

A CONCRETE APPROACH:
RECONTEXTUALIZING BRUTALISM THROUGH THRESHOLD DESIGN

by

David Kotewicz
B. Arch. Sci., Ryerson University, 2015

A thesis
presented to Ryerson University
in partial fulfillment of the
requirements for the degree of
Master of Architecture
in the Program of
Architecture

Toronto, Ontario, Canada, 2017

© David Kotewicz 2017

AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I authorize Ryerson University to lend this thesis to other institutions or individuals for the purpose of scholarly research

I further authorize Ryerson University to reproduce this thesis by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research.

I understand that my thesis may be made electronically available to the public.

A CONCRETE APPROACH: Recontextualizing Brutalism Through Threshold Design

David Kotewicz
Master of Architecture 2017
Architecture Program, Ryerson University

ABSTRACT

The overcrowding, pollution and sprawl of the modern city outgrows and distorts its original framework. The building, land, and street relationship becomes a focal point in designing for the human scale. The existing urban fabric shifts along with society. Built many years ago, the buildings lack evident design strategies that successfully integrate the surrounding context with its architecture. By redefining threshold as a three-dimensional human experience rather than a point, line, or moment in space, the threshold and surrounding framework becomes significant in adapting the building to meet contemporary social agendas. There becomes a necessity to blur the boundaries between its architecture and environment integrating both the interior and exterior to appropriate the human scale. The ability to preserve these decaying forms through the means of threshold design will effectively contribute to Toronto's Identity as a whole and successfully play a more significant role in an ever-changing modern city.

ACKNOWLEDGMENTS

Throughout the course of this thesis, I have been very fortunate and blessed to receive a tremendous amount of support and guidance from friends, family, colleagues, and professors. I would like to give particular thanks to Yew-Thong Leong, my supervisor, for his encouragement and help in challenging me to question architectural standards. His patience and guidance allowed me to view architecture through a new lens and further my understanding pertaining to function and the human experience.

I would like to thank Masha Etkind for her continuous support and always being available to share her insight and knowledge regarding heritage and preservation. In addition, thank you Albert Smith for asking the challenging but necessary questions that helped further the concepts of this thesis.

I would finally like to thank those closest to me, my parents, Teresa and Roman Kotewicz for their patience, understanding, and love, as well as teaching me the values of hard work. Thank you for putting me in a position where it was possible to achieve and succeed in my educational and personal goals. I would also like to give a special thanks to Danielle Van Ooteghem for her unending support and comfort while simultaneously pushing me forward as a better architect and furthermore, a better person. I would have not succeeded without their love and support this past year.

DEDICATION

This thesis is dedicated to my parents, Teresa and Roman Kotewicz for unconditionally supporting through every challenge and opportunity on this long journey.

TABLE OF CONTENTS

AUTHOR'S DECLARATION	III
ABSTRACT	IV
ACKNOWLEDGMENTS	VII
DEDICATIONS	IX
LIST OF FIGURES	XV
01. INTRODUCTION	01
02. CONTEXT	09
02.1. Symbolism of a Door	09
02.2. Greek Harmony	10
02.3. Roman Transition of Space	11
02.4. Japanese Sense of Place	12
02.5. Defining Boundaries	13
02.6. Modernity	14
02.7. Brutalism	15
02.8. North America	16
02.9. Preservation	16
03. THE HUMAN EXPERIENCE	23
03.1. The Public Domain	23
03.2. The Built Environment	24

03.3. Architecture and Spatial Forms	25
03.4. How do People Experience Space	26
03.5. Indirect Experiences	27
<i>03.5.1 Metaphorical Threshold</i>	27
<i>03.4.2 Emotional & Experiential Threshold</i>	28
03.6. Direct Experiences	30
<i>03.4.4 Physical Threshold</i>	30
03.7. Spatial Perception / Horizons	31
03.8. Adding Complexity	33
03.9. Point-Line-Space	39
04. DESIGNING FOR THRESHOLD	41
04.1. Permeability	41
<i>04.1.2 Openings</i>	42
<i>04.1.3 Movement</i>	42
04.2. Redefining Nature	43
04.3. Materiality	43
04.4. Transparency	47
04.5. Liminality	48
04.6. Flexibility	50
05. SITE SELECTION	57
05.1. York University	57
05.2. Site Selection	58
05.3. Context	59

05.4. Precincts	60
05.5. Heritage Value	61
06. THRESHOLD DESIGN	69
06.1. Issues	69
06.2. Out Growing Existing Program	76
06.3. The Ring Road	76
06.4. Intervention Location	77
06.5. Curtis Lecture Halls	77
06.6. The Ground Plane	78
06.7. Adding Boundaries	84
06.8. Architectural Wood System	87
06.9. Atmosphere	92
06.10. Engaging Architecture	93
07. CONCLUSION	101
08. APPENDICES	105
08.1. Program Exploration	105
08.2. Threshold Iterations	111
08.3. Physical Models	127
BIBLIOGRAPHY	131

LIST OF FIGURES

01. INTRODUCTION

FIGURE 01: Building v.s Context Relationship Diagram

Source: David Kotewicz, 2017

FIGURE 02: Dachau Visitor Centre, courtyard entrance

Source: David Kotewicz, 2016

FIGURE 03: Volksschule Doren Elementary School, front facade

Source: David Kotewicz, 2016

FIGURE 04: Illwerke Montifon, wood facade system and entrance

Source: David Kotewicz, 2016

02. CONTEXT

FIGURE 05: Church of the Sacred Heart, Munich Germany, primary & secondary entrance

Source: David Kotewicz, 2016

FIGURE 06: Pantheon Orthographic Drawings

Source: <https://www.arhitekto.ru/txt/2razv36.shtml>, accessed October 10, 2016.

FIGURE 07: Japanese Residential Home, open air space transition between function

Source: http://3sems.com/sliding-barn-doors-living-rooms/contemporary-glass-table-coffee-table_natural-brown-finish-wooden-wall-bookshelves_white-wall-cream-fur-rug_living-room-sliding-glass-barn-doors_round-shape-dark-brown-wooden-coffee-table/, accessed October 10, 2016.

FIGURE 08: Structural Grid/Focal Point

Source: "Spatial Composition in Modern Japan." Architectural Design, March 1965, 155-56.

FIGURE 09: Japanese Raised Exterior Walkway

Source: <https://fineartamerica.com/featured/japanese-tea-house-at-the-huntington-library-japanese-garden-jamie-pham.html>, accessed October 10, 2016.

FIGURE 10: Farnsworth House, Chicago Illinois, tiered entrance

Source: David Kotewicz, 2015

FIGURE 11: Farnsworth House, Chicago Illinois, corner facade detail

Source: David Kotewicz, 2017

FIGURE 12: Buffalo City Court Building, relationship to the street

Source: <http://www.sosbrutalism.org/cms/15891483>, accessed October 7, 2016.

FIGURE 13: The Vincennes, Uno Prii, Toronto Ontario, sweeping concrete facade

Source: <http://urbantoronto.ca/forum/threads/toronto-architecture-from-the-1960s-and-70s.19066/page-15>, accessed August 15, 2017.

03. THE HUMAN EXPERIENCE

FIGURE 14: Hermann Kaufmann Office, Dornbirn Austria, context relationship

Source: David Kotewicz, 2016

FIGURE 15: Outdoor Central Mall, Munich Germany

Source: David Kotewicz, 2016

FIGURE 16: Ohel Jakob Synagogue, Munich Germany, exterior interstitial space

Source: David Kotewicz, 2016

FIGURE 17: Werkraum House, Peter Zumthor, Austria, glass facade and overhang

Source: David Kotewicz, 2016

FIGURE 18: National Ballet School of Canada, Toronto Ontario, maitland street entrance

Source: <http://gbca.ca/projects/#featured-project>, accessed August 22, 2016.

Edited: author

FIGURE 19: Sumvitg Chapel, Peter Zumthor, Sumvitg, floor detail

Source: David Kotewicz, 2016

FIGURE 20: Terrance Donnelly Centre for Biomedical Research, Toronto Ontario, building landscaping and threshold

Source: <http://urbantoronto.ca/forum/threads/ccbr-in-arch-record-building-type-study.2367/>, accessed August 23, 2016.

Edited: author

FIGURE 21: Terrance Donnelly Centre for Biomedical Research, Toronto Ontario, ground floor redefining elements

Source: <https://www.bluffton.edu/homepages/facstaff/sullivanm/canada/toronto/donnelly/clews2.html>, accessed August 23, 2016.

Edited: author

FIGURE 22: Rundetaarn Spiral Ramp, Copenhagen Denmark, ramp to

observatory & lookout

Source: David Kotewicz, 2016

FIGURE 23: Forced Perspective Diagram, York University

Source: David Kotewicz, 2016

FIGURE 24: Forced perspective Dachau Visitor Centre, Dachau
Germany

Source: David Kotewicz, 2016

FIGURE 25: Central Square, York University, spatial perception
diagram

Source: David Kotewicz, 2017

FIGURE 26: Point Line and Space Diagram, binding space

Source: David Kotewicz, 2017

FIGURE 27: Point Line and Space Diagram, extending the boundary
plane

Source: David Kotewicz, 2017

04. DESIGNING FOR THRESHOLD

FIGURE 28: Permeability Diagram, passing through space

Source: David Kotewicz, 2017

FIGURE 29: Louisiana Museum of Modern Art, Copenhagen Denmark,
circulation path leading to adjacent buildings

Source: <http://www.slash-zine.com/en/daily/LOUISIANA-MUSEUM>, accessed July 20, 2017

FIGURE 30: Network Pathway Diagram, connecting space

Source: David Kotewicz, 2017

FIGURE 31: Redefining Landscape

Source: David Kotewicz, 2017

FIGURE 32: Escher Park, Zürich Switzerland, surrounding park and
context

Source: David Kotewicz, 2016

FIGURE 33: Parc Zoologique de Paris, interior animal environments

Source: <http://www.archdaily.com/550663/paris-zoological-park-atelier-jacqueline-osty-and-associates>, accessed July 20, 2017

FIGURE 34: Wrapping Materiality Diagram

Source: David Kotewicz, 2017

FIGURE 35: Ross Building, concrete facade and form work detail

Source: David Kotewicz, 2017

FIGURE 36: Escher Park, Zürich Switzerland, wood facade weathering
detail

Source: David Kotewicz, 2016

FIGURE 37: Central Square Intervention, utilizing elements to extend
space

Source: David Kotewicz, 2017

FIGURE 38: Intervention Rendering, overlapping elements to create
transparency

Source: David Kotewicz, 2017

FIGURE 39: Transparency Diagram, transparency as a physical

boundary

Source: David Kotewicz, 2017

FIGURE 40: Intervention Interior Render, inside/out boundary plane

Source: David Kotewicz, 2017

FIGURE 41: Liminal Sketch, perception of where entry begins

Source: David Kotewicz, 2016

FIGURE 42: Flexibility Diagram

Source: David Kotewicz, 2016

FIGURE 43: Exterior Market, Zürich Switzerland, re-purposed shipping container market

Source: David Kotewicz, 2016

FIGURE 44: BMW World, Munich Germany, interior roads and displays

Source: David Kotewicz, 2016

05. SITE SELECTION

FIGURE 45: Heritage Buildings, York University, Toronto Ontario

Source: David Kotewicz, 2016

FIGURE 46: York University, primary circulation and subway entrances

Source: David Kotewicz, 2017

FIGURE 47: York University Campus, context plan

Source: David Kotewicz, 2016

FIGURE 48: York University Campus Walk, axo

Source: David Kotewicz, 2017

FIGURE 49: Secondary Plan Precinct Development, dividing the campus

Source: David Kotewicz, 2016

FIGURE 50: York University Central Square, attached heritage buildings

Source: David Kotewicz, 2016

FIGURE 51: York University Campus, context plan

Source: David Kotewicz, 2016

FIGURE 52: Exterior Curtis Lecture Hall Facade

Source: David Kotewicz, 2016

FIGURE 53: Ross Building Pilotis

Source: David Kotewicz, 2016

FIGURE 54: Central Square, existing north entrance

Source: David Kotewicz, 2016

FIGURE 55: Ross Building, second level entrance

Source: David Kotewicz, 2016

FIGURE 56: Interior Central Square, lecture hall entrance

Source: David Kotewicz, 2016

06. THRESHOLD DESIGN

FIGURE 57: York University, campus walk context plan

Source: David Kotewicz, 2016

FIGURE 58: Central Square Vari Hall, east entrance

- Source: David Kotewicz, 2016
- FIGURE 59:** Central Square Hallways
Source: David Kotewicz, 2016
- FIGURE 60:** Central Square Quad, public space
Source: David Kotewicz, 2016
- FIGURE 61:** Existing and Proposed Programming Changes
Source: David Kotewicz, 2016
- FIGURE 62:** Campus Walk, northeast looking west
Source: David Kotewicz, 2016
- FIGURE 63:** Program Gradient Diagram, functioning program creates a gradient between private and public functions
Source: David Kotewicz, 2016
- FIGURE 64:** Ring Road, initial concept of connecting space
Source: David Kotewicz, 2016
- FIGURE 65:** Ring Road Revitalized Proposal, altered scale as an interior condition
Source: David Kotewicz, 2016
- FIGURE 66:** Primary & Secondary Axis, ring road proposal connects separated paths
Source: David Kotewicz, 2016
- FIGURE 67:** Existing Plan, curtis lecture halls & north facade
Source: David Kotewicz, 2016
- FIGURE 68:** Existing Plan, area of focus for threshold design
Source: David Kotewicz, 2016
- FIGURE 69:** Existing Conditions, axo
Source: David Kotewicz, 2016
- FIGURE 70:** Existing Conditions, removing half of the lecture halls
Source: David Kotewicz, 2016
- FIGURE 71:** Proposed Ground Plan, pedestrian paths
Source: David Kotewicz, 2017
- FIGURE 72:** Exterior Intervention, street market and pavilion
Source: David Kotewicz, 2017
- FIGURE 73:** Interior Intervention, gathering and study node
Source: David Kotewicz, 2017
- FIGURE 74:** Proposed Section, direct relationship
Source: David Kotewicz, 2017
- FIGURE 75:** Wall Section, boundary wall along the north facade
Source: David Kotewicz, 2017
- FIGURE 76:** Proposed Market Place
Source: David Kotewicz, 2017
- FIGURE 77:** Existing Floor Plan, circulation paths
Source: David Kotewicz, 2016
- FIGURE 78:** Proposed Floor Plan, circulation paths
Source: David Kotewicz, 2017
- FIGURE 79:** Continuing the Horizontal Grid, adding boundary tiers
Source: David Kotewicz, 2017
- FIGURE 80:** Section Boundary Tier Diagram
Source: David Kotewicz, 2017

- FIGURE 81:** Proposed Threshold Intervention, floor plan
Source: David Kotewicz, 2017
- FIGURE 82:** Proposed Threshold Intervention, axo
Source: David Kotewicz, 2017
- FIGURE 83:** Proposed Market Place, flexible elements
Source: David Kotewicz, 2017
- FIGURE 84:** Proposed Interior Atrium, wrapping material
Source: David Kotewicz, 2017
- FIGURE 85:** Proposed Building Section, extending function and threshold space
Source: David Kotewicz, 2017
- FIGURE 86:** Proposed Interior Gathering Space
Source: David Kotewicz, 2017
- FIGURE 87:** Proposed Exterior Circulation Paths, threshold space
Source: David Kotewicz, 2017
- FIGURE 88:** Proposed Ground Plan
Source: David Kotewicz, 2017
- FIGURE 89:** Proposed Threshold Space, wind and snow fence
Source: David Kotewicz, 2017

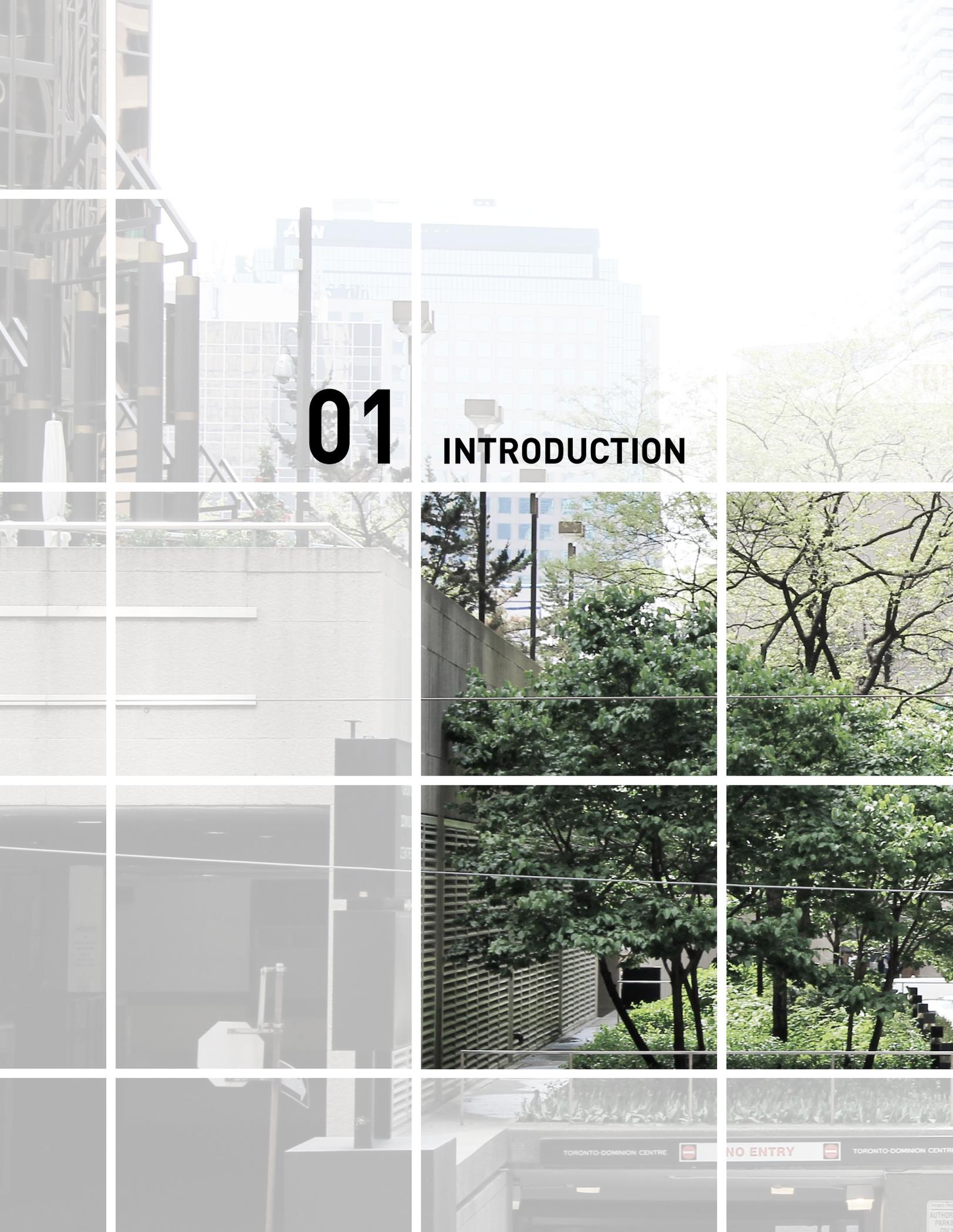
08. APPENDICES

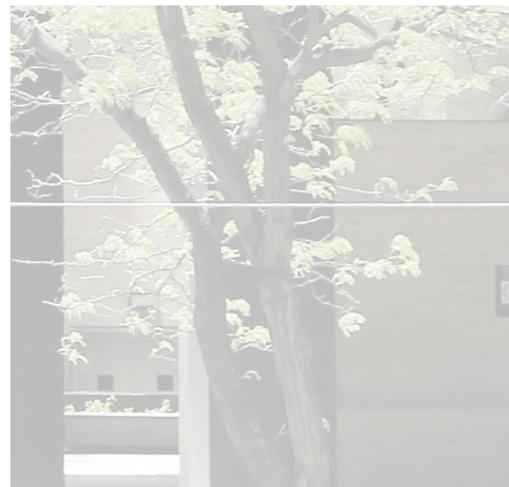
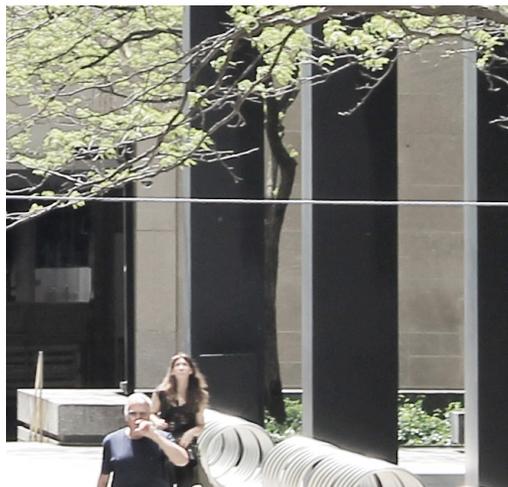
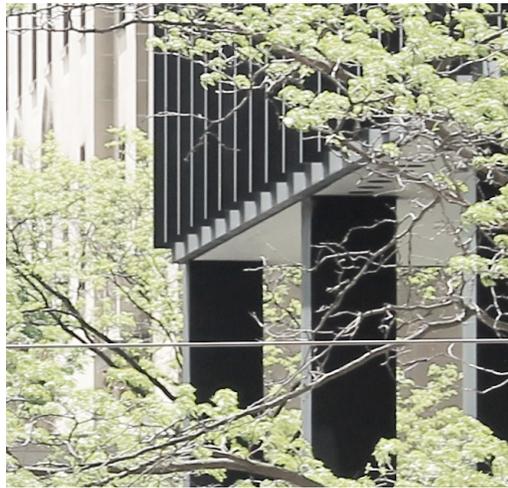
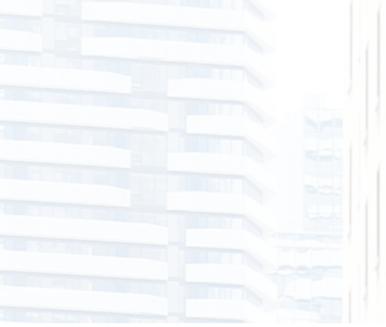
- FIGURE 90:** Information Gathering Diagram
Source: David Kotewicz, 2016
- FIGURE 91:** Existing Central Square Programming
Source: David Kotewicz, 2016
- FIGURE 92:** Existing Central Square Programming, boundary conditions
Source: David Kotewicz, 2016
- FIGURE 93:** Areas of Intervention
Source: David Kotewicz, 2016
- FIGURE 94:** Ring Diagram, private function surrounding interior quad
Source: David Kotewicz, 2016
- FIGURE 95:** Program Analysis Sketches
Source: David Kotewicz, 2017
- FIGURE 96:** York University Site Plan, proposed subway stops/ open space
Source: David Kotewicz, 2017
- FIGURE 97:** Dividing the Existing Building, central square separating from the scott library
Source: David Kotewicz, 2017
- FIGURE 98:** Site Plan, existing building relationship
Source: David Kotewicz, 2017
- FIGURE 99:** Iteration 01 Threshold Design, floor plan
Source: David Kotewicz, 2017

- FIGURE 100:** Iteration 01 Circulation, boundary conditions
Source: David Kotewicz, 2017
- FIGURE 101:** Iteration 01 Boundary, adding complexity plan
Source: David Kotewicz, 2017
- FIGURE 102:** Iteration 01, adding complexity north elevation
Source: David Kotewicz, 2017
- FIGURE 103:** Iteration 01, curtis hall formal entrance
Source: David Kotewicz, 2017
- FIGURE 104:** Iteration 01, adding complexity
Source: David Kotewicz, 2017
- FIGURE 105:** Iteration 01 Experiential Section, campus walk/student centre
Source: David Kotewicz, 2017
- FIGURE 106:** Iteration 01, interior atrium
Source: David Kotewicz, 2017
- FIGURE 107:** Iteration 01, interior road
Source: David Kotewicz, 2017
- FIGURE 108:** Existing Hallway Analysis, node vs thoroughfare
Source: David Kotewicz, 2017
- FIGURE 109:** Proposed Interior Courtyard, raised path
Source: David Kotewicz, 2017
- FIGURE 110:** Proposed Interior Courtyard, study nook/relationship to street
Source: David Kotewicz, 2017
- FIGURE 111:** Central Square Quad Analysis, circulation
Source: David Kotewicz, 2017
- FIGURE 112:** Proposed Quad, floor plan
Source: David Kotewicz, 2017
- FIGURE 113:** Iteration 01 Threshold Design, ground floor plan
Source: David Kotewicz, 2017
- FIGURE 114:** Iteration 01 Threshold Design, second level plan
Source: David Kotewicz, 2017
- FIGURE 115:** Intervention 01, 1:100 interior atrium / sunken study spaces
Source: David Kotewicz, 2017
- FIGURE 116:** Final Design, 1:25 flexible exterior wood slats
Source: David Kotewicz, 2017
- FIGURE 117:** Final Design, 1:100 exterior market place
Source: David Kotewicz, 2017
- FIGURE 118:** Context Model, 1:750 highlighted campus walk
Source: David Kotewicz, 2017
- FIGURE 119:** Final Design, 1:25 flexible exterior sheltered space
Source: David Kotewicz, 2017

01

INTRODUCTION







01. INTRODUCTION

As the urban population continues to grow, the public domain evolves within its surrounding framework. The unbuilt urban fabric is increasingly becoming the exterior public domain. The framework that surrounds these spaces has now become an integral part of our cities development. Architecture at the scale of the human demands a drastic change in regards to society's evolving needs. The architect's role and their aim for a more significant connection between building and human become vital to the development of the city and society. The relationship between building and interstitial space requires more attention to be given to the human and how the human will interact within this space. The city's buildings need to continue to progress in making the built world a more inhabitable place at the scale of the human. Architecture will always have a direct relationship between building and its surrounding context, but the way in which this relationship is designed will always continue to evolve. The threshold is the moment at which a person transitions between space. It is the element that defines the entryway by delineating the interior from the exterior. If developed further, the threshold becomes a three dimensional space, an architectural construct that alters the way in which the public interacts with the building through entry and exit. The threshold then has the ability act as a mediator in creating continuity between the inside and outside creating an obscure edge condition. The threshold space then becomes the focal point in creating a fluid transition between building and site which will in turn, transform its architecture to have a stronger relationship to the surrounding context.

Threshold is often defined through a variety of perspectives between theorists, architects, and urban planners. The threshold is the articulation between spaces. Often it is architecturally characterized as the space or area between spaces, Robert Venturi describes the threshold as moving from one reality to another.¹ The threshold becomes a mental and physical change in the users state of mind. The unusual and unique qualities that thresholds have is that they are dual functioning - they can connect a space but also separate one. The complexity and hierarchy of these intrinsic elements help us come to a better understanding while dissecting and defining

thresholds. This thesis is concerned with the idea of the threshold as a transition between indoor and outdoor spaces, or the space in which the building meets its context - its entryway. The definition of space has greatly changed and shuffled through the past century. We shifted away from the closed plan toward opened spaces which are now characterized by unseen boundaries. The interior and exterior are often delineated through the use of architectural planes that define a physical boundary line. The planes are conceived as built components with delimiting elements. Elements such as openings, material change, and/or transparency alter the user's perception of space. These strategies attempt to delimit the limited space or remove the traditional sense of a wall within a building's entryway.

The ground plane and its "space" has always been considered as a static system even though architectural space is determined by

human perception.² Space changes based on the public's use. To understand how the public perceives space is complex and intricate. The architect must respond and introduce delimiting components together to increase their understanding of how the threshold will be used. Thresholds are most often seen as a point, line or moment in which the change of space occurs. A threshold space is organized as an area, a three-dimensional space where the spatial transition that the public experiences

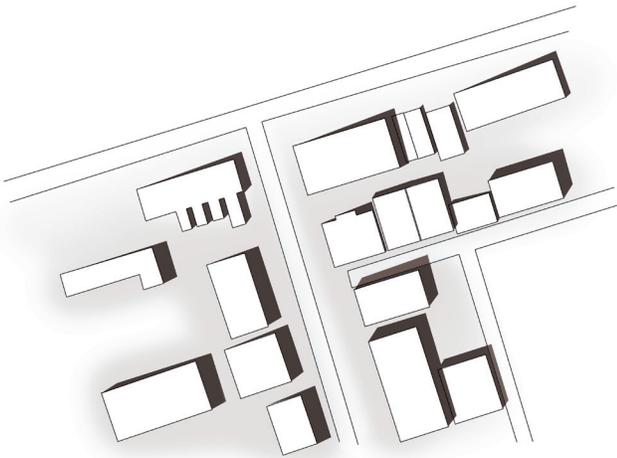


FIGURE 01: Building v.s Context Relationship Diagram

FIGURE 02: Dachau Visitor Centre, courtyard entrance



is part of the architectural construct and its surrounding environment.³ The threshold space precludes the buildings functions, character, and integrity through either subtle shifts or through more distinct transitions but is now a designed architectural construct rather than the residual or in-between state of design. The structures that are built around you now determine how we interact with adjacent buildings, the street, as well as one another.

Emphasis is placed on how each building interacts with the public domain at the scale of a human.⁴ As each new structure is erected, the next architectural construct has more restrictive means of interacting with the public domain. The threshold space can act as a transitional element between the inside and outside and, if successful, it can delimit architecture by removing the idea of a rigid boundary line. The exploration of thresholds will remove the need to define the space through stern transitional

elements. By obscuring the bounding plane the threshold will allow the human being to orient themselves in relation to their surrounding environment heightening the architectural design and experience. Utilizing the distinction between inside and out will allow for the users to form a stronger relationship prior to moving through the building.

This methodology aims to assist in responding to the increasing complexities involved in preserving architecture and how architects utilize the existing buildings in the urban fabric. This thesis will provide a more useful understanding on how thresholds can be designed to recontextualize existing buildings within the evolving public realm. Designing thresholds that will transform these structures will both assist in the urban experience and the city's identity. The threshold allows for two contradicting elements to co-exist, the inside becomes part of the outside and the

FIGURE 03: Volksschule
Doren Elementary
School, front facade





outside is brought to the inside. Through this redevelopment and redesign of a building's threshold, architecture will have a stronger relationship to the surrounding context. By extending the threshold space, the design will distort the perception of distinct boundaries allowing for less rigidity and a more fluid transition between inside and out to occur.

Within today's social agenda, the evaluation of aging existing structures becomes a common discussion regarding its worth, value, and identity. Brutalism, while monumental and striking, has had a direct influence on the Canadian identity and more specifically that of Toronto's Brutalist buildings. They were conceived and understood within a different era that had a contrasting social agenda based around monumentality and a more car-orientated city. Built post-war, the existing brutalist architecture has the ability to adapt to new social change. The threshold space can re-contextualize these aging buildings by designing the ground floor for the human, and a human orientated environment integrating the outside, and inside, extending the idea of

a threshold space. The adjacent buildings all have the ability to extend the public domain, and by doing so, creates less rigid boundaries and zones for public engagement and activity. By extending the building through its threshold space, the residual space that we currently use for pedestrian traffic and circulation becomes architecturally designed extensions. The threshold space brings ideas, concepts, and elements from each of the interior and exterior to allow for a liminal experience to take place. The architecture can then become more appropriately humanized and re-constructed based on society's evolving needs of an intertwined design between both building and site.

FIGURE 04: Ittwerke
Montifon, wood facade
system and entrance

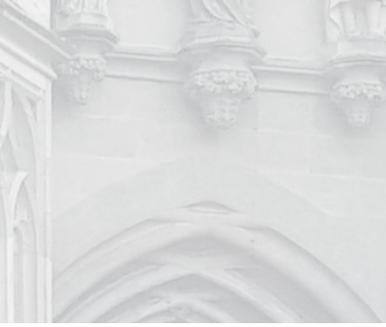
ENDNOTES

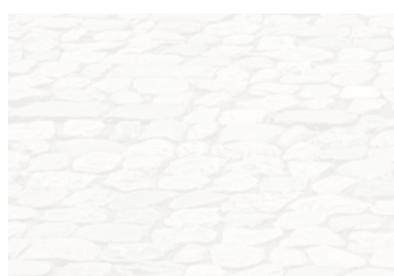
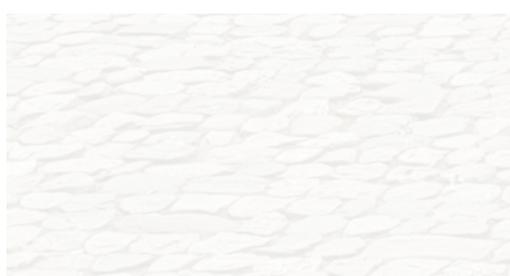
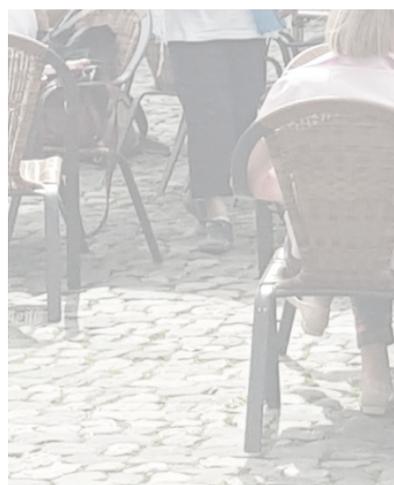
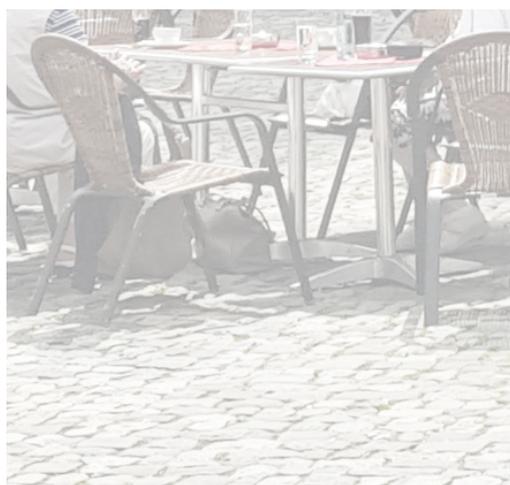
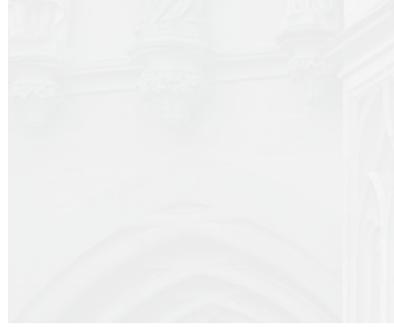
- 1 Venturi, Robert, and Museum of Modern Art. 1977. Complexity and contradiction in architecture. New York: Museum of Modern Art, 82.
- 2 Boettger, Till. 2014. Threshold Spaces: Transitions in Architecture Analysis and Design Tools. Birkhauser, 16.
- 3 Boettger, Till. 2014. Threshold Spaces: Transitions in Architecture Analysis and Design Tools. Birkhauser, 46.
- 4 2015. Toronto Official Plan. Planning, Toronto: City of Toronto, 10.



