URBAN INTERIORITY

DESIGNING INTERIOR SPACE THROUGH THE LENSES OF SHELTER, PLACE-MAKING AND ATMOSPHERE
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DESIGNING INTERIOR SPACE THROUGH THE LENSES OF
SHELTER, PLACE-MAKING AND ATMOSPHERE

BY
DEBORAH STACE

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fulfilment of the requirements for the degree of Master of Interior Architecture

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School of Architecture
I WOULD LIKE TO THANK A NUMBER OF PEOPLE FOR THEIR SUPPORT IN THE COMPLETION OF THIS THESIS.

FIRSTLY I WOULD LIKE TO THANK MY PARENTS ROD AND JENNY FOR THEIR UNWAVERING SUPPORT AND ENCOURAGEMENT AND FOR THEIR TIME AND EFFORT IN PROOF READING NUMEROUS COPIES OF MY THESIS. THANK--YOU TO MY SUPERVISOR PENNY ALLAN WHOSE SUPPORT AND GUIDANCE THROUGHOUT THE YEAR HAS BEEN INVALUABLE. TO PATRICIA BRUNER AND DANIEL BROWN, THANK YOU FOR YOUR WORDS OF ADVICE AND CONTINUING INTEREST IN MY WORK THIS YEAR. TO EVERYONE WHO HAS BEEN MY CLASSMATE, TUTOR OR LECTURER THROUGHOUT MY TIME AT UNIVERSITY I THANK YOU FOR THE INSPIRATION, ADVICE AND ENCOURAGEMENT YOU HAVE PROVIDED ME AND FOR MAKING MY TIME AT UNIVERSITY THE ENJOYABLE EXPERIENCE IT HAS BEEN. FINALLY I WISH TO THANK MY PARTNER JASON FOR ALWAYS BEING THERE THROUGHOUT THIS PROCESS AND PROVIDING ENDLESS SUPPORT AND ENCOURAGEMENT.
Figure 0.1 Fresh Flower (Tonkin Liu)

The design which started it all...
As a student I found myself constantly trying to explain to others what interior architecture was. Explanations were usually along the lines of “like architecture but just the inside” or “not choosing cushions and curtains”. It was frustrating to belong to a profession that is so little understood or recognised that not even I knew how to describe it. A few months before starting my thesis my tutor showed me an image of Tonkin Liu’s Fresh Flower Pavilion for the 2008 London Festival of Architecture. She cited this pavilion as an example of an exciting interior space and suggested I use it as inspiration for a research proposal. At the same time she insisted that I first check whether it was acceptable for an interior student to design a project that does not exist within a building. From this moment I became determined to design a pavilion to prove that interior architecture, and interior space was more than just the inside of a building. By doing this I was able to test the nature of interior space, and in turn gain a better understanding of the role and purpose of my discipline. The personal revelations and knowledge that I have gained about the discipline of interior architecture through this process have been invaluable, and I can only hope that the investigation into the nature of interior space continues so that one day no one will have to ask the question “what is interior architecture?”.
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The discipline of interior architecture suffers from a lack of discipline specific theory, a definitive title and definition, and an understanding by the general public of the role and scope of this area of design. Many definitions view interior architecture (otherwise known as interior design or simply interiors) as existing only within the context of architecture. However a recent growth in interest and discussion around interiors has highlighted the fact that those within the discipline no longer view a fixed physical enclosure or architectural envelope as defining conditions of interior space. Architecture as a prerequisite to interiors has come into question, which also questions our understanding of the conditions that define interiority.

The concepts of shelter, place and atmosphere have been identified as contributing to an understanding of interior space. This research uses these three concepts as ‘lenses’ which contribute to an understanding of alternative ways of experiencing and designing interior space. The program of a bus shelter has been selected in order to test how these concepts can create an experience of interiority in a form that is not conventionally understood as interior space.
This thesis contributes to an existing discussion on alternative ways of understanding interior space in the context of interior architecture/design. While this research can only begin to understand these concepts and how they can be used to design interior space, it is hoped that further research will continue to advance our understanding of interior space and the discipline of interior architecture.
INTRODUCTION
1.1 CONTEXT OF RESEARCH

An interior condition is usually seen as “one of frames and enclosures - a container condition which is static, defined by boundary conditions and a pre-existing void to be filled” (Attiwill “Towards an Interior History” 5). This definition is echoed by several books of interior design theory. In John Pile’s book *The History of Interior Design* he states that “interiors are an integral part of structures that contain them - in most cases buildings. This means that interior design is inextricably linked to architecture and can only be studied within an architectural context” (qtd. Attiwill “What’s in a Canon” 64). Similar views are expressed in *A Philosophy of Interior Design* by Stanley Abercrombie and *A Theoretical Approach to Enclosed Space* by Joy Monice Malnar (Attiwill “Towards an Interior History” 5). However, interior design educator and theorist Suzie Attiwill also states that “fixed architectural enclosures are no longer the dominant shaping and mediating element for interior and exterior relations” (“Towards an Interior History” 3) and that “those within the field of interior design continue to seek other ways of speaking of and designing interiors without the dominance of architecture” (“What’s in a Canon?” 64).
1.2 PROBLEM STATEMENT

Interior space can no longer be defined by traditional definitions that limit it to the space within a fixed architectural enclosure. While alternative ways of looking at and understanding interior space have been identified, there is little discussion of the implications of these or how they can be used within the discipline of interior architecture.

1.3 RESEARCH APPROACH

1.3.1 THE METAPHOR OF A LENS
This thesis uses the concept of a lens as a metaphor for different ways of looking at and understanding interior space. As discussed in Section 1.1, interior space is often perceived through the lens of architecture which limits the understanding of interior space to the inside of an architectural enclosure.

1.3.2 RESEARCH AIM
This research investigates how the concepts of shelter, place-making and atmosphere can be used as alternative ‘lenses’ to understand and design interior space.
1.3.3 RESEARCH METHOD
This thesis begins with an analysis of current theory on the discipline of interior architecture. This research identifies concepts that have been proposed to define interior space or a condition of interiority. Three of these concepts - shelter, place-making and atmosphere are selected and investigated in a process of research through design. This is structured as three independent investigations which have their own individual introduction; background research; precedent analysis; design process; and discussion of findings. These investigations are followed by a discussion which examines the findings of this research and what this contributes to the discipline of interior architecture. Finally, a conclusion sums up findings and looks towards the future of the discipline.

1.3.4 SELECTED PROGRAM
The program of a bus shelter has been selected as a vehicle for this research for a number of reasons. The bus shelter is an ambiguous space, in that it sits in between the realms of interior, architecture and landscape. While evidence of interiority emerges when one considers it through the lens of movement (Section 2.3), it is not conventionally understood as an interior space. This enables factors used in the design process to be more easily recognised as contributing to an understanding and experience of interiority within the space of the bus shelter. Bus shelters are on the intimate scale of an interior space, and deal explicitly with human occupation, and as such, can be argued as ideal for testing an understanding of the interior condition. They are also necessary infrastructure that exist in
a network of key points throughout the city and are used by a large number of people on a daily basis. By using the program of a bus shelter this research not only tests alternative ways of understanding and designing interior space but also challenges the role of the bus shelter in our urban environment.

1.4 RESEARCH THROUGH DESIGN

Peter Downton, Professor of Design Research at the Royal Melbourne Institute of Technology, states that the concept of design as research is not yet universally accepted (1), and that most definitions of research associate it only with scientific endeavours (73). However the Oxford English Dictionary definition of research as “investigation, inquiry into things” (qtd. Downton 73) allows for a broader understanding, and is equally relevant to the disciplines of design as it is those of science. This is not the only commonality between understandings of research and design. Both can also be seen to be “putting forward a proposition of the way something may be and then examining to check whether it ‘works’” (Downton 75).

Research and design are both activities, not simply bodies of knowledge. While there are bodies of knowledge about research and design, within both the most valuable knowledge is that which is achieved through doing. Through this doing, an individual is able to “advance and extend their
Figure 1.6.1 Design Process

This diagram represents the general process I go through when approaching a design brief. The process of design is a complicated one that often involves multiple revisions and 'start-overs' to reach a successful conclusion. The movement between each stage is not a simple progression but indicates a period of reflection and analysis on previous work and findings.
knowing of their field and perhaps the total knowledge of the field itself” (Downton 9). While the kinds of thinking, areas studied, means and methods of inquiry and evaluations of outcomes differ between the fields of research and design (Downton 5), there can be no denying they both undertake “investigation (and) inquiry into things” (Downton 73) for the purpose of advancing both individual and collective knowledge.

Research through design can therefore be seen as a legitimate method of inquiry into an issue within the field of design. In this thesis the design process as detailed in Figure 1.6.1 will be used to investigate selected conditions of shelter, place-making and atmosphere. This process will test the relationship between these concepts and an interior condition; how they shape a specific experience of interiority; and how they can be used in the practice of interior architecture.
2

BACKGROUND
Interiors is a slippery discipline. Among all designed artefacts, interiors themselves are uniquely ephemeral and hard to define. The practice of interiors is relatively unregulated. The history of interiors is patchy and contested. The theoretical basis of interiors is largely unexplored in comparison to those of other disciplines. How, therefore, might we speculate about the role, validity and purpose of interiors in the twenty-first century?

qtd. Caan “Consensus or Confusion” 49

2.1 CURRENT POSITION OF INTERIOR ARCHITECTURE

The above quote from the 2007 Interiors Forum Scotland serves to sum up issues facing the discipline of interior architecture. More commonly known as interior design, the discipline suffers from being “caught between the structure and self importance of architecture and the laissez-faire and self indulgence of interior decoration” (Chalmers & Close, 78). As discussed in Section 1.1, while many existing definitions of interior space limit it to the inside of a fixed architectural enclosure, a recent surge in interest and discussion around the discipline of interior architecture/design has confirmed that those within the discipline are seeking new ways of looking at and understanding interior space.
The current President of the International Federation of Interior Architects/Designers, Shashi Caan, defines the practice of interior architecture/design as being conceived through the experience of human occupation, needs and well-being and, as such, any three-dimensional envelope designed in terms of these can be considered an interior space (“Rethinking Design and Interiors” 112). This expands the scope of interiors beyond conventional architecture to include spatial installations, pavilions and urban ‘rooms’ of which Caan cites Paley Park (fig. 2.3.6) in midtown Manhattan as an example (“Rethinking Design and Interiors” 112). This line of thought is further explored in the article “Towards a Definition of Interiority” by Christine McCarthy, a lecturer and academic in the field of Interior Architecture at Victoria University of Wellington. McCarthy defines interiority as “the abstract quality that enables the recognition and definition of an interior...not an absolute condition that depends on a restrictive architectural definition” (112). She further expands on this by saying that “inside and outside are architectural prescriptions tied to the boundary of building, whereas interiority and exteriority weave within and without the built constraints of architecture, sometimes between them, and sometimes independent of them” (116).
2.2 CONDITIONS OF INTERIORITY

From an analysis of current interior architecture/design theory, three articles in particular have emerged as dealing with the conditions of interiority or interior space outside architectural definitions. These are Suzie Attiwill’s “What's in a Canon?” which analyses various trajectories of discussion at a forum titled “What's in a canon? The state of interior design at the beginning of the 21st century”; Shashi Caan’s “Consensus or Confusion” which discusses the origins and nature of the discipline of interior design; and Christine McCarthy's “Towards a Definition of Interiority” which, as indicated in the title, examines concepts that contribute to a definition of interiority. The concepts and ideas about interior space discussed in these articles have been identified within a table (fig. 2.2.1).

