activities produced some useful conclusions, there was an apparent limitation in the method. As it is, the data gives a good indication of the tendency for a space to slow people down, but it does not show the extend of the activity or play. To achieve this finer detail, the types of stationary activities would need to be categorised in some form. Another step to improving this data may be to look into the stationary activities of established town squares and centres, as it would provide a useful comparison with shopping malls.

Before the findings of this chapter are tested in the design case study, the next chapter introduces the project brief and site, as well as the design criteria and objectives.
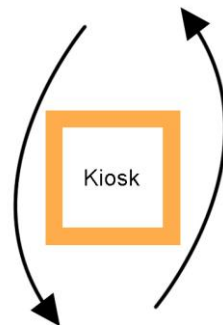

Figure 3.24 The retail kiosk is ideal for stimulating interaction as it engages with the flow of people on all four sides.

CHAPTER 4

DESIGN CASE STUDY
BRIEF, SITE, AND DESIGN
OBJECTIVES

By outlining its context and requirements, this chapter acts as a precursor to the design case study to follow. The first part of the chapter discloses an outline of the project brief, including the basic programmatic requirements of the mall. This is followed by a site analysis, which identifies the opportunities of the wider context to be incorporated into the design through permeability and porosity. Finally the chapter concludes with the design criteria required for incorporating the issues of play and porosity into the various boundaries which might arise throughout the design. At the same point, other important criteria which lie outside the conceptual framework for this research are be mentioned. By achieving these criteria, the objectives of the design case study are met.

4.1 Project brief

The design project under investigation is the redevelopment of Pakuranga Mall, which lies in the centre of Pakuranga, a suburb of Auckland, and was one of the five New Zealand case studies looked at in Chapter 3. The aim of the redevelopment is to not to transform the mall into a town centre however, as the mall should remain a predominantly retail environment in order to fulfil the aim of this thesis.

The scope of this case study consists of a **master plan** for a phased redevelopment of the mall, followed by a closer investigation into the design of a **single boundary** and its immediate context. The design of the boundary is carried out in order to test how a boundary might be developed with the intention to support play.

By phasing the development, it helps to avoid 'instant architecture' which is lacking in history, and acknowledges the cost implications of the development. For practical and financial reasons, much of the existing mall is retained, and the surrounding parking lots are developed over using the principles uncovered during the study on international precedents.

The existing office space on site is expanded, and residential units introduced. These are added in small amounts at each stage to ensure that neither use is over allocated and can be reconfigured if the need arises.

4.2 Site

Pakuranga is 11 kilometres from Auckland's city centre. The suburb provides the link between central Auckland and the eastern suburbs. Both of the bridges that form this connection direct traffic through Pakuranga and past Pakuranga Mall.

Figure 4.1 Pakuranga is 11km from Auckland's city centre.

Figure 4.2 Bus routes from the eastern suburbs to the city centre converge on the site.

As shown above, the bus routes following this connection diverge as they hit the north-western corner of Pakuranga Mall. This situates the mall as the focal point of public transport departing from Auckland's eastern suburbs.

The Space Syntax of the existing mall and suburb shows a lack of permeability both within the mall interior and from any one side of the mall's site to another. By counting the number of connections along each road extending from the site (Figure 4.4), the new connections best suited for increasing permeability can be found. This is similar to the process used in Responsive Environments (Bentley, I. 1985). The southern and south-eastern arterial roads (F and D) are prominent vehicle and pedestrian passages, which ought to be better linked to the mall's interior passage ways, and through to the northern arterial roads (C and A).

Figure 4.3 Pakuranga Mall Space Syntax.

Number of connections
along each route
A - 5
B - 3
C - 9
D - 10
E - 0
F - 10
G - 3
H - 3
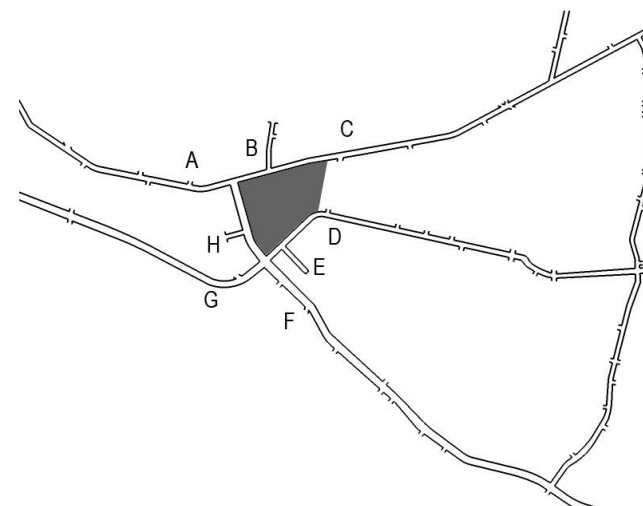
Figure 4.4 Roads F and D contain strong connections to the suburb's residents, and therefore need connections through the site.

Another factor to be considered when increasing site permeability is the opportunity for linking green sites together. To the north and south-east of the site lie park lands which extend out to the surrounding harbour. This locates the site in an ideal position to create a link between these green sites, and instil ecological porosity into the master plan.

Figure 4.5 The surrounding green park lands can potentially be linked.

Existing mall

The tenant layout of the mall was covered in Chapter 3.2.5, however there are some specifics which are important for the redevelopment.

The existing vehicle circulation is disjointed, with no real axis running through the site. However the main exterior street does enable vehicle servicing of the food court and retail outlets via back of house interior service passages (shown in darker grey).

