Intersttitial Urbanism:
Inhabiting the “In-between”

By

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Abstract

The Corbusian model of a slab in the park was irreconcilable with North American scale and style of construction after the Second World War. The modernist paradigm often yielded amorphous spaces that were neither clearly structured according to property delineations nor entirely free public space. In contrast to European cities' homogenous and continuous form the North American urban fabric is fragmentary, its building rising in an autonomous manner in relation to their surroundings: Intermediate or, interstitial spaces, are a real part of the urban fabric, alongside “legitimate” built fabric. Sanctioned, yet unofficial, highly visible but hidden, these interstitial sites fall outside of official urban planning endeavors and are rarely considered worthy of design attention because, quite simply, they are too small to offer potentials for viable development. What is more, these sites are most often already owned. As sites where urban and architectural scales and uses collide, they offer, however, promising fields for the development of civic and public life at the scale of the individual and neighborhood. Interstitial Urbanism: Inhabiting the In-Between addresses how “interstitial urbanism” offers an alternative design strategy for rejuvenating existing urban residual sites. The enquiry specifically looks at alternatives to the sites, scope and methods of contemporary urban design, which is obliged to function at a rapid pace and according to clear regulations. The thesis argues for the value of a slow and logistically complex form of urbanism, and advances that small and sustainable urban interventions offer a potent alternative to large-scale urban developments. The thesis explores interstitial urbanism for its transformational possibilities of the everyday urban realm.
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**Introduction**

Interstitial Urbanism responds to a twofold problem: firstly, that there are many interstitial spaces in North American cities, and secondly, that there is something worthwhile in the interstitial condition. Indeed, on one hand, the Corbusian model of a slab in the park yielded many amorphous spaces in North American urban cores that were neither clearly structured according to property delineations nor entirely free public space and these spaces beg to be tended to. On the other hand, new urban developments, by virtue of being new, are devoid of the rich secondary and interstitial spaces that characterize older urban landscapes and provide them with their experiential depth; so though problematic, the interstitial site is endowed with potential. Those produced by postwar modernist urban planning are interesting in that they embody both the cause and possible solution to the problem of fragmentary urban space.

*Interstitial Urbanism: Inhabiting the In-between* explores strategies for rejuvenating existing urban residual sites through the insertion of highly site-specific architectural landscapes. These architectural landscapes may include both parks and built elements. Leaning on principles provided by Henri Lefebvre (production of space) and Michel de Certeau (the urban tactic), this thesis studies neighborhood-scale interstitial urbanism. The thesis explores how the site-specific intervention grounded in reality manages to unleash a residual urban site’s unforeseen possibilities.

Interstitiality is a rich terrain for architectural and urban reflection. The in-between space is where living extends and connects, and where the core of a town or city is contained. When properly articulated, an empty lot can become a public room for the city. Interstitial urbanism is also an instrument of social diversification: building on the premise that amelioration,
recuperation and sustainability can improve economically strained neighborhoods, interstitial urbanism drags the forgotten site back into dialogue with more established neighborhoods. A city that allows for interstitial urban spaces, in turn, promises to be more economically and socially heterogeneous. Working within the broader project of "interstitial urbanism", this thesis operates in contrast to large-scale urban planning maneuvers. It does not reject large-scale interventions, but rather, is interested in their necessary counterparts: small interventions in residual and under-utilized urban spaces. This thesis conceives "interstitial urbanism" as an alternative urban design concept, and as a new way to reconnect urban research and design with ordinary human and social meanings.

This thesis culminates in the design for a public living room in an underutilized laneway located between two residential apartment towers in Ottawa's West Centretown district. The proposal is to provide new programs and places, enhance pedestrian movement and create varied urban textures that accommodate different uses and bring potential economic benefits to the surrounding revitalized areas. It advances the idea that the simultaneous implementation of two scales of planning (rather than a singular large scale urban project) is desirable. The proposition also considers the role of interstitial urban landscapes in stabilizing and re-inscribing transitional neighborhoods into the established core, and in so doing, in protecting cities' social and economic diversity.
Chapter 1:
The Hútòng of Beijing
1.1 Introduction: the Hutongs Neighborhoods in Beijing

The center of Beijing once possessed a unique combination of hierarchical street networks consisting of many hundreds of these small streets and alleys laced with small lanes and commerce. For centuries these narrow lanes and their bustling communities, organized by courtyard houses, gave the city its unique character, serving essential conduits for social structure that emphasized connections between residents and their neighbors (Figure 1). The term hutong is derived from the Mongolian word for “water well” or “a passageway between tents” meaning narrow streets or alleys. The name describes “narrow passageways that served as firebreaks in Kublai Khan’s thirteenth-century capital.” The term hutong refers to both the traditional winding lanes and traditional old city neighborhoods themselves. From an urban standpoint in the city of Beijing, the hutong is known for its tight-grain communities and low, dense, and intimate fabric. These are largely pedestrian neighborhoods, and vehicular traffic therein is limited. The hutong has the ability to intertwine communal social spaces with intimate family spaces in a resolutely urban format, blending the domains of domestic life and urban life together while maintaining strict divisions. In contra-distinction to clean-slate urbanism, the hutong grows slowly and progressively over time. What is more, hutong’s tractable scale helps to forge community interaction that contemporary projects seldom achieve. Unfortunately, the historic fabric of the hutong has literally been erased in a generation due to various reasons.

As an urban form, the hutong is generated by its primary building block, the brick courtyard compounds which form the winding alleyway fabric, called siheyuan. The resultant space left

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between the síhēyuàn, the hùtòng is by definition a realm of “in-betweenness.” It is this in-betweenness that defines the hùtòng’s memorable character and qualities and which constitutes an argument in favor of “interstitial urbanism”. The success of the hùtòng communities lies in the overall urban organization rather than its individual architectural components. The following chapter examines the hùtòng’s operative principles and provides a precise analysis and description of the hùtòng neighborhood in Beijing, speculating on how the latter might provide a fruitful model for programming interstitial spaces in the Canadian context.
1.2 Learning from the Hútòng’s Habitation Character

The hútòng is a socio-spatial arrangement that for many centuries was germane to the way of life of Beijing’s residents, and that defined its dwelling culture. The hierarchical nature of architecture and hierarchical system of social control are closely related. In the book *Beijing*, Harper and Eimer describe Beijing’s constructed nature: as “a colossal metropolis without major rivers or natural hills in its central neighborhoods, Beijing is very much a city designed by humans.”¹ The structure of old streets in Beijing had a humane quality and reflected a traditional way of life. The following extract from Colin Thubron’s *Behind the Wall* provides a precise description character of today’s hútòng neighborhood.

“I abandoned the avenues and slipped down side-streets into a maze-world of alleys and courtyards. These hútong are still the living flesh of Beijing, and once you are inside them it shrinks to a sprawling hamlet. The lanes are a motley of blank walls and doorways, interspersed by miniature factories and restaurants. Each street is a decrepit improvisation on the last. Tiled roofs curve under rotting eaves. The centuries shore each other up. Modern brick walls, already crumbling, enclose ancient porches whose doors of beaten tin or lacerated pinewood swing in carve stone frames. Underfoot the tarmac peels away from the huge, worn paving-slabs of another age, and the traffic thins to a tinkling slipstream of pedicabs and bicycles.”² (Figure 2 & Figure 3)

To this day, where hútongs still exist, public newsletters are posted along the community hútòng walls, advertising community events, fueling social communication and participation.

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The urban environment is easily accessible to pedestrian and cyclists but not to heavy automotive traffic, in contrast to most North-American urban environments. Crime rates are relatively low. To be sure, the value of this urban fabric isn't in the buildings themselves, but rather, in the intangible cultural heritage and social network that still exists in this tiny portion of Beijing.

Beijing's hùtòng has its own personalities and proportions. Some are wide and leafy boulevards, whereas others are narrow, claustrophobic corridors. According to Professor Wu Liangyong from Tsinghua University in Beijing,

"a typical hùtòng presents three characteristics, the accessibility to both main streets and to individual dwellings; the mixed land use by ordinary houses as well as shops, temples, offices and mansions, and the integrated system of alleys and courtyard houses." (Figure 4)

As described by American writer Michael Meyer who has lived in a tiny apartment carved out of a decaying courtyard house in Beijing for several years, said that "the best thing about living in a courtyard home is that it keeps one's feet on the ground, which is healthier than living in a high-rise apartment." What is important is not the tangible architecture, but the intangible lifestyle afforded by the hùtòng configuration. Today, hùtòng neighborhoods in Beijing are in a state of flux, and are vulnerable in the face of market-driven forces to modernize and gentrify urban cores. At this point of juncture in the history of urbanism, the hùtòng—a realm of "in-betweenness" that celebrates the person to person dimension of urban economies—is worth remembering.

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* Refer to Beijing's Hútòng District Street Scale and Function Study (pp.12)
With its high degree of pedestrian permeability and independence from car, its tight community texture, its integration of greenery, and finally, its human energy, the hútòng asserts itself as a sustainable urban model, and, more broadly, makes a strong case in favor of "interstitial urbanism". Much like the sidewalks of New York that Jane Jacob fought to preserve, the hútòng provides safety by focusing the attention (the "eye") of multiple residents and business owners. They facilitate neighborhood contact, deepening the attachments people felt to one another and the area. The hútòng is distinctive; it is Beijing's masterpiece of urban design, a model that serves as a reminder for designers and inhabitants of the importance of living with a quality of humanity in complexly integrated environments. Might this model be translatable to the North American context?
In Beijing, the Hutongs are categorized according to its scale and function, from the narrowest to the widest. This order is summarized as follows:

1. **Width of 3 meters and below:** Exclusively for pedestrian access, vehicles of any kind are prohibited.

2. **Width of 3 to 5 meters:** Mixed-use for pedestrian and non-motorized vehicles. The non-motorized vehicle ranges from 0.6 meters to 1.5 meters in width.

3. **Width of 5 to 7 meters:** One-way traffic lane for motorized vehicles and roadside parking with a speed limit of 15 kilometers per hour.

4. **Width of 7 to 9 meters:** One-way traffic lane for motorized vehicles or two-way traffic lanes for non-motorized vehicles, with a speed limit of 20 kilometers per hour. In principle, only small vehicles (1.8 meters width) are allowed for cross border traffic.

5. **Width of 9 meters and above:** One-way traffic lane for motorized vehicles or two-way traffic lanes for non-motorized vehicles, with a speed limit of 20 kilometers per hour. This kind of alleyway allows for small transit buses (2.5 meters width) and large passenger cars (2.2 meters width).
The Interstitial Quality of Beijing's Hútòng Neighborhood (Nánluógǔxiàng District)

**Linear interstitial space**
Interactive edge bounded by adjacent structures. A zone that preserves the quality of a threshold and entrance.