Caan argues that “the interiors discipline is to the built world what psychology is to the world of science”, and that while the concerns of architecture are physics and structure, the design of interior space is about “the psychological, physiological, sensory and the emotional” (“Consensus or Confusion” 54). This suggests that, for a concept to be used as a lens to understand the nature, experience or design of interior space, it must deal with the human experience of space. As such, the three concepts selected for further investigation - shelter, place-making and atmosphere, have been selected not only for the fact that they each make an appearance in at least two of the three articles, but also for the fact that they deal explicitly with the experiential nature of interior space.
<table>
<thead>
<tr>
<th>“WHAT’S IN A CANON?”</th>
<th>“CONSENSUS OR CONFUSION”</th>
<th>“TOWARDS A DEFINITION OF INTERIORITY”</th>
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</thead>
<tbody>
<tr>
<td>Experiential/Phenomenal/Emotive</td>
<td>Shelter</td>
<td>Containment</td>
</tr>
<tr>
<td>Subjective Experience</td>
<td>Habitation of an Inside Condition</td>
<td>Confinement</td>
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<tr>
<td>(Atmosphere)</td>
<td>Tangible/Experiential</td>
<td>Enclosure</td>
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<tr>
<td>Aesthetics/Mood/Feeling</td>
<td>Emotive/Evocative</td>
<td>Imprisonment</td>
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<tr>
<td>Participation/Occupation/Contemplation/Community/Rest/Repose/Shelter/Place-making</td>
<td>Support for Human Activity and Behaviour</td>
<td>Privacy</td>
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<td>Shelter</td>
<td>Interpretive/Context &amp; Site Specific</td>
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<td>Atmosphere</td>
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</table>

*Figure 2.2.1 Conditions of Interiority*
Physically and professionally, architecture stands between the landscape and the interior, contributing to the lay recognition of landscape architecture as being only concerned with the space immediately outside of [someone else’s] architecture and interior design (or ‘fitout’) as being only concerned with the space inside of [someone else’s] architecture.

Cys “Absence of Structure” 32
Figure 2.3.2 Misrepresentation of Disciplinary Relationships

The view that the discipline of interiors can only operate within architectural form, and similarly that landscape only operates in the spaces outside architecture is too simplistic and does not represent the true role and scope of these complex disciplines.

Figure 2.3.3 Disciplinary Relationships

This diagram is more appropriate representation and indicates that, although each discipline has a different role, their work often overlaps and combines disciplines.
The Parc de la Villette combines a series of architectural interventions with a landscape masterplan. The “folies” are designed to act as the sum of the programmatic functions of the park spread out in a grid format.

The masques as a whole are seen as a series of architectural interventions, however many such as the public theatre act as interior ‘rooms’ within the larger context of the Masque’s environment.

As an exterior park the definition of a landscape project is implicit, however the level of enclosure and intimacy of the park allows it to be understood as an interior space.
2.3 THE ROLE OF THE BUS SHELTER

Architecture, landscape and interiors are often viewed as separate disciplines, with architecture being responsible for the built form, interior architecture for the spaces inside this built form and landscape architecture for the spaces outside (see pp. 17-18). However many projects do not fit into just one of these categories but sit somewhere in between them. Bernard Tschumi's Parc de la Villette (fig. 2.3.4) sits somewhere between architecture and landscape; John Hejduk's Berlin Masques (fig. 2.3.5) could be said to sit somewhere between architecture and interior architecture; and Manhattan's Paley Park (fig. 2.3.6) is a space in between interior and landscape. It is projects such as these that allow us to test the conditions and limits of each discipline. By choosing the program of a bus shelter, that is not conventionally understood as interior space, we are better able to test how shelter, place-making and atmosphere can be used to create an experience of interiority.

To gain an understanding of the role of a bus shelter, several examples have been selected and analysed. Each of the examples plays a different role within the urban environment: an architectonic sculpture that creates an interior space within its form (fig. 2.3.7-2.3.8); a series of inhabitable architectural expressions/works of art that create points of interest within the city (fig. 2.3.9-2.3.12); a series of urban furniture pieces that use materiality to create a strong link to place (fig. 2.3.13); and shelters whose use of control, regulation and exclusion create interiority (fig. 2.3.14).
This shelter acts as an architectonic sculpture and creates a sense of interiority within its form. The two-tone colour scheme where the interior is mainly grey and the exterior mainly an orange/brown colour emphasizes threshold and creates an interior/exterior dialogue.

The Busstops project in Hanover, Germany, invited notable architects and designers from around the world to design a bus shelter within the city. In this project the bus shelters act as three-dimensional, inhabitable artworks that provide individual points of interest throughout the city.
These tram stops designed by Despang Architekten act as pieces of urban furniture. They have a set of defined minor alterations in form between different elements at each stop, and major alteration in materiality between stops to create a defined series. The materiality has been specifically chosen to reflect the surrounding area which not only helps create a strong connection between object and site but helps with way-finding in that people are able to recognise stops through materiality.

Curitiba has embraced a BRT or Bus Rapid Transport system with fully enclosed shelters. The entrances are controlled and one must purchase a bus ticket to gain access into the shelter. This threshold creates an interior space through engaging with concepts of control, exclusion and regulation.
Generic steel and glass/Perspex bus shelters appear in many cities around the world. These share a similar structure and aesthetic that appears to have no connection to their location.
This is an example of a common bus shelter design found in Wellington’s central city. The use of glass for the walls and roof allows no sense of retreat or withdrawal from the surrounding urban environment. The three sided form provides no sense of threshold and minimal shelter from the elements with sun wind and rain often penetrating into the shelter.

* Note: measurements are approximate
It is harder to understand the role of the generic steel and glass/Perspex bus shelters that appear in many cities around the world (fig. 2.3.15-2.3.18). They appear more than simply street furniture, but not quite architectural. The transparency, limited enclosure and lack of protection from the elements also restrict their ability to be considered an interior space (fig. 2.3.19). However, if one considers the bus shelter through the lens of movement, then a sense of interior space emerges. Attiwill describes a student project (fig. 2.3.20) as follows: “A street vendor selling photographs...disrupts the flow of movement and produces intensities around moments of stillness...The situation analysis and interior mapping by Alice Kohler titled *Interior Plan. Movement and Stillness* observes processes of arrangement and formation in response to forces of movement and intensification in the production of an interior” (“Urban and Interior” 18). By taking this mapping technique and applying it to the site of urban bus shelters in Wellington City (fig. 2.3.21-2.3.26), the same evidence of interiority emerges. As such these bus shelters can be understood as a moment of pause within the flows of urban life and are shown to be suitable vehicles to test our understanding of interior space.
A student project by Alice Kohler demonstrates how a moment of pause or temporary consistency within flows of pedestrian movement can create a form of interiority.
Evidence of interiority emerges in the spaces defined by the four bus shelters.
Even though there is no physical shelter structure the temporary stillness created by those waiting at the stop creates a form of interiority.
INVESTIGATION ONE

BUS STOP AS MOMENT OF PAUSE / INTERIOR AS SHELTER
3.1 INTRODUCTION

In Section 2.3 it is identified that bus shelters act as a moment of pause within pedestrian flows. As discussed by Attiwill in the book *Urban Interior*, the construction of interiority involves a stabilising of forces and “temporary consistency” (22). This is seen in the stillness of those waiting inside the bus shelter in contrast to the flows of pedestrian movement surrounding it, and constructs an interiority that is separate from, although reinforced by, the built form. The role of built form becomes “to enclose and contain through processes of inclusion and exclusion” (Attiwill 22), creating an interior that is constructed through an experience of shelter from the flow of movement; from the weather; and from the surrounding urban environment. Therefore the expression of this moment of pause becomes an expression of shelter; of retreat and protection from the movement of pedestrian flows and hectic rush of urban life.

3.2 METHOD

This investigation follows the design process as detailed in Figure 1.6.1. Initial concepts are generated through experiments in form while adaptation to site and programmatic constraints is undertaken in the design development stage (fig. 3.2.1)
3.3 BACKGROUND

Shelter is both the title given to this typology of structure - bus shelter; and the intrinsic need that brought about the first experience and inhabitation of interior space. As stated by Caan, while the first discovery of interior space in the form of caves may have been by chance, or an “instinctual flight from the hostility of the exterior world”, the decision to remain in this interior space was an intentional act of design that changed our species forever (15). The Oxford English Dictionary defines shelter both physically as a “structure affording protection from rain, wind, or sun; in a wider sense, anything serving as a screen or place of refuge from the weather”, and in terms of a “sensory or emotional experience” as “the state of being sheltered; the state of being protected from the elements; security
from attack...to seek, find, take, etc. shelter... under the shelter of = protected by” (qtd. Caan 17). This suggests that the decision to inhabit and construct the first interior spaces was based on more than an appreciation of the physical protection offered, but was part of a deeper human need for a place to rest that offers both physical and psychological shelter and protection (Caan 29).

Caan discusses the experience of interior space as related to the experience of the womb (31), and as the origin of our “innate longing for shelter” (29). However, as James Maston Fitch said, “unlike the womb, this external environment never affords optimum conditions for the development of the individual”, thus the role of the interior becomes that of a “bridge between the realities of the built world and the ideal conditions that we seek” (qtd. Caan 31). As such the interior can be understood as a place of retreat or “buffer...between ourselves and the world at large” (Caan 32). Bachelard links ideas of retreat to primitive, innate responses “based on animal movements of withdrawal, movements that are engraved in our muscles” (91). He exhibits a fascination with “nest” or “shell” like environments that invite possession, and highlight the primitive, physical pleasure humans experience through the retreat into an intimate space (91).

