

# **Porous Public Space: An Integrated Typology for Urban Housing**

by

Myranda Reay

Submitted in partial fulfilment of the requirements  
for the degree of Master of Architecture

at

Dalhousie University  
Halifax, Nova Scotia  
March 2024

Dalhousie University is located in Mi'kmaq'i,  
the ancestral and unceded territory of the Mi'kmaq.  
We are all Treaty people.

© Copyright by Myranda Reay, 2024

# Contents

Abstract .....	iv
Acknowledgements .....	v
Chapter 1: Introduction .....	1
Hypothesis .....	2
Outline .....	3
Chapter 2: Theory .....	4
The Smooth City .....	4
The Porous City .....	6
Typological Entanglement .....	10
Discourse .....	10
Entanglement .....	14
Re-defining Typology .....	14
Integrating Housing and Public Space .....	15
Chapter 3: Typological Method .....	19
Investigation .....	19
Berlin .....	19
Vienna .....	22
Analysis .....	31
The House as a Social Diagram .....	37
Composition .....	39
Narrative .....	39
Themes .....	40
Chapter 4: Design .....	43
The Project .....	43
The City .....	45
The Site .....	49
The Anti-thesis .....	57
The Typological Characters .....	58
Subverting the Typical .....	60
The Loggia .....	63



The Inhabited Party Wall .....	67
Vertical Porosity .....	70
Inhabitation and Integration .....	73
Principles for Porosity .....	79
Chapter 5: Conclusion .....	82
References .....	85
Appendix: Rossetti Travel Scholarship .....	88
Public Space in Urban Housing: A Typological Study .....	88

## **Abstract**

In response to the erosion of public space in North American cities, this thesis provides a method of integrating public space in urban housing through typology. Arising from a culture of privatism and a planning strategy most interested in attracting investment, the prominent approach to development is site-selfish and mono-programmed, contributing to the erasure of diversity and public life. This thesis proposes a typological response to the threat posed by mono-programmatic and self-contained megastructures by working to uncover the entanglements between architectural type and social, political, and economic forces. The concept of the porous city is employed to imagine ways of transcending the dominance of the developer model. The typological method creates a new narrative, subverting typologies towards the possibility of a porous city. The design response demonstrates principles for combining housing and public space, creating an integrated typology for urban housing that begins with public space.

# Acknowledgements

I would like to thank my committee for their support and commitment to this project. Thank you to my supervisor, Niall Savage, for pushing me to think about urban housing from new perspectives, and for helping me see these ideas through from start to finish. To my advisor, Diogo Burnay, thank you for your insight and your excitement about this topic and encouraging me to travel.

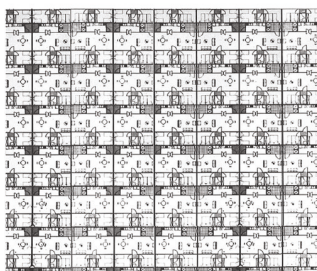
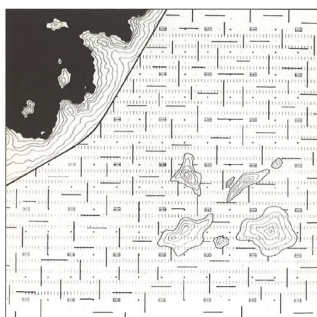
To my studiomates: thank you for our many studio conversations, design charettes and coffee runs. The memories we have will stay with me far beyond the walls of the school.

I would like to thank my family and friends for being there for me. To my mom and dad: there are no words to express my gratitude for your endless love and support. Thank you for instilling in me the values of creativity, curiosity and hard work. I am here today because of the life you gave me, and I am thankful and inspired to call you my parents. Thank you to my husband, my other half, for walking with me and grounding me through every step of this journey. Thank you for celebrating the process and encouraging me through every peak and valley. I am forever grateful for your constant love and support.

## Chapter 1: Introduction

This thesis began with an inquiry into the history of type to trace how various forces outside architecture, such as the social, political, and economic context, have resulted in the variation of housing and public space archetypes. The aim was to learn how current housing typology can be adapted or subverted to prioritize public space. The study began by looking at precedents of projects that did this in various ways, but it quickly became apparent that these types were not a product of architecture alone, but of their social political and economic context. This forged an understanding of type not as a priori, but as the embodiment of contingent politics of the time. This understanding of the forces that shape type contributes to a more informed response in the present, using type as both a reflexive and projective tool, instead of simply a method of classification.

It was through the study of type that specific issues came to light: operating within a closed system, the developer model for housing and public space erodes urban life through a sanitized version of the city. This type of urban development results in social isolation, which has impacts on both individual and community health and well being. This kind of urbanism is what Rene Boer (2023) calls the “smooth city”.



No-Stop City (Branzi 1969)

The opposite of this, and where the project is headed, is the porous city. Coined in a 1925 essay on Naples by Walter Benjamin and Asja Lacis, this type of urbanism is more fluid and open, with porous edges and thresholds that allow for the mixing of different parts of the city and groups of people. The term refers to the integration and interweaving of spaces, in this case of the public and the private realms, toward cities with radically mixed urbanisms.

## Hypothesis

It is increasingly difficult to imagine alternatives to the way we live in the city. The narrative of the 'perfect' smooth city has systemically erased many alternative urban narratives and smooths over any apparent disruptions. North America has become a world of hegemony and homogeneity. As Jean Baudrillard remarks: "domination can be overthrown from the outside, hegemony can only be inverted or reversed from the inside" (Baudrillard 2010, 34). To make a change, alternatives must first be imagined and designed.

The typological method developed in this thesis integrates public space and urban housing types, creating a typology of resistance against the narrative of the smooth city. The objective of this porous, counter-narrative is to establish themes and conditions for a porous typology of urban housing and public space.

Typological thinking provides a methodological response to the threat posed by the private developer model and self-contained megastructures. This method represents the discovery of agency within the discipline. Typology becomes not only about architecture itself, as it often suggests and has historically been treated, but as a method for understanding the entanglements between socio-political, economic context and architecture, form, and the organization space.

Founded in an understanding of type as an embodiment of these structures, architecture can begin to subvert typical relationships that prioritize privatism. By understanding and challenging the role of typology in perpetuating an exclusionary urbanism that erases diversity and civic life, the typological method creates an alternative narrative

where urban housing and public space are combined to create a porous and integrated typology.

## **Outline**

Part 2 deals with the theoretical framework of this thesis, investigating the concepts of the smooth city and the porous city in more depth before arriving at the intersection of typological entanglement.

In part 3, typological entanglement is translated into the methodology. This involves three main steps: case studies, analysis, and composition. Ultimately, this process leads to the development of typological characters to be deployed in the design project.

Part 4 is the design response, in which the project is situated at the scale of the city, the site and the rooms. An introduction to Halifax and the site is made, and the typological characters are developed through the design response.

Finally, part 5 is a reflection on the implication of the new typology for urban housing developed through the design project. It questions the effectiveness of the typological method and the implications for the architectural design process.



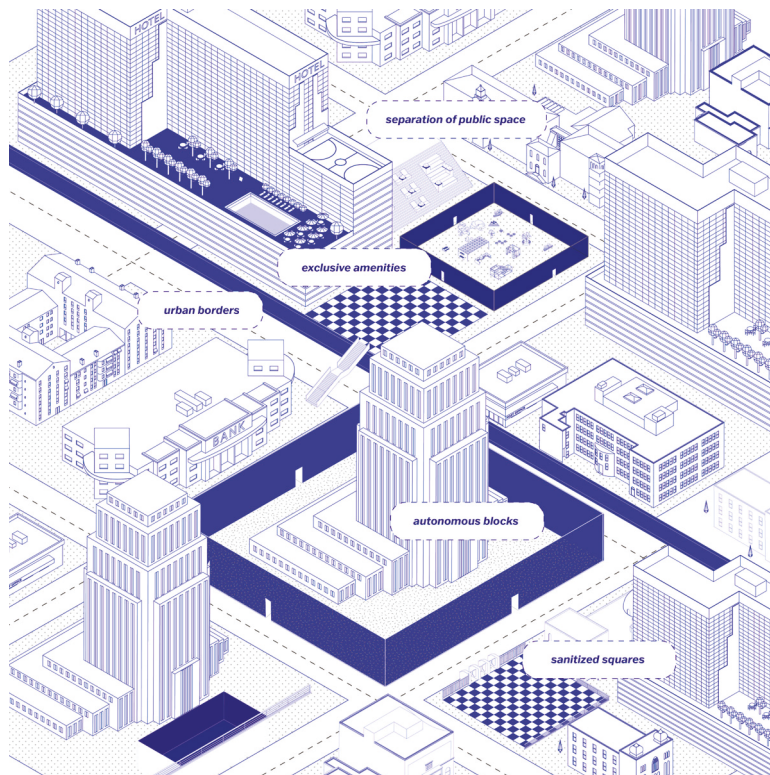
New York City Plaza (Whyte 1980)

## Chapter 2: Theory

### The Smooth City

For most of the twentieth century, urban centres were often in poor physical shape, hampered by economic difficulty, and the site of myriad conflicts and struggles. Over the last few decades, however, swathes of many cities have been brought up to a tip-top condition, powered by well-oiled economic forces and the successful repression and erasure of both conflict and critical alternatives. (Boer 2023, 9)

The most widespread approach to urban housing in North America is developer driven and site-selfish, contributing to the erosion of public space. Rising out of a culture of privatism and a planning strategy most interested in attracting investment, the smooth city erodes urban life through a sanitized version of the city. It is characterized by the privatization of public space, is mono-programmed, and prioritizes control and sameness, erasing the city's diversity and excluding anyone who does not fit the mold.



Characteristics of self-contained megastructures and an exclusionary urbanism.

In the Cambridge Dictionary, the adjective “smooth” is described as “having a surface or consisting of a substance that is perfectly regular and has no holes” (as quoted in Boer 2023, 14). “Smooth” also implies a texture, which supports Boer’s use of the term to describe an urban environment with perfectly polished outer skin where everything looks and feels the same, erasing all diversity. It is a fitting descriptor of an urban environment that values efficiency and outward appearance in the name of presenting a seamless user experience above the messy and complex reality of urban life.

The threat of the smooth city is that it systematically erodes what is important about the city: “The city has, over time, become one of the most important habitats of humankind, not only in terms of scale but in particular because it has often provided space for exchanging ideas, bridging cultures, providing shelter, transforming lives, testing new forms of togetherness, and pushing the boundaries of the imaginable” (Boer 2023, 10). The smooth city puts all these things under pressure, if not erasing them entirely. Despite the human need for safety, order and hygiene, smoothness remains a problem. The smooth city compresses the complexity of the city into a single, one-dimensional representation of itself. It reduces the depth of urban existence at the cost of diversity and encounters across difference. It leaves no space for people’s desire for appropriation or spontaneity. As a hegemonic, normative mechanism, it is inherently unequal and exacerbates the existing race, gender, and class divisions (Boer 2023). Through the way that it excludes many, it can be characterized as undemocratic, unequal, and violent (Boer 2023, 16).



## The Porous City

The term porosity offers more possibilities to describe and imagine ways of transcending the dominance of the smooth city (Boer 2023, 161). The double connotations of the term “porosity” are advantageous: the visualizing aspect denotes the material in architecture, while the conceptual represents the social. Porosity invokes a panoply of interdependent connotations such as: openness, fluidity, ambiguity, collectivity, diversity, transience, encounters, appropriations, collisions, conflicts, negotiations, and experiments (Boer 2023). This thesis will not provide a detailed or global model for what the porous city should look like and how it should function, but instead will focus on the notion of porosity as a metaphor for an alternative urban condition to that of the smooth city.

The first recorded use of the term “porosity” to describe a city in modern architectural discourse was in philosopher Walter Benjamin and theatre critic Asja Lacis’s account of Naples in 1925. Often cited in contemporary writings on the topic, the recorded observations of their travels to Naples describes a precedent for the porous city. The authors observed an intertwining of urban spaces and fabric from a physical, cultural, and social perspective:

Buildings and action interpenetrate in the courtyards, arcades, and stairways. In everything they preserve the scope to become a theatre of new, unforeseen constellations... Buildings are used as a popular stage. They are all divided into innumerable, simultaneously animated theaters. Balcony, courtyard, window, gateway, staircase, roof are at the same time stage and boxes. (Benjamin and Lacis 2019, 167-68)

This layering and mixing of spaces describe an architecture of perforated borders and ambiguous thresholds from the urban to the intimate scale.



Via del Pallonetto in the quarter of Santa Lucia, Naples. (Alinari 1900)

Porosity is therefore a concept that can be applied not only at the city scale, but across all scales, including time. Temporal porosity implies an intertwining and overlapping of activities and events in space, which has the potential of bringing together different actors and demographics. In Naples, porosity and permeability is found across scales, “not only in private and public urban spaces but in the temporal rhythm of city life as well. It affects the entire conduct of life” (Wolfrum 2018, 10). Sennett argues that today’s cities are lacking temporal porosity not only in the everyday experience of urban life, but in the imagination of the urban future (Sennett 2006). Given the perfect surface of the smooth city that erases any temporal trace, it has become increasingly difficult to imagine the city as a process rather than a static surface. Sennett writes:

In particular, what’s missing in modern urbanism is a sense of time –not time looking backwards nostalgically but forward-looking time, the city understood as process, its imagery changing through use, an urban imagination image formed by anticipation, friendly to surprise. (Sennett 2006)



“One of the best play areas we came across was a block on 101st Street in East Harlem. It had its problems, but it worked. The street itself was the play area. Adjoining stoops and fire escapes provided prime viewing across the street and were highly functional for mothers and older people. There were other factors at work too, and, had we been prescient, we could have saved ourselves a lot of time spent later looking at plazas. Though we did not know it then, this block had within it all the basic elements of a successful urban place” (Whyte 2001, 10-12).

There is also a political dimension to the concept of the porous city. Stavros Stavrides argues that the notion of porosity in the urban context “loosens the borders which are erected to preserve a strict spatial and temporal social order” (Stavrides 2016, 68). Richard Sennett, another scholar who uses the term “porous” frequently, understands the porous city as a place of radical mixture (Sennett 2006).

As such, porosity is a fitting concept in the context of integrating urban housing and public space, since it is one of the few conceptual terms that addresses both physical and social space without compartmentalization (Wolfrum 2018, 10). In contrast, in the modernist period, “the tendency has been to separate and distinguish spheres of life and



Steven Holl, Storefront for Art and Architecture (Steven Holl Architects 1993)

activities in society: night from day, housing from working, reproduction from production, transport from traveling, etc. [Today], cities reflect these basic distinctions; thresholds are missing” (Wolfrum 2018, 10). The consequence of this are social isolation, causing psycho-social behavioural and public health problems. Recent research demonstrates that perceived social isolation is linked to adverse health consequences including depression, poor sleep quality, impaired executive function, accelerated cognitive decline, poor cardiovascular function and impaired immunity at every stage of life (Hawkley and Capitano 2015).

In this thesis, the porous city is employed as a concept that serves to blur the distinction and separation of housing and public space. This requires a significant portion of the project to be comprised of public and semi-public spaces, and also an integration of these spaces with the domestic and private.

In contrast to the smooth city, the porous city attempts to resolve the paradox between the need for unsmooth urbanism and a clean, safe urban environment. Sennett (2006) argues that this paradox can be traced to over-determination, both of the city’s visual forms and its social functions. In other words, it can be traced back to the same forces that perpetuate the smooth city.

Modernist projects created an order that erased city life, while today the forms of order imposed come from a globalised real estate industry. “Flexible capitalism unfolds now in a rigid city... There are several reasons for this paradox. The first is the withering of mixed spaces and their replacement with more homogenised district. This process of sorting and segregating went on throughout the

last century but has sped up since the early '80s" (Sennett and Sendra 2020). In *Designing Disorder*, Sennett and Sendra (2020) explore disruptions in urban design that can dismantle overly rigid environments. The authors provide precedents that encouraged the use of public space and provoked social interaction. They argue that people learn to live with, and indeed benefit from, ambiguity, contradiction, and complexity (Sennett and Sendra 2020). A report by the US Office of the Surgeon General (OSG 2023) establishes that "higher levels of social connectedness suggest better community outcomes, ranging from population health to community safety, resilience, prosperity, and representative government" (39). This report, along with decades of research across scientific, economic and sociological disciplines conclude that social connection is urgent not only for the individual, but also for community health and well-being (OSG 2023, 36). Furthermore, the first recommended strategy involves designing and building social infrastructure to promote community and civic connection (OSG 2023, 47).

Years prior to *Designing Disorder*, Sennett wrote: "In [Jane Jacob's] view, big capitalism and powerful developers tend to favour homogeneity: determinate, predictable, and balanced in form. The role of the radical planner therefore is to champion dissonance" (Sennett 2006). In this article, "The Open City", Sennett puts forth a call to action:

We need to imagine just what a clean, safe, efficient, dynamic, stimulating, just city would look like concretely – we need those images to confront critically our masters with what they should be doing – and it is exactly this critical imagination of the city which is weak. (Sennett 2006)

This thesis employs porosity as concept to imagine an alternative urbanism, where spheres of life and activity in the city are not separated but brought together. It becomes

about creating a physically, socially, and temporally porous interweaving of spaces, blurring the hard lines between spheres of public and private and deepening thresholds between the domestic, public, live, work, night, and day.

## Typological Entanglement

This thesis is located at the intersection of two contemporary architectural discourses: the smooth city and typology. Writings on the smooth city and similar phenomena fall short of examining how typology can be used as a method of analysis and subversion of the narrative towards alternative futures. This chapter will serve as an introduction and a re-definition of typology in architecture, situating the thesis' position in relation to the broader discourse.

## Discourse

In the late 1970s, Vidler wrote an important essay on the discourse around type, taking stock of the ways in which architects have discussed or used the concept of typology. In "The Third Typology", Vidler outlines the three typological moments (of course type as a way of thinking architecturally and doing architecture exists since time immemorial). Referring to Quatremère de Quincy and Durand and the emergence of the discourse, Vidler examines the rise of typology in the 18th century, during the enlightenment, as a way of categorizing and classifying buildings according to structure and sometimes function. This was the first typology. The second typology was an attempt to finetune the production of architecture throughout industrialization, as represented by the work of the modern movement. Type and typology were employed to consider the design of architecture as a form of mass production, transcending the the authorship of the single architect (Aureli 2023). The

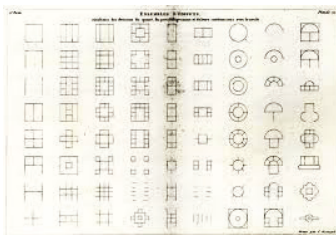


Plate 21 of Précis des leçons d'architecture données à l'École polytechnique. (Durand1805)

third typological moment, from the late 60s onwards, was characterized by the general disillusionment of the unitary theory and masterplan of architectural modernism, and the way in which it failed to respond and reflect the reality and complexity of urban life. The third typology, the one Vidler was championing in his essay in the 1970s, was a return to type, yet no longer understood as a framework for mass production of architecture, but as a tool for research (Aureli 2023).

At the time of Vidler's writing in the late 70s, the rediscovery of the discourse around type through the work of Aldo Rossi solidified into a school of thought that was very influential in many architecture schools across Germany, Italy, and Switzerland (Aureli 2023). However, in the late 90s, following the rise of architects such as Rem Koolhaas and Frank Gehry, the discourse on typology in architecture disappeared: it became a very outdated way of looking at, studying, and teaching architecture (Aureli 2023). Typology was then considered to be a discourse concerned with norms, rules, and traditional models. However, in the past ten years, there has been a return to the importance of the discourse on type, beginning with the work of Christopher Lee and Christoph Gantenbein. Their research was not only into design, but into the question of typology and its' relevance to contemporary architectural discourse.

Writing at the same time as Vidler in 1978, Moneo stressed how for each generation of architects to answer the question of what typology means is to redefine the essence of architecture "and an explanation of all its attendant problems" (Moneo 1978, 23). Although Moneo acknowledged that architectural types are rooted within social conditions, discourses on type are often an excuse



to understand architecture in vacuo, to remove architecture from its inevitable social and political entanglement. Typology has often been used as a safe zone: a way to enclose architecture within its disciplinary boundaries.

The return to the theory of type in the past 10 years is what Aureli describes as the fourth typological moment in architectural discourse (Aureli 2023). This began with Christopher Lee's doctoral dissertation "The Fourth Typology" and the experimental work of Christ and Gantenbein in practice, which drew similarities to Rossi's teaching on typology (Rossi's legacy resurfaced when they took on this topic in their work). This movement marked the return to a disciplinary identity in architecture, whereas Aureli (2023) argues that it was lost in the late 90s.

