

**Mapping Possibilities for Conviviality:
Inclusive Dialogues to Revitalize Calgary's Heart**

by

Jared Michael Weiss

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

at

Dalhousie University
Halifax, Nova Scotia
June 2023

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

© Copyright by Jared Michael Weiss, 2023

Contents

Abstract	iv
Acknowledgements	v
Chapter 1: Introduction	1
Thesis Question	1
Geographies of Possibility	1
Kintsugi: A Simple Illustration.....	5
Chapter 2: Opportunity for Revitalization.....	7
2.1 The Heart of Calgary Today: A Moment of Opportunity	7
2.2 Locating Troublesome Geographies.....	11
Limiting Infrastructures, or ‘Urban Fixes’	12
2.3 The Problem is the Answer.....	16
Embracing a Divisive Rail Corridor	16
Expanding upon Current Design Practices.....	20
Chapter 3: Mediation by Design	23
3.1 From Anthropocentrism to Appearance	23
Broadening the Definition of Inclusivity	23
Spaces of Appearance.....	27
3.2 Design as Improvisation	30
Roles in Co-creation: Designer, Expert, Inhabitant.....	32
Mapping a Path Forward with Rehearsals.....	33
Chapter 4: Critical Mapping	37
4.1 Prevailing Geographical Conceptions	38
4.2 Alternative Mappings	41
Thinking on the Ground: Relational Mappings.....	41
Guiding Studies	44
4.3 Mental Mapping Exercises	48
Mapping Desires.....	48
Findings	58
Clarifying Positionality.....	61

Chapter 5: Groundwork for Revitalization.....	63
5.1 Creating Continuity for Everyday Life	64
Walking the Site with the Experts	66
5.2 Design Positionality and Ethos	70
Chapter 6: Re-Creation Park	73
6.1 Navigating Conflic	73
6.2 Speculative Design.....	78
Walking the Site with the Experts	78
Feasibility: Counter-proposal to West Village ARP	81
Chapter 7: Third Space Place	89
7.1 A Home for Every Need	89
7.2 Speculative Design.....	94
Walking the Site with the Experts	94
Feasibility: Alternative to Approved Conversion.....	102
Chapter 8: Siiko'tsikokaan Point.....	110
8.1 Breathing Life into the Land.....	110
8.2 Speculative Design.....	115
Walking the Site with the Experts	115
Feasibility: Alignment to IGP Society Goals.....	121
Chapter 9: Conclusion	129
9.1 Trajectories and Tangents	130
Two-Eyed Seeing.....	131
Winter City Identity.....	132
Transit Oriented Development.....	132
9.2 Personal Takeaways.....	133
Appendix A: History of Inclusion and Exclusion in the Inner City	135
Appendix B: CPR Corridor Documentation	141
Appendix C: Additional Maps.....	143
References	150

Abstract

This thesis serves as a framework for the re-imagination of urban infrastructure. Calgary's Canadian Pacific rail corridor is the study site, bisecting the downtown and creating exclusionary space in the city's heart. The exploration of unconventional mapping methods reveals the space's latent potential, allowing the conviviality of a broader variety of inhabitants, particularly those marginalized or voiceless in current municipal planning processes.

The thesis investigates the origins of Calgary's exclusionary approach to urban planning and proposes alternative methodologies that give agency to the disempowered—particularly 'design by improvisation'—a rehearsal of engagement processes inclusive of human, animal, and environmental inhabitants. This method is employed through the speculative design of three projects along the corridor: a landscaped park accommodating wildlife and children, a commercial-to-residential adaptive reuse providing housing for the elderly and those experiencing houselessness, and schematic design reinterpreting the Fort Calgary site, from the perspective of Indigenous communities and rivers.

Acknowledgements

The land on which this thesis engages is Mohkinstsis, the ancestral and traditional territories of the Treaty 7 nations—the Blackfoot Confederacy including the Kainai, Piikani, and Siksika; the Tsuut’ina and Stoney Nakoda people, and the Metis Nation of Alberta, Region 3. The research explores issues lying at the interface of land use, urban studies, and architectural design, aware that the discourse exists in the context of settler colonialism.

I would like to thank:

- Christine Macy, for always having my back, being tough but fair, and keeping me on track since M2. Your wisdom has been invaluable, as a supervisor and as a mentor. Sarah Bonnemaïson, for being my advisor and bringing joy and fresh perspective; it is so needed. The two of you, for showing me the beauty in quotidian life;
- Steve Parcell, for the door of imaginative re-interpretation you opened in Architectural Translation which has brought creativity and excitement to the process of design previously unknown to me;
- Talbot Sweetapple, for teaching me in B1 that a project is never “mine”, it is a shared entity;
- My fellow classmates from both UBCO and Dalhousie; the journey of the last 6 years has been an unforgettable one, and it’s because of each of you;
- Cal and Sharon, for opening your home and being a second family to me. Thank you for showing me that strength is in community and that wonder is all around us;
- Huds and Christie, for encouraging me throughout this season. Your company and hospitality (with both time and food) do not go unseen;
- Aquila and Sam, for hyping me up, believing in me, and never backing down from calling me out and keeping things real;
- My family, for their continual and vocal support. Dad, your wisdom, guidance, and critical eye have been instrumental. The generosity with which you selflessly give your time to help others inspires me. I am grateful to both you and Grandpa, for teaching me all that I know (but not all that you know). Mom, your kindness and patience have made all the difference. Rachel and Nathan, thank you for helping me develop a competitive spirit and drive to succeed; I look up to both of you.

This journey has only been made possible through acts of collaboration, and I am forever grateful to all of those who have gone with me along the way.

Chapter 1: Introduction

Thesis Question

How can an inclusive understanding of conviviality guide planning and design methods that enable the revitalization of inner-city infrastructures to better support everyday life and encourage inclusive co-existence of diverse communities?

Geographies of Possibility

My hope is that this thesis can serve as a guidebook of sorts, for designers, planners, and curious individuals asking how the cities they live in can become more inclusive and more livable. The main focus of the written work is to critique Calgary's current mono-modal approach to urban infrastructure planning, and propose strategies that generate potentials for inclusive design. An exploration of the theory and social issues underlying urban revitalization provide a useful foundation to problematize exclusionary urban design. Though the research is specific to Calgary, the general principles of investigation and methodology lend themselves to broader application, asking similar questions of urban conditions in other inner cities.

Key Terms

Two terms are key to understanding the concepts and design methods explored in this thesis, and have served as reference points in own explorations: *urban geographies* and *conviviality*.

Urban Geographies are the environmental, socio-spatial, and patterns of development and infrastructure in city landscapes. Urban geography is the study of such conditions, in which geographers explore the ways in which

economic, political, social and physical aspects of the urban realm affect everyday life by their inclusive or exclusive processes.

Conviviality is one aspect of urban life affected by such processes; from the Latin root 'vivere' ("to live") and 'con-' ("with, together"). It contains the implication of *living together well*, sociably, or with feasting. A similar concept is found in the South American 'Buen vivir', a movement for indigenous and natural rights (Cochrane 2014, 578). Existence in public space necessitates the navigation of a multiplicity of potential social interactions; the ability to traverse and live together with difference is the skill of conviviality. Amin assesses that "Conviviality is not the product of civic virtue or interpersonal recognition, but a habit of negotiating multiplicity and the company of unknown others as a kind of bodily training" (Amin 2013, 4). The habit of conviviality itself, like any habit, is gained cumulatively over time.

Revitalization for Mono-Modality and Atomization

Chapter 2 sets the stage by providing us a 'way in', revealing a current moment of opportunity for revitalization in an inner city on a potentially troublesome trajectory. The chosen site for inquiry and the explorative design exercise is the Canadian Pacific Railway (CPR) corridor in Calgary's downtown. Arguing that such a large limiting infrastructure makes inclusion by active engagement difficult I suggest that in such cases a robust, broadened definition of inclusion is fundamentally important to afford agency to urban inhabitants often excluded from planning and design practices. In this sphere, I suggest we ask two guiding questions:

How did the inner city arrive in its current state, and what factors are keeping spaces exclusive?

How do infrastructures limit inclusion in the inner city, and which infrastructures in particular should be re-considered?

Mediation by Design: The Role of the Designer

Chapter 3 begins with a discussion about the role of design in contributing to inclusion or exclusion. The reader is then introduced to a handful of transition discourses (social theories and ways of thinking) to help us consider the attitude towards co-existence required for true conviviality. The conceptual architectural goal of 'spaces of appearance' is established, so that a conversation can be had about the particular roles of designers, experts, and inhabitants in realizing such important spaces. More questions guide this discussion:

What attitudes and perspectives are necessary to allow for design that moves us beyond our limited conceptions of inclusion to involve a multiplicity of perspectives?

In situations where individuals cannot be actively involved in design processes, how can planning and design methods create opportunities for inclusion?

Who are the knowledge-holders in the context of where we are working? How can they be valued, engaged, and supported in the process of urban space creation?

Mapping Possibility for Everyday Life and Co-existence

Chapter 4 explores the power of mapping to give agency and actualize possibility through design. Prevailing exclusionary top-down mappings are contrasted by local and international examples of alternative mappings. These alternatives show different ways designers can 'think on the ground', to embody the needs and desires of often-marginalized urban inhabitants. The thesis identifies six

groups of urban inhabitants to conduct a series of mental mapping exercises, traversing the length of the CPR corridor and actively engaging with the landscape from their perspectives. Such an exercise reveals opportunities for planners and designers to make urban infrastructures more inclusive, and allows us to ask:

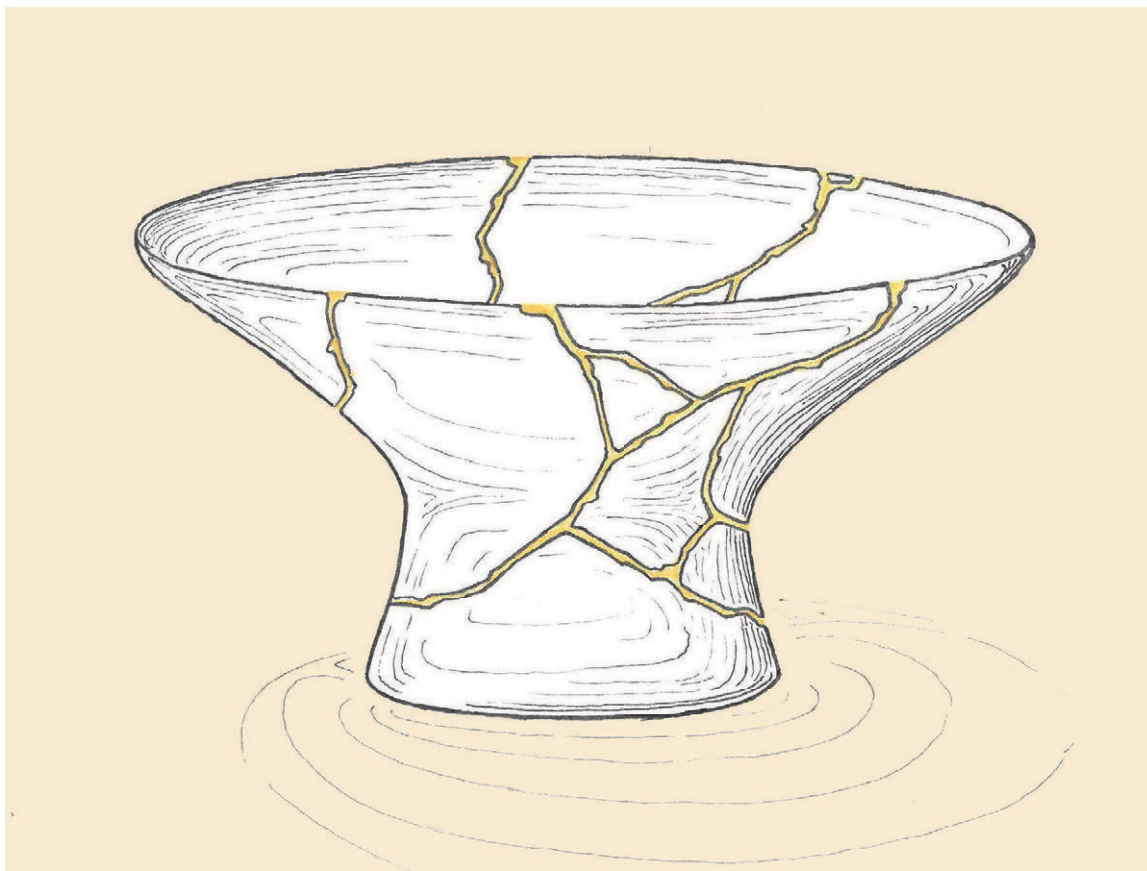
What sorts of architectural infrastructures can experiential mapping cultivate?

Following this, Chapter 5 outlines the extents of a habitat around the corridor within which such infrastructures can feasibly be located and queries:

What is the smallest amount that architectural projects can impose on urban geographies while having the most positive impact?

Designing for Continuity and Overlap

The thesis concludes with a series of design exercises, identifying opportunities for inclusive design on three sites adjacent to the rail corridor. Beginning with a strategy of minimal intervention—the smallest changes for the most profound effect—these speculative designs suggest possibilities for conviviality, through exercises of ‘walking the site’. These ‘walks’ are represented as a dialogue between the research and insights of guiding experts regarding the needs and desires of six intended inhabitant groups, and inform the design of the interventions. The outcomes of the three emergent designs, while grounded in feasibility, serve to communicate imagined potential realities rather than deterministic results. This allows us to conclude with an open-ended conversation about the architectural merits of inclusive design mapping methods.



In Kintsugi, the spaces where there was brokenness become vital connecting parts.

Kintsugi: A Simple Illustration

On a final (lighter) note, before really getting into it, I wanted to encapsulate the heart of this thesis work with a simple illustration: a broken bowl, re-constructed through the Japanese process of Kintsugi. It embodies the idea that the very things causing brokenness (exclusive urban geographies forcefully imposing) can themselves become a part of an act of wholeness through a beautiful reconstruction (urban revitalization). All this takes is creativity, an informed understanding of the process, and the desire to see newness and beauty in the everyday.



Wish Image: The Heart of the City

Chapter 2: Opportunity for Revitalization

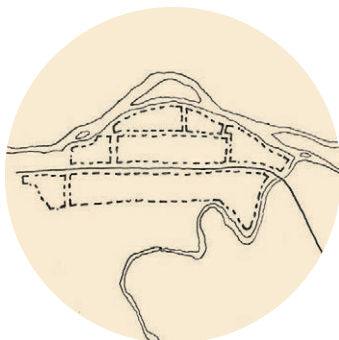
We begin by realizing the current opportunity for revitalization in Calgary and its potential for success or failure. Then, an overview of limiting infrastructures and their role in limiting conviviality is provided, showing the key role they play in urban renewal. Ultimately, we define a search for an inclusive pre-engagement methodology for design and planning.

2.1 The Heart of Calgary Today: A Moment of Opportunity

Although Calgary has lively moments—after all, it is the sunniest city in Canada, sitting at the confluence of beautiful foothill and prairie landscapes—the downtown, the heart of the city, doesn't embody this. As a result of urban renewal programs in the 1960s, it became a centre for work and commerce, not for living in. In the wake of COVID-19, the identity and function of Calgary's heart as a largely exclusive space for work, business, and economy is being questioned. While many people have returned to working in person, a third of the downtown office space remains vacant—a staggering 13 sq. ft. per city resident (City of Calgary 2023b).

A Home, But for Who?

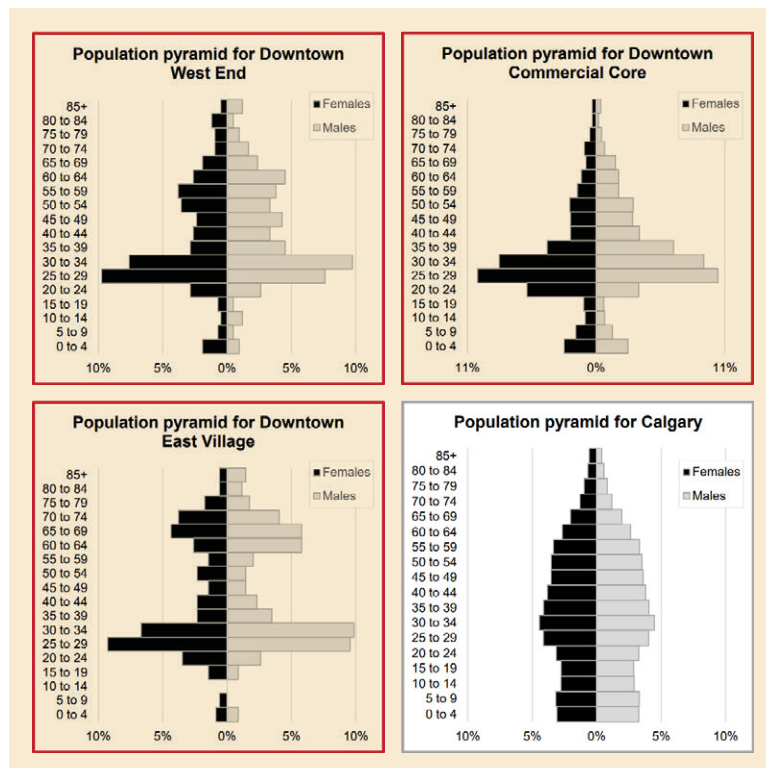
Over the past decade, movements for 'urban quality' have been emerging in city centres, supplying ideas to fuel their revitalization (Stehlin 2019, 16). Calgary is no exception, with a Centre City Plan (CCP) for improving inner-city urban quality leading the charge in 2007 and a handful of supplementary plans following it. Of special interest to the City's future goals is the development of inner-city neighbourhoods, which will grow by 20,000 residents by



20,000 residents is an additional 50% more than the current population.

2035 (City of Calgary 2021, 13). Planners and policymakers support increased density, arguing for better walkability and sustainable development (City of Calgary 2007, 23, 29, 62). The hope is that these initiatives will make the downtown a better, friendlier, safer, and more inclusive space. This shift has been recognized for the opportunity it presents, with numerous projects like commercial-to-residential conversions which aim to transform office space and bring people—and life—back into the heart of the city.

While exciting, this resi-densification is not by itself the answer to revitalization. Although density is increasing, a concerning trend continues; the majority of neighbourhoods in the core have very small young or old population demographics, with the majority of residents being working-age professionals. Continued investment in the *ever-expanding suburbs*, which are seen as safer and more conducive environments for



Unsustainable populations of inner-city communities; entire city demographics for comparison (City of Calgary 2016a).



Expanding Suburbs: 5 new communities were approved in Calgary's outskirts in 2022, in addition to the 39 currently approved and in development (Shivji 2022).

raising a family (CLIC 2004, 15), results in a high downtown resident turnover. These conditions perpetuate perceptions of the inner city as a place for adults, and a place to work—maybe to live in for a little while—but ultimately, not a place to call home.

Unfortunately, urban quality improvements alone will not stop the trends keeping the city's heart exclusive. Gentrification is the most likely outcome, considering that Calgary continues to rank as the second most unequal city in Canada (Tran 2023) and, as local urbanism expert Beverly Sandalack says, “morphology is destiny” (Sandalack 2020, 1). On the other hand, well-considered revitalization has great potential. After all, the urban core already has the capacity to support diversity: access to a variety of amenities like transit, recreation, natural spaces, and medical services within walking distance (White 2021). In order to chart out an inclusive path forward and tackle the issue, we should ask this question:

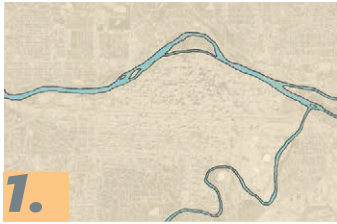
How did the inner city arrive in its current state, and what factors are keeping spaces exclusive?

Rivers, Rails, Renewal

Before the area now called ‘Calgary’ was a city, it was known to the Blackfoot as *Mohkínstsis*, meaning “the place at the Elbow (River).” The river valleys were places of gathering and generally equitable engagement, with Indigenous winter camps in the valley valuing non-hierarchical meeting spaces (City of Calgary 2019b, 9). The Bow and Elbow rivers flowing through supported a diversity of life, their banks being home to a variety of wildlife and supporting celebrations like the Sun Dance (for a more detailed understanding of moments in Calgary's inner city history that contributed to a legacy of inclusion or exclusion, see Appendix A).



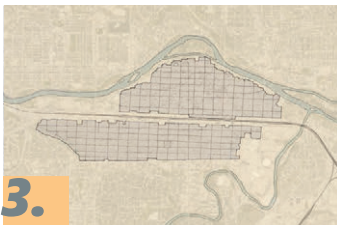
Mohkínstsis translates to “elbow”, referencing the confluence of the Elbow and Bow Rivers (United Way 2019).



1.
River



2.
Rails



3.
Renewal, Filled Grid



4.
...Revitalization?

Shifting identities—periods of change in Calgary's history

In 1882, Calgary was established around the Canadian Pacific rail line, and it was the hub of city activity (Sandalack and Nicolai 2006, 17). It became the new lifeblood, and established a faster pace of life, with productive spaces and lifestyles given the highest priority.

Around this hub, the urban centre grew and the uniformly gridded road layout it was planned on was progressively filled, with industry nearest the line, and a considerable amount of housing between it and the Bow River.

In a rapidly globalizing world, Calgary experienced expansion through a cycle of busts and booms—long stretches of slow growth interrupted by periods of intense immigration—where the city scrambled to adapt to the needs of an expanding population. This expansion pattern has been described as “an entitlement, a land avalanche of habitual and exponential consumption fed by boom-cycle industrial development and suburban growth” (Johns 2022, 7). So, the city grew up upon an exclusionary identity as a centre of production, with marginalized identities becoming secondary and significant amounts of land dedicated to the creation of freeways to move cars to and from the expanding periphery.

Planners leading urban renewal programs in the early 1960s considered the quality of housing in the city's heart to be substandard and took the initiative to move housing out of downtown. At its peak, buildings were destroyed at a rate of 600 per year, replaced by offices cultural facilities, and municipal buildings (Sandalack and Nicolai 2006, 105). Over the next 3 decades many corporate headquarters and office were built in the urban core, to meet the immediate demands of oil industry booms.



“Welcome sign to Calgary, Alberta” Glenbow Archives CU198038 (University of Calgary n.d.)



Calgary: Be Part of the Energy (Rhodes 2015)



“MacKenzie Lake/Cranston Blvds. S.E. Interchange” (Government of Alberta 2013)

Be Part of the Energy

As the city’s centre has changed over time, so has its identity. The city’s slogan has been changed many times over the years, to phrases such as:

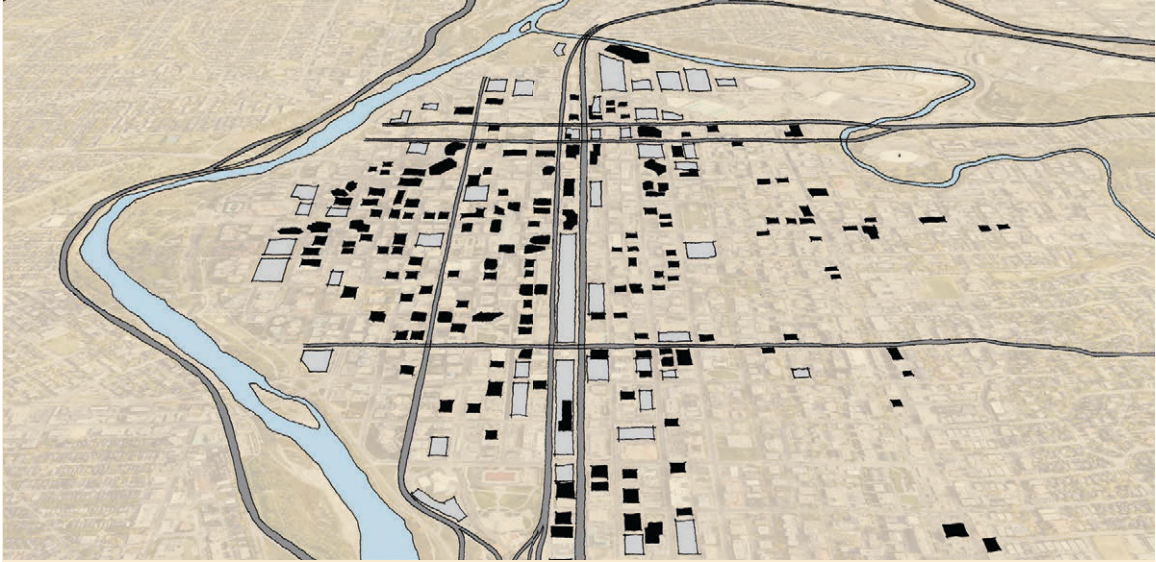
- “The City of the Foothills” – 1921
- “Stampede City” - 1955
- “Heart of the New West” – 2000
- “Be Part of the Energy” – 2011

These slogans have come to be less about inclusive shared commonalities, acting as more general signifiers of productivity- and energy-prioritizing culture. This shift has led to Calgary being described by some as “the decentralized prairie city” (Johns 2022, 9). This decentralization has left planners, designers, and Calgarians in general wondering what the city’s defining feature, its binding identity, really is. One conclusion is clear; a quickening pace of life has made for exclusive urbanism, and rail and road infrastructure has paved the way. As long as these infrastructures are accepted as ‘just a part of the way things are’, urban revitalization will do little to make the heart of the city a home for a diverse range of inhabitants. This leads to a second question:

How do infrastructures limit inclusion in the inner city, and which infrastructures in particular should be re-considered?

2.2 Locating Troublesome Geographies

More than we know, infrastructure determines the way we live and shapes our worldview (Gravel 2016, 48). For that reason alone, it is worth exploring the ways this happens. With a fundamental understanding of how limiting infrastructures perform, we will have the necessary tools to see them with new eyes. Wherever we live, this then allows us to see ‘ways in’ to revitalization.



Limiting urban geographies in the heart of Calgary

Limiting Infrastructures, or ‘Urban Fixes’

To understand how urban infrastructures perform, we must first recognize that *disconnection has become normalized*. In Calgary, it is ‘normal’ to drive 30 minutes to get anywhere—to and from work, visiting friends or family, even getting groceries. Over time, this way of living has become the default. The formalized legacy of a city’s planning and decisions are what geographer Ash Amin (2012) describes in *Land of Strangers* as “silent fixes of urban order” (65). He postures that “the encounter is always mediated” (81); we live and go about everyday life within a system that just ‘functions’, in which power dynamics play out but are often left unquestioned and imbalanced, influencing the way people interact with each other. One example of an ‘urban fix’ is the construction of freeway infrastructure, an obvious result of suburbanization without robust public transit. With personal vehicles prioritized as the main mode of transport, close proximity is seemingly no longer required for access to services and desirable spaces in the city. Ironically, these ‘free’-ways make autonomous movement harder



Urban Fixes: a property of the urban infrastructure; how it determines possibility, allocates opportunity, and establishes rules of urban life. These often go unquestioned as ‘just the way things are’.

for children, the elderly, and urban wildlife, among other inhabitants. Amin explains this phenomenon succinctly:

The urban infrastructure... pieces the city together but also authorizes possibility, including social choice and orientation. It joins up and monitors the urban landscape, simultaneously allocating resource and opportunity, designating the spaces, activities and people that count (e.g., by selecting zones for investment and groups deemed undeserving), and establishing the rules and tempos of urban participation. (65)

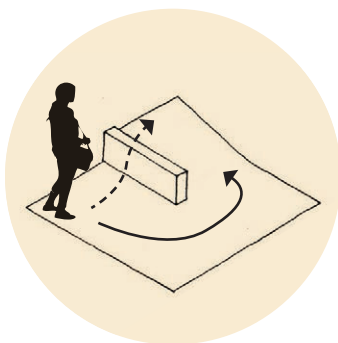
If freedom exists in choice of movement, then “we gave up true freedom for the illusory promise of speed” (Montgomery 2013, 316). When we know how, where, and when this freedom can be re-exercised, inclusion and conviviality become possible in these currently limiting geographies.

The Geographies of Possibility and Limitation

When particular ways of moving become normalized, alternative realities and ways of living are marginalized. Michel de Certeau (1984) expertly explains this in his wonderful book *The Practice of Everyday Life*:

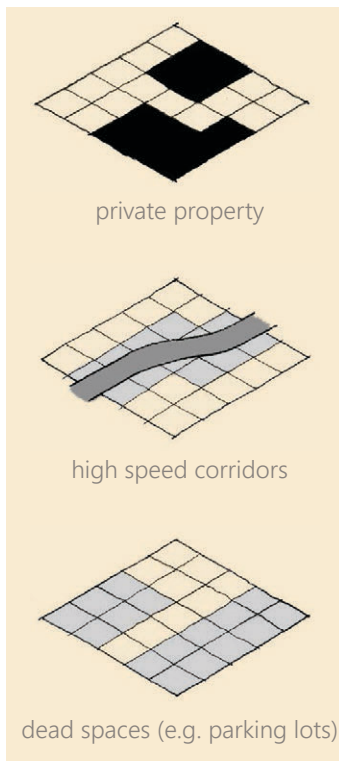
The trace left behind is substituted for the practice. It exhibits the (voracious) property that the geographical system has of being able to transform action into legibility, but in doing so it causes a way of being in the world to be forgotten. (97)

The concept of urban fixes provides a general understanding of the legacy of infrastructures; digging into the particulars of urban geographical systems shows how they function in a particular, on-the-ground way. These systems, by determining the types of movement prioritized, define a set of possibilities regarding what can occur in a space.



The ‘walker’ interacts with urban space, limited by the possibilities given them.

...if it is true that a spatial order organizes an ensemble of possibilities (e.g., by a place in which one can move) and interdictions (e.g., by a wall that prevents one from going further), then the walker actualizes some of these possibilities. In that way, he makes them exist as well as emerge. But he also moves them about and he invents others, since the crossing, drifting away, or improvisation of walking privilege, transform, or abandon spatial elements. (98)



Numerous conditions limit possibilities within urban geographical systems.



Quotidian Life: the ordinary, the everyday. Often normal, mundane, easy to overlook

A helpful conceptualization of this is to think of the urban landscape in terms of how much possibility for individual agency and choice is provided. The more opportunities that exist, the stronger the urban fabric is. In that case:

- private property creates 'voids' of inaccessibility;
- transportation corridors disconnect and weaken the urban fabric around them;
- 'dead spaces' like parking lots are themselves weak fabric.

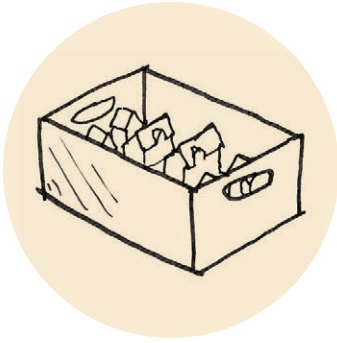
Mono-modality and Atomization

In Calgary, limiting geographies are most commonly found in two forms: mono-modality and atomization.

Mono-modality is a particularly visible exclusionary space that heavily prioritizes one mode of movement; in Calgary, this mode is vehicular transportation. This is reflected in the City's infrastructural hierarchy, and the result is a very limited ability to support any more than the one type of *quotidian lifestyle* associated with automobility. Although vehicle users experience the urban fabric as continuous, for all other forms of movement it is fractured and discontinuous.



"MacKenzie Lake/Cranston Blvds. S.E. Interchange"
(Government of Alberta 2013)

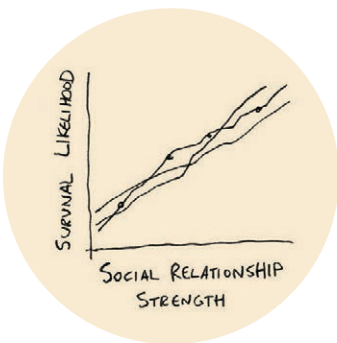


Microcosm: a miniature epitomization of a larger thing; a world in a box

Atomization is a more invisible border. Suburbanization is one example, where public and private life is separated, isolation is increased, and cookie-cutter urbanism promises individual empowerment while simultaneously isolating the individual from healthy *co-existence*. While it is touted as ‘successful’ at meeting housing needs, its role in perpetuating inequality and atomizing single-family home life is problematic (Stehlin 2019, 16), creating insulated *microcosms*. The result is a widespread, disproportionate isolation of personal life, which has the effect of making public spaces into anxiously pressurized points of overlap.

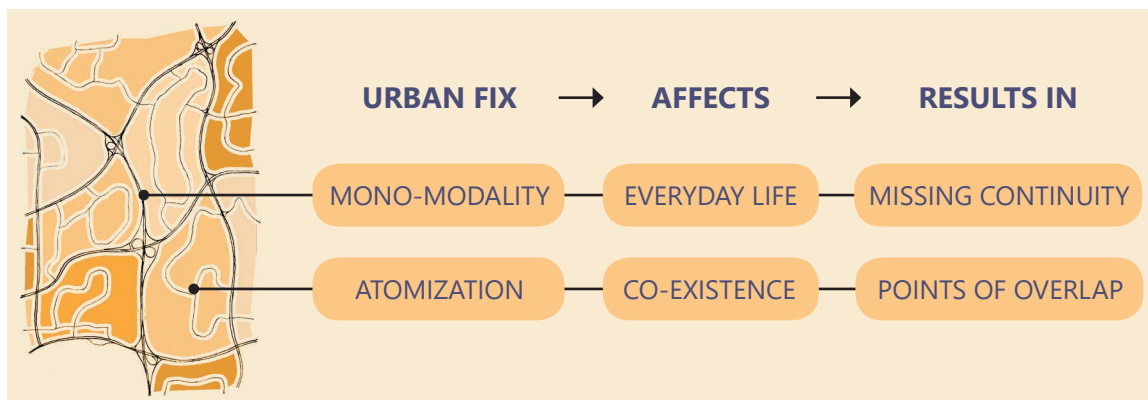


“Urban sprawl in northwest Calgary, Alberta, Canada” (Rehan Usman 2016)



Those with stronger social relationships may have a 50% lower mortality rate; this is true across all age, sex, and health statuses (Holt-Lunstad, Smith and Layton 2010).