Of useful note is the existing underground parking below the major anchor tenant on the southern edge.
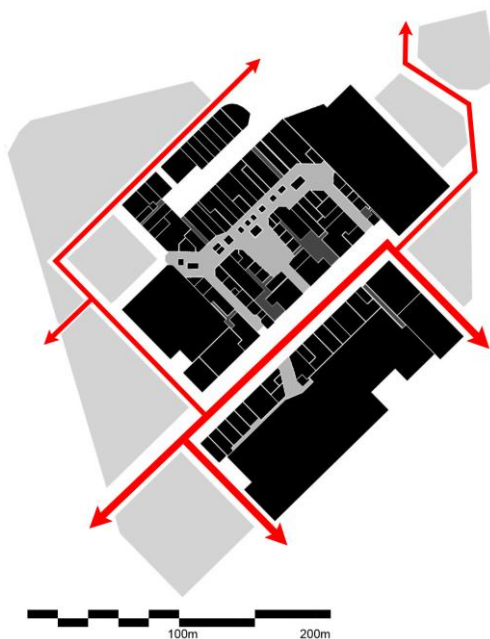
Figure 4.6 Vehicle circulation.
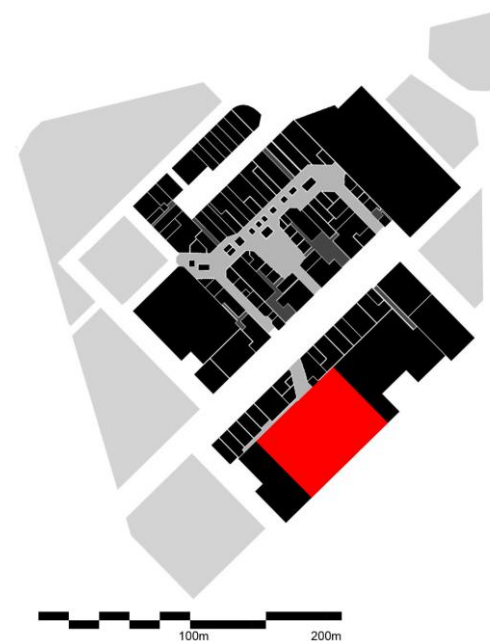
Figure 4.7 Existing underground parking.

The food court is situated at the intersection of the three anchor tenants. Currently the anchors are placed at the extremities of the mall, however they fail to draw pedestrian circulation to the smaller northern most retail stores, which are isolated from the rest of the mall.

A library is located in the remote southeast corner of the site. This can be relocated into a central location in order to set up programmatic porosity, and to add a useable civic component.
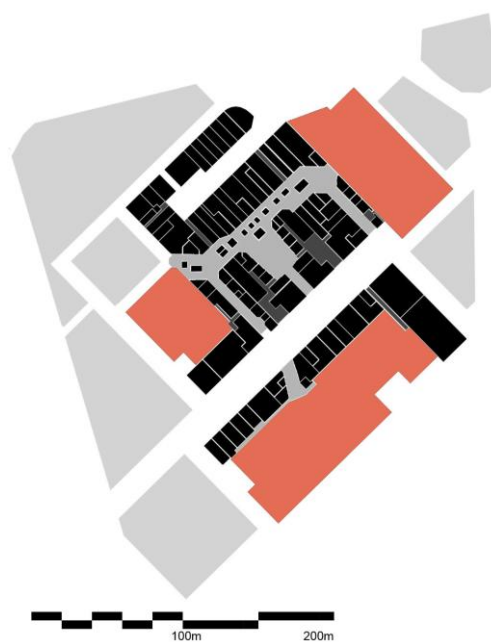
Figures 4.8 and 4.9 The food court (left), is located in the centre of the three anchor stores (right).
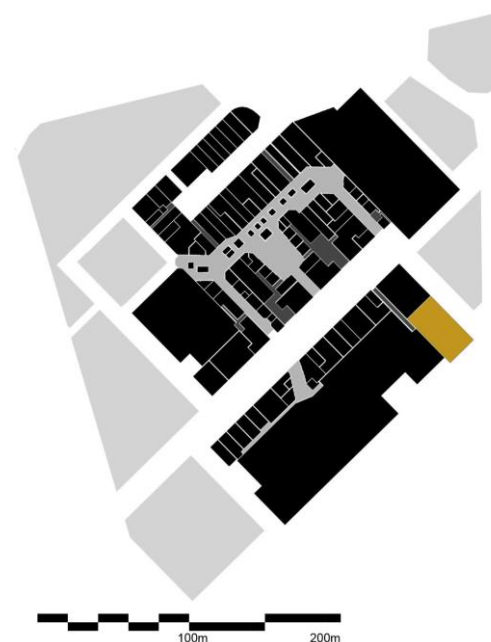
Figure 4.10 The existing library.

4.3 Design criteria and objectives

Specific focus is given to the interaction of the following three components:

- Play
- Porosity
- Boundaries

Play

Jan Gehl limits his optional activities to simple actions such as touching, sitting, climbing and people watching. However these ideas of play need to be translated further in order test their application in architecture. Elizabeth Farrelly suggested that play is about curiosity, exploration, and adventure (Farrelly, E. 2008). This brings play back to how it is undertaken by children, back to its roots. Children like enclosure, they like nature, they live on, under, and around things. Their curious nature hints at spaces rich in niches and corners where they can explore. From this arises one possible way to translate play into architecture. It is important to note that this is not the only method available, however this design case study does not cover them all. The design criteria for play is therefore to design intimate, enclosed spaces within boundaries which are fit for spontaneous interaction socially, physically and mentally.

Porosity

Taken from Chapter 1, is the list of possible forms of porosity:

- Administrative porosity - the sharing of private spaces with the public.
- Programmatic porosity - when varying building programmes mix together, and spill into each other.
- Temporal porosity - where a space transforms over the day.
- Visual porosity - visual links between inside and out. Allowing some views in, and keeping others out.
- Circulatory porosity - when sharing streets between cars and people, cars can become part of the architecture rather than a nuisance to deal with.
- Solar porosity - the penetration of natural light and general climate.
- Experiential porosity - the variation of layers, spaces, and materials which enhances our ability to explore a space.
- Ecological porosity - green spaces, and the accommodation of wildlife and water flows.
- Physical porosity - permeability. (Ellen, N. 2006).

In order to achieve a working scheme overall, all of these points are considered in the design of the master plan. However, only some aspects of porosity are focussed upon in the design of the individual boundary, as it is more useful to limit the selection rather attempt to design all aspects of

porosity into every space. This is explained further during the design of the selected boundary in Chapter 5.

Boundaries

Boundaries which might occur throughout the design include but are not be limited to the following:

- Site edge.
- Car park edge.
- Private residential/office edges.
- Retail edge.
- Restaurant/food court edge.
- Civic building edge.
- Edges within an open space.

Putting it all together

The literature review revealed that boundaries are the spaces which best accommodate life as they provide something for people to sit by or work against. As a result they are rich in social interaction, or play. Following this, porosity was identified as a means by which boundaries can be manipulated to intensify the activities which they contain. Porosity and boundaries therefore, become the tools to develop a space for play. To translate play into architecture, the boundaries should be designed with the intention to support curiosity and intimacy, as well as social, physical, and mental interaction.

In order to create situations where these boundaries arise, firstly the mall is redeveloped as an entirety. This is done at a basic level, whilst incorporating porosity and permeability into the new layout. An appropriate boundary is later developed further in order to test the ideas of play and porosity within a boundary space.