02

CONTEXT





02. CONTEXT

Thresholds in its original sense, was the point of entry and was identified as the transition between spaces. Architecturally, people identify it as the area beneath the doorway.¹ Thresholds have been a part of our built world ever since the beginning of time, first recorded in Roman Mythology. It was written regarding the god of thresholds, Janus. Janus is associated with the month of January, marking the beginning, and was said to preside over all areas of transitions, both abstract and concrete.² Janus was believed to control the entry of a person's home, city gates, and the boundaries that both these entailed. Janus was most often related to in the physical sense of boundaries when the individual transcends into a new space or into a new beginning.

02.1. THE SYMBOLISM OF A DOOR

The symbolic nature of doors have been around since the beginning of time. The cultural differences change the individual perception of a doorway although retain a similar concept associated with movement and the transition of space. Thresholds are historically represented as doorways or entries and continue to represent transitions, gateways, and new beginnings. The door, like thresholds, have contrasting principles, where the door can form the entrance and exit simultaneously. The threshold space can articulate space through connection or separation. The symbolism of a doorway has often presided within the religious or mythological sense of a transition through space. The significance placed on entryways have created a sense of monumentality, decoration, and ornamentation in the past signifying the vast religious and mythological relationship to passages.³ The doorway is also seen as the accessible void in a very prominent boundary plane. The doorway becomes associated as an architectural element that permeates through a rigid plane. While the symbolism behind open and closed doors vary, the nature of a door being the element of succession is the crucial idea that is worth extracting. The threshold is viewed diversely through eras, cultures, and different architects although the concept of succession is always prevalent. Thresholds have had a long history. Architecturally these cultures



FIGURE 05: Church of the Sacred Heart, Munich Germany, primary & secondary entrance

express thresholds through a variety of ways, some more symbolic than others. Greece forms a hierarchy between their architecture and gods creating a procession; the Romans and their liminal deity Janus create transitional hierarchy through space; and finally within Japanese cultures they express thresholds through the relationship to their naturally surrounding terrain and the fluidity of separation between the inside and outside.

02.2. GREEK HARMONY

The Greeks believed threshold to be a more purposeful journey through space where their sacred elements form hierarchal tiers within the landscape. The Greek acropolis was built between 447-406 BC where multiple temples were constructed atop a 10,000ft mountainside.⁴ The acropolis forms an experiential method regarding the threshold connecting the individual temples of the mountain using the space in-between. The spatial harmony between independent objects is called group design.⁵ The interplay of unique forms of each temple shows the

separation between the adjacent structures. The procession and emphasis placed on the crossing of the different temples prepares the individual for the next residing structure. The acropolis was meant to be evenly distributed throughout the individual's view at the entrance gates. This was to get a sense of the whole before proceeding to each architectural form individually. While slowly climbing the pathway, the journey highlights the temple's focal points and highlights the unique characteristics. The Greek's use the void space and highlighting the individual temples creates a unique portrayal of threshold that focus on the experience and procession leading up to the space as well as how the user's perception guides their experience. The hierarchy placed on the paths are almost dismissed when arriving to each point of destination. The destination becomes the conclusion to the threshold, almost as a point of closure or culmination.

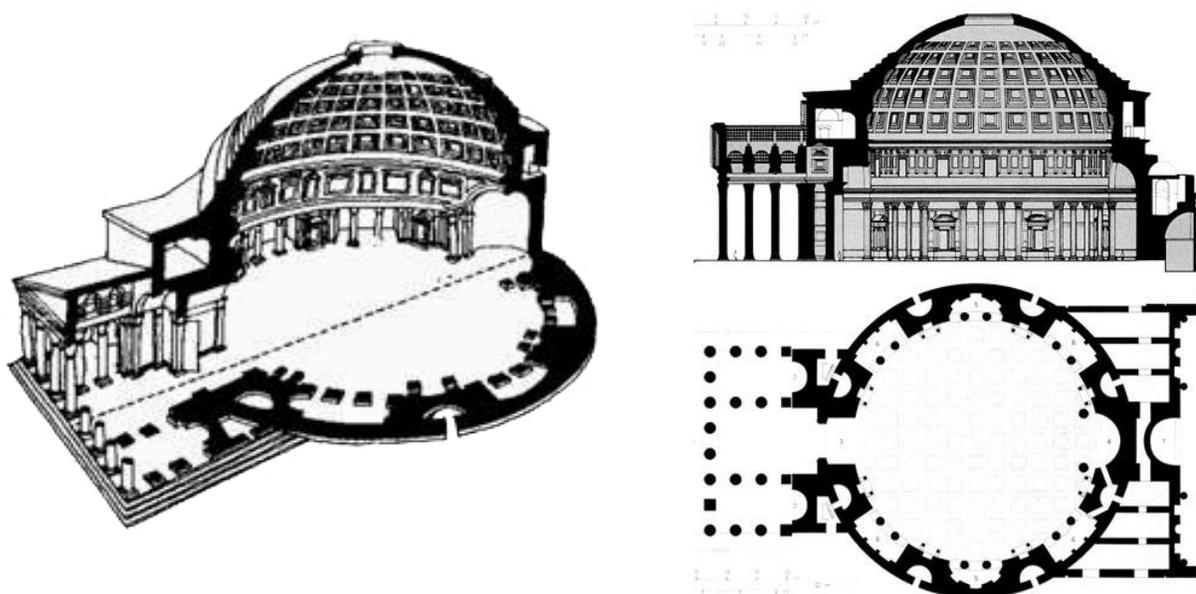
02.3. ROMAN TRANSITION OF SPACE

The Romans were known for their monumental architecture and common use of concrete. Their forms often, utilitarian in nature, later became a symbolic form.⁶ The Pantheon in Rome, is a significant example of how the threshold was treated within this historic culture. The Pantheon was built between 118-125 AD where it has changed between a Roman temple meant for worship, a Christian church, and today, a mausoleum.⁷

The Pantheon has a direct and very fundamental role in understanding the transition of space. The sequence of the Pantheon can be divided into three primary structures; the portico, the arches, and the rotunda. Each piece when separated can be seen as a transitional piece although cannot be identified together as a whole. These three pieces extend the threshold within a sequence to prepare the individual

for the rotunda and oculus (figure 06). While symbolically, the Romans believed that the rotunda was the space closest to God, where they often prayed, the arches act as a cleansing to new beginnings.⁸ In ancient Roman history, the Roman arch was used as the entrance of the gates or the break between a wall. It later became a ritual significance. This believed to have started when the General's army would return from battle, their blood and guilt would be removed and psychologically cleansed as they passed beneath the archway inside the city's gate.⁹ The cleansing of the mind, and soul become clear when entering their place for the gods. The way the Roman's treated the threshold was to cleanse as well as prepare the individual for what's inside rather than creating a relationship between outside and inside. The Roman threshold prepares the individual for the point in place and acts as a buffer between two ultimately different senses of place.

FIGURE 06: Pantheon
Orthographic Drawings





02.4. JAPANESE SENSE OF PLACE

The Japanese culture has a unique method in connecting a distinct relationship between the inside and outside through sense of place. The Japanese word for sense of place is "ma".¹⁰ Studying the Japanese traditional architecture of creating space in urban design, Japanese architects control space through the understanding of the relationship between space and form. While adopting many "western ways" of using space and form, the Japanese culture studied and experimented with it. The result was the understanding of control through both the organization and the order of its architecture with a simultaneous admiration to nature.¹¹ As western society evolved, architects became fascinated with the flexibility and fluidity of Japanese architecture. The Japanese culture has a unique way in which they design the transition between space, the order through materiality, and the ways in which they incorporate landscape within their

designs.

First, analyzing their open plan, the column is idealized as a structural support although it was first associated with the Japanese "sense of place". The earliest recording had been a story written of a heavenly column that was erected as a focal point, and a palace was then built around it. This idea of centrality and the focal point of the column allowed for

FIGURE 07: Japanese Residential Home, open air space transition between function

FIGURE 08: Structural Grid / Focal Point

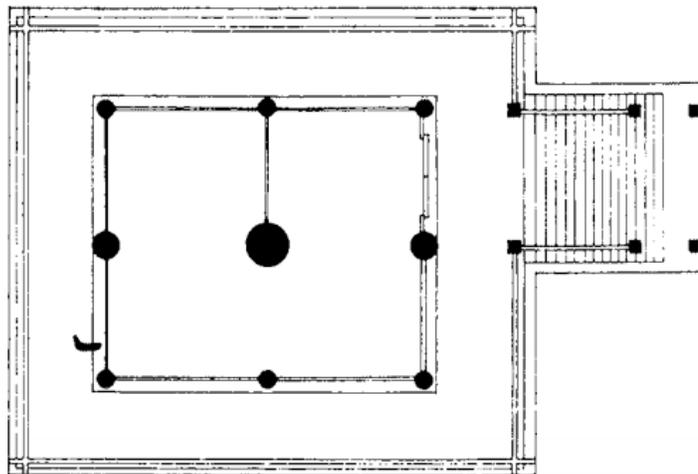




FIGURE 09: Japanese
Raised Exterior Walk

circulation and order to become secondary to that space.¹² The transition between spaces and rooms became an extension of the focal point (figure 08). The movement between rooms wasn't the focus as they were simultaneously supporting this symbol of the heart of the palace. The craft of designing supporting spaces became second nature: the use of platforms, sliding doors, open corridors, partition and sharing the interior and exterior space allowed for elements to be a part of the same design without contrasting one another.¹³

The fluidity of these spaces through the buildings components creates a transparency that allows for space to be designed with a high degree of order and organization, but when viewed as a whole, seamless within the interior space as well due to its direct relationship with the landscape. Materials are expressed through a form of order, they become textures and surfaces that define, extend, and construct space. Focusing

on the ground plane, the flooring directs circulation but also extends the gathering space. The materials bleed into the next room or act as a bridge becoming a rigid path surrounded by materials emphasizing the circulation or movement (figure 09).

02.5. DEFINING BOUNDARIES

The defining elements of space drastically changed nearing the end of the 19th century and into the 20th. Modern architects had begun connecting space through open floor plans rather than combining adjacent rooms in a sequential method.¹⁴ The architect's perception drastically changed when exterior ornamentation became scarce and the seamless fluidity between rooms became much more common. Architects like Frank Lloyd Wright, Mies Van Der Rohe, and Le Corbusier treated space as a free flowing entity and bounded it using delimiting elements such as planes or transparent materials. Embracing the change, relationships between the open space inside began introducing the building's exterior landscape elements as a vital component to the design. The in-between space that the threshold resides in, begins to take spatial qualities from both spaces, interior and exterior. The space or "edge condition" becomes the designed threshold space.

In the context of a tightly constructed urban city where space is scarce, the architects understanding of its surrounding environment, whether it be the neighborhood or adjacent building, the architect must answer the



FIGURE 10: Farnsworth House, Chicago Illinois, tiered entrance

key question of how do they connect to one another.¹⁵ This question emerges with all forms of architecture, whether a new building being constructed in a new parcel of land, or preserving a building in the core of a city. The architectural intervention must understand its boundaries as if the building will take on a supporting or leading role defining the surrounding relationships.¹⁶ The lead and/or supporting role can then define the approach to the buildings threshold and how the building can extend past its physical boundaries or even its experiential construct.

02.6. MODERNISM

Modernism first appeared at the beginning of the twentieth century. The architectural movement was built by prominent architectural icons such as Le Corbusier, Walter Gropius and Mies Van Der Rohe, who all had the same belief that a better architecture will create a better world.¹⁷ The ambitions of the modernists were often unrealistic but, the belief drove an architecture that is based off comprehensive principles of directness, simplicity, and reality;¹⁸

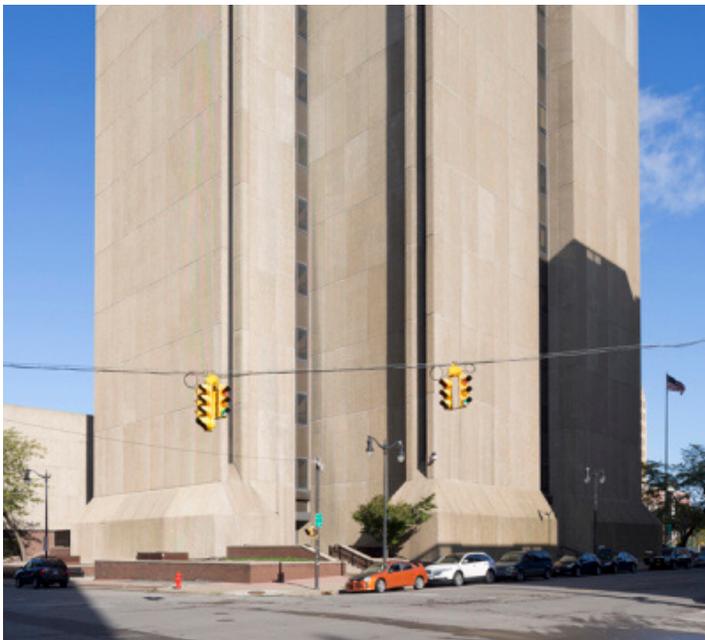
the directness of the design following function and site-specific variables, the simplicity of the materials and space to appropriate the needs of the architecture, as well as the reality of what was currently happening regarding the social influences that the built environment had on the human experience. A great deal of the projects that were apart of the modernist movement were initially successful. Modernists were ambitious towards a social responsibility and the lack of living conditions

FIGURE 11: Farnsworth House, Chicago Illinois, corner facade detail



for substantial numbers were what made their approach so progressive and promising in a growing society.¹⁹ Their approach revolved around promoting a transformation in the look and layout of a house that most of the population had been living in. Flat roofs, corner windows, horizontal layouts, appropriating materials, and the open plan are all modern characteristics.²⁰ The threshold was never directly considered or redefined within the movement although the user's experience both inside and outside of the building was directly changed. Jane Jacobs believed in the success of the street and how communities socialize within the public domain. She believed in the coexisting elements of architecture and street. By utilizing many social principles of the modern movement, and re evaluating the idea of a threshold, the buildings influenced by modernity could assist in the threshold design.

FIGURE 12: Buffalo City Court Building, street relationship



The influence modernity had pre/post war gave way to other movements, like brutalism

and post modernism which fought the sense of harmony between building and landscape. Instead they focused on the architectural form which could highlight prosperity and success for growing cities.

02.7. BRUTALISM

Brutalism, is a modernist architectural sub-style that was first referred to by a pair of British architects Alison and Peter Smithson in 1953. They coined the term "brutalism" from the French word, "beton brut", which meant "raw concrete".²¹ It is a confusing term that now is used broadly to cover almost anything concrete built after the war. Brutalism was a post war sub movement that was influenced directly by the economic depression following the war. The large, rough, rigid appearance was expressed through its repetitive angled forms and its exposed concrete. Brutalist buildings utilized the natural exposure of material and form by simultaneously revealing building function, services, and/or individual uses. Brutalism was a way for architects to express the current trends and characteristics of the time period while also attempting to advance ideas of modernity. Ideas like designing from the inside out, while the outside merely became the residual space around it. Concrete took the architects ideas to new limits being both tensile and compressive. Architects began constructing large forms to support the growing need for population growth and the city's image. The style focused its abstract nature on monumentality and built forms, although neglected the social parameters of a

city and surrounding framework. The sub style designed towards a car oriented city where the ground plane was not understood as the public domain it is today. While Brutalism has its controversy, it is a vital part of the history of architecture and the ongoing narrative of movements specifically in North America. The brutalist movement played a significant role in the construction of many Canadian cities and amidst, formed many cities identities.

02.8. NORTH AMERICA

After WW2, North America was almost building anew, aspired to build cities at an unprecedented pace full of hope and high expectations. The rural icon of North America was quickly replaced with city life full of new energy.²² While such a demand for an urban lifestyle placed a necessity on large scale designs, the use of concrete liberated many architects creating a limitless sense of architecture. Architecture that was inexpensive, readily available and could almost form anything imaginable, architects were able to create anything and everything. The belief was that creating a new, built environment would simultaneously improve society and life within the city. During the Mid 1950's, modernity had finally had its foot in the door, architect's like both Mies and Parkin, believed in a sense of harmony where buildings would coincide being constructed side by side.²³

Soon after, many experiments were

beginning to see the extents of the harsh northern climate and the extensive freeze thaw cycles during the winter months. The concrete stained and were often in need of repair. This didn't stop the production of the brutalist structures although did promote controversy over aesthetic. Often with immaculate detailing, they still don't provide the design approach that caters to our changed society. Issues also arose regarding the city in relation to the human scale and how there became a cloud of gray that overcast the city's streets. The large monumental structures created rigid thresholds that undoubtedly separated the inside and outside through slabs of concrete and small setbacks. The role of the car played a much more significant role in the past but quickly the evolving society grew towards a more human oriented ground plane. When approached, these structures are massive blocks. The raw use of concrete and the damp grey of winter provoked controversy in the brutalist style and innovation of a new city. This movement is controversial but are still a significant part of the North America and cities like Toronto have become part of its identity and are now in need of a second look.²⁴

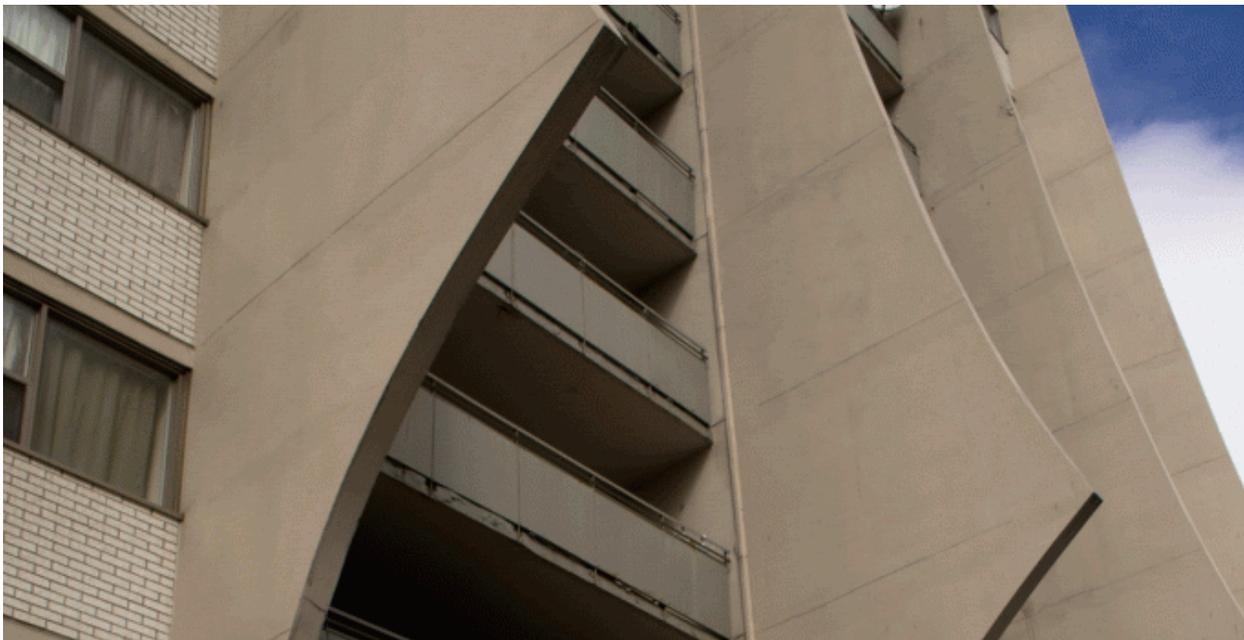
02.9. PRESERVATION

The everyday pressures on land property and cost within a city create an instability where buildings are torn down and replaced in a matter of months.²⁵ The buildings from the

past are overlooked every day and defined as dilapidated, causing issues, or not aiding in the city's growth. The public's perception is a mistake that only architects can change. The successful integration between the new and the old should not be defined by the boundaries of its built form. Robert Venturi discusses how architects understand a building's parts, and that the architects can unconventionally create new meaning through pre-existing components. He discusses the building's existing context and how the architecture can be viewed or constructed in an entirely different framework. The new can be the old, it is just our perception of the space.²⁶ More importantly how we adaptively reuse architecture in our urban realm will either contribute to our cities progress or become imagery "frozen in time".²⁷ We continue to disassemble our built context and identity, often gutting the interiors to "modernize" the buildings. This approach is often misinterpreted, to gut or

demolish elements of an existing condition can be understood as the desire to form a radically different environment.²⁸ By preserving significant elements the identity can be maintained. It becomes as subjective as this example when there is a relationship directly towards preservation. The term preservation always becomes an opinion that is usually created from an assumption. The subjective nature can be designed through several architectural strategies, where the buildings identity, unique characteristics, and desired elements can either be saved or introduced to recontextualize the existing building. By having a better understanding of the threshold space and how we create a junction between the new, the old, and the surrounding context, preservation can then take a larger role in the surrounding framework.

FIGURE 13: The Vincennes, Uno Pii, Toronto Ontario, sweeping concrete facade



ENDNOTES

- 1 Grice, Gordon. 2015. "Thresholds." *OAA Perspectives* 14.
- 2 n.d. Janus. Accessed March 1, 2017. <http://www.crystalinks.com/janus.html>.
- 3 n.d. Janus. Accessed March 1, 2017. <http://www.crystalinks.com/janus.html>.
- 4 Boettger, Till. 2014. *Threshold Spaces: Transitions in Architecture Analysis and Design Tools*. Birkhauser, 22-23
- 5 Giedion, Sigfried. 1971. *Architecture and the Phenomena of Transition*. Cambridge Massachusetts: Harvard University Press, 62.
- 6 Boettger, Till. 2014. *Threshold Spaces: Transitions in Architecture Analysis and Design Tools*. Birkhauser, 24.
- 7 Boettger, Till. 2014. *Threshold Spaces: Transitions in Architecture Analysis and Design Tools*. Birkhauser, 24.
- 8 Giedion, Sigfried. 1971. *Architecture and the Phenomena of Transition*. Cambridge Massachusetts: Harvard University Press, 68.
- 9 Giedion, Sigfried. 1971. *Architecture and the Phenomena of Transition*. Cambridge Massachusetts: Harvard University Press, 68.
- 10 Nitschke, Gunter. "'MA' The Japanese Sense of Place." *Architectural Design*, March 1965, 117.
- 11 Nitschke, Gunter. "'MA' The Japanese Sense of Place." *Architectural Design*, March 1965, 117.
- 12 Nitschke, Gunter. "'MA' The Japanese Sense of Place." *Architectural Design*, March 1965, 153.
- 13 "Spatial Composition in Modern Japan." *Architectural Design*, March 1965, 155.
- 14 Boettger, Till. 2014. *Threshold Spaces: Transitions in Architecture Analysis and Design Tools*. Birkhauser, 32.
- 15 Cramer, Johannes, and Stefan Breitling. 2007. *Architecture in the existing fabric: Planning, design,building*. Birkhauser, 129.
- 16 Cramer, Johannes, and Stefan Breitling. 2007. *Architecture in existing fabric: Planning, design,building*. Birkhauser, 151.
- 17 Rowe, Hayley. n.d. "The Rise and Fall of Modernist Architecture." *Inquiries Journal*.

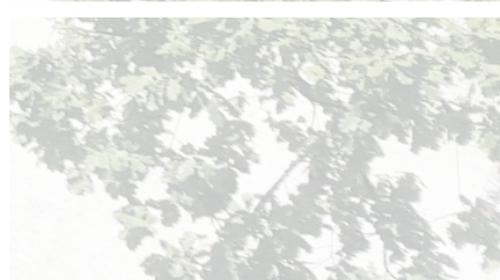
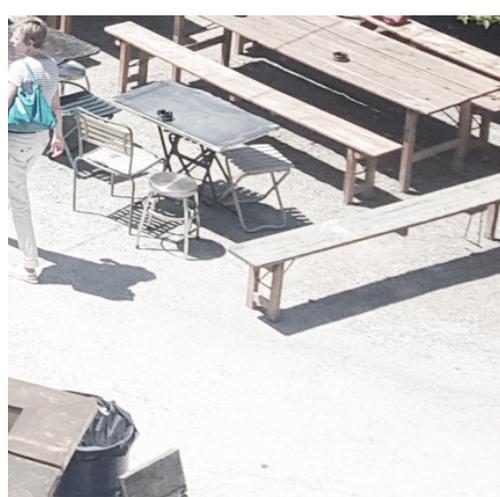
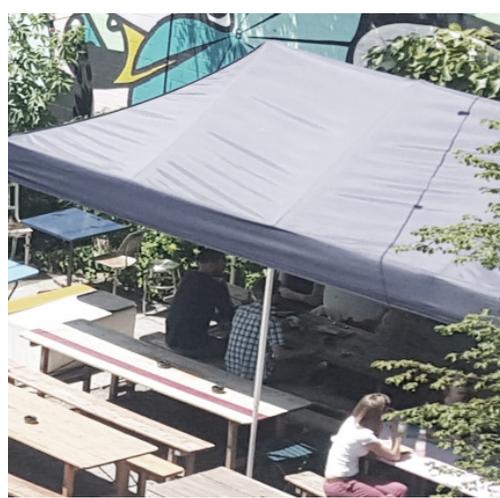
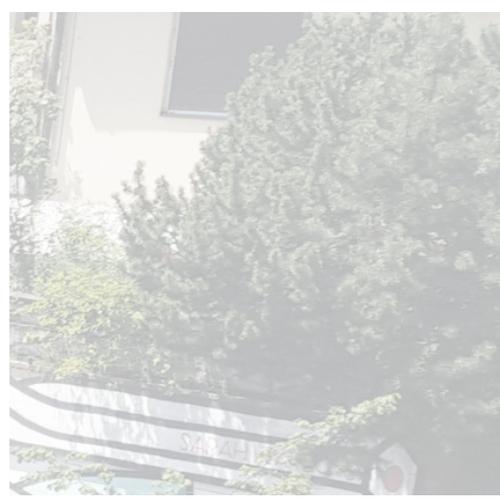
- 18 Armstrong, Christopher. 2014. *Making Toronto Modern: Architecture and Design 1895-1975*. Montreal & Kingston: McGill-Queen's University Press, 05-06.
- 19 Rowe, Hayley. n.d. "The Rise and Fall of Modernist Architecture." *Inquiries Journal*.
- 20 Armstrong, Christopher. 2014. *Making Toronto Modern: Architecture and Design 1895-1975*. Montreal & Kingston: McGill-Queen's University Press, 04.
- 21 McClelland, Michael, and Graeme Stewart. 2007. *Concrete Toronto: A guide to concrete architecture from the fifties to the seventies*. 1st.ed.Coach House Books, 12.
- 22 McClelland, Michael, and Graeme Stewart. 2007. *Concrete Toronto: A guide to concrete architecture from the fifties to the seventies*. 1st.ed.Coach House Books, 50.
- 23 Armstrong, Christopher. 2014. *Making Toronto Modern: Architecture and Design 1895-1975*. Montreal & Kingston: McGill-Queen's University Press, 191.
- 24 McClelland, Michael, and Graeme Stewart. 2007. *Concrete Toronto: A guide to concrete architecture from the fifties and seventies*. Coach House Books.
- 25 Cramer, Johannes, and Stefan Breitling. 2007. *Architecture in existing fabric: Planning, design,building*. Birkhauser, 18.
- 26 Venturi, Robert, and Museum of Modern Art (New York, N.Y.). 1977. *Complexity and contradiction in architecture*. 2nd ed.Museum of Modern Art, 43.
- 27 Greco, Alison, Yanis Khamsi, Anthony Ferreria, Mehek Mazhar, Tina Njegovanovic, Jakob Schilz, Adam Jonsson, Matt Allen, Antonio Savoia, Emily Bongelli, and Ryan Swain. "Toronto Architects Aim to Keep Diversity - Skedline.com." *Skedline.com*. January 16, 2014. Accessed September 5, 2016. <http://www.skedline.com/arts-entertainment/toronto-architects-aim-to-keep-diversity/>.
- 28 Cramer, Johannes, and Stefan Breitling. 2007. *Architecture in existing fabric: Planning, design,building*. Birkhauser, 134.



03

THE HUMAN EXPERIENCE







03. THE HUMAN EXPERIENCE

The public domain is changing as the urban fabric continues to grow. The demand for public space and the extension of the city's built environment places emphasis on the ground plane and its relationship to the human. The in-between can be analyzed on many diverse levels: the city in relation to suburbia, the built environment and its surrounding environment, or individual rooms and their residual space. The organization of a city and its buildings have adapted and are defined by societal change. The evolution and diversity of people's needs and function dictates how buildings and the urban framework construct themselves. Throughout history cities have had a variety of organizations. These organizations are: closed, structured, pragmatic, and open systems.¹ These systems dictate how cities are used and experienced in relation to their public and private space. The built environment reflects the relationship between functions, activities and social engagements. These city organizations accommodate the human in very distinct ways and its architectural forms can create the cities character, function, and identity.

03.1. THE PUBLIC DOMAIN

Society has grown and developed into an age where almost 90% of the space we inhabit has been built and thought of by the human population.² We exist in an environment that has been designed to stimulate and promote an improved lifestyle. A large amount of a person's daily experience is shared within this public space. With the large growth in cities population and density, the shifting relationship of the individual to the surrounding environment assigns a definite importance on the public domain and how a growing society uses this space.

While the public domain provides many functions necessary to the urban life, it becomes a transition zone where the threshold has a direct relationship between the built environment and surrounding framework. Keeping this in mind, the threshold becomes

the junction between our public domain inside and outside the architect's design. Architects have, since the beginning of time, separated space using walls and physical elements that bind space.³ Designing a threshold that is an extension of the building allows the public domain to exist as part of the architecture itself, rather than taking place as residual space or as a separated spatial entity. The public domain becomes the connection between the architecture and environment. As a building's threshold becomes part of the public domain the design of the architectural form and these methods of separating space become vital in the threshold's construct. The architect's design of the threshold will then have the full capacity in creating a more successful urban environment where the ground plane and form extends itself as the public domain and accommodates for the human experience. The way we interact between built form, environment, and with one another all happen within the built environment.

03.2. THE BUILT CONTEXT

Often when individuals think of environment, their thoughts move directly towards the natural environment or "nature".⁴ When discussing the built environment, individuals must understand the importance of each element within the urban realm. The constructed environment directly affects each person's social relations and perception. While almost all the space we inhabit is directly influenced and created by humans, for humans, the more that we understand of how

people experience their environment as well as the different elements found in a site will in turn, create more successful cities and more specifically, positive architecture. Humans crave the exposure to the natural landscape. Exposure to a natural or well-designed landscape can help settle elevated heart rates, as well as lower high blood pressure. The urban space highly influences our human lives.⁵ The rigid separation between building and environment hinder the built context while the threshold works to reincorporate them towards a more integrated whole (figure 14). The degree to which our environment affects us will continue to grow unless our architecture can do more than shelter us from exterior elements. By including the surrounding environment, the social influences of positive physical and mental health drastically reinforce our urban construct.⁶ By introducing architecture that will play a larger role with the surrounding environment or that has a stronger presence to

FIGURE 14: Hermann Kaufmann Office, Dornbirn Austria, context relationship





FIGURE 15: Outdoor Central Mall, Munich Germany

the public domain will create a more holistic design approach to the community and at a larger scale, the city.

03.3. ARCHITECTURE AND SPATIAL FORMS

The public's perception of form and space affect the way in which the city is designed.⁷

FIGURE 16: Ohel Jakob Synagogue, Munich Germany, exterior interstitial space

The building's form is most often an expressive arrangement determined by the typology and function of the building. The inside is expressed



through the outside and vice versa. Corbusier wrote, "the plan proceeds from within to without; the exterior is the result of an interior." This is not a new concept. The threshold space is a different approach towards extending its architecture rather than a means to enclosing it.⁸

The threshold space can exchange roles of functions by recontextualizing existing architectural elements with predetermined roles. The liminal experience commences before crossing the physical boundaries and by being in proximity of the structure. The spatial forms that are designed now often create residual spaces, or leftover nooks. The threshold space attempts to eliminate this by utilizing these areas as extensions of the buildings program or form creating designable space.

Often when architects design a building, the building becomes an independent entity that lacks the coordination between the public realm.⁹ The collection of built forms and variety of building types become surrounded



by residual and meaningless space dedicated for circulation or travel (figure 17). The lack of continuity between elements is unsupportive of the urban exterior condition. The experience of the public domain relies on the consistency of what is expressed through its architecture and built world.¹⁰ While these issues command a more integrated approach to design, the threshold space can be designed to change and meet societies new agenda of a more human inclusive city.

Many buildings are meant to emerge from the surrounding environment and stand alone or to be recognized as a place or point in space.¹¹ The buildings independence creates a distinction allowing for diverse buildings to coexist within the city. The threshold space does not deny this nor disguise the building but attempts to extend its architecture using architectural elements that delimit space. The threshold space utilizes either pre-existing self-expression or generates new expression through threshold design. The threshold begins to utilize the landscape, topography, and physical elements to create a more lengthened

transition. To create a three-dimensional space where the threshold acts as a designable entity, the movement of the person, and the experience of transition (liminality) needs to be extended. This transition between the ground plane can then be a natural progression between architecture and context.