Since suburbanization relies on mono-modality, we lose many potential positive or constructive interactions by prioritizing driving (Montgomery 2013, 178). Both mono-modality and atomization contribute to isolation; COVID has especially revealed the severe condition of social disconnection and mental health. This evidences the need for a cultural shift, particularly when we consider the staggering statistics showing the massive influence healthy social relationships have on mortality risk.



The relationship between urban fixes, what they affect, and what that looks like in terms of urban geographies

Ultimately, we can draw a clear relationship between prevailing urban fixes, how they affect urban inhabitants, and the implications this has for urban geographical systems.

With this connection in mind, we can evaluate Calgary's inner city geographies, locate particular responsible urban fixes, and suggest a method of inclusive revitalization that creates new possibilities for conviviality.

2.3 The Problem is the Answer

In his book *Where We Want to Live*, urban designer Ryan Gravel suggests that the very infrastructures causing limiting conditions should be seen as assets to use towards the transformation of our communities (Gravel 2016, 221); Jane Jacobs speaks along similar lines (Jacobs 1961, 259). Re-imagining infrastructure that creates harsh borders and weakens urban fabric is the necessary step forward so that latent potentials for revitalization are revealed.

Embracing a Divisive Rail Corridor

The CPR corridor has long been a defining feature in Calgary's heart, understood since the 1960s as an obstacle to overcome (City of Calgary 2019a, 13). Though originally

the lifeblood of growth and industry, it is no longer of central importance, limiting access by acting as a border between the interior and exterior of the downtown core. It has been noted in municipal planning documents as a limiting boundary for growth and movement (City of Calgary 2022, 18). Disappointingly, between 2007 and 2020, the City's attitude towards developing around the corridor has changed from visionary and comprehensive to minimizing and empty. The city seems to have turned its back to the corridor (for a synopsis of the shifting attitudes towards the CPR corridor, see Appendix B).

Latent Potential

The closer one gets to the line, the less continuous and legible the urban fabric is, but this also means there is the most room for positive change, as it has enabled some of the few spaces where the city grid is not yet been filled out.

A revitalization of the rail line would have a multitude of benefits, including:

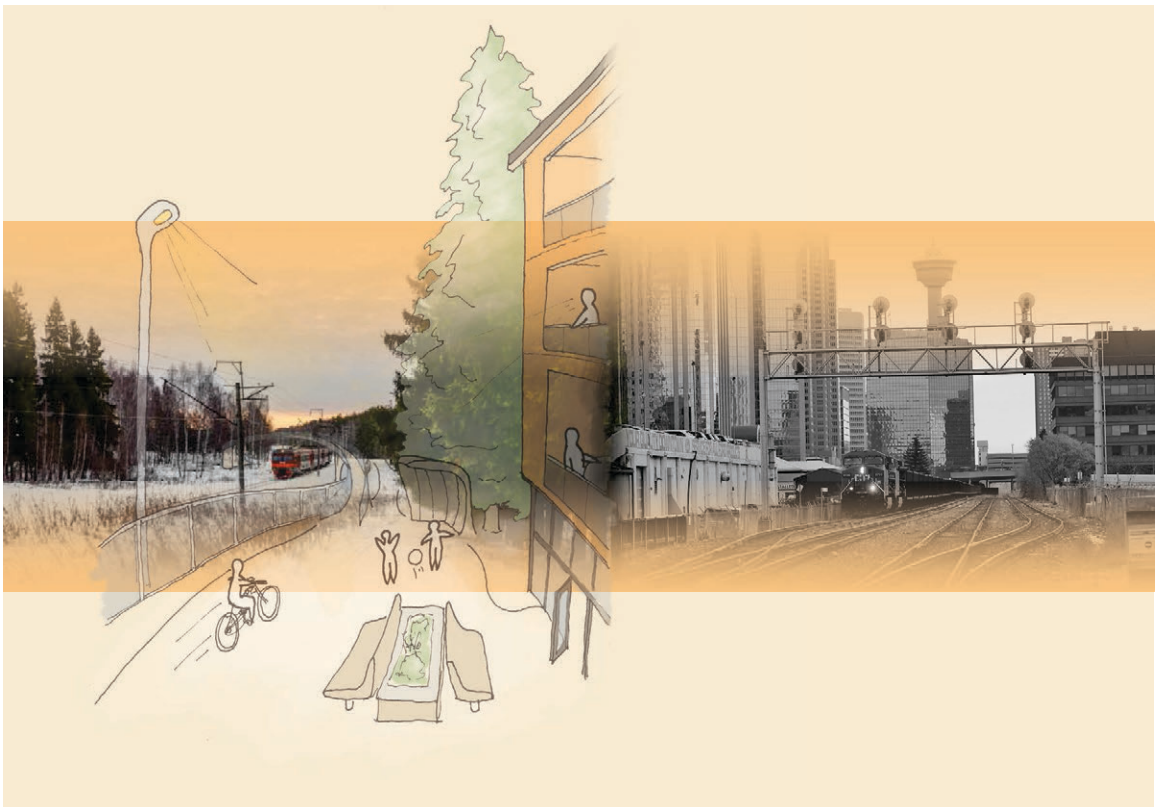
- new points of connection to the river valley pathways on the east and west ends;
- proximities to spaces in the hard-to-reach downtown centre;
- improved connection of neighbourhoods south of the corridor (Beltline, Sunalta, Victoria Park) to the core;



The urban grid remains significantly un-filled around the rail corridor.

- an opportunity to change negative perceptions of these neighbourhoods as unsafe, by eliminating dead-end streets (Jacobs 1961, 258).

A revitalization of the corridor is not just feasible, it is necessary. After all, it is an integral part of the urban geography, not a 'project' or a piece "abstracted out of the ordinary city and set apart" (Jacobs 1961, 392). In this sense, the goal should be to re-integrate the corridor, for the sake of the space itself and the strength of the surrounding fabric (Jacobs 1961, 392). Revitalizations considered this way have already proven effective; Ryan Gravel, who is known for a similar project as the 'father of the Atlanta Beltline', experienced that "when [people] could see the rail line as something positive, it changed everything" (Gravel 2016, 96).



New vs. existing conceptions of what a rail corridor can feel and look like



Continental Imperialism: defined by in Empire s Tracks as the particular rail-driven action of westward colonization (Manu Karuka 2019, xii)

Rail lines, as significant structures in the urban fabric, contain embedded history, and speak to a shared history. The experiences of this history are often complex and differing (this is certainly the case in Calgary, as the rail line made *continental imperialism* possible, with a landslide of negative legacies). Still, as a centrally recognized feature, they can provide inspired structure for new ideas about the city's future (Gravel 2016, 25-40), a powerful statement regarding the reconception and democratization of space. While there are complexities in the corridor with implications that need to be considered, it is encouraging that:

- Trains on the line are limited to a speed of 50 kilometres per hour, often moving far more slowly than that (Dillon Consulting Ltd. 2018, 283);
- Greenways the width of rail line corridors in Calgary can realistically serve numerous purposes (social, transportation, environmental) and provide benefits to landscape connectivity (Jolicoeur 2010, 39);
- It is level, and therefore not difficult to plan active transportation paths around (Jolicoeur 2010, 41);
- Providing dedicated space for multi-modal transit will address common fears associated with travel modes like biking (Montgomery 2013, 191).

With a growing body of literature and public interest in understanding best practices for Rails-with-Trails, such a shift towards embracing the line as a potential 'urban suture' is feasible and timely.

Who is it Really For?

However good of an opportunity the corridor represents, we have to recognize that imagined designs for revitalization can only allow conviviality as much as they are collaborative; the onus is on designers, planners, and those interested in making cities better places to live to consider how design practices enable or disable inclusion from the start.

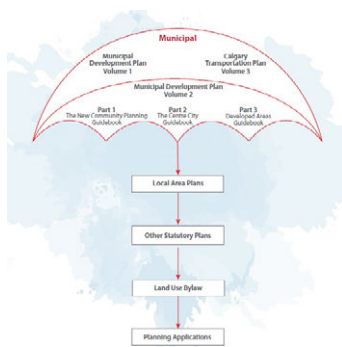


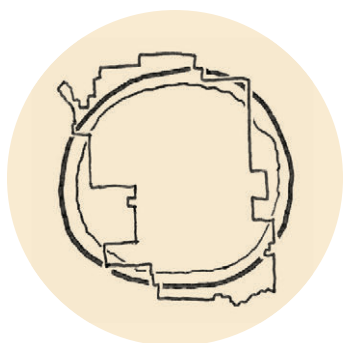
Figure 1-5: Calgary's Policy Planning Hierarchy

“Calgary’s Policy Planning Hierarchy” (City of Calgary 2020b, 14)

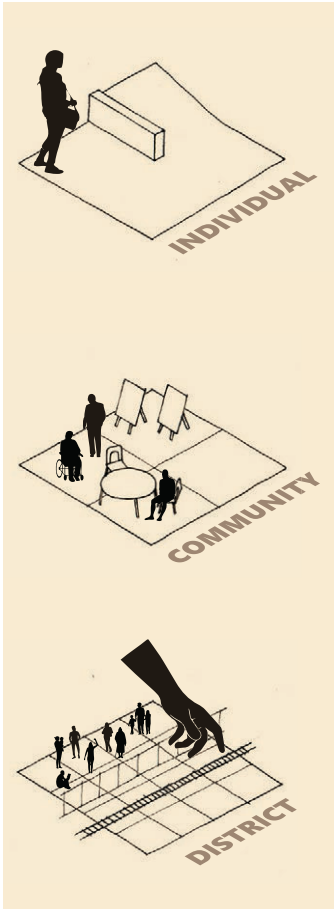
Expanding upon Current Design Practices

The main difficulty that comes with designing inclusively with infrastructures like rail corridors is the scale they exist at. The section of the CPR line in question relevant to Calgary’s heart is nearly 5.1 kilometres long, making it beyond a neighbourhood- or community-scale problem.

Similar city-scale geographies are typically addressed via top-down planning methods, involving pre-determined sites or programs, with public input happening late in the process. We see this common theme repeat: from the CPR’s original town plan (1883) to the Calgary General Plan (1963) to the current Municipal Development Plan (MDP) (2020), the City of Calgary has historically adopted an approach of primarily top-down planning (Sandalack and Nicolai 2006, 105). When planning this way, design caters to the ‘typical user’ (Pallasmaa 1996, 29). Of course, this user is a facsimile, as every individual in the city has unique desires, needs, relationships, and understandings of the urban realm. While the City does support Local Area Plans (LAPs) operating closer to the community scale, these plans are non-legislative and often ineffectual (City of Calgary 2020b, 19). Broader plans like the MDP, Transportation Plan (CTP) and ImagineCALGARY document (City of Calgary 2013) have legislative power, but ineffectually encompass the entire city. Since Calgary operates as a single-jurisdiction ‘*uni-city*’, the City faces challenges in creating comprehensive policies and reaching specific goals. This phenomenon has led urban theorists to conclude that large jurisdictions with vertical and horizontal organization will be disorganized and less in tune with local needs (Jacobs 1961, 410); Calgary is a case in point.



Uni-city: an urban growth model characterized by a singular governing authority, in order to control development by annexation



Involvement (and exclusion) from urban space-making processes occurs at different scales

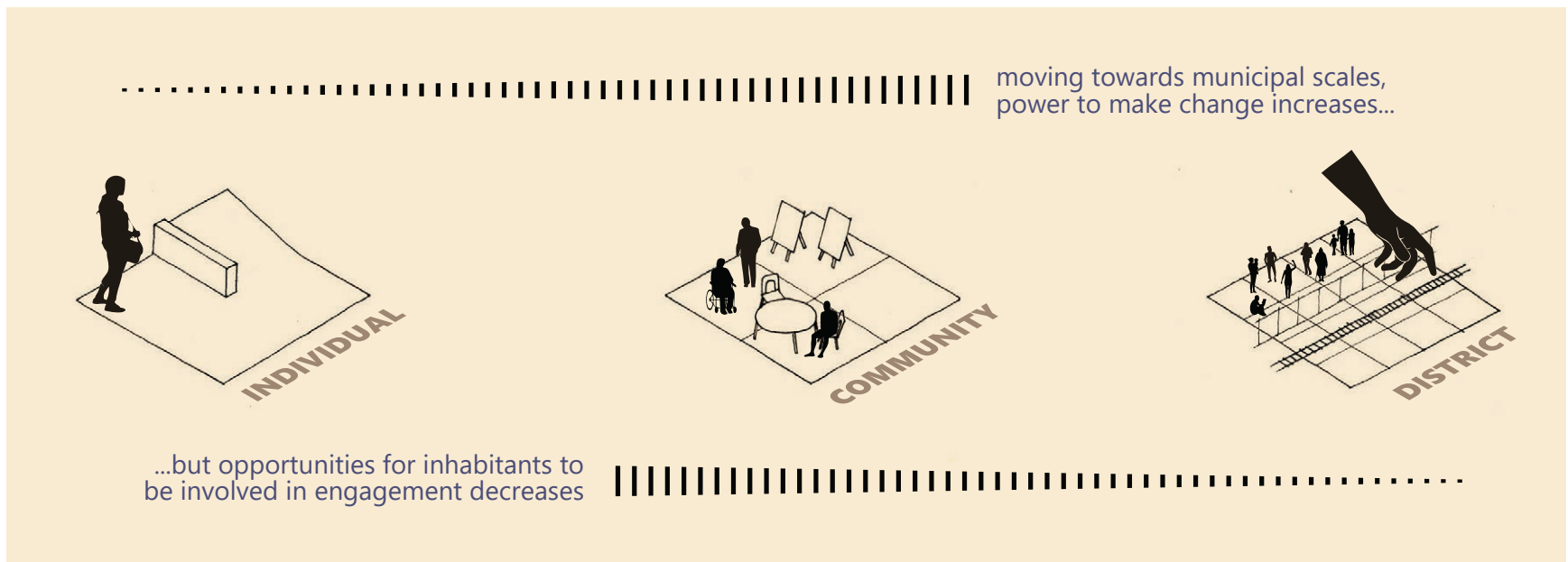
City-Scale Involvement: Inclusion from the Start

It is encouraging to note that in we continue to see a popularization of participatory and community-led design processes; unfortunately, these are less effectual at the city scale, where individual agency is minimized. On this broad level, there are few opportunities—especially for typically marginalized inhabitants—to actively engage in design processes. Inclusion demands increased agency from the beginning of the process, a difficult objective since not all inhabitants have the opportunity or ability to speak.

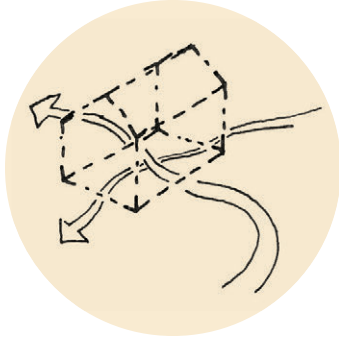
In the current context, municipal planning processes pre-zone space and pre-decide planned programs. Recognition that this approach fails to understand the interactions and needs of urban inhabitants is the impetus for the suggestion of an alternative approach. Such an approach must be cross-scalar—something the city of Vancouver has found success with (Girling and Kellett 2005, 72)—and reflect the looser, non-predetermined nature of smaller-scale ‘true’ engagement processes. This will ask of us a few things:

- First, identifying our role in recognizing the power structures being worked within;
- Then, for those who find themselves in places of privilege (as is the case for most designers and planners), the employment of this power to consider and thereby make visible marginalized inhabitants;
- Ultimately, to carry with us a well-formed, broad concept of inclusion in order to prioritize design that keeps a broad range of potential inhabitants in mind even before they are actively involved.

These standards are envisioned as a baseline, a jumping-off point, and the following chapter dives into a deeper conversation about how we can broaden our understanding of inclusion by design, in search of a viable pre-engagement methodology.



The relationship between agency, power, and scale



Mediation: a structured process of conflict resolution. Architecture is a vessel for mediation in urban mediation processes.

Chapter 3: Mediation by Design

This chapter first petitions for the need to design responsibly in a way that accounts for multiplicity. Then, it advocates for a way of working in which design exercises are a dialogue, an improvisation, between designers, experts, and inhabitants.

Architecture's Complicity in Imposition

As we've experienced, urban geographies have a unique power to inform inclusion and possibility. It's also significant that architecture—the outcome of design activities—is itself a part of these geographies, and imposes (however amicably) on the landscape. This particular power allows architecture to act as a *mediator* enabling agency, as well as a barrier. Designers and planners working from locations of such responsibility must necessarily be thoughtful, informed, and engaged. Self-reflection is powerful in that it reveals our own (often unspoken or subconscious) limited conceptualizations of how the world works. At some level, we always embody some level of exclusion, with singular perspectives making it easy to locate an 'us and them'.

3.1 From Anthropocentrism to Appearance

Because our perception of the world and our place in it are semiconscious processes, a deconstruction of pervasive worldviews is necessary—especially in North America, where anthropocentrism is predominant (Escobar 2011, 138).

Broadening the Definition of Inclusivity

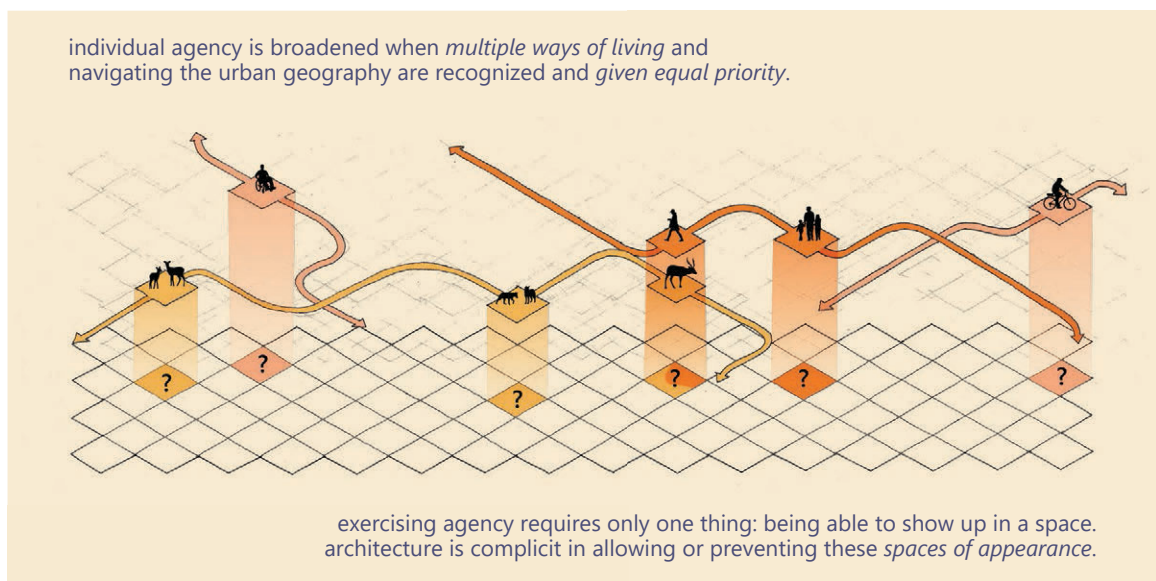
Personally, this reflection has led me to ask, "As a non-indigenous designer, how can I respectfully approach designing in the Treaty 7 Region of Alberta and navigate the privilege that comes with being a settler descendant?"

Indigenous self-location concepts tend to place humans as equals with animals and even abiotic elements of the environment—a refreshing subversion of Western hyper-individualism. In the context of our discussion, a more general question that can guide us toward broader inclusion might be:

What attitudes and perspectives are necessary to allow for design that moves us beyond our limited conceptions of inclusion to involve a multiplicity of perspectives?

Buen Vivir and Other Indigenous Perspectives

It has been mentioned that conviviality means ‘living well together’. *Buen vivir*, or “good living” (a modern resuscitation of the Quechua perspective of *sumak kawsay*) (Cochrane 2014, 578) appears to have the same meaning but imbues a deeper concept of what living well actually means. It understands that good living is not an individual quality; instead, one is only well if the community is well. As humans are a part of nature, their well-being is complementary with the environment, including all living beings (León 2012, 24).



What would it take for multiple ways of living to be given equal priority in design?



Cosmovision: a conception, typically collective in nature, of the world; typically in the context of indigenous peoples' worldviews

This same sort of *cosmovision* is also present in other Indigenous narratives; the wisdom of Nanabozho, the Anishinaabe *original man*, positions humans as “the newest arrivals on earth, the youngsters, just learning to find our way” (Wall Kimmerer 2014, 205). Our role on the earth is not to control or change it, but to learn from it how to be human (Wall Kimmerer 2014, 208).

This positioning is the humility required to move beyond the notion of human superiority, rejecting notions of “progress, development and “well-being” in the capitalist sense” (León 2012, 24). Anthropocentric definitions of well-being—often driven by economic rationales—are inadequate because they overlook the “connectedness of all human activity - both harmful and positive - on the planet” (Watt-Cloutier 2016, 175).

Transition Discourses: Radical Interdependence, Multiplicity, and the Pluriverse

Social theorist Arturo Escobar (2011) submits that the age of hyper-individualism has ran its course, and we are now entering the Post-Development era. The imaginary of globalization, where space becomes “universal, fully economized, and de-localized” has borne the fruits of mono-modality and atomization (139). In response, Escobar points to emerging transition discourses (TDs), in particular the principles of radical interdependence. This directly addresses our disconnection from each other and the environment by emphasizing our deep mutual reliance. He proposes the ‘pluriverse’, a conceptual understanding of the world as a collection, or *multiplicity*, of overlapping multiples: multiple individual realities, uncertain futures, ways of living, moving, and being. It is a “world where many worlds fit” (139)



Pluriverse: a view of the earth as a “world where many worlds fit” (Escobar 2011, 139)



All systems and lives are more closely connected than they appear.

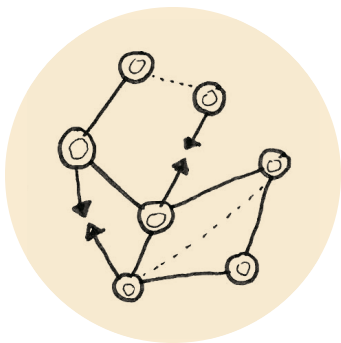
As ‘here’ and ‘far away’ are brought close enough to be overlapping, previously marginalized existences become re-centralized. Here, sets of dualisms—insider and outsider, citizen and immigrant—are challenged, and peripheral, disadvantaged urban inhabitants are given equal footing. This is an urbanism that values conviviality, invaluable for its capacity to be “both aware of, and [work] through, the many spatial formations that make local collective culture” (Amin 2012, 63).

Perhaps the strongest concept these TDs provide is a broadened definition of inclusion, going as far as suggesting that human, non-human, and environmental agents are of equal value in the pluriverse. With this understanding,

Design would no longer involve the instrumental taming of the world for human purposes, but building worlds in which humans and the Earth can coexist and flourish. (Escobar 2011, 139)

Beyond Social Ties

The understanding of radical interdependence the pluriverse gives also moves us beyond the common contemporary approach to public space which is the creation of *social ties*. Ash Amin (2012) argues that although contemporary policy often emphasizes the possibility to address multiplicity in



Social Ties: a term in social network analysis used to categorize relationships as strong or weak. Some architectural theory is concerned with how these ties can be engineered.

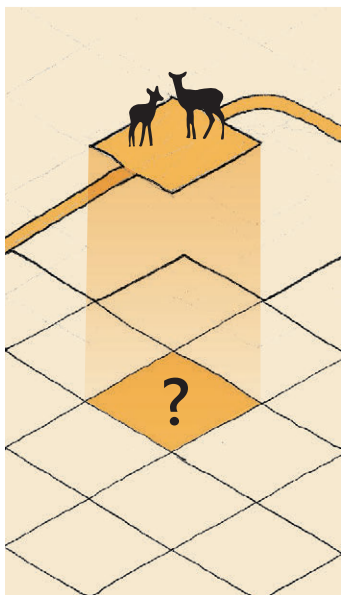
the city by engineering contact, its foundations lie in post-World War II policies focused on assimilation, control, and surveillance to address difference (60). Applying the principles of social ties to the CPR corridor particularly highlights to us the shortcomings of social ties; the forceful use of power is the same policy that saw the development of the corridor in the first place (through continental imperialism) and increased its divisiveness.

In contrast to social ties, which in their quest for purity close off possibility (11), the pluriverse provides a way to consider new possibilities for an exciting conviviality. It equally prioritizes the agency of humans, wildlife, and natural systems by not forcing togetherness, but rather suggests that public space can provide “breathing room”. Here, co-existence is encouraged through opportunities for low-stress interactions allowing habituation to difference through experiences of healthy conflict and friction. These qualities describe the types of spaces designers and planners must aim for—*spaces of appearance*.

Spaces of Appearance

Having a renewed picture of multiplicity in the urban realm allows us to define a general desire for a public architectural program. It distances itself from the generic and universal “general public”, instead considering the potential co-existence of a diverse collective of particular and local inhabitants.

Since public space is where the politics of everyday life is acted out, the type of space it is also influences who is welcome, who can exist there, and what they can see or do. To explain this we turn to historian and political philosopher Hannah Arendt, who termed spaces of appearance (Arendt



What does a space of appearance look like?

Attitude towards multiplicity:	CONTAIN IT	MAKE SOCIAL TIES	VALUE MULTIPLICITY
Here, those with authority...	EXERT Control	APPLY Control	DEMOCRATIZE Control
Results in policy that...	Prioritizes SAFETY	Prioritizes CONNECTION	Prioritizes AGENCY
Creates conditions of...	<i>FEAR</i>	<i>EXPOSURE</i>	<i>AUTONOMY</i>
Per-capita Investment Req'd:	<i>SIGNIFICANT</i>	<i>MODERATE</i>	<i>MINIMAL</i>
Infrastructure Characteristics:	Mono-modality + Atomization LITTLE OVERLAP + SEPARATE CONTINUITY	Mono-modality + Atomization FORCED OVERLAP + MISSING CONTINUITY	Multi-modality + Appearance NATURAL OVERLAP + NEW CONTINUITY

Shifting attitudes towards multiplicity

1958, 198) and defends their necessity. This space is not formal, permanent, or solid; rather, it is the space that is recreated when individuals gather together—creation requiring action. In this sense, architectural impositions are not spaces of appearance in themselves, but rather act as vessels allowing appearance to occur.

Arendt stresses the importance of such spaces, believing in the fundamental political and social necessity of a commons, where the individual openly re-appears in the public terrain and exercises free movement and expression.

Agency to Enact Change

The ability for urban inhabitants to appear and experience co-presence is a particular power—not the power of violence or force—but of collective action (Arendt 1972, 143-55). In Calgary’s heart, the first necessary collective action is simply for potential inhabitants to show up. In this sense, *political voice is manifest as physical presence*—the ability for even unspeaking agents to say “I am here”.



“Welcome” sign made of stretched hide, in all local Indigenous languages. Located at Calgary Central Library.

It follows that these spaces require planning for a multiplicity of everyday lives, particularly for marginalized inhabitants, those typically disempowered by the exclusivity of urban fixes. Its design provides opportunities for encounters, breathing room, and multiple paces of life. With definitions of inclusion broadened and the goal of an architecture of appearance defined, we should consider how a design approach can become conversational and improvisational, a process loose enough to account for the desired collective action of appearance, even at the district scale before deeper community engagement is feasible.

3.2 Design as Improvisation

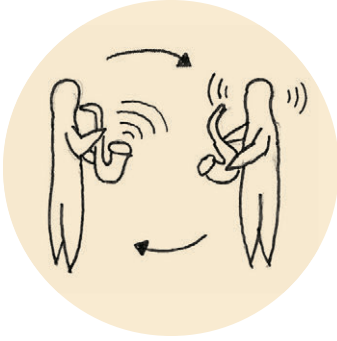
So the fundamental architectural goal is spaces that have something for everyone. If what Jane Jacobs says in *The Death and Life of Great American Cities* is true—

Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody. (Jacobs 1961, 238)

—this brings us full circle to the problem created by city-scale infrastructures:

In situations where individuals cannot be actively involved in design processes, how can planning and design methods create opportunities for inclusion?

For a design method to allow for a realm of possibilities, it must not be deterministic or prescriptive. Co-design methods perform this through activities like interactive modeling, open planning sessions, and public workshops. However, beyond the community scale, these exercises are often ineffectual, capturing the appeals of a limited selection of participants. In particular, they fail to hear the voices of non-speaking (both biotic and abiotic) and marginalized inhabitants.



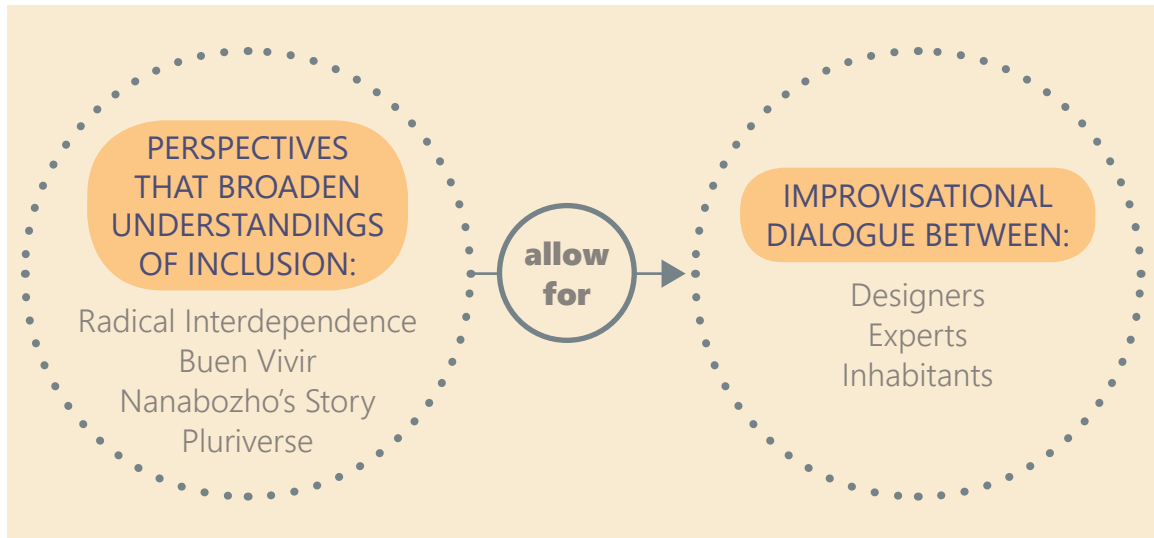
Improvisation: a back-and-forth dialogue, typically musical in nature; for the purposes of this thesis, it is architectural

Improvisation

A helpful framework to understand how design methodologies can capture the essence of co-design methods *before* direct engagement is described by Ruth Morrow and Timothy Waddell (2021) in the essay *Engaged Practices: Learning from Improvisation*. They advocate that design should be a continual *improvisational dialogue* between parties, where the designer acts as an interpreter, translating the needs and desires of community into a formal structure. The result is not end-product oriented, nor is it aesthetically motivated (137). In other words, ego is not of value. The authors use music to draw a comparison between linear Eurological understandings of ‘practice’, where the composer predetermines opportunities for the musician to improvise in a clear hierarchy of authorship, and Afrological understandings, where the musician re-interprets and is included in a distributed authorship with the composer (135).

Making Music Together

The concept of improvisation provides a framework with which to understand the role designers and planners have in this act of distributed authorship. Though they serve the public interest, they are not necessarily the experts in community needs or community-held knowledge. The expertise the designer holds is in *adaptive expertise*, that is, expertly understanding how to facilitate an improvisational dialogue and building the necessary background skills and knowledge to navigate such engagements (137). Designers and planners, by becoming curious about the value of perspectives other than their own, can work with a multiplicity of voices to facilitate holistic development that is at once healthy, regenerative, and reconciliatory.



Perspectives that broaden understandings of inclusion allow opportunities for improvisational dialogues.

This dialogue is uniquely helpful because it allows us to see the role designers have to play as facilitators. Simultaneously, experts of varied natures are valued as those deeply intertwined with particular communities or inhabitants who are marginalized and need a voice.

The performer becomes a collaborative participant in an open work where authorship is distributed amongst composer and improviser... the success and failure of “collaborative emergence” depend on each participant’s ability to listen carefully and with compassion... to alter one’s actions and shift focus from the individual to the collective... All previous practice is provisional; the process is instead continually progressive and generative. It is less about co-refining and more about co-evolving. (135-37)

Roles in Co-creation: Designer, Expert, Inhabitant

Individuals may find themselves playing different roles at different times. Following is a short description of the characteristics of these roles, which help us ask:

Who are the knowledge-holders in the context of where we are working? How can they be valued, engaged, and supported in the process of urban space creation?

Designers: Navigating Geographies

Role: Facilitate and Mediate

Designers understand that there is not necessarily one ‘correct’ understanding of the land and the people who live in it, choosing to listen to local voices.

Experts: Understanding Geographies

Role: Guide and Knowledge-Hold

Experts (those who have had success living with the land sustainably, or are dedicated to research) guide our understanding of conviviality, affording particular expertise for diverse ranges of inhabitants.

Inhabitants: Inhabiting Geographies

Role: Show Up, say “I Am Here”

Inhabitants simply use their voice to advocate for appearance and change. Designers and experts can speak on their behalf in cases when they have no voice of their own.

Mapping a Path Forward with Rehearsals



Rehearsal: activities carried out before a formal performance, encouraging testing, questions, and the imaginative inclusion of new melodies (representing narrative threads of urban inhabitants)

Morrow and Waddell recognize that improvisational design occurs *in performance and in parallel*. This construct is pivotal for the unique situation of this thesis, since the CPR corridor is a city-scale site, its size being a barrier to agency, self-advocacy, and inclusive engagement. In such a context, improvisation is represented by rehearsals, sets of exercises “prototyping the social” (Morrow and Waddell 2021, 138) and laying a foundation for true public engagement further down the line at more local scales. In this spirit, the forthcoming exercises are a *‘rehearsal’*—a parallel of sorts—groundwork for would-be architectural projects engaged ‘in performance’.