**Open edge/ unoccupied interstitial space**
An intermediate zone between buildings and street, and has the potential to become public.

**Internal/occupied interstitial space**
A courtyard-like area that is more tranquil. A zone that ties building use, adjacencies, access, facade and other detail elements together.

Source: Diagrams by Doris Lai
Chapter 2: Interstitiality

2.1 Interstice, Interstitial, Interstitiality: General Definitions

The study of the hutong opened the broader question of interstitial urban spaces. The following chapter reflects on the meaning of the terms interstice, interstitial and interstitiality. The *Oxford English Dictionary* defines the word interstitial as “an intervening space (usually empty); especially a relatively small or narrow space, between things or the parts of a body (the minute spaces between the ultimate parts of matter); a narrow opening, chink, or crevice.” The term “continuous,” in opposition, describes “the quality of being uninterrupted in extent or substance, of having no interstices or breaks.” The interstitial emerges from discontinuities, and discontinuities set up the conditions for interstitiality. Research on the term interstitial generally yielded findings in the fields of geography, race and gender studies, postcolonial identity and racial hybridity. Interstitiality is a common topic in the social sciences; it provides a way of describing and thinking about complex non-normative conditions and inter-cultural identities and experiences. The praxis of interstitiality has not been articulated in a consistent way for architects and urban planners, and remains at the moment a quiet area of knowledge.

The definition of interstitial implies different meanings in various contexts. For instance, television broadcasting typically refers to any short piece of content that is often shown between movies or commercials as an interstitial program. Fashion designers use the notion of

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2 *Oxford English Dictionary*
interstitial as void spaces between patterns in the fabric created by the intersection of opposing geometries and colors. Fabric density is measured by the number and amount of thread counts, and the word interstitial refers to the interwoven gaps between the fibers of the fabric material. In medicine, the term interstice is borrowed from human anatomy to describe small intervals, spaces or gaps in a tissue or parts of an organ within the human body. These interstitial tissues \((\text{stroma})\) lie between blood vessels and organs \((\text{parenchyma})\) or in between individual cells (interstitial cells) that are bathed by interstitial fluid. For example, the interstitial spaces of the lungs are the areas of tissue between the alveoli and the capillaries that carry the blood. Interstitial fluid is a bodily fluid that occupies the microscopic spaces between these tissue cells. Drawing upon this medical analogy for the purposes of reflecting on urban interstices, one may advance that urban infrastructures, like organs, are the functional elements within the urban fabric.

The term "interstitial space" was used in the 1960s by architectural professors at Texas A&M University to describe the separation between floor systems, commonly located in hospital and laboratory-type buildings for mechanical divisions.\(^8\) The first building to apply this interstitial space design was Louis Kahn's Salk Institute of Biological Studies (Figure 5).\(^9\) This design concept provided vertical penetrations between different programs in a building in order to group and localize them. In most cases, architects refer to the leftover gaps between building walls as "interstitial spaces", being neither inside any room nor outside the building.

Dutch architect Aldo van Eyck wrote that "awareness of this in-between is essential, the ability to detect associative meanings simultaneously does not yet belong to our mental equipment. Since, however, the meaning of every real articulated in-between place is essentially a multiple

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one, we shall have to see to it that it does.\textsuperscript{10} Team 10 members similarly, noted the critical point that "short narrow streets of the slum succeed where spacious redevelopment frequently fails."\textsuperscript{11} Jane Jacobs celebrated "small scale of daily life as the generative component of good urbanism."\textsuperscript{12} Jacobs believed that urban form should not be too prescriptive because it is dependent on climate and culture. Place making is tied to the relationship between architecture and social life and because interstitial sites perform a secondary role (that of organizing site-specific relationships), rather than a primary role (housing important functions, monumentalizing, or representing civic space) they are appropriate for place making at the neighborhood scale. As seen above, the architectural and urban notions of interstitiality have analogies to biological models. Indeed, the interstitial realm, in biology, architecture or urbanism, is about intimate connections.

2.2 Interstitial Urbanism and the Theories of Henri Lefebvre, Michel de Certeau and Christine Boyer

Cities develop according to different paradigms of urban change: sudden or progressive change, changes that accept existing conditions and fabrics, and changes that deny them. It is the layering of these various modalities of urban change that, together, determine the character of the City. Cities are the compact bundles of an overlaid network of spaces. Street faces are “givens,” inherited from existing buildings, other eras and other owners; in turn, the in-between spaces in a city’s established fabric are dynamic, and open for redefinition. These in-between places are more flexible and open-ended than large established urban settlements. As such, they provide ideal opportunities to reconcile conflicting urban forces, scales, and audiences. What is more, they provide opportunities for citizen participation. The interstitial realm is “negotiable”: it can be made to respond to different and highly specific situations and demands. This chapter explores “interstitial urbanism” as an alternative to urban design informed by master-planning and traces the history of “ground-up urbanism” within postmodern discourse. This thesis considers interstitial urbanism’s potential to reveal and release the formal, urban, social, and historical “latencies” within a given site. The question of creativity, insight, and the imagination, and on powers of observation of the “already there” will also be addressed.

Abandoned areas, obsolete or unproductive spaces and buildings, ill-defined sites, all are privileged topics of reflection in interstitial urbanism. At a fundamental level, interstitial urbanism responds to places of absence in the urban realm. In the loose urban fabric of North American cities, buildings of all kinds, from houses and apartments to office buildings and shopping centers, stand alone as separate structures, each operating autonomously from their surroundings.
Interstitial urbanism takes advantage of built environments' lack of affiliation to approach ordinary places in new ways. Unlike most urban design techniques, it can maneuver in the nooks and crannies of existing urban environments. As an accretion approach, it makes small changes that accumulate and transform into larger urban situations. In his influential work, *Critique of Everyday Life* (1947); Henri Lefebvre argued that the ordinary city was a privilege place of poetic experiences and social life. Lefebvre believed the forgotten, everyday areas were really where a city's life unfolded, not so much in a city's elite spaces. The kind of environment that interested Henri Lefebvre was not the traditional heart of the city, its main boulevards or public squares. Rather, it was the regular neighborhoods, which possessed "everydayness:" neighborhoods that were built around the humble and repetitive aspects of life, as opposed to those related to either the world of production or consumption.

In *The Production of Space*, Lefebvre called for theoretical discourse about space to better describe the lived space of inhabitants and users. He sought "a language common to practice and theory, as also to inhabitants, architects and scientist...It would thus bring together levels and terms which are isolated by existing spatial practice and by the ideologies underpinning the 'micro' or architectural level and the 'macro' level...of urbanists, politicians and planners; the everyday realm and the urban realm". Lefebvre sharply criticized urban theories that focused predominantly on perceived and conceived space while ignoring the lived dimension of space, or, the micro-realm. Lefebvre's term "micro public space" suggests the possibility of public-ness and urbanity in even the smallest urban spaces. The project that emerges from this thesis research builds on this idea.

Interstitial spaces form the counterparts to the known and formally inhabited parts of cities. They exist in contrast and at times in resistance to these, and due to their indeterminacy of

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program and ownership, are often neglected. However, it is the looseness of the rich secondary realm of interstitial spaces that allows an open interpretation by the general public. Trivial and commonplace vacant lots, sidewalks, front yards, parks, and parking lots are available to be claimed for new uses and meanings, by the poor, the recently immigrated, the homeless, and even the middle class. These spaces exist somewhere in the junctures between private, commercial, and domestic realms. In the absence of a distinct identity of their own, these spaces can be shaped and redefined by the transitory activities they accommodate.

Urban planner Edward Soji, following Lefebrve, called these spaces the “thirdspace”: a category that is neither the material space that we experience nor a representation of space. “Thirdspace” is instead a space bearing the possibility of new meanings, a space activated through social action and the social imagination. In his book Thirdspace, Soji describes: “everything comes together... subjectivity and objectivity, the abstract and the concrete, the real and the imagined, the knowable and the unimaginable, the repetitive and the differential, structure and agency, mind and body, consciousness and the unconscious, the disciplined and the transdisciplinary, everyday life and unending history.”6 Soji’s “thirdspace” is significant in its ability to balance the spatiality, historicality and sociality of everyday human life. Thirdspaces blur our established understandings of categories in paradoxical ways and open onto multiple and constantly shifting meanings. Since humans experience “thirdspaces” in states of distraction, explains Soji, their meanings are not immediately evident, but unfold through the repetitious acts of everyday life. They are where human daily life opens onto the infinite. The term thirdspace could be used to describe the junctions between private, commercial, and domestic realms in cities.

As Michel de Certeau described in The Practice of Everyday Life, the city is a place for walking, an elementary form of experiencing the city. Michel de Certeau wrote of the urban dweller,

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“Their story begins on ground level, with footsteps. Their intertwined paths give shape to spaces. They weave together. In that respect, pedestrian movements form one of these ‘real systems whose existence in fact makes up the city.’ They are not localized; it is rather they that spatialize.”

The contemporary North American city insists upon vehicles as a means of transportation, and the subsequent range of pedestrian movements are often limited. As such, the idea of the ‘street’ is often forgotten, and the ability for dwellers to spatialize decreases as a result. In this sense, an interstitial urban intervention that re-instated the pedestrian realm, would also contribute to recovering spatiality in cities. And this is a valuable outcome. The project that emerges from this study aims to provide an illustration of this.

The interstices of urban spaces weave the city’s various populations and functions together. These urban spaces can become a basic, organic and inseparable element to the making of the city. Interstitial spaces provide viable transitions between established parts of the city and, by hosting activities belonging to spontaneous and semi-private life, are arguably responsible for giving to the city, as a whole, its livability. In the same vein as Lefebvre, Jane Jacobs stated:

“The more successfully a city mingles everyday diversity of uses and users in its everyday streets, the more successfully, causally (and economically) its people thereby enliven and support well-located parks that can thus give back grace and delight to their neighborhoods instead of vacuity.”