03.4. HOW PEOPLE EXPERIENCE SPACE

As society has developed further, thresholds can have a variety of meanings where the individual experiences the space differently. Whether experienced metaphorically, emotionally, or physically, they can be categorized as direct or indirect experiences. Direct experiences are considered as the physiological response to the surrounding variables, while indirect is associated with the cognitive construct the individuals perceive from either past experiences or how they've come to understand the world.¹²

Within these categorizations, the definition of a threshold is slightly altered changing

FIGURE 17: Werkraum House, Peter Zumthor, Austria, glass facade and overhang

its identity and perception of its interaction with the built world. Architecturally, each type is associated with the transition of space. However literal, or figurative the varying types may be, thresholds all have a similar relationship to movement and the procession through space but when it involves how people perceive this procession, the definition becomes limitless. Whether it's the way we visually arrange or construct patterns, or associate space, the buildings surrounding and relationship to one another are vital in expressing its multi layered complexity. By incorporating layers of experiences within the threshold's design, the importance lies on creating a receptive experience understanding the way the user will perceive it. This perception is created by combining mind and body with building and environment, each within metaphorical, emotional, or physical experiences.¹³

03.5. INDIRECT EXPERIENCES

03.5.1 METAPHORICAL THRESHOLD

Metaphorical thresholds go past something physically concrete. Thresholds are most often referred to on a metaphorical level where they become part of a poetic narration or abstract connection. Metaphors create an experience of familiarity within an individual where they can relate to the experience on an abstract level of feeling.¹⁴ Metaphorical thresholds within the realm of architecture often relate to the symbolism of an object. Thresholds are then metaphorically attached to certain symbols of

architecture or can be poetically attached to an overarching motif. By creating a metaphorical experience, the abstract notion can illuminate hidden, or less apparent characteristics which could be an underlying theme. By metaphorically introducing the threshold, the experience instantaneously becomes more intimate to the individual due to their subjective perception.¹⁵

The National Ballet School of Canada, located along Jarvis St and Maitland Pl., is a part of a 50,000 square foot adaptive revitalization project consisting of a large group of historic structures as well as the existing original National Ballet School.¹⁶ This project takes an array of old Victorian and Neoclassical buildings and uses present-day tectonics and materiality to draw a relationship between its adjacent structures. This project demonstrates how the design of overlooked spaces surrounding the buildings can be utilized in generating a cohesive and successful building complex.

This design allows for an array of different programmed structures and underlying framework to intertwine between one another cohesively. It shows how the space separating these buildings, at one point in time, can become the space in which we use to create stronger relationships that complement the existing historic boundaries surrounding the site. The revitalization of the large group of historic buildings intertwines the new with the old, acting almost parasitic in nature. The additive structure weaves throughout the block, creating, defining, and reformulating space as



FIGURE 18: National Ballet School of Canada, Toronto Ontario, maitland street entrance

it may have been perceived prior to the design. Circulation paths reconfigure a network defining both inside and outside the site. Acting as an infill project, the design took the movement and circulation paths prior and redefined the space that the public now saw as public domain, enclosing and redefining, inside, out.

The ballet school is very successful in the way the threshold space is blurred between rooms. While the entryway between interior and exterior are clearly defined, the connection between each space is a vague transition to the next. The architectural elements of the existing structure were redefined and through the process of the design, exterior walls become interior, and the windows become the archways to hallways. The homogeneous nature of the exterior walls are reconstructed and altered through additive and subtractive measures experimenting with transparency as well as permeability.

03.5.2 EMOTIONAL & EXPERIENTIAL THRESHOLD

Emotion and experience are personal to each user. The subjective nature of

this classification of threshold creates a difficult means in exploring methods in creating a definitive feeling. Attempting to understand the experience thresholds may have, the significance is placed on how thresholds may reflect a certain behavior. Architecturally designed spaces have always been subjected to how they are defined physically and more recently, how one would experience the space. The emotional and behavioral elements that a

FIGURE 19: Sumvitg Chapel, Peter Zumthor, Sumvitg, floor detail



design can include can significantly impact a person. Peter Zumthor is recognized for his quality in design and the perceptible experience that he influences. He makes attentive decisions based on them resulting in an emotional experience that either illuminates the underlying motif, or heightens how the space is perceived. Zumthor designed a small swiss chapel in the isolated town of Sumvitg. He designed the wooden chapel in such detail that he specified the direction of the wood planks underneath the floorboards so that they would creak and sound off as people entered, resulting in an embellished emotional response (figure 19).¹⁷

The threshold space is an in-between state where it reflects a pause within the persons mind, where they are not “in” nor “out” of the design.¹⁸ It becomes a space created for transition. Transit hubs

such as airports, train, and bus stations, specializes in moving people through the building. The transit hubs guide the individual through its architecture from point A to point B. Transit hubs, shelters, or stops, utilize people’s everyday movement by utilizing strategies for transition. At three varying scales, transit hubs, shelters, or simple bus stops, create moments of pause in the transition period. A person’s attitude alters their state of mind and perception of the space where they become “lost” in an in-between state of coming and going. Experiencing the threshold, everyone has a personal and subjective relationship towards their transition between a point, area, or space.

To a greater degree, when exploring the relationships between site and its architecture rather than the simple transition between point A and B, the threshold experience must incorporate the coexistence of two contradictory elements of space. The Terrence Donnelly Centre for Cellular and Biomolecular Research is located at the University of Toronto’s southeast corner. Erected where Taddle Creek Road used to be, the 12-story mixed-use building uses the 60-foot laneway to construct a stronger relationship with the adjacent medical buildings as well as allocate a new formal frontage to its neighboring historic structures.¹⁹ The old street between the two structures now becomes the interior. The exterior facades become interior architectural expression

FIGURE 20: Terrence Donnelly Centre, Toronto Ontario, building landscaping and threshold





(figure 21). The threshold between the outside and inside are delineated using materiality and architectural transparency. This project highlights many successful aspects of the integration of threshold design within architecture, connecting the site with the building. This design utilizes different areas of transition to bring more continuity to the architectural experience.

The project utilizes linear movement and adds another depth of vertical circulation to prolong the threshold experience. The lobby, or main offices, are set back within the building, so users experience the architecture before reaching their desired location. Like a path, this piece of architecture creates a fluid transition between outside, inside, and program. The floor level gradually changes as the user approaches the structure, while then entering and being confronted with stairs to access the programmed floor on the second level (figure 21). The change in grade creates a hierarchy as it places its functions and programming on the

second floor, allowing for the ground plane to become a secondary space, where experience and engagement becomes its primary objective.

03.6. DIRECT EXPERIENCES

03.6.1 PHYSICAL THRESHOLD

Physical thresholds are discussed often within the use of building design. Architects are taught to be able to delineate interior and exterior space by incorporating physical responses regarding the human being. The physical threshold is generally seen as a wall, window, doorway, or entrance. The threshold becomes a permeation within the boundary wall or plane, the moment or point of transition. By adding architectural elements, the architects can extend the transition and moment in which the building is entered and/or portrayed. The physical threshold is a direct response that the designer creates by using provoking elements or architectural characteristics to incite an immediate response from the user.²⁰ The threshold in relation to a north American climate, is often associated or referenced

FIGURE 21: Terrence Donnelly Centre for Biomedical Research, Toronto Ontario, ground floor redefining elements

to a “vestibule”. The vestibule is a transition space that is allocated for the change in state/ climate/ or sense of space. The vestibule is most often not a designed space rather a building requirement allocated for the changing condition. The physical boundaries that delineate the space are the threshold however large or small. These spaces should be utilized as an essential design space rather than a required, four by four, glass box.

The Rundetaarn in Copenhagen, Denmark is a fitting example of the way the human experience reacts towards a physical threshold. The tower is located in Central Copenhagen and was built as an astronomical observatory. The towers significance is the spiraling ramp that is centered beneath the observation deck. The spiral ramps circle the core and is the primary circulation path to reach the observation deck (figure 22). It uses the historical program of the tower and current program of a tourist

lookout and extends its threshold by utilizing the distance the functioning program has from its designated entrance. While the individual is attempting to reach the top of the observation deck, the spiral ramp acts as the journey or “pathway” whereas the entrance becomes a elongated walk and/or climb. The extended spiral ramps acts almost identical to the North American approach of a vestibule, although is adequately designed relating to back to the humans experience.

03.7. SPATIAL PERCEPTION / HORIZONS

What the user sees and how they visually interpret the physical world before them is what dictates the user’s experience. No matter how elaborate we intend the individual to consciously and subconsciously choose to use the space, everyone within the built environment has a unique perception that relates to their sense as a person and how their

FIGURE 22: Rundetaarn
Spiral Ramp,
Copenhagen Denmark,
ramp to observatory &
lookout



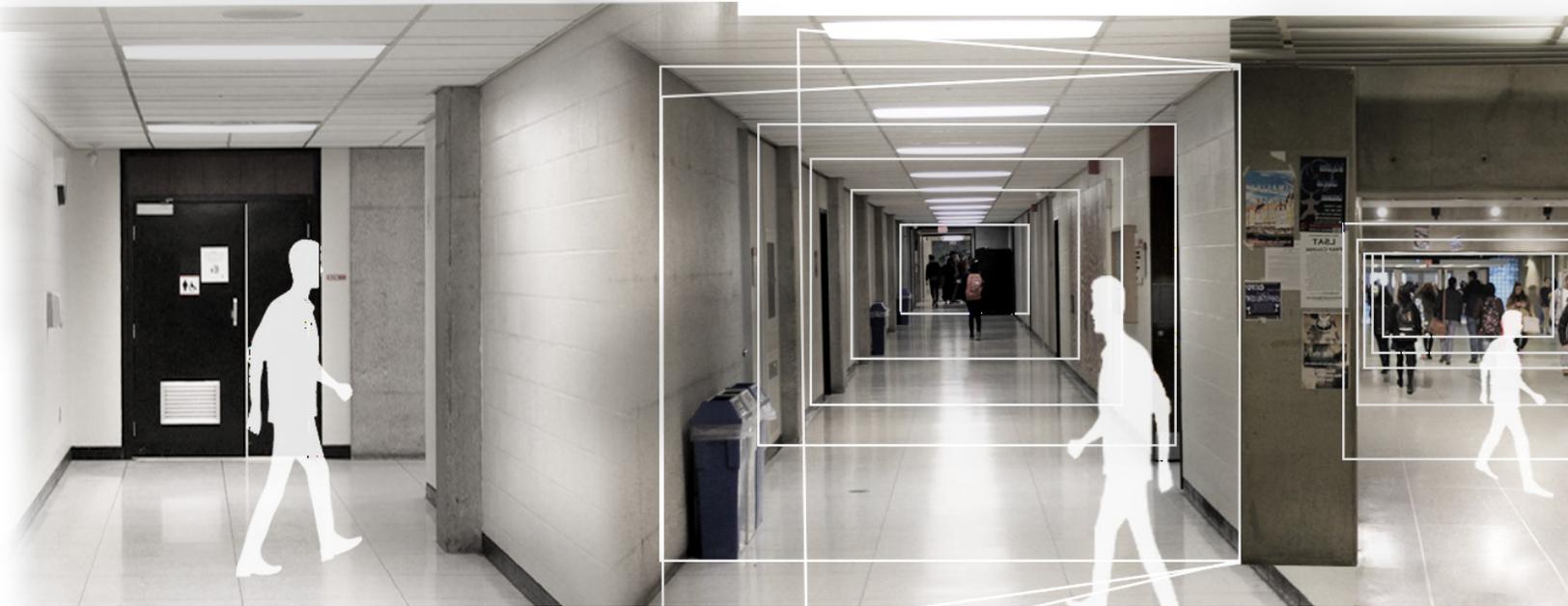


FIGURE 23: Forced Perspective Diagram, York University

whole body influences their mind.²¹ Designing a threshold, can only utilize the knowledge, and understanding of human perception to attempt to influence and grasp how the human will experience that specific space.

Using both architectural elements of the interior and exterior, the architect will be able to create unity in expressing a subtler transition between points. Horizons are associated with what is in sight, but out of reach. Thresholds have a strong relationship to horizons and the way people transition between space. The adjacent building, the next room, or distant park are all considered the horizon. Using horizons as a design strategy creates a unity of what is within the foreground, and what is seen by the user.²² When this is applied, it attempts to direct the user's perception through more candid means. This allows for the architect or designer to leave less to the individual and design the threshold with an intent and understanding of how it will be understood. Simplified, this technique can be explained as placing a symbolic architectural element within the space to direct the user's perception.

Understanding both horizons and the spatial perception of threshold, architects & designers both use site sections to assist in the understanding of spatial definition. Designing through building sections both allow for the designers to visually see where the threshold space starts and ends as well as how the transition through space is intertwined. This technique of designing thresholds allows for a more linear understanding of how people

FIGURE 24: Forced Perspective Dachau Visitor Centre, Dachau Germany

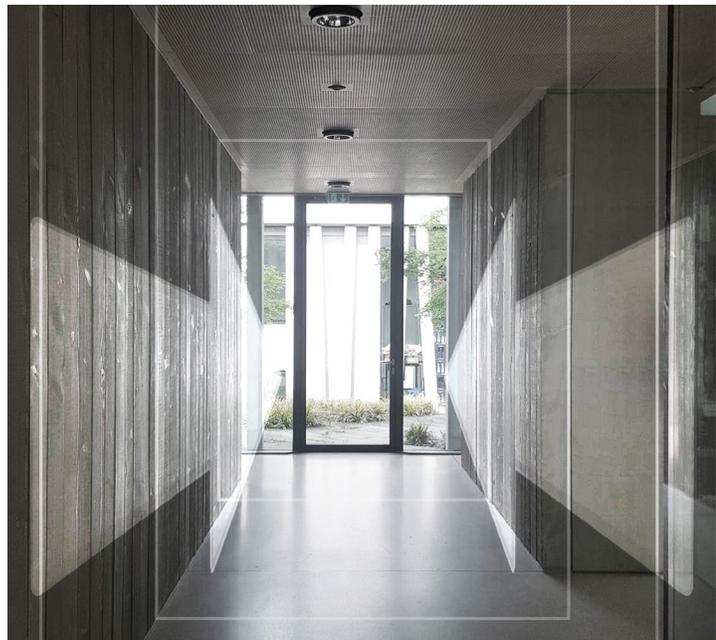




FIGURE 25: Central Square, York University, spatial perception diagram

transition through a boundary like a building and/or room. Within transient programming, the horizons are expressed through a more linear mentality, “pushing” people through space or directing their perception to continue moving. This can be understood as forced perspective. Functioning spaces that provide for public interaction have a vertical construct where they are defined through the y-axis rather than the x-axis. This form of horizons constructs more engaging environments

where movement is less linear and more a point or place where people gather. The spatial awareness is subtly forced upon the users by adding a complexity to the design and the threshold experience.

03.8. ADDING COMPLEXITY

Recently Jan Gehl discovered that people are most pleased when they have something interesting to stimulate them within five second intervals.²³ These intervals allow for the individual to visualize a multitude of variations or elements within their surroundings. By adding complexity to the architecture or surrounding context, the human experience becomes heightened, or by Jan Gehl’s understanding, “most happy”. Adding complexity can be understood at a primitive level of both small and large scales. Within a smaller scale, complexity can be added through,

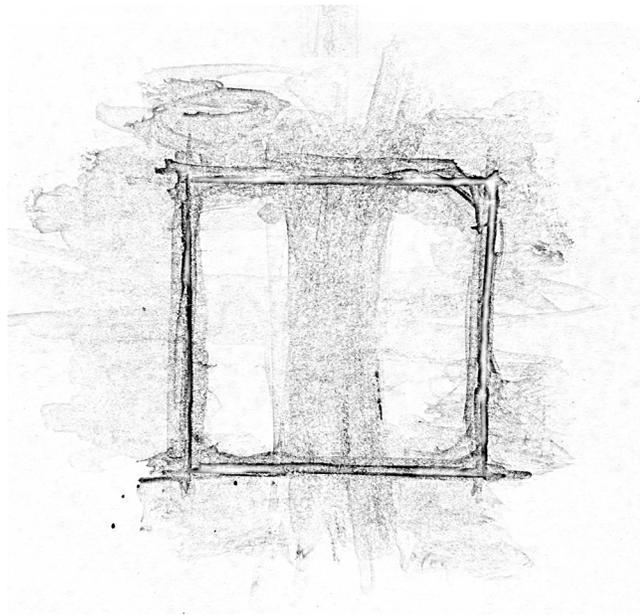


materiality, through the buildings form, or façade's permeance. By introducing simple design strategies like light and dark or by diversifying the façade through solid and void, exaggerates the complexity of the building and the intimate experience between users. At a larger scale, complexity can be seen by adding volumes or massing within the surrounding environment. By adding massing or volumes the surrounding space becomes complex rather than each building as a separate entity and assists in constant human craving for cognitive stimulation. At varying degrees, the complexity changes the human experience. Viewing either the micro or macro scale, the human's perception of the building's complexity can reinforce a more positive environment.

By exploring complexity further past a very surface level of patterns or volumes, Venturi's "both-and" theory describes that "we" as society are familiarized in the concept of "either-or".²⁴ Architecturally we accept having one or the other. There isn't an effort to attempt the impossible, instead settling for the easier of the two, or often the most feasible. Venturi's "both-and" phenomenon introduces a contradictory condition where architecturally, you allow both contrasting elements to take shape creating elements that are "both-and" are part of the other.²⁵ Using the term "yet" allows for the architectural elements to contradict one another but both contain varying levels of program, structure,

and identity. Architecturally the column, window, or wall, is nothing more than what it is traditionally conceived of. The method of advancing architecture whilst using double functioning architectural elements, allows for the building to reach a higher level of meaning creating heightened spatial experiences. Referring to thresholds, the elements that contains a dual purpose allows for the traditional interior elements to contain characteristics of exterior elements, both physical and figurative. This in turn, would allow for a more fluid transition entering and exiting the building. These design strategies begin to allow for thresholds to be considered as spaces with multiple functions that vary in experience, emotion, and physical boundaries rather than a point, a line, or moment.

FIGURE 26: Point Line and Space Diagram, binding space



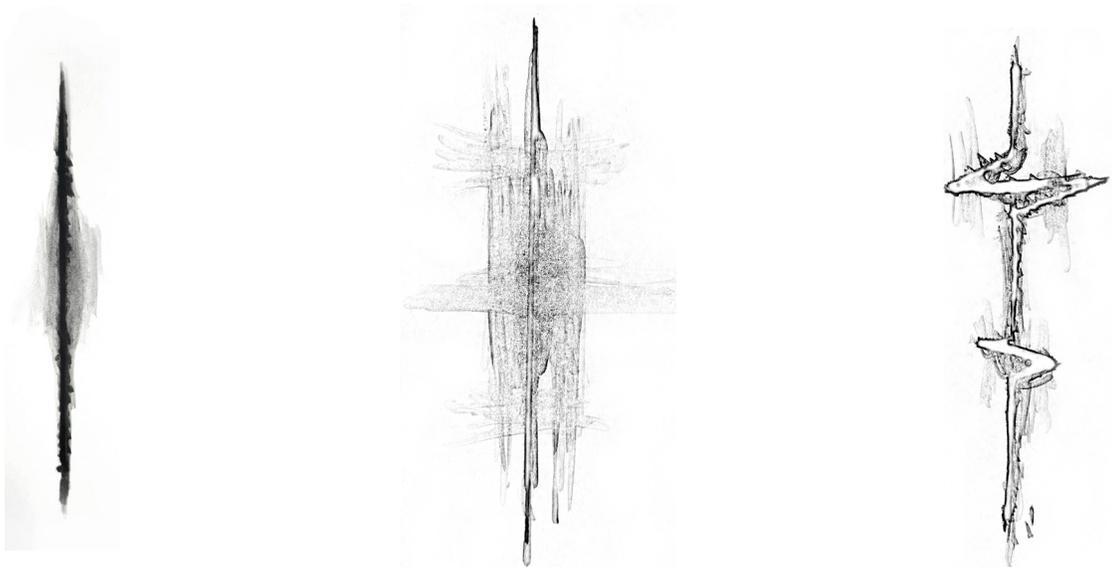
03.9. POINT-LINE-SPACE

Architectural form dictates the space surrounding the building, creating leftover, residual, and in-between areas that define the structure as a separate entity. When approaching a building, the facade or the exterior is what registers as the boundary of the building. The threshold space becomes a design method in blurring the rigid edge condition of the architectural form. The boundary plane is seen and experienced as a point or line in space, like a two-dimensional cutoff between the interior and exterior. Represented in figure 27, the lines represent the boundary wall or exterior facade. The lines highlight an experimental study on creating permeability through defined elements. Understanding the line as a representation of a wall or bounding plane, the wall, needs to be an extending element where the residual space lies on neither the interior or exterior of the

bounding plane but rather in-between the two.

The in-between space begins by splitting the boundary line in two. The point/line becomes a three-dimensional entity where it can be defined and designed through architectural means. This delineation of space allows for conflict between interior and exterior forces to overlap. This allows for relationships between both threshold and environment, as well as threshold and building to occur creating a heightened experience between its architecture and surrounding public domain. Corbusier's famous quote of, "the plan proceeding from within to without; the exterior is the result of the interior", is understood as a manifesto or platform towards designing architecture.²⁶ Although in the terms of threshold space and how architects can design for recontextualized program and structure, the phrase must be taken a step further and the exterior now dictates parts of the interior creating a balanced threshold space of complex environments.

FIGURE 27: Point Line and Space Diagram, extending the boundary plane



ENDNOTES

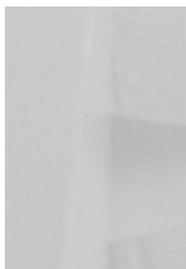
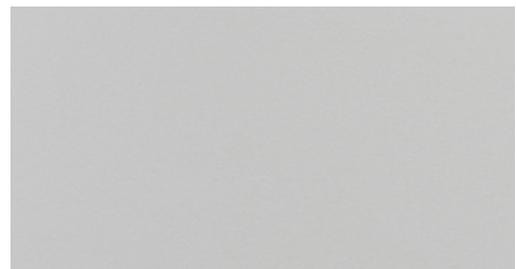
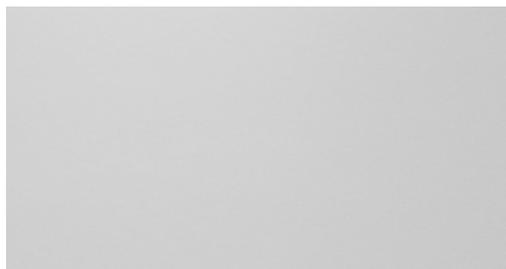
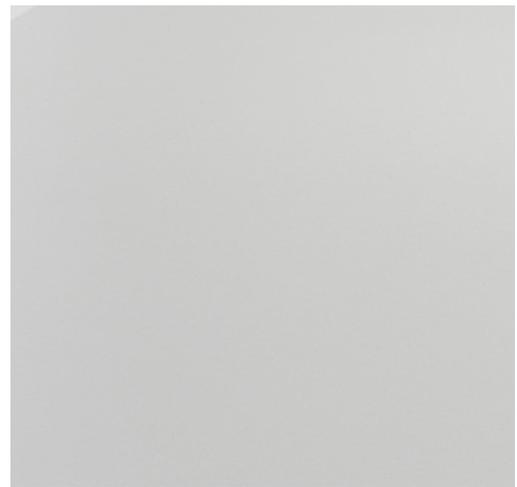
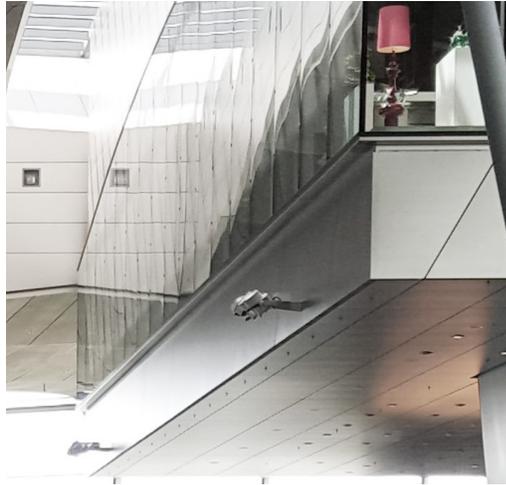
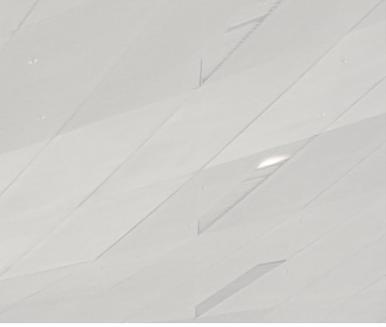
- 1 Curran, Raymond. 1983. Architecture and the urban experience. Van Nostrand Reinhold, 1-9.
- 2 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, xiv.
- 3 Leatherbarrow, David. 2000. Uncommon Ground: Architecture , Technology, and Topography.
Cambridge: MIT Press, 170.
- 4 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, xxiv.
- 5 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 19.
- 6 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 16.
- 7 Leatherbarrow, David. 2000. Uncommon Ground: Architecture , Technology, and Topography.
Cambridge: MIT Press, 78.
- 8 Venturi, Robert, and Museum of Modern Art. 1977. Complexity and contradiction in architecture.
New York: Museum of Modern Art, 82.
- 9 Curran, Raymond. 1983. Architecture and the urban experience. Van Nostrand Reinhold, 53.
- 10 Leatherbarrow, David. 2000. Uncommon Ground: Architecture , Technology, and Topography.
Cambridge: MIT Press, 72.
- 11 Leatherbarrow, David. 2000. Uncommon Ground: Architecture , Technology, and Topography.
Cambridge: MIT Press, 73.
- 12 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 73.
- 13 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 47.
- 14 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 76.

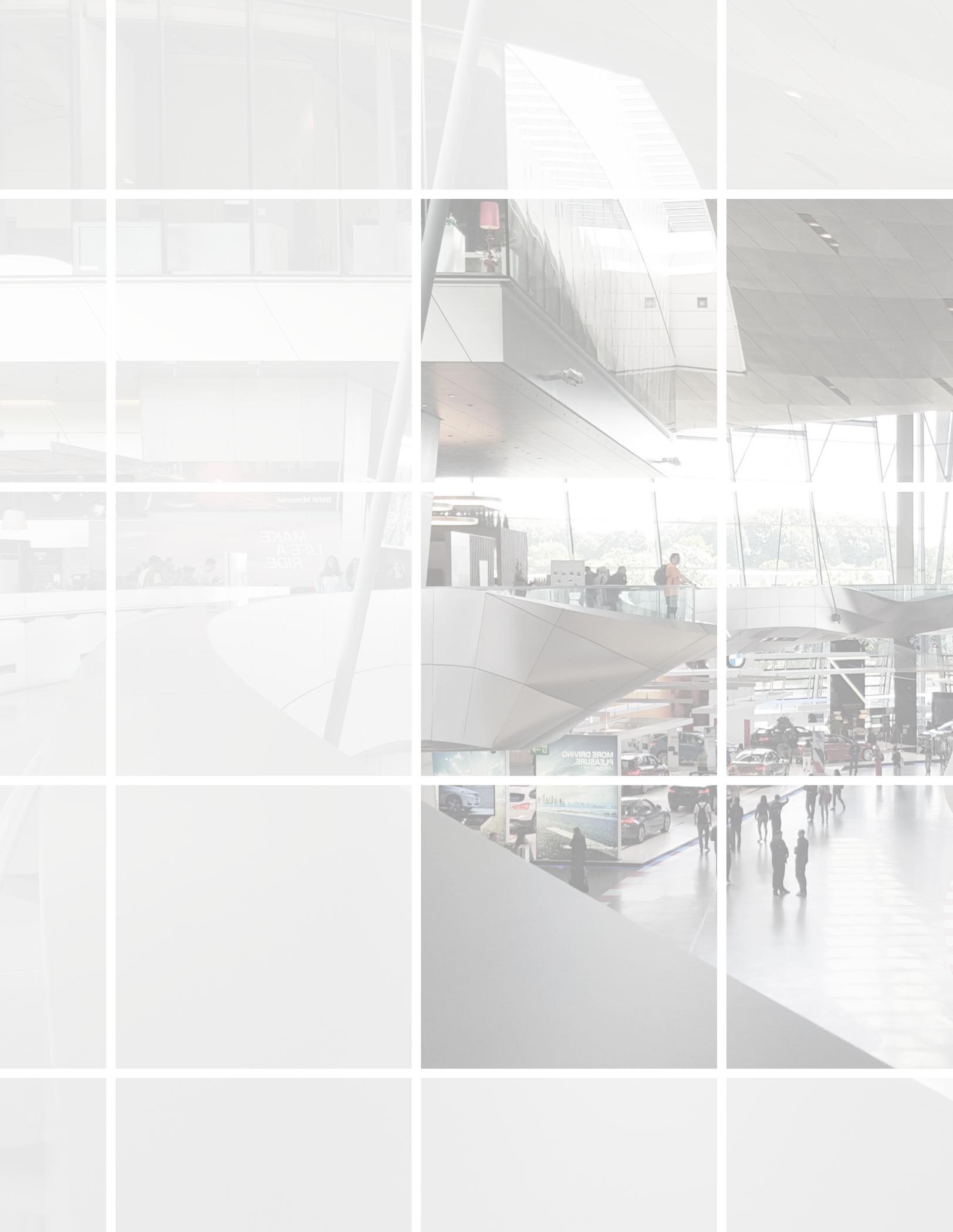
- 15 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 76.
- 16 "GBCA," GBCA, 2016, , accessed August 20, 2016, <http://gbca.ca/projects/nationalballetschool>
- 17 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 76.
- 18 Grice, Gordon. 2015. "Thresholds." OAA Perspectives 14.
- 19 Isaac, Lara. (2015, february 7). Architectural Case Study: Terrence Donnelly Centre for Cellular
and Biomolecular Research. Retrieved from http://www.youtube.com/watch?v=LsUp_yL4t5o
- 20 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 69.
- 21 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 46.
- 22 Leatherbarrow, David. 2000. Uncommon Ground: Architecture , Technology, and Topography.
Cambridge: MIT Press, 210.
- 23 Goldhagen, Sarah. 2017. Welcome to your World- how the built environment shapes our lives.
New York: Harper Collins Publishers, 233.
- 24 Venturi, Robert, and Museum of Modern Art. 1977. Complexity and contradiction in architecture.
New York: Museum of Modern Art, 23.
- 25 Venturi, Robert, and Museum of Modern Art. 1977. Complexity and contradiction in architecture.
New York: Museum of Modern Art, 23.
- 26 Venturi, Robert, and Museum of Modern Art. 1977. Complexity and contradiction in architecture.
New York: Museum of Modern Art, 82.



04

DESIGNING FOR THRESHOLD





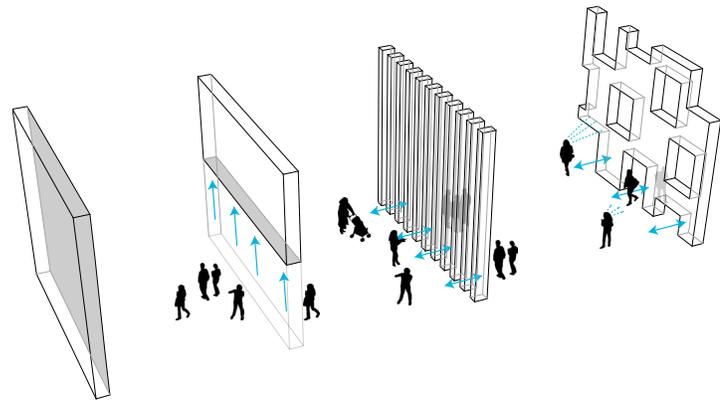
04. DESIGNING FOR THRESHOLD

What the user sees and how they visually interpret the physical world before them is what dictates how the user inhabits space. Individuals within the threshold space all have a unique perception. Their perception creates the threshold space's boundaries. By combining the multiple themes of threshold; permeability, nature, materiality, transparency, liminality, and flexibility, the architect can begin to direct the user's perception through more candid strategies that leave less control to the individual and begin to design the threshold with an intent of how it will be understood.

04.1. PERMEABILITY

With the lack of respect that many buildings have towards the human scale, the built environment is slowly corrupting the urban experience. The homogeneous characteristics of these modern buildings create a definite boundary that architecture begins to be associated with. The homogeneity of the building, if adapting to society's current ideals, needs to be analyzed and redeveloped, to remove, permeate, or free existing physical characteristics. This will allow architecture to become more approachable to the human scale. Aaron Betsky discusses in depth the importance of experimental architecture and how it is possible to perceive space with no restriction. This ability to allow fluid transition between entry and program create a continuity that allows for a more successful social atmosphere to occur without any restriction. By opening the ground plane, it makes it possible to proceed through typical physical boundaries creating movement between inside and out. Both openings and movement become guiding principles to redeveloping the threshold space. The transition through interior and exterior forms the threshold as an interruption between boundaries, the in-between. It is the moment in which you transition through the boarder. The threshold becomes the preamble to the next space, creating a sequence.¹ By creating permeability, you are in a way creating threshold, but by introducing a consistent palette utilizing these principles, the threshold space extends itself past a moment or

line in space and becomes a three-dimensional entity. Building forms that lack permeability should not be ignored or disregarded, but should be considered integral in reclaiming social interaction and the encouragement of movement within these separate spaces. The lack of respect that many buildings have towards the human scale is slowly corrupting the urban experience. Permeability can allow architecture to become more interactive at the ground plane. The permeable nature of openings and the subtle shifts in materials begin to propose a more successful social atmosphere being a part of both the inside or outside.