Improvisational design mapping is an ideal methodology for rehearsal because it bridges scales, questions normative ways of thinking and seeing, and allows for the appearance of marginalized inhabitants.

It is in the rehearsal by which we gain an understanding of the parts, the melodies, the interconnected weavings of possible individual experiences, and negotiations of everyday life in the city. The rehearsals I have undertaken in this thesis included:

- creative mapping exercises
- interactive physical modeling
- ‘walking the site’ with key experts
- speculative design interventions

Throughout these rehearsals, the back-and-forth dialogue necessary here was the one between the designer and the land. In *Walkable City: How Downtown Can Save America One Step at a Time*, Jeff Speck says: “When making a plan for a downtown, move there for a while” (Speck 2013, 8). I took this advice to heart and lived in central Calgary during 2021 and 2022. This experience gave me a basis with which to understand the desires of inner-city communities, as well as carry out design mapping exercises in person. Though I did not know it at the time, these forthcoming exercises would become central to this thesis, proving to be a thought-provoking way to advocate for inclusion.

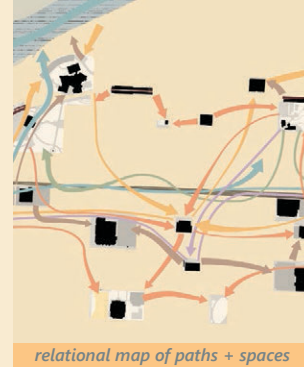
Rehearsal - Prototyping the Social (Thesis Methodology)



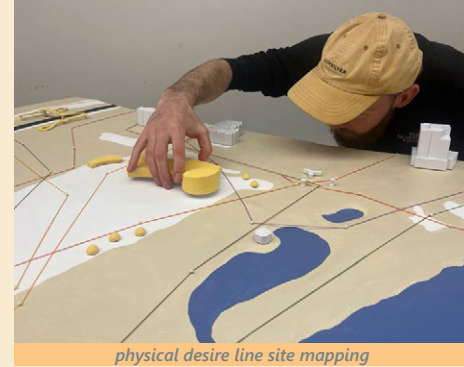
on-site walking investigations



inhabitant desire line mapping



relational map of paths + spaces



physical desire line site mapping



co-design and mapping w/communities



city-led feedback boards



studies including public engagement



public mapping activities



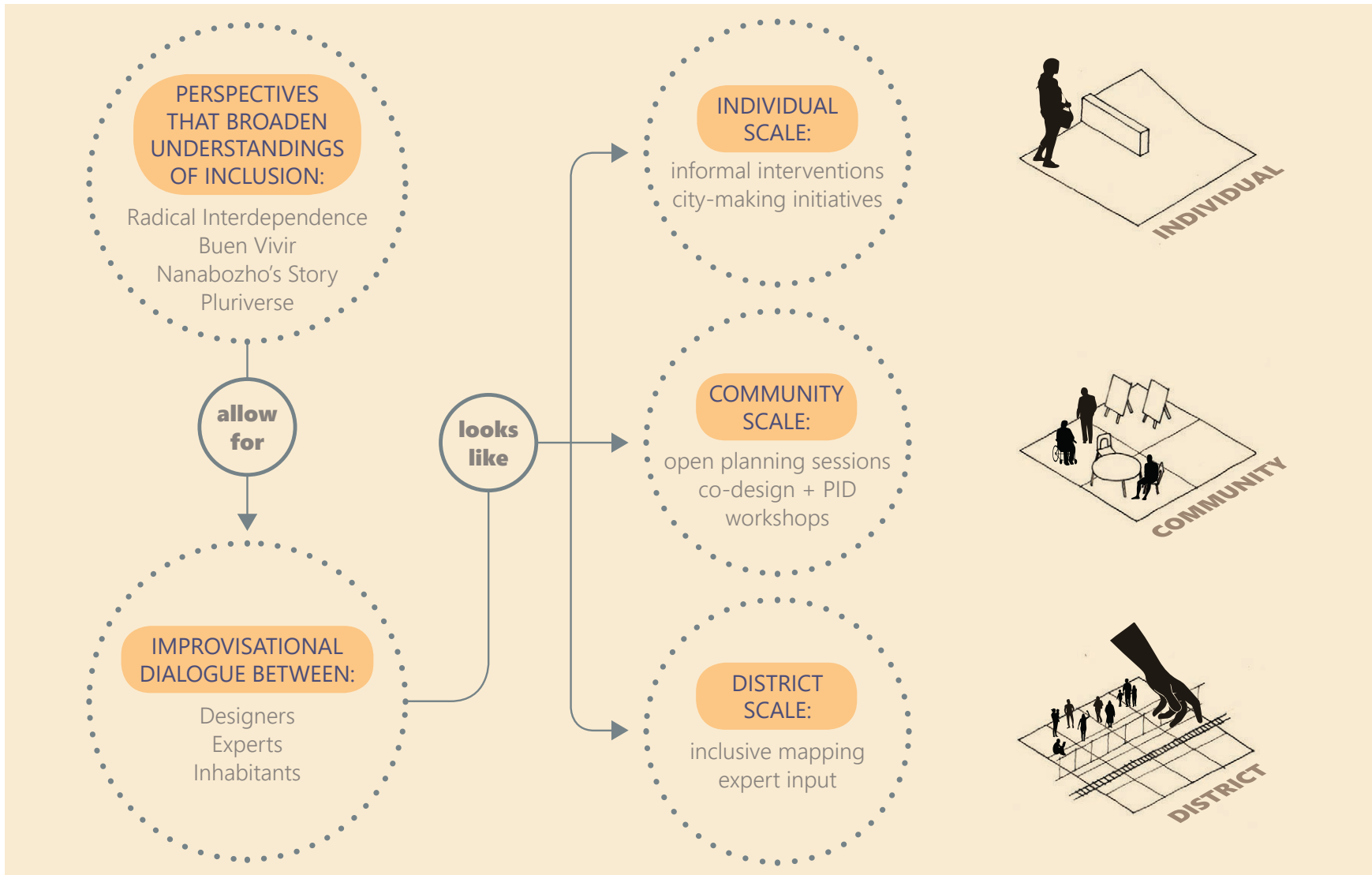
interactive open planning session



community review workshop

Engagement in Practice

Improvisational design in performance and in rehearsal



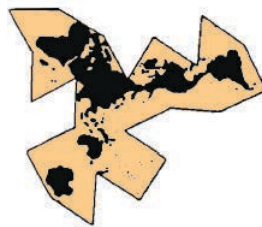
A way of working that encourages inclusion when inhabitants are involved indirectly (district scale) and directly (community and individual scale)

Chapter 4: Critical Mapping

In this chapter, we arrive at a design and planning methodology. It begins by introducing the importance of mapping in the context of urban revitalization, contrasting current urban mapping methods, and discussing best practices. Informed by this, we employ them in a way that drives design mapping activities; the results of the first version of this exploration are shown and discussed.

Intro: The Power of Mapping

Mapping is never neutral, passive or without consequence.
(Corner 1999, 216)



ONE CONTINENT
Bottom of the Astronomical Ocean



ONE OCEAN
Admiral Mahan named it.
The British discovered and used it.



STRATOSPHERE STRATEGIC
European triangle controls the altitude merry-go-round.

Deconstructing the way we see the world. Adapted from "R. Buckminster Fuller's Dymaxion Map" (Fuller 1944).

How the city is mapped, and by whom, is worth our meta-analytical consideration; It is never a passive activity, rather it is a tool that gives or denies agency, always including or excluding certain inhabitants. This matters, since those who have a voice and are involved get to take part in telling the city's story. In urban design, mappings play a significant role in the creation and character of spaces. Landscape architect James Corner (1999) remarks that they "possess great force in terms of how people act" (216), and often serve to justify future policies. In acts of infrastructure revitalization, it is often the first design action, and as a result it somewhat pre-determines possibilities for inclusion.

He continues to argue that "most designers and planners consider mapping a rather unimaginative, analytical practice, at least compared to the presumed 'inventiveness' of the designing activities that occur after all the relevant maps have been made" (216). With mapping being so centrally situated in current municipal design and planning practices, a meta-analysis of the ways in which the land is mapped is necessary to avoid a top-down, generalizing approach to



Terra Nullius: the concept of 'nobody's land', used to rationalize claims to ownership of territory, particular in settler colonial contexts

urban design, especially in order to re-value marginalized narratives. As top-down mapping (making 'plans') generalizes and is *prescriptive* (thus pre-determining exclusion), we must locate alternative ways of mapping urban geographies, ways that are more *descriptive* and 'ground-up', so to speak.

Descriptive Mapping	Prescriptive Mapping
values experience	values dominance
perspective-oriented	plan-oriented
curious	decisive

Comparison between descriptive and prescriptive mapping.

4.1 Prevailing Geographical Conceptions

The history of mapping in Alberta is a compelling case study of top-down plans, allowing us to see that the current geographies of Calgary's inner city are an artifact, a result of prevailing (and limited) conceptions of the land.

Canadian Dominion Land Survey

Though the Canadian government never officiall adopted the policies of *terra nullius* or the Doctrine of Discovery, the

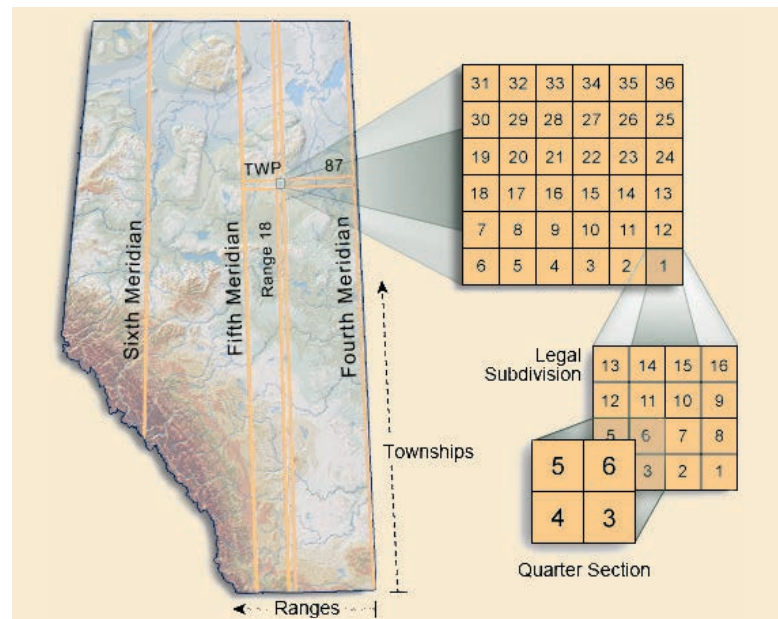
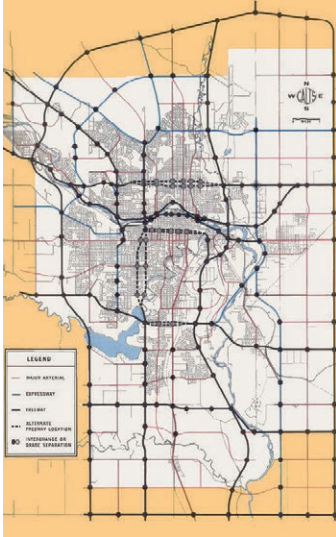


Diagram of Alberta Townships, Sections, Legal Subdivisions, and Quarter Sections (Government of Alberta 2023)

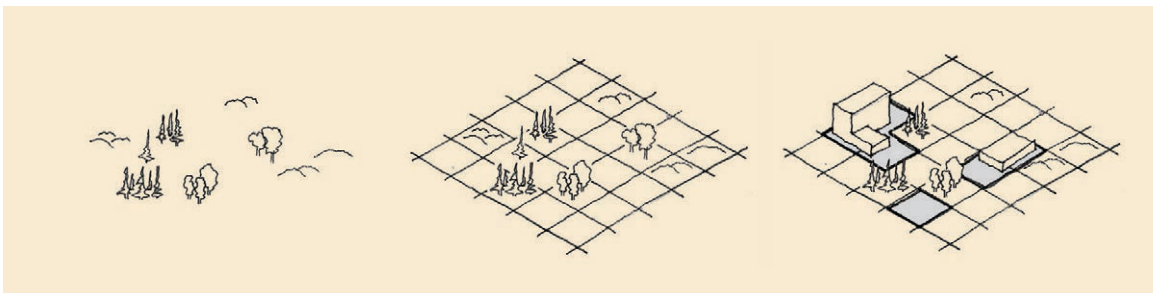


Plan for expected 1986 highway network extending beyond existing boundaries (Calgary Transportation Department 1967)

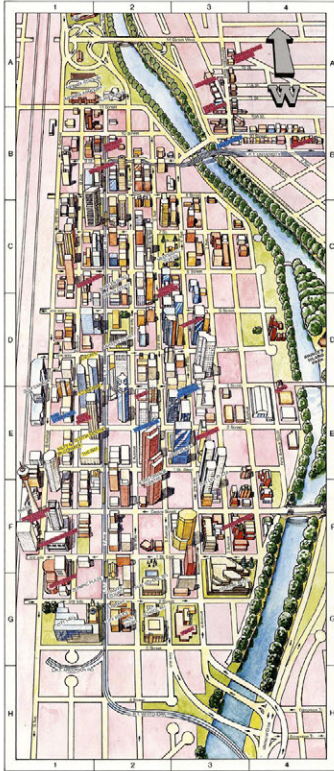
Canadian Dominion Land Survey (DLS) of 1871 effectively divided up most of Western Canada into square mile sections. This action was significant for several reasons. It engrained the conception of land and landscape as property to be settled and owned, in which its value was no longer inherent but now lay in its potential for use as a commodity (Cosgrove 1984, 62). At the same time, it allowed for policies of delineation and subdivision, parceling the land and creating previously non-existent border conditions. Perhaps the most immediately detrimental, lasting effect of the DLS is the way it allowed for the 'islanding' and further disempowering of Indigenous peoples. The First Nations groups in Alberta were relegated to reserves (areas themselves being somewhat arbitrary boundaries drawn on a map) on federal land within a decade of the survey's conception (for more historical maps, see Appendix C).

Urban Fixes: Results of Prescriptive Commodification

In Calgary, we have continued to experience the aftermath of the DLS. During the post-World War II boom periods in particular, the answer for massive population influxes was outward expansion instead of densification, likely because it could be done so fast. City planners found the pre-gridded land easy to work with and create transportation corridors throughout; in fact, past transportation studies even proposed ring roads 2-5 kilometres outside of currently settled areas. So



Land, by being divided into pieces, is perceptually changed from landscape to commodity.



“Calgary’s Easy: City Mini-Map.” Note the empty lots around the rail corridor (Calgary Public Library Archives 1987).

sprawl was not an accident—it was prescribed and planned in advance—and these same lasting effects are apparent within the inner city and around the rail corridor as well.

We should find it rather unsurprising that it is the same principles of this gridded plan mapping keeping the city’s heart exclusive today. Because the land’s value was no longer seen as inherent but rather in its potential for use as a commodity (Cosgrove 1984, 62), urban renewal initiatives over time have rationalized the razing of numerous neighbourhoods and other human-scale fabric (Sandalack 2020, 1). This revaluation saw cohesive urban fabric cleared out, replaced with large single-use blocks of commercial, institutional, and office buildings, along with large surface parking lot

What is interesting is the relationship of this valuation to the rail line and the primacy of vehicular transportation; since space close to the rail line was viewed as ‘less valuable’, this is where many of the downtown’s surface lots were located (and continue to be). Today, these “morphological pathologies” (Sandalack 2020, 1) resulting from top-down plans are the reason for the surplus of space marginalizing would-be inner-city inhabitants.



The result of this abstracted planning is the obvious spatial prioritization of vehicular travel; it is far from inclusive.

4.2 Alternative Mappings

Whereas the plan leads to an end, the map provides a generative means, a suggestive vehicle that 'points' but does not overly determine. (Corner 1999, 228)

Acknowledging the problems associated with top-down plans, we return to James Corner, who advises us to consider mapping as a creative activity, rather than maps as finished artifacts (Corner 1999, 217). This way, mapping is not an end but a means by which to uncover previously hidden relationships, and for us to unearth possibilities for inclusion.

Thinking on the Ground: Relational Mappings

If the top-down plan emphasizes total vision, which Finnish architect Juhani Pallasmaa says “separates us from the world”, perhaps a grounded, descriptive mapping through “the other senses unite us with it” (Pallasmaa 1996, 25). I see this as an essential move, bringing us away from the narrative of a (false) objective reality and towards open-ended possibilities. This quality of open-endedness changes mapping activities from deterministic to generative, allowing the recognition of a multiplicity of narratives and ways of living, and leading to more insightful questions than definitive answers (Pallasmaa 2009, 115). Best of all, a local precedent of such an activity exists.

Local Alternative Mapping: Ackomokki-Fidler

Nearly a century before the DLS, from 1801 to 1810, British surveyor Peter Fidler worked in collaboration with Blackfoot Chief and cartographer Ackomokki II to create uniquely detailed maps of the Plains regions of North America. In cooperation, they recorded the locations of rivers, mountains, and landmarks as sets of relationships, considering experiential qualities, points of interest, and travel times—a

'tour' (de Certeau 1984, 100) of sorts—choosing to represent the landscape figuratively (Beattie 1986, 167) and focused on experience rather than dominance.

We find that as we dialogue with this mapping and embody the perspectives with which it was created, another cosmovision begins to open up for us. In particular:

- The placement of west at the top of the map aligns with the Blackfoot understanding of west as the 'up' direction (Grinnell 1892, 159);
- This makes sense, as all stream and river courses on Blackfoot land flow from west to east (downwards); this presents a shift from the globalized 'total' view of the world to a local one;
- The maps contain no 'left' or 'right'; rather, north is 'back' or 'behind'—a temporal and processional term—spatially relational to a tradition of southward migration (Grinnell 1892, 159);



Mapping by geographical features, highlighting the Bow and Elbow Rivers. Note that the Rocky Mountains on the west side of the foothills are located at the top of the map. "Sketch map "Drawn by Ak ko wee ak a Black Foot Indian 1802", redrawn by Peter Fidler" (Adapted from Archives of Manitoba 1802).



"The river winds that way"



"Two days from here"



"Behind the rocky hill"

Relational landscape
mapping examples



Creative: property of an
activity; having the ability or
power to generate newness

- In the same way that the cardinal directions are understood relationally, locations on the map are framed in reference to one another, with distances conveyed by the period of time required to travel them (Beattie 1985, 173).

Derided by some cartographers of the time for being "utterly unacquainted with any proportion in drawing them" (Belyea 1997, 177), they were devalued for being rough or rude drawings akin to scratches in the dirt or on animal skins. We cannot make the same mistake of seeing these mappings through such a Eurocentric vision. Rather, their geographical 'inaccuracy' and ephemerality help shift our conception of what mapping can be; these maps may only be graphically realized in specific situations, impermanent, requiring gestures, narration, and speech for reproduction (Belyea 1997, 177). All of these actions require those involved to become imaginative, to embody the experience of being *on* the land rather than *above* it.

Embodied Inclusion: Rediscovering Inherent Value

This way of conversing with the land and its inhabitants is itself an act of improvisation. By re-engaging with urban geographies in ways other than the visual, designers and planners can throw off preconceptions about the space. It truly is improvisation, since the map is always a work in process without a final form, a tool by which relationships are uncovered (Corner 1999, 229).

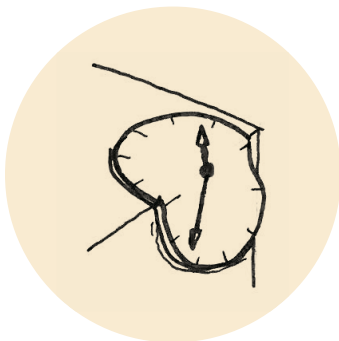
This is mapping as a *creative* activity; it ascribes inherent value to the landscape as it is open to the variety of ways it may be lived upon, interacted with, and interpreted. Mapping experiences in this fashion recognizes multiplicity because by its nature of local descriptiveness regional identities are unearthed, and historically overlooked narratives uncovered



The result of experiential mapping is the revealing of possibility, previously unseen potentials for the inclusion of a multiplicity.

and revalued (Antoniuk 2022, 108). A similar mapping of the city today helps us navigate this plurality of overlapping realities, acting as an extension of the Ackomokki-Fidler maps' embodied descriptions of the land. Through vision (and the 2-dimensional flattening that occurs with top-down plans) we only have our limited point of view, but senses of *chronoception*, thermoception, and kinaesthesia provide avenues to feel space, assuming a more shared experience of the urban realm. So "the thinking process turns into an act of waiting, listening, collaboration and dialogue. The work becomes a journey" (Pallasmaa 2009, 111).

To map in a process-oriented manner actively avoids the failure of universality approaches of top-down planning, by minimizing preconceptions and asking the mapmaker to listen, and see possibilities for conviviality within the complex, often discordant public realm. (Corner 1999, 214)



Chronoception: the sense of passing time; a subjective experience

Guiding Studies

To set up the forthcoming design mapping exercise, we will consider two guiding studies that exemplify this improvisational dialogue. These are exercises that allow us to imaginatively inhabit space through design work, beneficial in that they leave room for reinterpretation. The

first is an exercise of rehearsal, while the second takes similar principles and carries out an act of performance. Together, both show what anthropologist Tim Ingold (2013) calls “thinking in movement” (98), asking the designer to experience urban landscapes firsthand. This is an important step in involved design, since much of what we know is gained through experiences (109).

Philippa Collin: Embodying Exclusion

In *Our City? Countering Exclusion in Public Space*, Philippa Collin (2019) submits an essay called “The Intimacy of Exclusion: An Embodied Understanding.” Assuming that constructions of space are culturalized and experienced differently by individuals and groups, she premises

After all, how can we design for inclusion without a sense of what exclusion might feel like? (121)

Collin says that to design for inclusion, we need to see how space is currently being shared unfairly (123). However, because the experience of exclusion is oftentimes invisible, she suggests that we do as follows:

Try to experience exclusion yourself by putting yourself into awkward positions where you are a minority, then sit with it and reflect. (124)

Applying this to Calgary’s inner city is a useful exercise. In order to approach spaces around the rail corridor with an understanding of how inhabitants may feel excluded by particular urban geographies, it is important to identify what particular exclusions feel like, becoming aware of their limiting qualities. To become more habituated to difference means to embrace it, and even embrace tension at times. This describes an openness that has been largely lost in sheltered normative Western culture. If the heart of the city—and Calgary as a whole—is to embrace a culture of

acceptance and conviviality, we need an understanding of the habituation processes needed to form healthy conviviality (Noble 2013, 34). This is why ways to study the environments, situations, and interactions experienced in the urban realm are invaluable, as it is such experiences that form social habits and teach us how to understand the world and other people, whether or not we recognize it (34).

Monno and Serreli: Juharia Square

This study was undertaken by Valeria Monno and Silvia Serreli (2020) in Alghero, Italy. In essence, a workshop was performed with the premise of using experiential practices to involve the particular understandings of spaces in the city held by vulnerable communities. In this case, this community was largely migrants, individuals who often experience exclusion in cities where space is difficult or uncomfortable to navigate (12). The located site for the activity was Juharia Square, a crossing space of historical significance but with few characteristics making it inhabitable, “[lacking] the



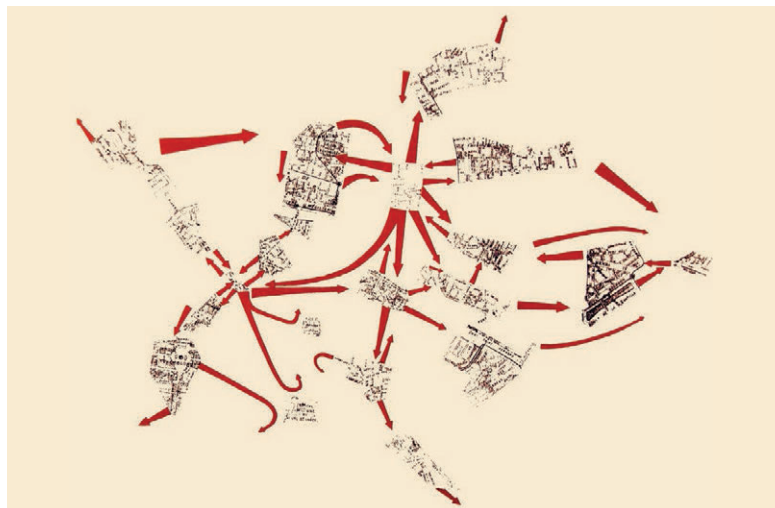
'Unhabitat' created by the weaving of threads (Monno and Serreli 2020)

strength of a space for rest, leisure, and conviviality” (11). Involving teachers, students of various ages, and a group of young migrants, the participants were tasked with taking long coloured threads and ‘drawing’ connections from different spaces and other strands of thread to each other .

The threads built previously unimagined modalities of interaction which were aimed at designing novel entanglements. All participants were involved in Movement and play, thereby becoming makers of performative action... they connected people to one another, to objects, and to space, in order to stimulate their rooting in the territory... participants were able to create novel spaces, new ways of moving, new thoughts and new interpersonal connections across the square. (11)

Through this performance, participants were given an avenue to imagine an alternate future for the life of the square, an opportunity of experimenting with the city. The result of the activity’s aim of “designing novel entanglements” (11) shows us the true potential of such engaged mappings:

The workshop encouraged the implementation of interventions that perhaps would not have been activated, had this cultural event not taken place... [the] experiments write a different narrative concerning places, since they make visible the relationships that give shape to urban space, and redefine them as flows of power relations (Massey 2005) which are liable to being transformed. (12-15)



Debord’s psycho-geographical map of Paris, “The Naked City” (Debord 1957)



New Entanglements:
emergent, previously
unseen relationships or
connections

In essence, involved critical mapping has the potential power to not just imagine possibility, but actualize it through architectural intervention led by urban inhabitants.

4.3 Mental Mapping Exercises

From this point, the two aforementioned exercises—embodying exclusion and drawing previously unseen connections—guided me on an imaginative reading of Calgary’s heart. Since the identified site for revitalization was the rail line, I limited my exploration to 3-5 blocks north and south of the corridor. I structured it as an emergent search for hidden existing relationships (Corner 1999, 224), hoping to design such *new entanglements* as those found in Juharia Square.

Mapping Desires

At the beginning of these exercises, I established a set of specific goals and guidelines

- Listen, feel, breathe in, and move through the site as if I was experiencing it for the first time – with curiosity
- Seek to identify geographies of exclusion by embodying the imagined needs and desires, especially those of marginalized urban inhabitants;
- Take note of what stood out, what brought awe, wonder, or intrigue; where felt restful and memorable, or exposed and uncomfortable.

Giving a Voice: Six Often-Marginalized Inhabitants

In order to embody the needs and desires of urban inhabitants and allow for a functional exercise, I chose a non-exhaustive constituency of human, wildlife, and environmental agents with which to conduct the exercise: (1) children, (2) urban wildlife, (3) the elderly, (4) those experiencing houselessness, (5) the Indigenous community, and (6) water.



<p>Children</p> <p>Needs and Desires:</p> <ul style="list-style-type: none"> - access to the world of adults - spaces to play - development of healthy self-concept - opportunities to interact with, and learn from, the natural world <p>Relevant Experts: Renet Korthals Altes Aldo van Eyck</p>	<p>Elderly</p> <p>Needs and Desires:</p> <ul style="list-style-type: none"> - affordable housing options - programs to help combat loneliness - ability to age with dignity - opportunities to pass along knowledge and wisdom <p>Relevant Experts: Jack Long</p>	<p>Indigenous</p> <p>Needs and Desires:</p> <ul style="list-style-type: none"> - space dedicated specifically towards an indigenous gathering place - opportunities to carry on and share culture and traditions - access to traditionally significant land <p>Relevant Experts: Wanda Dalla Costa Robin Wall Kimmerer</p>
 <p>Urb. Wildlife</p> <p>Needs and Desires:</p> <ul style="list-style-type: none"> - room to move through the urban environment unhindered - productive spaces to forage - ability to feel safe - opportunities to rest and hide <p>Relevant Experts: Shelley Alexander Weisser and Hauck</p>	 <p>Houseless</p> <p>Needs and Desires:</p> <ul style="list-style-type: none"> - consistency of community - a sense of dignity and stability - access to social supports - opportunities for affordable and subsidized housing options <p>Relevant Experts: Gabrielle Weasel Head Ferry and Palleroni</p>	 <p>Water</p> <p>Needs and Desires:</p> <ul style="list-style-type: none"> - to be clean and uncontaminated - ability to inundate the land, at certain times - space to flow unhindered <p>Relevant Experts: Wilson and Inkster AWES Society</p>

Six often-marginalized inhabitants, and some of their complementing experts

The image shows a mobile application interface for recording. On the left, a list titled "All Recordings" shows entries from T101 to T108, each with a date of Jan 2, 2023, and a duration. Below the list is a red circular recording button. To the right, four maps are displayed, each with handwritten notes and red circular markers indicating recording locations. The maps show various urban areas, including streets, parks, and landmarks like "County Road House" and "Crowchild Park".

in-the-moment voice recording

recording location reference map

notated post-walk recording translation

Number	Checked	Description	Notes
T96	moment	Community Sign - Carry On Bravely + positive interaction w/houseless man	
T97		POWs	
T98		Boxing Gym	
T99		Crowchild Park	
T100		By Skaters for Skaters skate spot	
T101		Pumphouse park	
T102	condition	Look listen live sign - can't see when covered in snow	
T103	opportunity	great surface level crossing under bridge, should be used	
T104	exclusion	No sidewalks	

Methods of record-keeping from in-person mental mapping exercises

Exercise 1: Urban Exploration

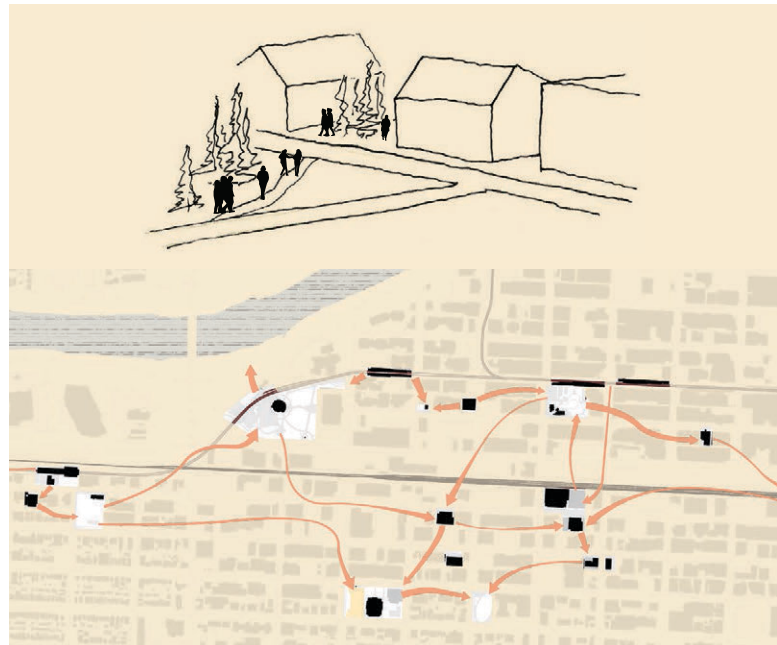
The first exercise was the foray itself; In late December of 2022, I walked streets, parking lots, park spaces, and alleyways around the CPR corridor numerous times over the span of a week, moving in excess of 20 kilometres. Along the way, I made stream-of-consciousness voice recordings of my experiences (represented above), keeping in mind the pre-established guidelines.

Exercise 2: Urban Analysis

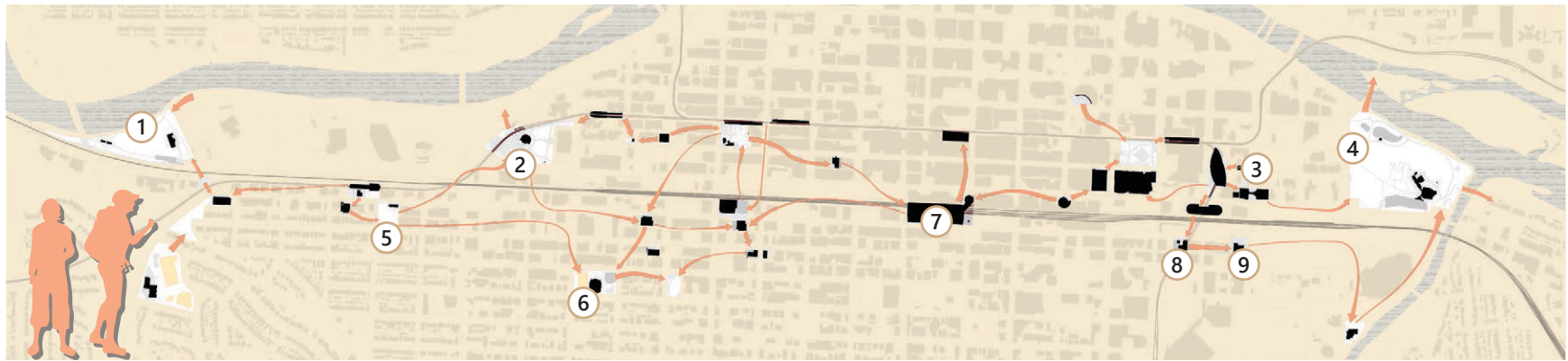
The discoveries from this initial foray allowed for the creation of a programmatic inventory of sorts: a unique list of spaces of desire, inclusion, exclusion, and other noteworthiness.

I was then able to use this inventory, considering what desirable spaces were both easy and hard to get to, and imagine desired paths, or *desire lines*, leading from and connecting spaces to each other.

This allowed me to project myself, through imaginative embodiment, in the place of the six chosen inhabitant groups, descriptively suggesting how they may want to move through the city and the spaces between which they desire to move on a day-to-day basis. Embodying these identities allowed for the articulation of trajectories that could be made somewhat 'objective', a geo-location of desire paths. This exercise is presented as a set of mappings, one for each group of speculative inhabitants.