Interestingly, the discourse on type has resurfaced each time architecture has faced a major crisis of identity and validity. Aureli (2023) argues that architecture faces this crisis of identity and validity today and calls for a fifth typology with the aim to further develop the resurgence of the fourth typology to meet increasingly complex social, political, and environmental issues. The hypothesis of the fifth typology is that buildings act as indexes of social and political forces. Type becomes a way of understanding how buildings are produced. Since the idea of type implies the typical or the common, threads can be traced between and across project to reveal entanglements: not only the architect's intentions, but constraints, norms, policies, the political and ideological forces that produce architecture. The fifth typology is very similar to the fourth, though it aims to further stress that architecture is always a product of social and political conditions, which become legible in the built form of buildings cities (Aureli 2023).

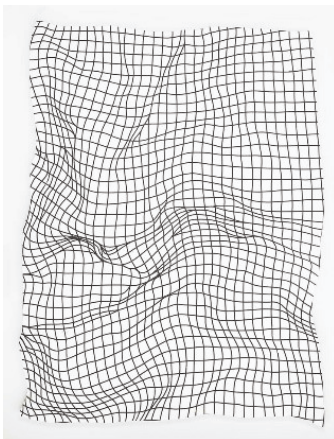
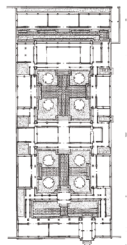
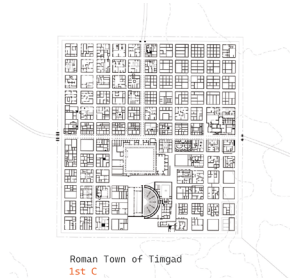


Diagram of a distorted grid, representing entanglement.

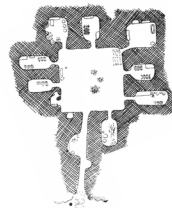
COURTYARD HOUSING



Siheyuan, "quadrangle", China  
1000 BCE



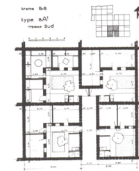
Roman Town of Tingad  
1st C



The Matsuta Dwelling Type  
14th C



Independent Bourgeois Berlin Block  
19th C



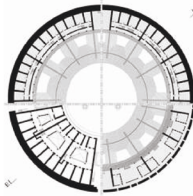
Ecohard's Casablanca  
20th C



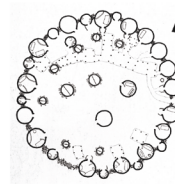
Ur Private House  
2000 BCE



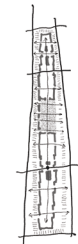
Roman Domus  
800 BCE



Fujian tulou  
12th c



Musgum Mud Huts  
18th C



Vienna Superblock  
20th C

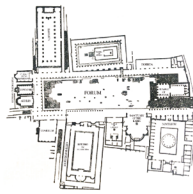


Berlin Block  
20th C

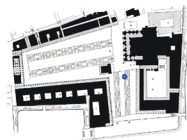
PUBLIC SQUARE



Athenian Agora  
600 BCE



Roman forum of Pompeii  
4th C BCE



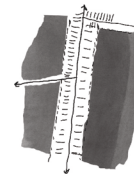
Piazza San Marco  
2nd C



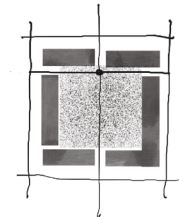
Krakow Market Square  
12th C



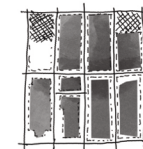
Piazza Del Campo, Siena  
13th C



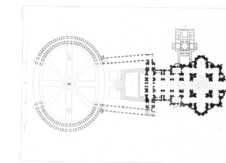
Axial Street in Renaissance Rome  
14th C



Palais Royale, Paris  
17th C



Halifax City Blocks  
21st C



St Peter's Square  
17th C

An example of a typological timeline tracing iterations of courtyard housing in relation to the public square.



## **Entanglement**

Following from the discourse around the fifth typology, typological entanglement questions the forces that influence type and form to move outside architecture's self-reflexive and internal spiral. The term entanglement is drawn from particle physics and is used to describe a complex relationship between moving parts, where change in one factor is resonated across the whole system. This is best illustrated through the diagram of a distorted grid. The analogy of entanglement is applied to typology to link the essence of architecture and built form to the social, political, and economic forces that make its production possible. This understanding of typology allows architecture to reclaim political agency not beyond but within the discipline itself.

## **Re-defining Typology**

The instrumental attribute of the concept of type is that it is heuristic in nature. This is made evident in Vidler's three typological moments, in which architecture's agency and efficacy had to be revalidated every time architecture is deemed to be in crisis. Typology is thus a critical tool for examining our assumptions and ideologies surrounding social, political, and economic conditions and their relationship to space and form throughout history, the present and the future. Lee defines the study as such:

Typology, or the logic of type, is the moment of analysis in architecture. It is a comparative method that brings together buildings that share similar characteristics for study. The goal is to distill their typicality as an irreducible organisational structure, or deep structure, ready to be deployed into new variations and reconfigurations. (Lee 2023)

Understanding the patterns that social, political, and economic systems impose on architecture can help to negotiate forces outside the design professional's control. In

other words, understanding the influence of broader systems on types can help architecture maintain agency and action in today's social political climate through a subversion of those types, reflecting a critique of the system itself.

In the book *Spatial Agency*, Giddens' take on agency describes agents as neither completely free as individuals, nor completely controlled by structures (Awan 2011, 31). "Spatial agents are neither impotent nor all powerful: they are negotiators of existing conditions in order to partially reform them. Spatial agency implies that action to engage transformatively with structure is possible but will only be effective if one is alert to the constraints and opportunities that the structure presents" (Awan 2011, 31). Architecture, as a disciplinary agent, can work to empower others by allowing them to engage with their environment in ways that are out of the ordinary, previously unavailable, or otherwise atypical. This intentional subversion of norms opens up new possibilities and freedom as a result of reconfigured space (Awan 2011, 32). An understanding of typological entanglement thus provides a discursive method that is both reflective and projective, becoming a critical disciplinary tool. It allows the discourse on type to move beyond a self-reflexive status and address social political contexts to be transformational.

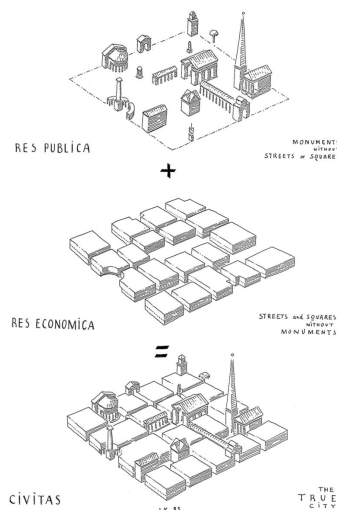


Diagram titled "The True City" by Leon Krier of Rossi's *The Architecture of the City*, understood as the urban artifact of housing and the exception.

## Integrating Housing and Public Space

In the context of this thesis, public space in urban housing is a typology of resistance against urban erasure. If we are to imagine a different way of living and inhabiting the city, ultimately transforming the city itself, there is nowhere more fitting than in the most fundamental and essential of architectural projects: the house. As represented by Aldo

Rossi's idea of the urban artifact, housing and public space are the two essential building blocks of the city. However, this thesis argues for their integration rather than their separation.

Rossi's *Architecture of the City* is an attempt to revalidate the ideal that architecture could return to. He sought to recuperate the validity of architecture not from nature nor the machine, as it was previously, but from the historical city (Lee 2023). Rossi argues that the city can be described through the concept of the urban artefact, which is divided into two moments: the moment of housing, and the moment of the monument. The way in which Rossi talks about these two moments summarizes the way in which we view and understand historical European cities: the city made of rule and exception. The rule represents the housing typologies that are separate and surround the collective spaces, making the punctuated buildings visible. The exceptions are the manifestations of collective will and political space.

Rowe's *Collage City* is about the principles of modern architecture, their philosophical beginnings, their expressions, and the ways in which they are flawed (Rowe 1978). Although at its' roots, *Collage City* is primarily a critique about the principles of modern architecture and urban design, the authors also argue that successful cities synthesize and incorporate different types of artefacts. Their claim is that urban design at its core can be developed by stitching together various existing designs, or precedents, of urban fabric. Along the same lines, this thesis argues against this distinction between rule and exception, between public space and private buildings.

Public and domestic space are necessarily intertwined since one represents the home and the other the world beyond. The connection between the private and public realm, between the domestic and the collective is lost when these are treated separately and spatially removed from one another. Integrating the two typologically could allow more of people's domestic life to spill out into the public realm and be shared with others. This fosters values of city living that have been lost to the erasure of the smooth city. These thresholds and spaces of transition provide "space for exchanging ideas, bridging cultures, providing shelter, transforming lives, testing new forms of togetherness, and pushing the boundaries of the imaginable" (Boer 2023, 10).

This issue presents a gap where typological thinking provides a new contribution. Although Rossi's interpretation of the city remains a point of contestation, his reading of type clarifies how the urban artefact can be malleable. Rossi claims that architectural type does not reveal the origin of a building, but rather represents the potential of a structuring principle. This structuring principle is a social and political diagram, formed by the social and political conditions of a particular place at a particular time (Aureli 2012, 26). Thus, when type becomes tangible through what Rossi identifies as the singularity of the urban artefact, this artefact is subject to its' context, shaped by it and, as this thesis argues, with the possibility of being continually transformed by it.

In sum, each building (artefact) is a singular manifestation of the potential of the type. This implies that when different variables are substituted into the equation, the resulting artefact might appear critically different from another artefact of the same type. This thesis seeks to identify the underlying structure of type, the social and political diagram, and to

subvert the organizational principle at its origin, to produce a variation on the type that responds to an altogether different set of conditions: those that integrate public and domestic space towards the concept of the porous city.

Thus, this thesis is not only concerned with architecture itself, with type, form and space and which kinds of each allow the integration of public space in urban housing. It is equally concerned with the inherent ideologies, values and social and political forces that influence type and the barriers they present to achieving public space in urban housing today. It develops a critique of and resistance against the developer model: the smooth city, the system that perpetuates exclusive, privatized, globalized, commodified urban housing that ultimately erodes public space and erases urban life. This urban erasure can be defined as the restriction and exclusion of cultural diversity, and entire social groups from the city. This understanding of the forces that shape type contributes to a more informed response in the present, using type as both a reflexive and projective tool, instead of simply a method of classification.

## Chapter 3: Typological Method

This method involves three parts: investigation, analysis and composition. The investigation consists of on-site research into case studies that integrated public space and urban housing. The analysis extracts typological principles and themes from this study. The composition applies these principles to the design project.

### Investigation

As the first step in the typological method, on-site research was conducted in sixteen case studies of urban housing across Vienna and Berlin. The projects were selected as examples that integrate urban housing and public space. Four of those projects were chosen as case studies specific to this thesis. The investigation involves a close reading of their typologies by unfolding their contextual history and identifying the spatial relationships and elements that form the interface between the domestic and public. This initial investigation forms the basis for an elaboration of counter-typologies whose aim is to integrate collective housing and public space, resulting not just in a product but a space for social emancipation.

### Berlin

The International Building Exhibition emerged as a sign of its time under particular historical and socio-political conditions. There have been several international building exhibitions held at irregular intervals, yet what they all have in common is that each IBA has reflected their time in terms of social, technical, and cultural forces and developments. The actors involved all formulated an urgent social need for

reform in design, which they realized through built projects across Europe. Each one demonstrates a specific approach to living in the city and a distinct relationship between the public and private realms, but of particular interest to this thesis is the Berlin IBA of 1987.



Portals and arcades of the internal streets and courtyards at Ritterstrasse, Berlin.

Titled “The Critical Reconstruction of the City”, the Berlin IBA 1987 took place in the wake of the modernist 1957 Interbau West Berlin and was conceived as a blatant departure from modernism. “Josef Paul Kleihues critiqued the separation of tenants from one another and from the urban space below, and argued that the anonymity that came with life in modernist slabs and tower blocks was paralleled with the fragmentation of the city fabric” (Borsi, Porter, and Nottingham 2015, 46).

In response to the “fractured” urban fabric and disenchantment with modernist architecture and planning, the proponents of the Berlin IBA 1987 “sought a contemporary interpretation of the qualities of the traditional European city, exemplified by the Berlin block and its urban morphology” (Borsi, Porter, and Nottingham 2015, 45). Thus, this exhibition had as its’ agenda to not only physically reconstruct the city following its destruction, but also repair the urban fabric through what we can now call a porous approach to the block.

### ***Ritterstrasse***

Designed and built as part of the Berlin IBA 1987 by Rob Krier, Ritterstrasse represents the re-instating of the Berlin block as an urban strategy. In the Interbau West Berlin, modernisms’ focus on individual buildings as objects on the site abandoned the city’s public spaces and with it civic urban life (Borsi, Porter, and Nottingham 2015, 47). On the other hand, Krier’s urban strategy was to divide the site into



Urban section through Ritterstrasse, showing the relationship of the street to the layered block's semi-public courtyard and inner street on the right. 2





Central courtyard square at Ritterstrasse, Berlin.

plots designed by separate architects, resulting in a varied and human scale development. Krier argues that this was for many reasons:

To re-establish small groups which will again allow people to get to know their neighbours. To create a small-scale architecture that is easy to recognise and orient oneself by. To recognise that housing can only rise above other functions of the city if it once again takes on the variety that in the past characterised, enlivened and enriched the streetscape. (as quoted in Borsi, Porter, and Nottingham 2015, 50)

Each apartment is dual aspect, facing both the street and the internal courtyard. This allows residents to relate to both street life and the interior public and semi-public space. Gateway buildings, composed in pairs, mark the entry to the inner streets.

## Vienna

Vienna stands as an international example for urban social housing. In 2019, 60 percent of Vienna's residents lived in public housing (440,000 units), and the city worked hard to make sure these places are attractive and embody enlightened notions of ecological design, innovation, and social cohesion (Förster 2019). *The Vienna Model 2* examines how the city is using public housing projects to radically change our understanding of dwelling in cities: from grassroots approaches to strengthening local communities, finding new life in old industrial buildings, encouraging multi-demographic interaction, and pioneering new neighborhoods (Förster 2019).

The term "social housing" is too often reduced to affordability alone. In Vienna, this is an important aspect, but the topic has been broadened to see social housing as something for the mainstream of society, as a question and response to

living together, and as a quality criterion (Bernögger et al. 2022, 48).

The city's social housing reputation began with "Red Vienna", when Marxists in the Social Democratic Party initiated a radical reformist program of municipal socialism (Förster 2019). Mass housebuilding, public education, and healthcare were employed to create a proto welfare statelet in the former seat of the collapsed Austro-Hungarian Empire. The Social Democrats have been the dominant party in the city legislature ever since.

At this time, there was agreement reached that housing represents a "peculiar commodity" that is not subject to the mechanics of the market (Förster 2019). This was due to three factors: firstly, lower housing costs are equally beneficial for both tenants & landlords, and in turn better for the greater economy. Secondly, housing is a public service, not only for lower-class but middle-class as well, which is vital to preventing the formation of stigmatizing social ghettos. Thirdly, the housing market is not a normal market and lacks transparency and does not offer a level playing field (Förster 2019).

The 1920's saw over 65,000 units of social housing constructed through partnerships between the municipalities and various architects and developers (Förster 2019). This collaboration sparked by the socialist government introduced amenities and an unprecedented level of technical quality in the world of social housing.

During the second world war, 20 percent of the city's housing stock was destroyed or damaged, leading to a massive resurgence of government led social housing developments (Förster 2019). Although successful in their objective of

housing the population, these developments often followed a monotonous pattern. Beginning in the 1970s, officials implemented design competitions for new social housing developments, adding another level of technical quality, cost saving innovations, and individual character to the projects.

Competitions led to innovations in the physical design and organization of space for the residents, as well as introducing new methods of construction and planning that in turn lowered the overall cost (Förster 2019). Amenity spaces such as pools, saunas, shared cooking facilities, fitness centers, daycares, and public gardens are just some of the features found in Vienna's social housing projects that are implemented as a response to resident needs and wants.

Social innovation is generated through these projects via the economic planning of these developments. Placing an importance on social housing for both lower and middle-income citizens de-stigmatizes subsidized housing while decreasing segregation within the community (Förster 2019).

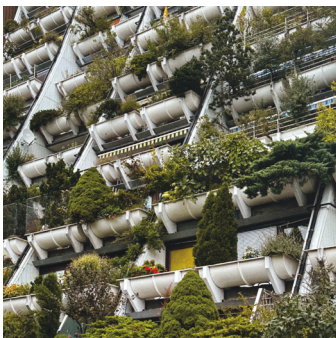
In 2016, the Vienna IBA was launched with the theme: "new social housing". Today's International Building Exhibitions differ greatly from their historical predecessors, mainly the increasing orientation towards process and not only the constructed works. One of the characteristics of this process-oriented approach is that the exhibitions are now also concerned with the promotion and coordination of related architectural and cultural processes that manifest themselves not only in buildings, but also in administrative, social, or environmental strategies and concepts that emerge from the projects.

Under the theme of “new social housing”, one such example of a new concern is evident in that the most apparent political cause for the IBA was to better communicate internally and internationally the strengths of the Viennese housing system (Bernögger et al. 2022, 48). This effort was led by the professional political commitment to social housing in the face of neoliberal pressures at municipal, national and international levels (Bernögger et al. 2022, 48).

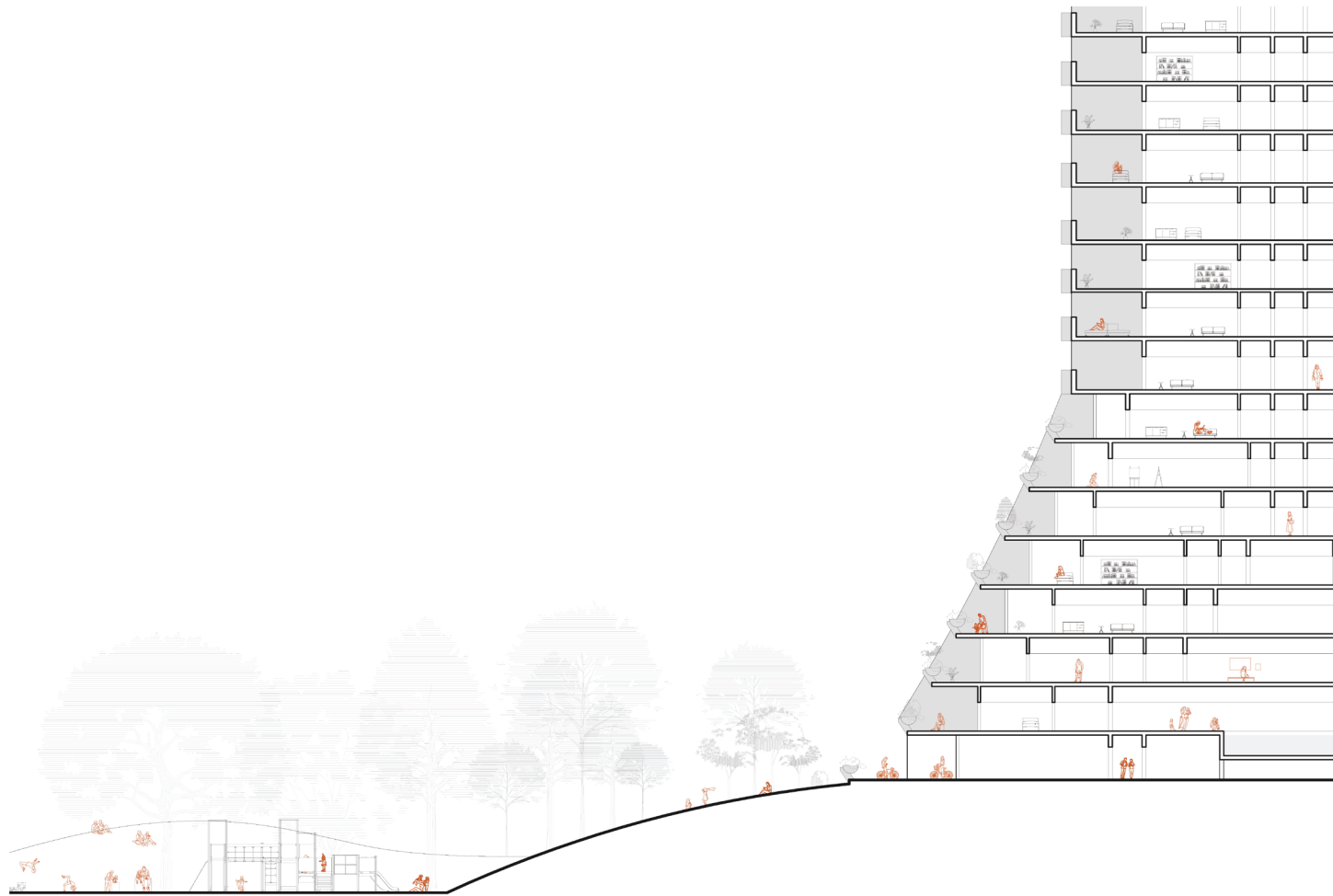
Each of the following three projects from Vienna were built at different times (only one of them during the recent IBA), yet all shed light on the importance of domestic-public interface in different ways.