04.1.2 Openings

Openings can be organized through many different forms such as; windows, doorways, archways, courtyards, colonnades, and promenades, etc. The direct use of these forms effect how the public perceives the interior space from the outside and how they contextualize the exterior space from the inside. By interpreting, sizes, form, or the relationship to the surrounding framework, the openings begin to delimit architecture. Openings connect both the interior and exterior domain through not only direct visual connections but through functioning extensions. The point is to design overlapping space rather than a more efficient way to separate programming. While not necessarily needing to be strictly defined as a portal to the adjacent space, openings can be redefined to express a wider range of ideas regarding the public perception of containment. By dividing the perception of containment into two, the designer can begin overlapping the separated programming. The use of these two categories allow for adjacent spaces to engage through different means, and tolerate an urban hierarchy throughout the building and surrounding context.²

04.1.3 Movement

Permeability is always examined parallel to movement. The permeable concept is where the individual moves between one reality and another.³ Movement is used to access the separated or cross the dividing element. Movement allows the user to react to all aspects of the building and allows the delimiting elements to create areas of transition rather than a focal point or moment in the building's design. As cities develop, the idea of movement is now associated in regard to the human scale. The public domain becomes the surrounding context in which society moves and inhabits in their everyday lives. The experience between the surrounding context and the built forms become more significant as cities densify because of the importance in utilizing space. The residual spaces that are the in-between or commonly left over, are now seen as valuable space within a dense environment. Utilizing the movement through and the permeability of a building, the architectural design opens itself to the street, alley, or lingering public domain directly adjacent to the functioning

FIGURE 28:
Permeability Diagram,
passing through space



FIGURE 29: Louisiana Museum of Modern Art, Copenhagen Denmark, circulation path leading to adjacent buildings

FIGURE 30: Network Pathway Diagram, connecting space

program. This enables the relationship to have a direct response to both interior and exterior functions, in turn, creating an interplay of architectural, urban, and landscape design where the threshold enhances the individual's experience.

Brutalism was viewed as concrete containers that experimented with large form. The ground plane has always been obstructive or intrusive to the surrounding environment no matter where it stood. Attempting to redefine the public's perception of containment, the ground plane must be dramatically opened. To create a successful threshold space, the ground plane must be open to allow for a more natural sense of movement. By freeing the ground plane, it does not necessarily mean for the removal of the exterior walls, but by introducing elements such as permeations or by creating a colonnade. The brutalist architecture can then begin to interact with the individual's perception of containment and their perception of what inside really means. Freeing the ground plane both physically and metaphorically, the space must acquire characteristics of a permeable



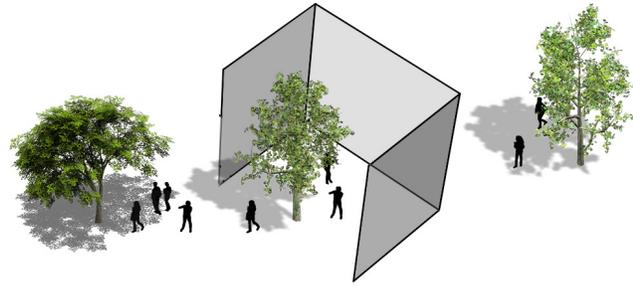
design whether it is 50 years old or a new design.

04.2. REDEFINING NATURE

The evolving nature of technology allows architects to design space more creatively.⁴ The scale of urban interventions, allow designers to have the ability to bring natural elements inside, reimagining landscape through a new architectural lens. The redefinition of landscape within an internal context changes the public's perception of nature and allows it to be viewed as both, interior and exterior elements, rather than defining it as a transient element placed between the built environment.⁵ It is important that the threshold is an extension of the built fabric so that it is not overlooked or believed to be a moment between one thought and another but as a continuation of both the inside and out. Creating new ways in perceiving space allows for architects to redefine these areas.⁶ We as architects can expand the public's sense of space through the connection and relationship between the interior and exterior of the building. By reevaluating the edge condition where the transition of landscape become more of an

immersive experience with the building, the objects within the exterior space become a vital step in transforming the existing public realm. Redefining typical landscape elements such as plant life or urbanized furniture can act as a catalyst to engage the individuals mind into rethinking the space before them. Even to go as far as recreating the exterior gardens within the constraints of four exterior walls, the natural elements moved are instantaneously redefined with no change to design or form, just context. By changing the context of specific elements, and in this case, the natural ones, they can be seen in new light or with completely new parameters.

Brutalist structures being portrayed as imposing utilitarian fortresses, often lack an informal use of natural elements. The architecture was used to sit atop of the landscape, to be separated by land and form. When natural elements were used, the elements often were there to accent the formal characteristics of the concrete forms. To create continuity between land and form, the approach of redefining nature utilizes the landscape through its threshold. The natural elements can be introduced within the form of the building to create a sequential path where nature doesn't abruptly stop but gradually fades in and out of the individual's consciousness. The threshold would need to find the balance where the architecture acts as the leading role to the supporting environment. By redefining nature, the building must not be overshadowed but synchronized creating one threshold space.



04.3. MATERIALITY

FIGURE 31: Redefining Landscape

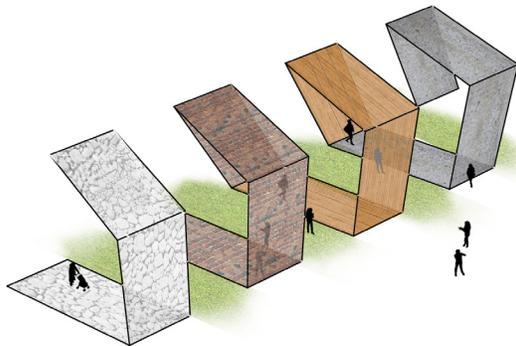
Textures, colors, and patterns are all involved in the preference of materiality.⁷ The designer must combine and contrast different elements to react to the sensory influences of the human being. The senses can then determine the functional nature of a space relating to its passive or intensive qualities. The materiality influences space, both public and private. The expressive qualities that the architect designs with can either help organize or obstruct the subdivision of space. By combining these different material components, the design can help indicate pedestrian zones and circulation paths as well as support the overall concept.⁸ Materiality often is associated with how it can be used to express feeling or the user's senses. It is often used for the aesthetic of the material rather than how it represents the site, or how it can support the initial concept creating a stronger relationship to its architecture.⁹ Architecture and landscape share the ability to express



FIGURE 32: Escher Park E2A, Zurich Switzerland, surrounding park and context

FIGURE 33: Parc Zoologique de Paris, interior animal environments

FIGURE 34: Wrapping Materiality Diagram



material through visually engaging elements creating a variety of forms. The inter-relationship between landscape and architecture need to be simultaneously designed to achieve continuity with spatial form and materiality. The way in which architect's design with material can create tension between neutral or distinctive characteristics. Using distinct materials and textures notably define the edge condition between different



architectural elements more and in this, help define spatial properties. Architecture and landscape utilize both the distinct and neutral properties based on the intended use, programming, and concept for the threshold space.¹⁰ By implementing distinct materials, the individual's perception of space begins to define the surrounding environment rather than a homogeneous neutrality. By investigating concrete, wood, and glass, incorporating these strategies bring the natural exterior elements together unifying them with the interiors

Brutalist architecture is associated with the extensive use of concrete. Concrete as a material permitted architects to design past their prior limitations with construction materials. Concrete made innovation and invention available for post war construction. Many concrete structures were built in sheer volume where consideration to its psychological and effect on the landscape did not matter to a car-oriented city.¹¹ Buildings in North America



were meant to protect the people from its landscape by sheltering the individual from the harsh climate. This distinction between landscape and architecture developed objects in space, where they became a point in place where people sought to arrive to. The transition and sequence of approaching the building did not matter. The principles and strategies beyond form wasn't approached in the same degree as it is today. Concrete was used because of its inexpensive nature and accessibility. The material and textures weren't considered as spatial influences but as physical elements aiding the built form. The use of concrete is not often used for its aesthetic nature but its function, and when function is prioritized, the rigid material acts as a limiting element setting distinct rigid lines and boundaries.

By introducing wood, it softens the brute concrete by identifying a warmer tone against the cold stone. Wood becomes the dividing factor of delineating space away from the concrete. Wood is implemented as a light additive material usually targeted to soften the



visual aesthetic of concrete. Individuals can easily form strong relationships between both wood and the natural elements of a site. Wood becomes a significant material in extending the threshold space by bringing natural site elements inside the building. Wood is often used as shelter from sunlight or as decking built in an exterior place. By continuing the exterior typology of a deck or shading element from without to within, the way an individual perceives the space will become part of the extended process.

When referring to glass, transparency is almost always present in the discussion. Glass, having a unique trait distinct from the other two, is that it can be transparent or opaque. The material allows connection in a visual sense while being constructed in the traditional means as a boundary plane. The use of glass protects the users from climate conditions while also creating a visual connection to the surrounding context. Within a concrete volume you are spatially isolated to your context. You are

FIGURE 35: Ross Building, concrete facade and form work detail

FIGURE 36: Escher Park, Zurich Switzerland, wood facade weathering detail



FIGURE 37: Central Square Intervention Sketch, utilizing elements to extend space

grounded within the constraints of the space around you, which is often enclosed or act more as a container rather than an engaging atmosphere. When entering the building, it removes you from your preexisting context and you arrive to your destination with no transient aspects to its design. You arrive from one place to the next quickly with no sense of transition. The ability to replace existing concrete boundaries with translucent glass redefines the space entirely. The ability to use glass completely changes the context of a space. By utilizing glass as a material, it delimits and frees the constraints surrounding the space. Allowing the bounding plane to become transparent the user's perception drastically changes where the procession between two spaces may physically be apparent, but visually, they reside in the same space.

04.4. TRANSPARENCY

Transparency in the past decade has undergone many adaptations of use.

Architecturally transparency is defined as a material's characteristic. The transparent boundaries of threshold can establish space. Boundaries within the context of a threshold, are the limiters that are often the defining elements within the transition of space.¹² The concept of transparency generates a unique circumstance where physical boundaries are constructed and the individual can still visually see through it. The transparency of a threshold boundary gives architects the ability to expose the inside and outside blurring the line of interior and exterior. How architecture can define physical boundaries as well as how architects can place human beings in the space mentally gives the threshold space a more unified transition and integrated experience. Transparency can be viewed through a psychological approach where the methods of transition and threshold become less apparent. This is where your senses perceive the space, and how the transition between the exterior and interior define themselves become invisible. While transparency becomes an integral part of the ground plane, the relationship to the whole cannot be forgotten. The transparent materials cannot act alone, the elements need to coincide



with the overarching theme or design motif to successfully integrate these elements with the threshold design.

The ability to integrate and merge new design techniques within existing structures will allow brutalist buildings to transition and redevelop into a more human oriented architecture. By creating transparent elements and softening the brute concrete through, programming, services, materials, or subtractive methods, transparency can become a design strategy where the volume can be represented in an entirely different way. The spaces can be redefined allowing for thresholds to re-contextualize the building. By designing transparent elements, the individuals experience is defined by either extending space or even constricting it. The homogeneity of the existing material will blend with contemporary architectural techniques and strategies to make an easily perceived fluidity between function and design.

04.5. LIMINALITY

Liminality, in its latin context, means "threshold". Liminality is the moment in which the participants transition and their sensory disorientation is in an in-between state of mind. Within architecture, its psychologically where the stimulus reaches enough intensity where the engaging users senses the transition between space, or in this context, interior and exterior.¹³ Liminality includes a certain degree of activity

FIGURE 38: Intervention Rendering, overlapping elements to create transparency

FIGURE 39: Transparency Diagram, transparency as a physical boundary

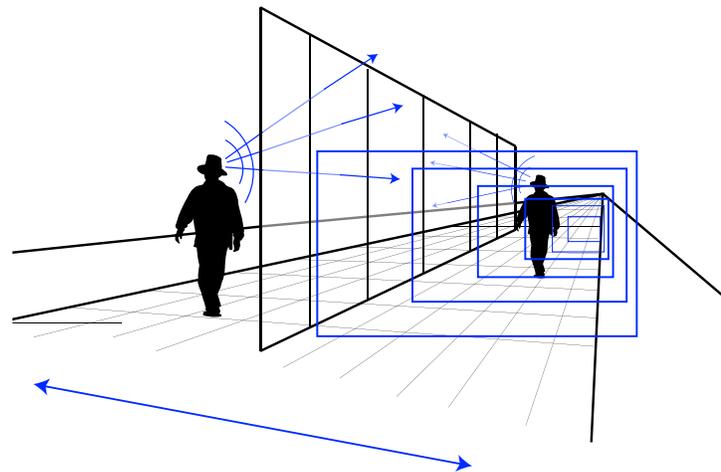




FIGURE 40: Intervention
Interior Render, inside/
out boundary plane

and reactivity where there is an engagement between, building, program, and user.¹⁴ The degree and subtlety in which the users state of mind transfers between space can be caused by several different variables and to different degrees. It becomes subject to the proposal as well as the parameters of the surrounding context. Visual components are frequently an issue regarding unsupported urban design that distinguishes itself separately than the buildings form and the altering concepts of adjacent structures. In the ideal world, each buildings design and concept would be cohesive with the surrounding context, both architecture and urban framework. By recontextualizing the architecture and its engagement with its landscape allows for an extended liminal moment to occur in its threshold space. The strategy for a threshold intervention is to prolong the sense of transition through materials, delimiters, texture, and form. The architecture then has the ability to become successful in reintegrating the surrounding environment with the built form.

Liminality is very prominent in adaptive reuse projects, or working with the idea of preserving identity. The projects often work against monumentality by constructing stronger relationships between the "new" and the "old" through the tectonics of the intervention. The "new" attaches itself to the "old" distinguishing itself from the existing form. It then becomes an extension of the existing framework. When working with an existing architectural condition, the public's perception and engagement are already defined, although the intervention now becomes a way in which to redefine elements. All sites contain the variables to analyze, understand, and re engage the individual's already preconceived perception. Each site or existing structure have a set of unique characteristics that create the identity of the building. By understanding them and introducing the threshold space that recontextualizes it's architecture, the person can experiences the structure differently each time they utilize the building and/or the surrounding area.

04.6. FLEXIBILITY

Flexibility in threshold spaces allows for the customization of space based on the user's individual experience. By creating flexibility, the user can interpret and engage in the architecture in an array of different ways. By creating double functioning elements, the design can begin to develop the "both-and" phenomenon of utilizing controversial elements.¹⁵ The level of design engages the human experience on a much more intimate level, allowing for the space to have options. Flexibility can change and alter the space in a split second, by folding or sliding elements like the Japanese home, or even change through the different seasonal changes. By creating flexible spaces the threshold can integrate a series of functions allowing for the threshold to bring engaging components as gathering nodes and transitional spaces to the users and to the building. Flexibility will allow for the interstitial spaces to play a more significant role of transition and gathering. The threshold design can take on the form of a procession although have gathering elements change. The redefinition of space is unlimited when the threshold space can either becomes a pause in-between two points or an extension of an existing function creating transition.

Brutalism could almost be identified as the opposite of flexible. The large brutal buildings were built to last. By utilizing the concrete within the structure, the spans allowed for many architects and engineers the opportunity to create "beautiful" structures. The spaces

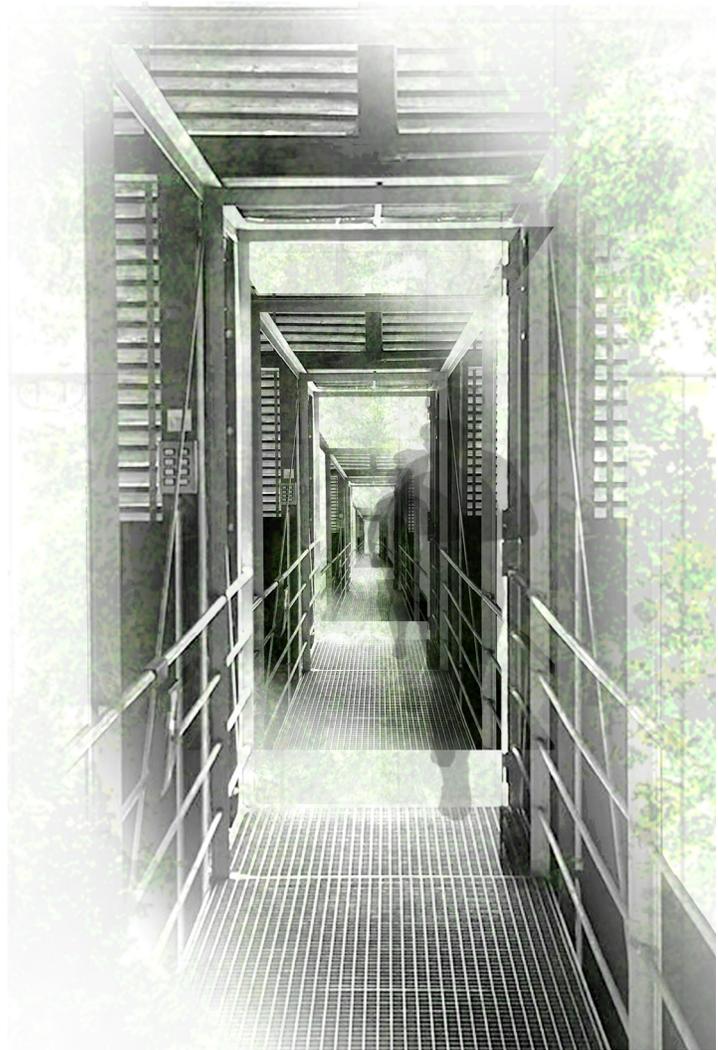


FIGURE 41: Liminal Sketch, perception of where entry begins

FIGURE 42: Flexibility Diagram

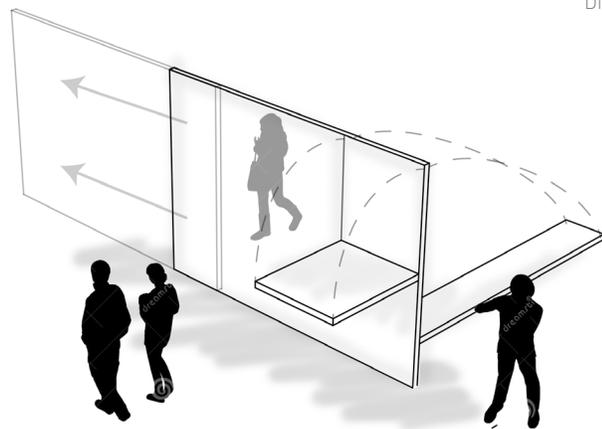




FIGURE 43: Exterior Market, Zurich Switzerland, re-purposed shipping container market

FIGURE 44: BMW World, Munich Germany, interior roads and displays

were created with a social ambition although were part of a different time, incapable of utilizing concrete in this context. Many of the buildings focused on displaying the function through built form, although never intended for the function to change, or even, be flexible.

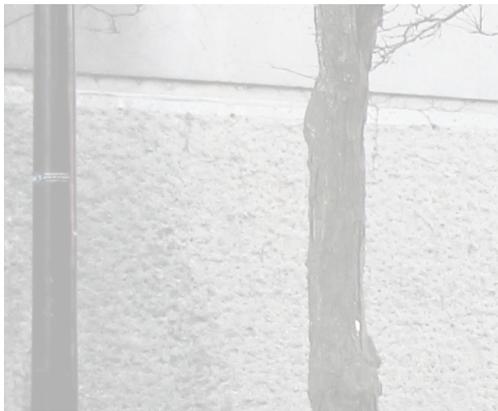
While circulation program of brutalism were often well thought out, these areas contain the most opportunity in creating flexible space. They exist already as an single functioning



entity. By creating an architectural intervention or by manipulating the existing framework, the space can then become flexible in form and function.

ENDNOTES

- 1 Boettger, Till. *Threshold Spaces: Transitions in Architecture Analysis and Design Tools*. Birkhäuser, 2014, 32.
- 2 Curran, Raymond J. 1983. *Architecture and the urban experience* Van Nostrand Reinhold, 59.
- 3 Venturi, Robert, and Museum of Modern Art (New York, N.Y.). 1977. *Complexity and contradiction in architecture*. 2nd ed. Museum of Modern Art, 82.
- 4 Allen, Stan. "Nature in the Plural." In *Landform Building: Architecture's New Terrain*, 285.
- 5 Allen, Stan. "Nature in the Plural." In *Landform Building: Architecture's New Terrain*, 285.
- 6 Allen, Stan. "Nature in the Plural." In *Landform Building: Architecture's New Terrain*, 287.
- 7 Berrizbeitia, Anita, and Linda Pollak. 1999. *Inside/outside: Between architecture and landscape*. Rockport, 17.
- 8 Curran, Raymond J. 1983. *Architecture and the urban experience* Van Nostrand Reinhold, 101.
- 9 Berrizbeitia, Anita, and Linda Pollak. 1999. *Inside/outside: Between architecture and landscape*. Rockport, 18.
- 10 Boettger, Till. *Threshold Spaces: Transitions in Architecture Analysis and Design Tools*. Birkhäuser, 2014, 32.
- 11 Calder, Barnabas. 2016. *Raw concrete: The beauty of brutalism*. William Heinemann, 22.
- 12 Venturi, Robert, and Museum of Modern Art (New York, N.Y.). 1977. *Complexity and contradiction in architecture*. 2nd ed. Museum of Modern Art, 41.
- 13 Berrizbeitia, Anita, and Linda Pollak. 1999. *Inside/outside: Between architecture and landscape*. Rockport, 16.
- 14 Berrizbeitia, Anita, and Linda Pollak. 1999. *Inside/outside: Between architecture and landscape*. Rockport, 9.
- 15 Venturi, Robert, and Museum of Modern Art (New York, N.Y.). 1977. *Complexity and contradiction in architecture*. 2nd ed. Museum of Modern Art, 23.



05

SITE SELECTION





05. SITE SELECTION

Toronto, during the brutalist movement was on the brink of development. Its post war hope and aspirations set aside any doubt of a city it could one day become. The new city was built extensively during the brutalist and modern movement using ideas from these styles to determine a new environment and social agenda. Toronto contains a large collection of Canada's finest examples of the brutalist style. Existing within today's urban fabric, the brutalist style is constantly under review for preservation or demolition. The scrutiny of poor design towards the human experience and lack of consideration to its context often outweighs the positive architectural history and story that the city of Toronto was built upon.

05.1. YORK UNIVERSITY

The buildings at York University have one of Canada's best and most extensive collections of Brutalism. With the growing demand for post-secondary areas of education, York University was founded in 1960 as an extension of the University of Toronto. While growth was immanent, the provincial government gave almost 500 acres to the development of the university in the North West corner of the city along the borders of Keele Street and Steeles Avenue. Quickly assembled was a group called UPACE, which was University Planners, Architects and Consulting Engineers.¹ The collaboration of Gordon S. Adamson Associates, John B. Parkin Associates, and Shore and Moffatt and Partners, as well as a professor named Thomas Howarth of the University of Toronto acted as a consultant for the firms. Designing the 1963 master plan, the group focused on contemporary interventions and structures that would create a supportive identity for the initial stages of a post-secondary educational campus.² The massive concrete structures dominated the large campus and utilized a central road which circulated around the core educational buildings on campus (disallowing pedestrian traffic) becoming a service road. The very long walk from parking lot to the central core defined many people's experience of York University.³ The campus was oriented towards the car where the buildings large concrete massing protected the



FIGURE 45: Heritage Buildings, York University, Toronto Ontario

people from the outside, the natural landscape. The buildings were seen as blocks sitting on top of the landscape. While the university continued to grow and adapt to new principles of community life, the campus evolved and grew providing more comfortable spaces both inside and out. The relationship to its history is pertinent in developing a successful campus as it continues to grow. Architecture that brings multiple layers of public space together must utilize the relationship between the natural

landscape and the built forms as well as address the colossal concrete structures that exist throughout the campus.

05.2. SITE SELECTION

Narrowing this thesis' focus to the site of York University, many of these buildings lack evident design strategies that successfully integrate the surrounding framework with its architecture. The design of many brutalist buildings do not

FIGURE 46: York University, primary circulation and subway entrances

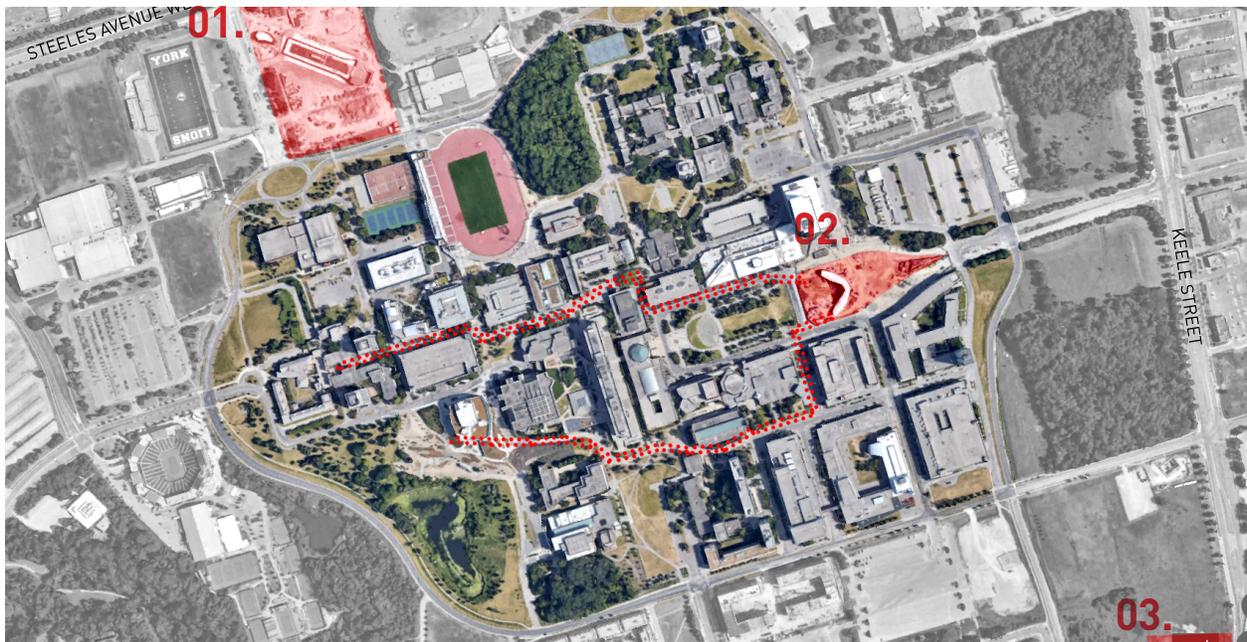
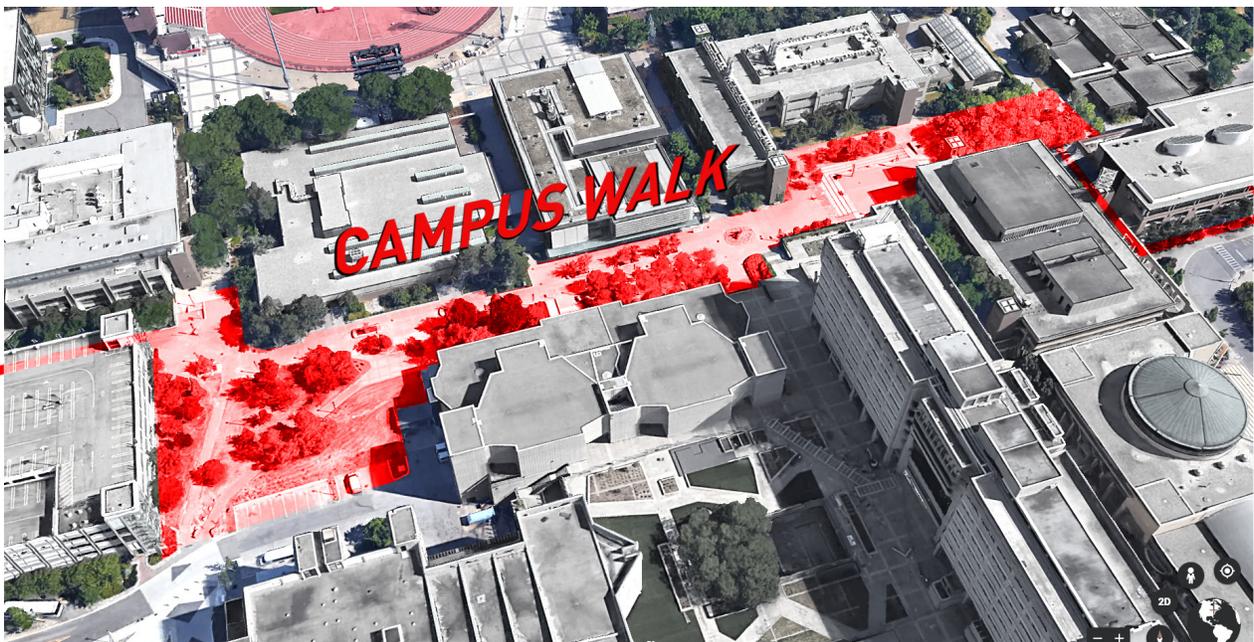




FIGURE 47: York University Campus, context plan

consider the context and relationship to the human scale. These buildings are now scattered throughout the campus oppressing their newly built adjacent structures and environment. The university has grown and developed and now aims to densify and revitalize the campus and surrounding area. The preservation of these historic building elements provide a more meaningful environment.⁴ Preserving these buildings through threshold design allows for the city to be less rigid, adding architectural

FIGURE 48: York University Campus Walk, axo



layers and contributing to the city's identity.⁵ The strategies in which these buildings are renewed and functionally adapted too are key components to the city. Toronto is changing rapidly and as the city changes, so does its architecture. The buildings that are part of our history are just as important as the new buildings being constructed. Finding a way in which these buildings can be successfully reintegrated into our densifying and diverse framework will improve the relationship between human, building, and landscape.

05.3. CONTEXT

York University is in the midst of a change. A considerably young university, York has indicated transformation in the upcoming years. Completing Phase 01 of the secondary plan in 2009, the University and the evolving campus is now in control by the City of Toronto and has been deemed necessary for the development

and growth of the cities campus. York remains to be the largest single land-use in the area. Surrounded by parks, open fields, and vehicular parking lots, the University plans to densify and adapt per the Official City Plan focusing on an Urban human-oriented environment that also connects the surrounding neighborhoods and districts.⁶

Concentrating on the streets and the change in public domain, York university is focusing on densifying the campus through built forms while preserving its local identity. The street becomes one of the primary settings for community while moving away from the car-dominated city that brutalist architecture was built around.⁷ The City of Toronto has succeeded in planning a new subway line that travels directly through the center of York, having three transit stops at the South East, Centre, and North-West parts of the campus. This Transit plan is the primary driver for change and development allowing for

commercialization and densification to occur around these stops. While the last master plan was completed in 1991, the 2009 secondary plan references and acknowledges the guiding principles of the master plan but accepts that the university is evolving and needs a new form of change with the shifting societal needs.⁸ This shift allows streets to become multi-purpose public space where people are the focus.

The ability to connect both the land and building becomes a network of interchanging relationships that interlace the surrounding context with the built form. This compliments one another and blurs the line of entry and exit within the existing urban fabric.

05.4. PRECINCTS

The development of York University is a campus wide objective that distinguishes different precincts in which to characterize different

FIGURE 49: Secondary Plan Precinct Development, dividing the campus



areas of development. By separating the large rural campus into different precincts, the opportunities can then be developed based on different areas. The structures within these areas can then coordinate in terms of the master plan for the campus. The campus creates seven precincts; **A.** Steeles West, **B.** Steeles East, **C.** East Campus, **D.** Central Campus, **E.** West Campus, **F.** South West, and **G.** South Keele.⁹ While examining each precinct individually as well as its relationship to the others, the central precinct has the most opportunity for my intervention and to further explore the ideas of a threshold redefining the public domain. Within the central precinct, the district is heavily designated as an educational zone where new development must respect the scale, character, and form of the existing campus. The campus requires an enhancement of active ground floors, the use of transparent building materials along circulation paths, and the expansion of the

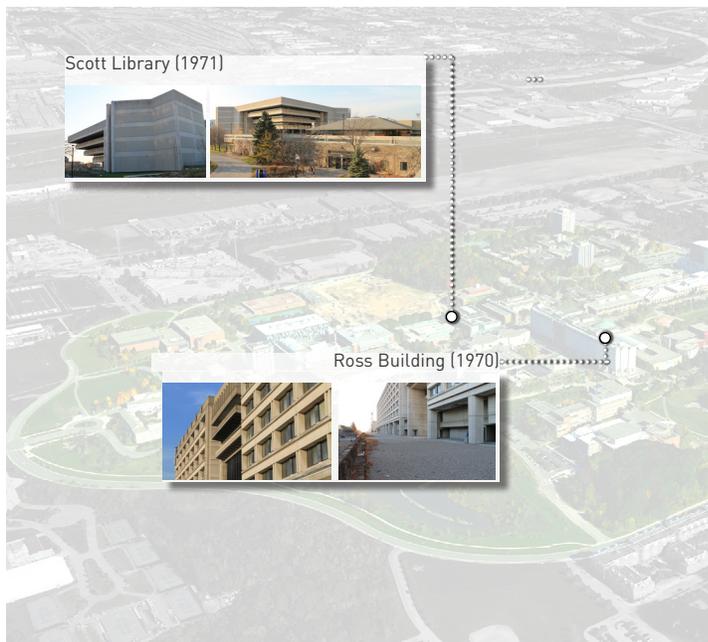
educational programming and services.¹⁰ The city's plan to create higher-density, mixed-use communities, and easily accessible transit improvements dictate a rapid change in which York University is now undergoing.¹¹ The improvement and development of its central precinct and more specifically Central Square, will assist in the growth and densification of this university while assisting in its objective of creating a more human oriented context for its university students, faculty, and surrounding communities.

05.5. HERITAGE VALUE

The Ross Building, Scott Library and Central Square were conceived of as the central architectural markers of the campus. The monumentality of the brutalist style, and sheer size allowed these buildings to be the center of campus for almost 50 years. The Ross Building and Central Square are part of Toronto's most significantly well-known architectural works for the brutalist style. The site has many significant architectural characteristics that have been deemed crucial to the heritage value of the site. Becoming a local landmark as well as having an architectural history, the Ross Building's scale, mass, and form is viewed throughout the campus and part of the neighborhood's local identity.¹²

Additionally within the campus, the Ross Building is an example of a strong disconnect between built forms and the layered development of York University. The buildings monumental presence in the 70's, and 80's

FIGURE 50: York University Central Square, attached heritage buildings



were then designed around and ignored. The construction of Vari Hall believed to visually soften the aesthetic of the Ross building created a new focal point for the campus environment. The construction of Vari Hall deconstructed the pedestrian ramp that led up to the original building and “placed its back” towards the 6-story tower.¹³ The disregard for both new developments and the original proposal has created the opportunity to re-identify the relationship of its current and future context and attempt to recontextualize the building with its proposed landscape. Robert Venturi discussed how the architecture could always be viewed or constructed in an entirely different framework and that the new can be the old it is just our perception of space. Through design strategies architects can have a better understanding of the threshold space and how we create a junction between the new, the old, and the surrounding forms.