Routes taken, or desired, are often not always the 'planned' paths. Inhabitants take shortcuts, meanders, making and re-making space. These are desire lines.

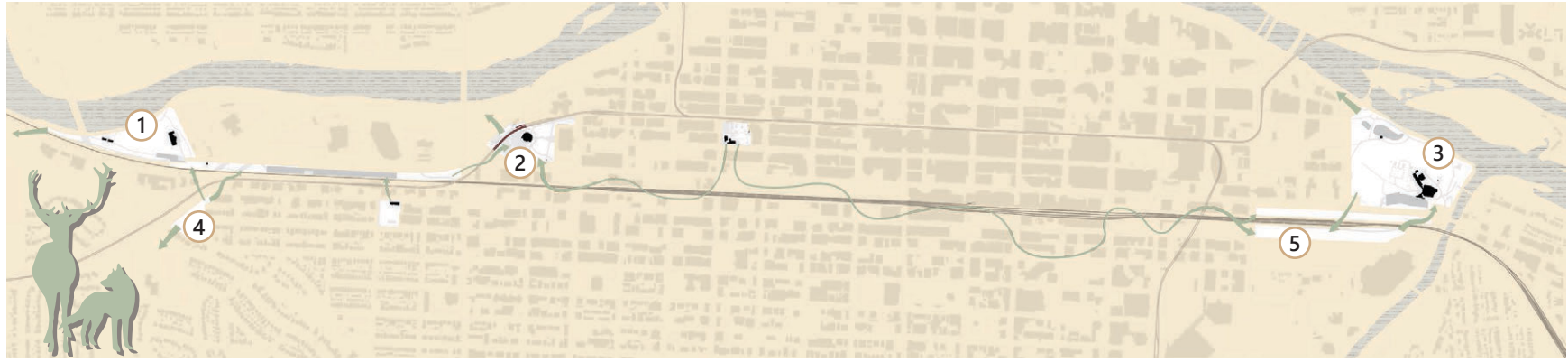


Children

1 km



Mapping 1. Inhabitant: Children

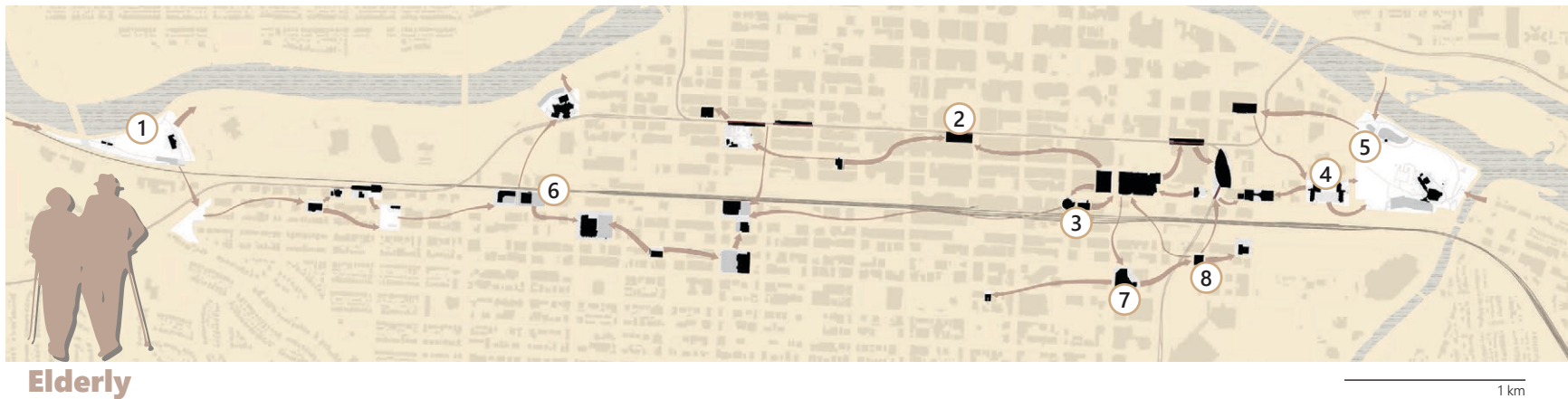
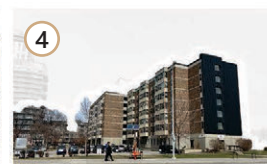
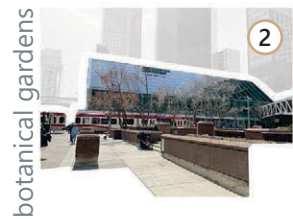


Urban Wildlife

1 km



Mapping 2. Inhabitant: Urban Wildlife



Mapping 3. Inhabitant: Elderly



light rail transit

1



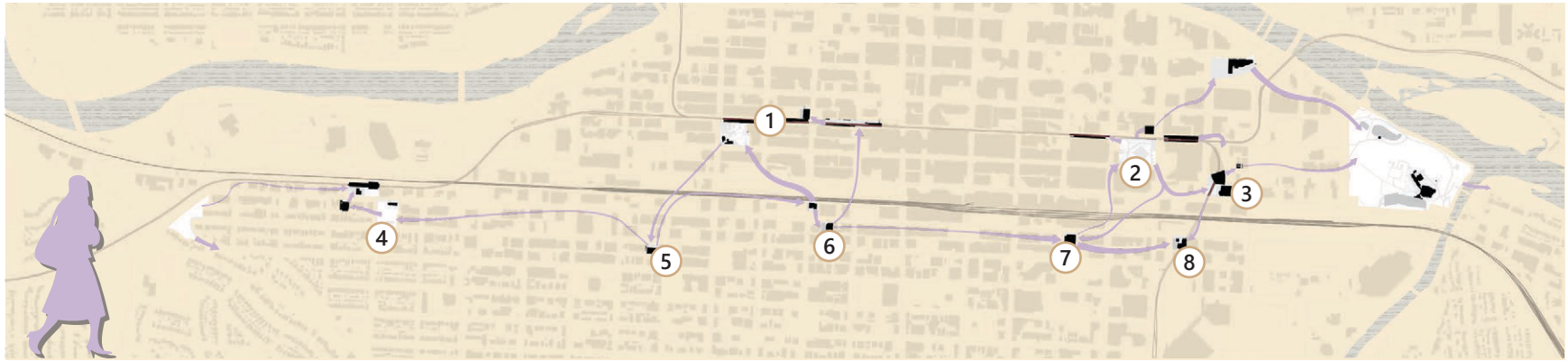
public plaza

2



3

housing,
social support



Houseless

1 km



community programs

4



affordable clothing

5



bottle depot

6



housing, soc. support

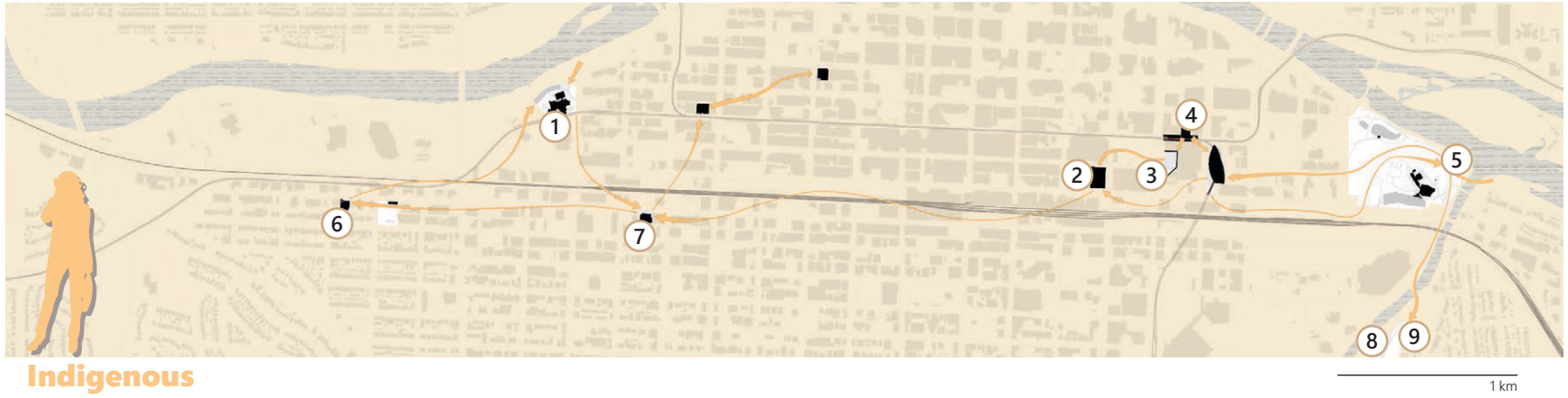
7



employment resource

8

Mapping 4. Inhabitant: Houseless



Mapping 5. Inhabitant: Indigenous



Mapping 6. Inhabitant: Water

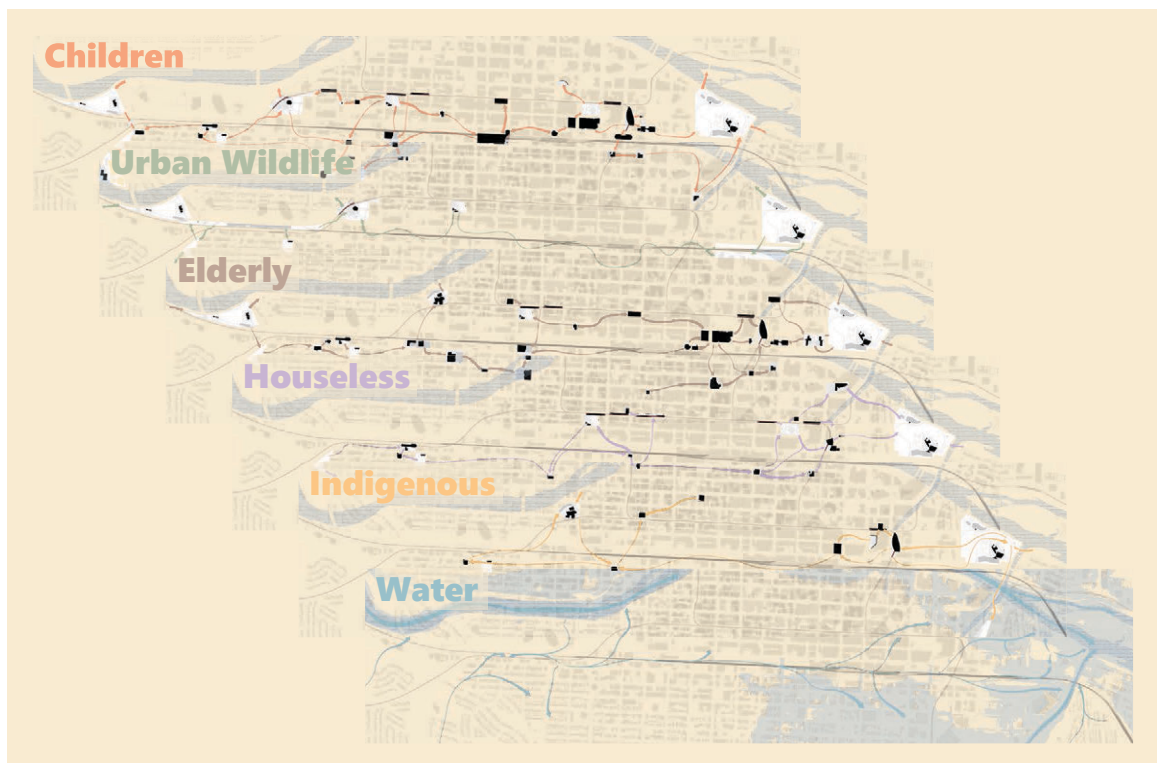
Findings

Since these mappings stood in as the translation of experiential readings of the site, their visual content allowed the beginnings of new relationships to form:

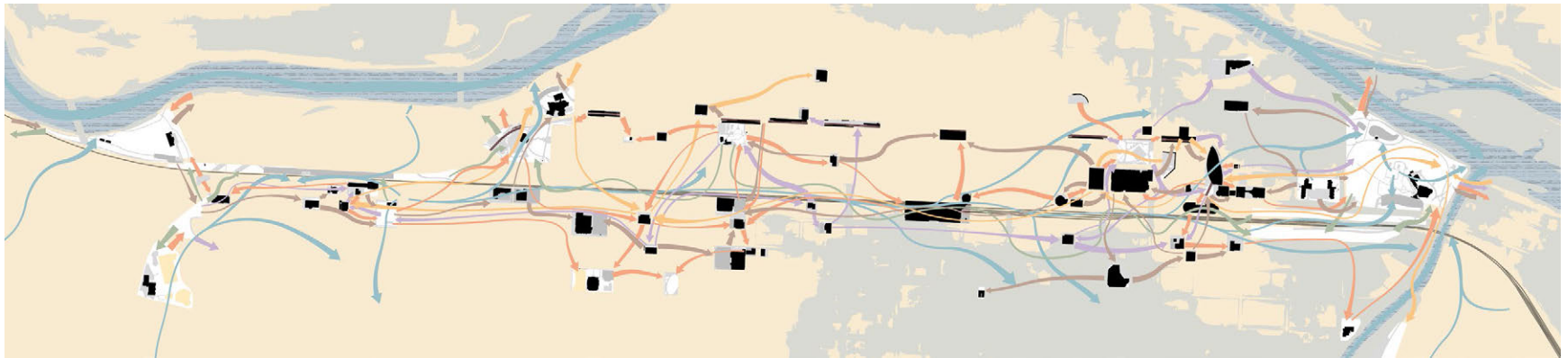
- long and short distances between spaces;
- movements requiring (often difficult or impossible) navigation across the rail corridor.

In the spirit of multiplicity—considering that these desire line mappings act as a translation for six ways of seeing the ‘world’ of the inner city—I produced one more mapping, this time overlaying each of the maps into one coincident grouping.

By mapping in such a way, multiple overlapping movements that may occur around the corridor are located on the same plane, giving equal priority to each speculative inhabitant and suggesting conviviality.



The six inhabitant mappings, beginning to be overlaid



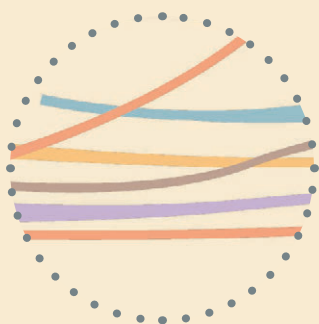
Final Corridor Mapping: All speculative inhabitant mappings overlaid

This overlaying of maps and desire lines allowed for new speculative relationships to emerge. Similarly to the results of the study in Juharia Square (Monno and Serreli 2020), the layering of desire line ‘threads’ resulted in new ‘interpersonal’ connections, points of friction, and contact.

The strength of this mapping activity is that I was able to visualize the corridor’s urban geographies in a new way. This way, the city is re-spatialized, *questioning the literal and suggesting the possible*.

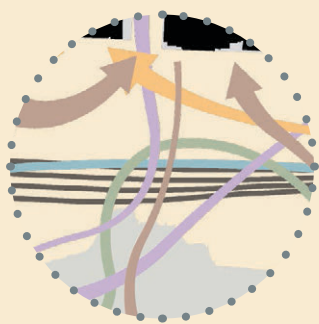
Discontinuity

Lack of support for more than one type of quotidian lifestyle leads to inability to access space.



Overlap

Individuals dis-empowered from healthy co-existence; public spaces become pressurized points of possible conflict.



Examples of discontinuity and overlap on the experiential map

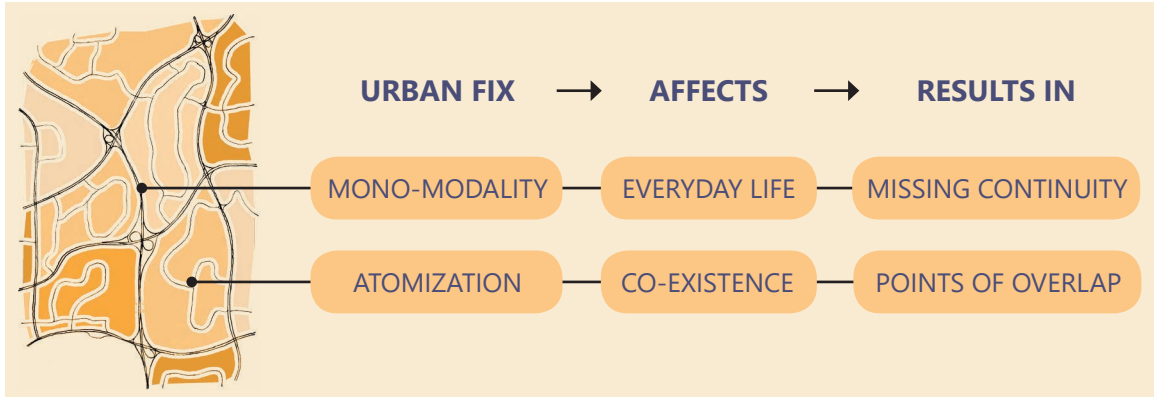
(Dis)continuity and Overlap

In suggesting the possible, we find a common recurrence of two conditions: (dis)continuities and overlaps. The former describes areas of missing continuity, gaps or long distances hindering movement for non-normative inhabitants and making space less supportive of multiple everyday lives. This happens where lines of desire ‘draw thin’, with few nearby desirable spaces to afford connection

The latter describes points of overlap between inhabitants, pinch points where co-existence is necessary but may result in conflict, with multiple inhabitants desiring access to the same space but having no programs specifically for them

A Common Thread

Helpfully, these emergent relationships bring us full circle, back to our ‘way in’ to seeing the issues at hand. The contemporary reading of Calgary conducted in Chapter 1 (the purpose of which was the location of limiting infrastructures) revealed to us the two main operations by which appearance in the heart of the city is limited: mono-modality and atomization. In terms of urban geographies,



The relationship between urban fixes, what they effect, and wha that looks like in terms of urban geographies

we located the effects that these urban fixes have: missing continuities, and points of overlap, respectively.

To me, this is the strength of inclusive mental mapping activities; not only do they give appearance to inhabitants in large-scale pre-design situations, they also describe and suggest previously hidden relationships at local scales of communities and individuals.

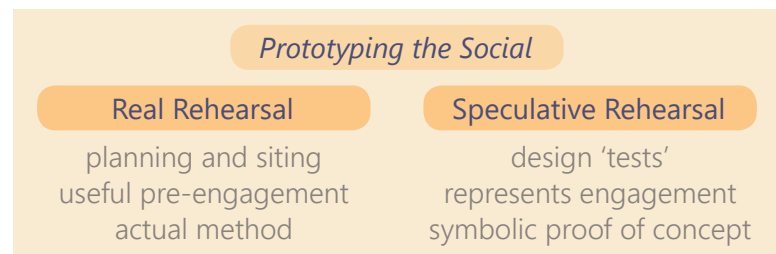
Clarifying Positionality

The primary takeaway of these exercises is that involved activities of experiential mapping are particularly useful in addressing the issues of exclusion caused by limiting infrastructures, where inhabitants are often left voiceless. Municipalities like the City of Calgary would do well to adopt and implement such practices.

The other benefit of mapping within such a framework is the more local sites of inhabitant overlaps it suggests. However, I want to be clear that I am not suggesting that siting (planning) and architectural design are performed in the same manner of *improvisational rehearsal*. At community and individual scales, frameworks for actively engaged co-design processes exist and can be successful—so no speculative mapping is

needed—as inhabitants can directly engage and be heard in the process, with previous mappings having broadened the spectrum of included constituents considered in engagement.

That is to say, the forthcoming design exercises, while seeking to prove the viability of emergent design arising from embodied mappings, are not ‘real’ rehearsals but speculative ones, representing what should be a community-driven exercise.



Positionality of the thesis in regards to planning and design rehearsal methodologies: two methods of “prototyping the social” (Morrow and Waddell 2021, 138).

Because the design interventions are emergent in nature, their resolution is just my iteration. Others can perform similar mappings and exercises, with varying outcomes. For myself, discontinuities highlight the need for improved access to spaces. For access to be democratized, I suggest a ‘habitat’ meandering above, along, and beside the rail corridor’s right of way (ROW). Overlaps—hotspots of intersection, juxtaposition, and friction between inhabitants—guide the location of architectural interventions within this field

As we enter the arena of architectural design, we are reminded of the particular power architecture has to affect urban geographies, working as a mediator enabling the spaces of appearance which are our desired goal. Speculative interventions hope to answer a final question

What sorts of architectural infrastructures can experiential mapping cultivate?

Chapter 5: Groundwork for Re-vitalization



CPR rail corridor current conditions

With the corridor ROW in Calgary's heart as a site, a strategy is needed to create continuity for access. To do this, we will consider the previously discussed potentials held in the corridor, and take our developed attitude towards it—an opportunistic one—to make what currently limits into a realm of possibility, guided by experts in the process.

From Mewata to Mohkinstsis: Extents

If we continue the imaginative exercise of considering desire lines, we can suggest a 'field of sorts for the imagined everyday trajectories of inner-city inhabitants. The qualities of this field should be as follows

- it maintains a certain level of continuity; that is, inhabitants can move across the habitat relatively unhindered;
- it allows inhabitation for all forms of life;
- by this allowance, it accounts for a variety of different ways of moving across geographies: walking, running, biking, skating, flowing
- it considers the desire for movement both day and night and is accessible year-round, even in snowy conditions.

Comparing these goals to the (previously mentioned) positive aspects of the CPR rail corridor, we find that the line itself presents an ideal infrastructure with which to locate a 'spine', or central organizing element, of this habitat. Its relative flatness, pre-existing continuous ROW, and central location are ideal. With its extents stretching beyond both boundaries of the downtown core, it provides a central structure all the way from the *Mewata* (derived from the

Cree word miyawâtam meaning “they are joyful”) area in the west to Mohkínstsis on the east.

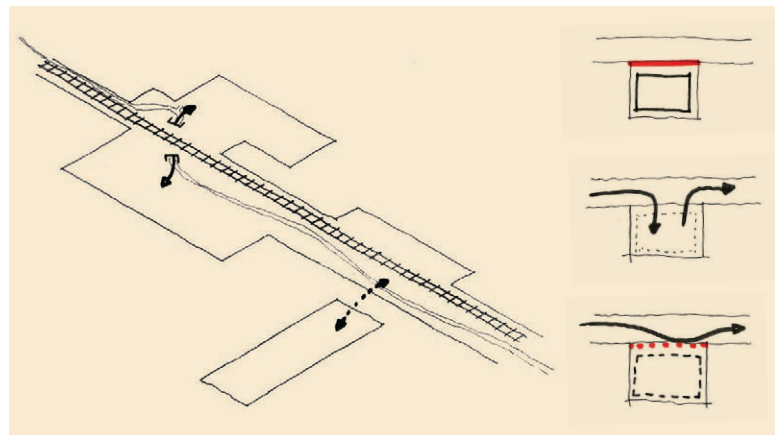
Now we are able to put to use the mapping explorations performed earlier—particularly Exercise 2, where we made an itinerary of spaces of desire, inclusion, exclusion, and other noteworthiness—to use.

5.1 Creating Continuity for Everyday Life

If the corridor infrastructure connects disparate spaces and constituencies instead of dividing them, boundless new opportunities for co-existence and multiplicity open up.

The conducted speculative mappings advocated for space for life to happen; with this goal in mind, it follows that we can use the geo-located spaces to suggest a simple proposal defining the extents of the desired habitat.

- Desirable spaces around and alongside the spine for all six inhabitant groups are treated as extensions of the habitat, and mapped together;
- Recognized spaces of opportunity (such as vacant spaces, parking lots, and less busy streets) and exclusion (adjacent inhibitory infrastructures) are added to this network;
- From these identified spaces, a speculative boundary of extents is defined for a semi-continuous habitat





Using the corridor as a spine for general habitat continuity

1.
All desirable spaces for the six agents mapped together.



1. desirable spaces

2.
Minimal intervention strategy recognizes immediate spaces of:

- opportunity 
- exclusion 



2. spaces of exclusion and opportunity

3.
From these identified spaces, a boundary of extents is defined for a semi-continuous habitat connecting spaces and giving access is suggested.

- existing river valley pathway 



3. habitat extents + existing river valley pathway



Preliminary drawing exercises imagining the qualities of the habitat

Walking the Site with the Experts

This definition of extents will soon allow us to suggest various mediating architectural interventions within it to encourage healthy conviviality. Yet, before we can do this thoughtfully and coherently it is worth considering the intimate qualities of this newly defined public commons, since these qualities of space set the foundation for possibility. With this in mind, we can recall that ‘design as improvisation’ should involve not just designers and inhabitants, but also experts with key understandings guiding the process. By this framework, we will imagine that we are walking the length of the corridor with these experts, engaging in a fictive conversation—a transfer of knowledge—which can be applied to interventions on the site. This dialogue is represented by a combination of the writings of researchers, urbanism experts, and other voices, interspersed with my own thoughts and translations. This approach is paralleled in the forthcoming design exercises, which employ the same method of *research-dialogue*.

Naturalization/Re-wilding

- Urbanist Charles Montgomery (2013) is adamant that every bit of nature helps; daily exposure—seeing and touching—is essential, and cities need green at all different scales (120)
- Brenda Lin et al. (2014) show that interaction with and exposure to nature plays a significant role in physical and mental health, as well as social cohesion and cognitive function (1);
- Mikael Colville-Anderson (2019) postures that re-wilding reverses the “Arrogance of Space”.

Beyond the valuable benefits to health, moves to re-wild space create an ease of access, with previously unseen opportunities for connection of natural spaces. The dedication of more natural space also means less negative conflict between inhabitants with conflicting need



The river creates eddies (slow areas) and meanders (points of connection).

A Path that Meanders

- Christopher Alexander, Murray Silverstein, and Sara Ishikawa (1977) argue that accessible paths should be safe, and go through interesting parts of the city. They should be considered integral to systems of movement. The greatest potential of such paths is their ability to connect spaces often out of reach (295).

Just as the meanders of the river create eddies (slow, safe areas) and meanders (faster areas for movement and connection), a meandering path along the corridor weaves the fabric of the space, making room for a diversity of paces, uses, and possible destinations. The path reaches beyond the linear ROW and escapes its boundaries, activating adjacent programs. Such actions suggest tangential movement, rubbing past and alongside, relationships of unforced interaction, and allowed friction. To find a healthier, slower pace in the heart of the city, considering a river-like path is a good place to start.



Nodes: shelters and lighting

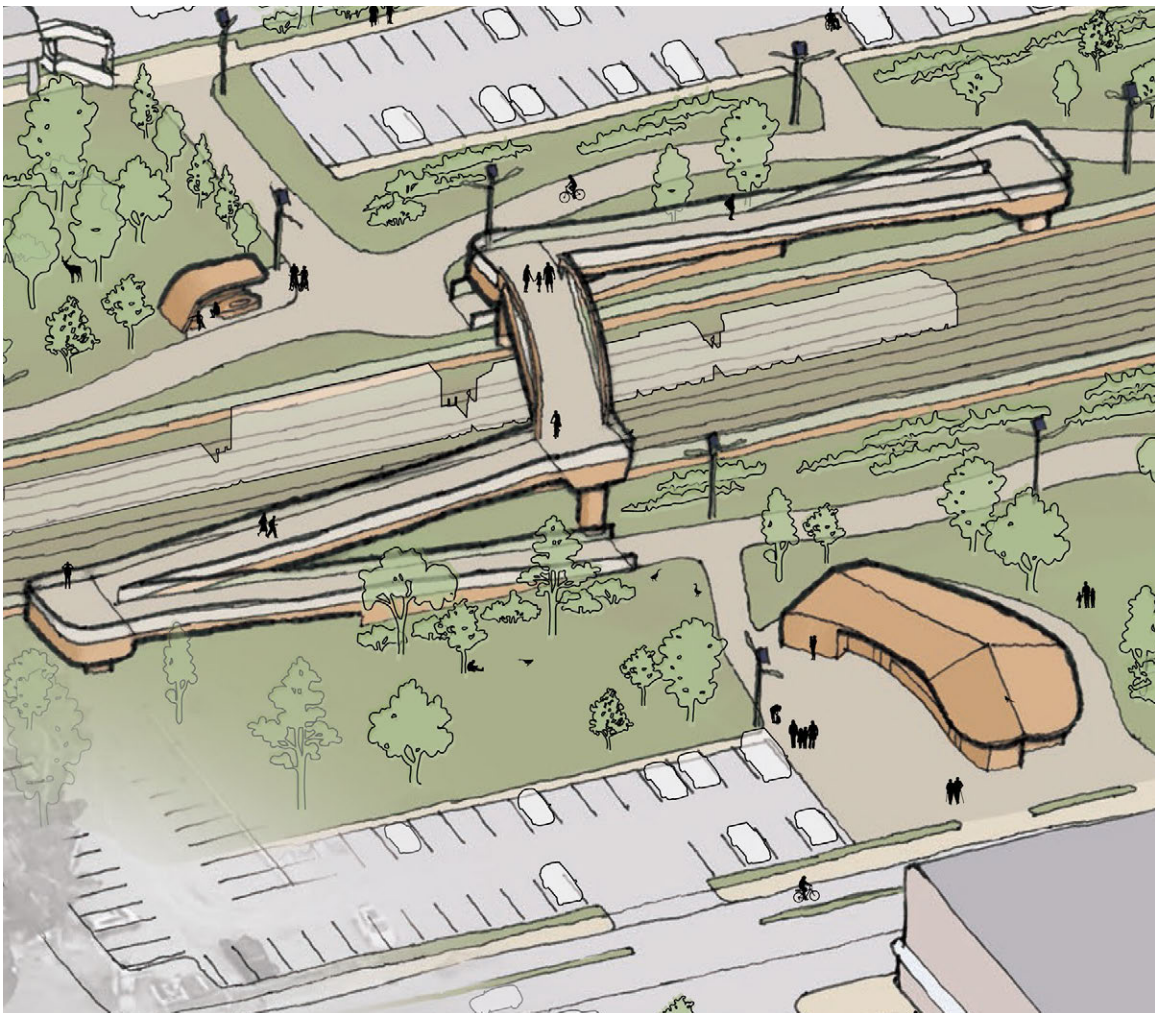
The problem with the straight line is simply this: once it has reached its end, what then? (Ingold 2013, 139)

Nodes for Warmth and Connection

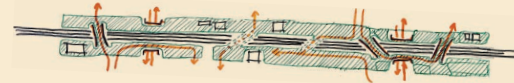
- Peter Hargraves (2021) describes how shelters can provide delight for the senses, encouraging the desire to move from one spot to the next (30);
- Movement keeps the person warm. Small steps lead to big journeys (31);

- There is a strong need for sharing common experiences (Turner 1969, 170)—nodes can be spaces of meeting and chance interaction;
- David Chapman et al. (2019) speak in their research about winter city urbanism to how the consideration of lighting and legibility (ability to understand how to get from one space to another) is crucial to overcome barriers to year-round use (9).

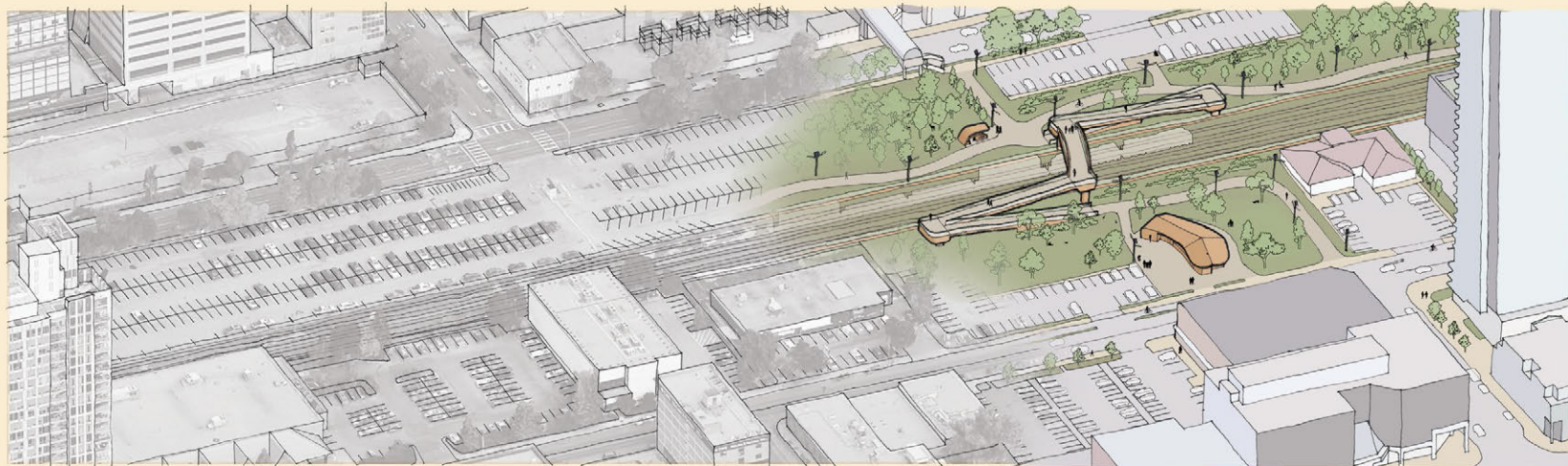
Warmth can be found in active movement, but the ability to slow down is needed, so places with shelter along the path are important. Especially in cities like Calgary, the feasibility of year-round multi-modal movement depends on the path being punctuated by spaces of rest.



Rail corridor as urban habitat: a snapshot



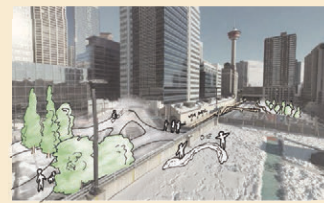
The corridor today...

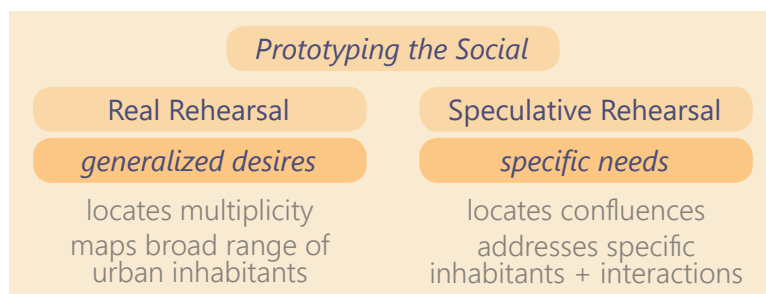


...what it can be.