### ***Alt Erlaa***

Located on the outskirts of Vienna, Alt Erlaa represents one of the most successful public housing projects of its time. Designed by Harry Glück, Kurt Hlaweniczka, Thomas Reinthaller and Franz Requa and built in 1968, this housing complex is known as a city unto itself for the sheer scale of the project, but also because of the many amenities interspersed throughout the site and buildings. Alt Erlaa houses approximately 11,000 residents, and includes two health centres, two kindergartens, three schools, a day-care centre, a public library, a gym, playgrounds, a church, a mall, bars, restaurants, and several leisure facilities and hobby rooms for more than 20 leisure clubs. There is a swimming pool on the roof of every tower and an indoor pool and sauna on every ground floor. Each residence also gets their own private outdoor space in the form of generous balconies with planters. The social mix of residents contributes to above average satisfaction of residents (Förster 2019).



Porous greenspaces and programmed outdoor spaces throughout Alt Erlaa.



Urban section through Alt Erlaa showing the relationship between living and inhabiting the public landscape.



Alt Erlaa represents a social housing project with integrated public space and amenities. Something I noticed while visiting was that the public spaces and amenities don't just run alongside the residential towers, but are sometimes perpendicular and intersect them. Finally, the outdoor greenspaces and park responds and interacts with the surrounding tower slabs through a formed and programmed landscape.



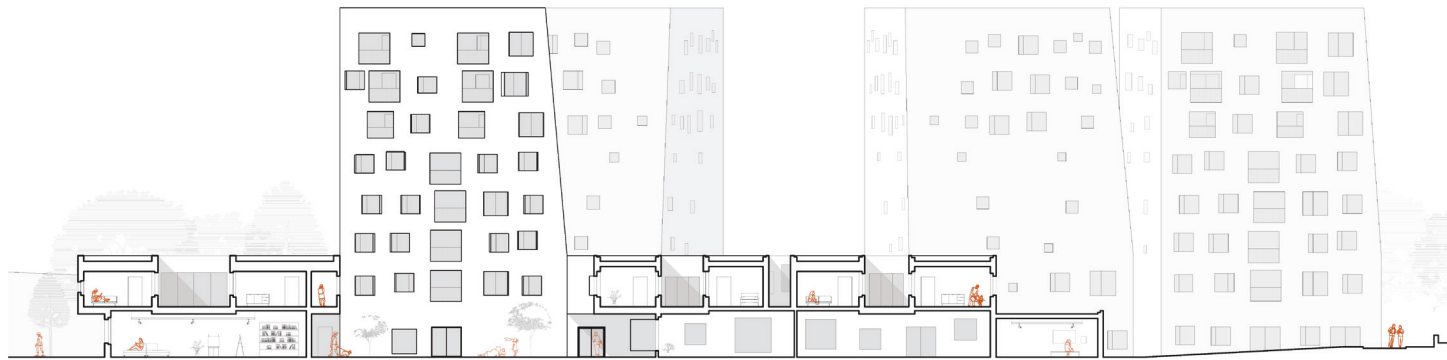
### ***Fallow Land***

Located on the outskirts of the city, this project is integrated with the adjacent subway station and offers ample amenities. This site was initially thought of as impossible to solve: a triangular plot, situated on the outskirts of the city, surrounded by a heavy traffic way, an elevated underground line and crossed by a power line. The architects recognized that this site was a challenge, but at the same time presented many opportunities. The location of the plot next to the subway line meant that it was already part of many people's image of the city as part of their commute. This presented an opportunity to create a landmark and identity for this outskirts neighborhood. They also recognized that this difficult site had many of the necessary conditions to grow into a new public space given its' proximity to transit and green space.



As a result, the project began with the site as a public room and introduced housing blocks to frame it. Layers such as arcades, courtyards, terraces, and common rooms were then added to deepen the thresholds and interstitial space between the public and the private.

Porous access to outdoor rooms at Fallow Lands despite restrictive site.



Urban section through Fallow Land showing the relationship between outdoor public spaces and interior semi-public spaces.

### ***Music Box House***

Constructed as part of the Vienna IBA in 2021 by architecture firm harri&salli, Music Box provides spaces for living, working, and performing. Located at the hinge-point between the city's largest urban greenspace, Helmut Zilk Park, and a pedestrian and bicycle ramp that connects to the adjacent district, the project stands as an example of integrated public space and housing. At the base of the housing block is a sunken urban stage, where pedestrians can observe concerts and performances from the sloped amphitheater-like plaza or from above on their commute along the elevated path. Furthermore, stepped landscape zones at the ground level provide spaces for public participation without any requirements to pay. The public room has the potential for open-air theatre, readings, concerts, and spontaneous performances that can take advantage of the surrounding squares and public furniture.



Horizontally and vertically dispersed semi-public and public spaces at Music Box.

In addition to the public square at the ground level, music rehearsal spaces are interspersed within the apartment block, visible as colored voids from the exterior. This architectural move marks the project as a heterogeneous mix of programmatic spaces, easily identifying it as a place that it not only for housing, but for others to take part in. The combination of the transparent café and lobby at the ground floor, rehearsal space voids in the housing block, and the urban square framed by the stage invites visitors and passersby to participate creatively in civic life at various times throughout the day, contributing to the porosity of the city.



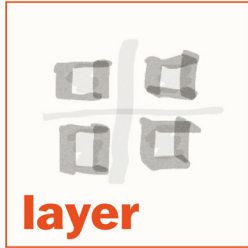


Urban section through Music Box showing relationship of domestic, semi-public and public spaces horizontally and vertically dispersed.

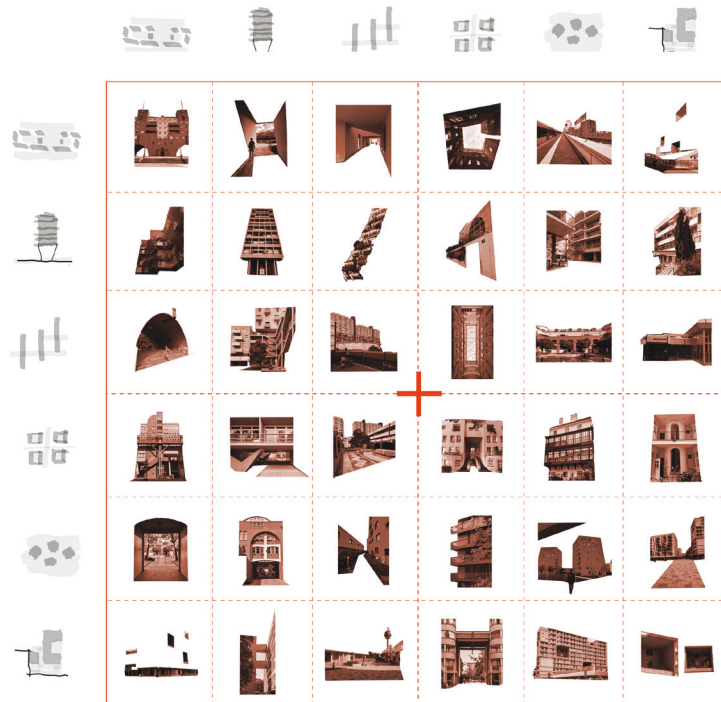
## Analysis

The second part of the typological method is analytical. The projects studied and visited in the investigation portion are now understood diagrammatically by their spatial and social relationships. In other words, they are analyzed through the lens of typology.

In the following drawings, each building's relational spaces are examined and seen as creating specific qualities and atmospheres within their individual urban context. As described by Zöhler in *Porous City*, "the complementarity of spatial form and physical form is important to the concept of porous city. The volumes of buildings always have to be perceived in relation to the (urban) spaces in between them" (2018, 58). Specific attention is paid to elements that support thresholds and spaces of transitions. These architectural characteristics foster porosity through relational spaces

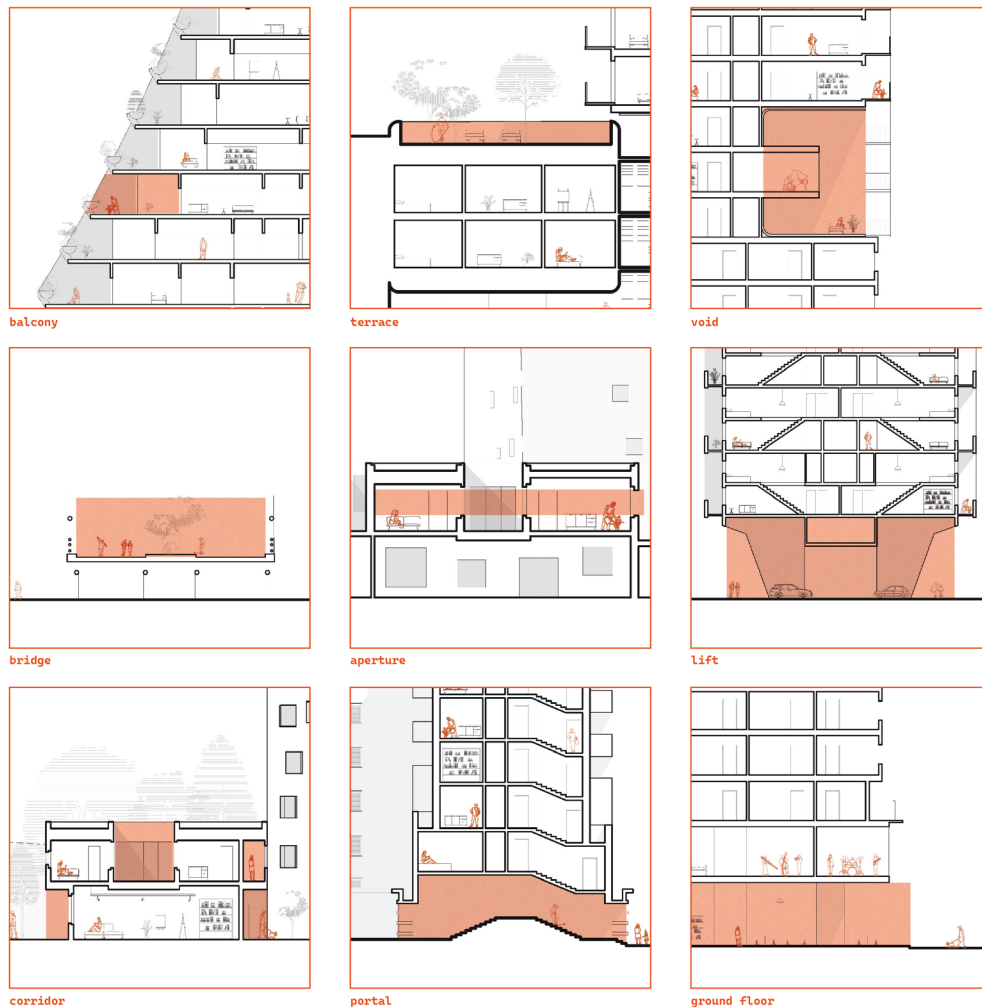


Diagrams describing the relationship between public and private space in each case study.



Matrix describing the relationship between public and private space of project characteristics.

connecting the inside with the outside or the domestic with the public (Zöhner 2018). These drawings are made not only to compare characteristics across these projects, but to compile an inventory of architectural moments where the boundary between the public and private realms is porous. This inventory serves as a foundation for the design work, a starting point for imagining ways in which the characteristics of type can be altered to blur boundaries and shift social diagrams.



Moments of integration between public and private realms.









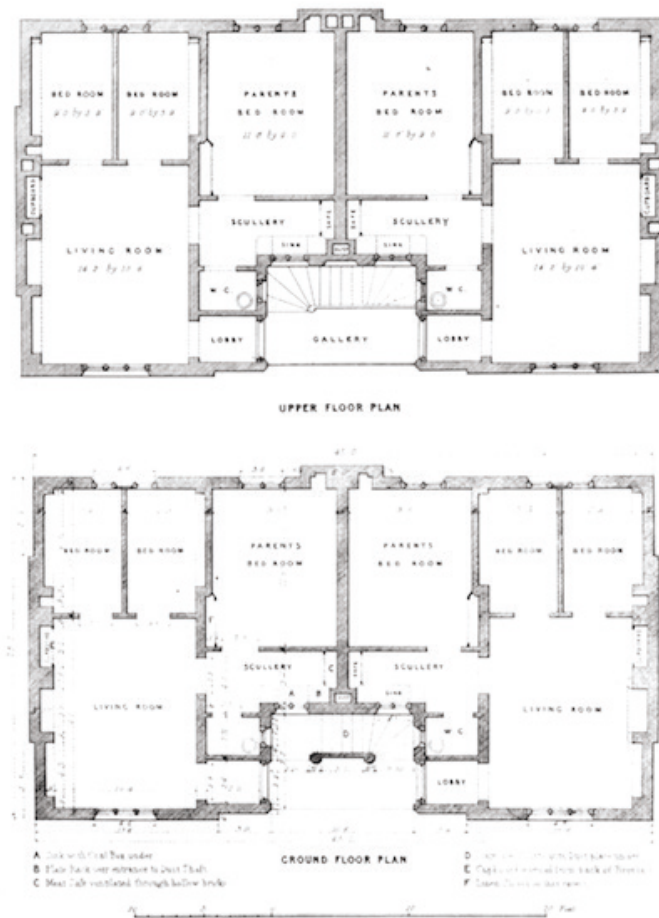
Domestic/public interface. Collage of public and semi-public conditions at Fallow Land.



## The House as a Social Diagram

The concept of type can be employed as a tool to read housing as a social diagram (Giudici 2018, 1205). Historically, various social diagrams have been embedded in housing types as a way for the state to extend its' governance over methods of operation within the domestic.

For example, in 1851, British architect Henry Roberts drew an unassuming two-floor house prototype for four families that has influenced the way urban housing (especially apartments) has been understood, designed, and inhabited in the last century (Giudici 2018, 1203). It



Plan of Model House for Four Families. (Henry Roberts 1867)



can be argued that “Roberts created a link between type and city, but also put forward an actual idea of society, a specific form of subjectivity” (Giudici 2018, 1204). This social diagram regulates an idea of the nuclear family as operating independently and is arguably the most invisible yet influential housing type of our time (Giudici 2018, 1205). Despite this prototype plan being drawn for a specific historical and geographical context, Roberts’ diagram “has become a totalizing apparatus that can now be found all over the world, enforcing a form of life that is often not aligned with the actual needs of the inhabitants” (Giudici 2018, 1205). Moreover, the organization of the house became an apparatus that linked the family to specific economic conditions such as homeownership, and this was reflected in the idea that the house had to be (or at least appear to be) “private space”, a refuge and separation from civic life.

This example demonstrates that typology can be instrumental not only for the communication of architectural knowledge, but also for the perpetuation of norms for domestic space that imply a script for domestic labour (McGuinn 2020).

This brief history of the social diagram of the house has culminated in the current housing crisis, which is rooted in decades of housing commodification and capital accumulation through aggressive real estate politics. This thesis studies the issue of typology within the architecture of domestic space, which is arguably the architectural domain from which the discourse on typology arose, and through which there is potential for transformation through the subversion of the typical and the integration of housing and public space. The project uses type as a way to question the status quo, challenging both Henry Roberts and the social diagram of the smooth city.

## Composition

### Narrative

Working in contrast to the smooth city narrative of urban perfection, a narrative approach is employed to project an alternative future for the site. Given the iterative nature of typological thinking, each move in the design project becomes a revision of the typical and the smooth, departing from existing social, political, and economic diagrams. This allows for the subverting of types and typical relationships, generating a new grammar for the porous city.

On one hand, Mark Purcell (2008) claims that “neoliberal imagination has become the dominant way to imagine the urban future” (2), and indeed representations of the current and future city are increasingly “perfect” in how they are displayed as wealthy, successful, consumable, and Western (Boer 2023, 141). This is the smooth narrative. It is a rhetoric evident in the design of cities and public spaces, a manifestation of the tension between the private, corporate sector and the public domain. The opposing narrative of the porous city acts as a foil, shedding light on “the tensions between outside and inside; alienation and identity; exclusion and inclusion; change and continuity” (Loukaitou-Sideris and Banerjee 1998, 231).

The narrative approach implies a sequence, or an order of operations. Introducing all the characters on the stage at once would be chaotic. As such, each character enters the stage sequentially, and what moves they make impact one another. The types act on the site as on a stage, and the design becomes about the composition or choreography.

Choreographing building, public space, programs, actors, and landscape must involve keeping typological entanglement in mind: how does one move affect the other? How does housing and public space integrate and affect one another? How can each operation represent a further entangling of types rather than the typical separation? The metaphor of the distorted grid continues to represent the consequences of each move.

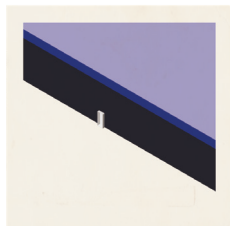
The concept of everyday urbanism describes how people appropriate space when they feel they are allowed to change it, to let the domestic bleed into the public realm. “As the smooth city largely forecloses the possibility of becoming and demands its scripted norms are followed, the contemporary urbanite is increasingly reduced to the role of passive spectator and a consumer of spectacle” (Boer 2023, 148). The project that integrates housing and public space can become an interface for the everyday, providing interstitial, semi-public space open to appropriation, allowing for the bleeding of the domestic into the city, ensuring people have space to make their mark. This allows for unresolved narratives of development, meaning not everything must be planned. The design allows for future, appropriation, and ownership in resistance to the Smooth City’s perfection. This in turn reinforces social and temporal porosity.

## **Themes**

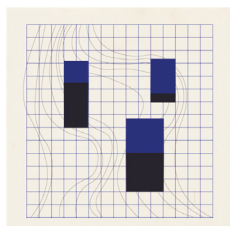
From the analysis and inventory of the case studies, six typological themes have emerged as conditions that can determine either a smooth or porous urbanism. The blue diagrams represent the typical, smooth approach to urban housing, while the red diagrams represent the porous



site-selfish



division of public and private



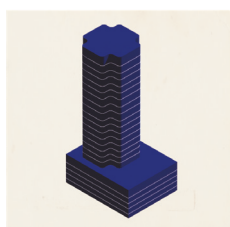
disregard for context



objects and borders



void space



the podium

Principle diagrams describing the smooth approaches.

approach addressed by the typological characters in the design response.

The first is the site approach, that begins with the public room – or what the project and site can give back to the city. This is the opposite of a typical developer model that is site-selfish, seeking to maximize lot coverage. The concepts and terminology of “site-selfishness” and the “public room first” are drawn from Niall Savage’s theory of Collage Housing (Savage 2022).

Something I noticed especially in Berlin was a gradient of public, semi-public to private spaces, as opposed to the way in which a double loaded corridor compresses this into a harsh divide between public and private spaces.

Next is responding to context and landscape, as opposed to the disregard for context.

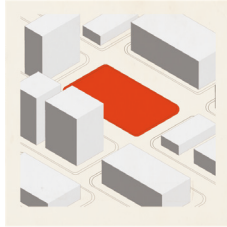
Then we have the concept of thresholds and urban fabric in contrast to autonomous blocks and exclusivity.

Next is the garden as threshold, the urban yard, in contrast to a plaza that is treated as the leftover space.

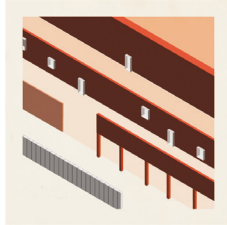
Finally, the landmark will be used to investigate the potential for vertical porosity, as opposed to the podium type, which divides program between the bottom and top.

The six approaches to urban housing identified above will be explored through typological characters that are developed in the design project:

**The stage** represents the concept of the public room as the driver of the project.



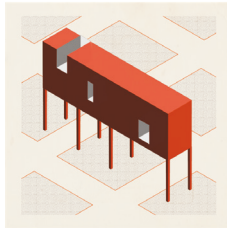
public come first



gradient of public, semi-public, private



expression of landscape



urban fabric and thresholds



figure of ground



the landmark - vertical porosity

Principle diagrams  
describing the porous  
approaches.

The design of **the slab** type is an investigation into the principles of the gradient of public, semi-public to private spaces in urban housing.

The expression of the landscape in the treatment of the site is expressed through **the slip**.

The design of **the row house** housing type investigates the project's integration with the city, taking on the principle of integration with the urban fabric rather than an object-first site approach.

The concept of a garden or a yard in the city is explored through **the park**.

Finally, the landmark and vertical density is examined through **the tower**.