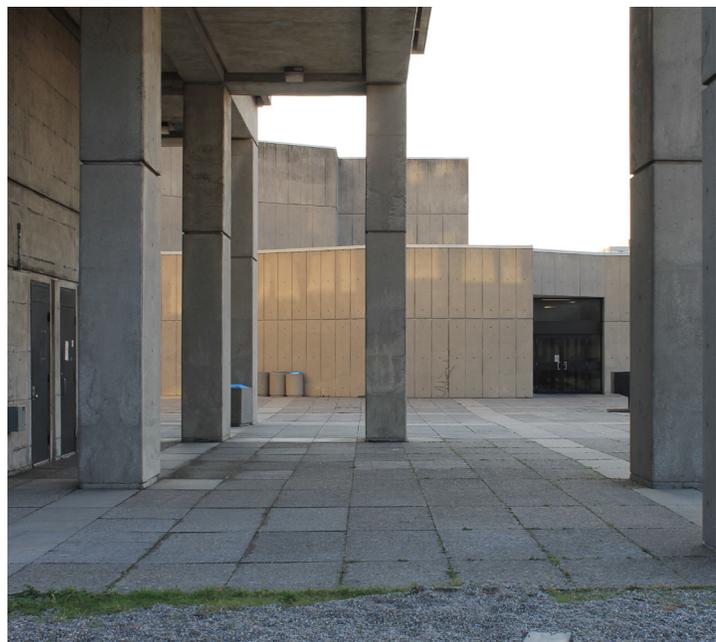


FIGURE 51: York University Campus, context plan

Some significant attributes part of this architectural work are the; materials/glass and metal detailing, the entries with metal doors and glazing, the flat roof line, the recessed lower stories, the pilotis, the grid pattern as well as the material use of its concrete piers/paneling.¹⁴ While all these architectural attributes have been labeled as having heritage value, the ability to reincorporate many of these aspects through new architectural methods and techniques become a part of how

FIGURE 52: Exterior Curtis Lecture Hall Facade

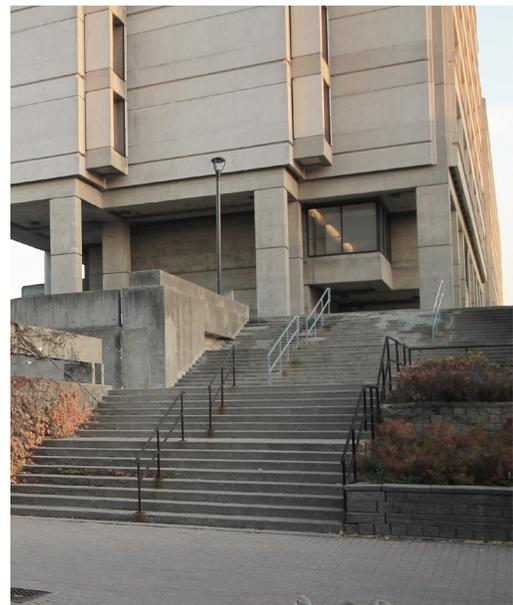
FIGURE 53: Ross Building Pilotis



we formulate and preserve the past, through a new identity. While this site was a part of establishing a new university outside the traditional urban centers, the university has grown and densified and now re-examines its relationship to the street, as well as orienting itself as a more human focused campus. While not all these architectural characteristics can be physically restored, as architects, we are able encase them through the integrity of new interventions as well as preserve them through new ideas and design strategies.

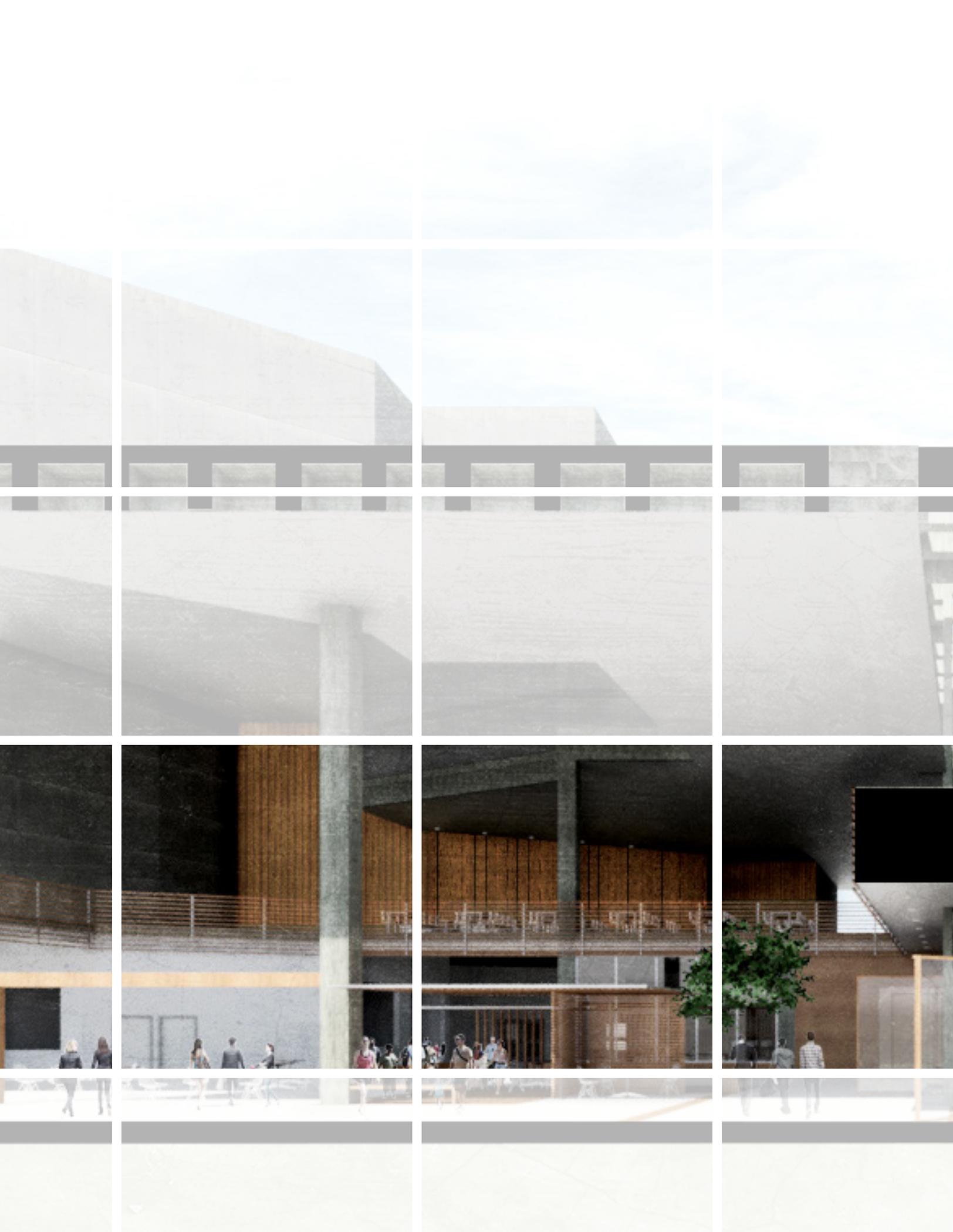
FIGURE 54: Central Square, existing north entrance

FIGURE 55: Ross Building, second level entrance



ENDNOTES

- 1 York University Secondary Plan. Toronto, City of Toronto, 2015. Accessed September 12, 2016, 01.
- 2 Armstrong, Christopher. Making Toronto Modern: Architecture and Design. 1895-1975. Montréal & Kingston: McGill-Queen's University Press, 2014, 321.
- 3 Armstrong, Christopher. Making Toronto Modern: Architecture and Design. 1895-1975. Montréal & Kingston: McGill-Queen's University Press, 2014, 321.
- 4 Curran, Raymond J. 1983. Architecture and the urban experience Van Nostrand Reinhold, 02.
- 5 McClelland, Michael, and Graeme Stewart. 2007. Concrete Toronto: A guide to concrete architecture from the fifties to the seventies. 1st ed. Coach House Books, 03.
- 6 York University Secondary Plan. Toronto, City of Toronto, 2015. Accessed September 12, 2016. <https://www1.toronto.ca/planning/10-yorkuniversity.pdf>, 02.
- 7 York University Secondary Plan. Toronto, City of Toronto, 2015. Accessed September 12, 2016. <https://www1.toronto.ca/planning/10-yorkuniversity.pdf>, 03.
- 8 York University Secondary Plan. Toronto, City of Toronto, 2015. Accessed September 12, 2016. <https://www1.toronto.ca/planning/10-yorkuniversity.pdf>, 03-04.
- 9 York University Secondary Plan. Toronto, City of Toronto, 2015. Accessed September 12, 2016, 12-13.
- 10 York University Secondary Plan. Toronto, City of Toronto, 2015. Accessed September 12, 2016, 17.
- 11 York University Secondary Plan. Toronto, City of Toronto, 2015. Accessed September 12, 2016.
- 12 Staff Report for Action. Toronto: City of Toronto, 2009. Accessed September 12, 2016. <http://www.toronto.ca/legdocs/mmis/2009/pb/bgrd/backgroundfile-24265.pdf>
- 13 Staff Report for Action. Toronto: City of Toronto, 2009. Accessed September 12, 2016. <http://www.toronto.ca/legdocs/mmis/2009/pb/bgrd/backgroundfile-24265.pdf>
- 14 Staff Report for Action. Toronto: City of Toronto, 2009. Accessed September 12, 2016. <http://www.toronto.ca/legdocs/mmis/2009/pb/bgrd/backgroundfile-24265.pdf>



06 THRESHOLD DESIGN





06. THRESHOLD DESIGN

Architectural programming becomes a vital aspect to any developing design or adjacent networks. Programming allows the designer to organize a large array of information that influences the intervention. The care and consideration of programming dictates the quality of the product. This is also dependent on the depth of the process producing it.¹ Firstly, the architects determine the concerns and needs of the clients. Secondly, the architect then dictates problems and solutions regarding those needs, and thirdly, the way these solutions are carried out.² Programming needs to be a more integrated part of the initial design approach, the information involved through programming dictates design strategies and measures with viable explanation.³ Many variables come into consideration within each space. These variables are often, mechanical, lighting, electrical, and/or program requirements that have direct relationships with one another but then have secondary relationships with another space adjacent. This flow of information creates a “serving-served” connection that denies negative interaction and aims to organizing space through an underlying theme. This becomes a web of information that assists in dictating the tactic for the design and what the intervention adheres to. Growing as an educational facility, York University’s Central Square is a 60,000 ft² site with many possibilities to re-introduce threshold as a principle design component. With a strong belief that the intervention must be designed as a direct response to the issues at hand, I began taking a further step back analyzing the building before beginning to design a three-dimensional threshold space.

06.1. ISSUES

The Ross Building, and Central Square have been a part of the York University Campus since the mid 70’s. While being built during a different era, the programming and architecture reflect that. While many changes in program, and structure have been improved throughout the past 50 years, the growth of the university and change in principles and development demands a more radical transformation to the existing context. The programming in relationship to the design

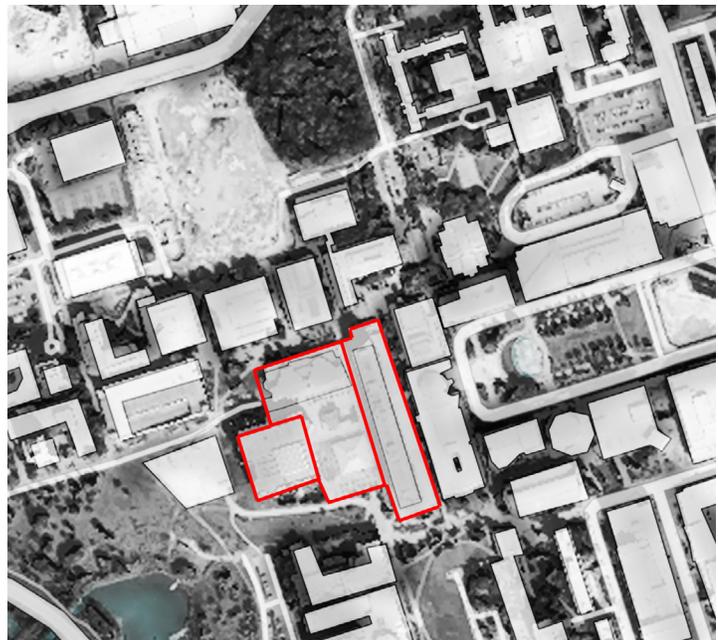
assists in the association with the interior conditions. While this thesis explores more of the edge condition between interior and exterior, the importance of successfully integrating the vast amount of programming spread through this student hub dictates what is then designed alongside the perimeter of the building. The information gathering and process of design includes all aspects of the building even if not directly being reconstructed and/or intervened. The rest of the building still reflects and dictates the design as a secondary relationship allowing for this edge condition to take shape and allow these concepts to be explored. By successfully reprogramming the building based on evolved principles, it will insure an effective transition between building, program, and intervention. If the program expresses a different language to the intervention, neither the proposal or the existing structure become successful and will illustrate conflicting views.

Analyzing the existing site, the campus wide issues of disconnect, insufficient space for the students, as well as the lack of sheltered secure spaces were evident. By being physically connected to three of the more prominent buildings on campus central square acts as a large circulation hub whereas large bodies of student will always be utilizing its paths and interior hallways. Issues between distinguishing the difference in space and the experience create disconnect when moving from part of the building to another. The spaces don't have distinct qualities or characteristics and they rather blend together. The journey inside these spaces forms a uniform cloud over the moving people and blurs the transition of that user.

Similarly, to transit hubs, the threshold needs to assess the pause one takes between point A and point B and try to eliminate it. By incorporating elements that have distinct

FIGURE 56: Interior Central Square, lecture hall entrance

FIGURE 57: York University, campus walk context plan



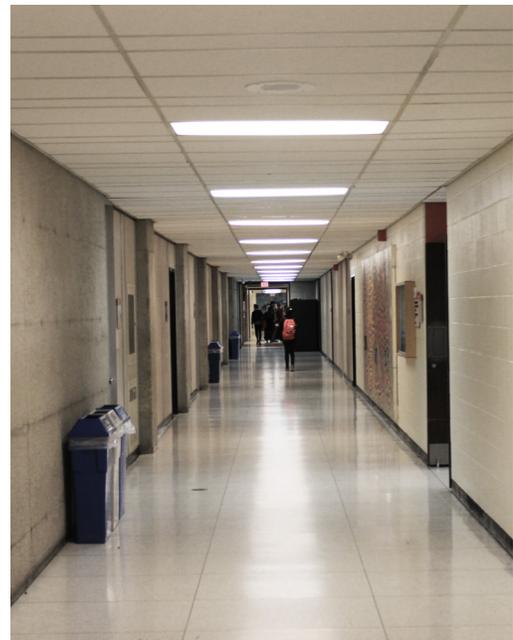
qualities to each space while designing with an overarching theme will assist in signifying the transition of space and the threshold within circulation corridors. The disconnect, large volume of students, lack of gathering spaces, low security, and minimum areas for student activities can all be addressed by designing an intervention in direct response to central square. Completing a cross examination of existing program, program needed as well as what each space needed in terms of lighting, heating and cooling, and finally the type of space. The building can then be re-orientated to facilitate a more coherent student hub in the centre of campus (figure 91).

The entryway between Vari Hall and the Ross Building, focuses primarily on transitional elements. It becomes an educational thoroughfare rather than a hub. It is the crossover between Vari Hall and Central Square transferring to the Scott Library.

Between Vari Hall and Central Square, a path bridges the two buildings together. This bridge creates an experience of exiting and entering a new building while staying within the extent of the structure. The experience quickly becomes crowded and cramped where shoulder to shoulder students attempt to get to class on time or just try to escape the building. The corridor is narrow and tight with its low ceiling due to large deep concrete beams. Often, campus relations and student groups arrange displays and tables to get the attention of passing students and attempt to create nodes of interaction and interrupt the linear movement. This pathway led to the poorly lit quad located at the centre of the building where people would occasionally take smoke breaks to pass the time. The interior courtyard was originally designed to be an intimate space where a visitor could escape for a minute. Historically the quadrangles and courtyards were scattered throughout campus leading

FIGURE 58: Central Square Vari Hall, east entrance

FIGURE 59: Central Square Hallways



up to the focal point of central square. This courtyard acts as a public space by creating a nook of exterior space located within the center of the building. The interior courtyard was meant as a private function when initially designed and as a threshold, the spaces unique experiential characteristic allows for people to exit the building without physically leaving the structure.

The campus walk, is the primary campus circulation route located directly north of central square. The pedestrian walk currently acts as circulation with buildings adjacent on the North and South. The East and West axis was created as one of the primary elements in the 1963 master plan where the school was built around the ring road and along this axis.⁴ The pedestrian walk contains many natural elements although does not pursue a direct relationship with any of the buildings. The campus walk acts as residual space

between building, the interstitial. Alongside the northern edge of central square, the Curtis Lecture halls were built in the early 1970's, the location and function does not currently suit the surrounding network of large student bodies. The exterior wall acts as a restricting boundary. Its homogeneity, sheer mass, and lack of exterior/interior programming define both the spaces inside and outside as separate entities. It quite literally acts as a wall separating every and any relationship to the surrounding environment's function. The issue begins with the program of the structure and its allocation of public programming central to the structure and having its private programming along the exterior edge. This creates two forms of separation. The public programming and functions should be extended in and out of the structure and also reoriented to engage a public experience.

FIGURE 60: Central Square Quad, public space



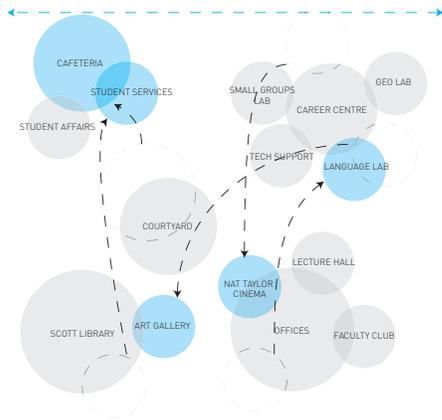


FIGURE 61: Existing and Proposed Programming Changes,
A. Existing
B. Existing in Need of Change
C. Proposed Changes

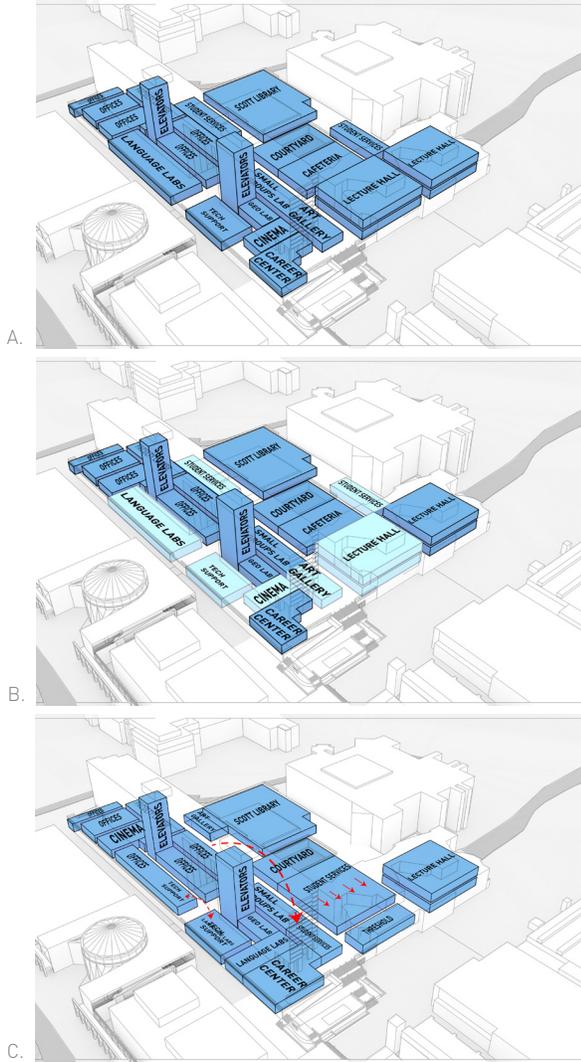


FIGURE 62: Campus Walk, northeast looking west



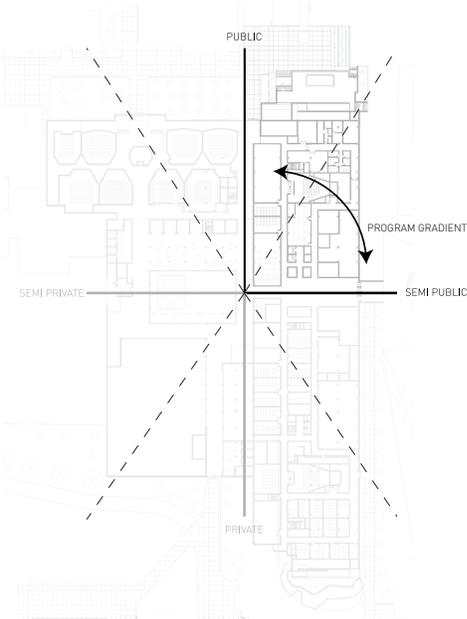


FIGURE 63: Program Gradient Diagram, functioning program creates a gradient between private and public functions

program is scattered through the building and impractical in nature, reorienting the student services, cafeteria, and study spaces as a focal point within the structure will give assertive characteristics giving the space proper defining elements.

06.2. OUT GROWING EXISTING PROGRAM

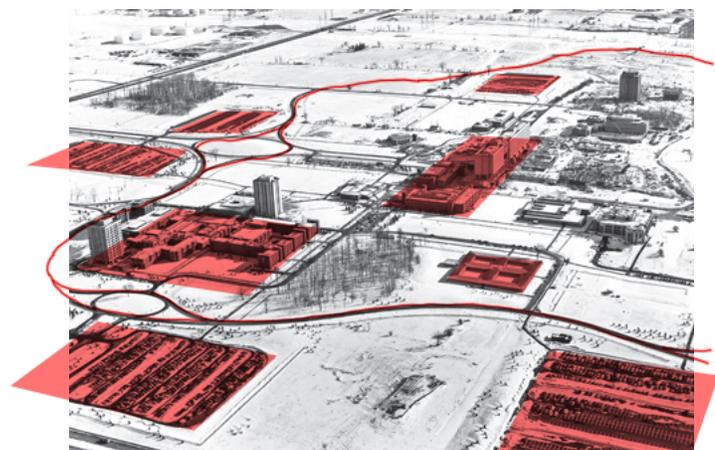
The transformation of the surrounding context begins to outgrow the existing conditions determined in the 1970's design. The program, and factors that led to the design of these strategies either don't exist anymore or the campus has evolved. The existing interior conditions are impractical in the relationships between, user, building, and the adjacent programming. While the program is an information driven network the interventions assess the existing conditions and allocate what is needed to adequately provide for a functioning design. Here, the building can be separated into four zones and/or quadrants (figure 63). Semi, Public, and Private are the three types of spaces where each space begins to be separated by a theoretical gradient line that assists in establishing conclusions in program restrictions and requirements. Each of the needs can be met by rearranging them to meet basic program requirements and needs. Most of which are not met or forced within the previous 1970's design. While most of the

By reprogramming the building using previously determined principles as guidelines, the buildings will more effectively function by reallocated program based on program relationships. It will have less irregular social patterns strengthening the existing experience where then the design of the threshold space can begin to connect to the surrounding context.

06.3. THE RING ROAD

The ring road was a primary concept in the 1963 original master plan. It was meant to be the junction between educational facilities. With the original plan focused around a car oriented

FIGURE 64: Ring Road, initial concept of connecting space



campus, the ring road circled the designated campus zone connecting its educational facilities. While developing quickly into a more central focused campus, the ring road concept had been quickly scrapped and the design was directed towards a human scaled environment where it could become a walkable campus (not reliant on the use of cars). The ring road concept although discarded has many applicable strategies to connect space. With the disconnect of programming within central square and the scale of the building, the functions often get lost within its narrow corridors and identical hallways. By bringing the concept of the ring road back appropriating its scale and redeveloping the interior, the programming becomes more unified by this connecting element (figure 65). It would run throughout the entire building connecting the two-primary east and west circulation axis to the North and South (figure 66). The ring road as an interior element would connect

both these pathways. The interior road would delineate circulation and gathering space and quickly become the anchor to the buildings design. The ring road concept maintains the initial historic principles as well as supports the adapting use of the current central square by connecting the three distinct spaces of the Ross Building Corridors, the Quad, as well as the Campus Walk.

By bringing the symbol of a road (an exterior element) in it further supports the effective extension of the interior and exterior. It begins blurring distinct design elements together as one. By bringing the outside in, our traditional sense of the road changes and rather seeing it as a car oriented means of transportation the inside of central square becomes a circulation hub for pedestrians. The hub would directly connect multiple types of programming and student services regaining its original focus as the campus focal point.

FIGURE 65: Ring Road Revitalized Proposal, altered scale as an interior condition

FIGURE 66: Primary & Secondary Axis, ring road proposal connects separated paths

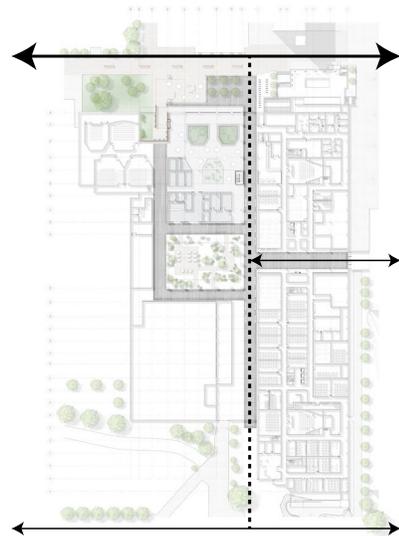
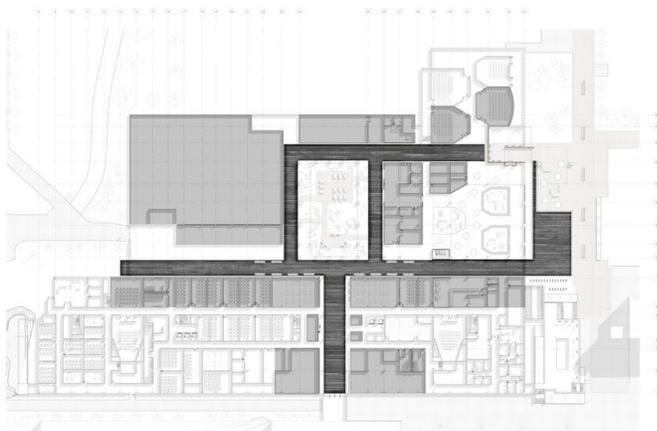
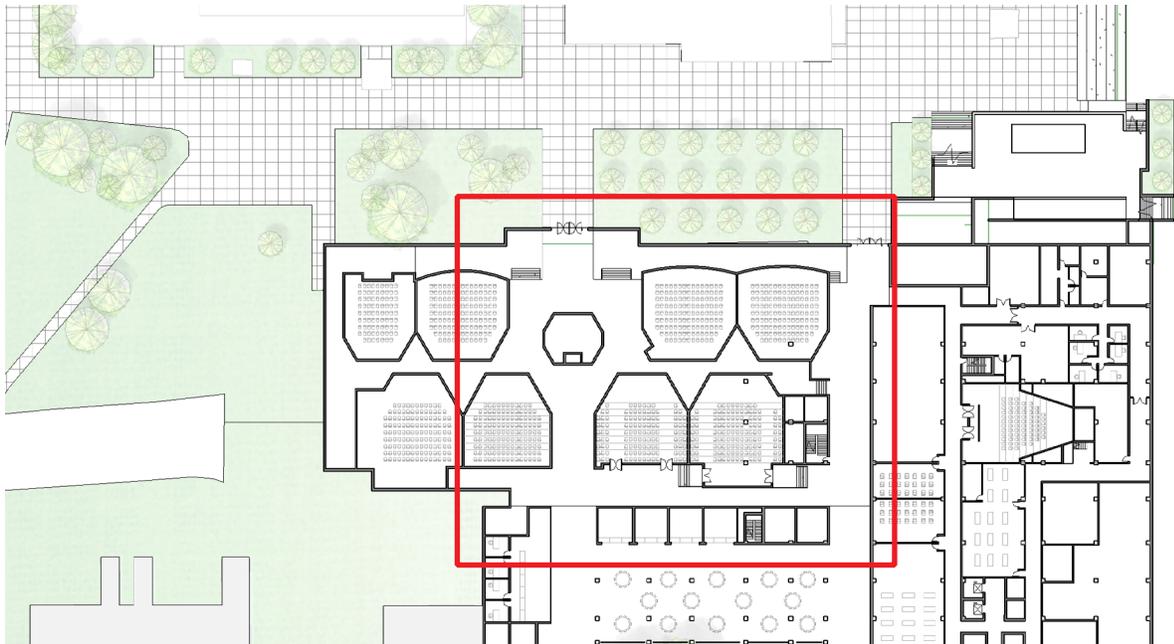




FIGURE 67: Existing
Plan, curtis lecture
halls & north facade

FIGURE 68: Existing
Plan, area of focus for
threshold design



06.4. INTERVENTION LOCATION

By introducing these design elements throughout the building, it prepares the building for the threshold intervention. Choosing the north façade of Central Square allows for the threshold space to directly connect to the residing Campus Walk and focus on one of the most dehumanizing areas of the site. The Campus Walk currently resides on the northern edge of central square connected directly to the exterior wall of the Curtis Lecture Halls. It is used as the primary campus circulation following the East West axis determined initially in the 1963 master plan. Within its original context, Central Square, the Ross Building, and Scott Library were meant to be campus landmarks, acting as focal points for the entire campus and surrounding communities.⁵ These buildings were built as concrete masses acting as bunkers from the harsh Canadian climate. The buildings were to

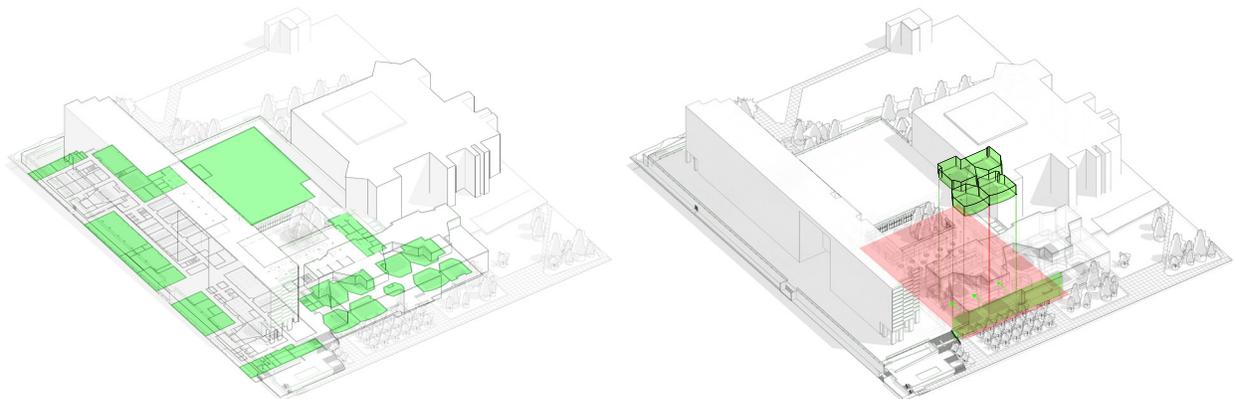
protect individuals from its exterior context and remove any relationship with the environment. Through the development of York University Secondary Plan, the focus of now humanizing the campus and creating a direct relationship to building and site becomes difficult due to the brutal characteristics and its neglect to the adjoining issues.