Embracing the Line

When the CPR corridor is viewed as a catalyst for change with positive potential, its latent ability to support life can be seen. Instead of turning our back to the line, it can be embraced and re-wilded, creating opportunities for warmth, rest, and year-round access.





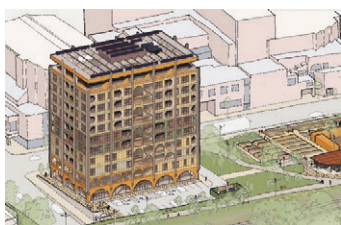
The value of speculative design exercises is in the way they reveal how previous mapping activities lay a foundation for specific needs of urban inhabitants to be addressed

5.2 Design Positionality and Ethos

With the foundation of an imagined habitat, we are now able to take a closer look at some of the unique, overlapping trajectories of marginalized inhabitants desiring spaces of appearance. From a selection of these overlaps, speculative architectural proposals will emerge within the revitalized corridor's extents. Where the 'real' rehearsals of mapping speak to the *generalized desires* of inhabitants, these speculative design proposals address *specific need* .



landscape



adaptive reuse



new build

Interventions representing three conditions of overlap and three stages of infrastructural intensity

They are carried out similarly to the corridor strategy—a 'walking of the site' in fictive dialogue with experts—but translated into more specifically spatialized, architectural operations. As each intervention mediates the unique needs of different inhabitants in unique locations, each takes on differing forms

Ethos of Minimal Intervention

In this framework, the role of design is to suggest programs that support varied needs. The forthcoming interventions do not attempt to 'solve' conflict or engineer connection, rather valuing friction and tension as the habitat—and natural environment—does. Three interventions are proposed; each corresponds to a different level of infrastructural intensity.



Re-Creation Park



Third Space Place



Siiko'tsikokaan Point

This way, we can ask questions rooted in sustainment, such as:

What is the smallest amount that architectural projects can impose on urban geographies while having the most positive impact?

Landscape, Adaptive Reuse, and New Builds

The first intervention is primarily concerned with revitalizing landscapes. It emerges from a navigation of the needs of children and urban wildlife between the areas of West Village and Sunalta; I've titled it Re-Creation Park.

The second considers revitalization through adaptive reuse, in the form of a commercial-to-residential tower conversion. It emerges from the needs of the elderly and houseless in a central location near the Calgary Tower and Olympic Plaza; It is called Third Space Place.

The final intervention is focused on the potential of a significant traditional site that, when revitalized, will truly support multiplicity in a unique way. It emerges from the needs of Calgary's Indigenous community and the natural forces of water at the confluence of the Bow and Elbow Rivers; I've named it Siiko'tsikokaan Point.

Although the interventions are speculative, each exercise dialogues with current discourses in the City—Area Redevelopment Plans, proposal documents, and calls to action—and presents arguments for real feasibility.



Habitat field of extents, with locations of three speculative interventions: Re-Creation Park (1), Third Space Place (2), and Siiko'tsikokaan Point (3)



Speculative site current conditions

Chapter 6: Re-Creation Park

This intervention emerged to meet the needs of children and urban wildlife desiring to navigate through space in the west end of downtown; they are currently limited by various infrastructures, most notably the separated traffic of Bow Trail west and east and 14 Street SW (running north-south).

6.1 Navigating Conflict

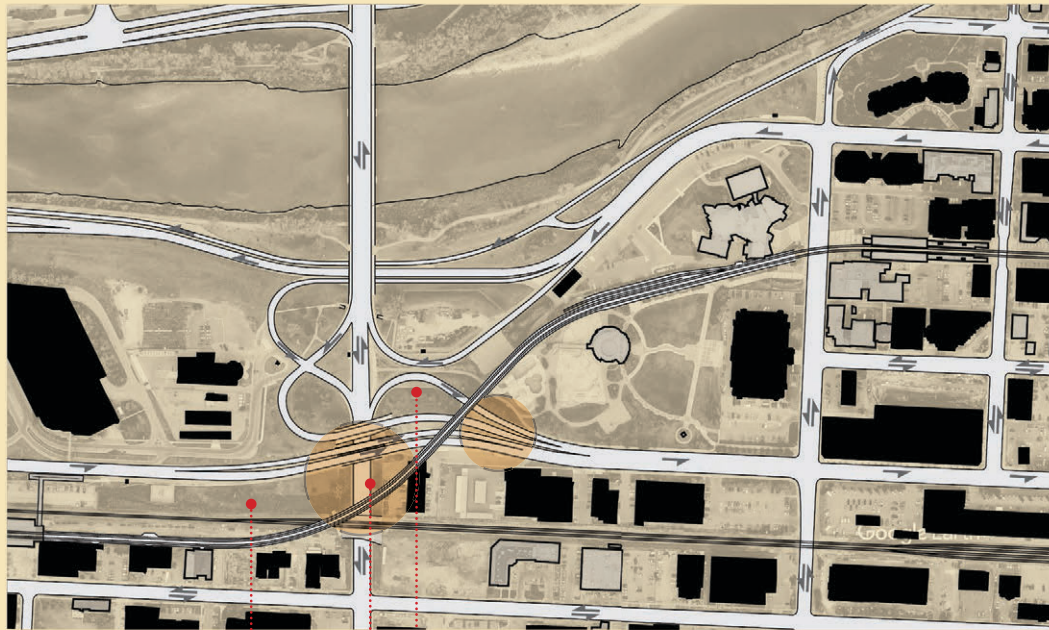
Re-Creation Park is located near the west end of the corridor; it bridges (quite literally) between the existing river valley natural space along the Bow, a large recreation space just north of the rail line, and the neighbourhood of Sunalta to the south of the corridor.



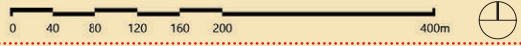
Intervention location

1 Re-Creation Park

An intervention imagined by re-naturalization + landscape negotiation. Primarily concerning *play* and *survival*, for **children** and **urban wildlife**.



Existing Site

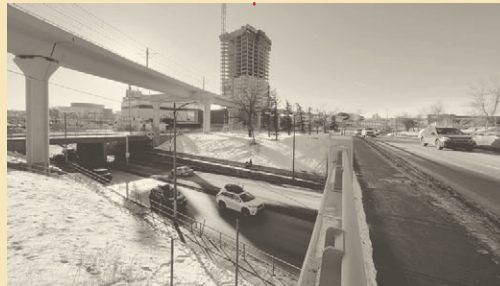


Navigating Conflict

Re-Creation Park is imagined to be located near the west end of the corridor. Currently consumed by inefficient roadways, children and urban wildlife desiring movement between the river valley, recreation and natural spaces north of the rail line, and the neighbourhood of Sunalta to the south experience disabling limitation. Re-Creation Park serves as a less-intensive counter-proposal to the City's current West Village Redevelopment Plan draft.



large but isolated natural space

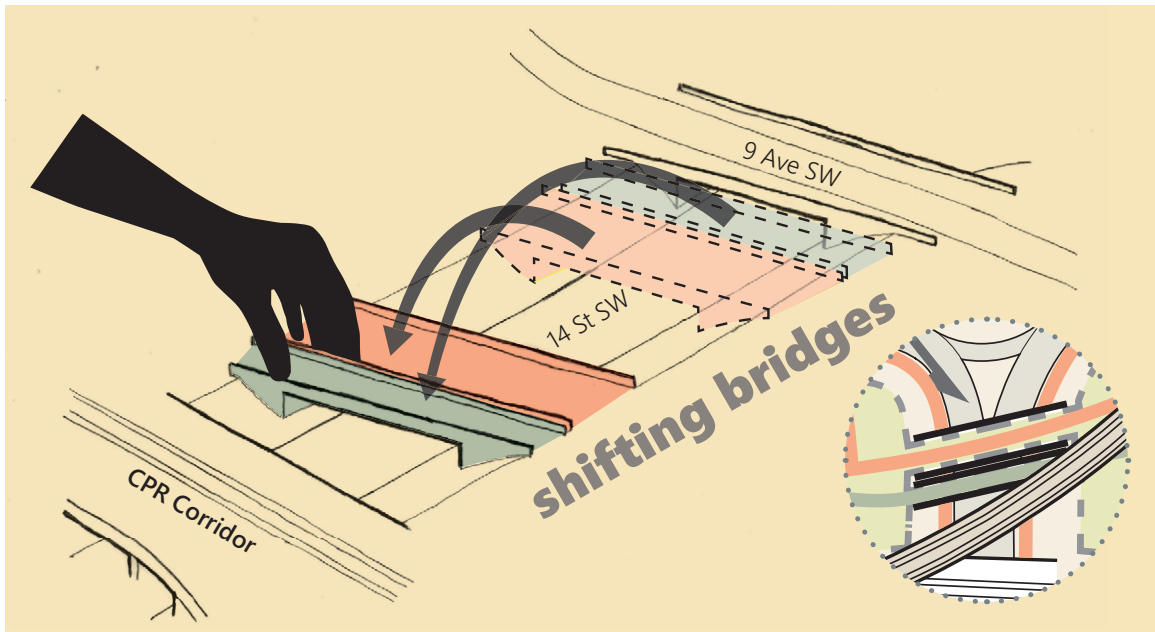


bridges and traffic galore



fractured connection to river valley

Existing site and site photos



Shifting bridges

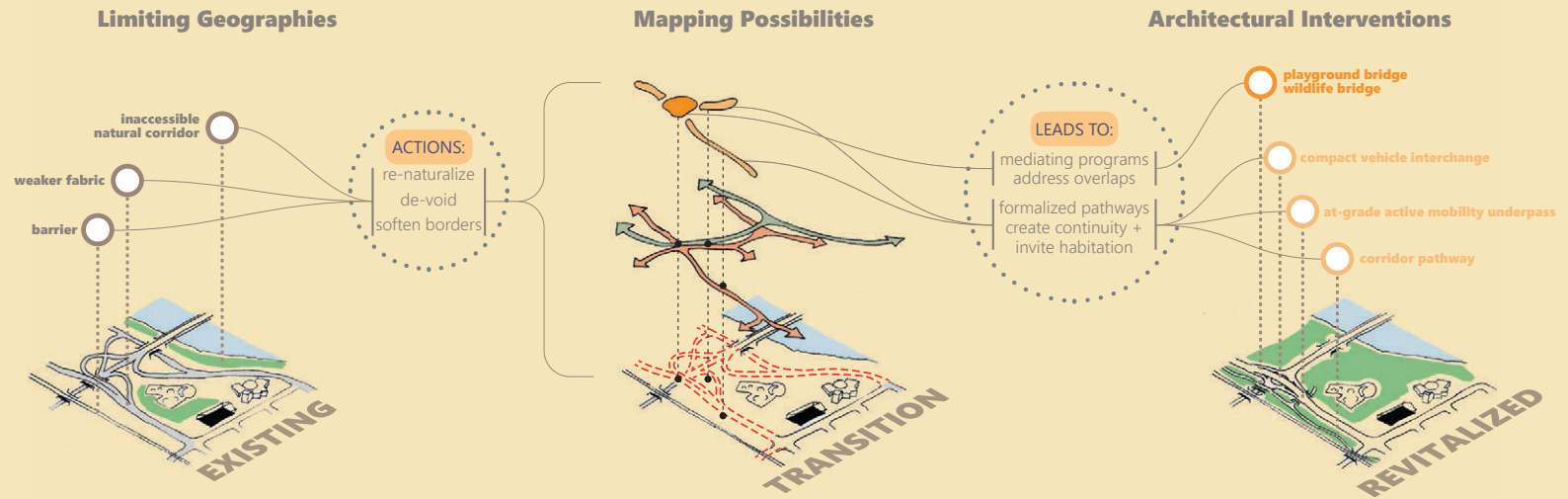
Addressing Limiting Conditions

I first considered how to provide equitable access to the heavily road-prioritizing space through minimal amounts of change. I found that a simple re-alignment of roadways (bringing Bow Trail together and navigating its intersection with 14 Street via a traffic circle) opened up new possibilities for movement through the site. These actions also make a pair of bridges superfluous and available for repurposing as a park and wildlife corridor.

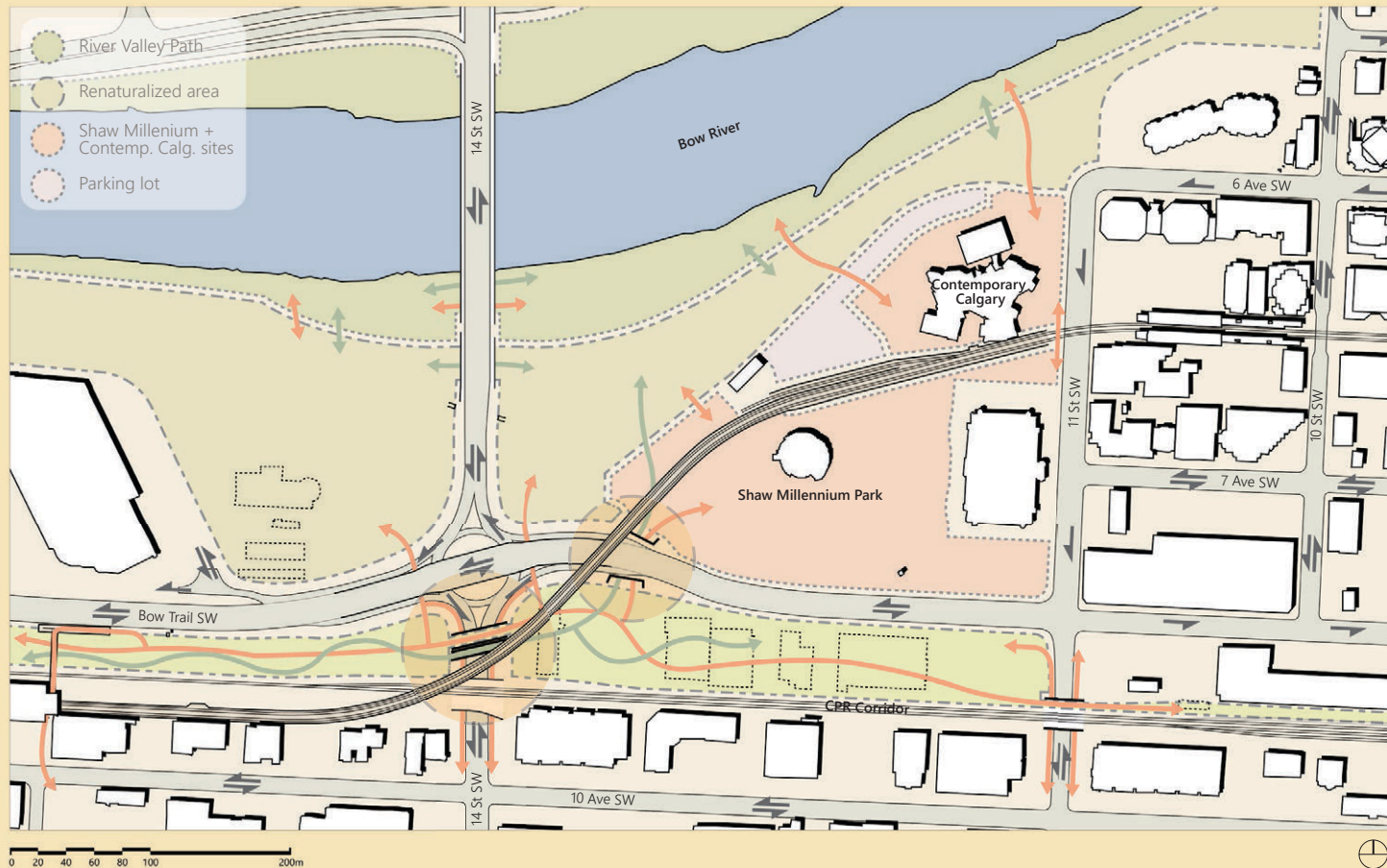
Inhabitant Needs

Children and wildlife are often limited in similar ways; they both need space that is safe and protected in order to healthily move through the urban realm, as well as opportunities to become habituated to difference and minor conflicts in a safe manner. Providing spaces of unique quality for both groups—with an appropriate distance between them—invites each to access the space in relative privacy, while becoming accustomed to the presence of the other.

Re-Creation Park: Transformation Process



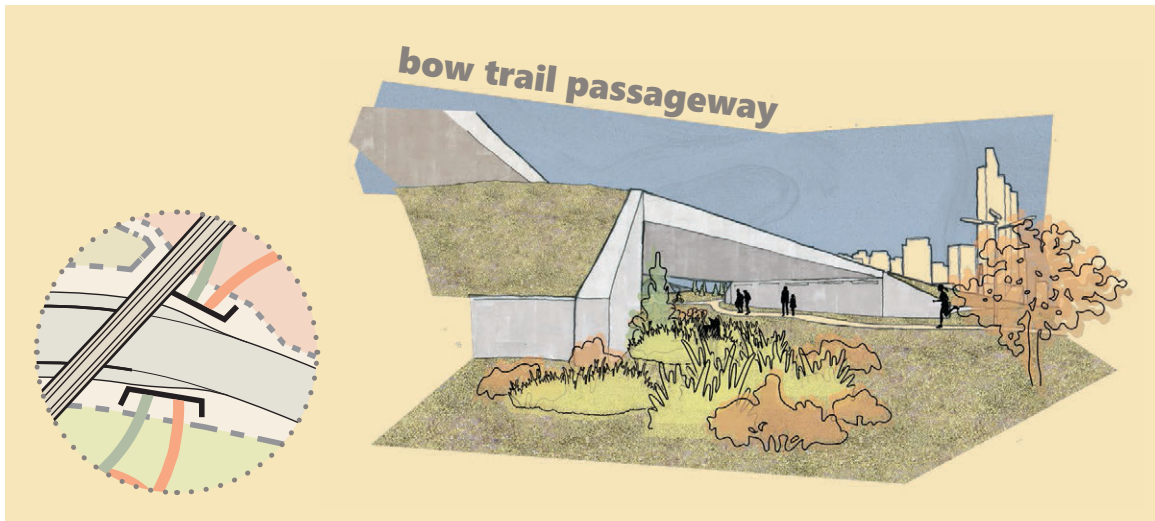
Re-Creation Park transformational mapping process



Continuity of Access

By repurposing existing infrastructure—in this case a re-alignment of roadways and shifting of a pair of superfluous bridge structures—mobility can be kept at ground level, improving access to and legibility of space for all its inhabitants.

Revitalized site, with new continuity of access



At-grade continuity is completed by a passageway under the already-raised Bow Trail above, bringing inhabitants to Shaw Millenium Park and connecting them to the river valley.

6.2 Speculative Design

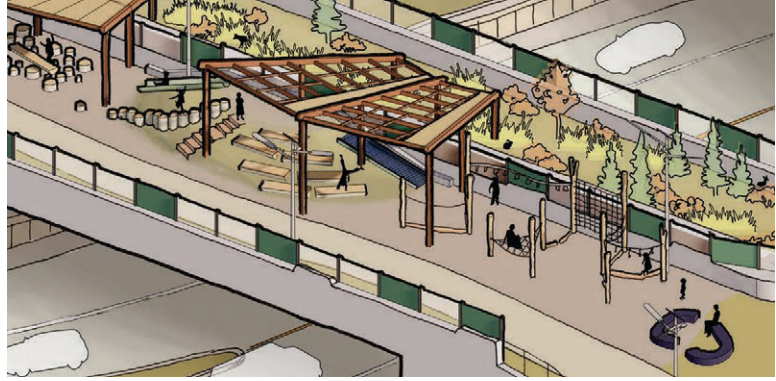
Walking the Site with the Experts

I conducted this exercise in dialogue with the research and writings of experts, including:

- Children’s play consultant Renet Korthals Altes;
- Playground designer Aldo van Eyck;
- Urban conservation scientist Shelley Alexander;
- Animal-Aided Design experts Thomas Hauck and Wolfgang Weisser;
- Theorist on nature-deficit disorder Richard Lou .

Places ‘On the Way’ for Children

- In *A Pattern Language*, Alexander, Silverstein, and Ishikawa (1977) describe a “children’s path” as a way for children to get from place to place, a space adults also enjoy spending time, allowing it to be watched (295);
- Aldo van Eyck (in Withagen and Caljouw 2017) suggested that through infill and unfenced play space, children can play a more integral role as part of the city, helping to revive street life and community (3);
- Renet Korthals Altes (2019) suggests that children need places on the way, in-betweens beyond the typical home—school—recreation “institutionalized triangle” of primary locations (278).



The children's path

The site has an opportunity to become a space children can access and navigate independently. To de-institutionalize the triangle means to make the journey between the three primary locations friendly and safe. So, one free bridge becomes this children's path, placed along the primary multi-modal pathway where they can play and have opportunities to be a part of the grown-up and natural world around them.

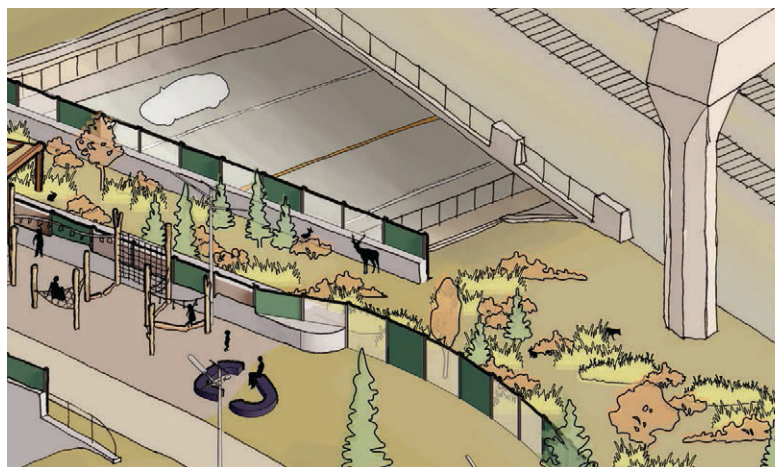


The children's playground

Protected Space for Wildlife

- By Weisser and Hauck (2017), animals must be integral to design and included in planning processes (1), with sites considered part of their habitat range (5);
- Alexander and Draper (2019) advocate that target species should be selected at the beginning of design processes (315);
- Alexander and Draper (2021) also argue that it is imperative not just to think about how we perceive wildlife in space, but how animals themselves think about it (136).

In correspondence with this expertise on the needs of urban wildlife, this study focuses on native deer and coyotes who need room to move, forage, hide, and rest. As more timid species, they also benefit from more direct physical separation from spaces humans use. To support this, the second unused bridge becomes a natural corridor, with native planting covering the space and alcoves allowing for protection. A secondary benefit of this protected space is that it demonstrates how negative human-wildlife interactions are very rare (Alexander and Draper 2019, 319); it further breaks down constructed notions of “belonging” and “trespass” which guide human behaviour towards urban wildlife (Alexander and Draper 2021, 136).



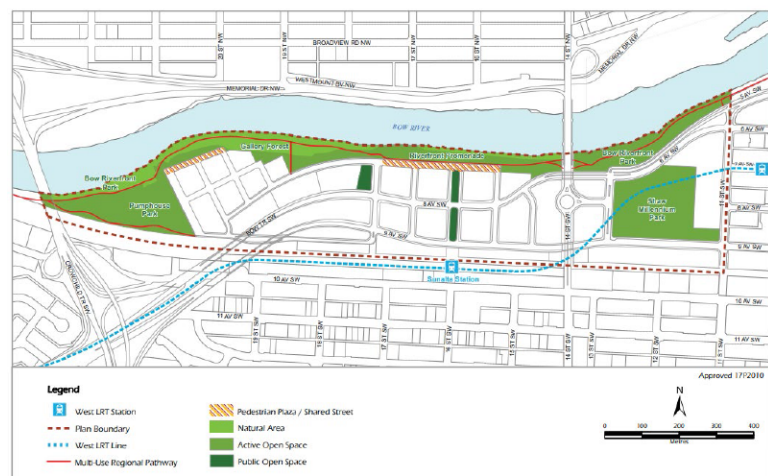
Dedicated protected wildlife corridor



The wildlife habitat

Feasibility: Counter-proposal to West Village ARP

Though this design's dialogue is speculative, it is intended to engage with the City's most recent proposal for the area. The West Village Area Redevelopment Plan (ARP) was released in 2010 and approved, though after engagement sessions lasting until 2016, it has not yet been acted upon.



Roadway realignment and open space system from the West Village ARP (City of Calgary 2010, 70)



Strategies like the one suggested by Re-Creation Park can bridge spaces around the rail corridor together.

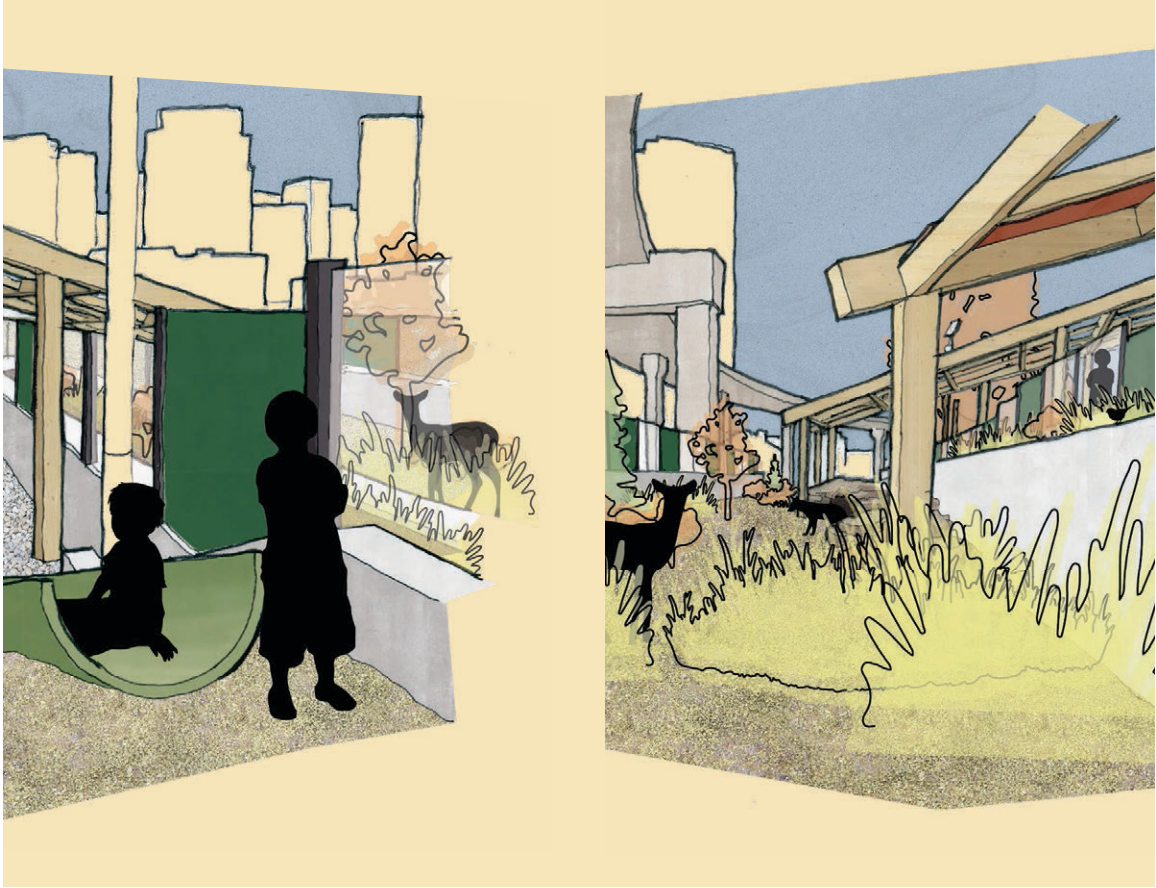
The ARP ventures to improve density and suggests bringing housing into the area, but does little to address north-south connectivity issues or to fix the problem of Bow Trail's land-grabbing split.

Re-Creation Park is a counterpoint to this redevelopment plan, suggesting that the municipality will benefit from more open-minded dialogues. The changes the ARP proposes need to be pushed further, as possibilities for density can still exist while simultaneously re-prioritizing active mobility and marginalized urban inhabitants. This program also aligns with the Calgary Play Charter, which endeavours to support projects that embrace Calgary's climate and geography, while giving children opportunities to engage with their environment (Glenn et al. 2022, 309). The Charter and similar initiatives work well as avenues for funding such endeavours. With the unique power municipalities have, diverse groups can be brought together for initiatives of unstructured play (Glenn et al. 2022, 323).

Potentials for Conviviality

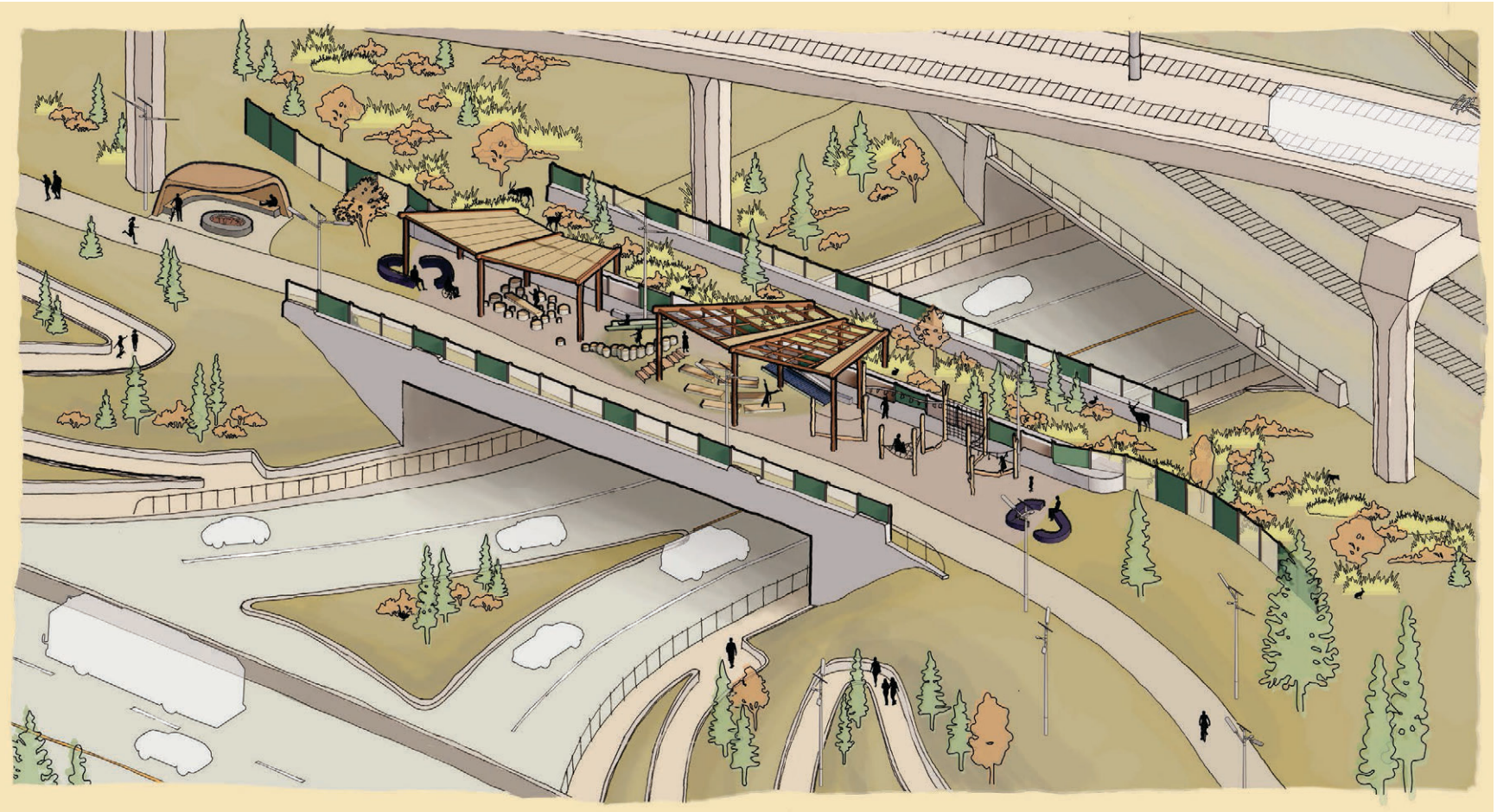
In the Re-Creation Park, the key to healthy co-existence is the creation of a 'thin space', one in which distance is valued but interaction is still possible. Though separate, the two bridges run in parallel, allowing moments of interaction and acknowledgement across inhabitant groups. This way, they become more healthily habituated to the other, fulfilling the need for wildlife to dwell in the space, and for children to spend formative time in nature.