The thin, transparent walls of the bus shelters that populate the urban fabric of Wellington do not address these psychological aspects of shelter which run parallel with a physical space of rest. Both physical and psychological perceptions of shelter are destroyed through the penetration of
sun, rain and wind into the space. The transparency of the walls also affords little sense of retreat or buffer from the exterior environment. Therefore to create a bus shelter that can act as a physical and psychological moment of pause and retreat from the outside world, an alternative design is needed that responds on a deeper level to the condition of shelter.

3.4 PRECEDENT ANALYSIS

When investigating precedents that dealt with concepts of shelter and retreat I looked to the work of Peter Zumthor, James Turrell and Tadao Ando among others. I found Ando’s work of particular relevance after reading his theoretical writing which investigates the creation of a buffer between the individual and the exterior environment. He describes a wall as a tool used to “delineate a space that is physically and psychologically isolated from the outside world” (128). To Ando the wall enables the conditions of habitation through a constant tension between interior and exterior; and acceptance and rejection - “It is a central concern of habitation to keep out the external world and to protect the world inside, to accept and assimilate only those aspects of the world that promote the maintenance of the inner realm” (Ando 24). Through the act of cutting into the wall Ando allows nature, in the form of sun, wind, rain and external landscape, to be appropriated by the wall and become aspects of the architectural space within (Ando 24).
Ando uses walls to create an interior space that is separated from the exterior world then uses cuts into that wall to create an awareness of that separation.

Like Ando, Zumthor's interior spaces feel separate from the outside world. A similar limited material palette and use of light as a focal point is apparent in both their works.

Light as a focal point is a major concern of Turrell's work. Existing inside the crater of an extinct volcano, Roden Crater demonstrates the same separation of interior from exterior as seen in the work of Ando and Zumthor.
3.5 BRIEF

3.5.1 AIM
This investigation tests how shelter can be used as a lens to design interior space. The concept of the bus stop as a moment of pause argues that an interior space is created through shelter from pedestrian flows, however this is not immediately apparent to the everyday user in current bus shelters. The concept of shelter is used to create a stronger sense of interiority and an enhanced experience of waiting.

3.5.2 SITE CONSTRAINTS AND PROGRAMMATIC REQUIREMENTS
These shelters are to be located in central Wellington as an alternative to the current steel and glass shelters and will be placed on the sites of current shelters. Some will also be placed at bus stops that do not have a current shelter, but where it has been judged that there is sufficient room for one to be constructed. At each site the proposed shelter must be able to hold a similar number of people as the original shelter(s) on that site, or if there was no shelter, as other shelters on the same route. The proposed shelters must leave sufficient room on the footpath for pedestrians to get past, a minimum 1.2m or ideally at least 1.8m (Auckland Regional Transport Authority 27), provide a greater degree of protection from the weather than original shelters, be wheelchair accessible and allow those waiting within the shelter to see approaching buses.
### 3.5.3 KEY IDEAS

Designs should engage with the following concepts (fig. 3.5.3.1) extracted from background research and precedent analysis in Sections 3.3 and 3.4.

<table>
<thead>
<tr>
<th>BACKGROUND ANALYSIS</th>
<th>PRECEDENT ANALYSIS</th>
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</thead>
<tbody>
<tr>
<td>Movement and stillness (moment of pause)</td>
<td>Use of wall to delineate space separate from outside world</td>
</tr>
<tr>
<td>Shelter from pedestrian flows</td>
<td>Concept of ‘cutting into’ outside walls to let in sun/wind/rain</td>
</tr>
<tr>
<td>Shelter from elements</td>
<td>Light as a focal point</td>
</tr>
<tr>
<td>Shelter/retreat from rush of urban life</td>
<td>Use of materials with natural/raw feel</td>
</tr>
<tr>
<td>Sense of protection/security</td>
<td>Simplicity of form</td>
</tr>
<tr>
<td>Screen or space of refuge</td>
<td>Limited material palette</td>
</tr>
<tr>
<td>Concept of nest/cradle</td>
<td>Tactility of materials</td>
</tr>
<tr>
<td>Rest/comfort</td>
<td>Solidity/robustness of form</td>
</tr>
<tr>
<td>‘Womb-like’ environment</td>
<td></td>
</tr>
<tr>
<td>Buffer between individual and world at large</td>
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</table>

*Figure 3.5.3.1 Key Ideas and Concepts*
3.6 CONCEPT GENERATION AND DEVELOPMENT

The following pages illustrate the results of concept generation for this first investigation. Through this stage five key ideas have been identified and explored. These are the creation of an individual space of retreat; the creation of a buffer between the individual and the outside world; limiting and filtering of light; the use of simple forms and forms that derive from that of a cave; and the use of materials with a ‘raw’ or ‘natural’ aesthetic. These five key ideas are examined in more detail and are used as criteria to examine the developed design against.
3.6.1 CREATION OF INDIVIDUAL RETREAT SPACE

One of the first themes explored was the creation of individual retreat spaces within the larger form of the bus shelter. These small ‘closet’ like spaces are formed on the intimate scale of the human body to enclose the inhabitant and heighten the sense of retreat and withdrawal from the outside world. To enter into these spaces is to experience an ‘animal-like’ withdrawal into a small, sheltered space referencing the concepts in Bachelard’s discussion of retreat (Section 3.3). In initial experiments I found that the creation of these individually enclosed spaces of retreat severely limited the capacity of the bus shelter. Further concepts explored the idea of creating individual seating spaced out within a larger enclosure, and then when this also resulted in reduced seating capacity or very large shelters, adjacent seating but with demarcations to indicate individual seats.
While individually enclosed spaces on the scale of the human body increase the sense of retreat and withdrawal from the outside world, these do not work in the context of an inner city bus shelter due to issues of scale.
3.6.2 CREATION OF A BUFFER BETWEEN THE INDIVIDUAL AND THE OUTSIDE WORLD

The placement of a screening element between users of the bus shelter and the road is used to create a greater sense of interiority without eliminating the ability to view approaching buses. By creating a physical barrier between the bus shelter’s occupants and the road the feeling of safety and retreat is increased. This also engages with the idea of a buffer between the individual and the outside world as discussed in the theoretical work of Ando and Caan. The screening element also serves to limit and filter the natural light into the space creating a greater sense of interiority.
Entire shelter acts as a screening element, this allows good view of approaching buses but limits sense of separation and protection.

Solid form of shelter creates sense of separation and protection, however views of oncoming buses are limited.

Seating is a solid element to create sense of protection, screening element in the front of the shelter acts as a buffer while still allowing users to see buses approaching.

Figure 3.6.2.2 Development of a Buffer between the Individual and the Outside World

The use of a screening element creates an interior space that has a sense of separation while still maintaining a connection to the outside world.
3.6.3 LIGHT

By controlling, filtering and limiting natural light it becomes a focal point and an object of beauty and contemplation, rather than an everyday phenomenon that is taken for granted. By limiting the amount of light within a space a sense of interiority and retreat from the outside world is created, as seen in the works of Ando, Zumthor and Turrell (fig. 3.4.1-3.4.3).
Shelter is full of light but filtered through a screen-like enclosure

Light is limited to a focal point created through a void in a solid enclosure

Light is limited and filtered through a screening element in the front of the enclosure

*Figure 3.6.3.2 Development of Light as a Focal Point*

Selected concepts are the same as for Section 3.6.2 as the creation of a buffer between the individual and the outside world also serves to control, filter and limit the natural light within the space.
Figure 3.6.4.1 The Evolution of Early Forms of Shelter

The curved forms of many early forms of shelter are reminiscent of the form of a cave as the earliest experience of shelter.
3.6.4 THE FORM OF SHELTER

Figure 3.6.4.1 describes the evolution of early forms of shelter, many of which share formal qualities with those of a cave - the earliest form of shelter and interior space. These same forms have been used in concept generation to reference these primal experiences of shelter (fig. 3.6.4.2). The curved forms of many of the designs are informed by Bachelard’s discussion of ‘nest’ or ‘shell’-like spaces of retreat.
3.6.5 MATERIALITY

Ando’s use of a highly restricted material palette, often including only concrete, wood and glass, creates spaces that have a quality of silence and contemplation. The contrast between these pared-back spaces and the over-stimulated urban environments that many of his works sit within creates a sense of retreat and escape. Concrete and wood have a tactility that is lacking in many modern buildings of steel, glass and painted surfaces, through surface qualities and patina that tell a story of their formation, age and use. It is for these reasons that I have chosen to use concrete and wood as the main materials for this stage of concept generation (fig. 3.6.5.1).
**Concrete**

While concrete could be said to best reference the materiality of a cave as the earliest form of shelter, through experimentation it was found that using a large amount of concrete created spaces that felt cold and harsh. Concrete is often used in urban street furniture for its strength and hard-wearing properties, however if the surface of the concrete is smooth it can become a target for graffiti. Unless the concrete is in direct sun it can be cold to the touch and not very comfortable as a seating surface, however the addition of a heating system within the concrete can give extra comfort in cold weather.

**Wood**

The use of exposed wood in interior spaces is proving to be beneficial to human health and wellbeing, in that it provides connection and contact with nature (Taggart 97). The warm colour and tactility of wood makes it appealing and it can often humanise a space by providing a sense of scale and connection to the natural world. Many types of wood are not sufficiently durable and harsh chemical treatments are applied to make them suitable for exterior use. However it is proposed that any wood in this project be “Accoya” wood which is made in New Zealand from sustainably sourced radiata pine which has undergone a non-toxic acetylation process. This increases the strength and durability of the wood and makes it suitable for exterior use without any further treatment.
3.7 CONCEPT SELECTION

The five identified key ideas (Sections 3.6.2-3.6.5) have been used to select the above concept (fig. 3.7.1) for further development through in-site application. The form of this concept is based on an abstraction of a cave or ‘nest-like’ form. The two interlocking curved forms create a sheltered seating area and a buffer between occupants and the outside world. These forms also filter light into the interior space between the curved members. The curving forms are designed to be made from laminated beams of “Accoya” timber. The only element that this concept lacks is the creation of individual spaces of retreat, which will be addressed through further development.

Figure 3.7.1 Selected Concept - Front and Side Views
The Wellington landscape is dominated by the ring of hills that surround the city. These have mostly been designated as a green belt, allowing for glimpses of green hills throughout the urban centre. The forms of these hills have been applied to the bus shelters to strengthen their connection to context and distinguish between shelters in different areas of the city. This also helps to create a link between the urban environment and the natural landscape that it sits within.
Figure 3.7.3 Existing Bus Stops

To determine the placement of proposed shelters a survey of existing bus stops was carried out. The results indicate where existing shelters are located and which of the bus stops that do not have existing shelters have sufficient room for a shelter to be constructed.