Other design criteria lying outside the conceptual framework

Walking distances are important when considering retail goals of a suburban mall, as these have a role in determining the length of a person's stay. Surveys suggest that 400 metres is the acceptable walking distance for most people, though this distance would be considerably less for the young and elderly (Gehl, J. 1996. pp139). This suggests that 400 metres is the acceptable distance between anchor tenants, and a recent study conducted on appropriate mall spatial configurations concurs with this figure (Carter, C. 2006).

A more permeable environment will help to lessen these physical walking distances, but beyond this it is possible to lessen what Jan Gehl refers to as the "experienced distance" (Gehl, J. 1996. pp139). This can be achieved by staging and varying the scale of spatial sequences, while avoiding long straight paths. This allows people to concentrate on proceeding from one square to the next, lessening the experienced distance. The New Zealand malls analysed in Chapter 3 showcased both good and bad examples of this. Sylvia Park was long and linear, adding to the experienced distance. In contrast, the malls at Botany and Pakuranga took on non linear designs, without becoming illegible. Varying the spatial

sequences into paths and squares will also encourage movement and staying, whilst at the same time provide different levels of intensity (Gehl, J. 2006). People need intimate spaces to withdraw from the hustle and bustle of a retail environment for a moment of calm, or perhaps partake in their personal activity of play. Conversely, large open spaces can seem much more lively when approached from an intimate space. It is possible that the boundary spaces to be developed might deliver this spatial variation.

As the exterior retail street has a role in the design, it is important to consider Allan Jacob's criteria for successful streets. In *Great Streets* Allan Jacobs mentions spatial definition and enclosure as key criteria (Jacobs, A. 1993).

Spatial definition can help achieve a sense of place to an area, and could be considered a counter balance to permeability, but that does not mean they cannot both be achieved simultaneously. The suggested minimum ratio of building height to ground is 1:4, with a strong definition being achieved at 1:2 (Jacobs, A. 1993. pp280) Other factors such as trees, tighter spacing between buildings, and well marked end points can help define areas. In Chapter 3, the exterior streets of Botany Town Centre and Pakuranga Mall were discussed as having good and bad spatial definition respectively. This is therefore an issue that will need to be addressed at Pakuranga Mall.

Street enclosure is closely related to spatial definition. This attribute helps in supporting conversation, and therefore play, within a space. Both

Jacobs and Gehl see the importance of smaller spaces in the urban environment: "Being at a party in a huge room with few guests is never particularly festive; being in a smaller room with greater density is far more intense and lively." (Gehl, J. 2006. pp 109) To Jacobs, an enclosed or narrow space, is an intimate space. "When it is easy to see people, when you almost can't avoid it, then it can be easy to know them." (Jacobs, A. 1993. pp16). A more prosaic way of looking at this is through the accepted maximum distances for seeing events and seeing facial expressions, which are 70 to 100 metres and 20 to 25 metres respectively (Gehl, J. 1996. pp165). These therefore become appropriate spatial dimensions for areas to support people watching, and hence play, albeit in its most basic form.

Lastly, the mall requires features which will assist in the orientation of users. Be it through a significant building, a memorable space or landscape piece, or through a prominent axis which orients the surrounding network of passages.

Summary of main objectives

The main of objectives of the design case study are to:

- Deliver a highly permeable, but legible master plan (with points of orientation), which incorporates all the aspects of porosity. This should also ensure that the redeveloped mall responds to the surrounding context.
- Incorporate diverse passages, spaces and boundaries, that vary in width, enclosure and the exterior/interior condition, thereby removing any monotony from the mall and creating transition boundaries which have a sense of indoor/outdoor ambiguity.
- Create interaction between play and porosity at a single boundary.
- Create opportunities for play through a boundary which is interactive socially (through conversation), physically (via touching), and mentally (by means of curiosity and exploration).

CHAPTER 5

DESIGN CASE STUDY

As previously mentioned, the design case study is split into two parts: the configuration of the master plan, and the development of a selected boundary. This chapter describes and evaluates these two steps, while justifying design decisions along the way. The conclusion to this chapter evaluates the design in relation to the criteria developed from the conceptual framework, literature review, and case studies of this research. It will also discuss any areas of uncertainty in the design.

5.1 Design master plan

Stage 1 (reconfiguration of the existing mall)

Figure 5.1 Stage 1 master plan.

100m   200m   400m

The first issue is how to handle what structure is already existing. In this case it is appropriate to consider the paths that need to be taken through the site in order to increase permeability and connect suburban arteries, as it is likely that these paths will conflict with the existing structure.

Figure 5.2 The two existing parallel axis are taken through the site.

The existing mall already has two noticeable main axis running parallel to each other, which create appropriate block sizes between them. It is therefore fitting that these two axis be extended through the site in order to create the necessary pedestrian shortcuts from opposite edges of the site. The southern of these two axis (Figure 5.3) is the exterior street with vehicle access, and remains this way, enabling servicing to the food outlets, as well as on street parking. During the analysis of this mall in Chapter 3, it became apparent that this exterior street lacked enclosure, as the building height to street width ratio was too small. To solve this issue, and strengthen the axis, office spaces are inserted along the upper floor.

Figure 5.3 The vehicle access through the southern of the two parallel axis.

The other axis, currently a fully enclosed concourse, is partially opened up to begin what will eventually become a series of fully exterior and 'covered' exterior zones. This will create an axis of indoor/outdoor ambiguity, rich in boundary spaces to be developed. The existing library on the site will be shifted into the centre of this axis, and will accompany a series of civic functions which will be placed along the axis in the next stage of development.
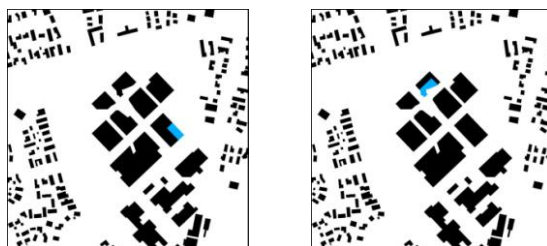
Figures 5.4 and 5.5 The existing library (left) is shifted to a new location (right).

It is suitable for the third major axis to run perpendicular to the two previously discussed, and intersect them in a central position within the site. The third axis therefore runs through the site centrally, forming a landscaped green passage linking the northern and south-eastern parklands. Although the centre of this axis is covered, plant life continues through the semi interior space, again reinforcing the indoor/outdoor ambiguity. This passage creates a strong point of orientation for pedestrians, as well as providing the site with ecological porosity.

The issue that arises from running this green axis through the site, is that it passes through the location of the existing food court. The nature and location of the food court is changed during the next stage however.