## Chapter 4: Design

### The Project

The program of this thesis project is made up of three parts: public space, housing, and community amenities. Within each of these of these parts, the program can be broken down more specifically. The housing is intended to be supported by and in turn support both the public space and community amenities. Savage (2022) argues that to create a successful public space within urban housing, the public room must be the driving programmatic element of the project. This is the concept that the public room comes first in every urban housing project (Savage 2022). Furthermore, in the spirit of creating engaging, mixed-use spaces in the city, the overlapping and juxtaposition of amenities, infrastructure and the public room will be considered. The project is based on the following program outline:

- Public space: common space accessible to anyone, regardless of whether they live in the housing project, interspersed throughout the site and buildings, combined with amenities and community infrastructure.
- Housing: various housing units for a diverse demographic (singles, families, groups and various incomes and occupations), private outdoor space for each unit.
- Community amenities and infrastructure: publicly accessible facilities such as recreation, library, and workplaces. Publicly accessible services such as clinics, education, and gardens. Commercial spaces for retail and food.

It is the intention for the urban housing and public space in this thesis to serve a diverse demographic, reaching people of different ages, stages of life, cultural and socio-economic backgrounds. This is encouraged by providing a variety of housing units within the buildings to accommodate a range

of familial situations, incomes, and occupations, but it is primarily the public space and community amenities that can foster a mixed demographic. Diverse groups of people must come together throughout the day, week, or year to encourage a wide range of demographics and promote social encounters. Public space vitalizes and activates the urban housing by bringing in all kinds of people from the city, encouraging a mixed demographic of residents, which in turn reinforces the vitality of the public sphere and civic culture.

Housing design weaves very close links between spatial dimensions and social dimensions. The project tests the potential for type as a tool of transformation in an urban setting embedded with deep patterns through housing and public space, which present a wealth of types to draw from and re-organize. However, between the smooth city and



Wish image collage of the project.



zoning planning policies, there are many constraints on housing design.

This project investigates instances between constraints and norms that were put onto types of housing and that froze in them. Capitalist mechanisms have set in stone the most profitable and optimized typologies, perpetuating them for their effective and economic value, but ignoring their social repercussion. Their quality has been degraded and limits the freedom of architects to operate within and navigate the repertoire of historic types.

The project thus becomes a typological revisionist project. The project seeks to negotiate the interface between the domestic and the public realms. Where the themes from the case studies implied a type, I am working to reform that type in a way that opens unexpected moments or solutions. For example: housing types today have shifted from the landing to the corridor, from double aspect to mono-oriented because they meet efficiency and economic objectives. Instead, this thesis subverts such typological characteristics to form new spatial and social diagrams that support porosity in the city.

## **The City**

The modernist legacy of zoning and segregating function in the city endures to this day. First theorized in the Athens Charter by CIAM (1933), the goal was to create a more efficient and healthy society through the separation of living, working, recreation and transportation. Le Corbusier's "Plan Voisin" for Paris in 1922 is an example of these principles, where towers rise above separated levels of transportation and recreation. This plan, had it gone through, would effectively eliminate all unregulated life on the ground plane, isolating people in units above the ground level. Though



it was never built, the Plan Voisin remained an important influence on public housing's building type from Chicago to Moscow (Sennett 2006). This produced housing projects that became further and further removed from the street and civic life. In sum, modernism's fixation on individual buildings as autonomous and exclusive megastructures



Wish image collage of the public space being used as an outdoor market.

relegated public space to empty parks and plazas and altogether abandoned the interstitial and in-between semi-public spaces.

Le Corbusier's intended destruction of vibrant street life was realised in suburban growth for the middle classes, with the replacement of high streets by monofunctional shopping malls, by gated communities, by schools and hospitals built as isolated campuses. The proliferation of zoning regulations in the 20th century is unprecedented in the history of urban design, and this proliferation of rules and bureaucratic regulations has disabled local innovation and growth, frozen the city in time. (Sennett 2006)

The ideology behind these modernist objectives is still present in Halifax's current planning documents, though they are now guided by neoliberal logic. Given the current neoliberal climate, municipal government are having to take on more responsibility as the state backs out. Furthermore, in this globalized society, cities have gained importance as international nodes, and must compete for people and resources. As a result, municipalities are turning to private-public partnerships to fund their growth objectives.



Downtown Halifax before many of the demolitions in the Central Redevelopment Area. (HMA 1961)



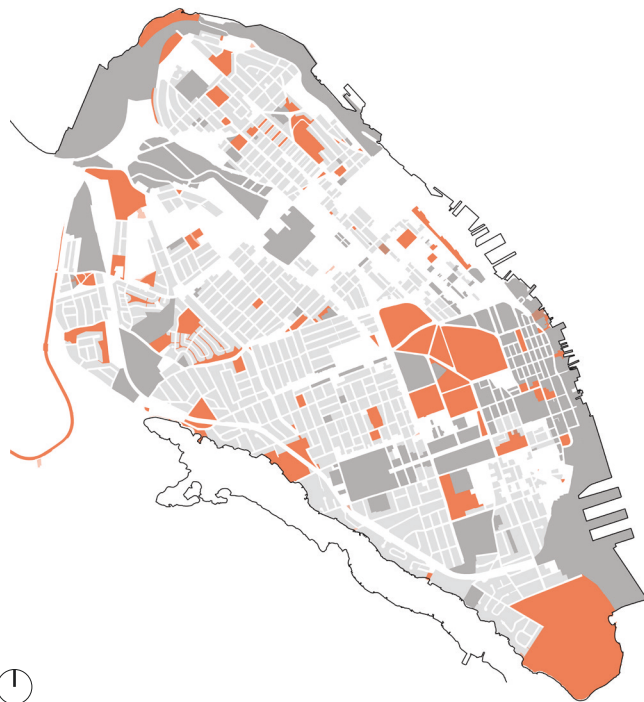
Aerial photograph of completed Scotia Square and Cogswell Street Interchange. (HMA 1970)

The Halifax Centre Plan is a growth-first plan, meaning that it is a property led rather than comprehensive planning strategy. This plan works by cutting community services and outsourcing the distribution of benefits to the developer, which decreases the cost-of-service delivery while increasing revenues (Mackay 2016). This kind of approach privileges the private sector and treats the developer as the generator for urban growth.

The policy language enables private development without mandating social objectives. As Mackay writes: "In this policy the Centre Plan commits to the ambiguous and unenforceable exploration of options for supporting rooming houses... The sole policy that expressly discusses non-

market affordable housing is largely inconsequential and may even be detrimental” (Mackay 2016, 25). While the plan commits to developing public and private partnerships and market the city as an attractive destination, it only plans to “promote” or “encourage” rather than mandate social objectives such as a mix of housing options (Mackay 2016, 27).

As a whole, the Centre Plan represents the current neoliberal hegemony, advancing “the market logic that what is good for capital is good for the city and expects social benefits to trickle down despite evidence to the contrary” (Mackay 2016, 35). This logic contributes to the separation of public space and urban housing, and the erasure of civic life in Halifax.



Separation of housing and public space on the Halifax peninsula (HRM 2023). Public space and amenities shown in red.

## The Site

At the city scale, Halifax's urban fabric is characterized by the separation of housing and public space types. Each block or place in the city is typically one or the other, not often intertwined. The regional policy language enables this kind of development by not explicitly mandating social objectives. The Centre Plan plays a large part in this, promoting growth through developer projects without properly addressing public and social amenities.

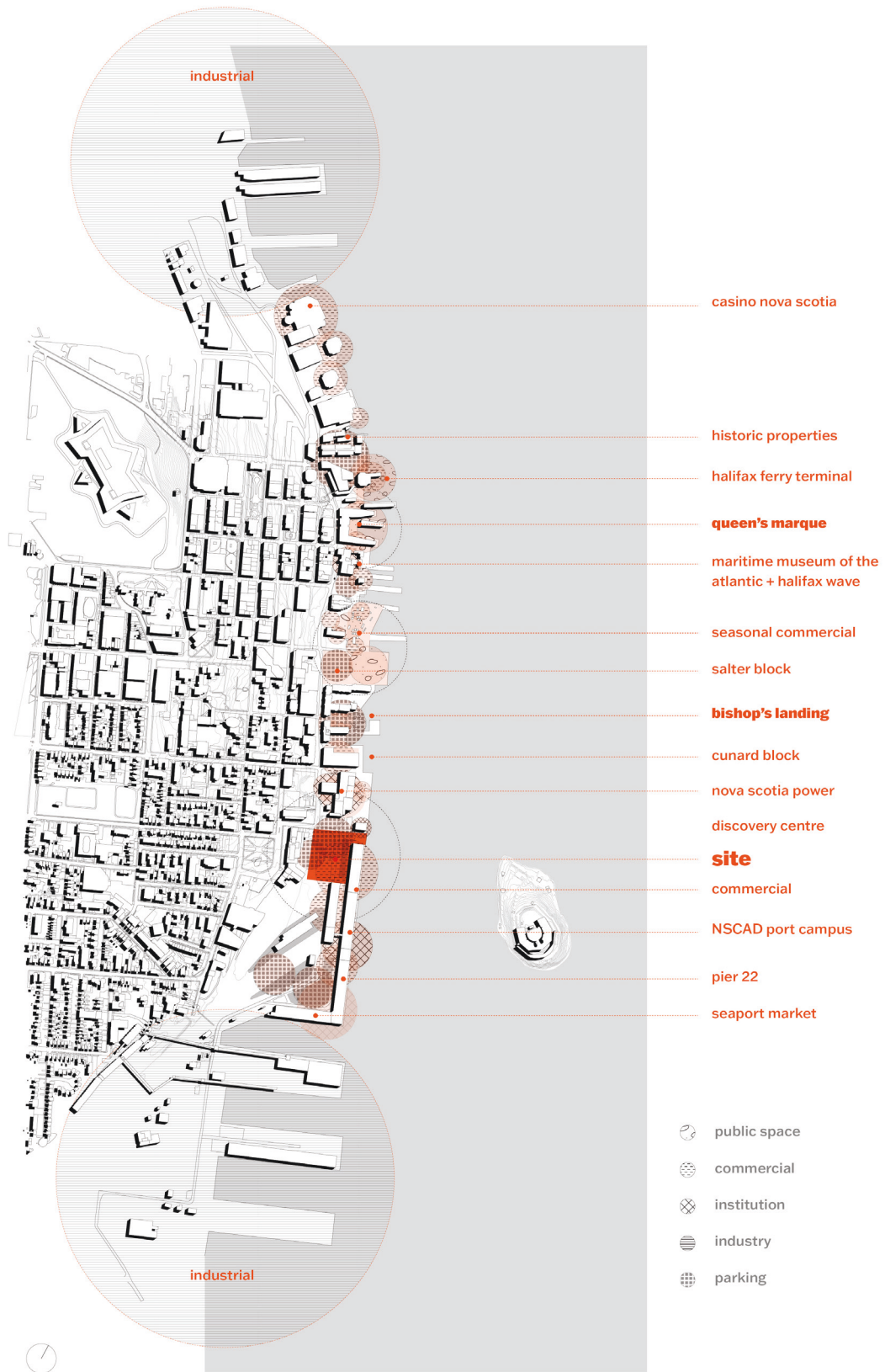
Nevertheless, there is one place in particular in Halifax that is different. The waterfront is a series of public rooms along a linear procession, and several of these rooms are framed by housing. Bishop's landing was one of the first housing projects that changed the historically working waterfront and paved the way for public access. However, at the centre of the space is parking. Following similar urban moves, the Queen's Marque strengthened the linear procession by prioritizing the public square and passageway to the boardwalk in its' development. Through the analysis of these two projects on the Halifax waterfront, I have identified a pattern in the urban fabric that is recognizable in both section and plan.

First, there is the urban street condition where each project has a building that addresses Lower Water Street and is framed by a building on the other side. This contributes to a lively and urban setting.

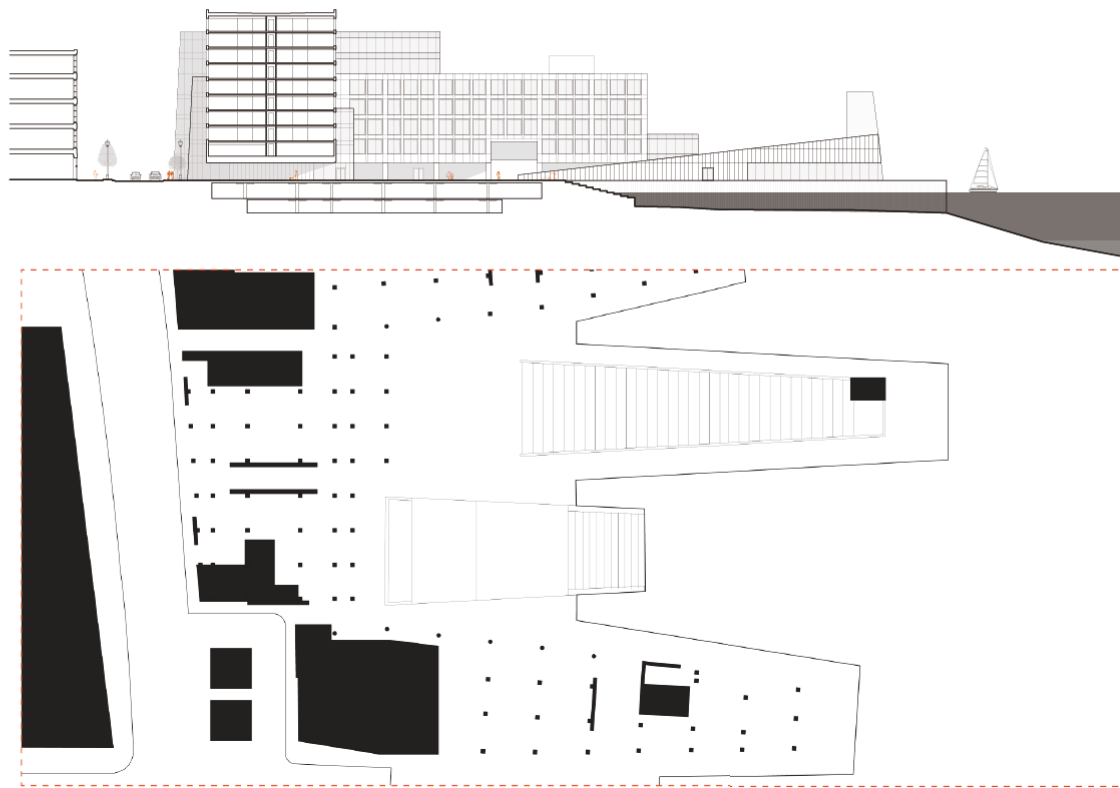
Next is the compression condition, where one passes either under or between buildings to enter the square.

Finally, one arrives at the room on the water, which is a public square lined by the boardwalk on the water side.





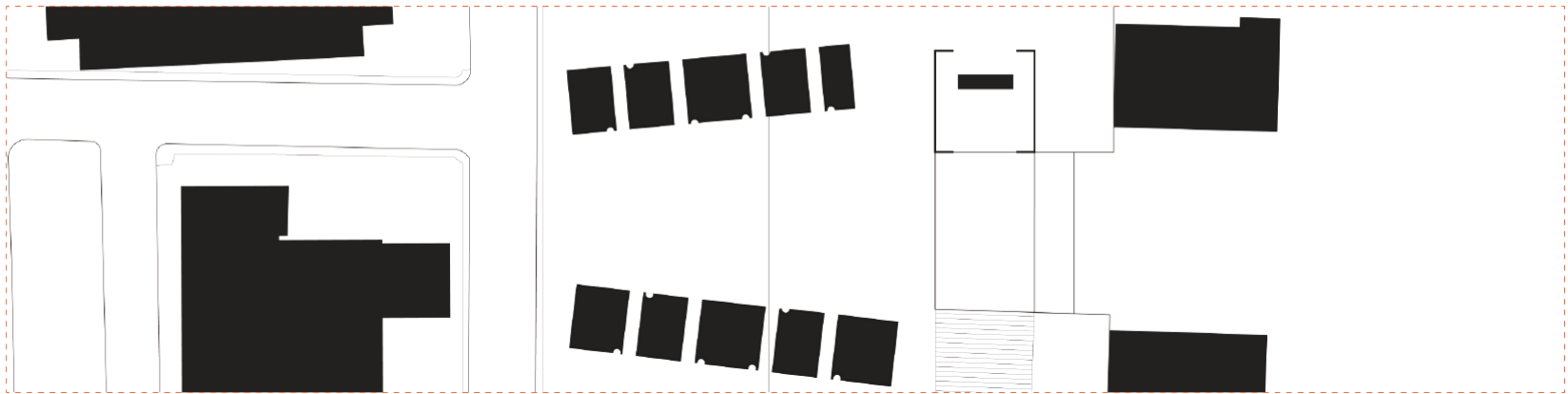
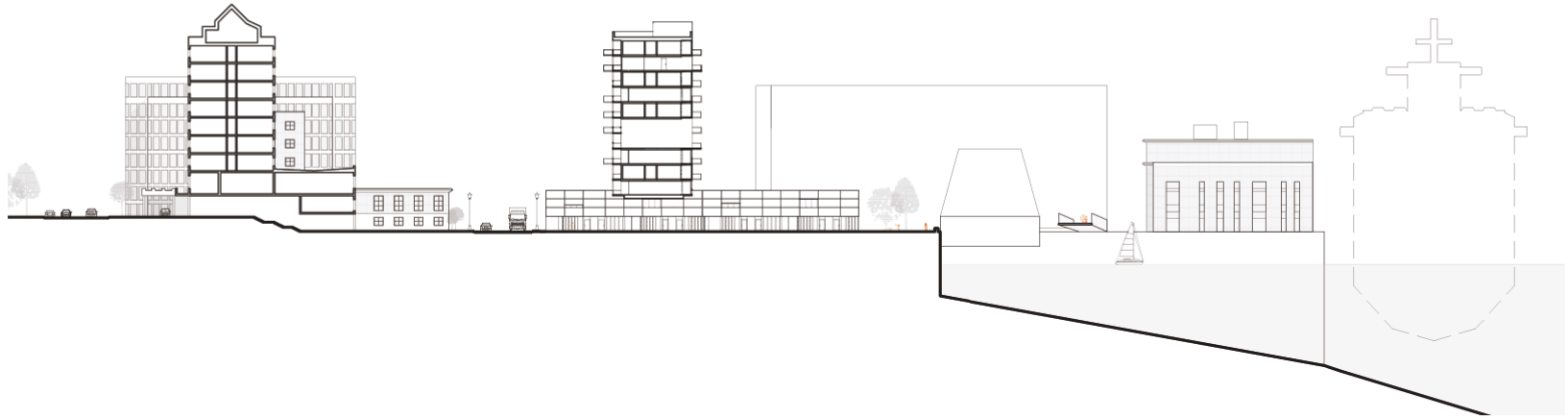
Context plan describing the Halifax waterfront as a series of public rooms along a procession.



Section and noli plan through the Queen's Marquee (Mackay-Lyons Sweetapple Architects) and Lower Water Street.



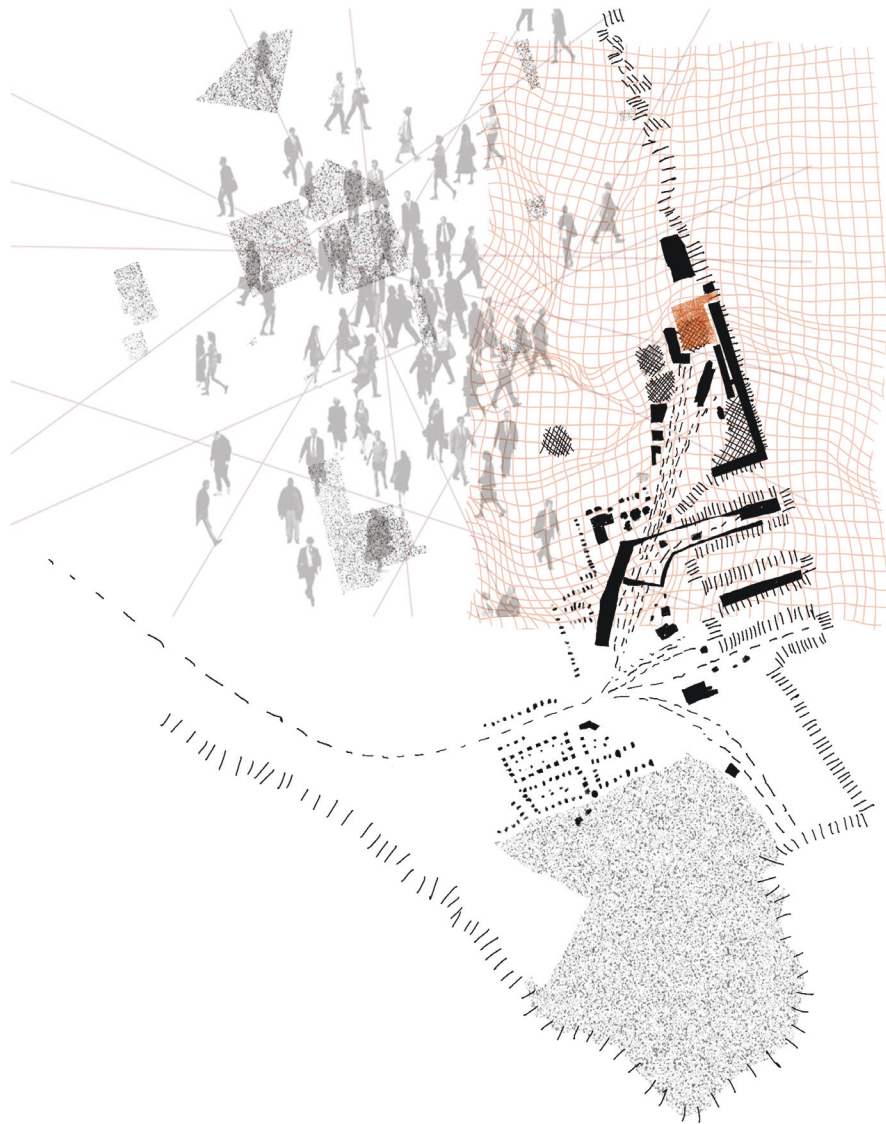
Section and noli plan through Bishop's Landing and Lower Water Street.