Urban theorist Christine Boyer distinguishes “figured” and “disfigured” cities in order to explain cities’ dual spatial natures: as repositories of official representational buildings and spaces as

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well as of non-official, or even unclaimed, spaces. Boyer argues that the current trend of urban restructuring supports the divergence of "figured" city from the "disfigured" city. The "figured" city is composed of highly designed and planned enclaves of contemporary development, which includes the financial and commercial districts, official leisure and cultural areas, schools and medical facilities, theme parks and market places, etc. The "figured" city is "composed as a series of carefully developed nodes generated from a set of design rules or patterns. It is fragmented and hierarchized, like a grid of well-designed and self-enclosed places in which the interstitial spaces are abandoned or neglected." In contrast, the "disfigured" city is comprised of the "abandoned segments" that conform to the figured city's stable elements, and is highly "invisible and excluded" from the prime infrastructure networks. Following Boyer's theory, this thesis advances that in-between connecting spaces are valid sites for architecture because they lend themselves to new mediated forms of experience. What is more, the idea that city planners should pursue two kinds of urbanism to respond to the city's dual nature would seem to make sense.

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2.3 Aldo Van Eyck, Bernard Tschumi, Peter Eisenman, Rem Koolhaas: Interstitiality in Architecture

This section examines the use of the term "interstital" in architectural discourse proper. While many architects are interested in interstitiality, few articulate their theories of interstitiality overtly. One architect who did was Dutch architect Aldo van Eyck, who discussed interstitiality in urbanism very directly. Van Eyck described urbanism of the interstitial realm as "participatory urbanism". For van Eyck, participatory urbanism was a "semi-hierarchical, semi-anarchic, highly participatory process involving many people over many decades. It was what might be called a cybernetic process, ground-up, top-down, inter-relating a mass of agents, each playing an equally crucial role, impossible to disentangle from one another." This participatory approach to urban planning describes an interactive and collaborative process involving different agents – government, citizens, urban planners and architects. Van Eyck's playgrounds were participatory. Each one was a result of a personal written request on the part of a citizen to the Public Works Department in Amsterdam (Figure 6). Van Eyck also believed that humans required a new mindset to be able to comprehend interstitiality. He wrote of his design on the Sonsbeek Pavilion (1966) (Figure 7): "Awareness of this in-between is essential, the ability to detect associative meanings simultaneously does not yet belong to our mental equipment. Since, however, the meaning of every real articulated in-between place is essentially a multiple one, we shall have to see to it that it does." In short, van Eyck advocated a change in the citizen, a change in our own perceptions and ways of inhabiting the city. He wished the dweller to expand their "mental equipment" so as to

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become able to process multiple associations. This is a very dynamic idea: a form of urbanism that asks of the dweller, the citizen, to change, to transform, and to evolve. Van Eyck’s interstitial playground design, which exemplifies his theories, will be discussed in Chapter 2.4.

Another architect who deals directly with interstitiality is Rem Koolhaas. In his essay “The Generic City” of 1994 and his essay “Junkspace” of 2001, Koolhaas convincingly argued that there is a correlation between top-down and ground-up approaches. “The Generic City” insists on the importance of infrastructure as a facilitator for growth and as a means for the creation of multiple city centers. Koolhaas defines “Junkspace” as a residue or a byproduct of the process of modernization itself. As quoted from “The Generic City” and “Junkspace” respectively:

“As the sphere of influence expands, the area characterized by the center becomes larger and larger, hopelessly diluting both the strength and the authority of the core; inevitably the distance between center and circumference increases to the breaking point.”25

“The built produce of modernization is not modern architecture but Junkspace. Junkspace is what remains after modernization has run its course or, more precisely, what coagulates while modernization is in progress, its fallout.”26

Both of Koolhaas’s terms vividly describe the crisis of the modern city in relation to the historical city. Understanding “Junkspace” as a byproduct of the progressive growth of “The Generic City”, the pressure on contemporary interstitial spaces to resist “placeless-ness” is intensified. As defined in this phenomenon, the contemporary urban realm is a complex,
interactive, seething mass of coincidences and chain reactions. Interstitial spaces are shaped by the city but they also shape the city.

According to architect Peter Eisenman, interstitial spaces carry great significance: "my work addresses the space of difference between the exterior and the interior and the space of difference that is also within the interior. The term that we use for that space is the interstitial." Peter Eisenman's Aronoff Center for Design and Art creates an interstitial space that both divides and links together the exterior and interior spaces (Figure 8). The project organizes an architectural play between the old Cincinnati's Aronoff Center and new structures of school facilities - a library, a theater, exhibition spaces, studio spaces, and office spaces. The Aronoff Center exemplifies the idea of interstitiality through interchanging geometries. The newly designed façade forms an unusual mask which is derived from the curvature of the landscape and its surrounding buildings. The interior space in turn, is governed by the play between existing buildings and new additions. The result is a dual wavy motion: one which is more geometric (the old building) and another which flows, due to the curve in which the new functions are arranged. The not only reproduces the form of the adjacent building and multiplies its broken profile, but is also a curvaceous structure contrasting with the linearity of its surrounding.

Bernard Tschumi has spoken about the notion of "in-between" as an expression of plural meaning. The "in-between" for Tschumi, is neither a construction nor a design idea. Le Fresnoy Studio National des Arts Contemporains exemplifies this concept. The project organizes a dramatic architectural play between a complex of 1920s leisure buildings and newly designed ones (Figure 9). Tschumi's scheme shelters the old and new structures with a single high-tech roof containing the building systems and skylights. The project intersects different times and programs - an experimental art laboratory, a multimedia production center,
a school, a cinema, an exhibition and performance space, a library, faculty apartments, etc. – with a view to provoking encounters and crossings. Programmatic components of the project are juxtaposed, combined and transformed suggesting new uses and situations. Referring to this project, Tschumi wrote: “at Le Fresnoy we subjected the program to precisely this type of transformation. So there were multiple layers: the ‘leftovers’ – ghostly – like programs that had somehow formed the older spaces – as well as the new programs, which emphasized crossovers between artistic practices.”

The ground level of the existing buildings has strictly determined uses and to challenge these constraints, Tschumi created a different kind of space, the “in-between” space. This “in-between” of Le Fresnoy is an effect of play between old buildings and added structures, producing an in-between, or an interval where spaces can be freely appropriated by artists and visitors. This “in-between” space is a pure concept; the combination of heterogeneous parts of the project suggests new uses and has naturally formed the space. In an interview with Enrique Walker, professor at Columbia University’s Graduate School of Architecture, Tschumi said, “I have relatively little control over the program (since it depends on others), but I do control the movement vectors in that space, so they can become the central component of a project.”

This component of space reinvents itself through the layering of multiple elements – time, programs and composition to formulate a place where users can deal with crossovers among disciplines and activities. This interstitial space suggests an entirely new strategy to deal with the coexistence of the old and new.

Often architects are attracted by the interstitial realm of architecture. These amorphous spaces are the connective tissues that bind daily lives together, and they have different meanings for different people at different times. In these ways, they provide rich fields for architectural investigation. For Aldo van Eyck, interstitiality calls for a change in our own perceptions and ways of inhabiting the city. For Rem Koolhaas, interstitial spaces are shaped by the city but

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they also shape the city. For Peter Eisenman, interstitiality signifies the relationship between inside and outside. Finally, for Bernard Tschumi, interstitiality is a very tangible driver of architectural space.
2.4 Interstitial Urbanism in the Postwar Era: Team 10 (Ground-up) versus CIAM Urbanism (Top-down)

The post-war period was characterized by disenchantment with ambitious, large-scale systems and strategies that did not enhance the sense of community and which had been oblivious to the small, ordinary, realities of everyday life. Interstitial urbanism was never intended to be an overarching approach to design nor to replace other urban design practices.

The approaches used by the post-war Team 10 group differed from the pre-war CIAM approach, which had been excessively and oppressively top-down. Team 10 countered CIAM’s confident tabula rasa approach to the ailing historical city with bottom-up or ground-up practices that were concerned with the quality of life on the street level. Team 10’s ground-up movement recognized a common desire to create environments that would encourage relations between inhabitants, between building’s surroundings, and that would accommodate the cultural needs of people. Team 10’s fascination in a quest for a “utopia of the present” reflected their attentiveness to a live sensory city with a collective urban form: a connection of places and life patterns.

Against CIAM’s simplistic model for the urban core, post war urbanism pursued an approach that was dirty, real, and situational. Team 10 members noted the critical point that,

"Man may readily identify himself with his own hearth, but not easily with the town within which it is placed. ‘Belonging’ is a basic emotional need- its associations are of the simplest order. From ‘belonging’ – identity- comes the

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enriching sense of neighborliness. The short narrow street of the slum succeeds where spacious redevelopment frequently fails.\(^32\)

The statement highlights Team 10 members' profound interest in the social dimensions of architecture and urbanism. Team 10 member Stefan Wewerka pointed out that, “a good building wrongly situated is worse than a bad building rightly placed”\(^33\) Indeed, community became the main concern of this generation of writers, architects and urban planners, and with community, the street itself.

Alison and Peter Smithson reacted to CIAM's dismissal of the street as a pedestrian realm by suggesting that buildings should be viewed as fragments of the city fabric, which in turn should link themselves into systems of access and servicing.\(^34\) The urban street life is, they argued, to some extent, defined and guided by the architecture of the surrounding buildings. As the architecture changes, the surrounding spaces change. The Smithsons cherished the idea of “association.” They envisioned an urban form and works of architecture that would trigger and support human associations and encounters. They believed that the citizen’s private life should be woven into the public realm with rich transitional spaces from the house to the street:

“The house is the first finite city element. The street is our second finite city element. The street is an extension of the house, in it children learn for the first time of the world outside the family, a microcosmic world in which the street games change with the seasons and the hours are reflected in the cycle of street activity.”\(^35\)

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The re-instating of the street as a pedestrian realm, in contrast to CIAM’s separation of the street, is in keeping with the goal of creating quality of life on the street level, and suggests a ground-up approach to design.

Peter and Alison Smithson’s Golden Lane Housing competition (1952, City of London) effectively endorsed street life through vivid photographs of playing children in working class neighborhoods, by photographer Nigel Henderson (Figure 10 & n). Jane Jacobs’s Lower Manhattan project defended the importance of maintaining traditional, every day, small-scale, interstitial spaces, and the streets as a mean of maintaining community.