Figure 5.6 The green axis runs perpendicular to the others, and provides a point of orientation.

Stage 2

100m   200m   400m

Figure 5.7 Stage 2 master plan.

The aim of this stage is to set up the anchor locations to ensure that the new mall layout correctly directs the flow of people throughout the mall. This stage sees the development of the western edge, as well as the expansion of the eastern anchor store to make up for the loss of its floor area which occurred when the axis were extended through the site.

The western edge is infused with residential units, easing the mall into the surrounding houses. Aside from the residential units, the edge also consists of two important buildings: a relocated anchor store, and a parking structure.

Figure 5.8 The new residential units. Note that some contain retail functions at their ground floor.

The relocated anchor store reflects the importance that anchors be located at the extremities of the site. The existing supermarket on the western corner of the old Pakuranga Mall has been shifted to the north-western

corner of the site (with some small space around its northern facade allocated for vehicle servicing). As this part of the site was formerly a parking lot, it is available for excavation in order to place basement parking beneath the new supermarket prior to construction. While this is not ideal, it is required in order to keep dedicated parking space for the supermarket.
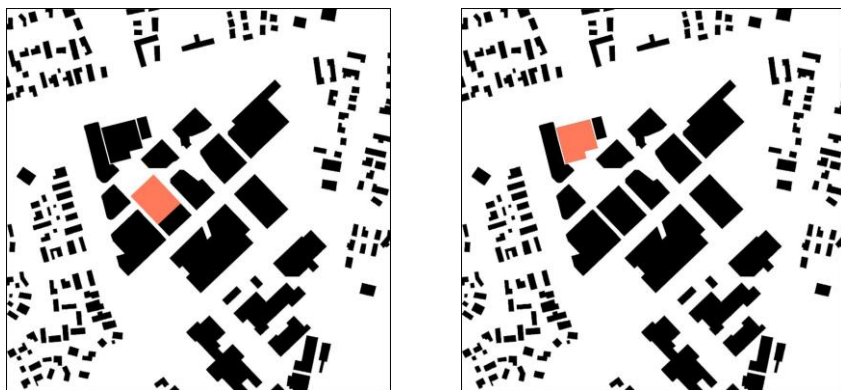
Figures 5.9 and 5.10 The existing super market (left), is shifted to a new location (right).

The new three story parking structure, which offsets the loss of parking spaces, is 'boxed in' by some two story retail and office buildings in order to restrict views of its unpleasant edge. With the assumption that the new parking structure will work as an anchor directing the flow of pedestrians, the new layout consists of four anchors covering each extremity of the site.

Figure 5.11 With the assumption that the new parking structure will direct the flow of people, the new anchor layout covers the extremities of the site.

Instead of replacing the old super market with smaller retail stores, its structure has been retained and transformed into a sports and recreation centre. Opposite to the new recreation centre, an art gallery has been placed into retrofitted retail stores from the existing mall. These two civic functions accompany the library, to form a line of ground floor civic functions mixed with retail and restaurants along the axis. (see Figure 5.12)
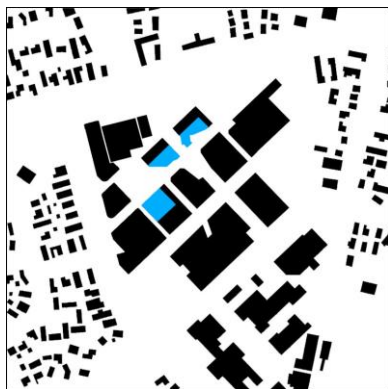
Figure 5.12 The three civic functions along the northern parallel axis.

The mix of new functions combine their boundaries to define a square rich in programmatic porosity. This becomes an ideal place for outdoor restaurant seating and temporary outdoor functions such as organised events or a Sunday market.

Figure 5.13 The main square is defined by buildings containing a rich mix of programmes.

As mentioned previously, the nature of the food court is to be reconfigured. This is partially due to the extension of the green passage through its location, but mostly because the food court is incompatible with the design objectives. This is because the nature of the traditional food court is to cluster programs and boundaries into a single space. The design objective to create programmatic porosity and mix the boundaries of various programmes, is conflicting with this food court model. Consequently, instead of using a traditional food court, the design spreads the food outlets along the axis to be integrated into the main square and among the civic and retail components.
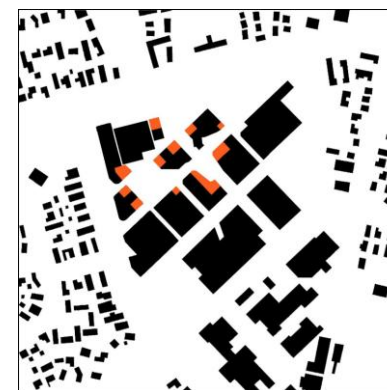

Figure 5.14 The food outlets and restaurants are partially scattered along the axis and around the square.

Final stage

Figure 5.15 Final stage master plan.

Figure 5.16 Final stage figure ground plan.

The final stage completes the placement of the smaller food and retail buildings. This stage also further intensifies the remaining un built site area with a mix of residential and office spaces.

Figure 5.17 The small retail (in tan) and the food outlets (in orange).

Figure 5.18 The residential units (light brown) and the office spaces (dark brown).

As with the western edge, the eastern edge consists of two story residential units in order to ease the transition between mall and suburb. Office space is developed on top of retail in the southern corner of the site, giving some definition to the major traffic intersection in this corner, and leading into the commercial zone opposite the mall site on the south eastern edge. The final residential and office spaces are shown in Figure 5.18. Note that most of the office spaces are constructed over the top of ground floor retail. In many cases, these office units could have a poor outlook over the rest of the mall's roof. To counter this, their back frontages will be self contained, landscaped decks which limit views away from the unsightly roof of the mall. A similar design strategy would be used for the north western residential units overlooking the supermarket.
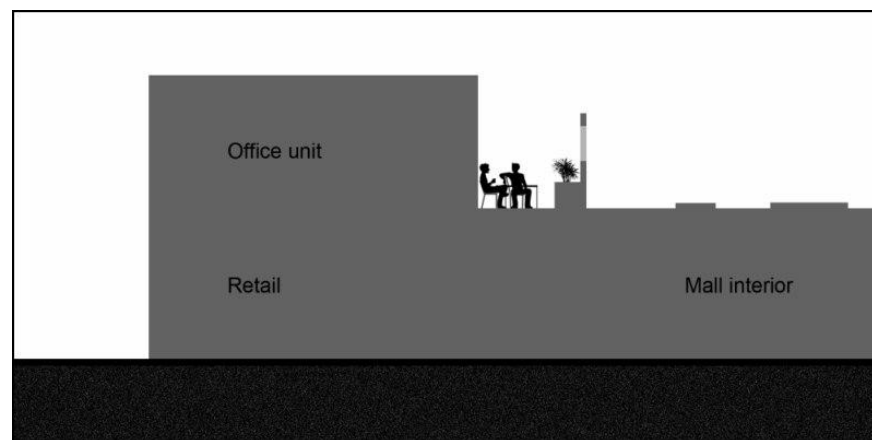
Figure 5.19 Office units are designed with small exterior retreats in order to limit views away from the mall's roof.