Section and nolli plan through the proposed site and Lower Water Street.

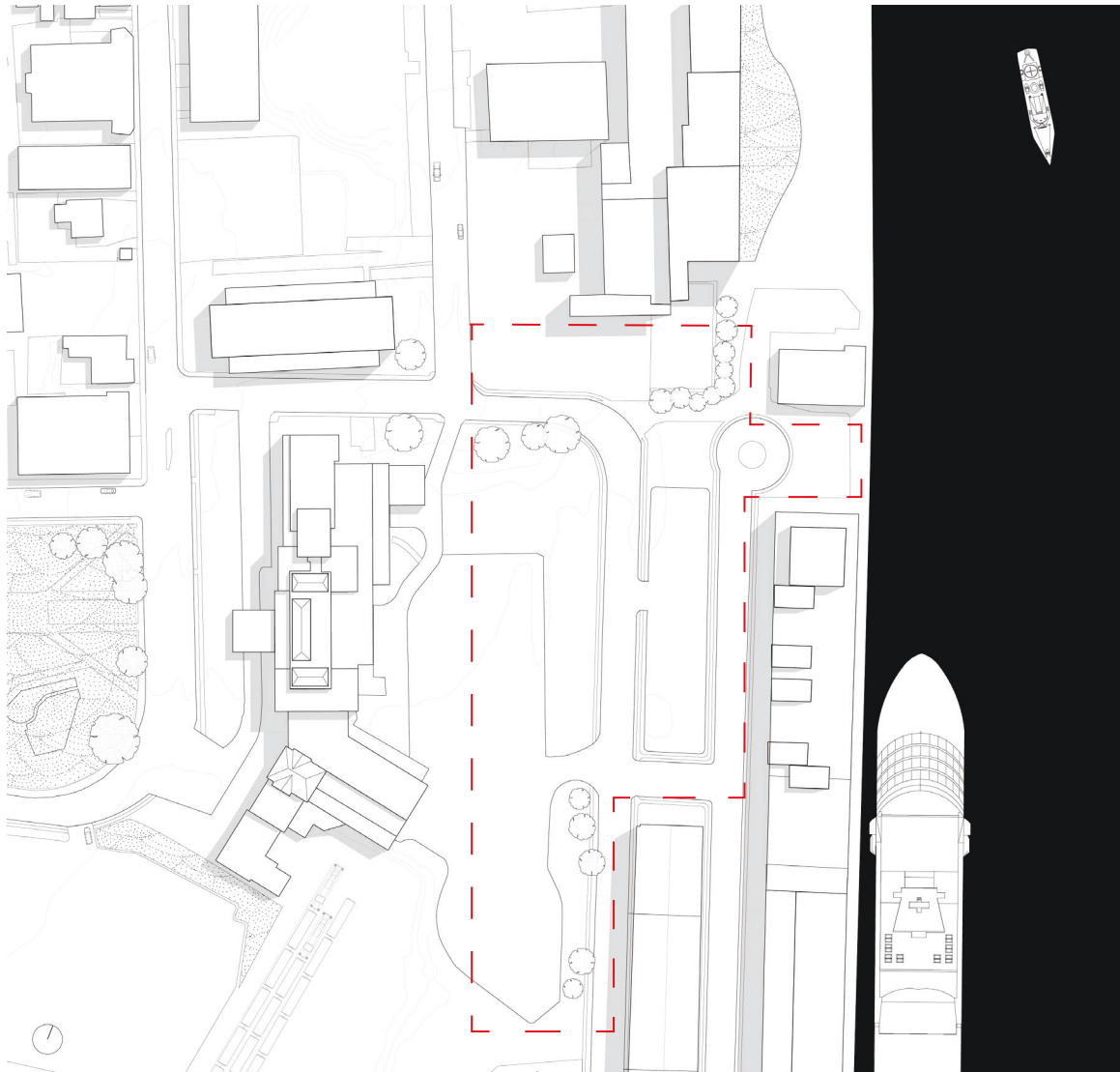


The proposed site is located at the end of the boardwalk procession, and thus has a different role to play in this series of public spaces. As it stands, the site is made up of two parking lots, and is located at the edge of the working industrial port. It marks the confluence of various types in the city: industrial to the south, commercial and institutional to the north and east, and hospitality and housing to the west. As such, the room can already begin to be defined by boundaries and borders, objects and paths.

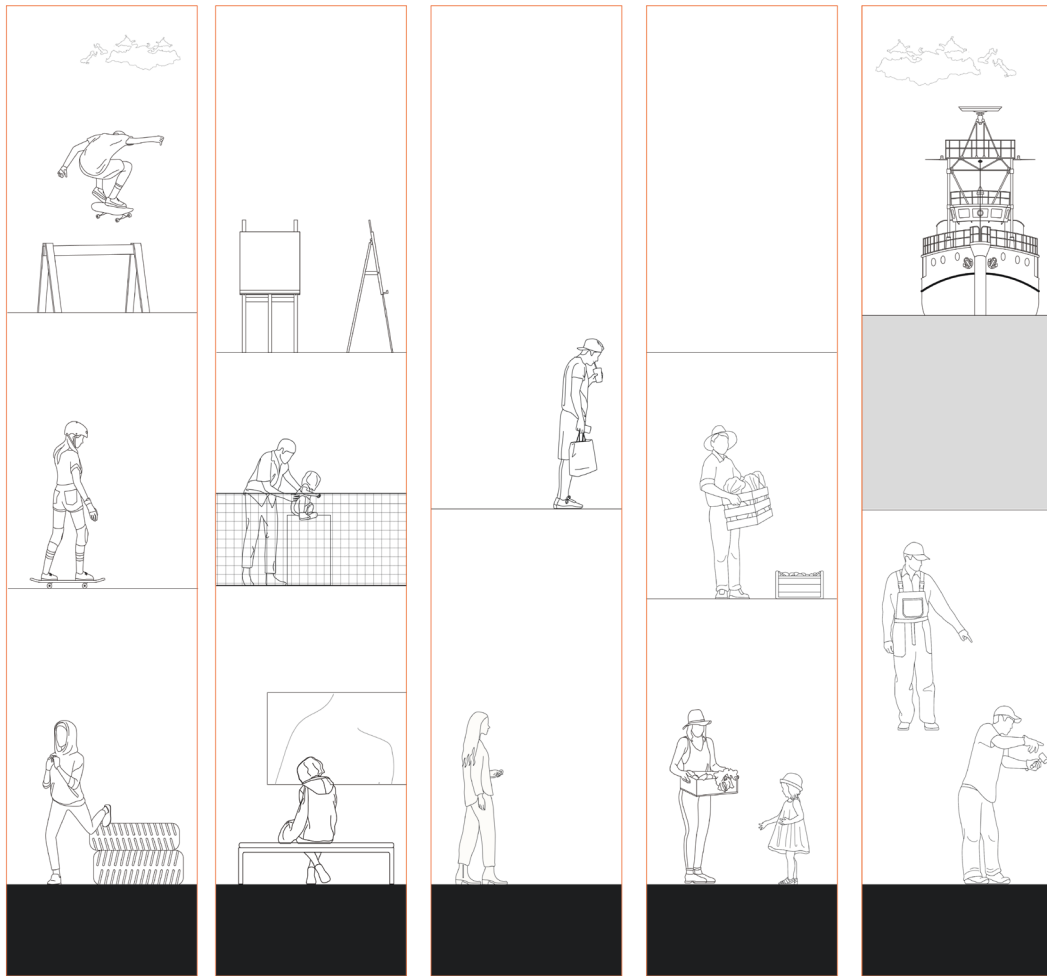


Diagrammatic notation plan of site and context describing boundaries, borders and adjacencies.

The project responds to typological entanglements of people and place by programming the space between public and private. The goal is to respond to the actors on the site and those that are excluded from the site by designing an interface that allows for the domestic to spill into the public realm, for appropriation, transformation, and collective civic life. The project then becomes about framing the existing conditions through the introduction of housing and public space that resolves the boardwalk terminal as a public room in the city.



Existing site plan showing outline of proposed project site.



**outdoor activities**  
running, walking, skateboarding

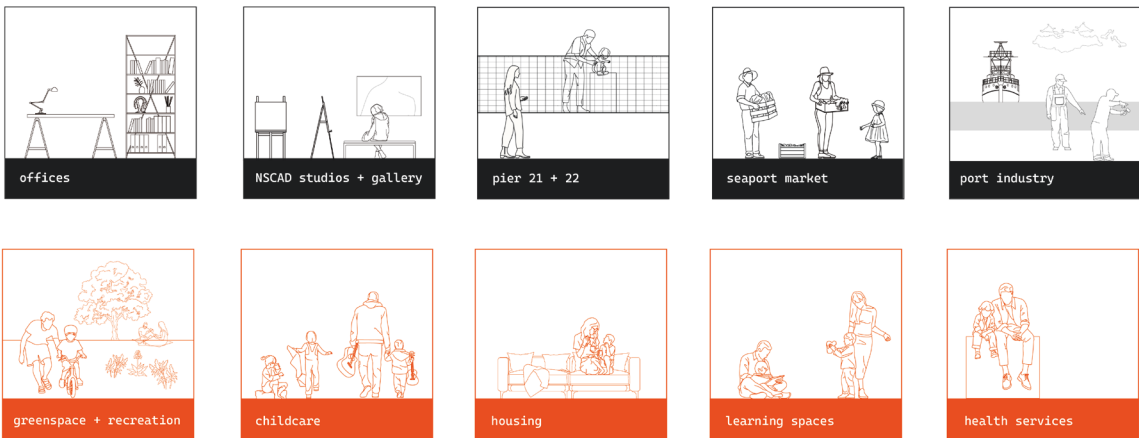
**centre for craft + NSCAD**  
artists, students,

**pier 21 + cruise ship terminal**  
immigration and tourists

**seaport farmer's market**  
vendors, shoppers

**the grainery**  
port industry

Observed actors around the existing site.



Existing actors (above) and project actors (below).

## The Anti-thesis

Throughout the project, the blue diagrams represent the anti-thesis, the typical smooth city narrative, while the red represent the porous narrative.

This smooth model is an iteration of a typical development following the centre plan and complying with land-use by-laws. It was created using typical floor plates that maximize the unit count and site coverage.

This anti-thesis exercise serves as an example of what the site could be if the smooth city runs its' course.

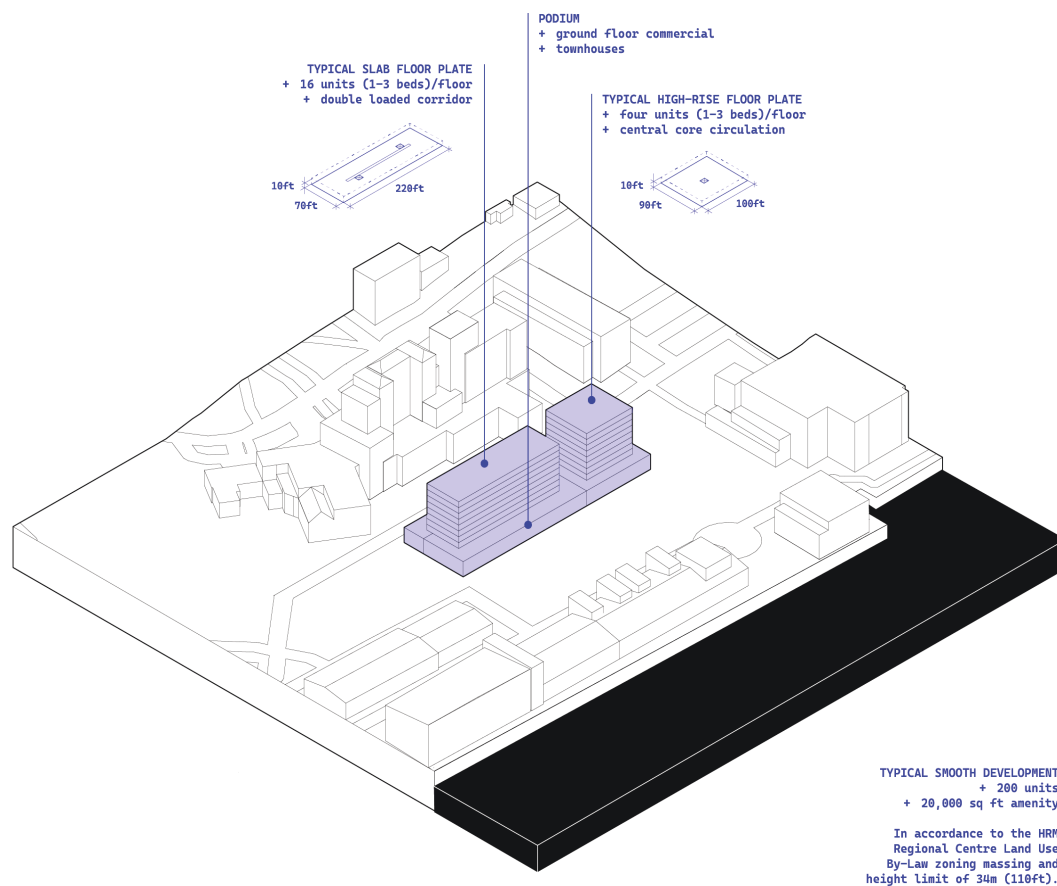
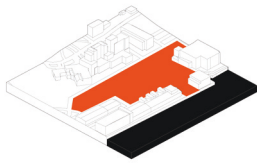
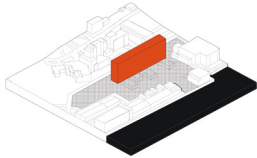


Diagram of projected smooth city development on the site.

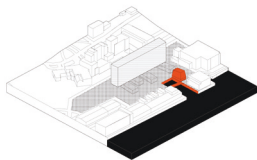
The first design decision following on-site investigations was to move the section of Lower Water Street that bisected the existing parking lots. This allows for the continuation of the urban fabric as observed further up Lower Water Street. Like at Bishop's landing and the Queen's Marque, the site conditions now allow for an urban street section, followed by a compression into a square that opens onto the water.



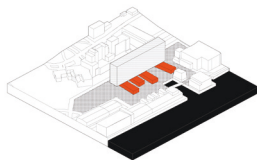
the stage



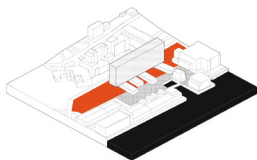
the slab



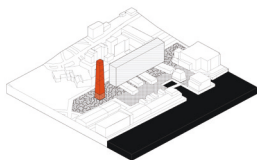
the step



the five houses

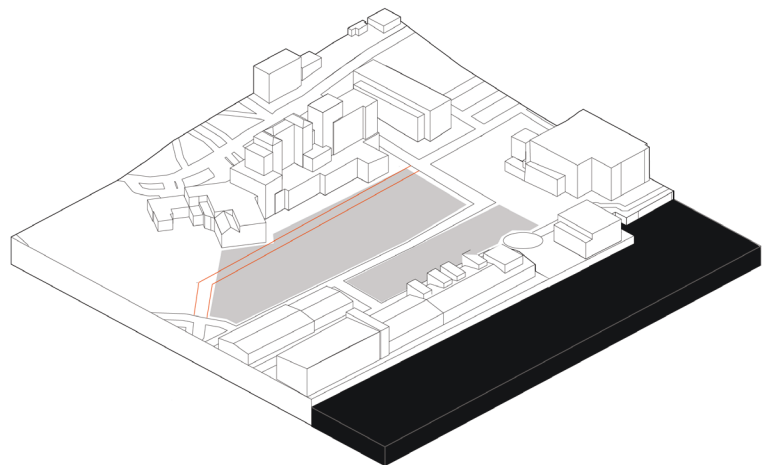


the park



the tower

Sequence of characters introduced to the site.

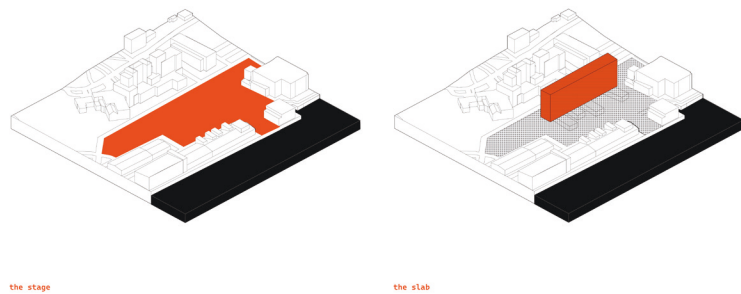


proposed road

Site axonometric showing proposed Lower Water Street change in red.

### The Typological Characters

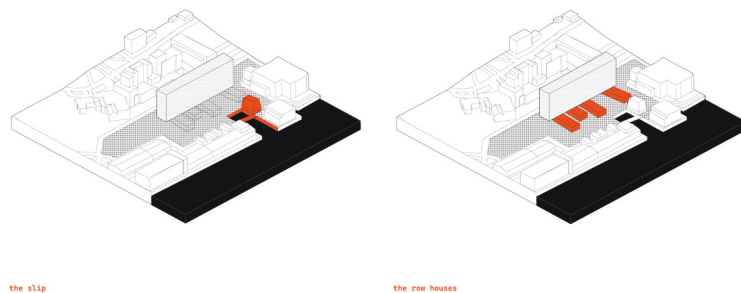
The narrative approach to the project implies a sequence, or an order of operations. As such, each character enters the stage sequentially and has a role to play. They arrive as three sets typological characters, each a pairing of a public and housing type.



### ***The Stage and the Slab***

The first pair is the stage and the slab. The stage is the first character in the project because it speaks to a broader question of how the smooth city is divided and creates separation and isolation. Instead, this project begins not by covering as much of the site as possible, but by introducing elements to frame the public space.

Beginning with the existing site as two parking lots, the street is moved to create an urban street condition on Lower Water Street like further up on the waterfront. Essentially, the entire site is treated as the public grounds, the stage on which the types play out. The slab arrives to define the room, and set up a relationship of city, street, living, and square .

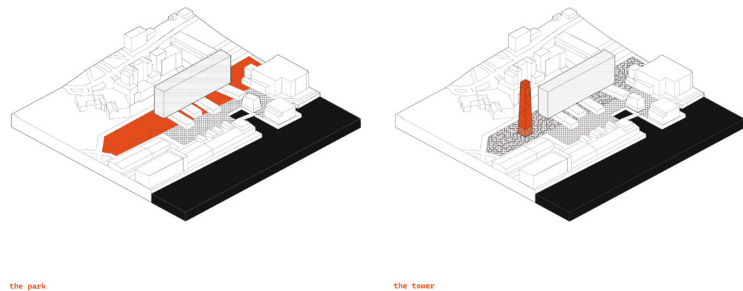


### ***The Slip and the Row House***

The second pair is the slip and the row house. The slip is the expression of the landscape on the site, in this case

responding to the waterfront condition by bringing the water into the site. The water then becomes a room in itself.

The performance hall is also of the land, rising out of the ground to become the threshold into the site from the boardwalk. The row houses carry the Hollis street housing fabric but are turned perpendicular to the street, acting as a filter into the room and creating internal streets.