Rejecting the fixed and overarching master plan, van Eyck’s playgrounds used the strategy that one would call the “interstitial and polycentric,” inserting playgrounds interstitially into the in-between spaces leftover in the Jordan neighborhood in Amsterdam (Figure 12). The fact that the playgrounds are interstitial means the playgrounds are much smaller than standard ones but also there are many more of them. Thus, they make up a far tighter polycentric network of playgrounds compared to other cities. Liane Lefaivre articulated the significance and influence of Van Eyck’s interstitial works as such: “Emerging in the cracks and interstices of the city and overlaid upon the existing urban fabric, the playgrounds are also forerunners of the interstitial approach to the city that Kevin Lynch was later to refer to as “knots of density.” ... Aldo van Eyck’s design for this galaxy, this “starry sky” of hundreds of playgrounds in postwar Amsterdam, has secured his place among the major figures of architecture of the twentieth century. It is here that one of the great breakthroughs of an architecture of “place” occurred. Van Eyck’s playgrounds have a historical significance, not only as successful individual design cases, but also as alternatives to prewar CIAM practices, as critical events opening a new window onto new potentials of place where there had been nothing before but a void and

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empty space.\textsuperscript{39} One might call van Eyck's playground theory of "self-regulating organisms constantly adjusting themselves in response to new inputs -- 'learning from' their evolving contexts through feedback loops -- a process of inbetweening".\textsuperscript{40} This "inbetweening" adapts to existing urban conditions, rather than working with a pre-conceived set of assumptions (Figure 13 & 14). As a result, each playground was site specific with a very unique configuration.

2.5 Interstitiality as a Driver of Urban Change and Driver of “Human Change”

Interstitial urbanism is a good model for urban settlements in Canadian cities because it is concerned with margins, edges, and peripheral spatial conditions and corresponds to non-centered points of socio-cultural views. In the field of postcolonial hybridity, Professor Jahan Ramanzi from University of Virginia uses the word “bricolage” to describe the making of formal vocabulary for the intercultural collisions and juxtapositions in poems to express hybridity culture and postcolonial experiences. The term “modernist bricolage” is used in the context of “the synthetic use in early twentieth-century poetry of diverse cultural materials that has helped postcolonial poets encode aesthetically the intersections among multiple cultural vectors.” Here, when discussing interstitial urbanism or architecture, central themes are: neighboring, non-fixity and resistance, friction, interdependence, relational thinking and identity questions. Utilizing what already exists, interstitial urbanism operates as a bricolage with the existing environment for urban change.

For a number of architects, transitional elements between buildings act as drivers of the urban design. Recent examples include the Laneway houses in Toronto by Shim Sutcliffe (1993), which utilize vacant space and provide sustainable typologies for residential development. For other architects, interstitiality offers a situation of heightened architectural spatiality. Peter Eisenman conceived of a new addition to the Aronoff Centre for Design and Art at the University of Cincinnati (1996) as an interstitial realm where the distinction between the new and old buildings would be blurred. Bernard Tschumi conceived of the Le Fresnoy Studio National des Arts Contemporains, the National Studio for Contemporary Arts in Tourcoing (1997), France, a project that works in between the old leisure buildings of a 1920s leisure

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complex, in terms of interstitiality, both spatially and programmatically. This thesis will explore these architectural precedents in greater detail an upcoming chapter. For the moment, we simply advance the importance of interstitiality in architectural design in general terms. For the aforementioned architects, the idea was to utilize daily routines and existing urban patterns to drive their designs tactically from the ground-up rather than the top-down. Driven by the theme of interstitiality, these architects reassembled narratives of place in order to intensify and render more visible ordinary stories of city life. In various cities, urban alleys provide useful and memorable urban fabric. Paris's nineteenth century passages (covered shopping arcades) form some of that city's most intimate and surprising urban realms. The Latin Quarter's narrow streets are known for its student life, lively atmosphere and bistros. Walking through the narrow streets in Paris, one can experience the spatial order through contrast between the high and low density, and visually open and closed spaces, which in turn clearly demarcates residential, cultural and political spaces (Figure 15). In the historic district of Washington D.C. alley housing dating back to the 1850s has recently been rediscovered (Figure 16 & Figure 17). Protected from the noise and bustle of major streets, these quiet residential retreats have gained in popularity. One reason for this is likely the alleyways' quality of human scale. In the book Alley Life in Washington, Professor James Borchert in Community Studies and History at the University at California advances that "homogeneity and residential proximity" enhance social interactions. This that it extends beyond the family unit into community life is perhaps the more intriguing aspects of alley life and culture.

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2.6 Practical Considerations: Ownership and Funding

Interstitial or underutilized land is land that can be considered as a candidate for increased density development. Since land in urban cores is in scarce supply, it makes sense to develop and improve residual sites. What is more, working with the basic assumption of cities – that public space is for the consumption and enjoyment of all citizens – one can say that the implementation of great architectural spaces within residual sites makes greater sense still. Finally, the anchoring of quality urban spaces goes hand in hand with economic gains: lands surrounding improved sites increase in value. Projects developed on interstitial sites can result in more productive uses in terms of business opportunities, civic and public life. But there are obstacles to their development. The fact that the buildings that surround (and generate) any given interstitial site are typically owned by different people means that land acquisition for new development is very difficult. Physical access to the site is similarly inhibited. In the urban core, residual sites are of very high value, making small-scale development financially unfeasible. For all of these reasons, the development process of residual sites is complex.

Typically, a city’s long-term growth plan concentrates on condo-heavy downtowns, its “avenues” (major streets) and a number of strategic discrete development zones. Interstitial or residual sites are not typically included in city’s official urban planning endeavors. Besides land ownership and funding, the hurdles in building on an interstitial site are plentiful. Ingenious solutions to real constrain such as, the provision of water, power and sewage services to the site, privacy issues with nearby neighbors, and requirement for parking spaces, all needs to be found. City planners have not given sufficient attention to the notion of using interstitial sites for redevelopment purposes. However, proponents of small-scale urban development argue that, while many of the obstacles listed are reasonable, it’s an option that should be more often
discussed and considered by the government.44

In consolidating a development site, developers generally wish to avoid protracted land acquisition processes and negotiations with multiple owners, especially owners unwilling to sell their property. The implementation of larger scale redevelopment projects depends very much on the acquisition of less ownership interests. “An ownership constraint can be said to exist if development is unable to proceed because the required ownership rights cannot rapidly be acquired through normal market process.”45 This condition is particularly applicable to interstitial lands. According to a research study conducted by the Land Economic Department of University of Aberdeen, “multiple ownership of land proved particularly hard to resolve without the prospect of lucrative commercial development and/or state intervention.”46 A long-term plan for interstitial development thus will rely on the creation of more imaginative land tenure mechanisms to create development sites, including air rights (also known as development rights) and modifications to land use regulations, among others.

The funding of interstitial development projects is a key concern. From an economic standpoint, the primary object for investments is to make capital gains. Interstitial lands are unusual candidates for real estate development and do not represent profit on capital investments. However, an increase in land value can result from gentrification of the urban core, thereby raising the property values of burgeoning neighborhoods. At a micro-scale, grant programs and collaborative funding for community-based projects are viable options. These include donations, fundraising, rental incomes generated from rental advertisement spaces or surplus charges for rental spaces to external organizations. For instance, a fund raising campaign can benefit from public awareness and garner support for future

developments. At a large-scale, city development plans have the financial capacity to fund their share of project costs. The High Line in Manhattan’s West Side is a good measure of the effectiveness of corporate-government action. This elevated historic freight rail line was built on an easement above privately owned properties in the 1930s. The rail line was decommissioned in 1980 and was converted into a public park which was inaugurated in 2006 following a lengthy public debate and the unrelenting efforts of a non-profit citizens group, Friends of the Highline. It was this group who completed a study that demonstrated that the project was economically rational: that tax revenues generated by the park would be greater than the cost of its construction. The study was decisive in convincing the City of New York to back the project. The project was funded by City of New York (who owns it), donations including some from high profile supporters. This thesis will return the High Line case study in a further chapter.

Official city planners in Canada’s capital city of Ottawa have started to identify underutilized properties that have possible redevelopment opportunities. “Vacant lots and underutilized properties and buildings which have potential for infill, redevelopment or expansion to better utilize the land base or the public infrastructure” constitute one of the city’s foci. Operations on rejuvenating interstitial lands have commenced in core neighborhoods such as, Hintonburg, Westboro, Glebe, Carling- Bayview Light Rail Transit districts. These initiatives involve the collection of existing land use information and existing land ownership maps, involved reviews of planning and zoning regulations. As an initial step to build underperforming or interstitial sites, future local land policies will need to become more flexible if the city core is to compete with the urban periphery for new development.

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48 “Friends of the High Line” <http://www.thehighline.org/>
2.7 Practical Considerations: A Three Step Process

As seen in the previous sections and case studies, the term "interstitial urbanism" has two meanings. In the first, interstitial urbanism refers to an activity of observation and description of existing and found conditions, specifically, of indeterminate and or disintegrated urban conditions. In the second, interstitial urbanism signifies an activity aimed at changing the existing conditions. At a difference from the urban "infill" model – whereby a new construction is inserted into a space between two lots -- the interstitial strategy is participatory and relational in nature. Interstitial urbanism goes hand in hand with ground-up, community-driven and informal urban approaches. In both senses, interstitial urbanism operates in contra-distinction to generic “top-down” urban development where design decisions are made in absence of their true participants – the inhabitants. It also opposes the clearing of sites for large scale developments. Interstitial urbanism places the needs of the users – social and practical -- at the center of its discourse, and as such, is a tool to engage, activate, and reclaim urban space. Interstitial urbanism offers an alternative strategy for communities to transform the existing urban fabric according to their needs, from the bottom up. The interstitial approach necessarily relies on a “willingness” of the planners to engage the community in their decisions. From a practical standpoint, it also would require partnerships between owners, developers, architects, and of course, the City and the community. While interstitial urbanism is more relational than tabula rasa urbanism, it does not exclude the traditional top-down implementations of a “designed project” onto an existing site. The difference is in the attitude this design takes with regards to the
existing fabric. Interstitial urbanism accepts, reacts to and with, the existing conditions. The challenge is therefore to define an appropriate working process that would bring the interested parties together, and establish a work plan that benefits all parties, while privileging the community’s concerns.