Once again, a new parking structure is put in place to offset the loss of parking spaces from the new developments. This leaves the final parking allocation as follows:

■ Surface parking
■ Structured parking
■ Basement parking
* Already existing

Figure 5.20 The final parking layout.

The final benefit of the condensed parking layout is a dramatic change in the permeability and connectivity. This can be seen in the comparison of Space Syntax diagrams between the old mall and the redevelopment (Figures 5.21 and 5.22).

Figure 5.21 Space Syntax of the old mall.

Figure 5.22 Space Syntax of the redeveloped mall.

5.2 Investigation of a boundary

In order to thoroughly investigate the idea of play, a more detailed design experiment needs to be undertaken. It is therefore suitable to narrow the focus of design to a single boundary and its immediate context. As previously mentioned, life congregates at boundaries, and therefore play occurs at boundaries. Porosity, in its various forms, can be used to manipulate these boundaries.

The issue which arises at this point is that retail boundaries are best left as transparent, invisible boundaries from which retailers can display their products. Consequently, when this boundary is tampered with by architects, over time it is likely to be flattened out again. For this reason, retail boundaries in this case study are treated as regular glazed edges. Instead, attention is drawn to other boundaries throughout the site, such as the edge of civic buildings, the boundary between interior and exterior concourses, and the edges of car parks. The remainder of this chapter focuses on a civic boundary: the boundary between the library and the exterior concourse. It is to be assumed however, that the example to follow is only one possible way of dealing with these boundaries, and that others might be developed throughout the mall in different ways, using different aspects of porosity and play.

- ■ Circulation boundaries
- ■ Restaurant boundaries
- ■ Car parking boundaries
- ■ Site boundaries
- ■ Civic boundaries

Figure 5.23 The various boundaries that could be developed further and in different ways.

The library is situated along the northern of the two parallel axis, directly opposite a mix of retail and food outlets. As stated earlier, this axis alternates between fully exterior and covered exterior zones, blurring the boundaries between interior and exterior. The library boundary also aims to continue this indoor/outdoor ambiguity, as the boundary forms the distinction between the bustling exterior concourse and the quiet interior condition of the library.

Before considering the boundary itself, the surrounding context had to be configured. As the library is located in an outdoor environment, there is a risk that those approaching it from the covered passages will not venture out from cover in bad weather, and therefore bypass the library boundary. To solve this issue, canopies extend through the covered zones, and protrude out to direct the flow of people to the centre of the exterior concourse. From here people have the choice to either engage with the library boundary or the retail and food outlets on the opposite side.


Figure 5.24 The location of the library.

Figure 5.25 Canopies direct the flow of people past the library boundary.

Figure 5.26 Perspective view of the canopies directing flow toward the library boundary.

To provide a useful focus, the design of the library boundary only involves selected aspects of porosity and play, rather than trying to fit too much into a single boundary. In terms of porosity, the key focus here is on programmatic porosity. During the analysis of the New Zealand case studies in Chapter 3, it was discovered that retail kiosks possessed a strong potential to create play, as their four sides were visible, accessible, and open to pedestrian circulation. Taking from this, two retail kiosks are positioned at the entrance to the library in a way that will capture both visitors to the library, and casual shoppers. This will create unavoidable yet desirable close contact between the two different user groups, and also the shop assistants, sparking opportunities for play between them. It is apparent that the two retail kiosks are slightly removed from the main pedestrian route, and therefore occupy less desirable retail space, this will be acknowledged further in the design evaluation.

Figure 5.29 Library roof plan.
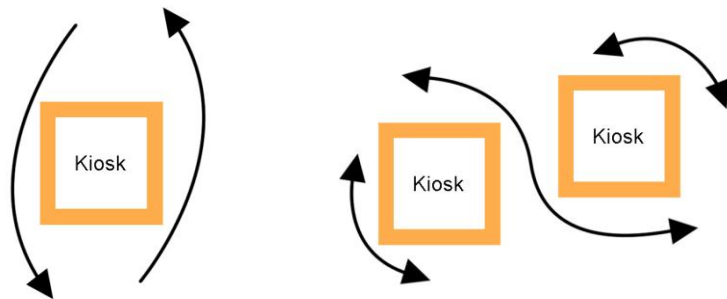
Figures 5.27 and 5.28 The flow of people between kiosks will create unavoidable yet desirable encounters between people.
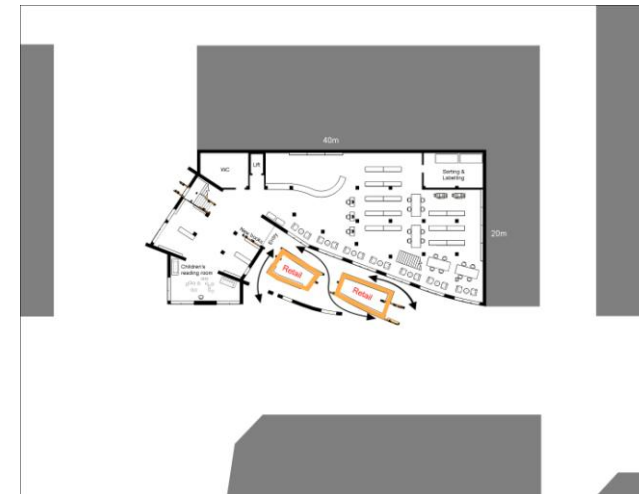