In *Strange Familiarities*, Greg Noble suggests that the habits and behaviours formed during childhood should be thought of "not as automatic reflexes but as reflexes which emerge from and realize the production of particular kinds

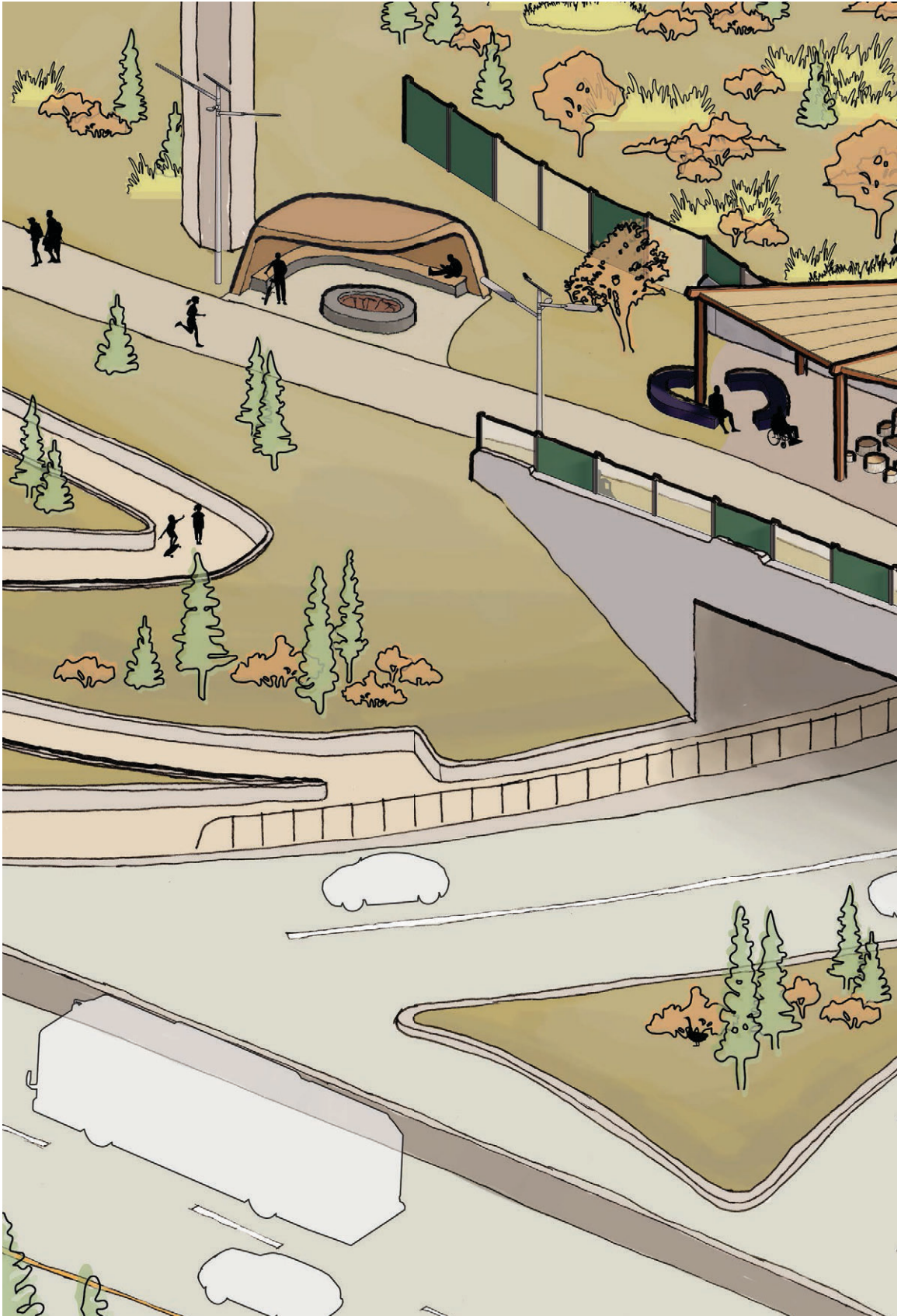


A thin space

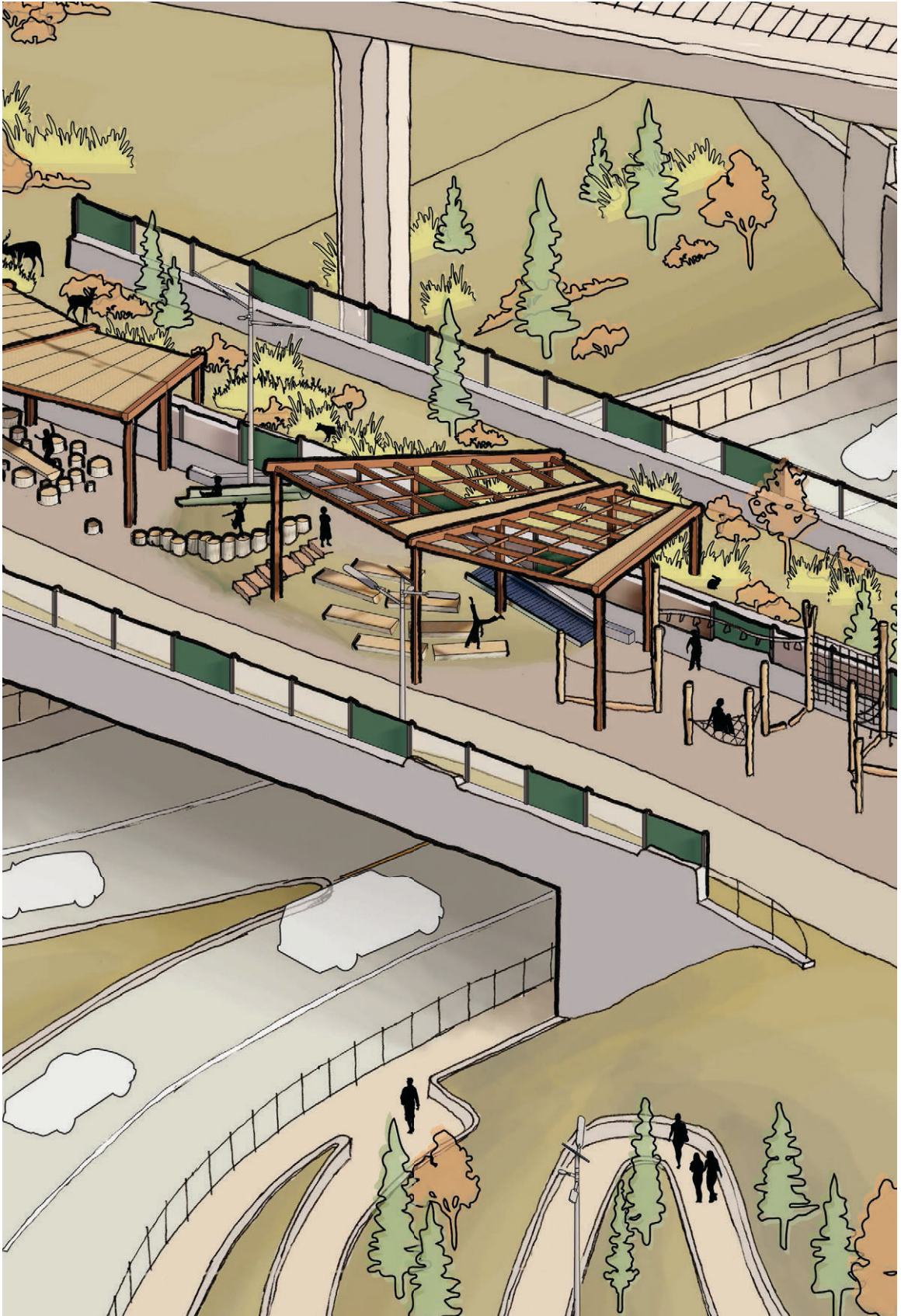
of capacities; capacities that are learnt through an array of cultural pedagogies” (Noble 2013, 34). As opposed to ‘flatscapes’, rough edges, inclines, and vegetation suggest self-directed play (Louv 2008, 117). These ‘playscapes’ give children a way of expressing what’s within—of engaging and re-creating—while doing much the same for urban wildlife simultaneously. By advocating for the popularization of such urban geographies, we open new potentials for a shift toward healthier cultural pedagogies, where we understand our interdependencies within the larger fabric we’re a part of (Louv 2008, 98).



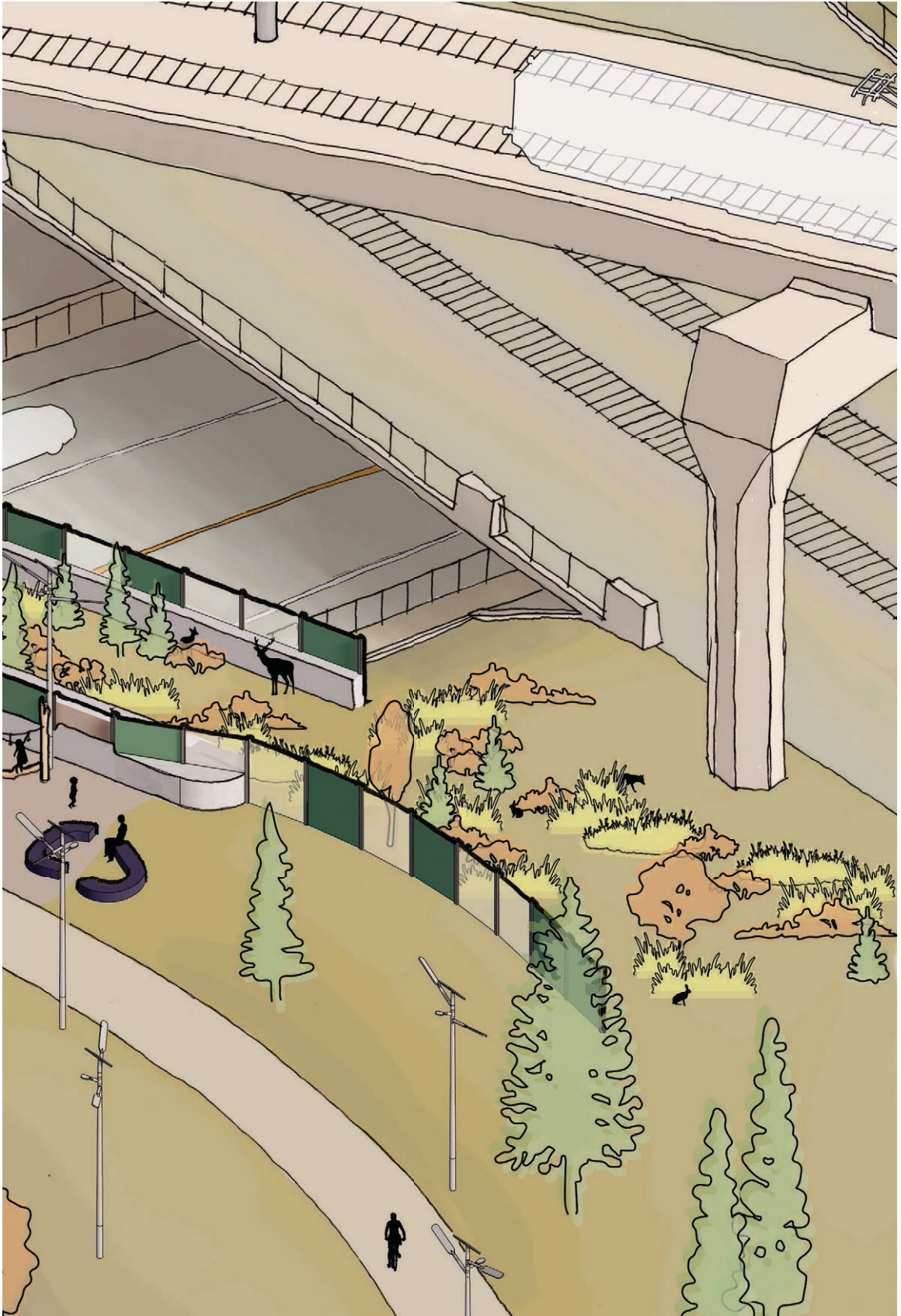
Axonometric of the bridges of Re-Creation Park in fall, looking SE



Axonometric detail 1



Axonometric detail 2



Axonometric detail 3



Collage of Re-Creation Park, showing desirable spaces reconnected by the intervention



Speculative site current conditions

Chapter 7: Third Space Place

The needs of the elderly and those experiencing houseless in the heart of the city drive the location and program of this intervention. Though this site is adjacent in all directions to desirable programs (including a public plaza, arts, and social supports), the site itself is an urban void. As such, it poses a rich opportunity for adaptive reuse.

7.1 A Home for Every Need

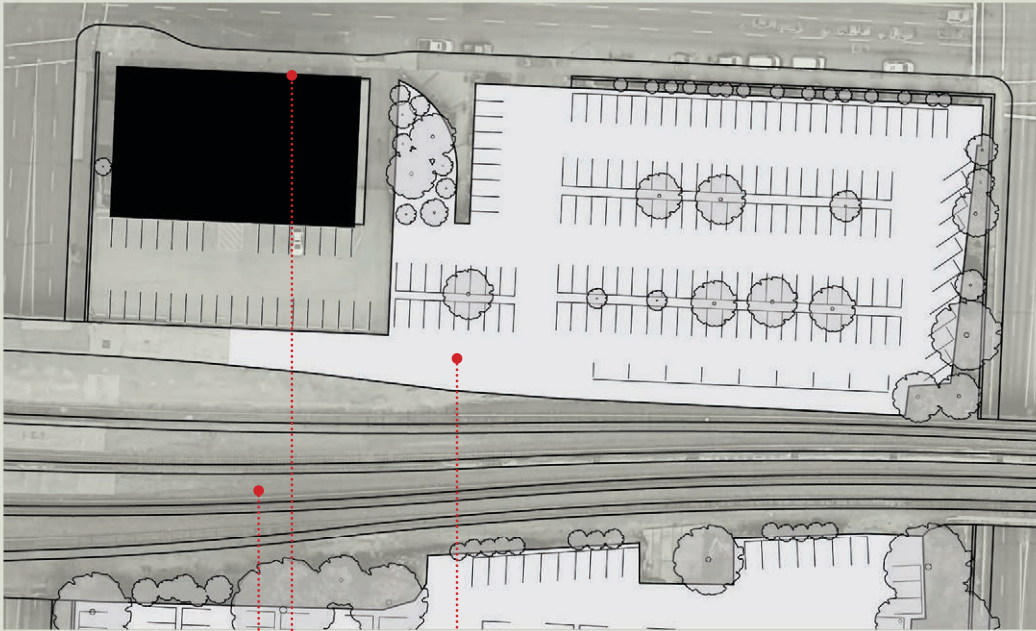
On the site, a marginalizing parking lot and a declining office tower currently limit inclusion. Third Space Place (3SP) addresses the needs of nearby elderly and houseless people by making the site more traversable and converting the tower block into a building supportive of living needs and encompassing a variety of housing types.



Intervention location

A Home for Every Need

Located near multiple central places of desirability, the Third Space Place (3SP) provides much-needed affordable housing. It does so by making the site itself traversable, and the office tower supportive of a variety of living needs. 3SP acts as a provocative opposition to a high-end conversion projected recently pre-funded by the City's Downtown Development Incentive, suggesting instead to embrace difference and provide a range of housing options on one site.



Existing Site



divisive rail corridor



street-front with potential



uninhabitable surface lot



A level crossing at the rail line affords new trajectories



Programs like multipurpose public amenities and community garden potting/teaching spaces can provide opportunities for conviviality.

Addressing Limiting Conditions

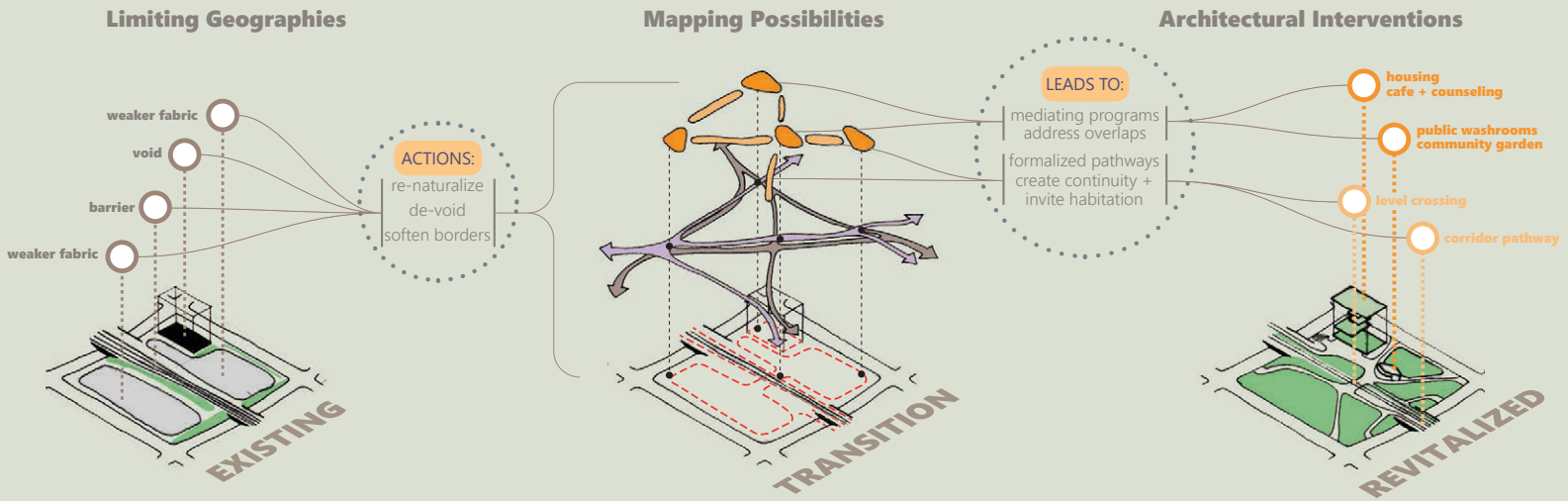
The existing infrastructure on site—the 11-storey office tower—lends itself well to a design ethos of minimal imposition. I chose adaptive reuse as the primary mode of intervention to facilitate the space’s revitalization. The simple grid structure of the tower (named the 3SP Tower), with two non-central cores, allows flexibility to accommodate a number of unique floor plans, with units catering to a wide range of needs.

Additionally, Urban Planner and community advocate Jack Long researched community-building in Calgary and found that in setting goals for revitalization, it is helpful to first address the most deleterious aspects of a site (such as railroads and their coincident limiting conditions) (Long 1973, 58). In the case of Third Space Place, this is done by extending the multi-modal path through the site, including a level crossing of the tracks. Additionally, the underutilized surface parking lot is reimagined as a public commons with a community garden, a building with washrooms and rest space (named the 3SP Amenity), and an outdoor potting/teaching space.

Inhabitant Needs

Foremost, the primary need of both inhabitant groups is affordable housing of various kinds. Elderly and houseless constituents both need support in different ways; for varying reasons, both also need space to rest and deserve to be afforded dignity in public and private space. Where elderly inhabitants need activities and occasions to stay active and occupied, those experiencing houselessness need pursuits to work towards and gain confidence through. These needs coincide where elderly residents benefit from teaching opportunities while the houseless have the potential to feel they are making valuable contributions to the community.

Third Space Place: Transformation Process



Third Space Place transformational mapping process



Welcoming Everyone

Opportunities for people in different walks of life to work together (community garden spaces) meet similar needs for community. Differing needs are met with space that changes from day to night (rest bays with benches that convert to temporary sleeping pads).

Revitalized site, with more opportunities to welcome people with a variety of needs



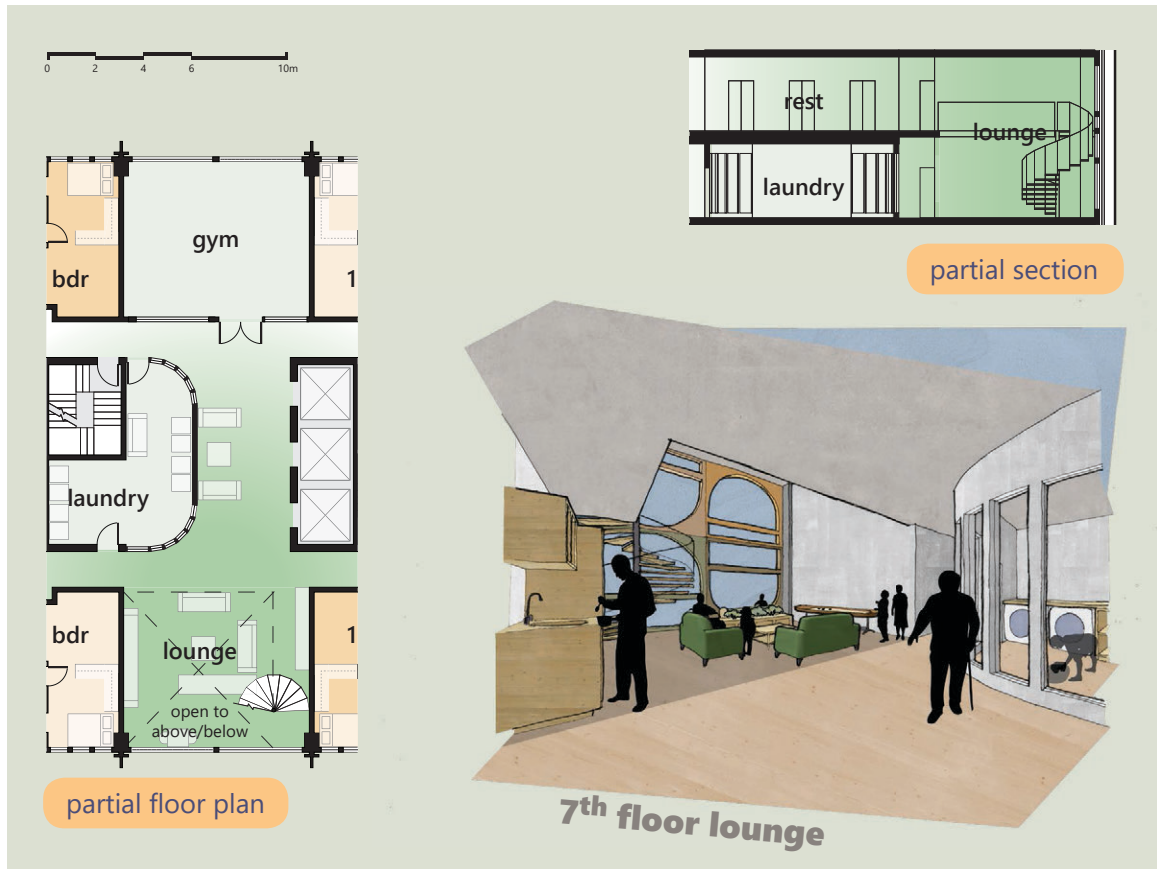
Year-round opportunities for growth: in the community garden, there are things to do and things to work towards together.

7.2 Speculative Design

Walking the Site with the Experts

Again, I conducted this exercise in dialogue with the research and writings of experts, including:

- Architect and community advocate John (Jack) Long;
- Humanities and houselessness researcher Gabrielle Weasel Head;
- Community housing experts Toddy Ferry and Sergio Palleroni.



7th floor lounge and laundry third space amenitie

Third Space Scale

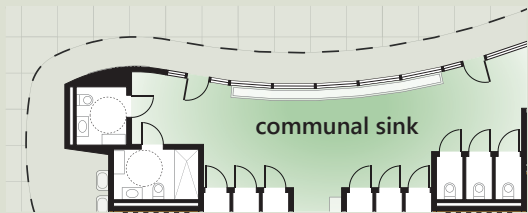


Third spaces exist at different scales, on the site and through the building.

Scales of Third Spaces

- By Alexander, Silverstein, and Ishikawa (1977), old people need young and old people around them; they cannot be socially integrated if they are not also physically integrated. As such, they need options: to be around other old people, to have personal space, and to access special services (217).

Both the elderly and those experiencing houselessness need particular social supports; it is beneficial when these exist in proximity to housing and at various different scales. 'Third spaces' bridge the gap between public and private space, creating opportunities for new relationships, chance interaction, and different levels of intimacy to occur in informal ways. Such chance interactions also combat isolation and loneliness, issues faced by all urban inhabitants today.



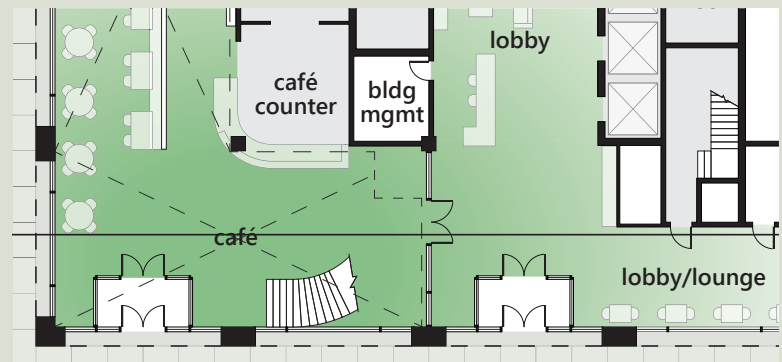
partial floor plan - sink



3SP Amenity common sink



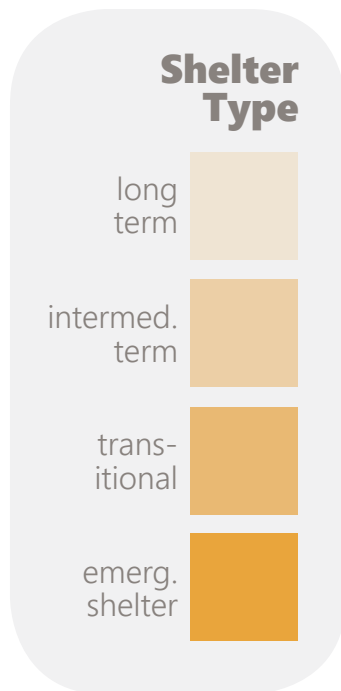
3SP Tower cafe + counseling



partial floor plan - cafe



3SP Amenity sink and 3SP Tower cafe—another two scales of third spaces, both at the ground



Continuum of shelter/
housing types, inclusive of
transitional models

Housing Options

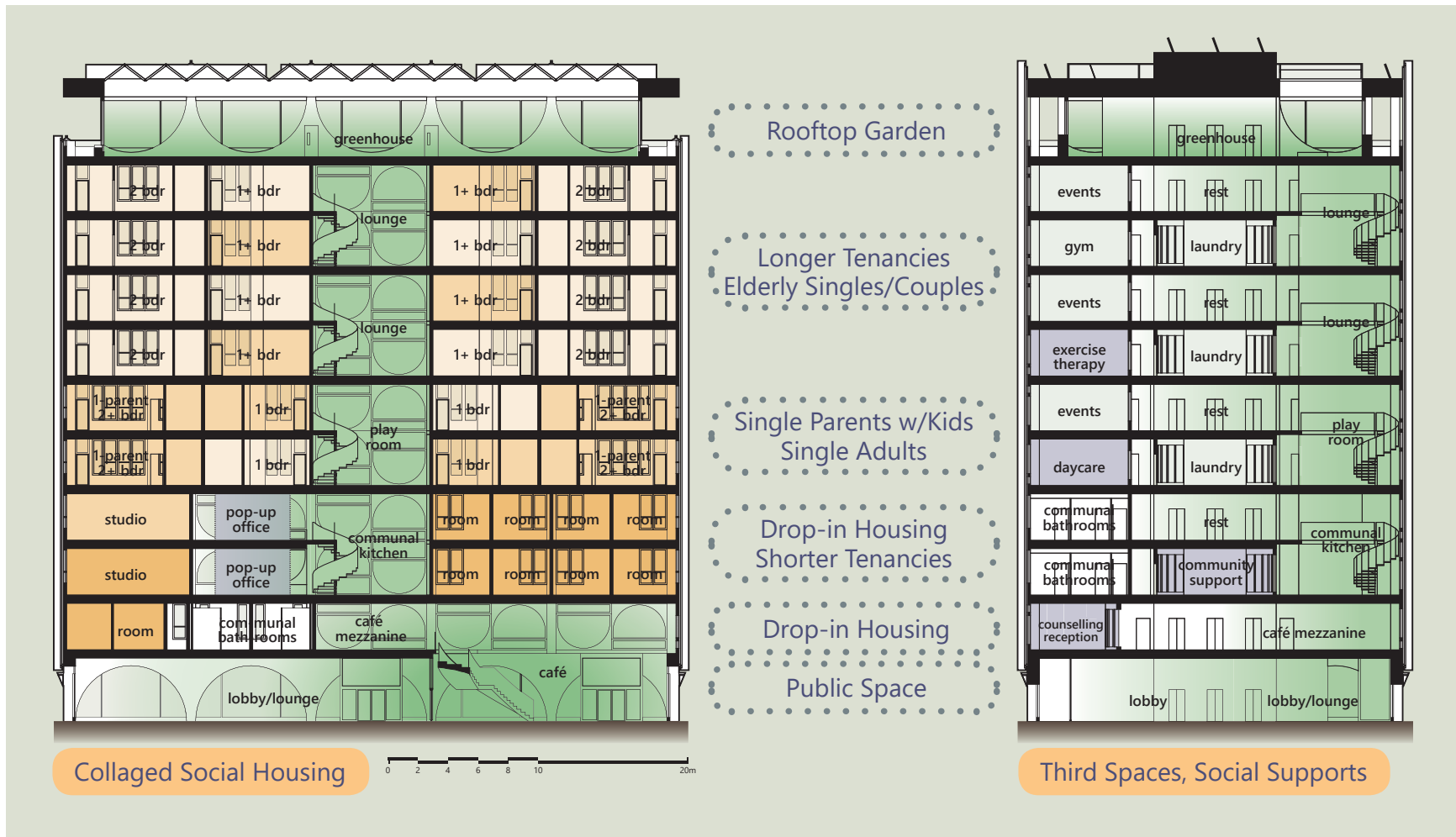
While this may sound blatantly obvious, it must be stated: everyone deserves a home. Although this should be common sense, municipalities and individuals are often predisposed to notions of apparent ‘deservedness’ when it comes to housing.

- Jack Long (1973) believed that a variety of funding mechanisms and subsidies should be proposed to accommodate people of all ages and family sizes (96);
- He also argued that generational balance is important for healthy community (39);
- While working on initiatives to address housing access, Ferry and Palleroni (2021) found that the visibility and immediacy of housing initiatives for houselessness are central to changing community perceptions and advancing public dialogue (305);
- In her research, Gabrielle Weasel Head (2011) developed that community and individual connections are often broken or lost in housing transitions (114).

With varied communities, there is a need for an array of choices in regards to housing options on the site. To meet this need, the site contains options ranging from emergency temporary shelters in an the 3SP Amenity, to drop-in social housing by the 3SP Tower’s larger third spaces (cafe and counseling programs), to affordable short- and long-term rentals moving up the tower. Such an arrangement has the benefit of allowing levels of control and privacy relative to the ‘publicness’ of different floors. This spectrum of housing potentials creates new continuity across the site by offering a method to counter the fracturing of community that is a major contributing factor to the cycle of urban houselessness. Such strategies are especially successful when social programs are integrated adjacent to this housing (as is the case at Third Space Place).



Typical 3SP Tower floor plans, with select examples of residential unit types emphasized



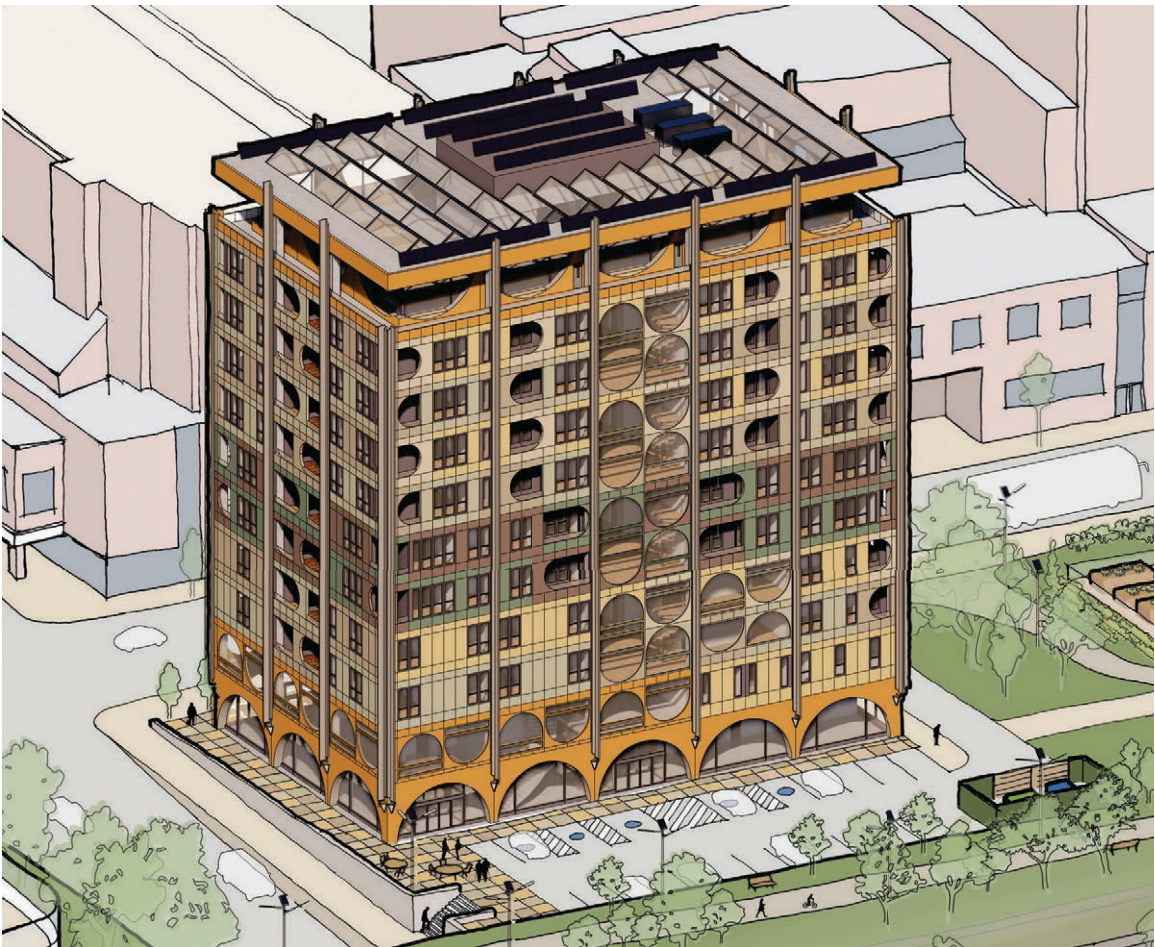
Long and short sections of 3SP Tower, showing relationships between numerous scales of third spaces, proximity of social supports, and a variety of social housing options contained within the building



Pre-existing street front
façade condition

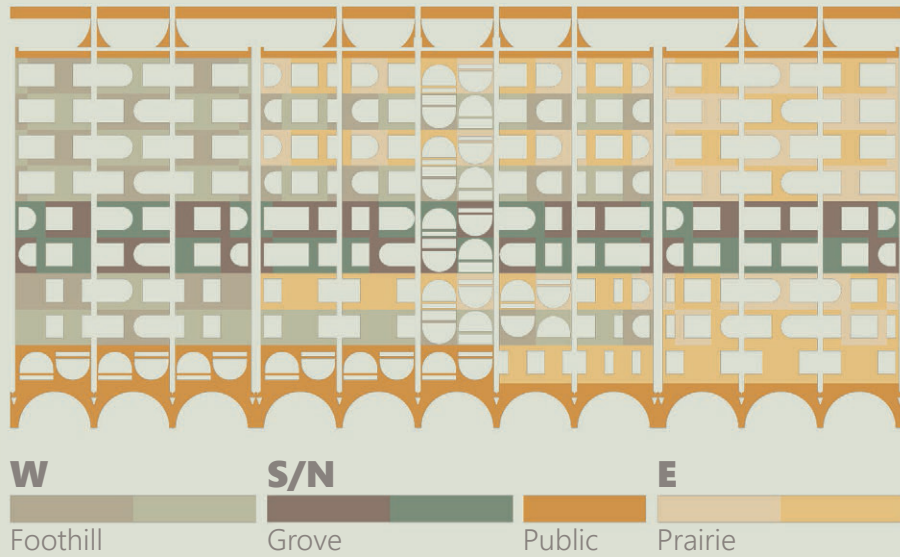
The renovated exterior façade of the building carries the pre-existing archway motif of the ground floor up through the building. Arched panels and windows of various sizes reflect the interior array of different-scaled public spaces, signifying their location. Larger public spaces are represented by the largest arches of the façade, while private spaces are defined by smaller and more typical rectilinear windows

The exterior also links the existing local context—the meeting of foothill and prairie landscapes—with happenings in the city, by means of colour choices. The direction each side of the building faces takes inspiration from the landscapes it faces in order to contextualize the building as a part of a larger story of the land.