### ***The Park and the Tower***

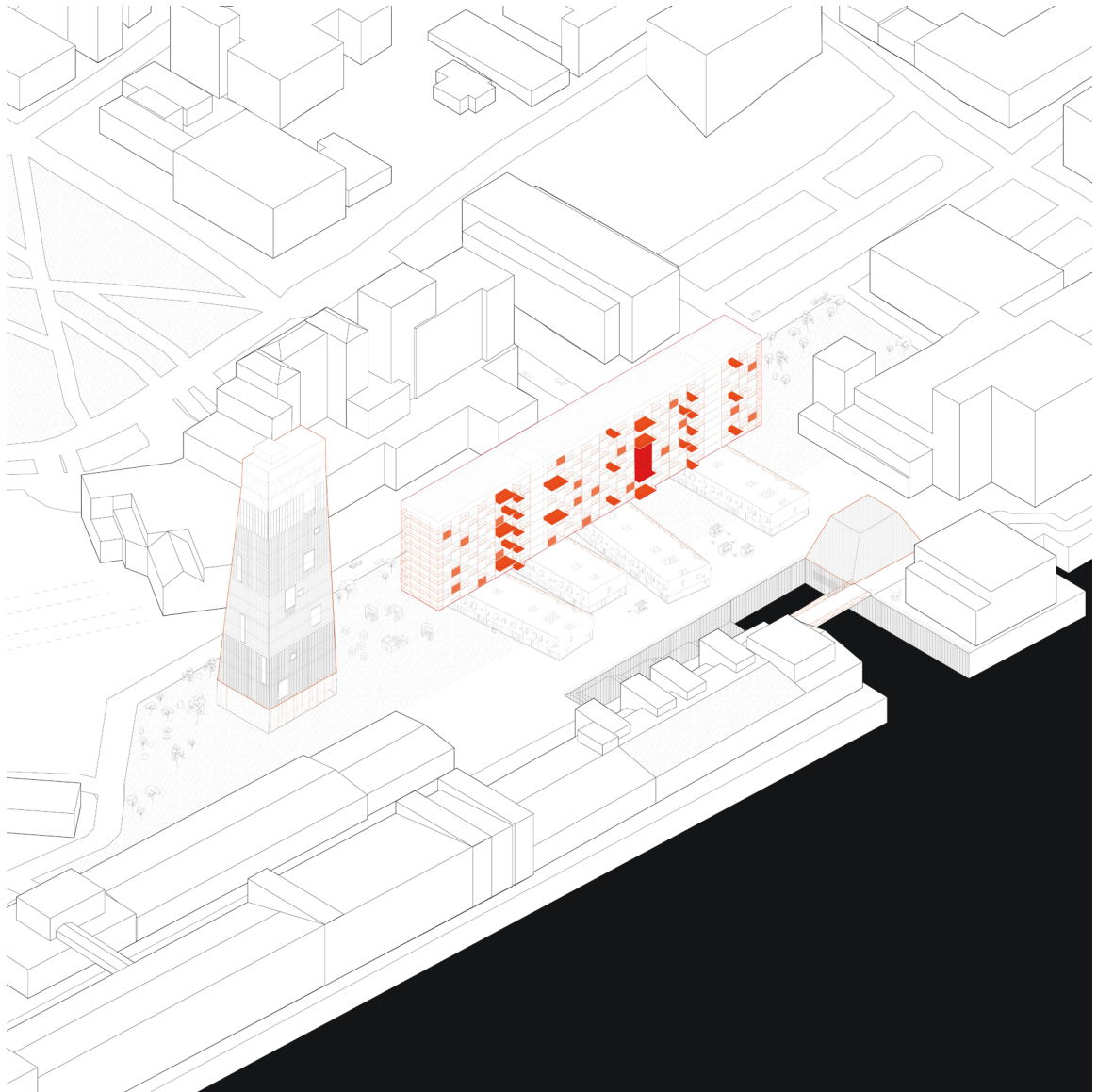
The third pair is the park and the tower, or a play on the tower in the park. The park acts as the yard in the city, introducing a layer between the street and square in line with the living spaces. The tower acts as a landmark for the beginning and the ending of the series of rooms on the waterfront. In a sense, it is the slab type turned on its' side, adding vertical porosity.

### **Subverting the Typical**

For each set of characters, the housing type has been investigated at the scale of the building and the room by questioning their respective plan types.

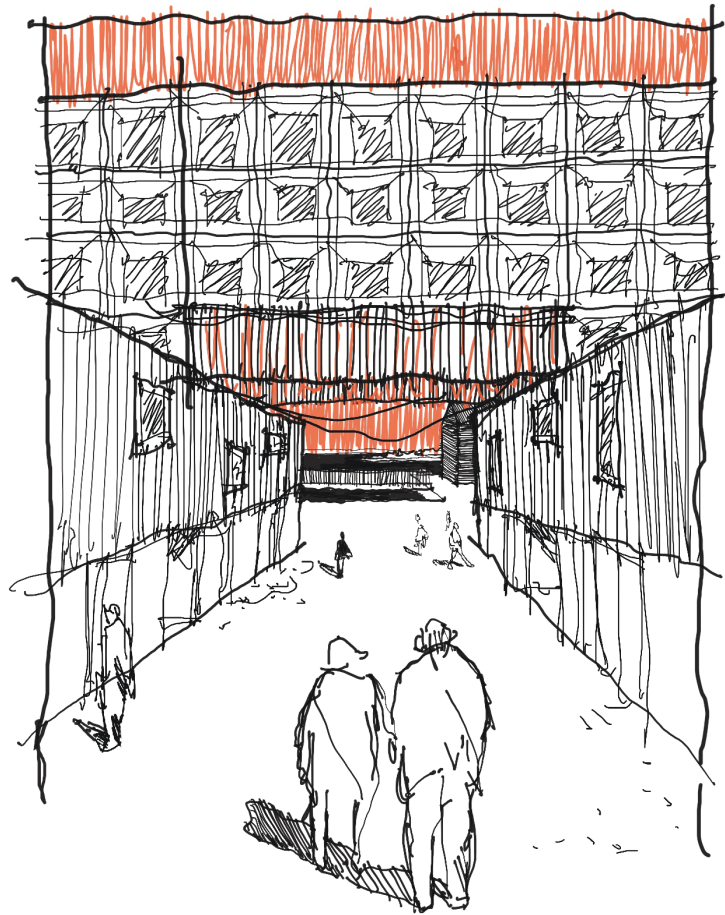
The goal has been to shift the resulting social diagram to one that is more porous and integrated with the public and common spaces.





Site axonometric of the design response.



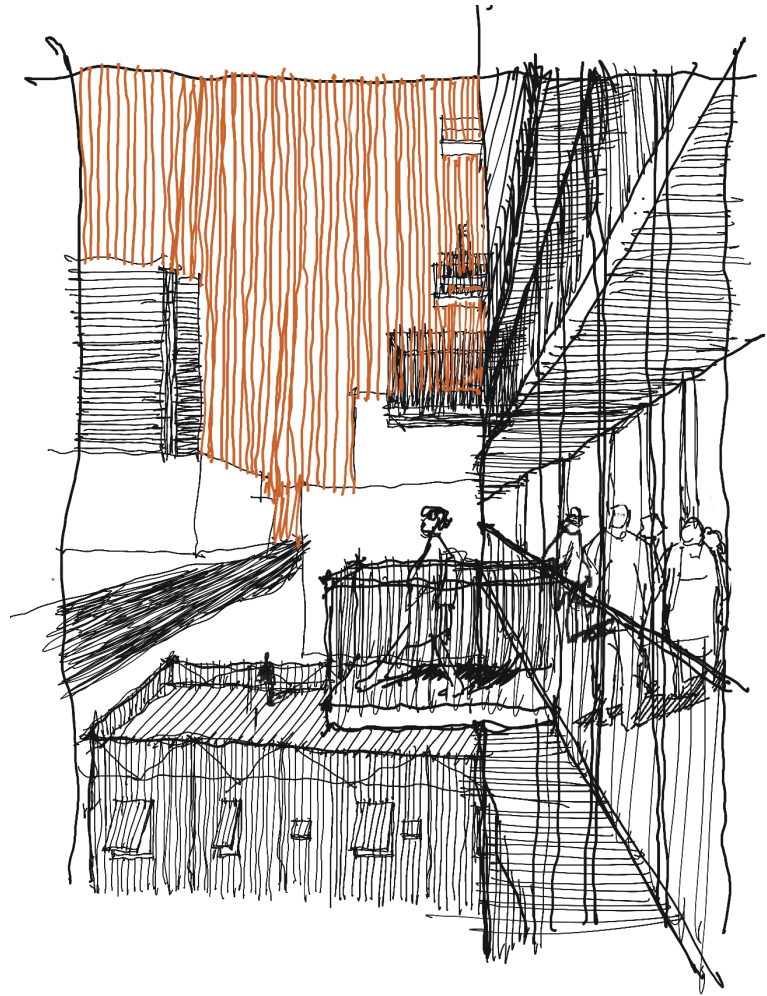


A sketch of people entering the site (the stage) between the row houses and under the slab.

### The Loggia

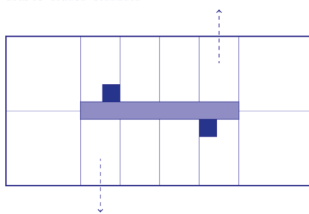
In the case of the slab, the double loaded corridor compresses the layers of complexity of the city and chance encounters, creating a harsh border between public and private. On the other hand, the loggia is about creating a gradient from public, semi-public, to private through the horizontal circulation, the front porch condition, the living space, and the balcony that faces the square.

Service bands run perpendicular, allowing for both the private and public spaces within the unit to have dual aspect.

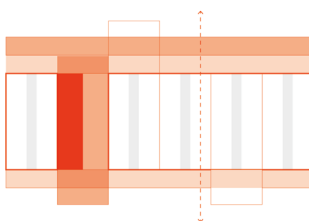


A sketch of people inhabiting the loggia.

double loaded corridor



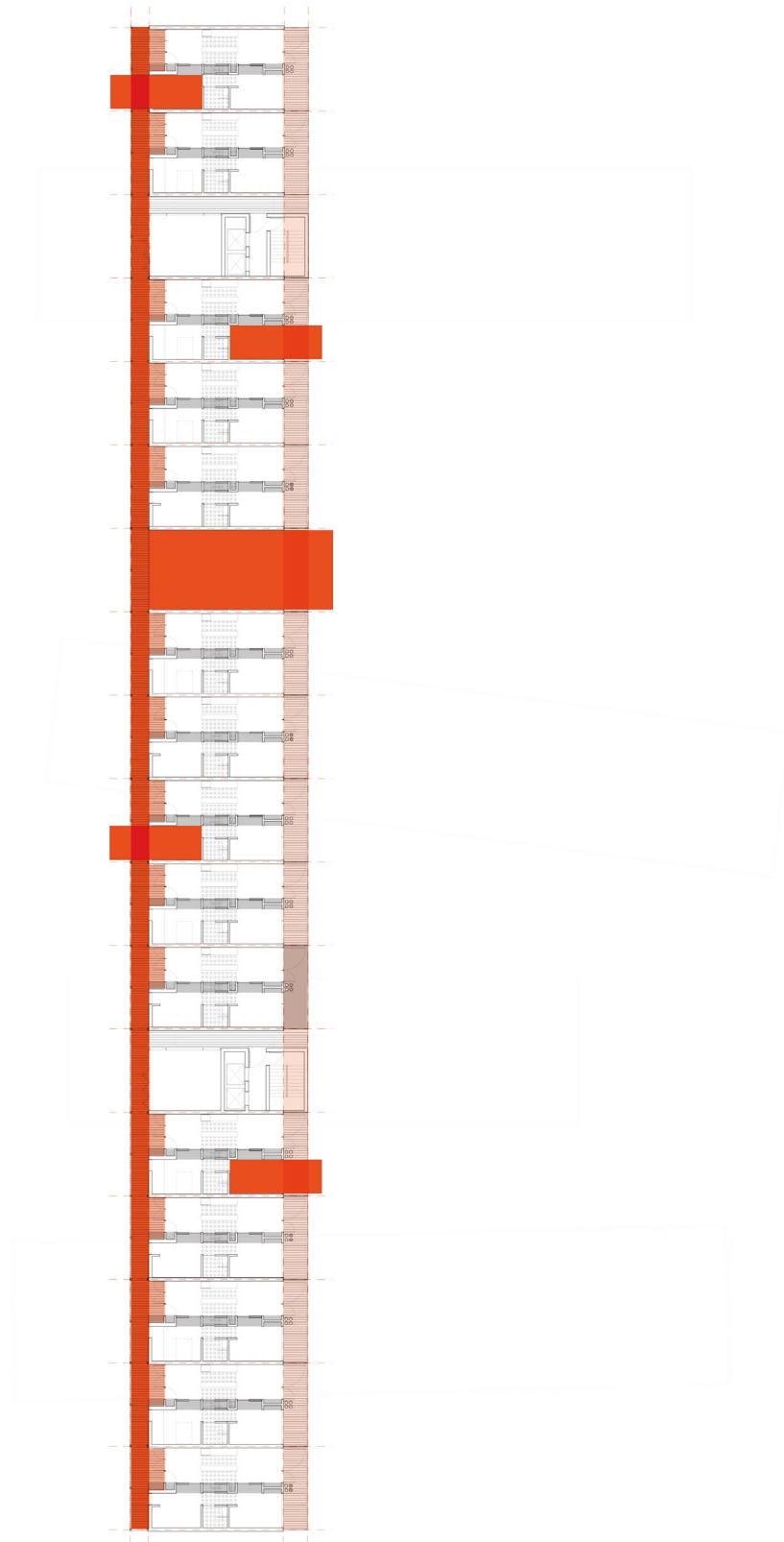
the loggia



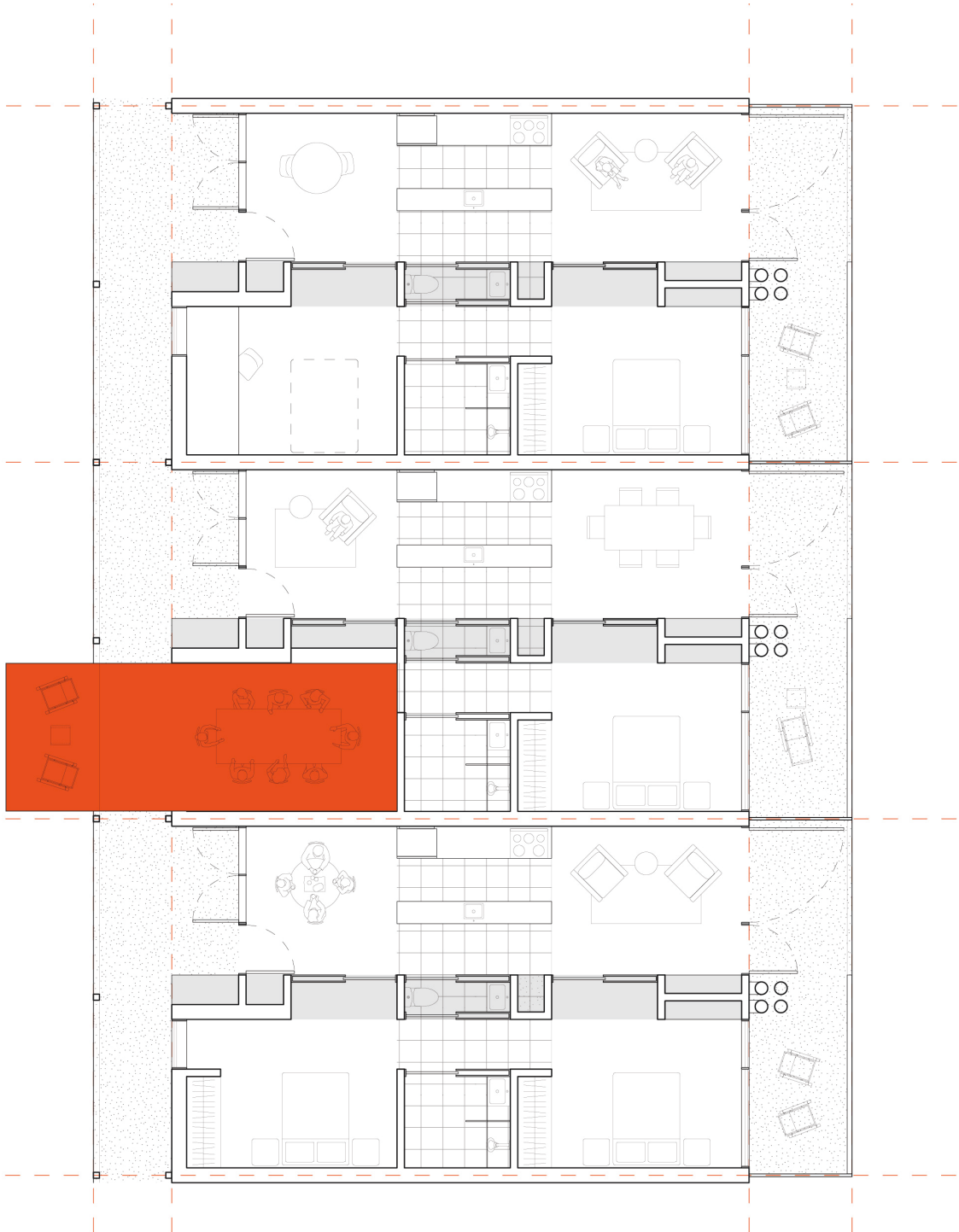
Typical slab diagram in blue and the subverted type diagram (called the loggia) in red.

The slab is also punctuated by perpendicular common spaces, some of which jut out as an extra space to stop for a chat. These deep thresholds afford many unexpected encounters and activities to take place. The widening of the hallway and the puncturing of the slab makes space to meet neighbours for dinner, a party or for children to play.

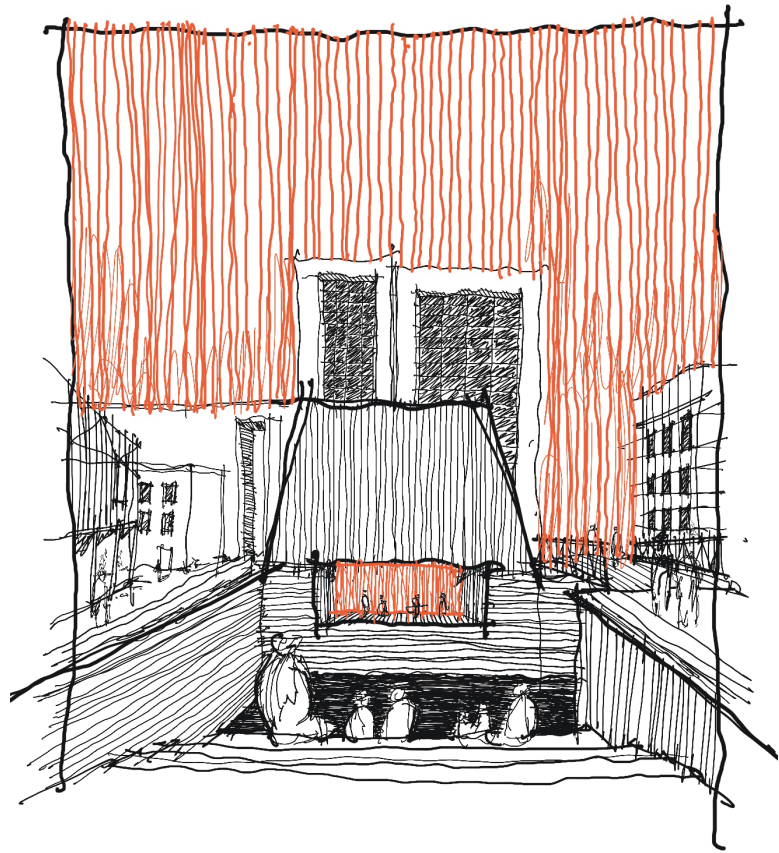




Slab typical floor plan



Slab unit plan



A sketch of people sitting on the slip's outdoor stairs, watching a performance across the water.

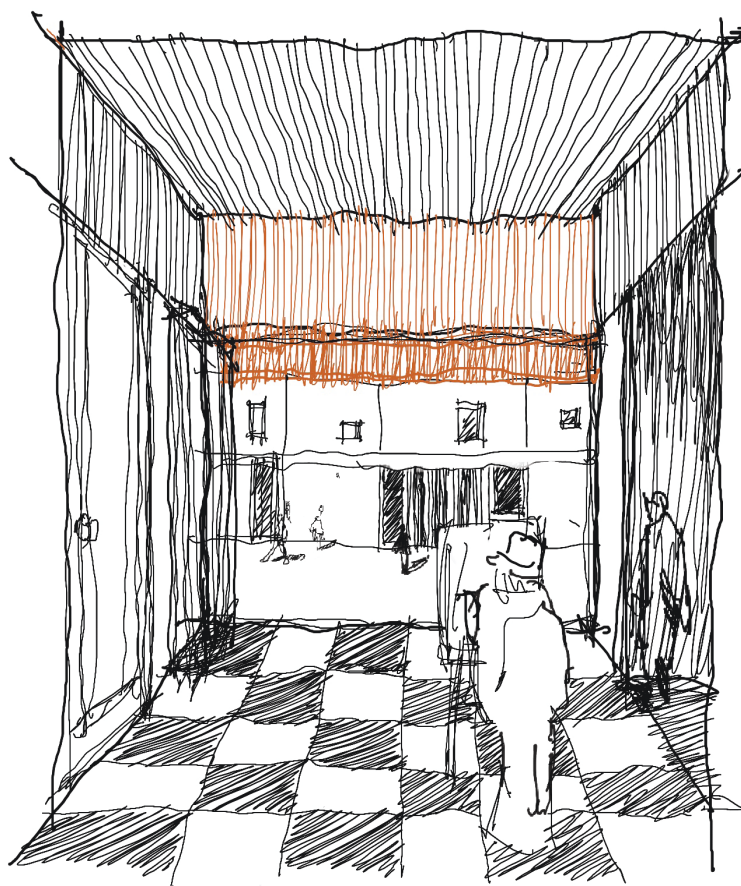
### **The Inhabited Party Wall**

In the case of the row house type, the party wall was the object of investigation and challenge.