Key
- Existing Bus Shelter
- Existing Bus Stop Suitable For Shelter
- Existing Bus Stop Not Suitable For Shelter
Figure 3.7.4 Site Selection

Five routes of four stops each have been chosen as the selected sites for this investigation. Stops not included are either slightly out of the central city or experience a low level of use.

Key
- Cambridge / Kent Terrace
- Courtenay Place / Manners Street
- Taranaki Street
- Victoria Street
- Lambton Quay
Cambridge Terrace and Kent Terrace are adjacent one way streets that mark the eastern boundary between the central city and the beginning of the suburbs. They have a high traffic flow and both consist of three lanes. Towards the northern ends of the roads is the waterfront and entertainment district where there is a high volume of pedestrian traffic, however this reduces as you travel southward. As most of the bus stops on this route consist of a single shelter and do not experience high use the size of these shelters is similar to the size of the original shelters. The form of the shelters reflect the form of the surrounding hills, for example this series uses the form of Mt Victoria.
Taranaki Street runs north-south through the middle of the central city. It experiences a high volume of vehicle traffic and a moderate volume of pedestrian traffic which, similar to Cambridge and Kent Terrace, is increased at the northern end which joins onto the entertainment district. As this is not a main bus route these shelters are again a similar size to original shelters. Within each series of shelters, the form of each individual shelter changes slightly according to the position of each shelter in relation to the hills. In figure 3.8.4 you can see how the sloping form of this shelter reflects the view out to the surrounding hills and helps bring an awareness of the surrounding natural environment into the urban realm.
Victoria Street runs parallel to Cambridge and Kent Terraces and Taranaki Street on the western side of the city. It experiences a high volume of vehicle traffic and a moderate volume of pedestrian traffic. As with the Cambridge and Kent Terrace and Taranaki Street bus routes, the Victoria Street bus route does not experience a high volume of passengers and bus stops have only one existing shelter. Therefore these shelters are of a fairly small size, similar to the size of the original shelter. Again you can see how the form of the shelter reflects a glimpse of surrounding hills through the buildings (fig. 3.8.6).
Courtenay Place runs through the entertainment district of Wellington City and experiences a high volume of pedestrian traffic and moderate vehicle traffic. Bars, restaurants and cafes make up the majority of the businesses with a few retail especially in Manners Street. These streets are part of the ‘Golden Mile’ or main route through the central city and have increased footpath sizes. Courtenay Place and Manners Street are on a main bus route and bus stops with three or four individual shelters per stop. To accommodate the large number of passengers the size of these shelters is much larger than those on the previous routes.
Also part of the ‘Golden Mile’, Lambton Quay is Wellington’s premier shopping district. Most buildings along this street have four or more stories with retail on the ground floor and offices above. Pedestrian traffic is very high and vehicle traffic is moderate. Lambton Quay is part of the same bus route as Courtenay Place and Manners Street and as such experiences a high volume of passengers. These bus shelters have been designed at a similar large size to accommodate the high numbers. These bus shelters are in sharp contrast to the surrounding urban environment both in form and materiality and aim to bring a connection to the natural world back into the city.
The curved form of the bus shelter provides a sense of separation and shelter from the outside world.
Figure 3.9.2 Section Views

Section cuts show the spacing and placement of “Accoya” beams, placement of seating and the subtle demarcation of individual seating through wider beams.
3.9 DESIGN FEATURES

3.9.1 FORM
The simple curved forms of these designs reference the cave as the earliest form of shelter, and create a feeling of comfort and protection. As stated by Bachelard “the grace of a curve is an invitation to remain. We cannot break away from it without hoping to return. For the beloved curve has nest-like powers; it incites us to possession, it is a ‘curved corner’, inhabited geometry” (147).

3.9.2 INDIVIDUAL SPACE OF RETREAT
Through the placement of wider wooden beams at set intervals along the rear of the shelter (fig. 3.9.2) a subtle demarcation is created to enhance the experience of individual space within the overall form. The curved form of the rear wall cradles inhabitants of the space and creates a sense of withdrawal and retreat into a space of shelter such as an animal experiences when it retreats into a nest or den.

3.9.3 BUFFER BETWEEN INDIVIDUAL AND OUTSIDE WORLD
While the rear wall of this shelter is a solid form that creates a feeling of safety and protection, the front wall adjacent to the road is made up of curved wooden beams evenly spaced apart. This
references both Caan and Ando's theoretical work which talks about interior space as the experience of a buffer between the individual and the outside world (Section 3.3). This also allows those within the shelter to see approaching buses while still experiencing a buffer between interior and exterior space.

3.9.4 LIGHT
The spacing of the wooden beams in the front of the shelter filters the light, allowing shafts of natural light to penetrate into the interior space. The light becomes a focal point within the space and, in the right conditions, will create patterns of light and shadow within the shelter. The limiting of natural light also references the darkened spaces of a cave or animal den as spaces of retreat and shelter.

3.9.5 MATERIALITY
This shelter will be made from “Accoya” acetylated wood which is both durable and environmentally friendly. The use of wood humanises the space and provides a connection to nature, which is beneficial to human health and well-being. Wood is also one of the oldest building materials and references the materiality of early forms of shelter.
3.10 DISCUSSION

3.10.1 DESIGN OUTCOME

Form acted as the main driver of this design process (see fig. 3.2.1) which led to a series of designs that have a strong, unique form, and limited variation between sites. I feel that these designs are an improvement on the current Adshel shelters as they are not a mass-applied generic solution, and are designed to enhance the waiting condition through the experience of an interior as shelter. However the concept of interior as shelter relies on the creation of a sense of retreat and withdrawal and the experience of a buffer between the individual and the outside world. This is difficult to resolve with the program of an inner city bus shelter as the need for a visual connection between those in the shelter and approaching buses; the placement of bus shelters on existing footpath space; and current footpath widths in the Wellington inner city (approx. 2 - 6 meters) all severely limit the design options. While proposed alternative shelter designs enhance the experience of shelter through a change in form and materiality, they do little to challenge the status quo of a bus shelter. This led to the decision to not develop or refine these designs further, but to undertake a second investigation which proposes shelters on a ‘spine’ bus route on the edge of the inner city where there is far less restriction in scale. This allows for increased freedom of design and the ability to challenge the role of the bus shelter in our urban environment.
3.10.2 RESEARCH FINDINGS

Initial research revealed that shelter and interior space share a parallel history whereby the discovery and inhabitation of the first interior space of a cave arose out of a desire for shelter. This desire for shelter led to the continued inhabitation of found interiors and to the construction and development of man-made interior space. The buildings we currently inhabit are so far removed from these early structures that the condition of shelter is taken for granted and, in many circumstances is no longer experienced on a tangible level.

This research identifies five key ideas that contribute to creating a tangible experience of shelter - the creation of an individual space of retreat; the creation of a buffer between an individual and the outside world; the control and limiting of natural light; the use of simple forms that reference early forms of shelter; and the use of a limited material palette and materials that portray their formation and history.

Most of these ideas also imply an interior condition. The creation of an individual space of retreat implies an intimacy and reduction in scale that is implicitly interior. The creation of a buffer between the individual and outside world and the control and limitation of light are also defining features of interior space. Through referencing the form of a cave and other early forms of shelter these designs also reference the forms of the first interior spaces experienced by the human race. By using simple forms and a limited material palette the reduction in stimuli also creates an experience of interiority. The fact
that the key ideas used to create an experience of shelter can also be said to create an experience of interiority exemplifies the link between shelter and interior space, and highlights how designing through the lens of shelter can be used to shape an experience of interiority.
INVESTIGATION TWO

BUS STOP AS PUBLIC SPACE / INTERIOR AS PLACE-MAKING
4.1 INTRODUCTION

While in peak times city bus shelters are full to overflowing with commuters travelling to and from work, at other times they often sit empty and unused. This investigation looks at how bus shelters could be designed as public spaces, that can be used and enjoyed by all, not just those waiting to catch a bus, thereby increasing the use and usefulness of the bus shelter. In this investigation the construction of interiority through place-making will be examined.

4.2 METHOD

This investigation follows the design process detailed in Figure 1.6.1. In this investigation it is program, rather than form that drives the design process, however adaptation to site and programmatic constraints is undertaken in the design development stage as in the previous investigation (fig. 4.2.1).
4.3 BACKGROUND

French anthropologist Marc Augé defines spaces within transport infrastructure as non-places, in that they lack identity and relation to context, as well as encouraging isolation and a lack of social interaction in individuals (94). In contrast, public space is described by Rochus Urban Hinkel, architect and academic at the Royal Melbourne Institute of Technology, as being “accessible to anyone at anytime...the space of community and social interaction, the space in which public life unfolds...(it) does not pre-exist, it only emerges once it becomes activated through inhabitation and occupation” (1). This suggests that, in order to design bus shelters as public spaces a process of place-making is required to transform non-place into place. Mahyar Arefi, Associate Professor of Urban Design at the
University of Cincinnati, defines the distinction between non-place and place as the “type of mental preparedness they invoke in their user” (188) in that non-places such as bus shelters are “single-minded space” where one only expects and engages with a single use - that of waiting for a bus. Places on the other hand are more likely to be “open-minded spaces (which) inherently stimulate multi-use and ‘loitering’” (188). Arefi also describes non-places as lacking “the features that typically characterise places, i.e. diversity, surprise, ambiguity, liveability, etc.” (188).

From these descriptions of non-place versus place, the act of place-making can be seen as designing in terms of the human experience to encourage human occupation, engagement and social interaction. This same description also commonly applies to the practice of interior architecture. Caan describes an understanding of interior design as “design for human habitation... (where) the designer first conceives of space in terms of the experience of occupation” (122). This is furthered by interior designer Caroline Vains whose definition of interior qualities includes place-making, participation, occupation and community (qtd. Attiwill 63).
4.4 PRECEDENT ANALYSIS

American architect and educator John Hejduk’s conceptual project “Berlin Masque” investigates how small scale architectural interventions (fig. 4.4.1) can be used to stimulate and revive the “theatricality of urban life” (McGregor 64). Two distinct strategies have been used to achieve this: first the architectural interventions or ‘masques’ can be seen to be designed as individual ‘characters’ which exist in their own terms and in dialogue with one another. Secondly each of the masques has a specific program which encourages human engagement with the masques themselves; between individuals; or with specific site conditions e.g. wind tower, watch tower or public theatre. These strategies create an architecture of spectacle whereby the public is both observer and participant, a concept which existed in historical theatre productions but is here brought into the urban realm.