06.5. CURTIS LECTURE HALLS

Analyzing York University's demand for these lecture halls I began by removing half so that the framework would allow for a more public design approach as well as help allocate the required student space for the Campus Hub. By removing half of the Curtis Lecture halls it allows for a more publicly engaging educational program to take place where elements can start bleeding out into the campus walk. The character of the building is kept by keeping the formal integrity of the initial design while

FIGURE 69: Existing Conditions, axo

FIGURE 70: Existing Conditions, removing half of the lecture halls



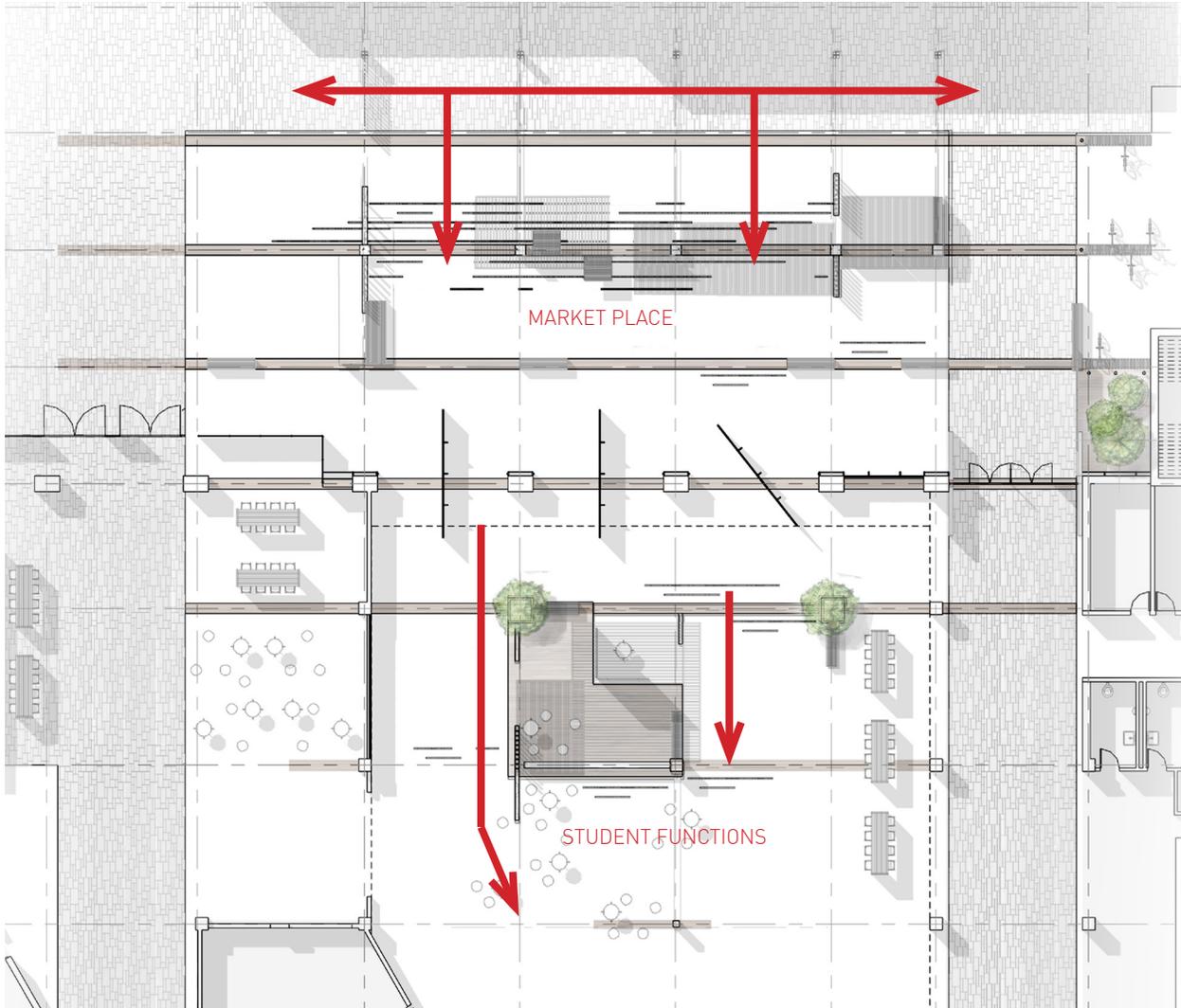


FIGURE 71: Proposed Ground Plan, pedestrian paths

completely reshaping the experience within. By removing the lecture halls, the space can be designed to be a student hub where it has a stronger social responsibility.

of the campus walk. It extends the threshold by extending similar program on both sides of the exterior plane by using similar architectural language.

Introducing an engaging public function of a market place and student hub the space becomes flexible to how it is needed. The programmed function consistently changes although stays within a range of school or community related roles. Introducing two primary structures offer a place for students to stop, rest, study, or wait for their remaining classes (figure 72, 73). It becomes a node that separates the horizontal and linear movement

06.6. GROUND PLANE

The blurring of the boundary condition is introduced by proposing multiple elements from each of the contrasting environments, interior and exterior rather than attempting to simply extend one or the other. Opening the ground plan now makes it possible to proceed through physical and visual boundaries. By displaying the program on either side of the

FIGURE 72: Exterior
Intervention, street
market and pavilion

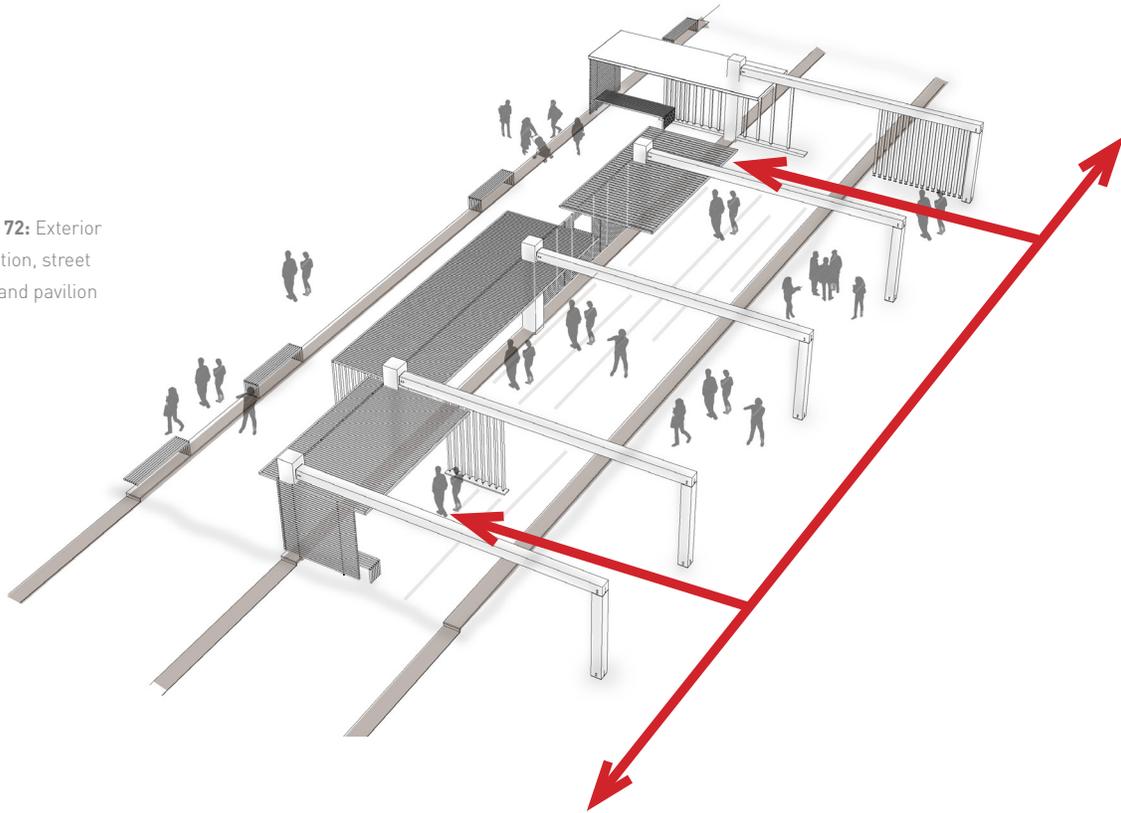
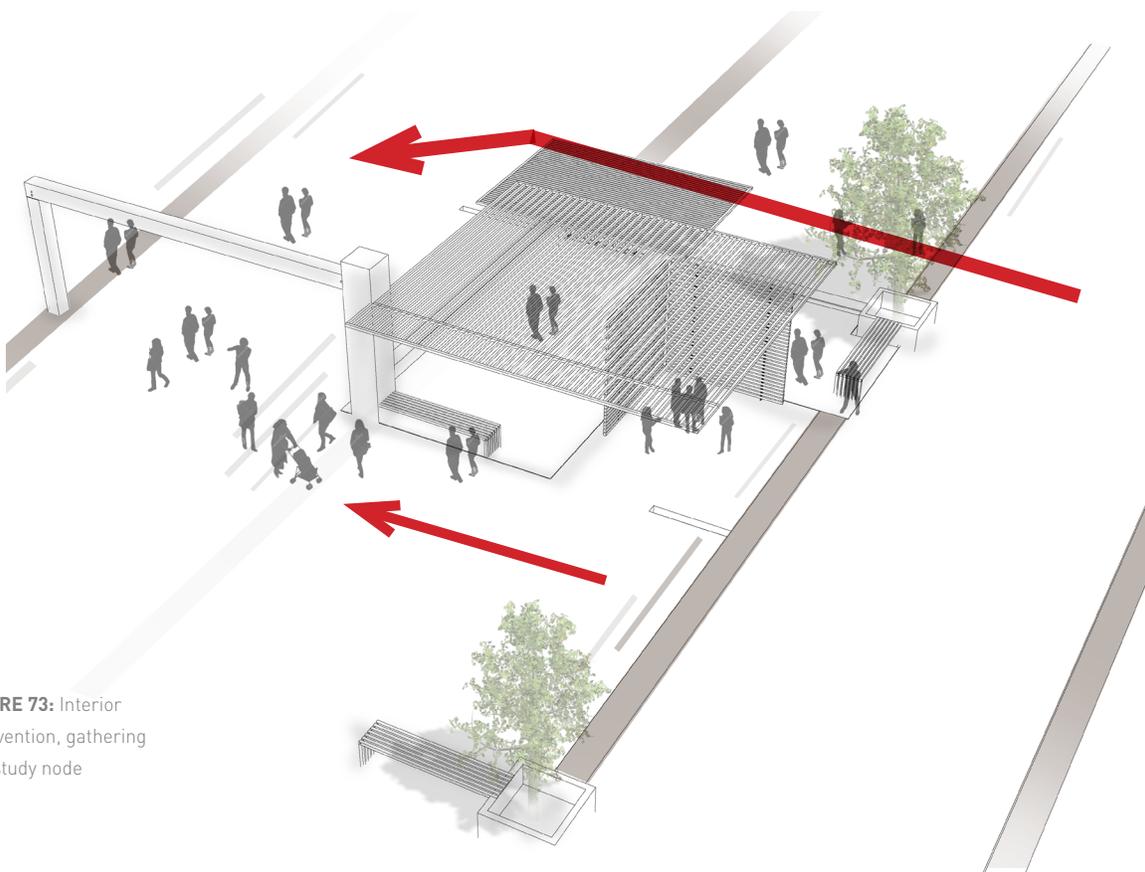


FIGURE 73: Interior
Intervention, gathering
and study node



boundary plane, the relationship between user and building drastically change making the building more approachable and extending the threshold through visual and liminal connections.

The space now extends out past the boundary of the exterior wall onto the campus walk where a light wood slat system can then offer shelter, seating, tables, as well as double as a farmer's market during the week. By introducing delimiting elements and creating an ambiguous boundary plane the threshold begins to be considered less as a point in place (figure 74). The plane, instead of being rigid and strict, attempts to naturally "undefine" the boundary by taking the wall and removing its one plane geometry and adding subtle complexities. By creating delimiting elements such as rotating doors, they begin to form direct relationships between interior and exterior functions while

still providing the security needed in a campus hub. By opening the ground plane the direct physical relationship combines the users experience while also being able to act as a typical wall when it becomes night and/or during the winter months.

The threshold space must both alter the user's perception of containment and permeate the physical boundary of its existing architecture. By creating an open ground plane, the design can allow for a more natural sense of movement to take place. By introducing the street market the student activities physically take to the street. The intervention takes place in space previously viewed as interstitial space or left over. The market utilizes the space by beginning within the building and extending out onto the campus walk or vice versa.

FIGURE 74: Proposed Section, direct relationship

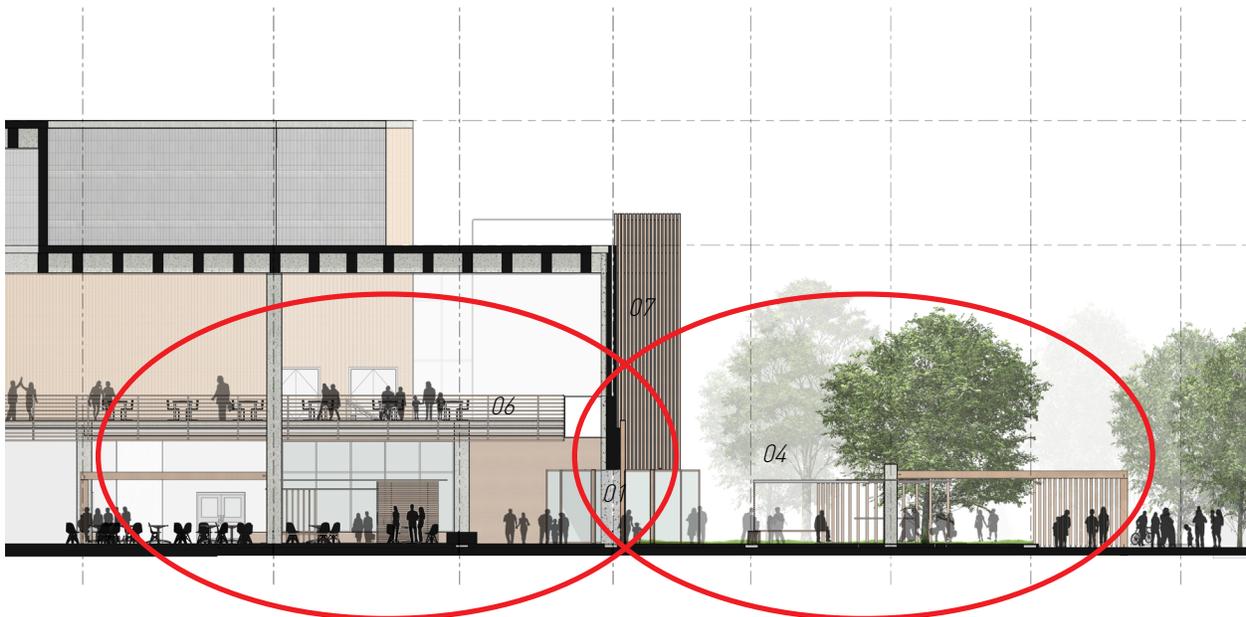


FIGURE 75: Wall
 Section, boundary wall
 along the north facade

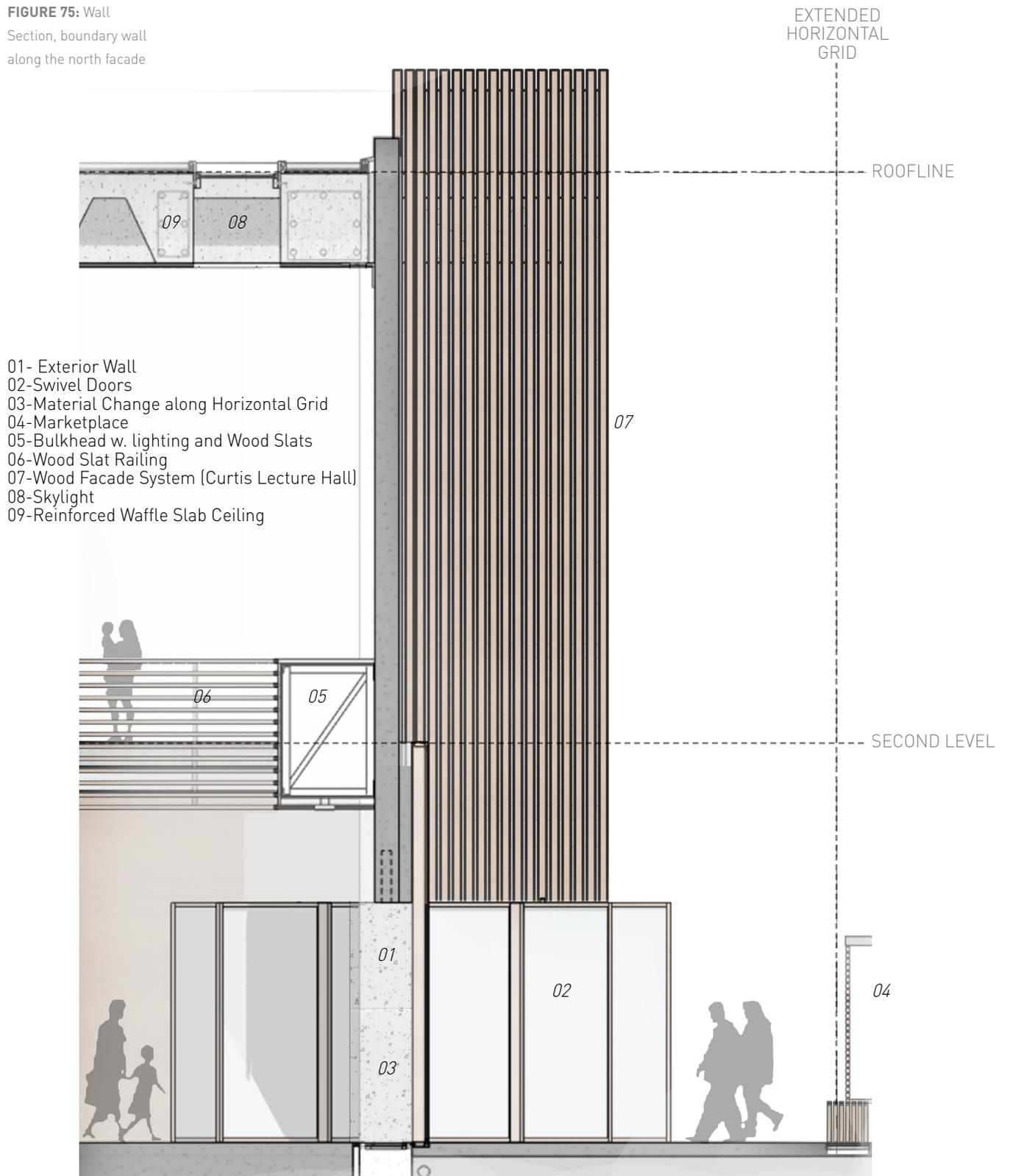
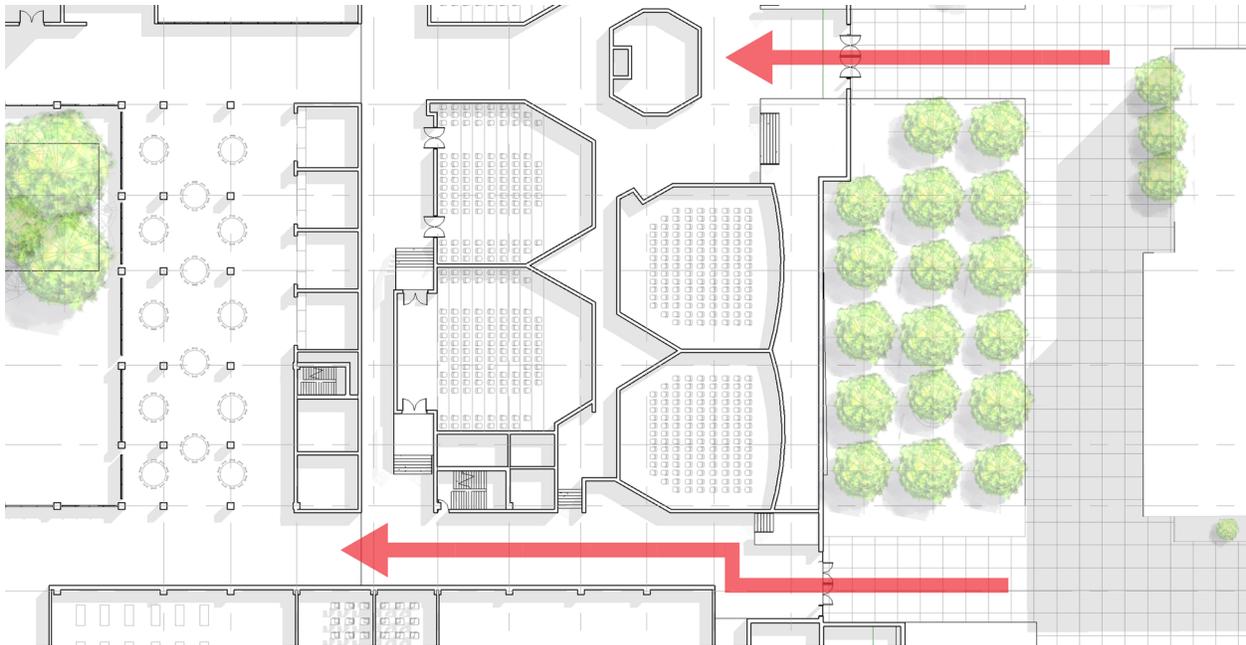




FIGURE 76: Proposed Market Place





06.7. ADDING BOUNDARIES

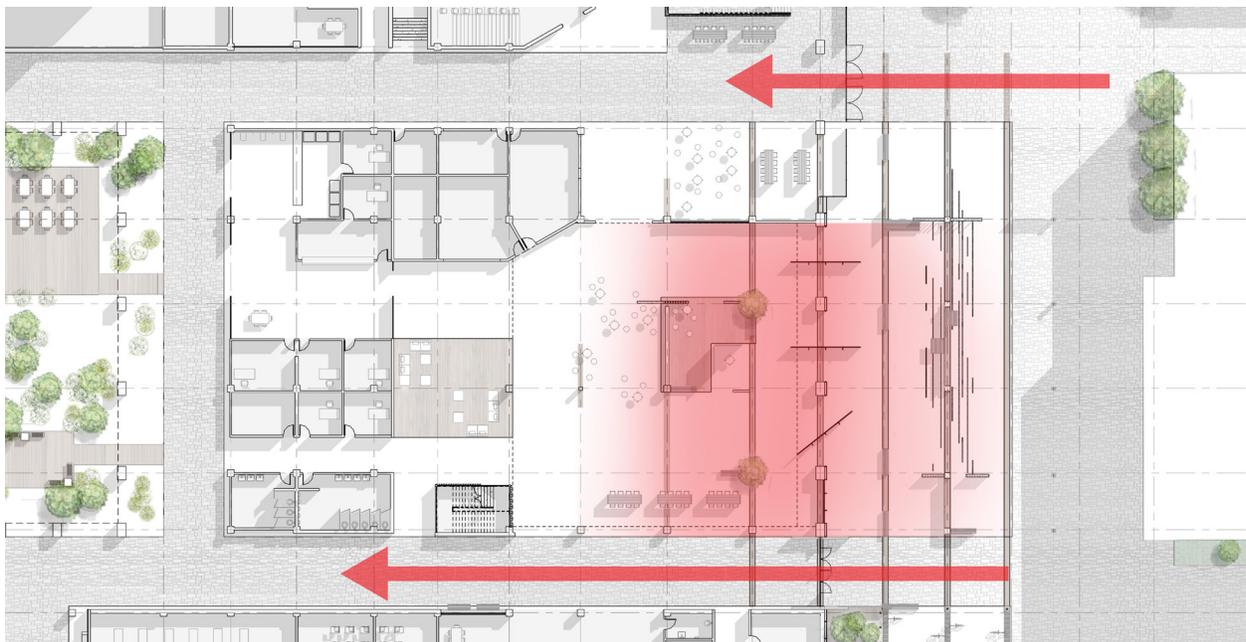
building.

FIGURE 77: Existing Floor Plan, circulation paths

Constructed around the initial student circulation paths the market stands directly in the middle of a number of paths leading to and from the building. The market place takes on many of the formal values of the Ross Building, Curtis Hall, and Scott Library. The rigidity of the form and the use of planar grids created an approach where the linearity could be kept while attempting to humanize the obtrusive

Attempting to alter the user's perception of a boundary plane, the market place introduces a series of figurative planes. Abiding to the already existing horizontal grid. The marketplace both in and out align to the existing grid of the building. The transition between inside and out is created through a hierarchy that forms a series of tiers during transition. Whether it contains a material change on the ground,

FIGURE 78: Proposed Floor Plan, circulation paths



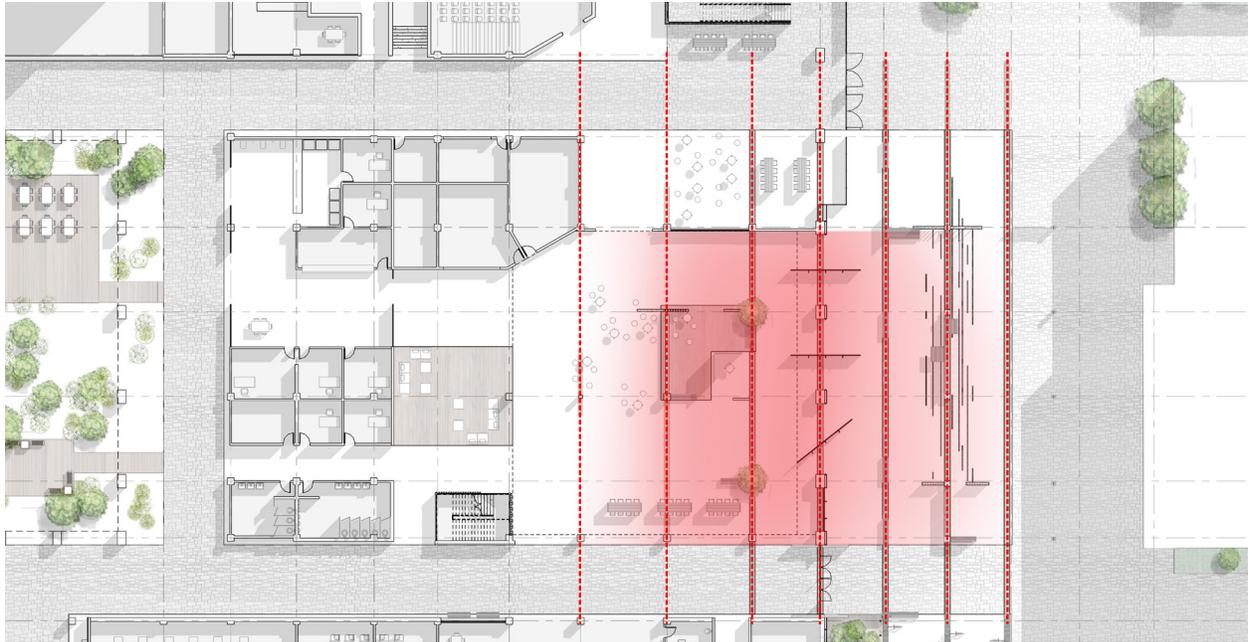
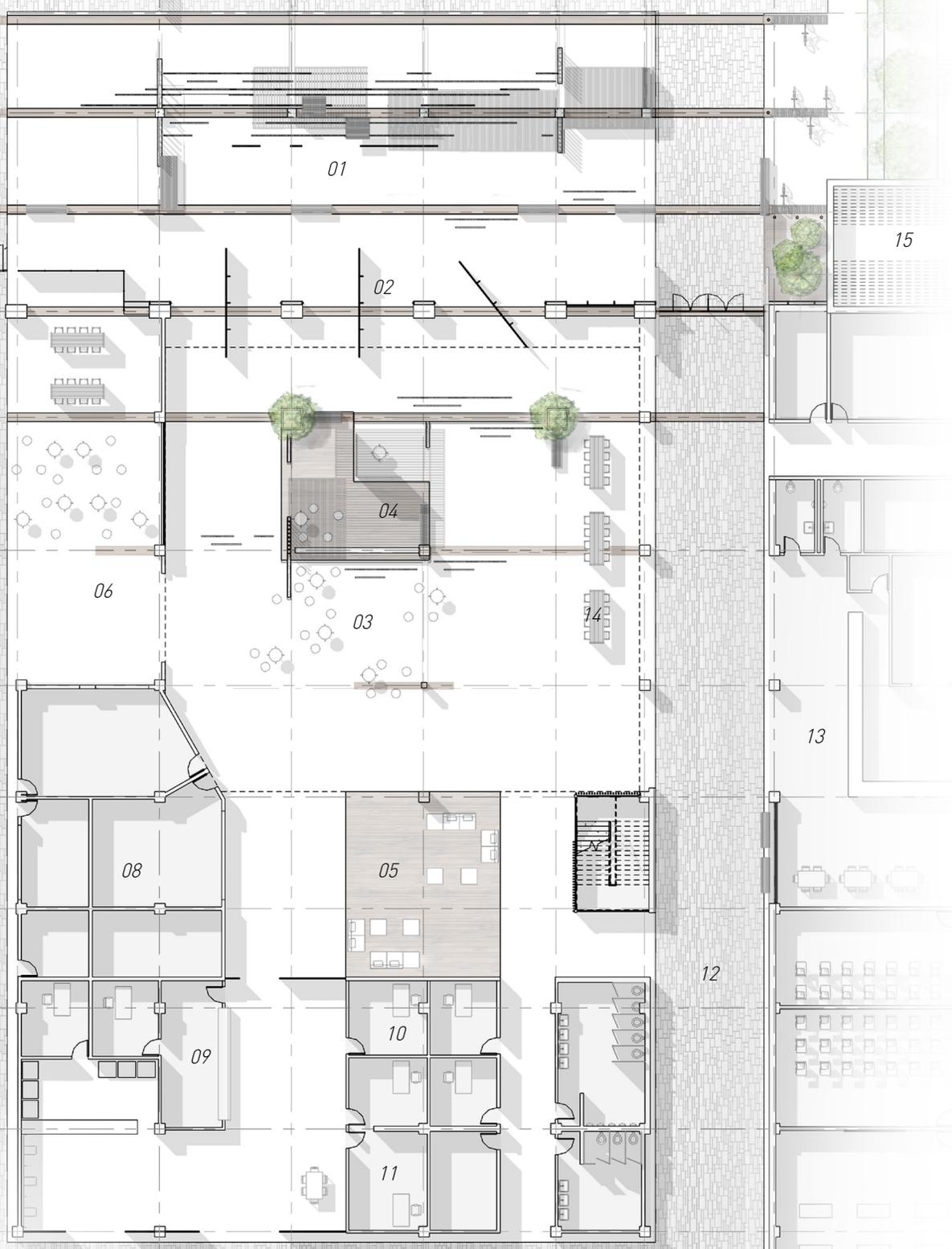


FIGURE 79: Continuing the Horizontal Grid, adding boundary tiers grade change with the edge of the curb, or the columns extending out onto the street, the series of boundaries create a gradient in which the transition from inside and out can both be architecturally mediated.

FIGURE 80: Section Boundary Tier Diagram



- 01- Campus Walk
- 02-Street Market
- 03-Interior Street Market
- 04-Swivel Doors
- 05-Liesure Space
- 06-Curtis Lecture Hall Study Space
- 07-Existing Lecture Halls
- 08-Commercial Spaces
- 09-Student Services
- 10-Student Affairs
- 11-Campus Relations
- 12-Interior Street
- 13-Coffee House
- 14-Flexible Study Space
- 15-Second Level Staircase



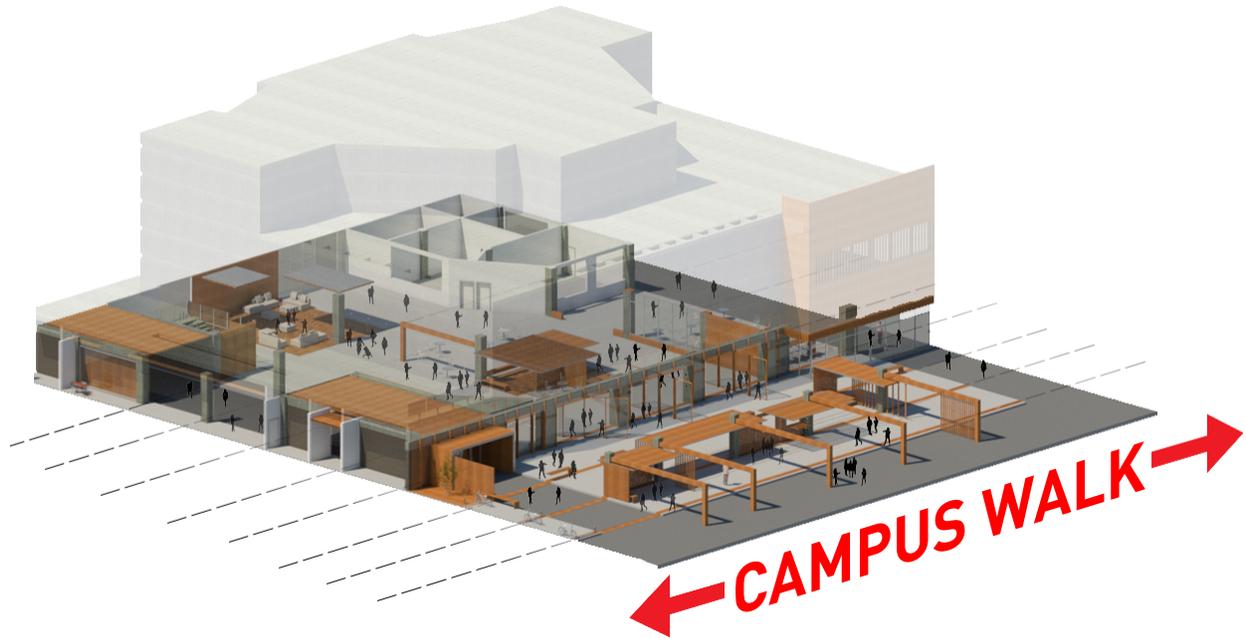


FIGURE 81: Proposed Threshold Intervention, floor plan

FIGURE 82: Proposed Threshold Intervention, axo

06.8. ARCHITECTURAL WOOD SYSTEM

Using a series wood slats and panels allow for the design of the marketplace to stay open yet closed, secure yet flexible, and exposed although guarded. The use of wood slats and planes are a light minimally evasive approach to a very dense bunkering building. Utilizing the dense concrete structure as an anchoring point the intervention attaches itself to the existing concrete mass and begins to work with the form to soften the physically planar nature of its entry. The wood slats utilize the ability to act as a singular entity or as a grouped whole. The wood slats are able to be arranged in a variety

of different orientations, sizes, spacing, and way in which they are assembled.

The wood system continues throughout the interior, wrapping, folding, and attaching itself to the concrete form. The use of the system heightens at the edge condition but can be found throughout central square. The light weight wood slats carry the design motif throughout the interior street as well as the rest of the building forming a cohesive design strategy. The intent of the threshold space is to be a flexible one. As a student hub there are many students using Central Square as a thoroughfare. Understanding the relationship



FIGURE 83: Proposed Market Place, flexible elements





FIGURE 84: Proposed Interior Atrium, wrapping material



of movement the design must accommodate for an ever changing use. By allowing space to interchange with multiple functions the threshold space can begin to take on an array of distinct functions, acting as open movement paths as well as gathering nodes.