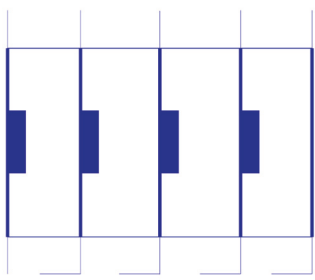
The party wall, typically a wall dividing two individuated units, is expanded to provide space for collective gathering. I'm calling this subversion of the type the inhabited party wall.

The thick walls bracketing this newly collective space are also inhabited through niches. This allows for the house to be conceived of in terms of large common rooms and smaller

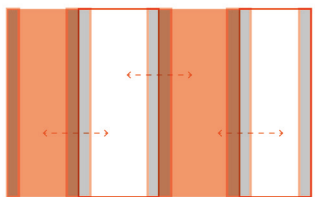




typical party wall



the inhabited party wall

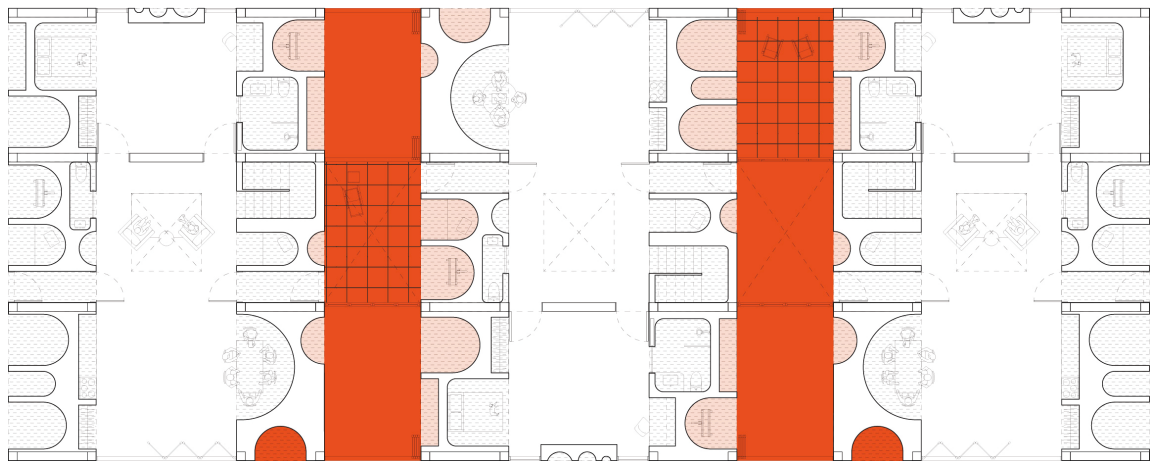
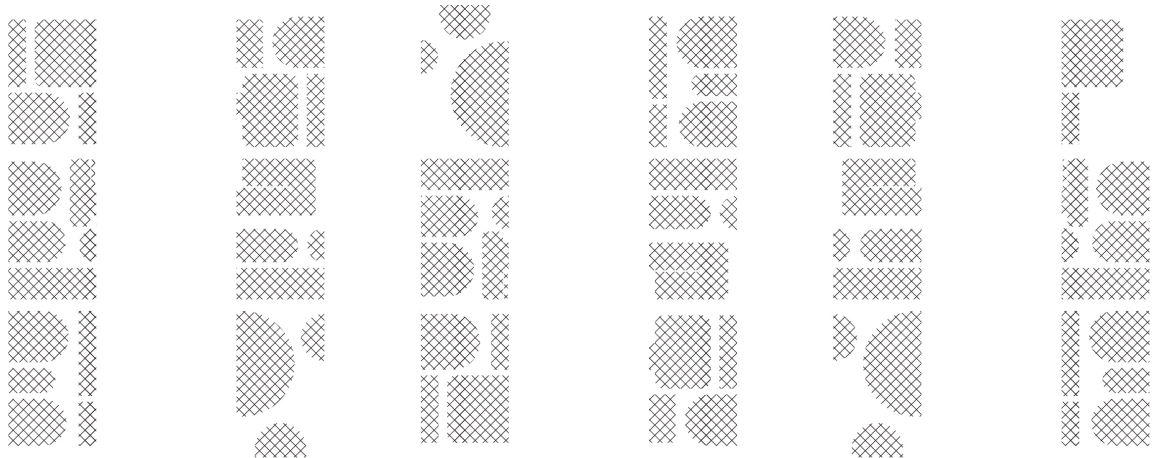


Typical row house diagram in blue and the subverted type diagram (called the inhabited party wall) in red.

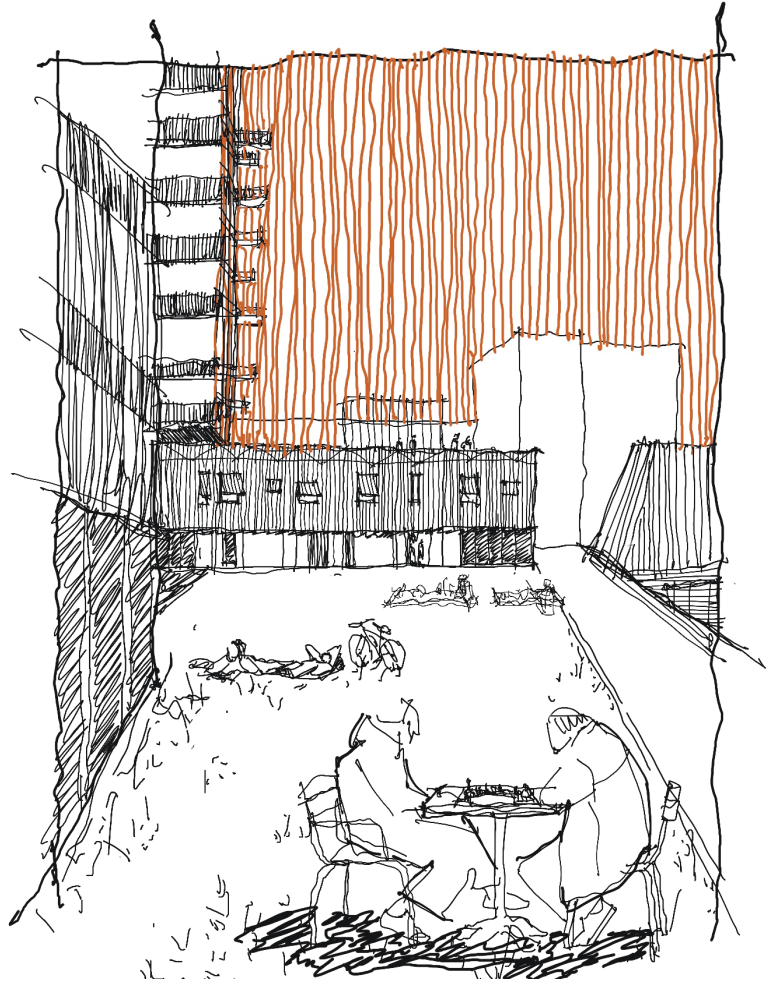
A sketch of someone in their row house studio space with the folding doors open to the site's internal street.

spaces for seclusion. These alcoves act as supporting spaces for the larger rooms. This move further blurs the typical party wall line.

The shared spaces are accessed from both the street and adjacent units and can act as terraces or studio spaces. These common spaces can also be used as a small shop or commercial space, breaking up the residential street by allowing a cup of coffee to be purchased, or a gallery to be visited on the way into the site. The corner condition lends itself to a corner convenience store, addressing both Lower Water Street and the internal pedestrian street.



Row house plan



A sketch of people inhabiting the park next to the tower.

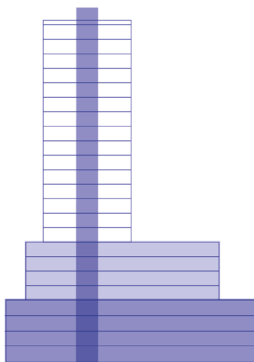
### **Vertical Porosity**

The podium is the tower type most commonly employed by private development in Halifax, and is characterized by a separation of programs, where the commercial is on the bottom, and it gets progressively more private the further up you go. This is a form type that results in exclusivity in the building.

Instead, vertical porosity is introduced into the tower by treating it as a noli plan of the slab turned on its' side. In other words, similar to the loggia approach, the plan and section

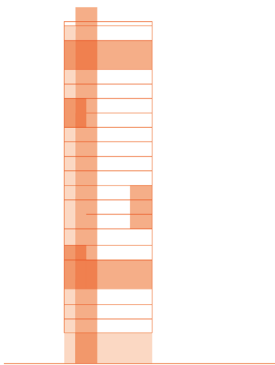


the podium



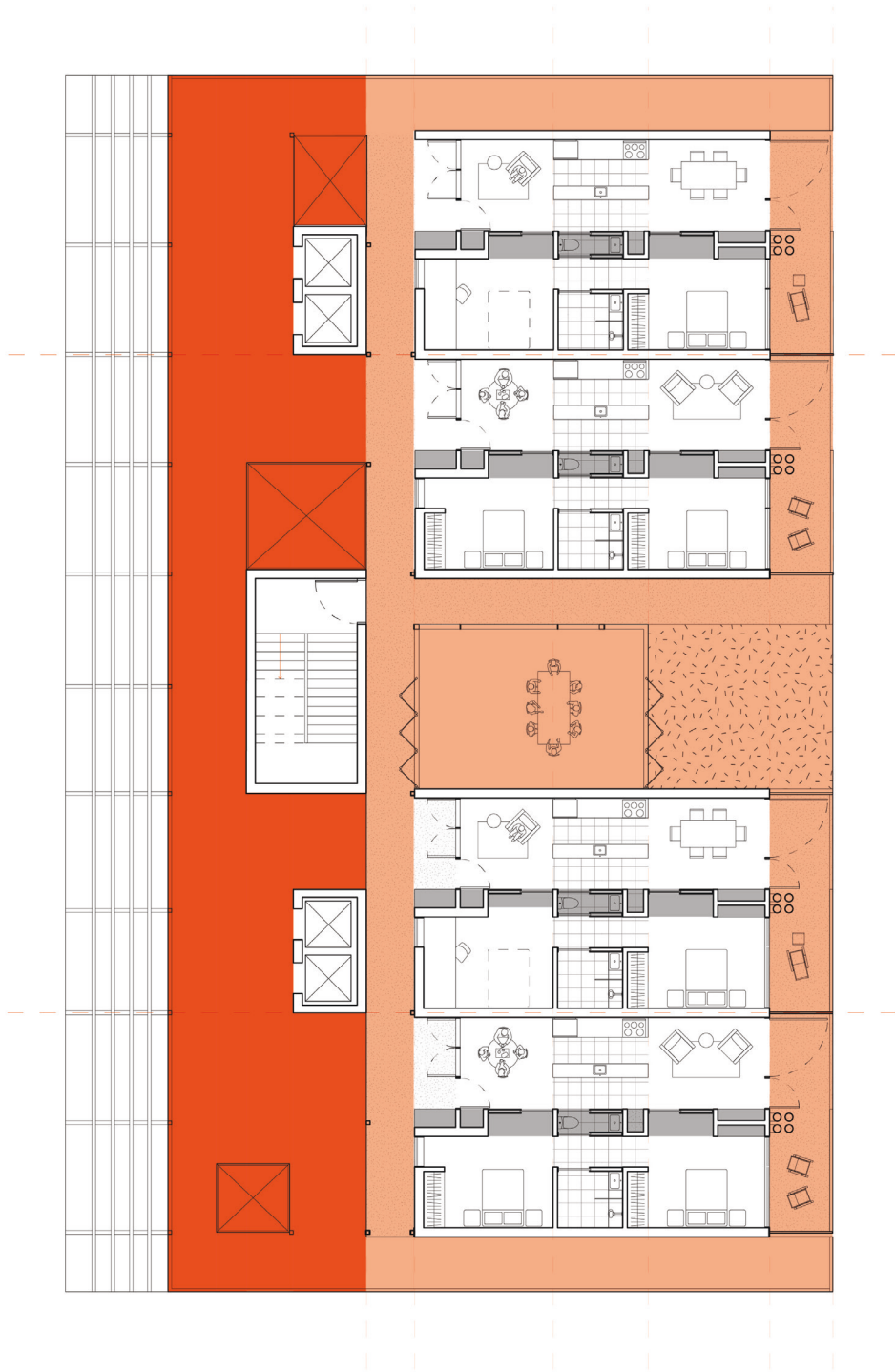
A sketch of people entering the site from the boardwalk. The tower stands in the distance as a landmark.

vertical porosity



is organized through layers: the yard, vertical circulation, horizontal circulation, the front porch, living space, and the balcony that connects the units to the landscape. In addition, semi-public programs such as gym or a restaurant punctuate the tower vertically, as seen in the site section.

Typical tower podium diagram in blue and the subverted type diagram (vertical porosity) in red.



Tower typical plan

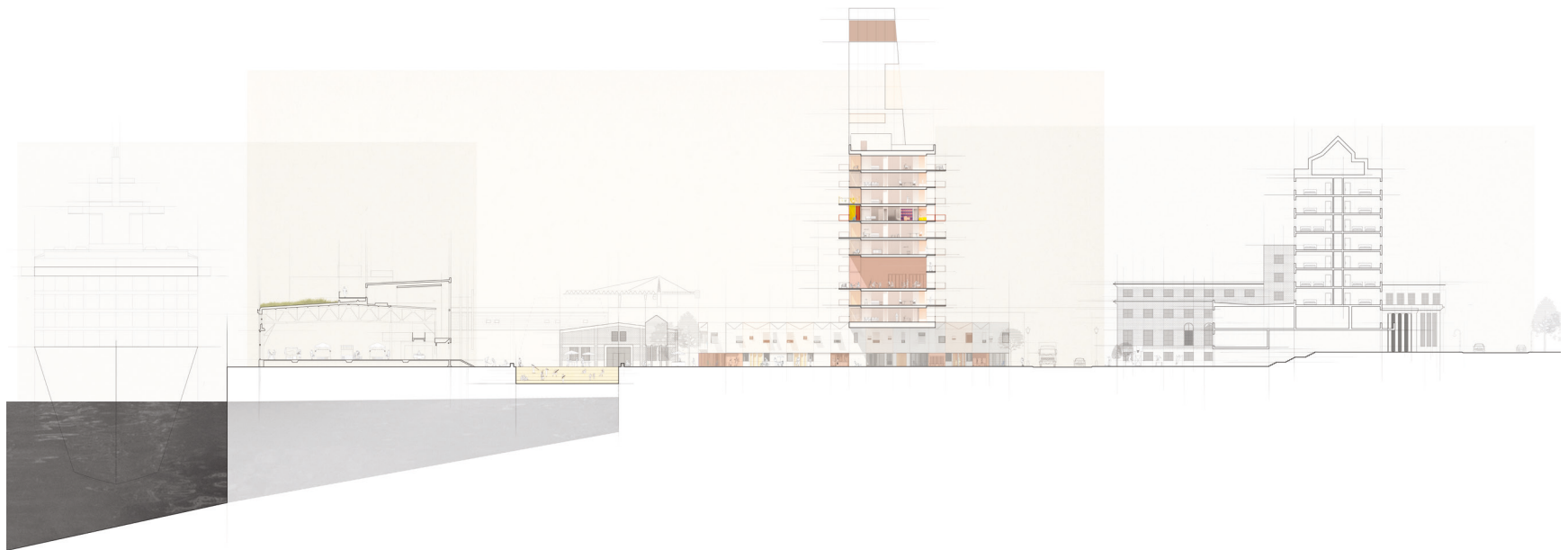


## **Inhabitation and Integration**

All of these parts come together in section to create even more thresholds and layers of public to private spaces. The stage and the slab represent the first set of types, since the stage is the attitude towards the entire site, and the slab sets up the threshold condition to frame a public room. The slab defines the water side as a square while addressing lower water as an urban street condition between the back of the hotel. This maintains the pattern found along the waterfront procession. The portals under the belly of the slab are deep thresholds into the site, filtering people in from the street.

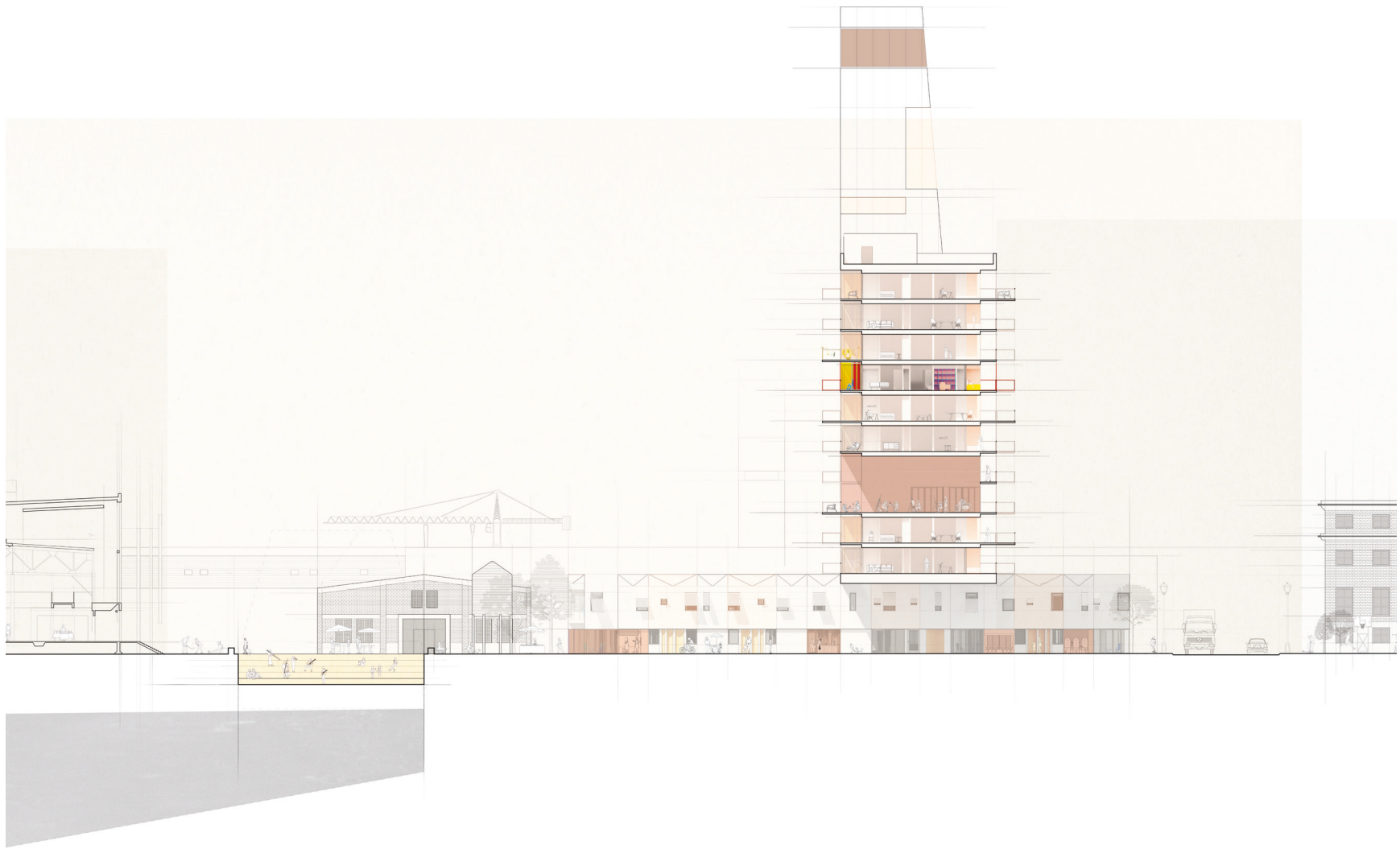
The next pair, the slip, and the row houses, are elements pulled into the site from either direction, entering stage right and left simultaneously. The slip and performance space frame the threshold into the site from the boardwalk procession, acting as the gateway into the project. Running the row houses perpendicular to Lower Water Street intentionally breaks up the street wall. They also introduce a human scale to the large site, since the row house represents the height at which people can comfortably walk up to and relate to from the street. The porosity of the inhabited party wall and entry niches with terraces above invites vibrant street life.