Bernard Tschumi’s Parc de la Villette located in Paris, France is another example of a series of small scale architectural interventions (fig. 4.4.2) used to create public engagement. Tschumi’s self titled “folies” act as “building-generators of events” (Hays, Damiani & De Michelis 49) which have been designed using the concept that, as a whole, they provide the programmatic needs for the range of events that happen within the park. Their uniform bright red colour allows them to be seen as parts of a whole, but also acts as a place-making tool, allowing the public to recognise the “folies” as specific
Hejduk’s ‘Wind Tower’ transforms the natural phenomenon of wind into a spectacle for the public to engage with.

The “folies” utilise a ‘kit-of-parts’ to create a series of architectural interventions that act as parts of a whole. Incremental transformations in form ensure that each “folie” is a unique structure while still being easily recognizable as part of a series.

This tiny architectural intervention transforms an existing staircase into a communal space of social interaction.
places within the park where programmes/events/interactions will occur. Another strategy employed by Tschumi is his use of a kit-of-parts allowing each “folie” to exist as an individual, unique structure while also being clearly part of the same whole.

New Zealand design group OH.NO.SUMO’s “Stairway Cinema” (fig. 4.4.3) transforms an existing staircase into a pop-up cinema that screens online videos. The existing site is described as a “hard-scape” and a “poor space for social interaction” (OH.NO.SUMO). Dominated by bus stops and laundromats, OH.NO.SUMO aimed to turn this space of “hard waiting”, where individuals retreat into the solitude of personal media devices, into an architecturally framed, fun and social experience (OH.NO.SUMO). This project provides a clear example of how a process of place-making through architectural intervention can transform a non-place into a place and an individual experience into a social and communal one.

4.5 BRIEF

4.5.1 AIM

This investigation will test how interior space can be created through the lens of place-making. By engaging with features that define place such as diversity, surprise, ambiguity and liveability (Arefi
188), these designs transform the bus shelter from non-place to place. Through this the bus shelter can become an open-minded public space that encourages social interaction and engagement from a diverse public, not just those waiting for a bus.

4.5.2 SITE/PROGRAMMATIC CONSTRAINTS
To create bus shelters that act as public space and encourage occupation by all, not just those waiting for a bus, the size of the shelters need to be enlarged. Therefore in this investigation the proposed shelters will not be sited in the same positions as existing bus shelters, but will instead be sited along a proposed ‘spine’ route through the central city. The size of these shelters will be dictated by predicted stop demand up to a maximum of 85 square meters. Shelters also need to accommodate standard requirements of providing seating, shelter from sun, wind and rain, wheelchair access and ensuring those inside the shelter can see approaching buses.

4.5.3 KEY IDEAS AND CONCEPTS
The following concepts (fig. 4.5.3.1) have been drawn from background and precedent analysis in Sections 4.3 and 4.4. These concepts will be used in this investigation to engage with the concept of place-making and creating public space.
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<td>Architecture of spectacle</td>
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<td>Open-minded</td>
<td>Buildings as ‘characters’</td>
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<td>Stimulates multi-use and loitering</td>
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<td>Social and Communal Experience</td>
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<tr>
<td>Design in terms of human experience</td>
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*Figure 4.5.3.1 Key Ideas and Concepts*
Wellington is divided into five central catchments to analyse which is best suited for a public transport spine route. Data indicates highest demand in North, North East and North West Catchments.

**How far would you walk to a stop?**

Survey results indicate a preference for under ten minutes walk to a bus stop.
Figure 4.6.2.2 Pedestrian Usage of Connecting Routes and Crossings to the Waterfront.

Data shows greater numbers in the middle of the central city.

Figure 4.6.2.3 Bus Alighting

Data shows greater numbers at the middle and either end of the central city

Figure 4.6.2.4 Selected Sites

Sites are grouped in the middle and at either end of the central city as informed by Figures 4.6.2.2-4.6.2.3
Figure 4.6.2.5 Walking Distances to Key Points

Adjacent bus stops are within or just over five minutes walk of each other. Key points along the waterfront and much of the central city including the ‘Golden Mile’ are also within five minutes walk of a bus stop.
4.6.1 ROUTE SELECTION
The Greater Wellington Regional Council is currently undertaking a study on different options for a public transport spine through the central city. The results of this study were used to determine the best route through the central city for the proposed public transport spine within this investigation. Only three of the five “catchments” (fig. 4.6.1.1) identified in the study experience a high demand for public transport (fig. 4.6.1.2) and, of those, two include main central city streets which experience high volumes of pedestrian traffic. This raises the issue of pedestrian safety and also means they have limited space for infrastructure. However the north-eastern alignment, while experiencing a lesser demand for public transport than the other two areas, is not a main pedestrian thoroughfare, has an almost entirely flat gradient and ample room for infrastructure. It is within close walking distance to all areas in the north and north-western parts of the central city, with the added advantage of being close to many major attractions and destinations along the waterfront. With these considerations in mind I have selected the north-eastern alignment as the proposed site for this investigation.

4.6.2 SITE SELECTION
Analysis of current bus use (fig. 4.6.2.2), pedestrian movement (fig. 4.6.2.3), preferred walking distance between stops (fig. 4.6.2.1) and key points along the route (fig. 4.6.2.5) has led to the selection of twelve sites between the Wellington railway station and the beginning of the suburb of Mt Victoria (fig. 4.6.2.4).
1. CONTEMPLATION SPACE
2. SOCIAL/COMMUNAL SPACE
3. EXHIBITION SPACE
4. SOCIAL/COMMUNAL SPACE
5. "WAYPOINT" NAVIGATIONAL TOWER
6. WIND FOREST
7. POP-UP CAFE
8. MEETING SPACE
9. RAIN CONTEMPLATION SPACE
10. LOOK-OUT / VIEWPOINT
11. DEBATING SPACE
12. NAVIGATIONAL SPACE
13. SOCIAL/COMMUNAL SPACE
14. “WAYPOINT” + SOCIAL SPACE
15. VIEWING BOX
16. “WAYPOINT” + SOCIAL SPACE
17. “WAYPOINT” NAVIGATIONAL TOWER
18. PUBLIC CINEMA
19. SOCIAL/COMMUNAL SPACE
20. SOCIAL/COMMUNAL SPACE
4.7 CONCEPT GENERATION AND DEVELOPMENT

Initial concept generation was used to test the possibilities of alternative/combined programs for a bus shelter as well as ways in which the design can better support and encourage social interaction. The previous pages (91-92) show the results of this experimentation.

The concept of the “waypoint” that arose from this initial stage was one of particular interest: that bus shelters could act as a series of navigational points that helped users find their way around the city. While this program does provide an additional function to the bus shelter and encourage a deeper level of public engagement, it does not by itself encourage a greater degree of social interaction.

To encourage social interaction the concept of the “plug-in” was developed and appears in concepts fourteen and sixteen (see p.92). In these concepts a circular seating space is “plugged-into” the side of the “waypoint”. However this design still did not respond to many of the key ideas from research and precedent analysis such as fun, diversity and surprise. Concepts such as the public cinema, pop-up cafe, wind forest or meeting space I felt responded far more successfully to these ideas. As just one of these programs would not be suitable for application at all sites, six of the most interesting and relevant programs were chosen to act as a “plug-in”, with the “waypoint” concept acting as the consistent element across all stops.
The “waypoint” acts as a navigational reference point and is consistent across all stops. An additional “plug-in” program varies according to specific site conditions. The six variations of the “plug-in” program are: public cinema, contemplation space, pop-up cafe, wind space, social meeting space and rain space.
Figure 4.7.2 First Series

In this first series of designs the “waypoint” is a tower-like form which contains ticketing and information facilities. Seating is contained within the “plug-in” element which varies from stop to stop. A consistent formal language is used to ensure the different variations still form a recognizable series, however at this stage the shelters appear very simple and “boxy”. The facades of these shelters utilise a slatted design to increase the sense of interiority and protection from the weather while ensuring users can still see approaching buses.
Figure 4.7.3 Second Series

In the second series of designs the “waypoint” has become a more dominant feature to enable it to be more easily recognized from a distance. The sloping rooflines are a consistent design feature that gives the bus shelters a more dynamic form.
In this third series the aim was to develop a consistent kit-of-parts with only minor variations between stops to accommodate the different programs. Here each program is physically “plugged” into the “waypoint” with a form referencing Wellington’s iconic trolley-buses. A separate seating area is then “plugged” into the program. While the concepts behind this series of designs are good the physical forms are less appealing than the previous series and the shelters appear “chunky” and less interesting in their similarity.
A decision was made to assign each of the different designs to specific sites and generate a new series of designs with these sites in mind. The twelve sites were divided into six typologies based on specific site conditions, and six programs developed based on these typologies. The majority of these programs are the same as used for the previous designs, although the previous "Contemplation Space" is now the "Tree Space". For the purposes of this investigation only one site from each typology has been detailed.
Figure 4.8.1 Final Bus Shelter Designs

The final series of bus shelters utilizes a more open and approachable design and a condensed multi-function “waypoint” element. The size of these shelters range from approximately 65m² for sites where the highest use is expected to approximately 40m² for the sites where the least use is expected.
4.8 FINAL DESIGN

In this new series of designs the “waypoint” element has been reduced in size to a single solid element rather than a separate space in order to make the shelters appear less “chunky”, and read as a single space rather than several separate ones. Additional features have been added to the waypoint as detailed in Figure 4.8.2.

The main part of the shelter has been designed to be much more open than in the previous designs, so it appears more approachable and accessible to the public. As with the previous series of designs the concept of a kit-of-parts has been used in reference to Tschumi’s Parc de la Villette. This kit-of-parts ensures that the main physical features of the design are consistent across all shelters, and that the design is easily adapted to the different programs and different sites. This means that the shelters are easily recognisable as a series, and the overall concept could be applied in different locations with different site typologies and programs without issue.
Figure 4.8.2 Waypoint Design

The "waypoint" acts as a navigational element as well as allowing bus users to search timetables, routes and pre-purchase tickets.