This thesis proposes a three step planning and assessment process. A first step is the implementation of a City or municipality driven database of possible projects. The City would invite citizens to submit propositions for redeveloping/improving underutilized or even dangerous residual urban spaces. This all could be done with a web-based application process. Experts at the City could field the suggestions and select projects to be developed and implemented, based on their merit, their urgency, their feasibility, and their potential to positively affect the City. The second step is the creation of a community team tasked with defining objectives, and with identifying shortcomings and opportunities for the neighborhood. The team will use structured surveys to gather input from local residents, local businesses and community services, and would identify a working plan to encourage the growth, quality of life, and stability of local businesses. This team would answer to the City. A third step is to rally interest and support from the owners of all the lands and buildings that the proposed project would affect. Again, the City would coordinate the conversation. In this stage, feasibility and economic impact studies — which are crucial in convincing the partners of the benefits of the project — would be conducted. Depending on the project, and on possible profits, the City would fund these studies alone, or with contributions of owners and developers. Naturally, the process is delicate, and would vary from project to project.
Because this type of development is community oriented, the participation of local residents is vital to the success of the end-product. The method encourages the definition of community supported visions based on real observations and studies of existing communities. Other sequences of events are also feasible, including propositions initiated by architects, or building owners, among others. The key, in any case, is that these initiators mobilize the community early in the design process, to ensure that their project remains relevant to the community. Although the process of interstitial urbanism is slow and logistically complex, it offers a responsive long-term solution to neighborhood-scaled urban problems, than large-scale urban developments are simply not able to address.
Chapter 3:
Precedent Studies

This chapter presents a range of projects that exemplify interstitial urbanism. The projects are selected here because of their highly site specific qualities, and the precise ways in which their architects stitched them into their contexts. These projects also have in common a recuperative approach: they respond to immediate and real neighborhood needs for improvement rather than opt to start from a clean slate.
3.1 Pet Architecture by Atelier Bow-Wow, Tokyo

In densely populated cities like Tokyo, interstitial urbanism is a natural and necessary part of urban growth. As discussed earlier, the process of modernizing cities in the 20th century created gaps -- residual spaces between new buildings that are defined neither as proper public spaces nor as well-defined private spaces - in Tokyo's urban fabric, and contemporary development continues to do so. The concept of interstituality revolves around trying to make the independent orders originating from singular and autonomous buildings work together. In Tokyo, Japanese architecture firm Atelier Bow-Wow, comprised of Yoshiharu Tsukamoto and Momoyo Kaijima, has developed an approach to residual sites, coining the term "pet architecture" to describe the small projects that can occur inside them.\(^{51}\)

"Pet architecture" is a term for architecture that has pet like characteristics, which exists in small and unusual spaces within the city of Tokyo. Atelier Bow-Wow's "pet architecture" redefines the architectural site by occupying spaces commonly thought to be unusable for architecture (Figure 18). They are areas such as one-meter spaces between two buildings, a small or subdivided land, a linear lot sandwich between the roads and buildings. This form of urban architecture allows the users to customize these impossibly small structures within a constricted site. These buildings are constructed through ad-hoc techniques, inexpensive materials and in ways that do not intentionally participate in any formalized architecture discourse (Figure 19). Within the realm of interstitial urbanism, "pet architecture" buildings can be described as a cross-section of the timeline of urban developments, or alternatively the byproduct of the process of urban development. Understanding "pet architecture" not as isolated buildings, but as a network that recycles leftover spaces in the city, one can argue that it has the potential to influence the


\[\text{Figure 18. "Pet Architecture" urban typology.}\]

\[\text{Figure 19. "Pet Architecture" 466: Kadokko restaurant. It is 4.8 x 0.9 x 6.2m.}\]
characteristics of the urban space, to redirect the use of urban spaces, and to recycle unused urban openings with a view toward environmental sustainability.

Atelier Bow-Wow's approach is different from the conventional, top-down, totalizing urban planning. However, the firm's members do not reject city planning nor express unreserved admiration for a haphazard or disorderly environment. Rather they introduce "pet architecture" as a way to encourage the general public to participate in the city from the bottom-up, to read the city and use it. Members of Atelier Bow-Wow claim to produce "micro public space" as social platforms, a concept influenced by French philosopher Henri Lefebvre's theories, examined in Chapter 2.

Yoshiharu Tsukamoto describes: "a space is produced neither by architects nor by city planners, nor by the users who live in space: space is not consumer-generated but space-generated," therefore, "it is not people who creates space, but social spaces that use people to bring themselves into being". In their "micro public spaces", Atelier Bow-Wow investigates the relationship between the built realm and people's behaviors. They do this through deployment of customized urban furniture that encourages active user-participations and supports individual experience. One example is the "manga pod," a book shelving reading pod, designed in 2002, and the "furnivehicle," a mobile rest stop for visitors, designed for Venice Biennale of 2008. 

Atelier Bow-Wow's slogan "small is beautiful" reminds us to observe and design from a user's perspective. This principle can be investigated not only on constrained site conditions, but in large scale projects as well, as in their design for the Hanamidori Cultural Centre designed in Tokyo 2005. The center is designed for exhibiting the culture of landscape. In

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order to maximize the open space, the building is supported by contained spaces of ancillary programs like lecture halls, storage and offices, while the leftover spaces are used for workshops, library and exhibitions. Atelier Bow-Wow constructed a situation which allows users to adapt and appropriate space. When designing a conventional house for instance, an architect will generally situate the primary spaces that fulfill the building's functions in the center of the house. Ancillary spaces such as hallways, stairs, and storage are arranged around the periphery to establish relationships between the primary spaces. Architect Tsukamoto explained their design approach on Gae House as (Figure 24):

"the performance and repetitious behavior that people dedicate to the management of humble, daily tasks produces a 'norm,' and give birth to people and place that have internalized this norm."56

Bow-Wow's design approach is not to design these primary spaces. Instead, the interior planning of their buildings is-based on the small ancillary spaces. Thus, they describe their work as an "architecture of relationships".57 Daily activities of the human body within a defined performance space determine architectural form. This strategy is fundamentally anti-utopian. Based in reality, it strives to reconcile ideals with reality. The situationists argued that the city's events were more important than its buildings, and that the relationship between architectural elements should take precedence over built form. In this way, Atelier Bow Wow's project could be said to follow in the Situationists' footsteps.

3.2 Urban Laneway Housing, Toronto

A laneway house is a form of residence fronting a laneway, and built as an additional or secondary dwelling in the backyard of a larger house, to increase urban density. The construction of a laneway dwelling almost invariably involves the severance of the rear portion of a lot and relief from the zoning by-law standards for lot size, setbacks, landscaped open space and where there is no severance, for construction of a ‘house behind a house’ on the lot.

Laneway houses are a legitimate historically-based part of Toronto’s morphology (Figure 25). Toronto’s laneway houses began to appear in the early postwar years, where there is no rule in the Zoning By-law against building two buildings on one lot. The Zoning By-law currently enables the Chief Building Official to allocate or determine which portion of a parcel ought to be deemed a lot for a particular building through this loophole. During much of the second part for the twentieth century in Canadian cities, sprawl was encouraged, and many neighborhoods were destroyed, cities lost their humane scale. Toronto was not immune to the negative effects of post-war planning, but, fortunately, many of the large scale “urban renewal” projects were not carried through in the city. Urban renewal in Toronto was slower and at a smaller scale.

With or without intention, the principle of interstitial urbanism operates in part and parcel of the Canadian urban fabric through laneway housing developments. These houses fulfill a need for housing in the urban core, in major cities like Toronto (Figure 26 & Figure 27). The laneway has helped to give Toronto a density and human scale that contribute to the livability of the city.

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pre-existing neighborhoods, houses usually have long rear lots that connect onto laneway streets. As Jane Jacobs argued, laneway housing increase density, they give “eyes on the street” to grey zones of city laneways, and they take advantage of under-utilized pockets in the urban fabric. In 2003, Architect Jeffery Stinson and Terence Van Elslander completed a study of laneway housing in Toronto. The report estimated that laneway housing could increase neighborhood densities by between 5% and 10%. This could involve adding up to 6,000 new residential units along Toronto’s 2,433 city-center laneways. Toronto architects such as Jeffery Stinson, Brigitte Shim and Howard Sutcliffe, and Jack Diamond and Donald Schmitt have exploited the availability of such residual sites and have demonstrated the evolving role of laneways in Toronto’s urban fabric.

The Ways Lane residence by Diamond+Schmitt Architects in downtown Toronto represents an entirely satisfying solution to this form of new housing in the urban context (Figure 28). The site is located on a public service laneway with five houses. An abandoned cottage built in the 1870s and measuring 29 by 44 feet occupied the site. The challenge was to maintain a balance between adequate living area and functionality on the limited footprint area. The ground floor living area is designed with ample glazing and pivot-door access to a courtyard, to create a seamless flow between interior and exterior spaces. The expansive roof deck increases the amount of daylight to the second floor and provides a clear view of the low-rise neighborhood. Everything is designed to accommodate the simple necessities; the design puts all the square footage to use.

Laneway housing represents a unique housing typology in terms of scale, texture, and ways of living. These houses can generate reinvestment in historic neighborhoods without destroying

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62 In 2003, Jeffery Stinson and Terence Van Elslander completed a study of laneway housing in Toronto; it stated that, “According to Statistic Canada, the historical pre-amalgamation city holds some 123,000 owned dwelling units. If 5% of these were candidates for laneway development, a potential increase of 6,150 homes could be added to the city. At a modest tax rate of $1,800 per home the increase in annual municipal revenue would be $11,070,000.00 without substantial infrastructural changes. As well the city would receive some $30,750,000.00 in development charges.”
the existing urban fabric. The major impediment to developing laneway sites is the length, complication and idiosyncratic nature of the approvals process. Allowing laneway housing by right will require approval of a new set of housing rules specifically applicable to the laneway situation. The spatial qualities and urban interest that laneway houses produce, however, are what evoke such passionate advocacy from clients and architects alike.

Interstitial urbanism and infill developments are inevitable and necessary in urban growth; both provide strategies for recycling leftover spaces in cities. While the two approaches are similar, they differ in the way that they are executed. Whereas infill developments emphasize the built "objects-form" that fills the urban gap, interstitial urbanism does not necessarily entail the erection of buildings. Instead, it focuses on the revival of leftover spaces and its surrounding neighborhood through architectural interventions and landscapes aimed at enhancing inter-neighborhood connections. The focus of interstitial urbanism is community involvement. The final built form is of little importance when compared with the social and economic activities that surround the building. In short, interstitial urbanism is about the dynamics of place making.
3.3 Redevelopment of the High Line, New York

In the past, major urban renewal schemes normally involve widespread demolition, eliminating historical constructions and architectural vestiges to make way for new, more up to date buildings. This not only neglects the substantial preservation of the existing fabric, but erases traces and signs of the past in the cityscape. Since the 1970s, preservation movements have actively worked at educating the public on the value of historical fabrics, and on convincing city planner and developers that repurposing and reusing obsolete buildings can be profitable in the longer term, by triggering revitalization and increased taxes in the surrounding areas.