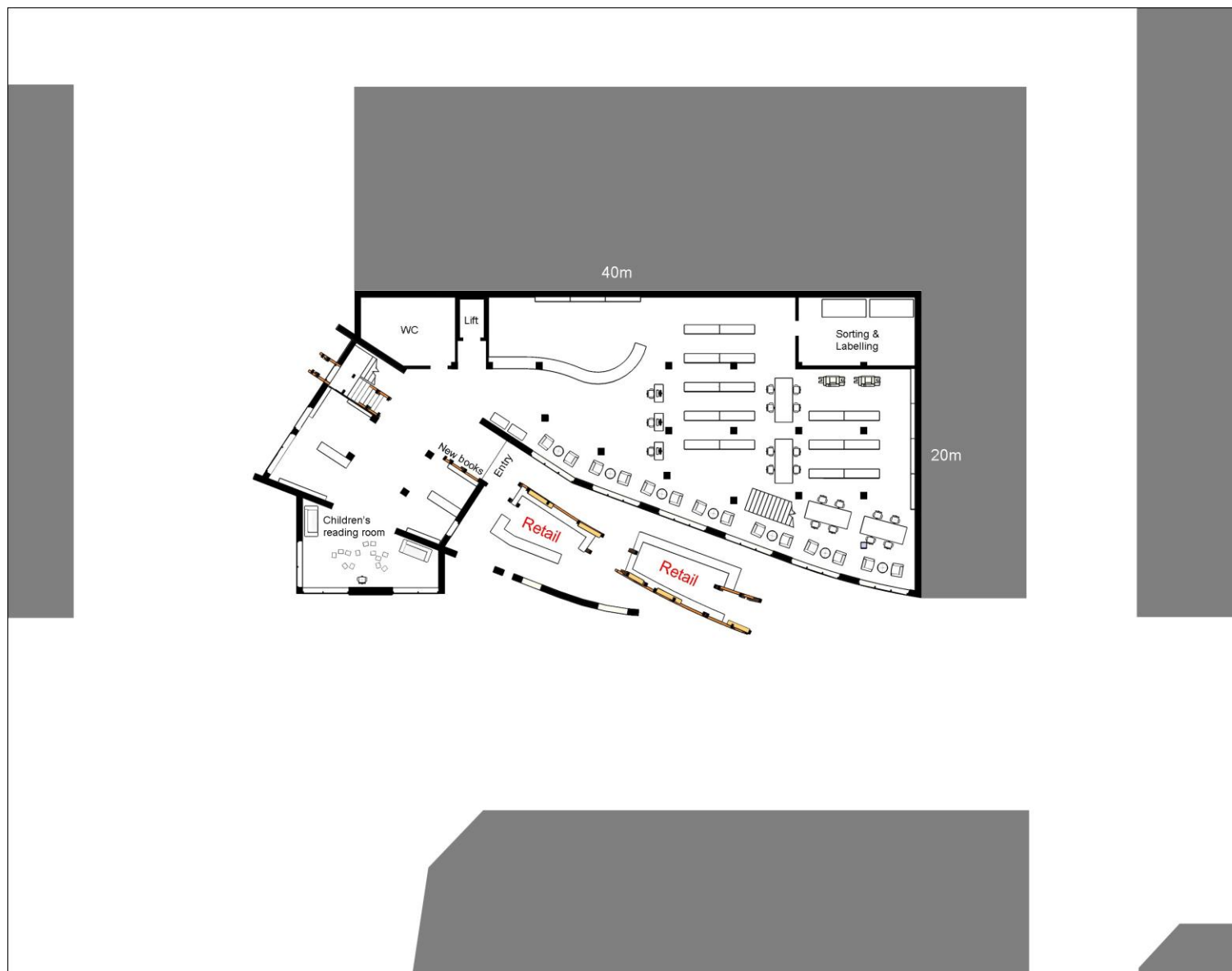*Figure 5.30 Two retail kiosks are located within the library boundary.*

Figure 5.31 Library ground floor plan.

These two retail kiosks reside within the three layers, or 'blades' that punctuate the library's main structure. These layers perform numerous tasks. Firstly, they house the retail kiosks. The outer most layer contains gaps in order to direct people past the edges of the retail kiosks, while the inhabitable central timber layer covers the kiosks, providing 'playful' timber shelving from within its glulam supporting structure. The inner most layer, and structural wall of the library, separates the intermediate zone of the retail kiosks from the library interior.

The second function of the three layers is to form layers of visual porosity, blurring the distinction between inside and out, whilst maintaining a solid envelope for the library. They allow some sights in and others out, and they place people in positions to people watch. The outside layer is punctuated with gaps for seating and views, whilst the inside layer is glazed at ground level, allowing users of the library to view out to the retail kiosks whilst relaxing in arm chairs (shown on the ground level plan, Figure 5.31). The central timber layer therefore becomes the spectacle in between these two layers, sparking curiosity or 'play in the mind' of people looking at it through either of the other layers.

Figure 5.32 The canopies.

Figure 5.33 The three layers or 'blades'.

Figure 5.34 The retail kiosks.

Figure 5.35 Perspective view of the central timber layer projecting out from the others. A shared residential deck lies on the top floor above the library.

Figure 5.36 Perspective view of the relationship between the retail kiosks and the adjacent

cafes.

This curiosity leads to the layers' third function, which is to generate experiential porosity, allowing users to experience, explore, and discover the changing materials, forms and spaces of the boundary. After passing through the outer layer (which is clad in rough stone tiles, which oppose the polished tiles of the inside most layer, similar to the material relationship of the Getty Centre by Richard Meier), and then the retail kiosks on the ground floor, visitors will enter the actual library interior. Contained immediately on their left, and residing within the timber layer, is the new books display. Notice that all three layers punctuate into this space, thereby taking their exterior materiality inside. Here people have the option to follow stairs located at the end of the timber layer up to the top floor of the library, or to continue around the ground floor to the reception.
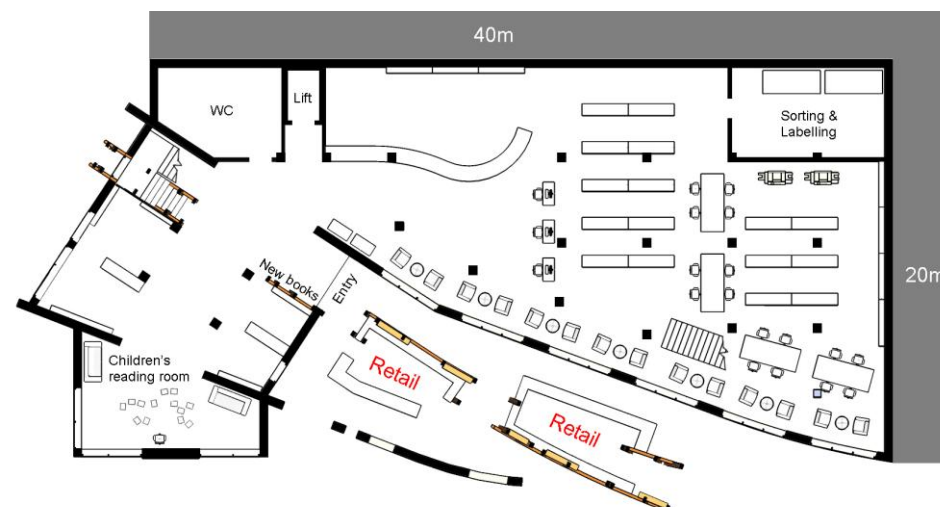
Figure 5.37 Library ground floor plan.