As you move further into the site, the park is the buffer between the square and the city. It is like the front yard of the project, a threshold space that extends past the slab building. Lastly, the landmark of the project stands in the park, like the slab turned on its' side. This tower can be seen from along the boardwalk, signalling the end of the procession. At night, it acts as a lighthouse, where people can see the activity in the restaurant up above.



Site section through Lower Water Street.





Site section through the design and Lower Water Street.



The loggia





The row houses





A room in the slab

## **Principles for Porosity**

This thesis employs porosity as concept to imagine an alternative urbanism, where spheres of life and activity in the city are not separated but brought together. It becomes about creating a physically, socially, and temporally porous interweaving of public and private spaces.

Physical porosity implies access and the intermixing of programs and activities. It creates the space for diversity and appropriation by the inhabitants and actors. Social porosity implies opening the site beyond the residents, allowing people from across the city to gather in democratic public space. Social porosity also means diversity of demographics, making not only one type of housing for a specific population, but mixing a range of market, affordable and supportive housing on the same site. Finally, temporal porosity implies that the site can host a range of activities that take place throughout the day, the week and across the seasons. This would foster lively public life at a range of times, activating the site throughout the day and year. Physical, social, and temporal porosity is expressed architecturally through the following principles demonstrated in the design response. These represent the principles for a porous and integrated typology of urban housing.

The interweaving of collective and secluded spaces is addressed architecturally through the combination and integration of housing and public space types. This is the first principle, which is then developed and supported by the following principles.

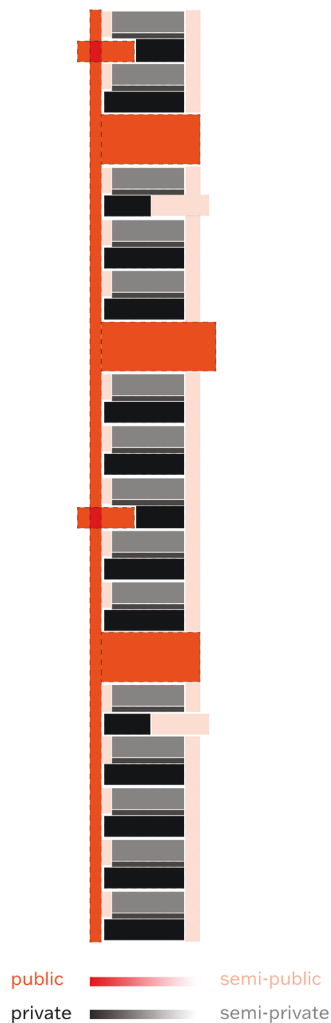
The second is that each project must be multi-programmed, mixing both public and private programs across the site and throughout the building.

Thirdly, this mixing of public and private should not be treated as a dichotomy, but rather as a gradient. Deep thresholds that allow for interaction but introduced at the intersection of public and private, creating a gradient of public, semi-public, semi-private and private spaces that allow for the full range of civic life to play out.

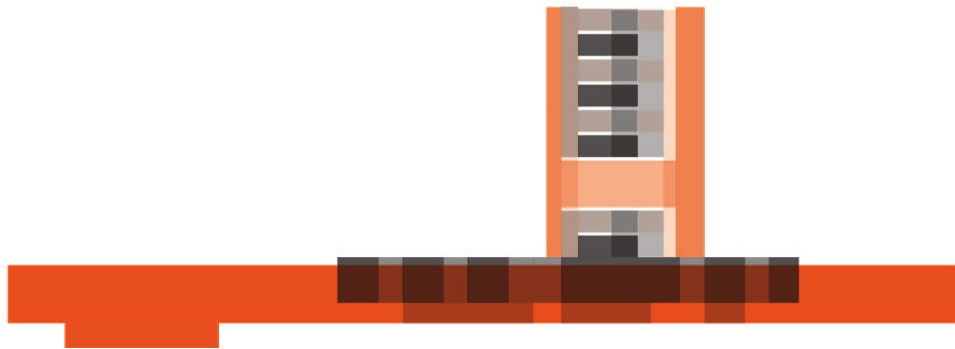
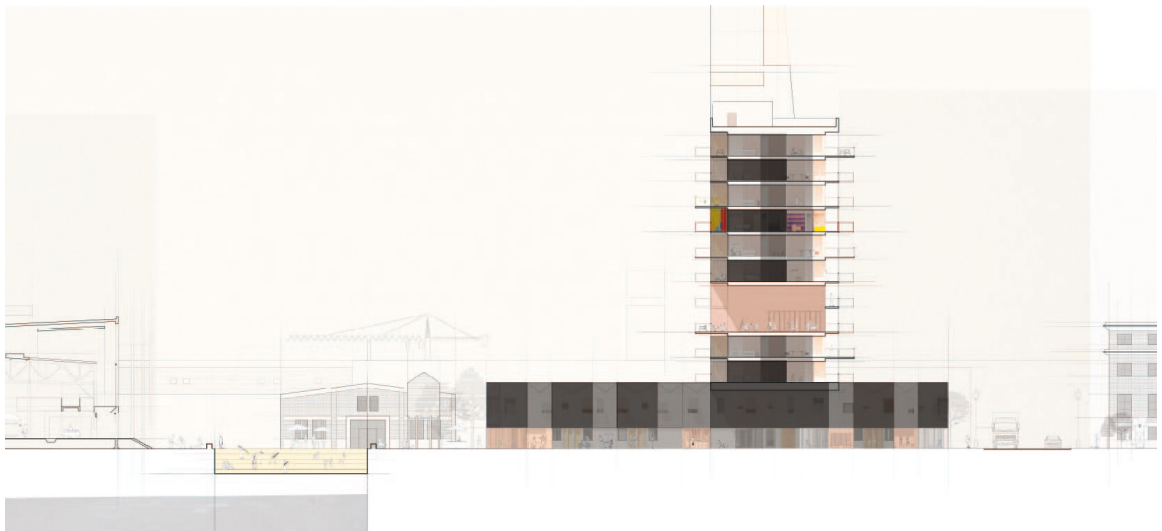
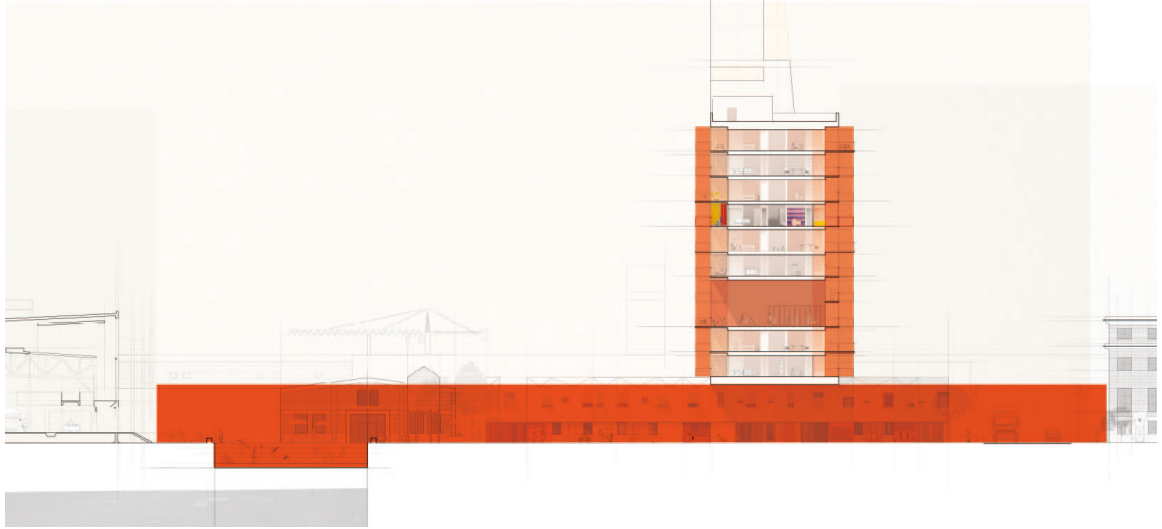
The fourth principle is that these programs and gradients should not be organized only in one direction, such as in the podium type, but must be interwoven. As demonstrated in the design of the slab, spaces of collective gathering punctuate the private dwelling units, running perpendicular and creating cross-grain programming. As demonstrated by the inhabited party wall, this invites people to circulate several ways through the site: either through the main portals and thresholds, or through the row houses.

Fifth, the project must include a range of collective spaces across scales. For example, the living room represents the public room of the dwelling, while the square represents the public urban room. This range of scales allows for various groups to gather, from the family and neighbours to the civic body.

Finally, public and semi-public programs must be distributed both horizontally and vertically. The typical developer building type distinguishes between the semi-public spaces on the ground level and the residential above, limiting people's vertical access to the city. As such, porosity must extend upwards, allowing people to experience the city from different vantage points, and opening up more spaces for social interaction.



Plan diagram describing the gradient, layering and mixing of public and private spaces in the slab.



public semi-public  
private semi-private

Section diagrams describing the gradient, layering and mixing of public and private spaces.



## Chapter 5: Conclusion

This thesis began with an interest and a study in architecture itself through the disciplinary specific tool of typology. Ultimately, it is about how architecture can operate through an understanding of types that is informed by their variations and the forces behind them to better respond to current and specific conditions in the city. In this case, it is a response to the developer model of urban housing and public space that is erasing urban life and democratic public space.

This thesis presents a single possibility of a porous city approach to the Seaport site in Halifax. The typological method is one of iteration, where there are many variables, and the results of each operation are weighed against one another, each move revealing typological entanglements. The project becomes less about the object and more about the method and the resulting principles.

The concept of the porous city is employed to imagine ways of transcending the dominance of the developer model. The typological method creates a new narrative, subverting typologies towards the possibility of a porous city. This method involves three main steps: case studies, analysis, and composition. Ultimately, this process leads to the development of typological characters to be deployed in the design project. As part of the transformation of the typological characters, the design of the housing types identified the underlying social structure of their respective type. The design moves subverted the typical organization to produce a variation on the type that responded to a different set of conditions: those that integrate public and domestic space towards the concept of the porous city.

This thesis argues against Rossi's distinction between rule and exception, between public space and private buildings. It calls instead for the integration of urban housing and public space. It sets up the argument that each housing project must be part of both the public and the private realm, and that having one without the other furthers the narrative of autonomous and exclusive urbanism, ultimately leading to social isolation and the erasure of civic life.

Beginning with the themes identified in the case studies, the design response demonstrates principles for a porous and integrated typology of urban housing and public space. The first is that each urban housing project must address both its' building type and its' public space type. Secondly, it must be multi-programed by mixing both public and private spaces. Thirdly, a gradient of spaces must be introduced at the intersection of public and private programs to create deep thresholds. Fourthly, public and private programs should be interwoven, creating a variety of inhabitation and circulation patterns. Fifth, the project must include a range of collective spaces across scales, from the living room to the urban room. Finally, the public programs must be distributed both horizontally and vertically, introducing vertical porosity.

The projective aspect of this exercise culminates in a vision for the city is that not one of independent urban artefacts, but rather that it is understood as a sequence of buildings defining bounded urban spaces, such as streets, squares, and the front porch condition. Such a view of the city implies a design process that engages both the housing type and the public space type, addressing both the building and the spaces in-between.

I hope to prompt those with the power and privilege to intervene to recognize when they might be complicit in the perpetuation of exclusionary types and the smooth city. This project therefore acts as a provocation, giving room for critical reflection and evaluating how typological thinking can provide avenues for resistance to closed systems, towards a porous city and porous public space.

## References

- Alinari, Fratelli. 1900. "Via del Pallonetto in the quarter of Santa Lucia, Naples". ACA-F-011932-0000, Alinari Archives, Florence.
- Aureli, Pier Vittorio. 2012. "The Common and the Production of Architecture: Early Hypotheses." In *Common Ground: A Critical Reader*, edited by David Chipperfield, Kieran Long, and Schumi Bose, 24–27. Venice: Marsilio.
- . 2023. "The Fifth Typology." Symposium lecture presented at the The Fifth Typology: A Symposium on Type and Architecture, École Polytechnique Fédérale de Lausanne, Lausanne, April 4. <https://burning.farm/events/the-fifth-typology>.
- Awan, Nishat. 2011. *Spatial Agency: Other Ways of Doing Architecture*. Abingdon, Oxon, UK: Routledge.
- Baudrillard, Jean. 2010. *The Agony of Power*. Semiotext(e) Intervention Series 6. Los Angeles, CA: Semiotexte.
- Benjamin, W., and A. Lacis. 2019. "Naples," in *Reflections: Essays, Aphorisms, Autobiographical Writings*, edited by P. Demetz, 173-186. New York: Mariner Books.
- Bernögger, Andreas, Uli Hellweg, Kurt Hofstetter, Rudolf Scheuven, Brigitte Scholz, Klaus Selle, and Kunibert Wachten. 2022. *What Will We Learn Tomorrow? Resonance Study on the Conclusion of the IBA\_Vienna 2022*. Translated by Dennis Johnson. IBA\_Wien 2022.
- Boer, Rene. 2023. *Smooth City: Against Urban Perfection, Towards Collective Alternatives*. Amsterdam: Valiz.
- Borsi, Katharina, Nicole Porter, and Megan Nottingham. 2015. "The Typology of the Berlin Block: History, Continuity and Spatial Performance." *Athens Journal of Architecture* 2, no. 1: 45–64.
- Branzi, Andrea. 1969. "No-stop City." Drawing series by Archizoom Associati, Italy.
- CIAM. 1933. *La Charte d'Athènes or The Athens Charter*. Translated by J. Tyrwhitt. Harvard University: The Library of the Graduate School of Design.
- Durand, Jean-Nicolas-Louis. 1805. *Précis des leçons d'architecture données à l'École polytechnique*. École polytechnique, Paris, France. <http://archive.org/details/prcisdesleon02dura>.
- Förster, Wolfgang. 2019. *The Vienna Model 2: Housing for the City of the 21st Century*. Edited by William Menking. Berlin: JOVIS.

- Giudici, Maria S. 2018. "Counter-Planning from the Kitchen: For a Feminist Critique of Type." *Journal of Architecture* (London, England) 23, no. 7-8: 1203–29. <https://doi.org/10.1080/13602365.2018.1513417>.
- HMA (Halifax Municipal Archives). 1961. "Downtown Halifax Before Many of the Demolitions in the Central Redevelopment Area". City of Halifax Engineering and Works Department photograph, 102-39-1-418.
- HMA (Halifax Municipal Archives). 1970. "Aerial Photograph of Completed Scotia Square and Cogswell Street Interchange." City of Halifax Engineering and Works Department photograph, 102-105-1.36.
- Hawkley, Louise C., and John P. Capitanio. 2015. "Perceived Social Isolation, Evolutionary Fitness and Health Outcomes: A Lifespan Approach." *Philosophical Transactions of the Royal Society B: Biological Sciences* 370 (1669): 20140114. <https://doi.org/10.1098/rstb.2014.0114>.
- HRM (Halifax Regional Municipality). 2023. *Street Centrelines*. Halifax Open Data. Map from GIS data, using ArcGIS. [https://data-hrm.hub.arcgis.com/datasets/560fec412dd044b08ae52a8575a215d4\\_0/explore?location=44.650103%2C-63.584458%2C14.53](https://data-hrm.hub.arcgis.com/datasets/560fec412dd044b08ae52a8575a215d4_0/explore?location=44.650103%2C-63.584458%2C14.53).
- Lee, Christopher C. M. 2023. "Typology Beyond Rossi: Dominant Types as a Common Framework." Symposium lecture presented at the The Fifth Typology: A Symposium on Type and Architecture, École Polytechnique Fédérale de Lausanne, Lausanne, April 4. <https://burning.farm/events/the-fifth-typology>.
- Loukaitou-Sideris, Anastasia, and Tridib Banerjee. 1998. *Urban Design Downtown: Poetics and Politics of Form*. CA: University of California Press Books.
- Mackay, Sandy. 2016. "Third-Wave Neoliberalism in Theory and Practice: A Case Study of the Halifax Centre Plan." Halifax, NS: Dalhousie University.
- McGinn, Caleb. 2020. "Party Wall Housing: Objects in Environments as Contestation." MArch Thesis, Halifax, NS: Dalhousie University.
- Moneo, Rafael. 1978. "On Typology." *Oppositions* 8 (Summer 1978:13): 22–45.
- OSG (Office of the Surgeon General). 2023. Our Epidemic of Loneliness and Isolation: The U.S. Surgeon General's Advisory on the Healing Effects of Social Connection and Community. Publications and Reports of the Surgeon General. Washington (DC): US Department of Health and Human Services. <http://www.ncbi.nlm.nih.gov/books/NBK595227/>.
- Purcell, Mark. 2008. *Recapturing Democracy: Neoliberalization and the Struggle for Alternative Urban Futures*. NY: Routledge.
- Roberts, Henry. 1867. "The Dwellings of the Labouring Classes: Their Arrangement and Construction; with the Essentials of a Healthy Dwelling". *Society for the Improvement*

- of the Labouring Classes*, London, 120–121.
- Rowe, Colin. 1978. *Collage City*. Cambridge, MA: MIT Press.
- Savage, Niall. 2022. “All Housing is Public Housing: My House is Your House and Our House is the City.” Class Lecture. ARCH5102 Housing Theory, School of Architecture, Dalhousie University, Halifax NS.
- Sennett, Richard. 2006. “The Open City.” *Urban Age | LSE Cities*. October 11, 2006. <http://urbanage.lsecities.net/essays/the-open-city>.
- Sennett, Richard, and Pablo Sendra. 2020. *Designing Disorder: Experiments and Disruptions in the City*. London New York: Verso.
- Stavrides, Stavros. 2016. *Common Space: The City as Commons*. London: Zed Books.
- Steven Holl Architects. 1993. “Storefront for Art and Architecture.” New York, United States.
- Whyte, William Hollingsworth. 1980. *The Social Life of Small Urban Spaces*. Washington, D.C. :Conservation Foundation.
- Whyte, William Hollingsworth. 2001. *The Social Life of Small Urban Spaces*. New York: Project for Public Spaces.
- Wolfrum, Sophie. 2018. “Porous City: From Metaphor to Urban Agenda.” In *Porous City: From Metaphor to Urban Agenda*. Edited by Heiner Stengel, Florian Kurbasik, Norbert Kling, Sofia Dona, Imke Mumm, and Christian Zöhrer, Basel: Birkhäuser, 8-11
- Zöhrer, Christian. 2018. “Exploring the Unforeseen—Porosity as a Concept.” In *Porous City: From Metaphor to Urban Agenda*. Edited by Heiner Stengel, Florian Kurbasik, Norbert Kling, Sofia Dona, Imke Mumm, and Christian Zöhrer, Basel: Birkhäuser, 58-59.



# Appendix: Rossetti Travel Scholarship

## Public Space in Urban Housing: A Typological Study

Locations: Vienna, Austria; and Berlin, Germany

The most widespread approach to urban housing in North America is developer-driven and site-selfish, contributing to the erosion of public space. In response to this erasure and the demand for quality urban housing stock, this project studies the typology of integrated urban housing and public space. The aim of this research is to translate typological characteristics that foster public life to dominant housing types in Halifax, such that these types can be adapted to prioritize public space and amenities.

The International Building Exhibition emerged as a sign of its time under particular historical and socio-political conditions. As such, most of the projects I visited are from Interbau West Berlin in 1957, IBA Berlin in 1987, and IBA Vienna in 2022. Each of these urban housing projects demonstrates a specific approach to living in the city and a distinct relationship between the public and private realms.

Direct observation was conducted over a two-week period, with the first week spent in Vienna and the second in Berlin. During this time, I visited fifteen urban housing projects across the two cities, taking note of their architectural type and the activities that took place in the public realm.

From my observations of public life in these housing projects, I noticed patterns across several types. Through a process of abstraction and analysis, I derived repeating typological

characteristics to compare the activities of everyday life against the architectural intentions and resulting formal space. These characteristics were categorized under six verbs that describe the relationship between the public and private realms: filter, lift, crosshatch, layer, cluster, and insert. The activities and events observed in the spaces between buildings are set against the context of each project, attempting to understand the intersections among everyday life, architectural typology, and history. What I noticed from this exercise was that semi-public spaces were used for the greatest range of activities, perhaps because they were most available for appropriation. Each verb ultimately has the potential to be translated across various housing and public space types to foster collective and public life in Halifax.



Rossetti Presentation, November 2023.