Across the country and world, cities are revitalizing abandoned railroad bridges, retrieving buried streams, converting factory plants to public parks and facilities as a new approach to resolve issues of urban and regional renewal in the twenty first century. The general idea is to develop projects that combine recreational functions with other goals, including sustainable infrastructural improvements, such as storm water management, economic development, community development and aesthetic improvements. The majority of these projects are envisioned as revenue generators to provide sustainable payment to offset future operating costs and potentially reduce construction budget. The High Line in New York is an example of a revenue generation driven development (Figure 29 & 30). Within the confines of New York City, the High Line Park was the outcome of a community-based campaign to convert a former railroad viaduct into parcels of mixed-used projects for both commercial and residential use. An article in The New York Times in 2011 reported “the High Line isn’t just a sight to see; it’s also an economic dynamo” 64. The new linear park has spurred $2 billion in real estate development in the neighborhoods that lie along the line. Over the next thirty years, it is expected to bring

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$900 million to the city in taxes; over the same period, the city expects it will result in $4 billion in private investment in West Chelsea.\textsuperscript{65} The perceived attractiveness of direct connections to the High Line for tenants and owners of new development adjacent to the park has reflected in higher rents and property values. In addition to the integrated architecture and plant life, the new activity on the High Line brought renewed economic activity to the area, existing buildings were converted to respond to new demands and new buildings were constructed nearby.

One of the facets to the park’s success was that citizens, not planners, were responsible for its coming into being. A group of citizens founded the non-profit organization “Friends of the High Line” that raised public awareness for an endangered industrial relic without having a concrete vision in mind.\textsuperscript{66} Ultimately, the organization attempted to gain control of the development section so it would not be lost to developers. Today, the organization is still involved in the process of park developments and is responsible for maintaining the High Line’s operation to cultivate a vibrant community around the area. The High Line is now a symbol and catalyst for gentrifying neighborhoods in other cities around the United States, Canada and beyond.

\textsuperscript{66} “Friends of the High Line” <http://www.thehighline.org/>
3.4 Urban Landscapes

Interstitial urbanism is concerned with the user's experience, the preservation of existing urban fabric, social and economic benefits and visual aesthetic quality. Urban landscapes, including squares, parks and avenues, provide pauses in the urban fabric. Urban landscapes are cities' third scale, one might say, as they occupy the spaces which are not streets and buildings. A standard definition of urban landscape quoted by Charles Waldheim, chair of the landscape school at Harvard's Graduate School of Design,

"Landscape urbanism describes a disciplinary realignment currently underway in which the idea of landscape supplants architecture as the basic building block of city-making, especially when contemporary urban conditions are characterized by horizontal sprawl and rapid change. Landscape, under these circumstances, is often able to reproduce urban effects traditionally achieved through the construction of buildings simply through the organization of low and roughly horizontal surfaces."67

Landscape form an integral part of modern urban construction and are indispensable parts of the social network of the city. They help to create favorable salubrious and healthful environments, determine in part the functional organization of urban areas, serve as recreation areas for inhabitants, contribute to the success of architectural ensembles, and, finally, provide memorable urban experiences. A city's arrangement, appearance, and functionality all rely on urban landscapes.

The "Urban Lounge "completed in 2005, is an outdoor space in the financial district of St.

Gallen, Switzerland, designed by Carlos Martinez celebrates a different form of public space that breaks through a traditional public square. The new landscape weaves in-between spaces of buildings and is designed as an “urban lounge” covering the jagged urban space of the neighborhood with red carpet, featuring seating and reclining areas (Figure 31). Martinez’s project introduces a new type of public space and highlights how artist interventions can enhance pedestrian mobility, and improve quality and attractiveness of traditional commercial districts.

The use of iconic urban interventions can revitalize underutilized spaces in the city. For instance, the “Metropol Parasol” is a highly developed infrastructure within the dense fabric of the medieval inner city of Seville, Spain (Figure 32). The Parasol grew out of an archaeological excavation site into a contemporary landmark, defining a unique relationship between the historical and the contemporary city. It was used as a device for revitalizing the Plaza de la Encarnación, which used to be a parking area between popular tourist attractions in the city. The elevated plaza organizes an archaeological museum, a podium for concerts and events, a market and multiple bars and restaurants. It also functions as a shading device to make the square more habitable during the hot weather. This new contemporary urban center helps to reactivate the city center square making it an attractive destination for tourists and locals.

Landscape elements can also be used as focal points to attract attention, create harmony and rhythm through color, form and balance. In 2006, Architect de Architekten Cie designed a multifunctional complex, “Fontein Beurstraverse” with a sunken and partly underground shopping street in Rotterdam. The shopping arcade integrated water-spraying elements on the ground and became a veritable playground for children (Figure 33). Another example in Melbourne Australia, “Grand Plaza” is the main urban section of the downtown esplanade.

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designed by architecture firm Rush Wright Associates, Ashton Raggatt McDougall in 2004.\textsuperscript{71} The plaza is composed by a series of public spaces dissected by streets running through the district. These spaces are connected by different colors on the ground which gives a visual unity to the overall landscape. The shades of color also generate divisions that define the pedestrian and traffic zones more clearly. The ground level color pattern enhances and evokes the spatial quality of the overall urban scene.

Working in the parameters of interstitial urbanism, urban landscapes have become symbols of development and evidence of a society's vitality. As refinements of the connective fabric in cities, sensitively conceived urban landscapes are able to radically transform neighborhoods, proffer identity and "presence", and raise the quality of urban fabrics, all relatively affordably as they do not entail major overhauls and disruptions. As a result, the designs of such public spaces are increasingly important to long-term city planning visions. Additionally, because they build on community engagement, the small scale, thoughtful and well-executed urban landscape insertion has the power to consolidate inner-city neighborhoods. This is particularly interesting in transitional or modest-income residential areas, which are often targets for gentrification. The urban landscape insertion might provide a way of anchoring, even stabilizing, lower-income districts, and better integrating them into the market rate city. Their role in a more holistic approach to social and economic integration in cities must therefore be further explored.

3.5 Urban Furniture

Interstitality cannot be discussed separately from the question of small-scale urban architecture and furniture. Indeed, next to small works of architecture, surrounding spaces possess greater status than those in the shadows of large "important" works. The bus stop, for example, relies on a swath of space around it, where people gather and wait. The small building needs interstitial extensions as it contains characteristics and activities that are pertinent to our daily lives. Instead of ignoring their existence, interstitial urbanism tackles urban residual sites to create a new functionality and new character in the existing environment.

Alleys, bus stops, recycling depots, pedestrian walkways in construction zones, urban balconies, and other small scale architectures serve a variety of functions both preconceived and unintended. Often times, these elements are located at high activity nodes where one encounters the highest density of people in the city, yet in the rush of urban life, users and urban dwellers do not usually consciously notice them. And this is precisely how urban furniture and amenities are meant to function. Yet, their displacement or removal results in the degradation of the urban experience; rhythms of everyday intersections, activities, and movements are interrupted. Small interventions, however, have the power to redefine the streetscape and improve daily experience of the public user.

During the redevelopment of Lower Manhattan, GRO Architect's Pedestrian Route (a temporary walkway) helps to mediate the disruption and discomfort of walkways under urban construction zones (Figure 34). GRO Architects' cantilevered structure used iconic orange and white colors, directional arrows and striped patterns of construction signage to minimize the claustrophobic effect of passing through barriers and hoardings. Instead of entirely shielding...
pedestrians from the construction zone, it makes them participants. The structure invites the pedestrians to explore the instability of constructions zones in which they are often made to feel like unwanted intruders. This project is in some senses of minimal importance, but acts as a plausible solution for the need of protected walkways, while drawing attention to a hazard of the daily commute. The Glass Bubble landscape structure designed by Monika Gora on the Swedish coast is a tropical microclimate greenhouse for a variety of plants (Figure 35). The site, a patch of hardscape situated between mid-rise buildings, offered a passage from the city to the sea walk for the locals. Gora’s intervention offers a glimpse of more temperate climes in contrast to the storm-swept shore of Sweden. Bauman Lyon’s series of bus shelters in the city of Bradford had a more subtle approach. Bradford’s bus stations had a different livery, addressing comfort with heated seats, entertainment with sound installations, and using colors in a cheerful manner, to provide a more pleasant and dignified experience to commuting passengers (Figure 36). These urban moments throughout the city have potential for design and planning as sources for social collaboration among the inhabitants.

In the existing urban fabric, isolated streets and lots for instance, can be extended and repurposed through strengthened linkages to their urban surroundings. Interstitial approaches to the urban fabric uses small architecture as a medium to explore and explain the relationship between human activities. The quality of spaces must bring human activities together so that the whole life of the city becomes richer than the sum of its parts.

Interstitial architecture pursues spatial continuity, the articulation of in-between spaces, both between outside and inside, and between one space and another. We are reminded, here, of the hútòng which inspired this investigation. Interstitial architecture responds to immediate and real neighborhood needs for improvements rather than clean slate urban planning. They are developed through highly site specific qualities and precisely stitched into their urban contexts. This type of architecture encourages citizens as participants and repairs urban "eye
sores" into places with new functionality and new character. Interstitial architecture, therefore, is an indispensable part of the social network of the city.
Chapter 4:
**Between the Bell Street Slabs:**
*A Hútòng in Centretown West*

"Between the Bell Street Slabs" is a design project for the space between Ottawa’s two longest rental apartment slabs in the heart of Ottawa’s West Centretown neighborhood. The project recovers and gives a new urban presence to the modest building ensemble and to the underutilized site that separates the two slabs. The project imagines a strategy to reinvent and reinterpret the existing buildings and the realm between them with a new garden, as well as renovation and additions to the slabs. These provide new programs and public places, enhance pedestrian movement and create varied urban textures that accommodate different uses. This project of improvement is aimed at bringing economic benefits to the surrounding revitalized areas. To the extent that the design can anticipate and influence patterns of human interactions, the project attempts to provide beautiful settings for them.
4.1 Neighborhood Assessment: Centretown West in Ottawa

For this design project “Keeping One’s Feet on the Ground - Between the Bell street Slabs”, I picked a community that is residential in nature with a diverse demographic where neighborhood demands aren’t fully addressed. Centretown West is a predominantly residential, working-class community located west of downtown Ottawa. The area is composed largely of low-density residential and commercial development, with some industrial zoning. Some of the residential properties are typical single-family dwellings, while others have been subdivided into multiple rental apartments. It is an up-and-coming neighborhood undergoing intensification and gentrification. In the 1960s, it was slated to be demolished, and reconstructed with a top-down urban renewal plan.