The front most portion of the library interior which extends beyond the blades contains the children's section on the ground floor, and the young adults section on the first floor. These locations are best suited for these functions because of their ease of access, and their proximity to natural light. They also ensure that the library's function is "showcased" by the users.

The first floor is recessed to create a mezzanine located above the ground floor lounge chairs. This allows maximum natural light into the lower level.

Figure 5.38 Library level one plan.

From the first floor, the timber layer is accessible via bridges spanning from the mezzanine. As shown in Figure 5.40, the door ways, or holes, at the end of the bridges are designed so that the user must physically step over, through, or under them (note that wheelc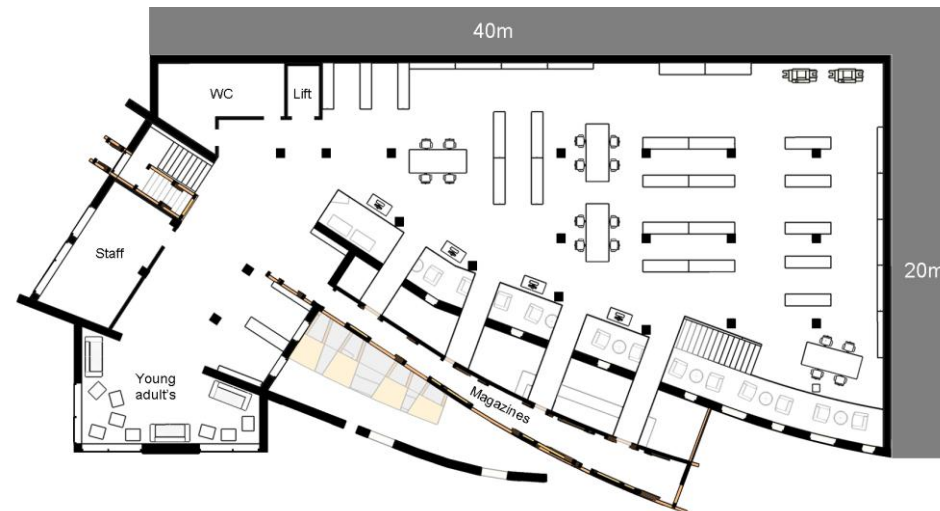hair users can bypass this step by accessing the layer where it intersects with the library). This subtle experience adds tactility to the timber layer and is a meaningful, and playful personal interaction with the boundary.

Once over this step, the journey through the boundary climaxes in the discovery of intimate 'pocket' spaces, suitable for interaction between two or three people. The intention here is for users to feel relaxed, and suitably, they have access to the new magazine section of the library. The discovery of these spaces completes a sequential experience of curiosity, interaction, and reward.

Figures 5.39 (left) and 5.40 (above) Bridges span between the library interior and the 'secret' pocket spaces within the timber layer. These contain the new magazine section of the library and represent the end of the journey through the layers.

5.3 Design evaluation

Each design objective is now reiterated followed by an evaluation of how well they were achieved. While all the objectives have been met to a degree, some have been more fully realised than others, and some have led to further questions and uncertainties.

- Objective: To deliver a highly permeable, but legible master plan (with points of orientation), which incorporates all the aspects of porosity. This should also ensure that the redeveloped mall responds to the surrounding context.

The three axis work well as a means to create a permeable mall, and help with orientation. The fact that each axis has a point of difference is also helpful. Vehicle access (circulatory porosity) penetrates one of the parallel axis, while the other contains a mix of functions, spatial volumes, and exterior/interior conditions (programmatic, experiential and solar porosity). By incorporating ecological porosity, the third axis becomes the major point of reference for anyone within the mall, whilst also linking the site to the surrounding context.

However the requirement to achieve programmatic porosity has raised issues over the traditional format of the food court. Rather than place every food outlet together, there was a requirement that they be spread apart, mixing their boundaries with other functions. Whilst there are advantages to this approach, it also takes away some of the convenience of allowing people with diverse tastes to eat together in the same space.

Another aim of programmatic porosity was to involve residential and office users within the daily life of the mall. This was achieved, yet the placement of residential and office units along the western edge of the site raises issues of legibility. To be legible, the mall requires advertisement that it is a retail environment and that it is an attractive public space. It is a concern that by removing retail from the western edge, as well as blocking the main square from full view, that the mall loses some of its ability to show these attributes to drivers. At the same time however, it is difficult to perceive retail succeeding along this edge, as there are no anchor stores to direct the flow of people there. Also of note, is that with the limited resources of the thesis, it is hard to judge the exact requirements for residential and office space.

The other weakness with regards to the site's edges was the placement of the large anchor tenant on the south eastern side. This forms a highly impermeable barrier and an unattractive edge. However it was deemed financially and functionally unviable to develop this edge further, as it conflicts with the servicing of the tenant.

- Objective: To incorporate diverse passages, spaces and boundaries, that vary in width, enclosure and the exterior/interior condition, thereby removing any monotony from the mall and creating transition boundaries which have a sense of indoor/outdoor ambiguity.

Spatial variation has been achieved via the network of the parallel axis (which mix exterior and interior conditions), the green passage, the open

squares, and narrower minor passages. However there is a definite need for further investigation into the exact nature of the boundary spaces which create the indoor/outdoor ambiguity. While the canopy which flows past the library boundary goes some way to dealing with this, it would be appropriate to look further into how this could be achieved. The drawback to creating these ambiguous boundaries is that it removes the possibility of having a completely environmentally controlled space, and raises issues of security.

- Objective: To create interaction between play and porosity at a single boundary.

The major design move to meet this objective was the placement of retail kiosks into the library boundary in order to gain both programmatic porosity and the attributes of kiosks which encourage play. This is a design move which may or may not work as indented. It is a question of whether the retail kiosks will still function as they did in the New Zealand case studies, where they were in the centre of the concourse rather than to one side of it. It is hoped that the library will act as a destination in order to attract people through and past the retail outlets, but it is debateable whether visitors to a library be interested in retail when their mind is set on visiting the library.