3SP Tower axonometric, shown in context

Evoking Foothill and Prairie Landscapes



Façade colours evoke local foothill and prairie landscapes

Feasibility: Alternative to Approved Conversion

As is the case with Re-Creation Park, this intervention also engages with ongoing dialogues in the City. As a part of the Downtown Calgary Development Incentive Program started in 2022, the City has allotted \$100M to fund the retrofitting of office towers into housing (City of Calgary 2023a). In fact, an approved conversion proposal for the office tower addressed in this intervention is expected to receive \$8.2M in funding.

The approved proposal envisions a main and lower floor dedicated to community and amenity spaces (similar to the 3SP proposed in this thesis) (Krause 2022). This is a step in the right direction, although I argue the boundary of public space should be pushed further, through the building and the entirety of the site. The business development manager for the project has said in interviews that “it’s a community we’re aiming to develop here” and “there’s just so many amazing pockets of our core that really need new life to them” (Krause



The approved conversion, HAT @ Arts Commons (Krause 2022)



The geographies of the site exist within the surrounding context; it is important to consider the happenings within as part of a larger urban system.

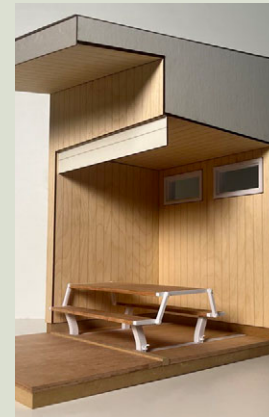
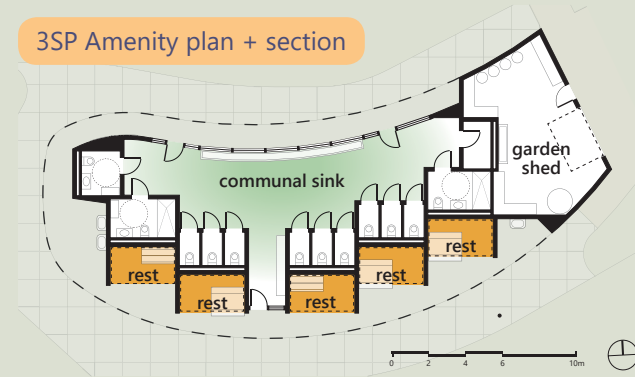
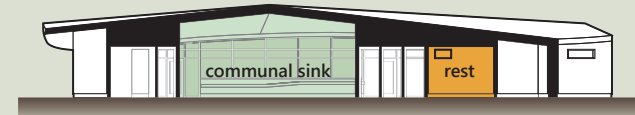
2022). What the proposed development suggests is an isolated understanding of the site as a ‘pocket’. In contrast, the experiential mappings we have conducted reveal that the site can actively create new continuities if the space is viewed as part of the larger system of urban geographies.

Furthermore, there is no indication that the approved conversion contains social housing of any kind. This is a potential missed opportunity, as Development Incentive funding could encourage the adoption of a Community Land Trust (CLT) housing model—essentially non-profit landlords—to help balance proportions of ownership vs. rental tenancies in the building and discourage gentrification

Potentials for Conviviality

At the Third Space Place, the key to healthy co-existence is the opportunity for healthy, less tense interactions. Some spaces lend themselves well to use by both groups (community gardens, cafe, and counseling), providing opportunities for people from different walks of life to work and live together. Closely adjacent social programs venture to support healing processes, such as health initiatives in the community’s interest. The consideration of such programmatic adjacencies opens doors for healing that is at once holistic, appropriate, and sensitive (Weasel Head 2011, 139).

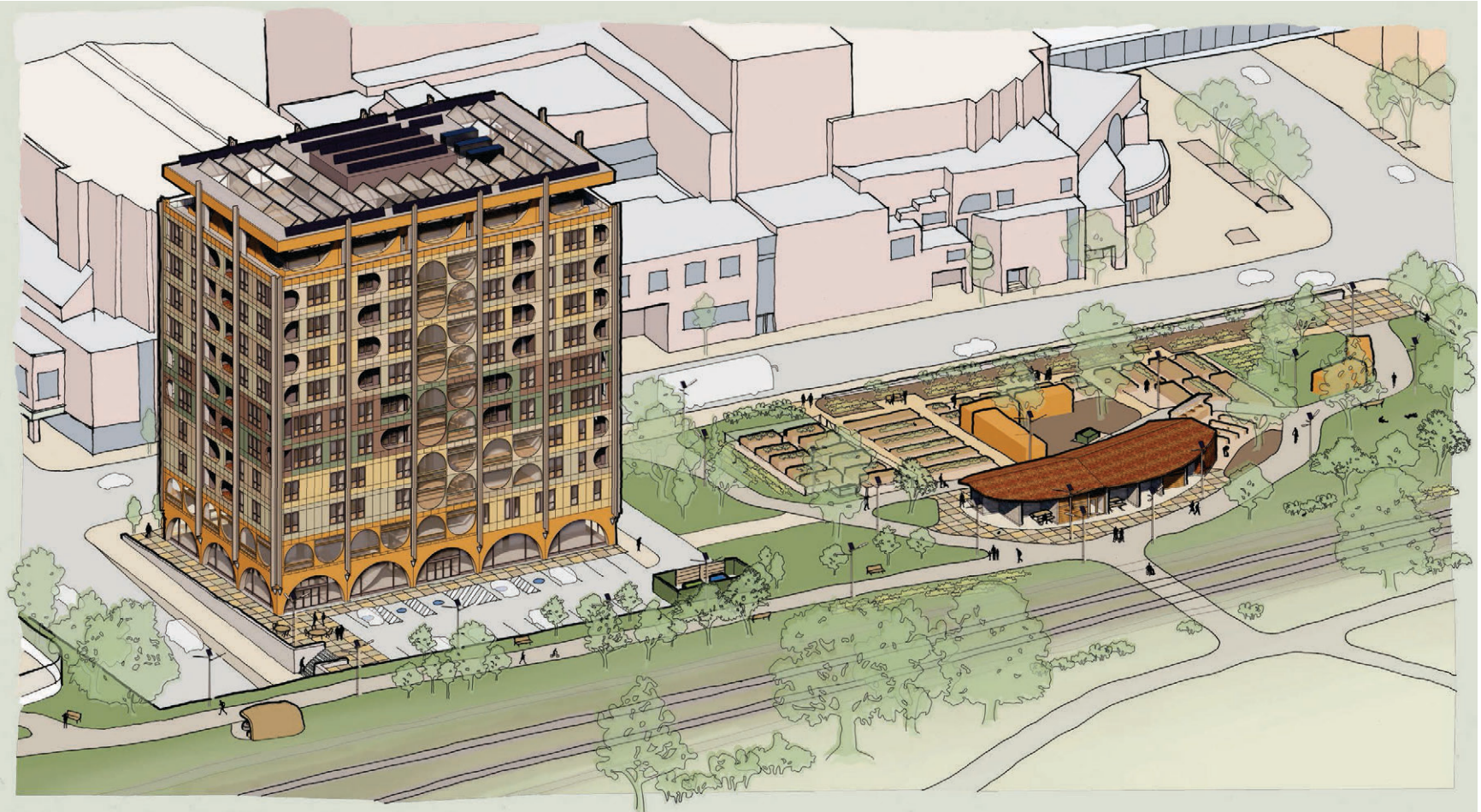
Other spaces within the site address difference and conflict by performing functions unique to each group’s needs. Some mediate through separation (such as different levels of control on floors of the 3SP Tower), while others mediate temporally from day to night (such as rest ‘bays’ in the 3SP Amenity). When urban residents have the chance to become habituated to holistic conviviality of this nature, unconscious predispositions and social stigmas begin to be broken down.



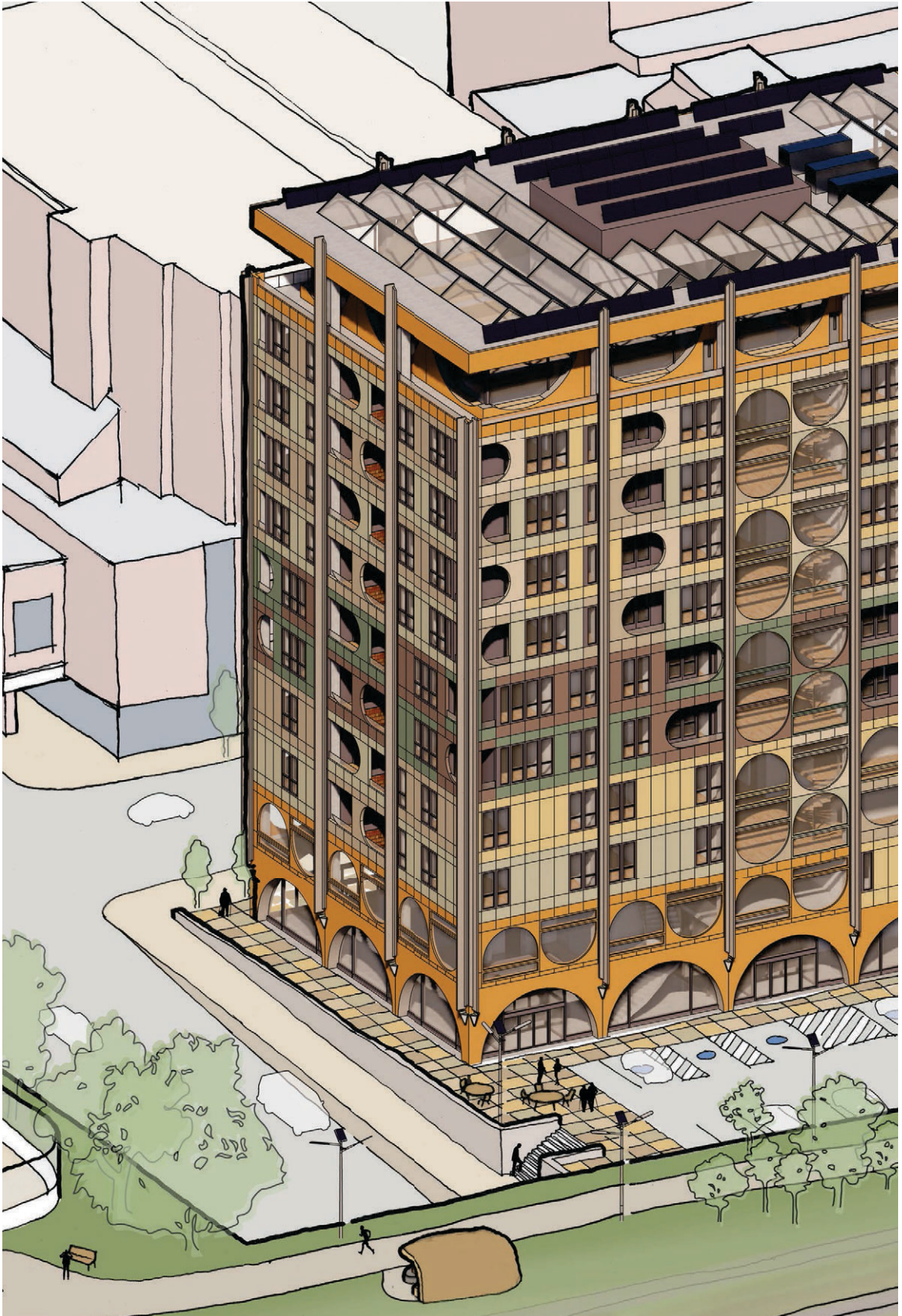
night: rest (sleep)

day: rest (sit)

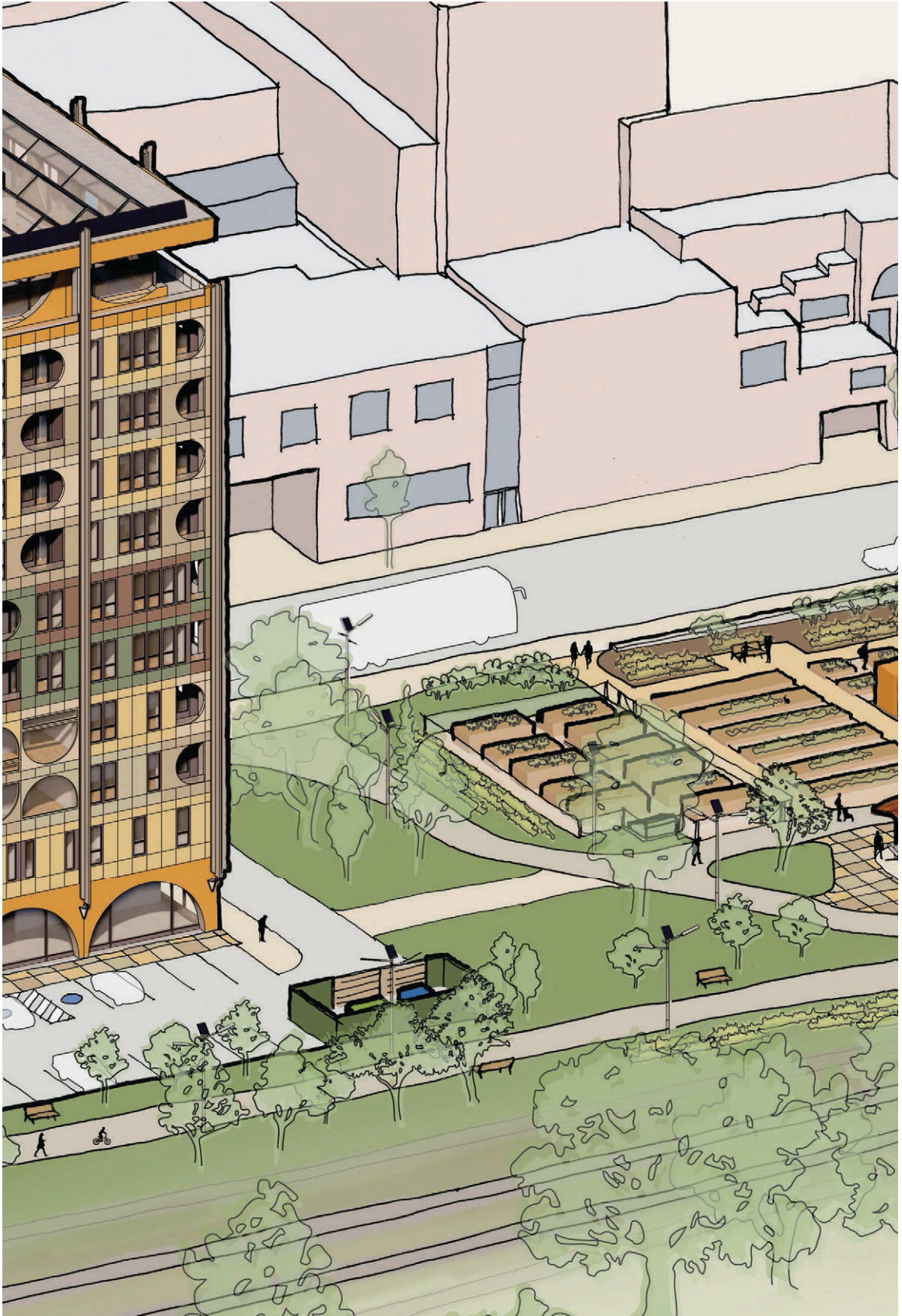
Needs for rest at different times are met with space that changes from day to night; These are rest 'bays' with benches that convert to protected temporary sleeping pads. Even temporary shelter should provide inhabitants with a sense of dignity, thoughtful space that is for them.



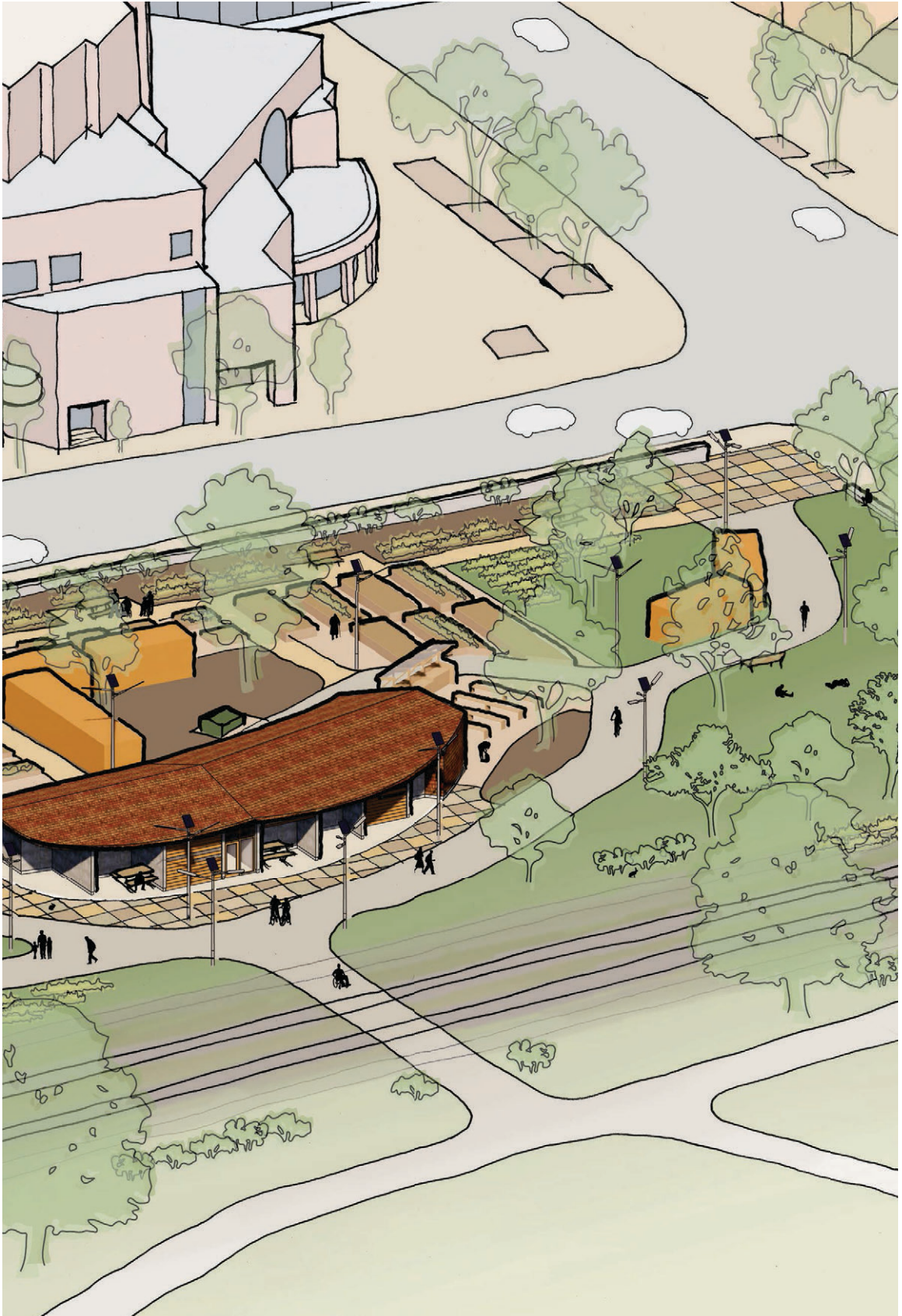
Axonometric of 3SP Tower and 3SP Amenity in summer, looking NE



Axonometric detail 1



Axonometric detail 2



Axonometric detail 3



Collage of Third Space Place, showing desirable spaces reconnected by the intervention



Speculative site current conditions

Chapter 8: Siiko'tsikokaan Point

Siiko'tsikokaan (Blackfoot, meaning “gathering lodge”) Point is located at the far east end of downtown at the Fort Calgary site; it is defined by the confluence of the Bow and Elbow Rivers. Here, the needs of the Indigenous community as well as the flow of the rivers define the direction for revitalization.

8.1 Breathing Life into the Land

Despite its abundance of open space, the land is not a place people often gather. Additionally, it seems that many people are also unaware of its significance as a traditionally understood site of beginnings in Blackfoot creation narratives. By reconnecting with its roots and embracing Indigenous values the land will again truly support a multiplicity of life, inclusive of all urban inhabitants.

3

Siiko'tsikokaan Point

An intervention by new builds. Particularly interested in *agency, appearance, and co-existence*, for the **river, Indigenous community, and all**.



Intervention location

Breathing Life into the Land

Siiko'tsikokaan (Blackfoot, meaning gathering lodge) Point is defined by the confluence of the Bow and Elbow Rivers, and invites Indigenous presence on what is the historically and traditionally significant site of creation. This intervention re-values the land, allowing new inhabitation and aligning with the IGPSC's advocacy for presence on the site beyond the visible colonial history. By reconnecting with its roots and embracing Indigenous values, the land can again truly support a multiplicity of life, inclusive of all urban inhabitants. The land itself—changing through seasons and events—is also respected as a result.



Existing Site



high speed corridor edge



primary visibility of colonial history



significant confluence point

Existing site and site photos

Addressing Limiting Conditions

On the site, Indigenous histories are particularly less visible than colonial narratives as a result of two factors:

- Traditional Indigenous building cultures of the region commonly lack permanency; dwellings are temporary or transitory, supporting semi-nomadic lifestyles;
- The site was used as a rail yard, then scrap metal storage (HeRMIS 1989), and later a building material dump site—activities that continually razed the land (Alberta Community Development Unit 1999, 35).

The open space of the site today tells little of the layers of change it has endured, especially since its first primary colonial use as an RCMP fort (HeRMIS 1989). So much history is contained under this site; a renewed Indigenous presence—through landscape and building intervention—will be beneficial in bringing the place to life

Inhabitant Needs

The impetus for locating the intervention on this site arises from a document put together by the Indigenous Gathering Place Society of Calgary (IGPSC) in 2017, advocating for the creation of an Indigenous Gathering Place (IGP) at the rivers' confluence (AACC 2017, 10). In dialogue with this endorsement, I learned that the needs of the Indigenous community are a physical reconnection to the land and a space to gather and celebrate Indigenous culture.

The other inhabitant of the site to consider is the waters of the Bow and Elbow Rivers which have their own needs; they inhabit the site by flooding the low-lying land. Wonderfully, the requisites of both inhabitants are not at odds. Guiding words from experts showed me that the respect which Indigenous cosmovisions give to the land allows for healthy conviviality by its nature (Wall Kimmerer 2014).



On the land of the confluence, a celebration of Indigenous culture and values is an important step toward conviviality.

Siiko'tsikokaan Point: Transformation Process

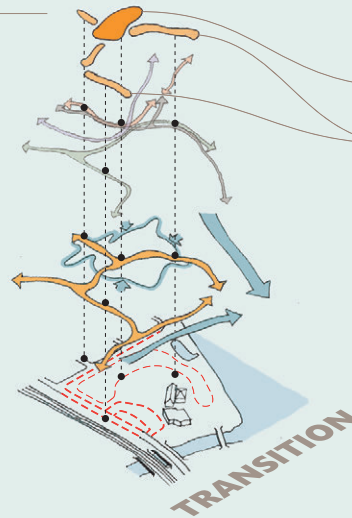
Limiting Geographies

underused natural space
weaker fabric
barrier



ACTIONS:
re-naturalize
de-void
soften borders

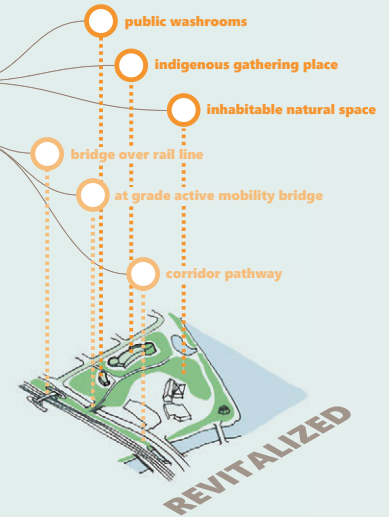
Mapping Possibilities



Architectural Interventions

LEADS TO:

mediating programs
address overlaps
formalized pathways
create continuity +
invite habitation



Siiko'tsikokaan Point transformational mapping process



A Place to Come Together

The confluence, as a point of creation, should be celebrated by the coming together of urban inhabitants of all kinds. An Indigenous Gathering Place building, renaturalized areas, and landscaped plazas can help make the site a space of inclusion, while maintaining its openness and peri-natural state.

Revitalized site, with dedicated spaces to facilitate coming together

8.2 Speculative Design

Walking the Site with the Experts

As with both previous explorations, I conducted this exercise in dialogue with the research and writings of experts, including:

- Saddle Lake Nation Cree architect Wanda Dalla Costa;
- Dene biologist Jody Inkster;
- Environmental Studies professor Nicole J. Wilson;
- Potawatomi Nation ecologist and author Robin Wall Kimmerer.

Respecting Forces of Nature

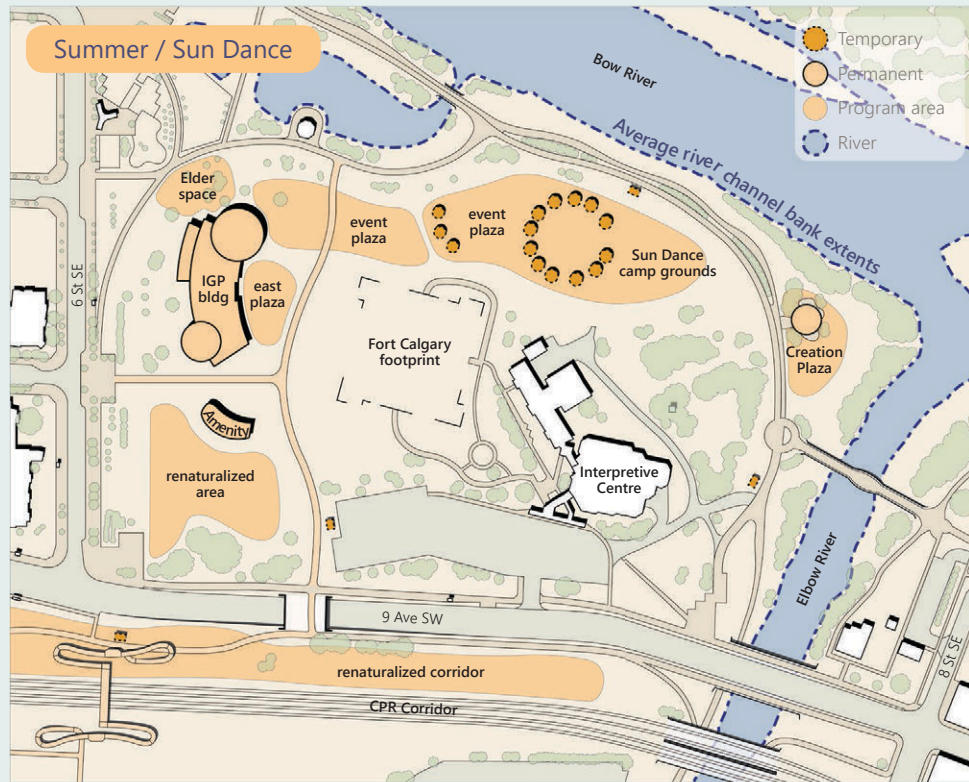
To respect the needs of rivers means to understand them as their own systems, unique entities with individual characteristics. The Bow and Elbow Rivers are characterized by intermittent flooding, desiring to flow freely and quick .

- Wilson and Inkster (2018) present the Indigenous conception that rivers have unique personalities and powers, as well as their own spirit (9);
- They also explain that respecting water in the context of Indigenous ontologies requires “meaningful consideration of Indigenous thought and practice, including legal and governance elements, in the light of settler colonialism” (17);
- Finally, they argue that considering rivers as having personhood brings into question the ability of humans to “govern or act on behalf of water” (17), challenging whether water should be governed at all.



The site, which lies nearly at the same elevation as the river, necessitates a symbiotic relationship between inhabitants and the river, and an understanding of its significance

To respect the needs of the rivers is to understand that they are sacred, for the life they give and opportunities they provide. This respect is first practiced by siting temporary and permanent Gathering Place programs according to flooding extents. On the low-lying land of the confluence, permanent programs should only exist above the expected flood extents for a 200-year flood even



Revitalized site, with dedicated spaces to facilitate coming together



Semi-permanent or temporary structures like sweat lodges (3 shown above) can be sited in the Elder Plaza, particularly during the winter.

For the sake of this speculative exercise, I have imagined that the site will support the following programs:

Permanent

- IGP building (social and cultural heart, site presence);
- Amenity building (social and logistic support);
- Creation plaza (space located within the flood plain but designed to be flooded, celebrating the movement of water through it).

Temporary

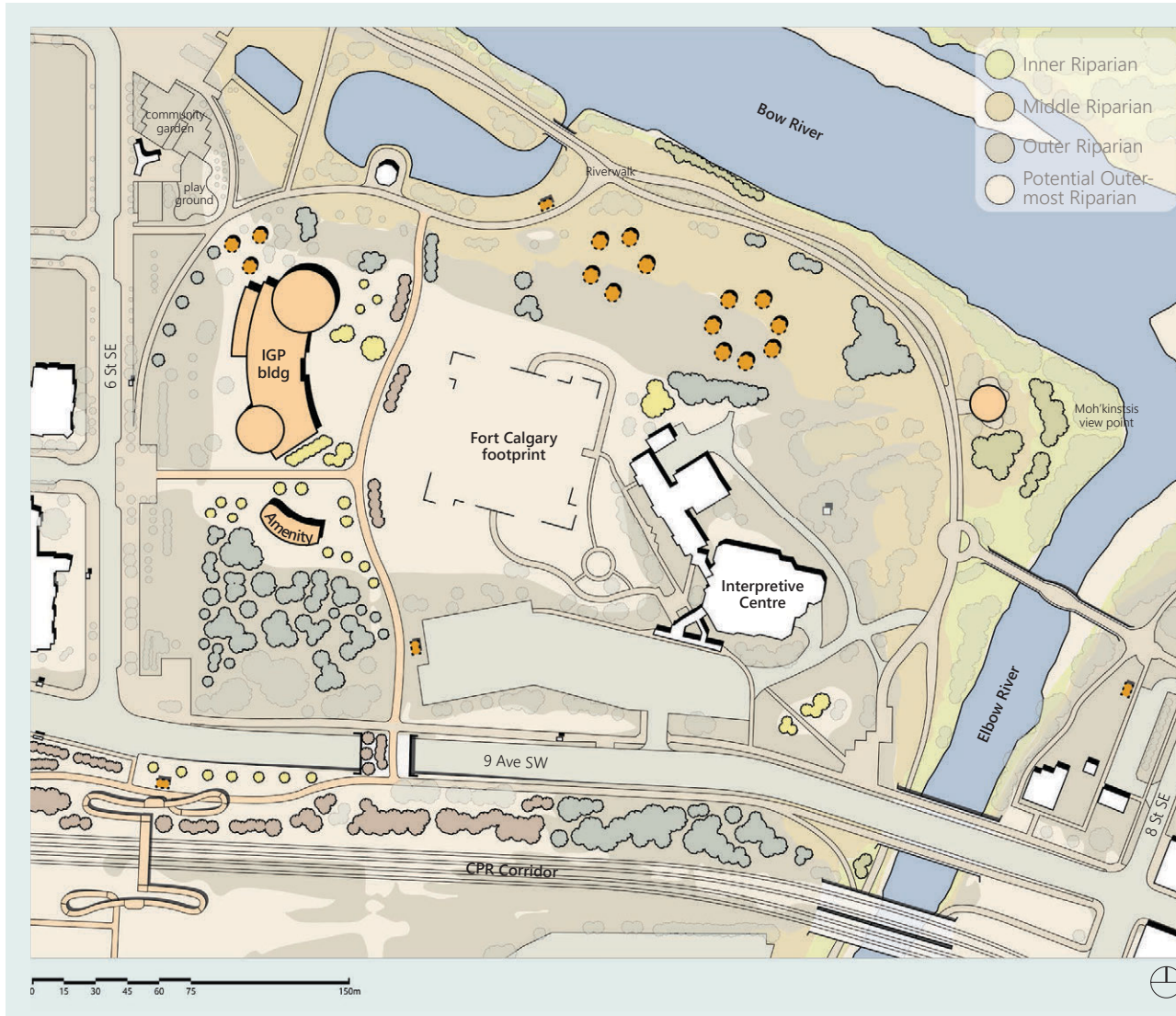
- Sun Dance camp grounds (dedicated space for festivals on which transitory structures can be moved);
- Elder plaza (allocated for sweat lodges, teaching);
- Event plazas (landscaped open spaces).