Historically, Centertown West attracted a population of new immigrants due to the community’s low housing costs. The community is ethnically and linguistically diverse, and has large Chinese, Vietnamese and Italian populations. The household demographic is largely represented by young families with children; consequently the majority of the community’s social services are oriented towards youth. Centertown West has excellent access to specialty shops and restaurants, and has adequately provided community facilities including schools, community centers, daycares and healthcare centers. Conversely, it has relatively low availability of green space, no grocery stores, and no public library. The Early Development Instrument (EDI) study in 2006 found that 54% of kindergarten children in this neighborhood were rated below the city average in the category of “School Readiness”. Given the lack of certain public amenities in this neighborhood and the poor education rating, increasing the number of quality educational facilities for children is essential in that part of Ottawa.

52 Lead Investigator, Kristjansson, Elizabeth. “The Ottawa Neighborhood Study.”
53 Lead Investigator, Kristjansson, Elizabeth. “The Ottawa Neighborhood Study.”
Compared to other neighborhoods, many residents of Centretown West live below the medium income standard. According to the City of Ottawa's neighborhood profiles, 39% of the people in this area live below "Low Income Cut Off" (LICO) and have difficulties affording basic necessities. The majority of the population uses public transit, walking or biking as their primary means of transportation. The neighborhood socio-economic index is rated in the 5th category, which is the lowest socio-economic quintile. Thus, building and maintaining affordable rental housing and revitalizing critical community space in the neighborhood is essential.

In order to maximize future growth opportunities and future demand for the Centretown West neighborhood, the City of Ottawa's Community Development Framework (CDF) Plan recommends the following facilities to be considered: park spaces, community centers, dedicated youth centers and outdoor recreation amenities. With the economic impact of the LRT development plan, market pressures are likely to force affordable housing out of Centretown West over time, unless these are anchored by desirable public spaces in which the larger community can partake. Through an "interstitial urban intervention", the idea is to stabilize the site and secure this modest income's enclave in Ottawa's core. The strategy is to provide a public interstitial development that raises the quality of "foot on the ground" social amenities, and that would be an asset not only to the immediate neighborhood, but to the downtown: inserting a place of beauty between the two slabs secures them and legitimates them as full participants in Ottawa's Centretown fabric.

LICO is an important benchmark of poverty. "In measuring poverty, governments and poverty groups employ a standard called the "low-income cut-off" to designate those whose are forced to spend a 20 percent greater share of their income on food, shelter and clothing than the average. The current after-tax low-income cut-off for a single-parent-child family living in an urban area is an annual income of just C$21,000."

Source: Jenkins, Daryus. "Ontario: Growing numbers of working poor."

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94 Lead Investigator, Kristjansson, Elizabeth. "The Ottawa Neighborhood Study."
95 Centretown Community Amenities Audit." City of Ottawa-Centretown CDF.
Using similar methodology from the Hutong analysis studies, the proposed site was selected from three types of interstitial spaces in Ottawa's Centretown West neighborhood.

1. **Linear interstitial space**
   Interactive edge bounded by adjacent structures.
   A space that pertains the quality of a threshold and entrance.

2. **Internal/occupied interstitial space**
   A courtyard-like area that is more tranquil. A space that ties building use, adjacencies, access, facades and other detail elements together.

3. **Open edge/unoccupied interstitial space**
   An intermediate space between buildings and street, and has the potential to become public.
The design project has identified a linear interstitial block near the intersection of Bronson and Gladstone Avenue as a candidate for interstitial urban change.
4.2  “Between the Bell Street Slabs”: the Site

4.2.1  Site Profile

The project has identified a large block bounded by Gladstone Avenue, Bell Street North, Cambridge Street North and Arlington Avenue. The two most prominent corners of the block are dominated by two apartment towers: the Lancaster apartment on Cambridge Street North and the Fairview towers on Bell Street North, built in the 1960s. The modernist slabs serve as affordable renting housing, which consist of bachelor, one and two bedroom suites, with a total of 590 rental units. The proposed interstitial site is between these two residential apartments and is bisected by a narrow one-way lane: Arthur Lane North. The site is currently utilized for outdoor, ground level parking. The two “conspicuous” high density rental apartments apartment buildings are candidates for redevelopment because they constitute a large urban site with “uncomplicated ownership.” In a long-term plan, the city is only required to reclaim two parcels of land ownership for redevelopment purposes. The site is thus an ideal location for a publicly-owned green space development.
Linear interstitial space.
Interactive edge bounded by adjacent structures.
A zone that pretains the quality of a threshold and entrance.
4.2.2 Economic Assessment

Over the last few years, property values in Ottawa neighborhoods have risen substantially, and Centretown West is no exception. For existing property owners, these rising values can present opportunities for financial gains through renting and leasing or selling off unused land. The current market leasing prices for the apartment rental units range from $700 to $1000 monthly. As indicated in the 2009 financial summary provided by TD Securities, the net operating income of the Fairview towers is a total of $1,637,588. Notably, the Fairview towers on Bell Street North have recently sold for $17.5 million to ALJA real estate developer, and its building envelope is currently undergoing renovation with penthouse additions (Figures 37 & 38). These facts indicate a substantial appreciation in value, and this, for apartment buildings located in a low-income neighborhood. One may conclude that further improvements to these modest apartments would likely also make sense.

78 Information provided by Leonard Koffman Architects, who designed the new building envelope for the Fairview Towers and are currently under construction.
4.2.3 Proposal Initiatives

The neighborhood was selected for the City of Ottawa's Community Development Framework (CDF) Plan, which is in close proximity to the proposed Carling Bayview Light Rail Transit (LRT) Corridor Community Design Plan (CDP).

This linear site is in-between two apartment buildings measuring 45 meters by 220 meters. In scale, this proposal is quite tiny in contrast to the proposed Carling Bayview Corridor CDP Plan. The city launched this CDP study in 2005 to provide private and public development opportunities, including the design of three new LRT stations and the preservation of existing neighborhoods. This thesis project operates with the same development objective as the CDP report, which states,

"the primary focus of this study will be placed on those underutilized properties located adjacent to the LRT corridor and within the designated Mixed-Use Centre. The main purpose is to capture development opportunities arising from the introduction of LRT, and to ensure that developments are compact, transit-oriented, and context sensitive."

The "Between the Bell Street Slab" proposal is to create a secondary layer of interstitial urban changes alongside the official master planning of the Carling-Bayview corridor district. It advances the idea that, in line with conclusions from the above research, the simultaneous

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79 “The Community Development Framework (CDF) brings together funders, community organizations, residents, diverse interest groups, researchers and city services to share information, coordinate municipal and community services, and leverage resources in order to address needs in high-priority neighborhoods.” - “Community Development Framework,” City of Ottawa.

80 “Carling-Bayview Light Rail Transit Corridor Community Design Plan”. City of Ottawa.

81 “Carling-Bayview Light Rail Transit Corridor Community Design Plan”. City of Ottawa.
implementation of two scales of planning (rather than a singular large scale urban project) is desirable.

Despite the area of Centretown West having historical roots dating back to the 1940s, the site does not have historically listed buildings nor recognized archaeological significance. This does not mean however that the Lancaster and Fairview towers are without architectural significance: they embody the modernist vision of democratized housing, and, more importantly, they have house and still house a large community who relies on affordable rents. Future development should consider the protection of this unique residential fabric to ensure sustainability, resiliency and livability, and, most of all, heterogeneity in Ottawa.

Overall, the neighborhood lacks adequate public and private green space, and there are no city-owned sites in which to develop them. For these reasons, it is necessary to consider the possibility of public-private partnerships for such developments for further green spaces to occur. The development of urban parks and even urban living rooms by the City in underutilized and neglected privately owned lands is an ideal solution. New infrastructure and programs will help shape the neighborhood in pedestrian-friendly ways and to accommodate future population growth.

The project assumes a scenario whereby the City of Ottawa recognizes the two apartment towers to be of primary importance to the neighborhood and sees them as important components of the intensification plan, since its dwellers will be users of the new Light Rail Transit system. This project also imagines that the City, furthermore, has a long-term interest in retaining ownership of the apartment slabs so as to fulfill its obligation to provide affordable housing, and so as to be in a better position to influence future redevelopment within this area. Finally, the project assumes that it will be publicly funded as part of an initiative to compliment large-scale interventions with smaller, secondary, and interstitial urban changes. Over time,
the surrounding ownership properties would result in increased tax revenues, and the City would recover its investment.
City of Ottawa's Carling Bayview Light Rail Transit (LRT) Corridor Community Design Plan (CDP)
4.3 Design Strategies and Approach

The project seeks to transform an interstitial site within this older neighborhood in Centretown West by implementing discrete mixed-used projects for both commercial and residential use. The design aims to recover and give a new urban presence to the modest building ensemble and to the underutilized site that separates the two slabs. The hutong’s space planning encouraged social interactions among residents and citizens and was endowed with a humane quality to the lose urban fabric. I therefore employed a strategy discovered from the hutong study for the Ottawa site, and propose feasible improvements to the neighborhood’s community spaces. The idea is to enhance a sense of community by designing around aspects of small, ordinary, realities of everyday life.

“Keeping One’s Feet on the Ground” addresses specific needs to support present and future demands of Centertown West’s demographic. The proposed programs will provide a learning center, specifically targeted to children with school readiness under the model provided by the Early Development Instrument (EDI) handbook. The learning centre is located at the busier side of the block adjacent to the Cambridge Street Community Public School, northwest corner of Gladstone and Bell Street North. The center houses a collective of physical, social, emotional, and language workshops which provides a supportive environment in which courses in basic skills required for school readiness would be offered. Multiple learning classrooms, social learning areas, a miniature library, a planting greenhouse, a green roof terrace and an outdoor playground will be part of the design scope. Along with the children’s learning center, a cultural community hub will be added on the southwest corner of Arlington Avenue and Bell Street North. The latter houses a grand hall for community events, a gallery exhibition space and a small library for the neighborhood. A three-storey apartment complex will be
constructed to complete the edge of the existing site along Arlington Avenue. A new interstitial garden will be built between the slabs to encourage social interactions and create varied urban textures that accommodate different uses for the neighborhood. As in Aldo van Eyck’s playgrounds, the park emerges in close dialogue with existing conditions.