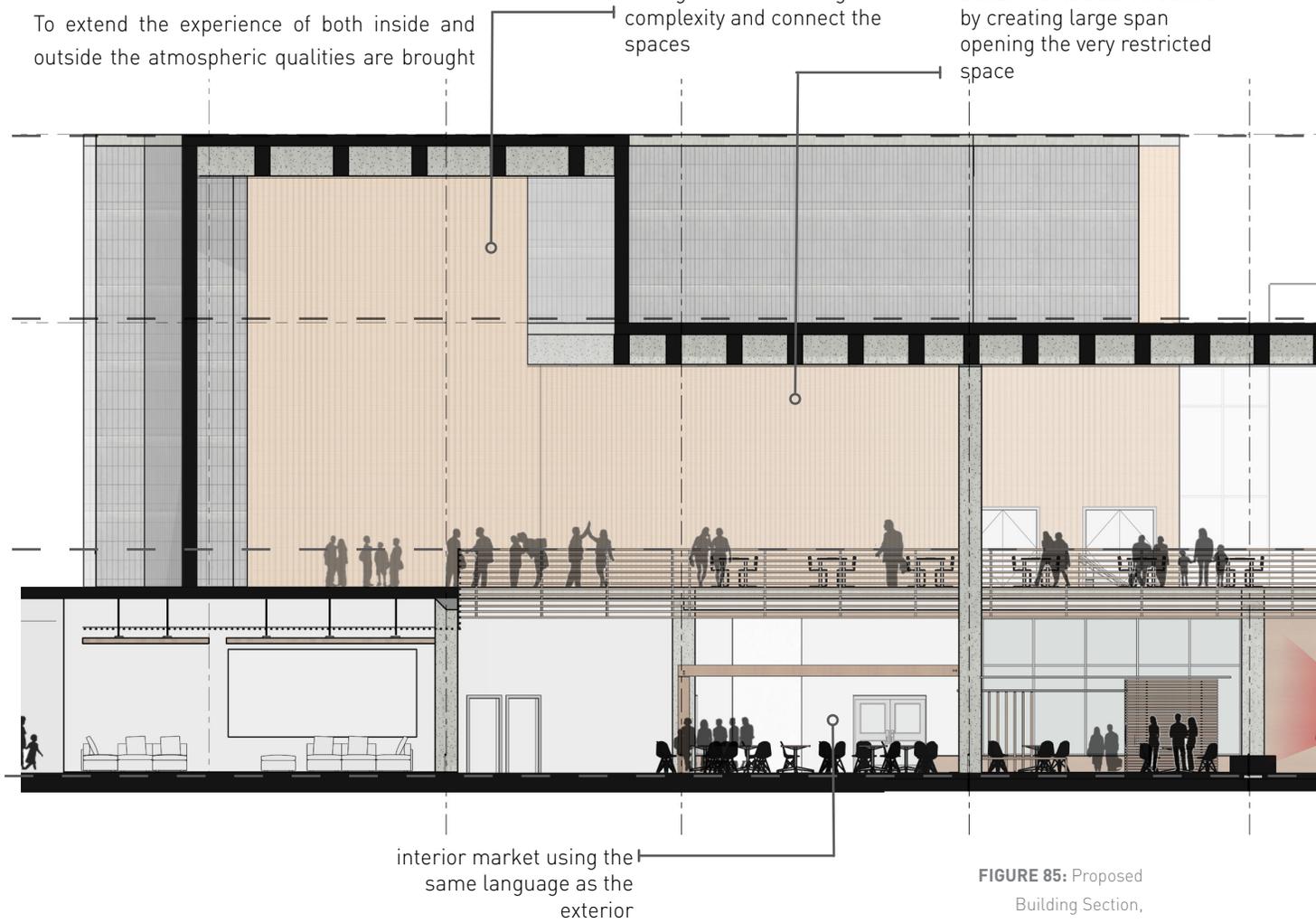
into the building by creating a double height space. By removing a number of lecture halls and creating a double story student atrium the space allows for more air flow and light to be obtained inside and it attempts to replicate in a sense, the open elements of the exterior

06.9. ATMOSPHERE

To extend the experience of both inside and outside the atmospheric qualities are brought

wood material is integrated throughout the building to add complexity and connect the spaces

utilize waffle slab structure by creating large span opening the very restricted space



interior market using the same language as the exterior

FIGURE 85: Proposed Building Section, extending function and threshold space

walk outside. Bringing natural elements in, like landscaping and lighting, the space is an extension of the exterior marketplace which creates a gathering node in-between the many circulation paths.

down into the space. By incorporating natural light, the transition between inside and out becomes more natural where there is reduced liminal discrepancy between exterior and interior conditions.

At the current depth and ceiling heights natural light would not be able to directly reach the ground floor simply by designing a traditional skylight. By introducing mirroring elements and reflective materials, light can be directed

06.10. ENGAGING ARCHITECTURE

Introducing the threshold space onto the campus walk engages both the campus and students. The design proposes a direct

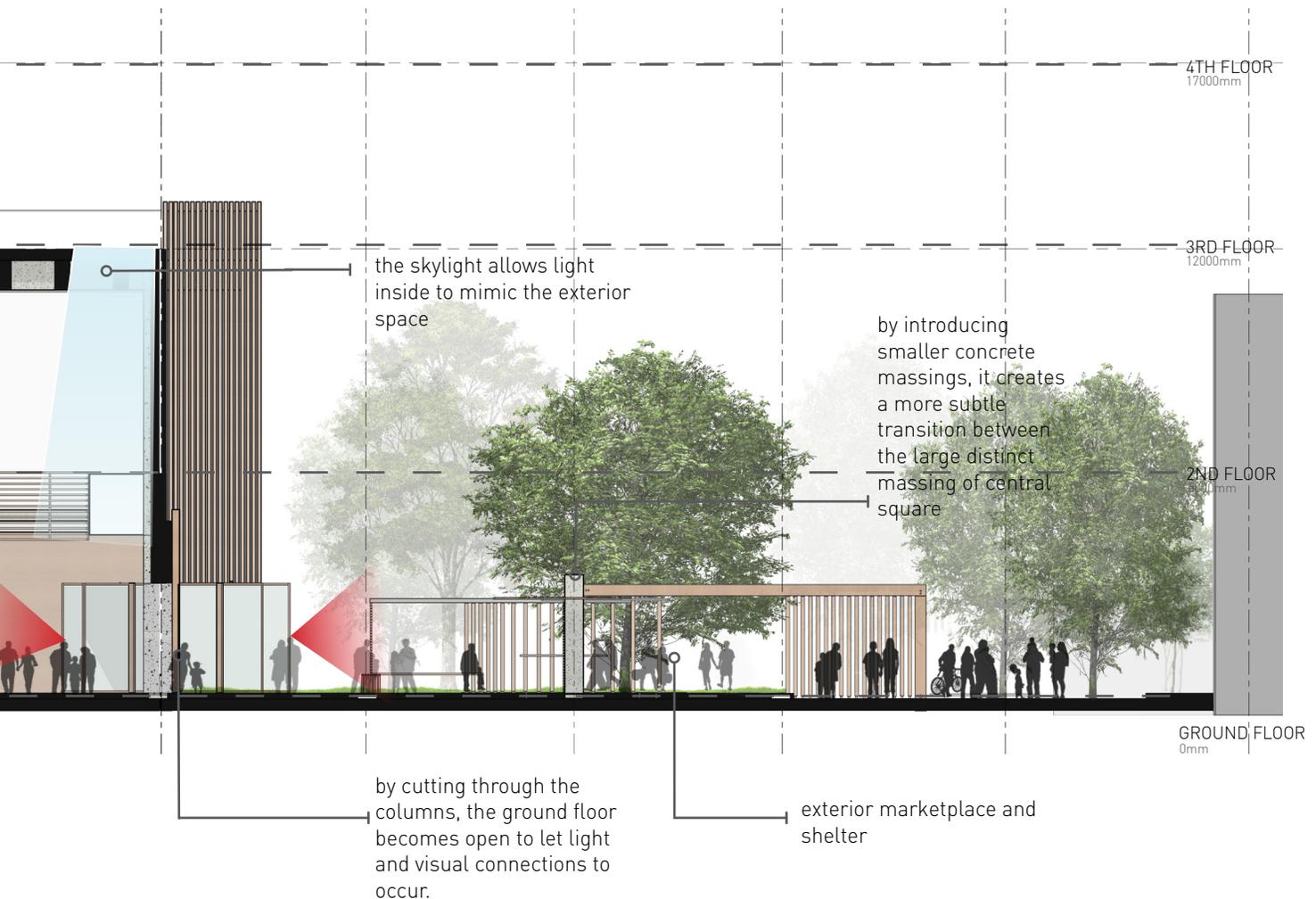




FIGURE 86: Proposed Interior Gathering Space





FIGURE 87: Proposed Exterior Circulation Paths, threshold space

engagement between building, context, and person where the design provides the framework for activity and reactivity to occur. By creating an inviting and functioning aspect to the campus walk, the students interact with the threshold space at varying degrees. The market place, the study nooks, seating, bike stands, shelter, grade change, material palette all interact and engage the user a subjective level of how the person uses the space. Creating a threshold that extends both outside and inside while allowing a multitude of functions to take place gives flexibility to the user and to its architecture.

FIGURE 88: Proposed Ground Plan

FIGURE 89: Proposed Threshold Space, wind and snow fence

The designed threshold space changes the entrance by utilizing perception and forcing the perspective of the individual. It uses past theories of horizons by enticing people to engage further until fully immersed within the built structure. The structure uses hierarchy by growing the level of stimulation through

abstract boundaries stimulating the users mind as they interact with the surrounding elements. Whether taking part in the fall, spring, or winter, the threshold space engages the campus walk. It alters the students perception of entrance and softens the cold dampness of the homogeneous concrete. It provides security, gathering spaces, areas for student activity, flexible space, as well as shelter for the wind and snow paths.

This threshold space design allows for student activity to take place and encourages it. The threshold space recontextualizes the brute building by revitalizing and revamping it for a evolving campus and a new social ambition. The campus at York University will continue to grow and adapt to society's current ideals. The threshold space is a way for the historic buildings of old to be seen in new light and transformed into a holistic design including building, landscape, and user in a more human oriented campus blurring the transition between inside and out.



ENDNOTES

- 1 Wade, John William. *Architecture, Problems, and Purposes: Architectural Design as a Basic Problem-solving Process*. New York: Wiley, 1977.
- 2 Wade, John William. *Architecture, Problems, and Purposes: Architectural Design as a Basic Problem-solving Process*. New York: Wiley, 1977.
- 3 White, Edward T. *Introduction to Architectural Programming*. Tucson, AZ: Architectural Media, 1972.
- 4 Armstrong, Christopher. *Making Toronto Modern: Architecture and Design, 1895-1975*. Montréal & Kingston: McGill-Queen's University Press, 2014, 321.
- 5 Armstrong, Christopher. *Making Toronto Modern: Architecture and Design, 1895-1975*. Montréal & Kingston: McGill-Queen's University Press, 2014, 321 -323.





07

CONCLUSION

CONCLUSION

While the urban population intensifies there is a growing demand for public space. The public domain has evolved past public squares and parks but now encompass the interstitial. The built context continues to densify and the residual space is rarely utilized for anything but added circulation space. The structures built around us now determine how people interact and function with adjacent buildings, street, and each other. This creates a significant opportunity to design architectural elements that engage building, site, and user.

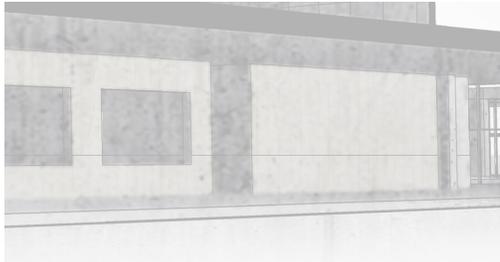
The threshold is the point, moment, or line, in where the building meets the site. It is the transition between the two. By incorporating a threshold space (a 3 dimensional transition space) the building will engage with its interstitial and interact with every component; building, site, and user. The threshold has the capability to act as a mediator in creating continuity between the inside and outside. The threshold space focuses on the edge condition and blurs the transition between inside and out. By incorporating this theory into redeveloping the way architects design heritage and preservation will in turn, heighten the human experience both inside and outside building. The evaluation of historical buildings is a common topic when discussing the growth and evolving nature of the city, especially that of Toronto's. The brutalist structures that built much of the city are often in discussion of preservation or demolition. Brutalist structures often rejected the ground plane and the human scale. They became the vehicle in which threshold could be researched and developed to create a better architecture of preservation.

This thesis studied the threshold space from many cultures and historic precedents. By taking a more in depth look into past experiences and previous architectural journeys, the buildings that were explored helped inform design strategies and principles that furthered the design of the threshold space. This investigation helped create principles in which other buildings could be informed by this design approach. The principles of permeability, materiality, transparency, liminality, and flexibility all contribute in the design of a threshold space and recontextualizing these aging structures into a new social dynamic. The threshold space brings a stronger relationship to building and surrounding site. It brings elements from both interior and exterior to allow for a liminal experience to take place changing the way the user perceives space as well as creates a more holistic design approach between building, site and the human experience.

08

APPENDICES







08.1. PROGRAM EXPLORATION

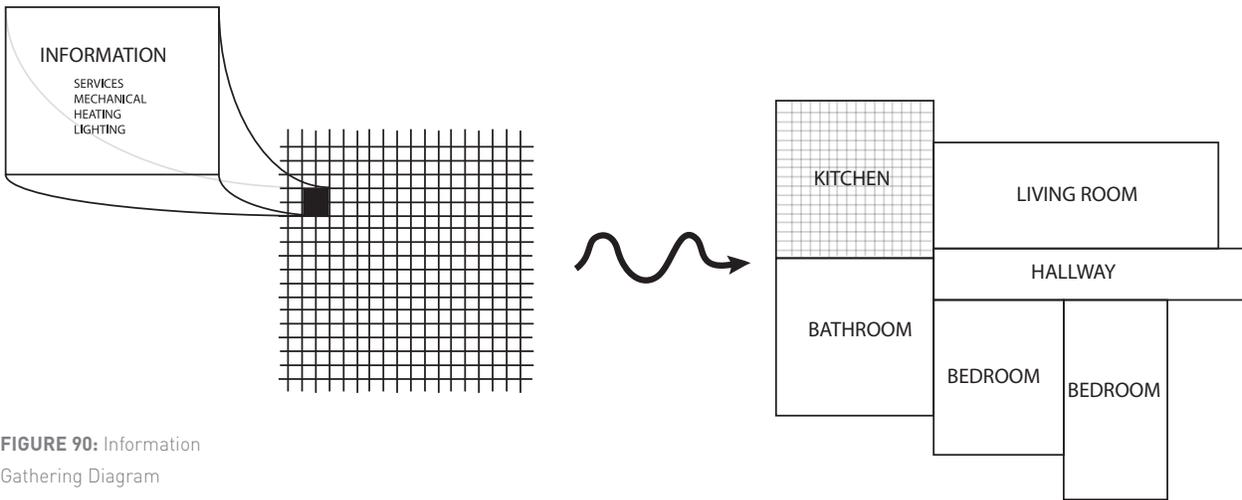


FIGURE 90: Information Gathering Diagram

EXISTING PROGRAM

- | | |
|--------------------|---------------------|
| A.Scott Library | J.Language Lab |
| B.Cafeteria | K.Lounge |
| C.Courtyard | L.Post Office |
| D.Student Services | M.Tech Support |
| E.Small Groups Lab | N.Nat Taylor Cinema |
| F.Art Gallery | O.Copy Centre |
| G.Student Affairs | P.Geography Lab |
| H.Faculty Club | Q.Discussion Room |
| I.Offices | R.Lecture Hall |



FIGURE 91: Existing
Central Square
Programming

EXISTING PROGRAM

Scott Library (198ft x 136ft) 8052ft²

Lighting – In need of artificial lighting with minimal natural lighting. The cultural scott library is located in central square on the southern wall of the podium. The space uses exterior walls and does not utilize daylighting, or any exterior access.

Utilities – The space is used for a collection of books, and reading tables, the space does not have washrooms currently, and no need for plumbing. The heating and cooling is at an average temperatures where the space does not require natural ventilation.

Sensory – The atmosphere is that of a library, quiet, individual studies, private from its surrounding context, even from the Scott Library located on the west end of the podium.

Program Requirements – The program needs an isolated space. The cultural library can have a relationship to other programs but they must be similar in function. The Cultural Library can be accessed from the podium floor, and is currently one of four accessible locations from the podium terrace.

Cafeteria 70ft x 122ft 8540ft²

Lighting – would utilize natural lighting, direct & indirect. Is currently artificial lighting with some indirect natural lighting that reflects from the central courtyard. It is a dark space, surrounded by commercial food vendors, and kitchens.

Utilities – Location is central within the podium, next to the courtyard. Access to the courtyard is minimal, does not bleed out except for 4 picnic tables.

Sensory – The atmosphere is noisy, common area, where program is more open function where meetings, relaxing, studying, eating, and socializing occur. The buildings circulation moves around the perimeter of the cafeteria.

Program Requirements – the existing space is small for the growing needs of the surrounding community. There are many vendors indirectly placed throughout the campus although, only two designated cafeterias. The program would utilize a stronger relationship to the exterior program of the building, even podium terrace access would benefit rather than being isolated in the middle of the volume. The space has washrooms, plumbing, and kitchens for vendors. * ventilation needs to be research more, for the heavy ventilation requirements do not go directly above, due to podium terrace.

Courtyard 66ft x 122ft 7736ft²

Lighting – indirect natural lighting, very damp space, with access to both hallways, and the cafeteria.

Sensory – Brings indirect natural lighting into the main circulation corridor, although the atmosphere feels isolated. Direct visual relationship but with the removal of the stairs and access to podium terrace, the space becomes under used.

Program Requirements – The program acts as a smoking pit, with limited seating, or comfortable spaces for social activities.

Student Services 38ft x 104ft 3952ft²

Lighting – no natural lighting,

Utilities – Located in two separate locations, which both have offices, and counters for students seeking assistance, there are currently bathroom residing next to one of the offices, while the other is in no direct relationship with washrooms.

Sensory – The atmosphere is semi public / semi private, where both have spaces that are public visually, but private in the shared information and offices for employees.

Program Requirements – student services could have a more direct relationship with other student facilities, such as

the student affairs, career centre, copy centre. The separation and distinction between these similar program functions create isolated entities in central square.

Small Groups Lab 38ft x 94ft 3572ft²

Lighting – no natural lighting, only artificial lighting.

Utilities – in need of plumbing and HVAC restrictions based on lab equipment for student group projects.

Sensory – Noise is separated from this room, often used with groupwork, but in a private relationship from the rest of the building.

Program Requirement – countertops and open space is needed, this room program cannot be paired with many other functions other than maybe the other GEO labs or Science Labs. Possible removal of this program due to the sciences building, and engineering across the laneway. Associating the labs together may create more unity in relation to the whole.

Art Gallery 38ft x 94ft 3572ft²

Lighting- Artificial lighting needed, with no direct light access.

Utilities – Separated in its relationship to the rest of the building.

Sensory - Atmosphere is private, depending on the exhibitions conducted

Program Requirements - the function can become more public, and possible to have relationships to adjacent program.

Sculptural Art is very important within the secondary plan and expanding strategies. Has potential in regards to changing the function, and form of a standard exhibiting gallery. Reintegrating the gallery in a more social context, gives it the ability to create a stronger connection through furniture, foliage and its exterior context.

Student Affairs 38ft x 191ft 7258ft²

Lighting – artificial lighting, no direct or indirect natural lighting.

Utilities – currently located next to a student lounge. Semi public / semi private function similar to student services.

Sensory - atmosphere is similar to student services where it needs visual connections although a more private and discreet service when engaging the function of the program.

Program Requirements – Needs, service desks as well as employee offices. It is an information centre that is located at the back of the university, placed "out of the way". Could utilize similar programming adjacent to it as well as different location to provide more useful services to the surround student body.

Faculty Club 38ft x 150ft 5700ft²

Lighting- artificial lighting, in need of natural lighting.

Utilities – washroom located next to the faculty lounge, has exterior access where chairs and benches are set up (separated from public by fence) in need of mechanical and plumbing separate from the building.

Sensory - Located away from the prominent circulation path although backing onto one of the primary entrances for the square.

Program Requirements - faculty needs separation from students, exterior access is underutilized and mis-used. The tasks are more leisure function rather than a work orientation.

Offices Total		17821ft ²
A	11ft x 54ft	7148ft ²
B	9ft x 45ft	4867ft ²
C	12ft x 24ft	3486ft ²
D	8ft x 24ft	2324ft ²

Lighting – Artificial lighting, no natural lighting needed.

Utilities – washrooms need to be near. Offices are in south arm of podium.

Sensory – The program of the ross building on top of the podium is designated as faculty offices, and the offices here are overflow from that. They are in more private designated space need faculty club.

Program Requirements – Does not assist in inside outside relationship. The offices are very private functions within the building needing private space. As of now, they are almost ¼ of the available edge condition.

Language Labs	52ft x 202ft	10504ft ²
---------------	--------------	----------------------

Lighting – no natural lighting, only artificial lighting.

Utilities – open group spaces. no need for plumbing or extensive HVAC

Sensory – Noise is separated from this room, often used with groupwork, but in a private relationship from the rest of the building.

Program Requirement – countertops and open space is needed, this room program cannot be paired with many other functions other than maybe the other small groups labs. Associating the labs together may create more unity in relation to the whole.

Lounge Total		1114ft ²
A	17ft x 21ft	357ft ²
B	28ft x 28ft	784ft ²

Lighting – both lounges feature artificial light, without any natural lighting.

Utilities – Plumbing, and is currently not near any washrooms.

Sensory – underutilized space that has a very limited social atmosphere.

Program Requirement – No connection to the exterior realm, hidden on the inside of the concrete podium. Furniture, social functions, and a relationship to more public functions would assist this space. It is not in conjunction with study space at all, study pods and small spaces have been redesigned for the library. Connection to the natural landscape or exterior circulation will help with natural lighting, and more access to these hidden open spaces.

Post Office	28ft x 28ft	784ft ²
-------------	-------------	--------------------

Program Requirement – placed inbetween lecture halls near public exterior laneway. Easily accessible, but does not need adjacent relationships to existing structures, may help to have near student services or a more public orientated programming.

Tech Support	52ft x 90ft	4680ft ²
--------------	-------------	---------------------

Utilities – Support function, needed to be near lecture halls, or cinema/art gallery, and labs.

Program Requirement – private program. No social function. It acts as a support function to other more social functions.

Nat Taylor Cinema 80ft x 42ft 3360ft²
Lighting – artificial lighting, no direct or indirect natural lighting.
Sensory – was a lecture hall, adapted to a cinema.
Program Requirements – quiet private function.

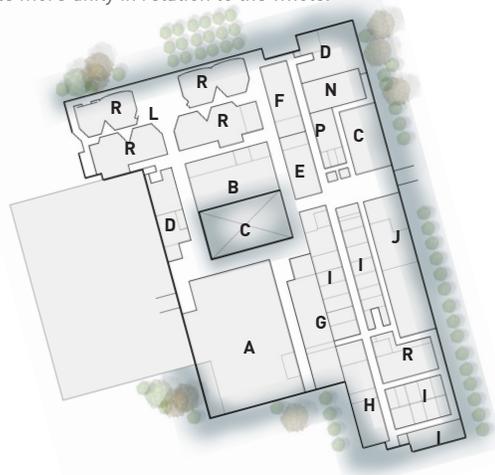
Career Centre 90ft x 66ft 5950ft²
Lighting – artificial lighting, no direct or indirect natural lighting.
Utilities – currently located next to a Nat Taylor Cinema. Semi public / semi private function similar to student services.
Sensory – atmosphere is similar to student services where it needs visual connections although a more private and discreet service when engaging the function of the program.
Program Requirements – Needs, service desks as well as employee offices. It is an information centre that is located at the back of the university, placed “out of the way”. Could utilize similar programming adjacent to it as well as different location to provide more useful services to the surround student body. Adjacent exterior main campus laneway. Very public function can possibly be suitable for exterior intervention.

Geography Lab 31ft x 80ft 2480ft²
Lighting – no natural lighting, only artificial lighting.
Utilities – in need of plumbing and HVAC restrictions based on lab equipment for student group projects.
Sensory – Noise is separated from this room, often used with groupwork, but in a private relationship from the rest of the building.
Program Requirement – countertops and open space is needed, this room program cannot be paired with many other functions other than maybe the other labs. Possible removal of this program due to the sciences building, and engineering across the laneway. Associating the labs together may create more unity in relation to the whole.

Lecture Halls Total 17460ft²

A	45ft x 97ft	4365ft ²
B	45ft x 97ft	4365ft ²
C	45ft x 97ft	4365ft ²
D	45ft x 97ft	4365ft ²

Lighting – no natural lighting, only artificial lighting.
Utilities – in need of being near washrooms.
Sensory – Noise is separated from these rooms. They are private to the classes, and need noise cancellation.
Program Requirement – As of now, the lecture halls are located at one of the primary locations for an intervention to take place. By redeveloping the area they are located in now, it may give more opportunity for a threshold intervention.



08.2. THRESHOLD ITERATIONS

- 01.  **ENTRYWAY**
 Transitional Threshold (liminality/experiential/transparency/materiality/emotion)
- 02.  **PEDESTRIAN WALK**
 Public Extended Threshold (physical/transparency/permeability/materiality)
- 03.  **INTERIOR COURTYARD**
 Transitional Threshold (transparency/experiential/liminal/material)

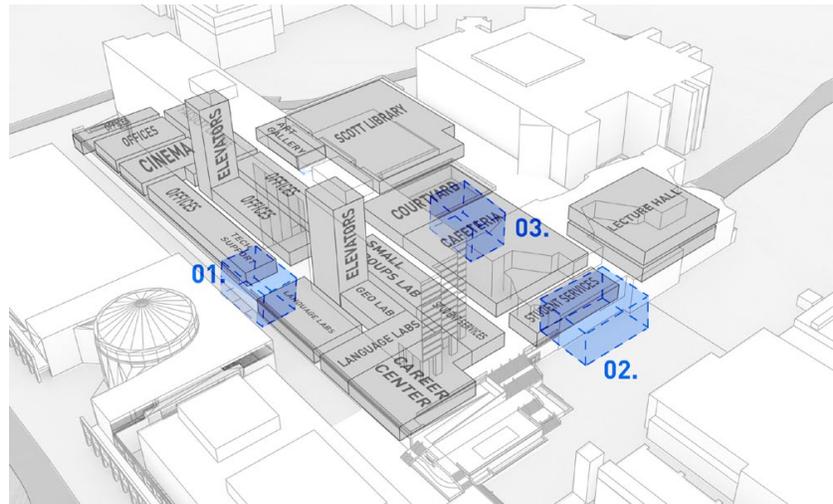


FIGURE 92: Existing Central Square Programming, boundary conditions

FIGURE 93: Areas of Intervention

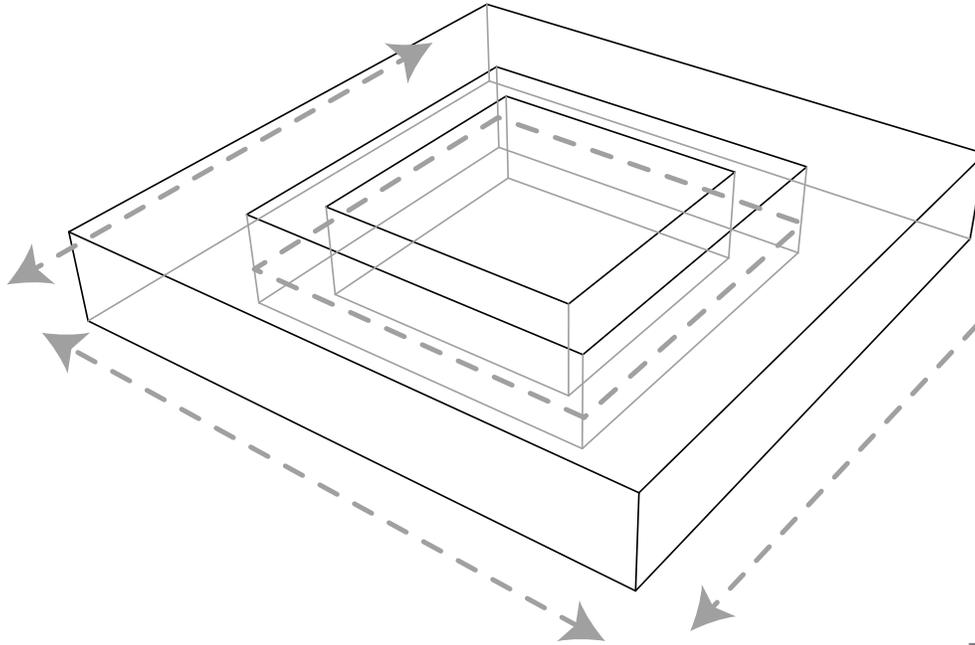


FIGURE 94: Ring Diagram, private function surrounding interior quad

FIGURE 95: Program Analysis Sketches

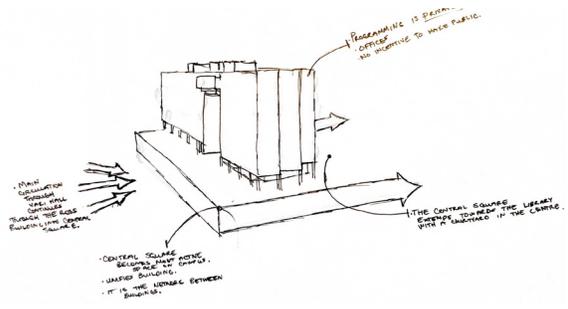
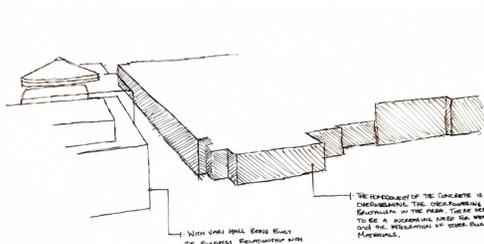
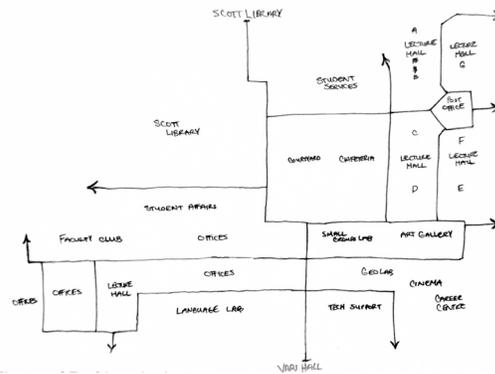
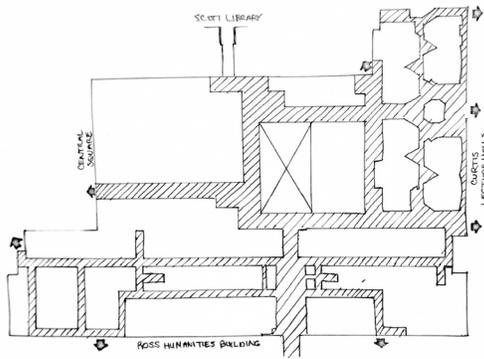


FIGURE 96: York
University Site Plan,
proposed subway stops/
open space



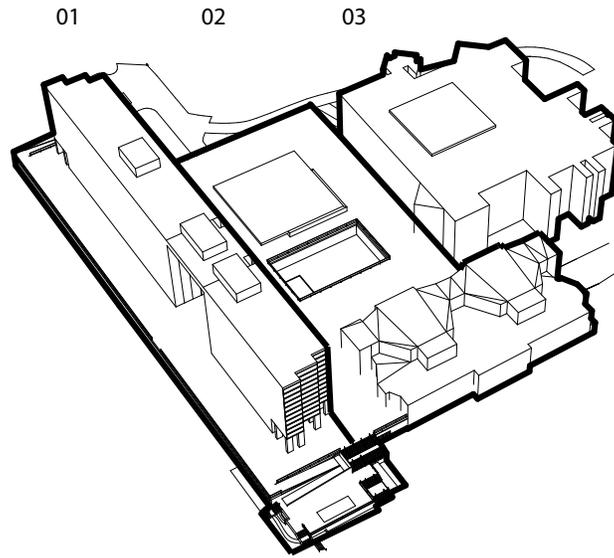


FIGURE 97: Dividing the Existing Building, central square separating from the scott library

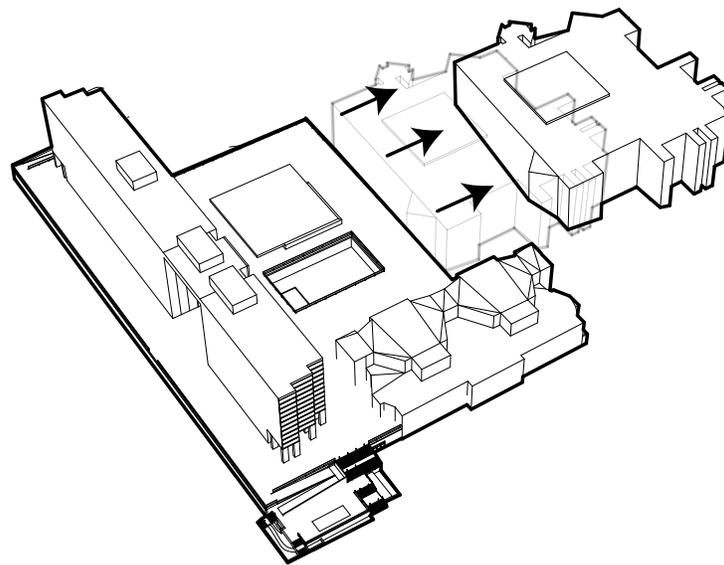




FIGURE 98: Site Plan,
existing building
relationship



Ground Floor Intervention One "Campus Walk"
Scale - 1:200

- 01- Elevated Path
- 02-Street Market Entrance
- 03-Sunken Floor Study Spaces
- 04-Group Work Stations
- 05-At Grade Study Spaces
- 06-Existing Lecture Halls
- 07-Commercial Spaces
- 08-Student Services
- 09-Student Affairs
- 10-Campus Relations
- 11-Atrium Courtyard
- 12-Coffee House
- 13-Lecture Labs
- 14-Exterior Pavilion Seating
- 15-Existing Second Floor Staircase