- Solar panel generates power for lighting and displays
- Number of wooden panels indicates individual position in series as does colour coded lighting at night
- Marker indicates time until next bus arrives at stop
- Waypoint clips into roof of main shelter and provides power source for lighting
- Real-time bus information
- Touchscreen interface for ticket purchase, bus timetables and route maps, and general information
The concept of a kit-of-parts is inspired by Tschumi’s Parc de la Villette. While each bus stop has a different program, they have a consistent set of elements that allows them to be easily recognized as a series.
This typology refers to the fact that the site is dominated by hard surfaces, namely concrete and asphalt. However the location is developed into a park and the hard surfaces are interspersed with small gardens, seating and other features. In this exposed location the weather is a dominating feature; the site seems to create a more intensified experience of the weather. In response, this shelter highlights the experience of weather, in particular the rain. Rain collects in the hollowed out form of the roof; when someone enters the shelter this water cascades down between two glass panels. In wet weather this highlights current weather conditions and transforms it into a contemplative experience, in fine weather the sun shines through the glass and creates patterns of light and shadow throughout the space.
Te Papa museum is an icon and cultural landmark of Wellington City, and is the dominant feature of this site. The program of an outdoor cinema allows the museum to extend out into the wider public realm, and for the museum experience to extend to include arrival and departure by bus. The cinema within this bus shelter will become an extension of the museum’s exhibition space and will screen clips relating to current exhibitions. The concept of an outdoor cinema is derived from John Hejduk’s “Theatre Masque” and the “Stairway Cinema” from OH.NO.SUMO. This application takes it in a slightly different direction however, in that it is not a stand-alone entity but an extension of the adjacent cultural landmark of Te Papa.
This typology describes small sites where the dominating feature of the site is the surrounding trees and shrubs. This shelter references this by translating the experience of sheltering under a tree into built form. The filtering of light through the leaves of a tree and the tradition of carving your name into a tree trunk are the inspirations for the design of this shelter. The cut-outs in the double layered roof create a dappled effect of light and shadow with occasional shafts of sunlight penetrating into the space. This is suggestive of light filtering down through the leaves of a tree. Two “trunks” are placed within the shelter and pressure sensitive LED lights allow people to draw and write messages on them.
As the existence of open green spaces within the central city is limited, those that do exist become social hot-spots in fine weather. People flock to these spaces in their lunch break, after work and on the weekends to eat, socialize or simply sit and relax. This social space has been developed with two seating areas. The curved forms of the seating encourage engagement and social interaction, while the addition of tables allow them to be used as picnic or meeting spots when the number of passengers utilizing the shelter is low. In peak times these tables are sunk into the ground to cater to increased passenger numbers and allow for easy access to seating.
Above: figure 4.8.12 Post Office Square / Confined City Space / Pop-Up Cafe/Shop

Opposite Page: figure 4.8.13 Pop-up Cafe/Shop Interior

The selected route for these shelters runs along the boundary between the city and the waterfront. As such most of the spaces in which the bus shelters are sited are not typical of a highly urbanized city space. This typology refers to those sites that do fit into this category and have a high volume of pedestrian activity. To respond to this the program of a pop-up cafe/shop has been selected. This site has often been popular for pop-up businesses, and this typology respond to this by creating a permanent infrastructure to support this. This shelter offers a space for businesses to hire to promote their food or products. It is limited to short term hire and local small scale businesses to provide an ever changing variety of high-quality local products.
The typology of an “undeveloped hardscape” is similar to that of a “developed hardscape” in that it is dominated by hard surfaces but, in this case, has not been developed with other features. Wellington is known for strong winds, and in this carpark space adjacent to the harbour wind becomes a predominant feature of the site. To respond to this the program of a wind space has been selected. A forest of “wind-whirlers” dominates the design of this bus shelter. As reference to John Hejduk’s “Wind Tower” these elements provide an indication of the strength of the wind at any particular time. The canopy of swirling forms emits a slight whistling noise turning what many consider a negative feature of Wellington’s weather into a visual and aural display.
4.9 DESIGN FEATURES

The concept of a kit-of-parts from Tschumi’s Parc de la Villette, the multiple programs and theatricality of Hejduk’s Berlin Masques, and use of architectural intervention to transform a space of solitary waiting into a fun social and communal experience as in OH.NO.SUMO’s Stairway Cinema have been combined within the design of these bus shelters.

The tower-like “waypoint”, whose design references the multitude of vertical extrusions and poles within our urban environment, acts as a consistent feature and marker that declares not only that “this is a bus shelter” but also that “this is a place”. The “waypoints” are placed to the side of each shelter and separate from the programmatic and seating areas, to allow sufficient space for those wishing to use the ticketing and information services located at the base of the waypoint.

These shelters have been designed to promote human occupation, engagement and socialisation by creating multi-function spaces that can be used and enjoyed by all people, not just those waiting to catch a bus. The various “plug-in” programs have been designed to be activated by human engagement, and, for those who do not wish to engage with the programmatic features of the shelter, there is a separate seating area.
By raising the floor of the shelter and using a pebble flooring, the change in level, materiality and texture are all used as place-making tools to set the shelter apart from its surroundings. The wood and glass screens provide protection from sun, wind and rain and the curved wooden seating is comfortable and encourages social interaction and a communal experience. The material palette of concrete, wood, glass, steel, pebbles and Corten steel is drawn directly from the material palette of the waterfront (fig.4.9.1) and strengthens the connection to place. The Corten steel will also weather and develop a patina according to the conditions of each site.
Arefi’s features of place - diversity, surprise, liveability and ambiguity have all been engaged with in these designs. It is a surprise that a bus shelter contains programmatic features, not just a space to wait. Each shelter contains a different program which responds to the idea of diversity, and also ensures that each shelter itself is a surprise. These shelters have been designed to improve the waiting experience of users, and as such the liveability, by creating comfortable seating, a high degree of shelter and programmatic features that work to turn the solitary experience of waiting into a social and communal one. However these shelters are also designed to be ambiguous in that they do not dictate who may use these shelters or how they should be used.

4.10 DISCUSSION

4.10.1 DESIGN OUTCOME
Program was used to drive the design process in this investigation (see fig. 4.2.1), and built form was developed based on the experience of a specific program. This resulted in bus shelters that engage with the public on a greater level, and transform the act of waiting for bus into a more ‘fun’ social experience. However by making these shelters more open to improve approachability, and by using generic features across all the structures in an attempt to create a ‘kit-of-parts’, these shelters lost a sense of character and uniqueness and failed to develop a strong formal language. These shelters
also lack a sense of atmosphere and an in-depth engagement with existing site conditions. This led to the third investigation which used the lens of atmosphere to engage with the aspects in which these designs are lacking.

4.10.2 RESEARCH FINDINGS

The concept of place-making makes a space not just a location but a specific destination, by designing it in terms of the human experience to encourage occupation, engagement and/or social interaction. This is also what the discipline of interior architecture seeks to achieve every time an interior space is constructed. Whether it is a retail, commercial or domestic environment, interior spaces are usually designed to be perceived as a destination, and designed in terms of the human experience. This demonstrates a link between the concept of ‘place’ and interior space. While every ‘place’ is not an interior space, it could be argued that to experience ‘place’ is to experience a form of interiority. The condition of being either ‘at’ or ‘not at’ a ‘place’ describes the existence of an interior and exterior condition regardless of the existence of built form. Thus, the concept of place-making can be seen to construct interiority and is a valuable tool for shaping an experience of interior space.

This research used concepts of diversity, surprise, ambiguity, liveability and open-minded space to shape an experience of interiority that is based on occupation, engagement and social interaction. In these designs these concepts are manifested through the introduction of another program into that of a
bus shelter. The shared experience of these programs constructs both a sense of ‘place’ and a sense of interiority. The role of the built form becomes that of providing a framework for this experience as seen in the precedent projects of Tschumi’s Parc de la Villette; Hejduk’s Berlin Masques; and OH.NO. SUMO’s Stairway Cinema.
INVESTIGATION THREE

BUS STOP AS NON-PLACE / INTERIOR AS ATMOSPHERE
5.1 INTRODUCTION

It became apparent in the previous investigation that not only could the conventional bus shelter be defined as a non-place, but that the sites selected, which tended to be left-over, underutilised and overlooked spaces within the city, could also be considered as such. While the previous investigation rejects the idea of non-place as undesirable, this investigation embraces the non-place nature of the sites as the design driver. These sites, while lacking the characteristics of place, still have their own atmospheric and experiential qualities which have not been prescribed but have arisen out of the specific site conditions. This investigation seeks to identify these qualities, and use them to create bus shelters that intensify the conditions, and make them tangible to the everyday user. In this investigation the lens of atmosphere is used to analyse and understand the site, and to construct an interior space which responds to the unique site conditions.

5.2 METHOD

As in the previous two investigations, the design process as detailed in Figure 1.6.1 is used to test how interior space can be designed through the lens of atmosphere. However, in contrast to the
previous two investigations where the design process started with concept generation before adapting the selected design to site conditions, this investigation begins with the site conditions (fig. 5.2.1). A period of time spent at each location absorbing and documenting the physical and atmospheric site conditions provided the basis for design experimentation. Initial sketch concepts are generated through a process of hand drawing, and only once a clear form has emerged are these concepts translated into a digital form for further development.

Figure 5.2.1 Investigation Three Design Process

This diagram shows a simplified version of the process used to reach a final design.
5.3 BACKGROUND

Atmosphere is defined by Zumthor as our emotional response to a space (13). From this definition it can be argued that all spaces have atmosphere, although it is often only in spaces that provoke a strong emotional response that we are able to recognise this. In his book *Atmospheres* Zumthor seeks to identify the conditions that create an experience of atmosphere. Many of the qualities he cites are distinctly interior in nature, such as the sound and temperature within a space as distinct from outside that space, the material selection, quality and experience of light within a space and scale and intimacy of the space in relation to the human body. From Zumthor’s conclusions it could be argued that atmosphere and interiority exist in a reciprocal relationship, whereby atmosphere is experienced through the existence of an interior condition where the atmosphere can be sensed and an exterior where it is not. This suggests that interiority can be seen to construct atmosphere and in return atmosphere can be used to construct interiority. Interior design graduate Eliza Downes gives the example of Diller and Scofidio’s “Blur Building” as a space which creates an experience of interiority through atmosphere alone without relying on physical walls or built form (qtd. Attiwill 62).
5.4 PRECEDENT ANALYSIS

Zumthor is an obvious choice to look at in terms of atmosphere, as the publishing of his book *Atmospheres* indicates that this is a primary concern in his work. In the introduction to this book Brigitte Labs-Elhert states that “words like atmosphere and mood inevitably come to mind when faced with Zumthor’s architecture” (qtd. Zumthor 7). For the purposes of this investigation, two of his well-known works, Thermae Vals (fig. 5.4.3) and the Brauder Klaus Field Chapel (fig. 5.4.1-5.4.2) have been selected for study. Although Zumthor is considered an architect, these works could both be argued to focus primarily on the experience of interior space. While the exterior forms of these two projects share a simple block-like aesthetic that gives away nothing, the interior spaces within are incredibly rich in their atmospheric qualities. From images it is the materiality and light qualities which stand out, along with simplicity, and a solemnity that is drawn from the experience of these. The interior spaces of both projects use a limited material palette of mainly stone in the Thermae Vals and concrete in the Bruder Klaus Chapel. Both have qualities of rawness and weight which combined with the uniform materiality over all surfaces creates an impression that the interior spaces have been carved out of a solid form. The outside is almost invisible in these projects, creating the feeling that when you enter you have stepped into a new world. This rejection of the exterior allows the construction of atmospheric conditions completely separate from those of the site. The elimination of external stimuli and the strong contrast between exterior and interior spaces add to the strength of the experience.
Zumthor uses qualities of light, materiality and intimacy of scale in both the Bruder Klaus Chapel and the Thermae Vals to evoke an emotional response and create an experience of atmosphere.