Interstitial spaces grow slowly and progressively over time. It is the layering of these various modalities of urban change that determine the character of this neighborhood. "Between the Bell Street Slabs" thus emerged from layering a historical site map dating from 1912 over a site plan of "new community spaces." The initial step was to extract historical traces and zoning boundaries of the merged site plans as a tool to formalize the overall design layout. By using this mapping tool, independent orders originating from the urban environment and pre-existing urban footprints are recycled and integrated into the design. Secondly, the proposal recognizes the constrained site conditions by transforming a narrow one-way lane, Arthur Lane North, into a park. Arthur Lane North runs through the site and dissects it in two halves belonging to each of the apartment buildings. The Lane now acts as a barrier, a means to keep the two slabs apart from each other.
Ottawa Insurance Plan 1912 with Ottawa Site Map 2010 Overlaid
Concept plan diagram extracted from the overlaid maps
This narrow lane is currently visually obstructed at both ends by constructions, and use of the lane as a passageway is discouraged. An important component of the design proposal is to transform this in-between laneway into a pedestrian friendly urban garden. Drawing qualities from the hútòng -- tight, intimate, tractable on foot -- the garden will dissolve the edges of the block and facilitate neighborhood contact. The hope is that the pace would become one of attachments and neighborhood rootedness. In designing this urban garden, the first gesture was to demolish part of the existing fabric, including a former automobile repair shop and dilapidated low-rise housing located on the north and south ends of the block, in order to provide a more inviting entrance to the park. The design analyzes the space between the two slabs and choreographed the ground surface in response to the two flanking facades. Notably, the area of the garden is divided into three general categories: a playful interactive zone beside the children learning center (north), a café oriented terrace (middle), and a serene zone adjacent to the community cultural hub and the residential complex (south). By making an urban space that is greener, more accommodating to passive and active uses, and more engaged at its edges, this garden can become an animated and energized outdoor hub in the neighborhood. The interstitial garden will be a model that reminds inhabitants of the importance of living with a quality of humanity in a complexly integrated environment.

The next step is to cut into the Fairview Apartment’s slab along Bell Street North at two strategic points: the northwest corner against Gladstone Avenue and the southwest corner against Arlington Avenue, where the Children Learning Center and cultural community hub are anchored. Currently the entire ground level of the apartments along Bell Street North is occupied by local convenience stores, enhancing the commercial streetscape. Inspired by the study of Bernard Tschumi’s notion of the “in-between” in Le Fresnoy, the design investigates the spatial relationships between the old and new architecture. The idea is to impose a new structural grid system not only to differentiate the two buildings, but to impart a unique spatial
character to the new infrastructure. The intricacy to this approach is to preserve the existing fabric and reinvent functional programs towards the urban environment. In addition to improving the surrounding environment, roof terraces and gardens serve as an opportunity to create a more favorable and healthy environment. Further assessment of potential new infrastructure includes a shadow study for the area, which helped determine the appropriate placements for planting and programming. Following this study, a new three-storey housing complex was incorporated into the scheme to take the place of the demolished housing units located at south end of the site adjacent to the existing housing fabric. Finally, the proposal located a new underground parking garage at the south portion of the site to support parking demands.

Interstitial urbanism is about the dynamics of place making. Through an interstitial urban development, “Between the Bell street Slabs” reveals the hidden potential of residual or underutilized sites in the urban core. The idea of utilizing daily routines and existing urban patterns to drive urban designs tactically from the ground-up rather than the top-down. Driven by the theme of interstitiality, this project reassembled narratives of place in order to intensify and render more visible ordinary stories of the neighborhood’s life. This project of improvement is also aimed at bringing economic benefits to the surrounding revitalized areas.
Overall Site Plan

A. Learning centre
B. Community hub
C. Café
D. Low-rise apartment
E. Existing building
Site Shadow Study Analysis

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Landscape Plan

8. Park entrance
9. Seating stone
10. Hill playground
11. Spraying water feature
12. Community garden
13. French garden
14. Exhibition garden

1. Café terrace
2. Café roof garden
3. Bicycle rental
4. Gallery promenade
5. Entrance to underground parking
6. Bamboo garden
7. Community Hub entrance featuring recess lighting
Learning Centre Ground Floor Plan (Bell Street North and Gladstone Avenue)

1. Lobby and reception
2. Amphitheatre
3. Administration
4. Theatre
5. Open workshop
6. Greenhouse
7. Planting workshop
8. Reading corridor
9. Common area
10. Storytelling room
11. Demonstration room
12. Arts and crafts area
13. Music room
14. Kitchen and lunch room
15. Playroom
16. EDI workshop
17. Seating area
18. Reading lounge
Learning Centre Second Floor Plan (Bell Street North and Gladstone Avenue)

1. Lobby and reception
2. Amphitheatre
3. Administration
4. Theatre
5. Open workshop
6. Greenhouse
7. Planting workshop
8. Reading corridor
9. Common area
10. Storytelling room
11. Demonstration room
12. Arts and crafts area
13. Music room
14. Kitchen and lunch room
15. Playroom
16. EDI workshop
17. Seating area
18. Reading lounge
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9. Common area
10. Storytelling room
11. Demonstration room
12. Arts and crafts area
13. Music room
14. Kitchen and lunch room
15. Playroom
16. EDI workshop
17. Seating area
18. Reading lounge
Learning Centre Fourth Floor Plan (Bell Street North and Gladstone Avenue)

1. Lobby and reception
2. Amphitheatre
3. Administration
4. Theatre
5. Open workshop
6. Greenhouse
7. Planting workshop
8. Reading corridor
9. Common area
10. Storytelling room
11. Demonstration room
12. Arts and crafts area
13. Music room
14. Kitchen and lunch room
15. Playroom
16. EDI workshop
17. Seating area
18. Reading lounge
Community Hub Ground Floor Plan (Bell Street North and Arlington Avenue)

1. Exercise room
2. Lobby and reception
3. Exhibition space
4. Kitchen and lunch room
5. Leisure room
6. Multipurpose room
7. Kitchen and service area
8. Multipurpose hall
9. Computer lounge
Community Hub Second Floor Plan (Bell Street North and Arlington Avenue)

1. Exercise room
2. Lobby and reception
3. Exhibition space
4. Kitchen and lunch room
5. Leisure room
6. Multipurpose room
7. Kitchen and service area
8. Multipurpose hall
9. Computer lounge
Community Hub Third Floor Plan (Bell Street North and Arlington Avenue)

1. Exercise room
2. Lobby and reception
3. Exhibition space
4. Kitchen and lunch room
5. Leisure room
6. Multipurpose room
7. Kitchen and service area
8. Multipurpose hall
9. Computer lounge
West Elevation
East Elevation
South Elevation
North Elevation
Perspective #1: Park view looking towards Learning Centre.

Perspective #2: Café park view looking at park entrance (Gladstone Avenue).
Perspective #3: Learning Centre's community greenhouse looking out to the park.

Perspective #4: Community Hub's gallery space looking out to the park.
Conclusion

Interstitial urbanism is not a formal urban movement, but represents as an alternative urban design attitude, and a new way to reconnect urban research and design with ordinary human and social meanings. The idea begins with respecting and honouring daily rituals and cycles that shape communities. A community’s forms and shapes are most justly formed through incremental design processes, implemented through time. Working within the broader project of “interstitality” allows for specific and singular opportunities to nurture daily life through architecture. Interstitial urbanism and architecture support the possibility of specific design subtlety and complexity, where each project is necessarily different, shaped by individual circumstances, and stitched together through careful observations of highly specific site conditions, and indeed, of reality. An interstitial project is not replicable.

The study of the hùtòng’s habitation patterns that began this thesis revealed a realm of “in-between-ness” that celebrated the person to person dimension of larger urban economies and arrangements. The slowly evolving urban form of the hùtòng honoured these ‘human qualities’ by responding to everyday routines and neighborhood concerns. The hùtòng’s fine-tuned dimensions organized urban movements and intimate relationships in a form that pedestrians could easily navigate, and with the necessary divisions between private and public life. The hùtòng embodied both stability of urban form and flux, and its success was in its overall organization -- and in particular in the reciprocal play between built and open space -- not in its individual architectural components. All of these qualities inspired the interstitial urbanism explored in this thesis. While this thesis did not directly or overtly translate the hùtòng study into a set of principles to guide interstitial urbanism, certainly, “Between the Bell Street Slabs” channels many of the hùtòng’s values and qualities, in particular, how the new architecture tightly embraces the existing surroundings and buildings. Inside the building components of
this proposition, the spatial planning explored interstitiality between formed architectural elements and open program elements, or, by analogy to the hùtòng, between built and open space. Noting that its new architectural elements are of course more fixed, "Between the Bell Street Slabs," as a landscape, like the hùtòng, emerges from a slow process of layering small changes over time. Returning to Michael's Meyer's description of the hùtòng he lived in Beijing as a place that kept his feet on the ground, this thesis also suggests that interstitial urbanism is existentially grounding.

Although in many ways, the "Between the Bell Street Slabs" aspired to be a ground-up project, it is not. Community surveys were not conducted. A community group was not mobilized to study problems and needs. Instead, due to time constraints, the author of this thesis based the proposed landscape and building program on personal observations and on the City's community development plan, and accepted the City's analysis of the area. The project therefore possesses some "top down" aspects. Whether ground up, or top down, interstitial urbanism demands "irregular approaches" out of circumstances that most developers would find unpromising and overly complicated. Interstitial urbanism is arguably more visionary and transformative than any other form of contemporary urbanism.

"Between the Bell Street Slabs" illustrates one approach to an in-between site. The project focused on the relationship between the new architecture and the proposed new landscape, and the interaction of the landscape with the existing Fairview Towers and Lancaster Apartments. The landscape design and the proposed new building elements, were strongly guided by the social fabric and the existing buildings and urban situations. Architecturally, the project explored the linear in-between realm as a new dynamic passage containing spaces for pauses, and the two end conditions for entry and exit. Programmatically, the garden and new building elements were directly informed by the current social makeup of the neighborhood and by current shortcomings in available amenities, notably, a learning center specifically
targeted at school readiness. This thesis argues that each interstitial urban project should begin with a survey of all existing elements, planned or not, and that the individuality of a place can be enhanced by sculpting new programs and new places out of what is already there rather than importing preexisting models.

The general idea seeks to promulgate more humane and creative attitudes to the production of the city, and emphasizes an ideal of betterment, reform and retrofit of an existing situation. As this thesis suggests, a city that allows for interstitial urban moments, in turn, promises to be more economically and socially heterogeneous. Interstitial urban insertions are interested in the neglected places and experiences of cities that other urbanism ignored. They represent a hopeful starting point in the direction of a practice of inclusive, non-conventional, urbanism that is committed to fighting for the diversity of the city. There is a roundabout logic in such an approach: by crawling into the city's interstices and injecting into them places of civic dimension and worth, architects, owners, developers and city planners, might together build the conditions for the social and material sustainability of their own cities.
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Articles

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2. “Centretown Community Amenities Audit.” City of Ottawa-Centretown CDP.