FIGURE 99: Iteration
01 Threshold Design,
floor plan

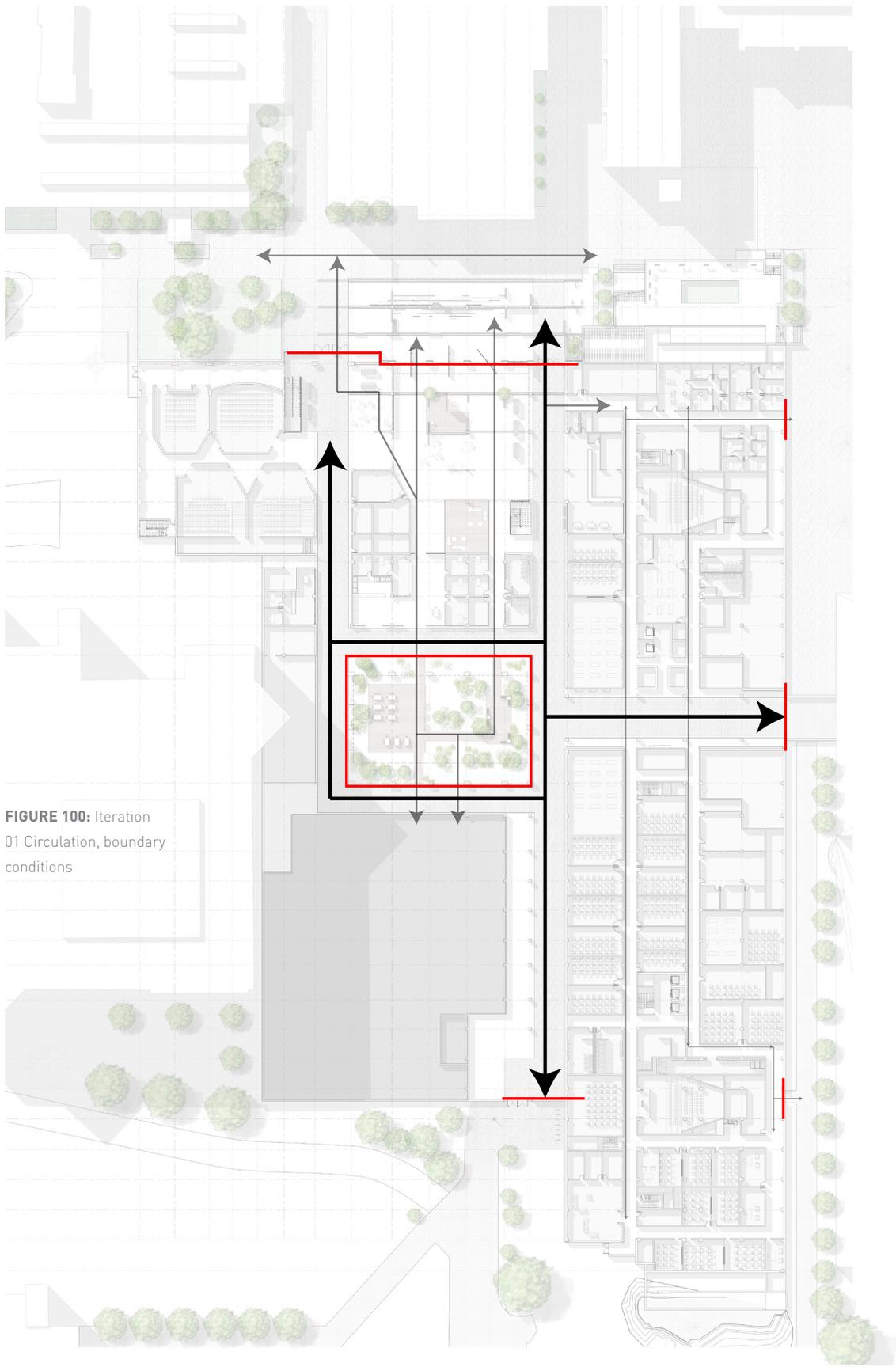


FIGURE 100: Iteration 01 Circulation, boundary conditions

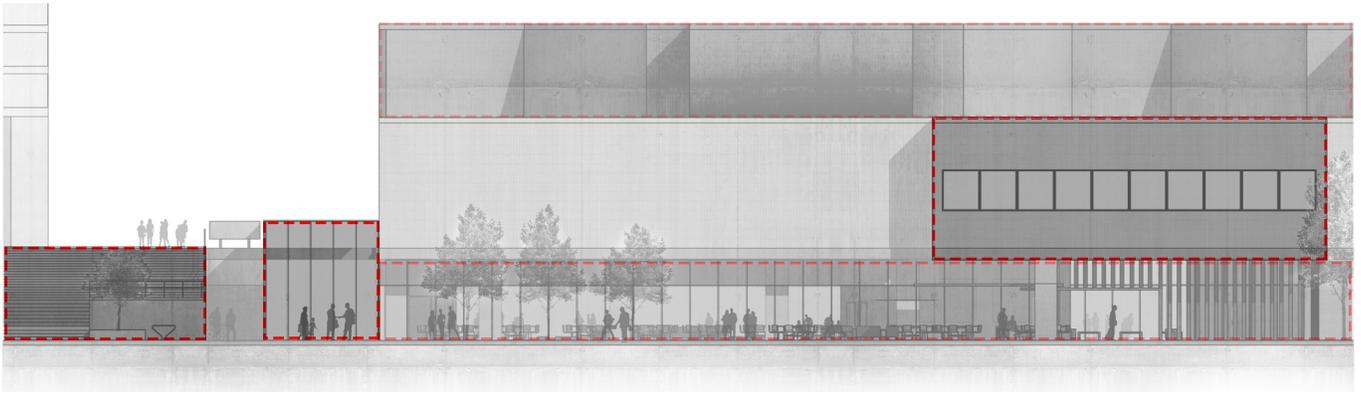


FIGURE 102: Iteration
01, adding complexity
north elevation



FIGURE 103: Iteration 01, curtis hall formal entrance



FIGURE 104: Iteration 01, adding complexity

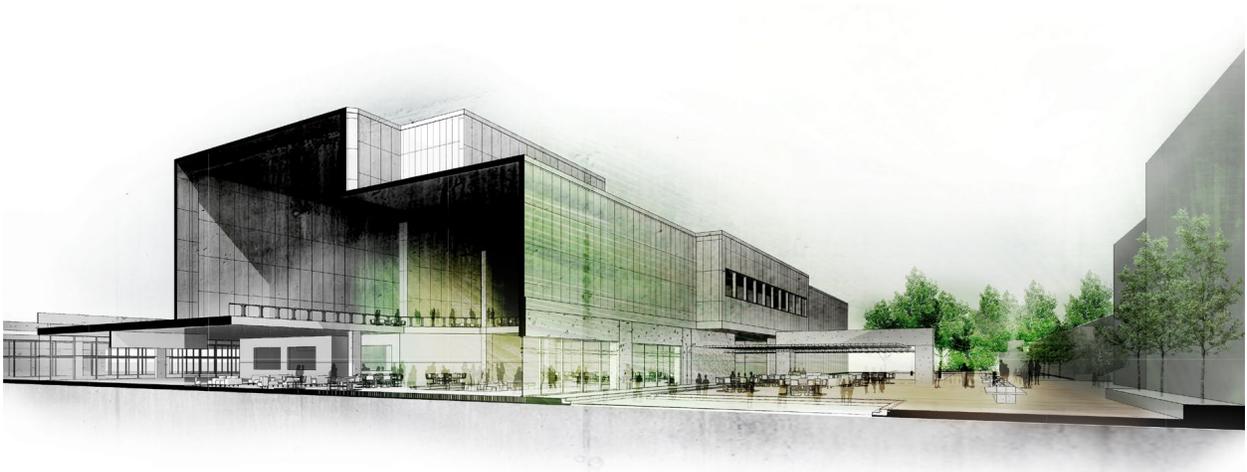


FIGURE 105: Iteration 01 Experiential Section, campus walk/student centre



FIGURE 106: Iteration
01, interior atrium



FIGURE 107: Iteration
01, interior road

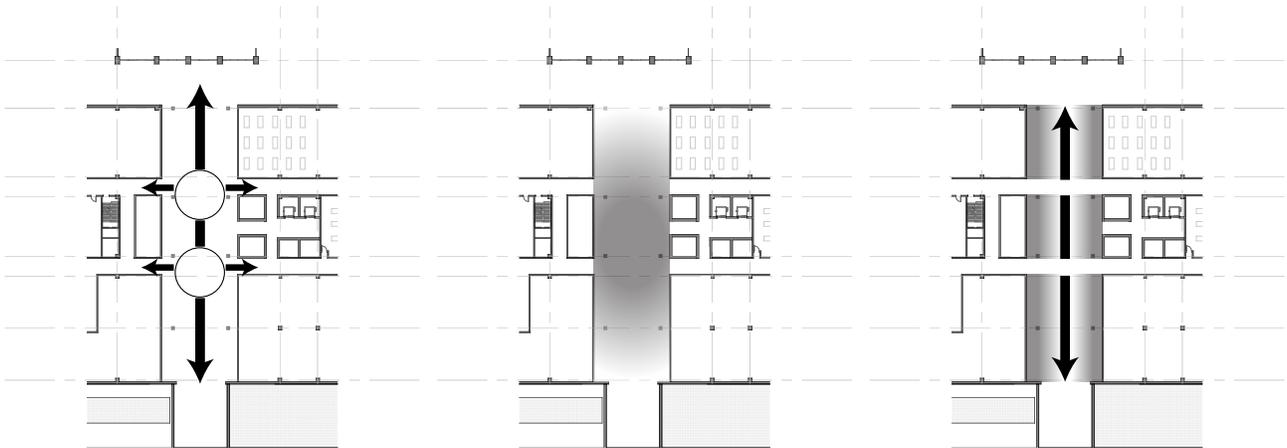


FIGURE 108: Existing
Hallway Analysis, node
v.s thoroughfare



FIGURE 109: Proposed Interior Courtyard
Render, raised path



FIGURE 110: Proposed Interior Courtyard, study nook / relationship to street

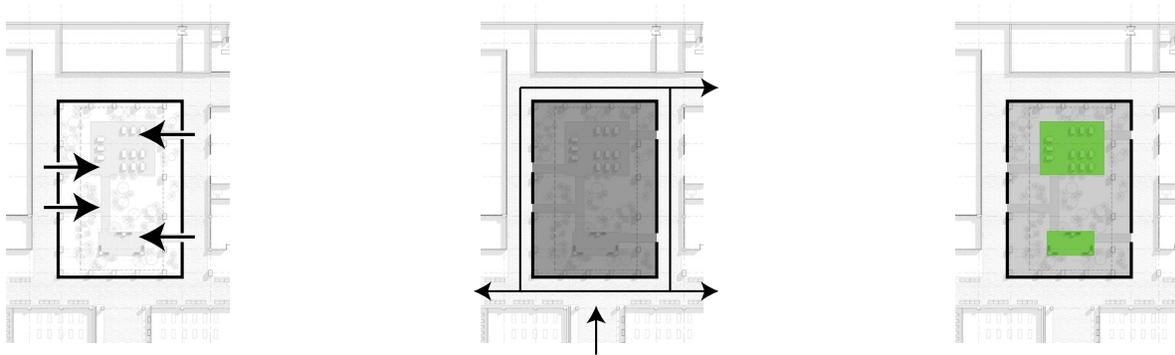


FIGURE 111: Central Square Quad Analysis, circulation

FIGURE 112: Proposed Quad, floor plan

Ground Floor Intervention Two "Courtyard"
Scale - 1:200

- 01-Student Services
- 02-Student Affairs
- 03-Campus Relations
- 04-Interior Pedestrian Street
- 05-Art Gallery
- 06-Copy Centre
- 07-Intimate Study Nook
- 08-Hyper Nature Landscaping
- 09-Elevated Wood Walkway
- 10-Street Market/Campus Info Boards
- 11-Scott Library Cultural Centre
- 12-Language Labs
- 13-Geography Lab
- 14-Street Market Storage

The proposed atrium is enclosed to protect it throughout the year and is shaded by wooded slates to enclose the private space making it more intimate. By enclosing the courtyard the space turns into an atrium although, the concept is to act as an open air courtyard. The design utilizes the natural elements by replicating an exterior space. The experience then, is a mimicry of an exterior courtyard accessible throughout the year.



FIGURE 113: Iteration 01 Threshold Design, ground floor plan

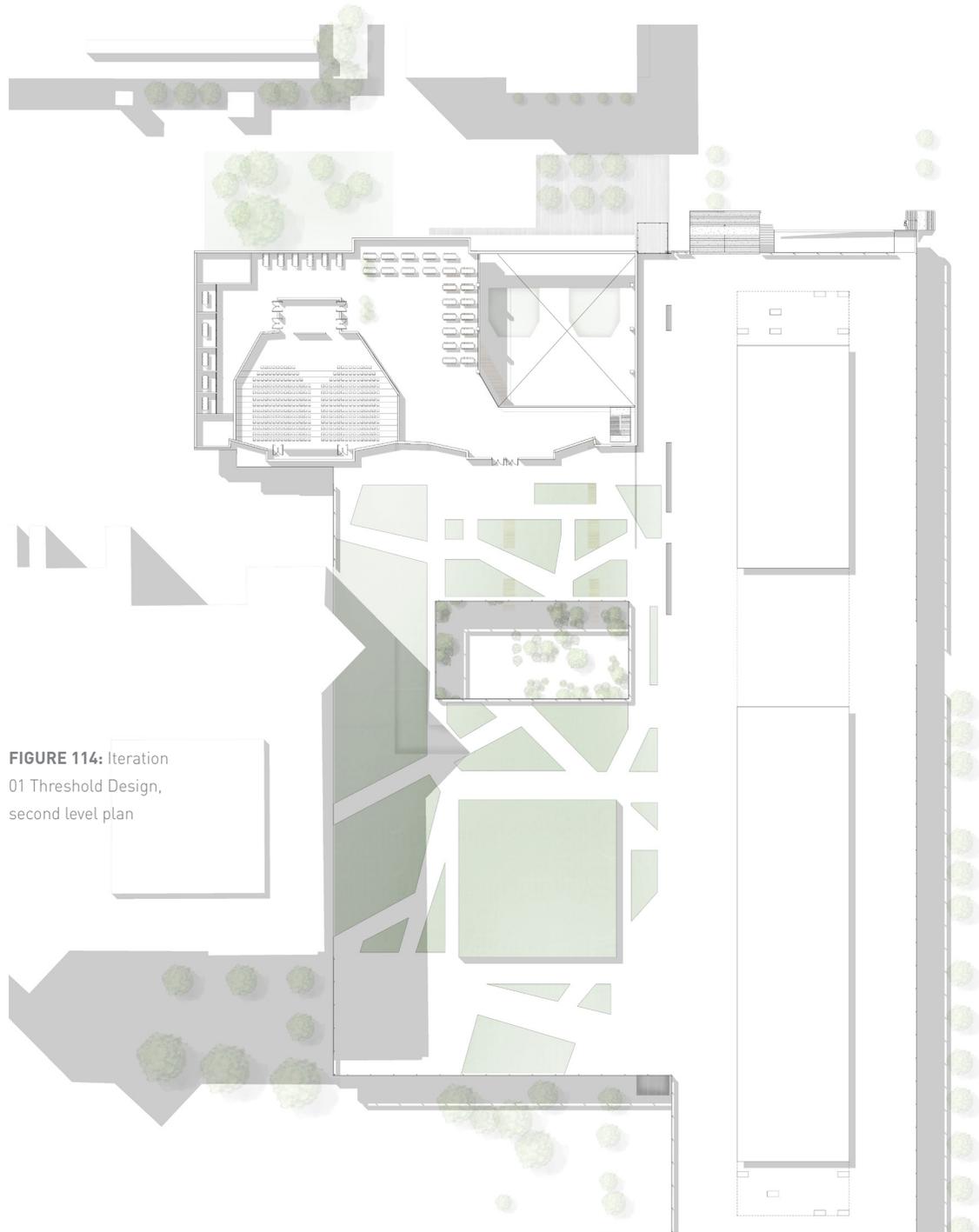


FIGURE 114: Iteration
01 Threshold Design,
second level plan

08.3. PHYSICAL MODELS

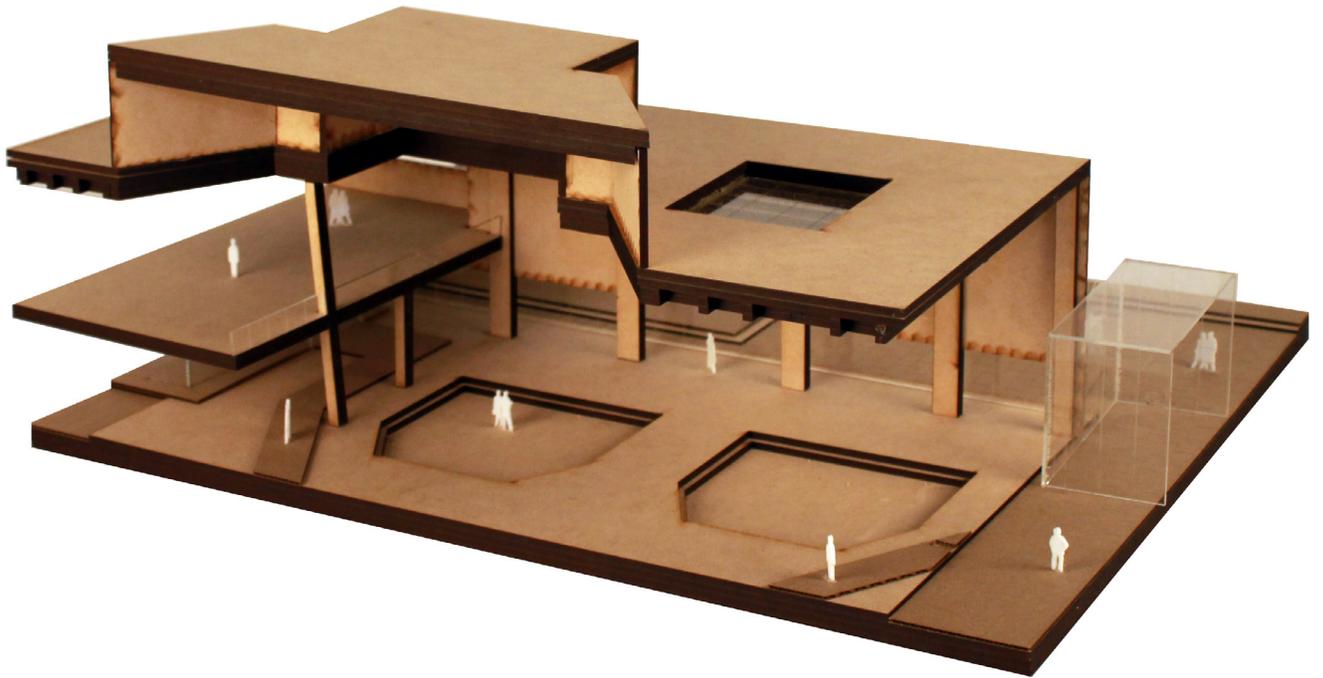


FIGURE 115:
Intervention 01, 1:100
interior atrium / sunken
study spaces

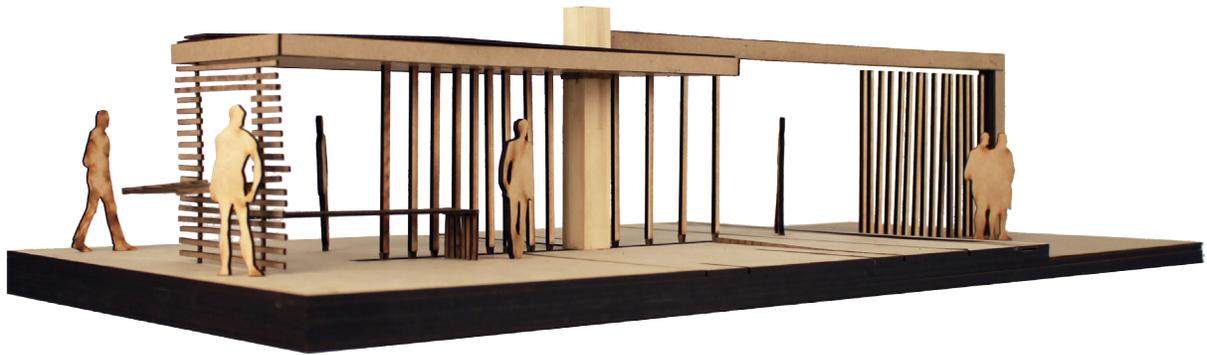


FIGURE 116: Final Design, 1:25 flexible exterior wood slats

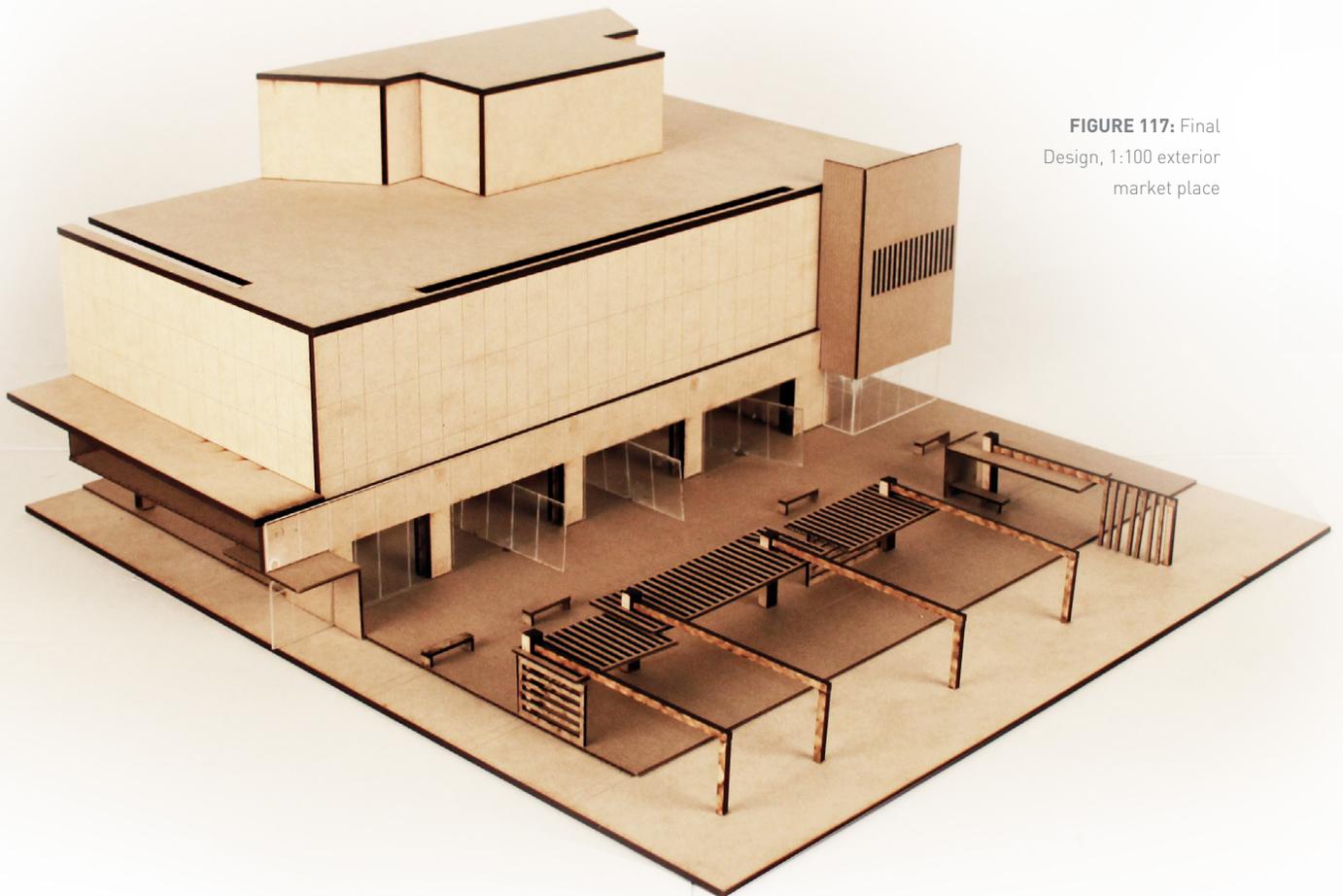


FIGURE 117: Final Design, 1:100 exterior market place

FIGURE 118:
Context Model, 1:750
highlighted campus
walk

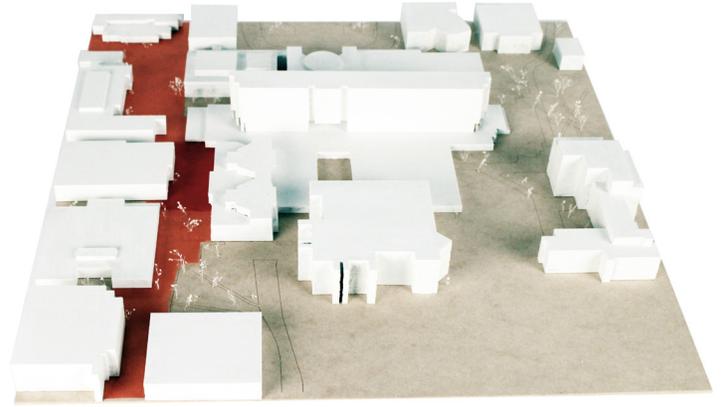
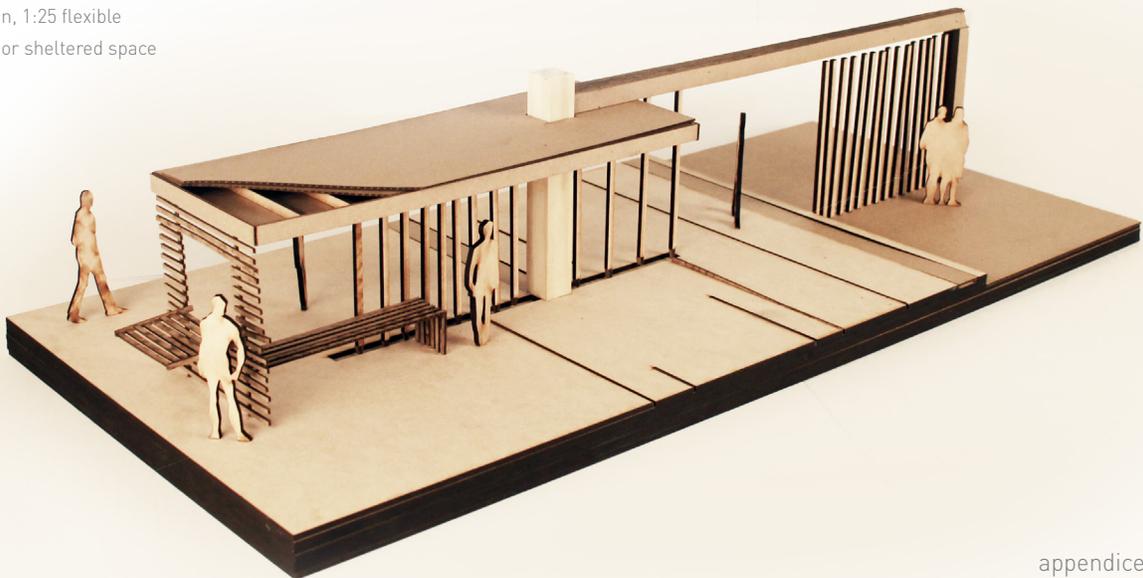


FIGURE 119: Final
Design, 1:25 flexible
exterior sheltered space



BIBLIOGRAPHY

- Allen, Stan. "Matters of Surface." In *Landform Building: Architecture's New Terrain*, 362-372. Baden: Muller Lars, 2011.
- Allen, Stan. "Nature in the Plural." In *Landform Building: Architecture's New Terrain*, 285-291. Baden: Muller Lars, 2011.
- Armstrong, Christopher. "Making Toronto Modern: Architecture and Design". 1895-1975. Montréal & Kingston: McGill-Queen's University Press, 2014.
- Barbara McPhail, and Richard Unterman, Cultural Heritage Assessment Report: Cultural Heritage Landscapes. Toronto, City of Toronto, 2008. Accessed October 9, 2016. https://www1.toronto.ca/city_of_toronto/city_planning/community_planning/files/pdf/yorku_draft_cultheritage_asses_rep_mar08.pdf
- Banham, Reyner. "The New Brutalism: Ethic or Aesthetic?". Stuttgart: Krämer, 1966.
- Boettger, Till. "Threshold Spaces: Transitions in Architecture Analysis and Design Tools". Birkhäuser, 2014.
- Berrizbeitia, Anita, and Linda Pollak. 1999. "Inside/outside: Between architecture and landscape". Rockport.
- Calder, Barnabas. 2016. "Raw concrete: The beauty of brutalism". William Heinemann.
- Cantacuzino, Sherban. 1975. "New uses for old buildings". Architectural Press
- Cantacuzino, Sherban. 1989. "Re-architecture: Old buildings/new uses". 1st American ed. Abbeville Press, Publishers

- Carroon, Jean. 2010. "Sustainable preservation: Greening existing buildings". Wiley.
- Cramer, Johannes, and Stefan Breitling. 2007. "Architecture in existing fabric: Planning, design, building". Birkhäuser.
- Cohen, Nahoum. 1999. "Urban conservation". MIT Press.
- Curran, Raymond J. 1983. "Architecture and the urban experience". Van Nostrand Reinhold.
- Dault, G. M. (2004). "Inverse City. The Canadian Architect". 49(10), 10-12. Retrieved from <http://ezproxy.lib.ryerson.ca/login?url=http://search.proquest.com/docview/213396068?accountid=13631>
- Douglas, James. 2002. "Building adaptation". Butterworth-Heinemann
- Forbes, Karen, and Peter Zumthor. "Site Specific: Conversations with Peter Zumthor, Steven Holl, Róisín Heneghan, Bjarne Mastenbroek, Bjarke Ingels, Joshua Prince-Ramus, Patrik Schumacher, Kjetil Thorsen, Craig Dykers, and Harry Guggler. Novato", California?: ORO Editions, 2015.
- GBCA, "GBCA, 2016, accessed August 20, 2016. <http://gbca.ca/projects/nationalballetschool>
- Giedion, Sigfried. 1971. "Architecture and the Phenomena of Transition". Cambridge Massachusetts: Harvard University Press.
- Goldhagen, Sarah. 2017. "Welcome to your World-how the built environment shapes our lives". New York: Harper Collins Publishers.
- Greco, Alison, Yanis Khamsi, Anthony Ferreria, Mehek Mazhar, Tina Njegovanovic, Jakob Schilz, Adam Jonsson, Matt Allen, Antonio Savoia, Emily Bongelli, and Ryan Swain. "Toronto Architects Aim to Keep Diversity" - Skedline.com." Skedline.com. January 16, 2014. Accessed September 5, 2016. <http://www.skedline.com/arts-entertainment/toronto-architects-aim-to-keep-diversity/>.
- Grice, Gordon. 2015. "Thresholds." OAA Perspectives.
- Isaac, Lara. (2015, February 7). "Architectural Case Study: Terrence Donnelly Centre for Cellular and Biomolecular Research". Retrieved from http://www.youtube.com/watch?v=LsUp_yL4t5o
- Krier, Rob. 1979. "Urban Space". Rizzoli.
- Leatherbarrow, David. "Uncommon Ground: Architecture, Technology, and Topography". Cambridge, MA: MIT Press, 2000.

Mager, Tino. 2015. "Architecture RePerformed: The politics of reconstruction". Ashgate.

Mayerovitch, Harry. "Overstreet; an Urban Street Development System. Montreal: Harvest House", 1973.

McClelland, Michael, and Graeme Stewart. 2007. "Concrete Toronto: A guide to concrete architecture from the fifties to the seventies". 1st. ed.Coach House Books.

McClure, Wendy R., and Tom J. Bartuska. 2007. "The built environment: A collaborative inquiry into design and planning". 2nd ed.John Wiley & Sons.

n.d. "Janus". Accessed March 1, 2017. <http://www.crystalinks.com/janus.html>.

Nitschke, Gunter. "'MA' The Japanese Sense of Place." *Architectural Design*, March 1965, 117-54.

Peña, William, and John Focke. "Problem Seeking: New Directions in Architectural Programming". Houston: Caudill Rowlett Scott, 1969.

Rabun, J. Stanley, and Richard Miles Kelso. 2009. "Building evaluation for adaptive reuse and preservation". Wiley.

Rowe, Hayley. "The Rise and Fall of Modernist Architecture". <http://www.inquiriesjournal.com/articles/515/the-rise-and-fall-of-modernist-architecture>. Accessed November 14. 2016.

Sanoff, Henry. "Methods of Architectural Programming". Stroudsburg, PA: Dowden, Hutchinson & Ross, 1977.

Schittich, Christian. 2003. "Building in existing fabric: Refurbishment, extensions, new design". Edition Detail.

Scully, Vincent Joseph. 1974. "Modern architecture: The architecture of democracy". Rev. ed.G. Braziller.

Smith, Albert C., and Kendra Schank Smith. 2015."Developing your design process: Six key concepts for studio". Routledge.

Staff Report for Action. Toronto: City of Toronto, 2009. Accessed September 12, 2016. <http://www.toronto.ca/legdocs/mmis/2009/pb/bgrd/backgroundfile-24265.pdf>

Steffen, Alex. "Worldchanging: A User's Guide for the 21st Century". New York: Abrams, 2006.

- "Spatial Composition in Modern Japan." *Architectural Design*, March 1965, 155-56.
- Toronto Official Plan. Toronto, City of Toronto, 2015. Accessed September 12, 2016. <http://www1.toronto.ca/planning/chapters1-5.pdf>
- Venturi, Robert, and Museum of Modern Art (New York, N.Y.). 1977. "Complexity and contradiction in architecture". 2nd ed. Museum of Modern Art.
- Wade, John William. "Architecture, Problems, and Purposes: Architectural Design as a Basic Problem-solving Process". New York: Wiley, 1977.
- White, Edward T. "Introduction to Architectural Programming". Tucson, AZ: Architectural Media, 1972.
- York University Secondary Plan. Toronto, City of Toronto, 2015. Accessed September 12, 2016. <https://www1.toronto.ca/planning/10-york-university.pdf>