In Chillida's work there is no separation between interior and exterior, the atmosphere is instead created from the materialisation of personal response to space. The form, materiality and relationship between solid and void all work together to heighten the experience of the surrounding environment.
In contrast to the work of Zumthor is that of sculptor Eduardo Chillida (fig. 5.4.4). While Zumthor creates atmosphere through interior spaces that exist as separate from the exterior world, in Chillida’s work there is no clearly defined interior or exterior. Instead Chillida uses sculptural forms to frame and wrap space and create the experience of interior without defined boundaries. Here space becomes a material and the sculpture becomes less about the solid form, but instead about the voids in between (Chillida et al. 10). Like Zumthor, Chillida’s work displays a poetic simplicity and a uniform raw materiality that gives the work a sense of weight and timelessness. Unlike Zumthor however, Chillida’s work does not reject external site conditions but instead embraces them. Giovanni Carandente says of Chillida’s “Torso” sculpture “(it) established neither a confrontation nor a dialogue tout court with space; rather, it became its materialization” (Chillida et al. 6). It is this acknowledgement and understanding of the existing atmosphere of a site and materialization of this atmosphere through built form which is being sought through this final investigation.

5.5 BRIEF

5.5.1 AIM

The aim of this investigation is to test how the concept of atmosphere can be used as a ‘lens’ to understand and design interior space. This research argues that all spaces, interior and exterior,
man-made or natural, have their own atmosphere: however this can often be intangible or ignored in everyday spaces. To create bus shelters that respond to the atmosphere of each site an analysis of personal responses to the sites is used to generate a series of concepts unique to each specific site. The techniques used in the creation of atmosphere as identified by Zumthor will inform the design of these spaces, however unlike the precedent projects of Zumthor, these spaces must not reject external site conditions. Instead they must seek to materialise them as seen in the work of the sculptor Chillida.

5.5.2 SITE AND PROGRAMMATIC REQUIREMENTS
This investigation uses the same sites and proposed spine route as identified in Investigation Two (Figure 5.5.2.1). In particular, six sites along the waterfront side of this route have been selected for this investigation. Bus shelter designs must respond to unique atmospheric conditions at each site and seek to make the experience of this atmosphere tangible to the everyday user. The size of these shelters will be dictated by predicted stop demand up to a maximum of 85 square meters. Shelters also need to accommodate standard requirements of providing seating, shelter from sun, wind and rain, wheelchair access and ensuring those inside the shelter can see approaching buses.
5.5.3 KEY IDEAS AND CONCEPTS

The following concepts (fig. 5.5.3.1) have been drawn from background and precedent analysis in Sections 5.3 and 5.4. These concepts will be used in this investigation to engage with the concept of place-making and creating public space.

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<th>BACKGROUND ANALYSIS</th>
<th>PRECEDENT ANALYSIS</th>
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<td>Sound</td>
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<td>Temperature</td>
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<td>Material Selection</td>
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<td></td>
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Figure 5.5.3.1 Key Ideas and Concepts
SITE 1

Figure 5.6.1.1 Site Location

Figure 5.6.1.2 Key Words Describing Site Conditions

- EXPOSED
- HARD
- CONTRAST
- EDGE
- FLOW
- BASK
- INTENSIFY
- INTERSECT
- HARSH
WAITANGI PARK

Figure 5.6.1.3 Photographic Survey of Site
At this site the parallel flows of pedestrian and vehicle traffic meet and converge. On the edge of the city and the waterfront this is a space of contrasts - natural and man-made, city and sea, solid and void. A wide expanse, a void space that opens up to the sky and basks in its glory. Weather conditions are amplified here and dominate the experience of site.
Initial concepts explore the idea of parallel movement flows converging and flowing around the space of the shelter. The placement of seating in the middle of the space with a cut-out in the roof above make the current weather conditions dominate the experience of this space as they do in the surrounding environment.
Two curving forms enclose this space representing the meeting of pedestrian and vehicle flows at this site. The contrast between solid and void, concrete and glass, opaque and transparent echoes the contrasts present within the site. The choice of concrete as the predominant material echoes the dominance of concrete and hard surfaces in the surroundings. Sitting within this space you are not sheltered from the weather and surrounding environment but exist within and as a part of them.
SITE 2

Figure 5.6.2.1 Site Location

Figure 5.6.2.2 Key Words Describing Site Conditions

EXPOSE
EDGE
PRESENCE
CONVERGENCE
INSECURE
OVERSHADOW
LOOMING
CONFRONTING
MONUMENTAL
Figure 5.6.2.3 Photographic Survey of Site
The bulky form of Te Papa looms over this site overshadowing it with its presence. This point marks a crossroads from where multiple paths diverge to locations around the city and waterfront. The city appears a solid wall, confronting and watching your every move. You sit, exposed and insecure with nowhere to hide.
Concepts explore the idea of a bulky form as a looming presence that overshadows the experience of site. Interior spaces created give the appearance of a place of retreat, however when you enter the space you understand that you are still exposed to the watchful eyes of the city.
The bulk of this shelter is made up of a looming mass representing the overshadowing presence of Te Papa. The scale, form and materiality of this shelter are all informed by those of Te Papa. Users are seated inside a glass box where they can both observe and be observed by the city life, tying into the feeling of being exposed and ‘on show’. Inside the shelter you can feel the full effect of the dark looming form echoing the dominance of Te Papa over the site.
SITE 3

Figure 5.6.3.1 Site Location

Figure 5.6.3.2 Key Words Describing Site Conditions
Figure 5.6.3.3 Photographic Survey of Site
Figure 5.6.3.4 Personal Site Response - The Lagoon

Hidden away, forgotten, out of site and out of mind. Overlooked and ignored by the passer-by this little corner is a small, quiet, calm haven tucked away from the rush of the city. Sheltered from the worst of the weather, a shaft of sunlight creates a warm, comforting atmosphere.
Figure 5.6.3.5 Initial Sketch Concepts - The Lagoon

Initial concepts are small, simple and delicate designs that explore ideas of withdrawal and retreat into a hidden spot.
The small timber and glass cube sits perfectly in the space underneath the bridge. The small intimate scale of the shelter and the level of enclosure spatialize the feelings of retreat, withdrawal and shelter. A circular opening provides access to the shelter and a view out onto the lagoon. Inside the shelter the feeling of being tucked away in a hidden corner of the city is strong. The warm colour of the wood and shafts of sunlight through the glass create feelings of comfort and calmness.
SITE 4

Figure 5.6.4.1 Site Location

Figure 5.6.4.2 Key Words Describing Site Conditions

- Fresh
- Soothing
- Lush
- Vibrant
- Soft
- Embracing
- Relaxing
- Open
- Friendly
Figure 5.6.4.3 Photographic Survey of Site

FRANK KITTS PARK
A green oasis in the city, to enter Frank Kitts Park is to feel a sense of escape and relaxation. This verdant space embraces and soothes giving credence to the theory that contact with the natural environment provides support for human health and well being. This is not an organic nature however, but a structured nature forced to comply with the order of the city.
Figure 5.6.4.5 Initial Sketch Concepts - Frank Kitts Park

These concepts explore ideas of a space that is both open and embracing. A greater protection from the sun, wind and rain must be provided without weakening the connection to the surrounding natural environment. Concepts also convey a sense of structure and order to reflect the structured nature of this space.
Above: figure 5.6.4.6 Frank Kitts Park Bus Shelter Exterior

Opposite Page: figure 5.6.4.7 Frank Kitts Park Bus Shelter Interior

Just as this park is held within the confines of the city, so are the flowing wooden forms of this shelter gripped within a rigid concrete frame. The form is open yet embracing with seating that looks out onto the green space of the park. Inside the shelter the curved form of the timber roof dominates providing a soothing embrace and shelter from the sun and rain.
SITE 5

Figure 5.6.5.1 Site Location

Figure 5.6.5.2 Key Words Describing Site Conditions

ROUGH
HARD
NOISY
OVERLOOKED
FLOWS
CALM
EXPOSED
SMALL
SHELTER
The flow of people from the city to the northern end of the waterfront cuts through the edge of this space. A moment of calm surrounded by an endless flow of people, cars and noise, to sit within this space is as if you were in the eye of a storm.
Figure 5.6.5.5 Initial Sketch Concepts - Kumutoto

These concepts explore how to spatialise the concept of "calm within the eye of a storm". Intersecting forms reference the intersecting flows of people and traffic.
A circular form embraces the space that is the calm spot within the mad rush of city life. This space is intersected by a brick wall that references the flow of people between the city and the waterfront at this point. The materiality of the brick and concrete is a response to the dominance of hard surfaces at this site and adjacency of the old brick wharf building which dominates the far end of the carpark. Within this space you feel unaffected by the rush of city life outside. While the flow of people and traffic never ceases in this space you can relax and watch the clouds float past.
SITE 6

Figure 5.6.6.1 Site Location

Figure 5.6.6.2 Key Words Describing Site Conditions

COLD
HARD
BARE
TUNNEL
LONG
OPEN
EXPOSED
GREY
EMPTY
Figure 5.6.6.3 Photographic Survey of Site

FERRY TERMINAL
A long linear space that feels cold, empty and grey accentuated by the diffuse light from the overhead shelter and the material palette of concrete, asphalt and steel. The traffic, wind and people rush past as you stand within this space. The nature of this space is diffuse and intangible, it defies recognition from those who pass by and through this space.
Figure 5.6.6.5 Initial Sketch Concepts - Ferry Terminal