It was originally intended that programmatic porosity would be used further in the library boundary, through the integration of the residential units on the upper floor. However during the design process the extent of this integration had to be subdued, as the issue of accessibility was making this difficult to realistically achieve. Instead, the residential users simply occupy spaces above the boundary, overlooking it. While this adds to the life of the boundary, it does not do so in an very dramatic fashion.

While experimenting with the boundary design it also became apparent that the boundary should not impede or hide the function of its interior. Whilst the library boundary might intersect play and porosity well, it still requires some way to advertise its function to passersby. If this does not happen, the actual function of the library may get lost to people who do not know that it is there. Fortunately, the section of the library that projects past and through the three layers of the boundary achieves this. On the ground floor it showcases the children's reading room and above this is the young adult section of the library. Both these sections will contain people that are likely to 'perform' the function of the library to onlookers.

- Objective: To create opportunities for play through a boundary which is interactive socially (through conversation), physically (via touching), and mentally (by means of curiosity and exploration).

The journey through the kiosks, the various layers, and into the pocket spaces above the timber layer is what achieves this interaction in the social and physical sense. However it is difficult to evaluate the journey's ability to create interaction in the mental sense. One can observe spontaneous social and physical interaction within a space, but one cannot observe and measure the delight and play in a person's mind that comes through curiosity and exploration. This design case study therefore leaves an uncertainty about its success in accommodating play, and about how

any boundary might be evaluated for its success in regards to such a concept.

Where this design is without doubt successful is that takes play, a concept that stems from Jan Gehl's relatively simple idea of 'optional activities', and develops it much further than Gehl, Stevens, or Farrelly have left it. Banal forms such as terraced seating and fountains are often used, sometimes naively, by landscape architects to encourage Gehl's optional activities to occur. However the design avoids relying these, instead, by extracting from the concept of porosity and the ability of a boundary to congregate life, it manifests an architecture which carries greater complexities than the solutions that Gehl alludes to.

THESIS CONCLUSION

The purpose of this research was to discover how the concepts of 'play' and 'porosity' can guide the redevelopment of New Zealand's suburban shopping malls so as to enhance the quality of public space without detracting from the malls' commercial performance. This question arose in response to the privatisation of public space, and subsequent demise of a truly public realm. Because of this, the privatised mall has become an overly controlled interior public space which isolates itself from its suburb and places limitations on public behaviour.

The concepts of play, and the boundary have been researched, developed and tested in order to answer the research question. Play is considered to be a means by which the social goals of the mall can be achieved. The boundary was identified as a strong space for accommodating play, as it gave something for people to work with or against. And porosity was identified as a way to both manipulate boundaries to support play, and connect the mall to the surrounding suburb. Porosity therefore works at a macro and micro scale. While the design focuses on these concepts, other issues which lie outside the conceptual framework have been taken into account, and the commercial goals of the mall have also been met.

Various international and New Zealand malls were looked at as regards these concepts. The comparison between these two sets of case studies uncovered severe contrasts in their physical porosity (permeability), the state of their boundaries, and their interior/exterior conditions. Whilst the new process of de-malling generally opened up the international precedents to the exterior setting, applying this strategy directly to the New

Zealand situation was problematic because of differences in climate and urban context. From this arose a potential conflict between porosity and other issues such as legibility, and environmental quality.

The design case study, a redevelopment of Pakuranga Mall in Auckland, was used as a means to test some of these issues. This included a detailed investigation of a single boundary at an architectural scale.

Firstly the design needed to be physically porous without significantly reducing legibility and ease of way finding. The solution to this was to create a hierarchy of pedestrian axis, as well as to further involve the concept of porosity by using ecological porosity at a macro scale. This provides a point of reference which resolved the issues of way finding.

The second issue revolved around the inclusion of exterior spaces within the mall, without forgoing its ability to become a useful public space during all weather conditions. The design examined methods to resolve this issue. Boundaries between interior and exterior conditions were manipulated in order to extend and blur the two conditions together. With further design in this area, this difficulty could likely be entirely avoided.

The concept of porosity had contributions at both a macro and micro scale. Programmatic porosity was especially influential at both of these scales. Major design moves such as the abandonment of the traditional food court model, and the injection of retail kiosks into the library boundary were reflections of this aspect of porosity.

Unlike porosity however, the concept of play was dealt with only at a micro scale. Whether this is an inherent limitation to the concept of play is unclear. Jan Gehl and Quentin Stevens focussed on edges and boundaries as being the places where play, or physical and social interaction is most likely to occur. Elizabeth Farrelly used the term more generally however, referring more to the mental aspect of play, she labelled it as an attribute that cities as a whole can and should have. Clearly though, she is referring to the layering and juxtaposition of buildings and street networks which give great cities their joy, vitality and romance, and ultimately allows them to be explored. In some way, this implies that play might be incorporated at both micro (architectural) and macro (city-wide) levels. Can a whole mall therefore be entirely layered, and be able to be minutely explored in the same manner as the library boundary developed in this research?

The issues which arose in designing the library boundary might place limitations on achieving this type of play at the macro level. The layering of the library boundary was intended to stimulate play via interaction in a social, physical and mental sense. However it is unclear as to how these measures can be evaluated without actually building the space and recording people's behaviour and feelings. What the design case study has demonstrated is that a space for a certain kind of play can be incorporated into a mall, without be being overly intrusive of the mall's retail function and form.

However, there are clear impediments to building this kind of boundary space, specifically in relation to the layering and tight spaces, as these present obstacles to surveillance. As a result, the chosen design strategy has an impact on both the safety of the users, and the security of the mall. If the type of play that this boundary contains is to be developed at a macro level (or replicated on the micro level), some of these issues of security and safety must be addressed. Narrow passages, 'secret' niches, layers which hide some views and show others to create visual porosity, are all obstacles to the surveillance which makes public spaces safe and secure. At a macro scale these might also create conflicts with way finding and legibility, but this may be avoidable with the right use of hierarchy in the street network.

Further research might therefore look into how play could become a concept useful at both a macro and micro level, similar to porosity. Nan Ellin breaks porosity up into different aspects, with some being more useful than others at each scale. The concept of play might also be treated in this way. If one way for play to become architecture is through priming a single boundary for exploration, a second way might be to design an entire street to support play in terms of physical and social interaction through sport, movement and adrenaline.

Stevens' and Gehl's ideas of play and optional/social activities are relatively non prescriptive ideals for public spaces. This research achieved an interaction between these ideals and Ellin's porosity in order to offer a more realizable method of how these concepts can enhance public space

within a suburban mall. The link between these two concepts was their application to a boundary space at an architectural scale, however it might be possible for play and porosity to be further developed in tandem at a macro scale, beyond a single boundary space.

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