These concepts echo the linearity and tunnel like nature of the site. The simple, minimal forms are used to accentuate the bareness and emptiness of the space and the flows of movement through and past it.
The overwhelming greyness and bareness of the site is echoed in the simple forms and limited material palette of this shelter. The parallel concrete walls show a dynamism of form that reflects the traffic, wind and people rushing past the site without pause. The glass walls are a translucent barrier that oppose this flow of movement and capture you in a temporary moment of stillness. The brickwork of the historic railway station that sits opposite this site is referenced in the use of glass brick but is translated into an alternative form that does not speak of age, tradition and civic pride but rather of the diffuse and intangible nature of this site.
5.7 DESIGN FEATURES

In each of these six designs the form, materiality and experience of the shelter is derived from personal experience of the site. This creates shelters that respond uniquely to site conditions and are individual in their physical form and experience of occupation. However the design language used is not too dissimilar between shelters, allowing them to still be perceived as a series. The interior spaces do not seek to alter or reject existing site conditions but instead use them to shape the experience of interior space. The dominant features of the surrounding environment have become expressed and intensified through the built form of the shelters. The quality and experience of light, material selection, scale and intimacy of the space, and relationship to the surrounding environment are the key driving forces for each design. These are all referenced by Zumthor as influencing the atmosphere and experience of a space, and are also key factors in the design of any interior space.
5.8 DISCUSSION

5.8.1 DESIGN OUTCOME

More than any of the previous bus shelter designs, these shelters appeared to ‘fit’ within, and create a meaningful relationship with, selected sites. The designs of this investigation are also more successful at displaying a strong individual design language, developing a dialogue between interior and exterior spaces and conveying a sense of atmosphere within the interior space. In previous projects I have been more accustomed to the method of creating atmosphere as seen in the work of Zumthor, whereby external site conditions are rejected in order to intensify the experience of threshold, and create interior spaces that feel like a separate reality from the outside world. Being unaccustomed to analysing and responding to exterior spatial conditions I failed to engage with the site conditions on a meaningful level until the third investigation. By spending time physically sitting within each site and analysing personal emotional responses I was able to engage with the experiential and atmospheric conditions of sites on a level I previously had not been able to achieve.

Not only was the third investigation able to produce what I believe is the most successful design response, but the process of moving from initial concept generation to a final design solution was far smoother than in previous investigations. One factor that may have affected this outcome was that,
by working outside of a pre-existing architectural envelope, the physical constraints within which I was accustomed to working were removed. These physical constraints generally provided strong cues which I was able to use in the development of a design, and in the first two investigations I struggled to create meaningful design solutions without these constraints to work against. In the case of the third investigation I was able to take cues from my personal response to site, and this gave me something solid to work against in the development of a design solution.

5.8.2 RESEARCH FINDINGS
As stated in Section 5.1 atmosphere is experienced through an emotional response to a space (Zumthor 13), and therefore can be argued to create an experience of an interior condition where an individual experiences a particular emotional response, and an exterior where they do not. As the atmospheric conditions of a space are often not recognised unless they provoke a strong emotional reaction, in order for an experience of atmosphere to become tangible the atmospheric conditions need to be intensified. This research identifies two alternative methods of intensifying an experience of atmosphere in interior space. One method of doing this is seen in the work of Zumthor, where contrast between interior and exterior, the elimination of external stimuli, and the creation of an interior space that feels separate from the outside world intensify the experience of threshold and of an interior condition. This serves to enhance individual awareness of surroundings and increase
sensitivity to atmospheric conditions created through factors such as material selection, quality of light, scale and intimacy and the narrative of the space.

The second method is demonstrated in the work of the sculptor Chillida where the experience of a space is intensified through the materialisation of existing spatial conditions in built form. This was the method selected for this investigation, as it was judged most appropriate for the program of a bus shelter which requires an open connection between interior and exterior space. By identifying dominant features that shape the experience of a specific site we are able create built form that works to intensify and heighten our awareness of these features. Movement flows; scale and intimacy of a space; quality of light; relationship between dominant physical features; materiality; and personal response to being within a selected site were all used to inform the design process and shape interior space. The experience of interiority in this context is about a heightened awareness of site and tangible experience of atmospheric conditions.
DISCUSSION
6.1 RESEARCH STATEMENT

The main purpose of this thesis is to contribute to an existing discussion on alternative ways of understanding interior space in the context of interior architecture/design. By understanding the relationship between interior space and the concepts of shelter, place-making and atmosphere, we are able to use these concepts as tools in the practice of interior architecture, to shape a particular experience of interior space.

6.2 CONTRIBUTION TO DISCIPLINARY KNOWLEDGE

As discussed in Section 2.1, those within the discipline of interior architecture/design are no longer willing to accept architectural definitions of interior space. These definitions limit an understanding of interior space to the inside of an architectural enclosure, and can result in interior spaces being perceived as a secondary consideration within an architectural project. An increased level of discussion around this area has occurred only in the past several years with the result that, although alternative ways of looking at and understanding interior space have been identified and discussed, I could find little theoretical or research work that looked at the implications of these. This thesis works
within this gap in knowledge by taking three alternative ways of looking at interior space as identified in prior research, and using them as ‘lenses’ within the design process. This allows us to gain an understanding of how these concepts relate to an interior condition, and how they can be used in the practice of interior architecture to shape a specific experience of interior space.

This thesis also helps address the lack of discipline specific knowledge in the field of interior architecture. At present most theoretical, research and built work on interior space is framed in the context of architecture. This makes it hard for those without years of prior experience to gain an understanding of the qualities that shape our experience of interior space, and how these can be used in the practice of interior architecture. Research and theoretical work, such as this thesis, that discuss the qualities of interior space within the context of interior architecture are imperative for the development of the discipline and, in turn, for the recognition of the discipline by the general public.

6.3 INSIGHTS GAINED

This research argues that to experience shelter, place, or atmosphere is to experience a form of interiority. Most interior spaces engage with these concepts on some level, but this engagement can often be inadvertent and imperceptible. By using these concepts as ‘lenses’ to design through, this
research shows how they can be used within the practice of interior architecture. Shelter, place-making and atmosphere are all innately experiential, therefore knowledge of how we can use these concepts as tools within the design process enables us to shape interior space around a particular human experience.

It was found that designing through the lens of shelter creates an experience of retreat and withdrawal from the surrounding environment and creates interiority through the experience of a buffer between the individual and the outside world. The lens of place-making creates the experience of space as a destination and creates interiority through a shared experience of occupation, engagement and social interaction. Finally, the lens of atmosphere creates spaces that elicit an emotional response and creates interiority through the intensification of atmospheric conditions.

**6.4 REFLECTION ON DESIGN PROCESS**

As a student in my fifth year of studying interior architecture I had developed a process of design informed by recommendations from previous lecturers and tutors. This process involved starting with the narrative and experience of the project then developing a formal language around that narrative. Adaptation to site conditions and programmatic requirements typically came in the design
While the same design process was used for all three investigations, the stage at which the design was adapted to site conditions and the driving factor behind concept generation differed between investigations.
development stage once a clear narrative and concept had been created. This process of design worked well in the context of a project inside an existing architectural shell as the contrast between the interior spaces and the external site conditions created a stronger experience of threshold and heightened awareness of atmospheric conditions.

However a bus shelter exists on the boundaries of interior and exterior space and, therefore, in between the disciplines of interior and landscape architecture. In the first two investigations, by continuing to use the methods I was accustomed to using when designing inside a conventional architectural envelope, I was failing to recognise the implications of its removal. This resulted in designs that did not ‘fit’ within the selected sites and that failed to engage with the site conditions on a meaningful level. However in the third investigation I was able to engage in a different process of design suggested by my supervisor who has a background in landscape architecture. By starting with the site conditions and using these to inform the design process and generation of concepts I was able to reach a more successful design outcome.

The disciplines of interior and landscape architecture rarely intersect in the professional world as the discipline of architecture usually comes between them, both in a physical sense and in the fact that interior and landscape designers often work as specialists or consultants in the context of a larger architectural project (Cys 32). However, this thesis argues, this also creates an opportunity
for collaboration where the intersection of different viewpoints, strengths and design processes within each discipline can create added depth to a project and result in a more successful design outcome as seen in the third investigation. This is especially relevant in projects which sit in between disciplinary boundaries, such as the bus shelter. An increased collaboration between the disciplines of interior and landscape architecture also opens up exciting possibilities for a greater integration of landscape and exterior context into interior spaces, as well as the possibility for exterior spaces that are designed to engage with a human experience of space on a greater level through using qualities of interior space.

6.5 LIMITATIONS

The lack of discipline specific research around interior architecture was both a limitation and a major catalyst for this project. The selected program of a bus shelter also acted as both a limitation and design driver, as certain specifics such as the scale of the intervention, the degree of enclosure to ensure protection from the weather and the visibility to the street, both restricted the scope of the design and provided boundaries to test the design against. Ideally I would have liked to test how far the level of physical enclosure can be reduced before the understanding of interior space weakens. However I did not want this project to be purely conceptual, but rather have a realisable function and design. Another limitation was the amount of time available to complete this thesis. Each investigation
only scratches the surface of the quality it examines, and the research overall does not aim to produce any grand claims or revelations, but seeks only to promote further discussion and research around the discipline of interior architecture.

One of the greatest limitations I found was the lack of discipline specific representation techniques. Architecture has an established set of drawing conventions that explicitly convey design elements such as form, program, circulation, services and construction. However the design of interior space is innately experiential and often deals with intangible qualities such as those of shelter, place-making and atmosphere. This often makes it hard to portray the details and experience of an interior space, and can lead to a misunderstanding of the design. In the third investigation I used a combination of different media to convey the concept of atmosphere. However in the first two investigations I feel that the representation techniques used were less successful in portraying the experience of being within each space. This indicates the need for further research to test whether specific representation techniques can be developed to effectively portray the intangible and experiential elements of interior space.
6.6 CONCLUSION

This thesis has tested how the concepts of shelter, place-making and atmosphere can be used as ‘lenses’ through which an alternative understanding and experience of interior space can be created. It is argued that shelter, place-making and atmosphere all create an experience of interiority that does not rely on the existence of a conventional architectural enclosure, and that they can be used as tools in the design of interior space. However this research only scratches the surface in understanding these concepts and how they can be used within the discipline of interior architecture. Much further research is needed to generate a complete understanding of these, and other qualities of interior space in the context of interior architecture, and to integrate them into a body of disciplinary knowledge. Further research is also needed around creating discipline specific representation techniques that will allow experiential qualities of a design to be conveyed to others. This research has given me a greater personal understanding of the role and scope of the discipline of interior architecture. However for the discipline to move forward in establishing a strong position within the design community and to the greater public, this must be only the start of the discussion. It is hoped, with the increased amount of writing and discussion around interior architecture/design in recent years, that further research into this area will be inspired, and a strong disciplinary research and theory base can be established.
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