Native Planting

Because conviviality is collective, it begins with the prioritization of health in non-sentient agents. Flora must be planted thoughtfully to strengthen the soil, provide foraging cover, and help the site support a wide variety of inhabitants.

- Humans hold obligations to plants, which when met plants will reciprocate (Wilson and Inkster 2018, 11).

The strategy for site planting was informed by riparian planting resources (AWES 2018, 56-58) (AWES 2020, 7). This strategy takes into consideration the ecological subregions in which the land lies, the Foothills Parkland and Foothills Grassland of Alberta Region 3 (Alberta Parks 2015, 5). Plants significant to Indigenous cultures are considered to be centrally important; these include Chokecherry, Wild Rose, Goldenrod, and Yarrow (Métis Nation 2021). By introducing hardy trees and shrubs (such as Plains Cottonwood, Trembling Aspen, and Saskatoon), the planting makes the confluence a place to gather and inhabit by providing natural shelter and windbreaks (City of Calgary 2016b, 1).



Native Planting in Riparian Zones

Conviviality—living well together—is a collective principle. It begins with the prioritization of health in non-sentient agents; so flora should be planted in a way that corresponds to riparian zones, strengthens the soil, and can provide foraging cover.

Revitalized site, with dedicated spaces to facilitate coming together

Dry

aesthetic
traditionally valued

1 Common Yarrow *Achillea millefolium*
 2 Creeping Juniper *Juniperus horizontalis*
 3 Prickly Wild Rose *Rosa acicularis*
 4 Canada Goldenrod *Solidago canadensis*

Mid/Outer Riparian

foraging
natural cover

5 Trembling Aspen *Populus tremuloides*
 6 Saskatoon *Amelanchier alnifolia*
 7 Western Wheatgrass *Agropyron smithii*

Inner Riparian

wet/aquatic
bank stabilizing

8 Plains Cottonwood *Populus deltoides*
 9 Sandbar Willow *Salix exigua*
 10 Slender Wheatgrass *Elymus trachycaulus*
 11 Chokecherry *Prunus virginiana*
 12 Pussy Willow *Salix discolor*

13 Tufted Hair Grass *Deschampsia cespitosa*
 14 Small-fruited Bulrush *Scirpus microcarpus*
 15 Water Sedge *Carex aquatilis*

Reference chart of riparian planting strategy, showing species, their Latin names, and particular characteristics that make such plants suitable for location in different riparian zone

Holding Tension

With the confluence's cultural significance and storied history, it is a land with many layers. A proposal for an IGP on the site obviously aims to increase Indigenous visibility. This need not come at the cost of paving over other histories; rather, such an undertaking holds space for a multiplicity of narratives, histories of both inclusion and exclusion, Indigenous and colonial threads.

- Wanda Dalla Costa (2021) emphasizes that architecture should support Indigenous narratives, knowledge, values, and processes; it can tell a significant central story while allowing for individual 'daily stories' to be written on the site (103);
- She believes that buildings should not be static; it should respond to ever-changing and developing contexts (99).

By siting the IGP building across from the footprint of the old RCMP fort, the two narratives are placed in tension, confronting those passing by with questions of place, the legacy of colonial decision-making, and the responsibility of reconciliation.



IGP building (bottom left) and RCMP fort footprint (top right), with primary pathway between



The dedication of space to visible Indigenous presence on the site will give rise to new narratives and possibilities for inclusion.

Feasibility: Alignment to IGP Society Goals

As the impetus for this intervention arises from the IGPSC's needs, it aligns with their goal to develop the program for permanent Indigenous presence on the site. The City has shown interest in bringing such a project to fruition, with the current plan being to transfer two hectares of land at the confluence to the Indigenous Gathering Place Society (Thomas 2022). Although the city has committed to this, a report on advancements in the conversation—planned for December 2022—has been delayed a full year. This took society members by surprise, who felt “that they were not an equal partner in the discussions” (Thomas 2022).

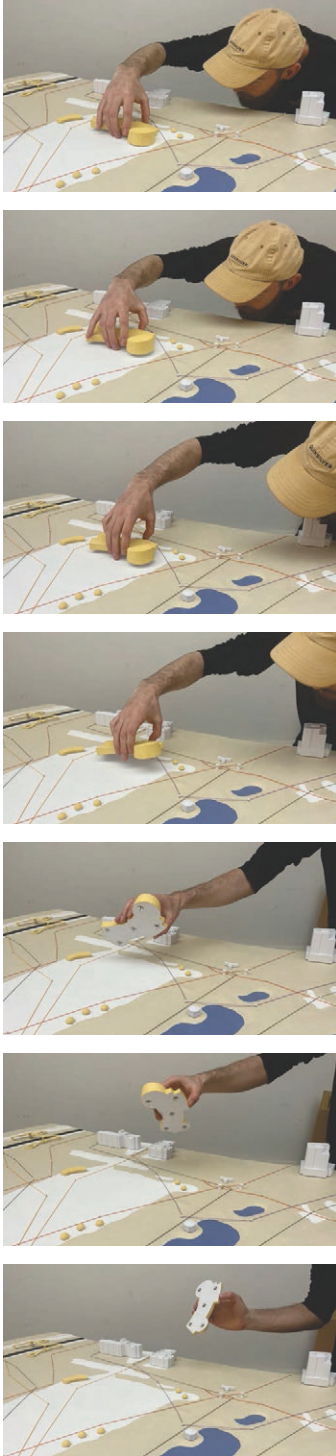
If the municipality is also to take *Truth and Reconciliation Calls to Action* seriously, the confluence site should be seen as being of pivotal importance in answering Call 47, particularly in dialogue with the past embrace of *terra nullius* on the land:

We call upon federal, provincial, territorial and municipal governments to repudiate concepts used to justify European sovereignty over Indigenous peoples and lands, such as the Doctrines of Discovery and terra nullius... (TRC 2012, 5)

To proceed with the creation of a Gathering Place should be the city's priority; the more quickly conversation moves forward the better.

Potentials for Conviviality

At Siiko'tsikokaan Point, Indigenous conceptions of humility—understanding and living like we are the newcomers to this continent (Wall Kimmerer 2014, 205)—lead to inclusion by their very nature. By understanding that many ways of living are valued, the other inhabitants—children, urban wildlife, urban houseless, and the elderly—also find themselves included across changing seasons and conditions.



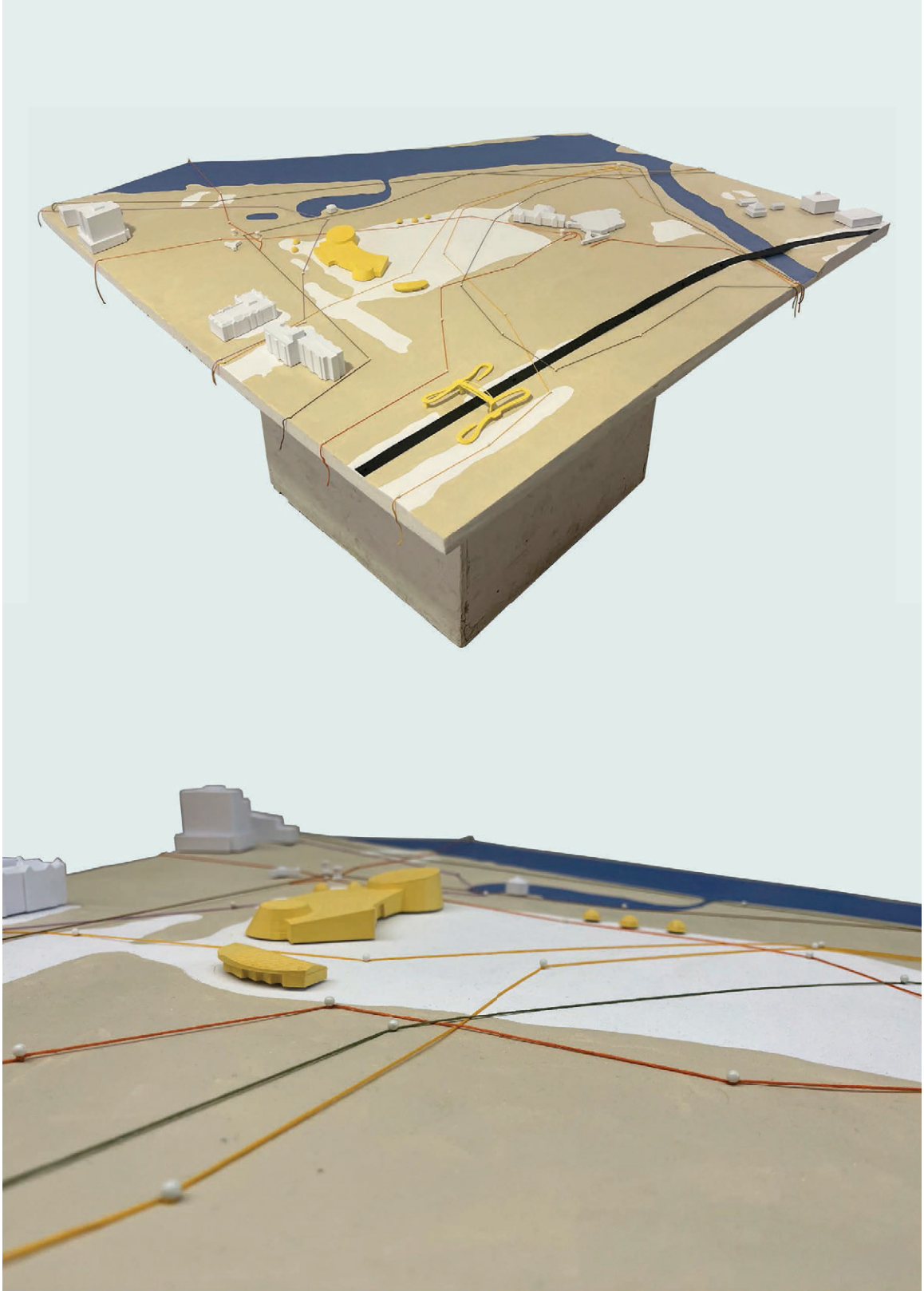
The use of foam as a base for the model allows proposed interventions to be considered as impermanent and moved around the site.



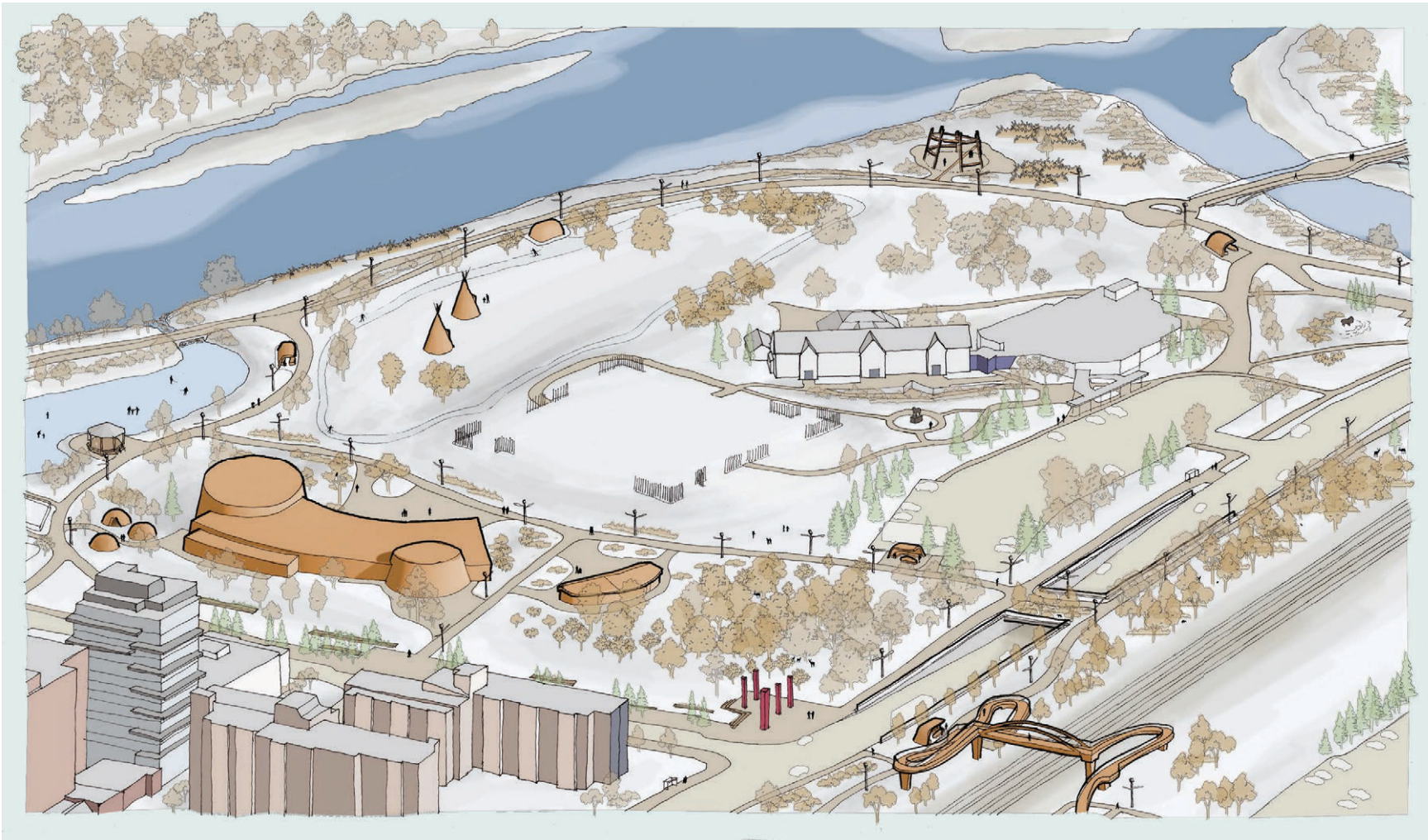
Desire lines of urban inhabitants were represented by threads of trajectories, pinned into the site but open to being changed.

Finally, I chose this site to test a translation of the previous relational mapping exercises from a planar representation to a spatialized one. I constructed a site model of the confluence in a way that enabled continuations of imagined desire paths to be physically described across the landscape. The base was made with foam, allowing pins to be easily placed and threads to be drawn between them, using colours representative of the inhabitant groups. Similarly to how new entanglements in Juharia Square led to the implementation of interventions (Monno and Serreli 2020, 12-15), the implicit arrangement of threads on this model provided an opportunity to suggest locations for the IGP building, Amenity building, and temporary programs like sweat lodges. I made massing models of these programs which were also pinned and movable, facilitating conversations about siting that avoid becoming pre-determinative.

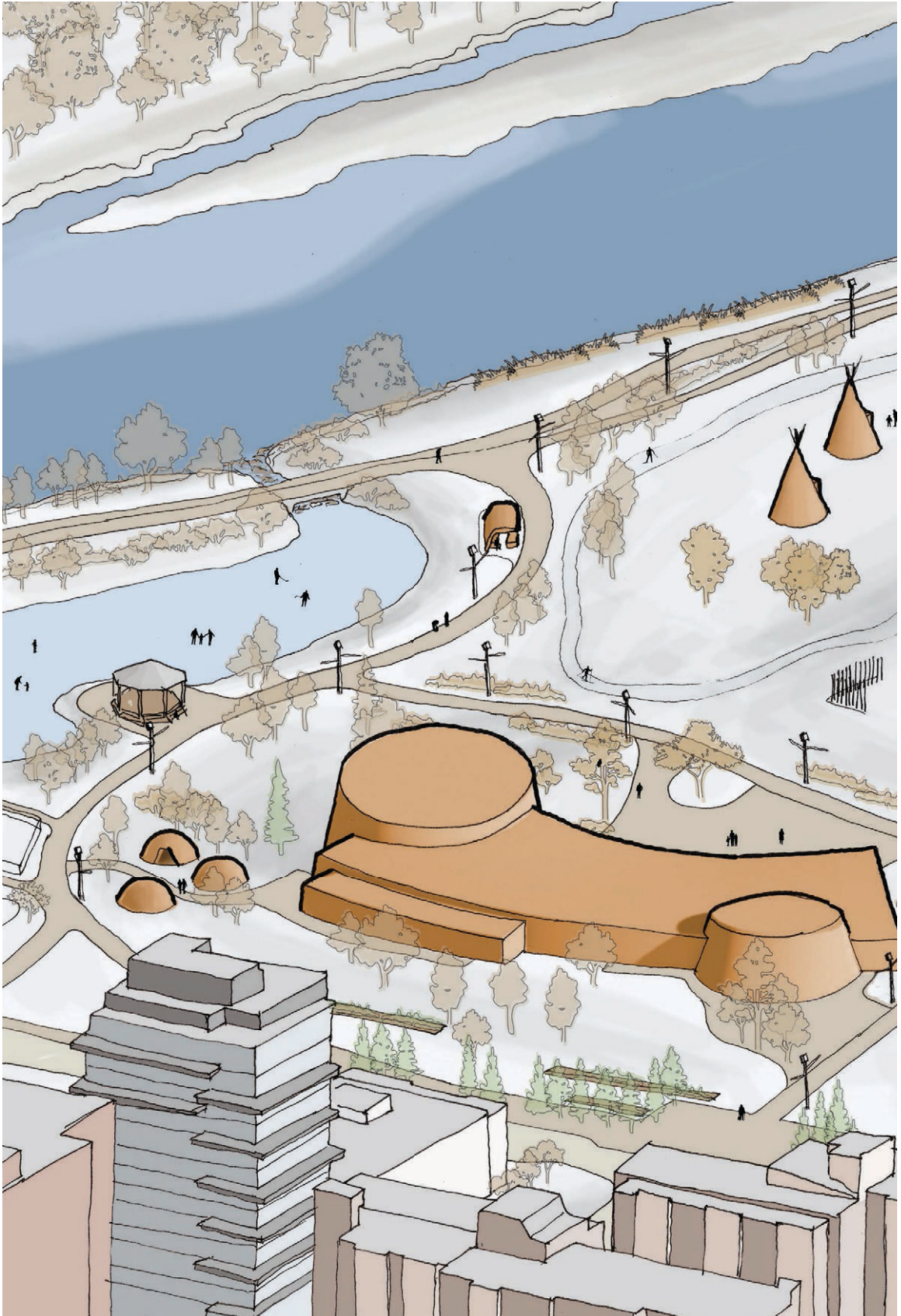
This exercise begins to bridge the gap between speculative design rehearsals and involved design processes of active community engagement; one can imagine constituents of a community gathering around a model, their voices recognized and valued as they advocate for their needs.



1:500 scale site model (1200x1200mm), with threads suggesting imagined desire lines. Buildings in white are existing, while yellow building massings represent speculative design interventions. The Bow and Elbow Rivers are shown in blue, and land subject to inundation by flooding in beige



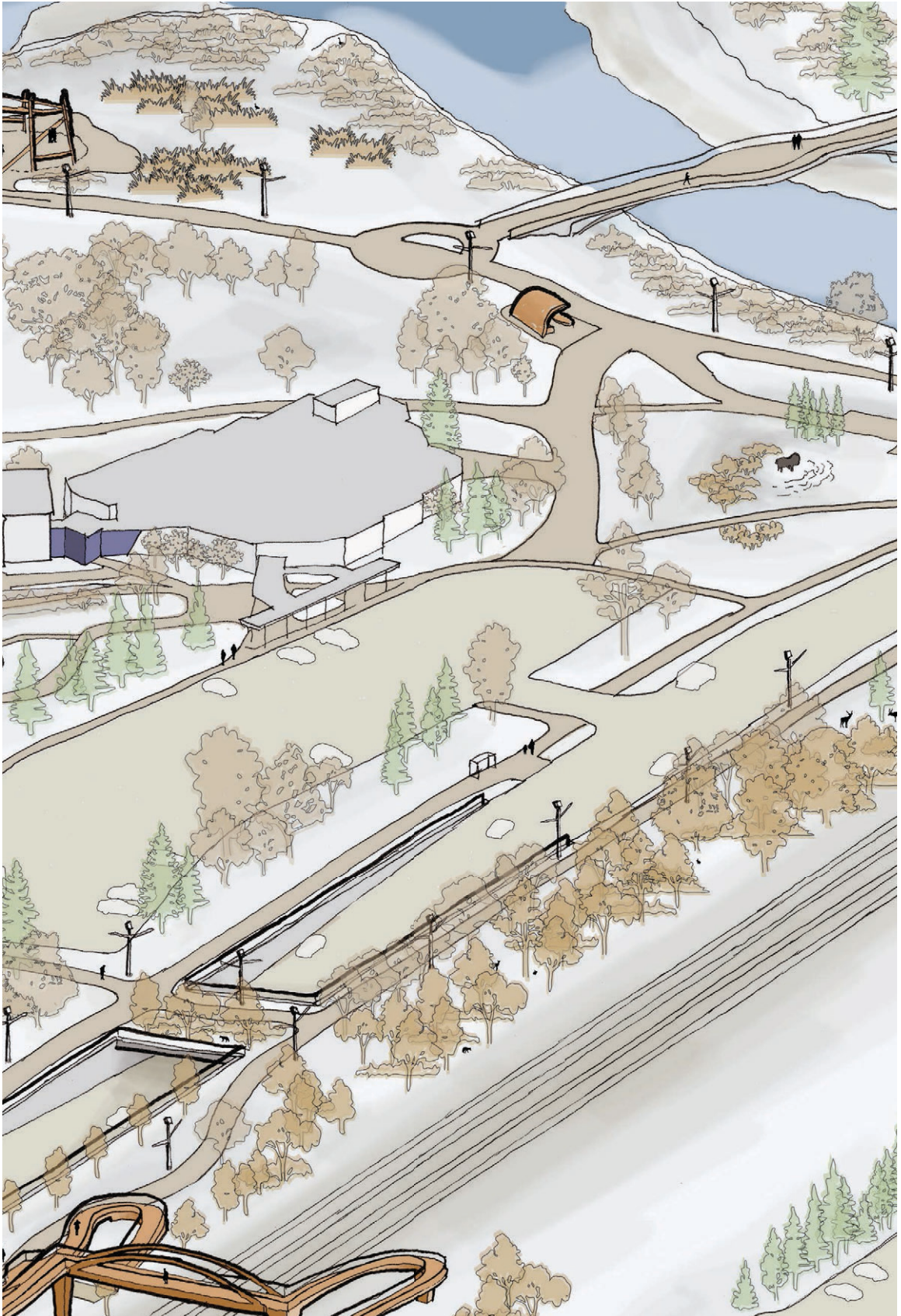
Axonometric of Siiko'tsikokaan Point in winter, looking NE



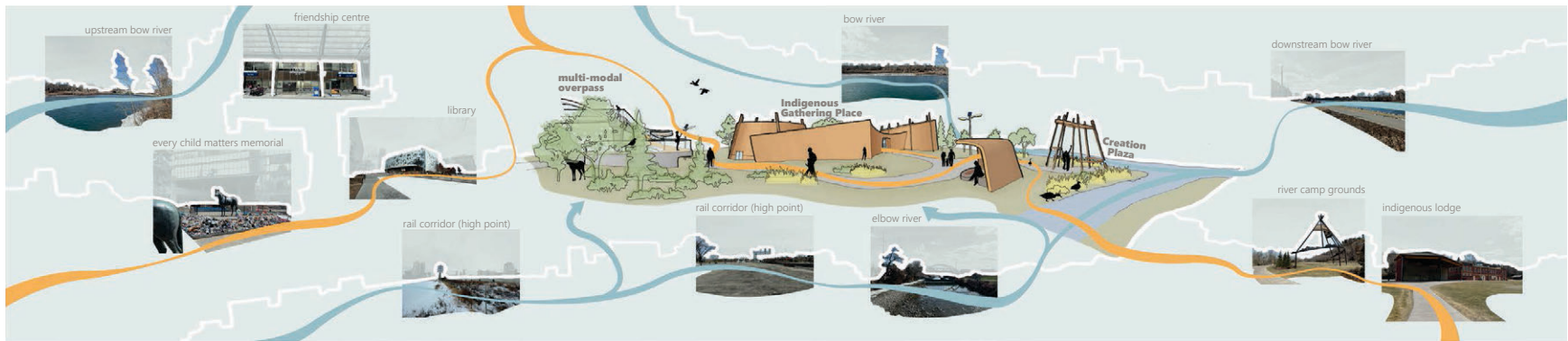
Axonometric detail 1



Axonometric detail 2



Axonometric detail 3



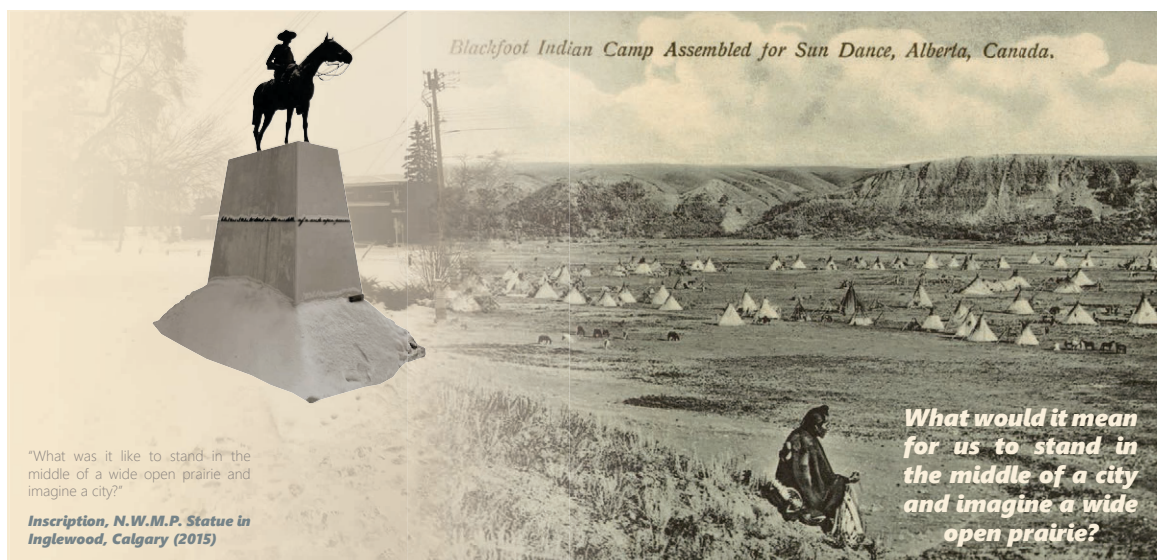
Collage of Siiko'tsikokaan Point, showing desirable spaces reconnected by the intervention

Chapter 9: Conclusion

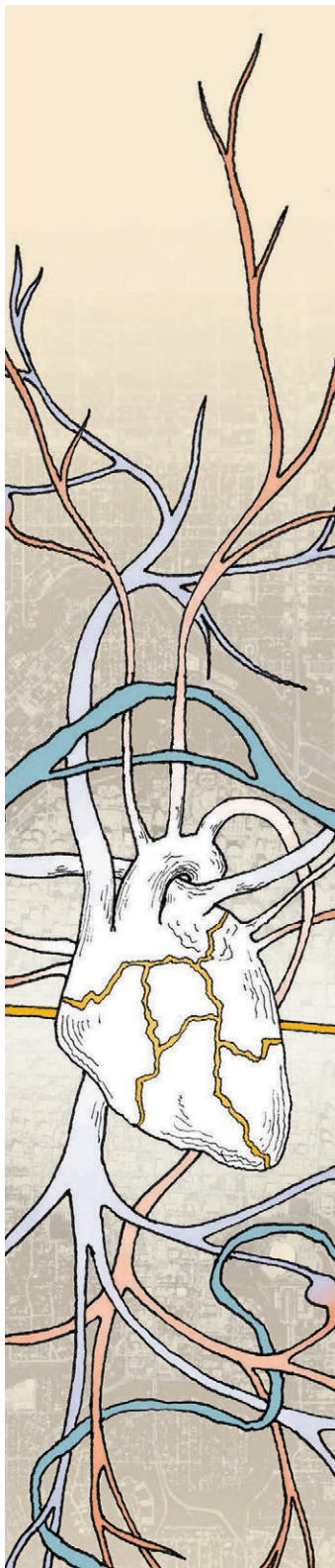
Across the Elbow River near its confluence with the Bow, just east of the ruins of Fort Calgary, stands a statue of a mounted policeman with the inscription: *What was it like to stand in the middle of a wide open prairie and imagine a city?* This thesis suggests it is time for Calgarians to ask instead:

What would it mean for us to stand in the middle of a city and imagine a wide open prairie?

Can we re-imagine common spaces in urban centres that—like the prairies and foothills themselves—are inherently connective and support life? This thesis envisions a revitalization of Calgary’s heart, making it a place welcoming co-existence and conviviality—between people and wildlife, young and old, housed and houseless, settlers and the first inhabitants of the Prairies. These intertwined narratives, explored and emerging through descriptive and relational mappings around the CPR corridor, allow the reader to



North West Mounted Police statue commemorating the settlement of Calgary, and Blackfoot Indian Camp (adapted from University of Alberta n.d.).



Revitalization—bringing the broken things back to life—is possible in the heart of the city.

imagine new entanglements which lay a foundation for inclusion, even within large-scale urban infrastructures.

By questioning such infrastructures, the improvisational mapping method tested reveals its viability, through the design of three speculative interventions that are welcoming and inclusive: a reconceived park, a renovated building, and a complete re-think of Calgary’s point of origin at the intersection of the Bow and Elbow Rivers. This thesis argues for the adoption of its methodology, rather than specific design solutions; ultimately, such design exercises must involve a community-centred design process. Throughout the exercises, I relied on my imagination to envision projects which reveal the potential of relational mappings to design spaces that embrace difference and co-existence.

I hope that, by advocating for a more civic use of the CPR corridor, the guided exercises in this thesis will inspire a hopeful outlook for revitalization in the city’s heart. I am not alone in this ambition—as recently as 2019, the City’s *Civic District Public Realm Strategy* suggested that neglected sites along the rail line should be “redeveloped into public amenity spaces as part of a long-term vision to become an “urban suture” that connects the Centre City rather than dividing it” (City of Calgary 2019a, 59). Yet, no progress has been made on this. Revitalizing this space causing brokenness, and rethinking how other rifts can also be bridged, is important for the inhabitants of Calgary to find ways to live well together .

9.1 Trajectories and Tangents

By its nature, a thesis is unfinished. In this one, there is much I was unable to address, and doors to other dialogues that have opened up for me. What follows is a brief summary of avenues I wish to explore further.

Two-Eyed Seeing

The forays of this thesis run tangent to conversations about *Two-Eyed Seeing*, (defined by Mi'kmaq Elders Albert and Murdena Marshall as viewing the world through both Indigenous and Western worldviews (Bartlett, Marshall, and Marshall 2012, 332). The alignment of contemporary studies (such as the theory of urban fixes) with indigenous knowledge sources suggests how these two epistemologies can collaborate in a journey of co-learning, in the spirit of Two-Eyed Seeing.

Current research in this terrain is revealing how indigenous understandings of valuing and living with the land are cooperative with movements for sustainable urbanism. Potawatomi Nation ecologist and author Robin Wall Kimmerer (2014) remarks on how indigenous knowledge can represent a biocentric turn in which settlers can become 'naturalized' to place:

To live as if this is the land that feeds you, as if these are the streams from which you drink, that build your body and fill your spirit... To become naturalized is to live as if your children's future matters, to take care of the land as if our lives and the lives of all our relatives depend on it. Because they do. (214)

These refreshing perspectives set a path forward from a materialist culture and rootless past (207). They reveal that environmental issues are also human rights issues when considered over the span of generations (Watt-Cloutier 2016, 133), substantiating the positive implications for health and sustainability such a change in worldview has. While the methodology of this thesis does not directly interact with Two-Eyed Seeing, it suggests a necessary engagement with such conversations. Further research into the implications of Two-Eyed Seeing within the context of urbanism is bound to be fruitful.



“Chinook Arch Panorama” (University of Calgary 2021). Calgary is unique in that snow does not stay because of Chinook Arch (warm cloud front) phenomena. Frequently melting snow means winter is characterized by muddy, brown landscapes, creating challenges and opportunities.

Winter City Identity

In recent years, prairie cities like Edmonton and Winnipeg have revitalized their urban centres by embracing their identities as winter cities, rethinking public spaces and circulation systems so they serve people, not only cars. This thesis discusses Calgary’s struggle to find its own inclusive identity, instead having prolonged its practices of exclusive urbanism, even in the heart of the city. The argument I present in Chapter 5—asserting that the CPR corridor could be a multi-purpose, much-used, and inhabitable space—aligns with the arguments made by those winter cities. Though urban infrastructure is often designed for seasonal use, embracing Calgary’s ever-changing winter weather conditions is crucial to overcoming barriers to year-round accessibility (Chapman et al. 2019, 9). Local identities and shared experiences bind people together, and make them strong (Cardinal 2022, x); for this reason, Calgary needs to celebrate its winter climate in its urban revitalization effort.

Transit Oriented Development

The application of relational mappings could also help with re-conceptualizing other single-use infrastructures across the city. To enrich transit lines in this way would promote active transit and more accessible development in urban corridors.

9.2 Personal Takeaways

I grew up just outside of Calgary and lived there my entire childhood. Since then, I've lived in many other places, but during the early stages of COVID-19, I moved back, and into the heart of the city. This time, it became *home*, and it seemed to me like the first time I truly lived there. In the past two years, I have appreciated it more and more, first by living closer to downtown for a while, and then by writing this thesis. The more I learn about Calgary—its tempestuous history, idiosyncrasies, and hidden workings—the more I feel a part of it. In the words of Juhani Pallasmaa, “In creative work, a powerful identification and projection takes place; the entire bodily and mental constitution of the maker becomes the site of the work” (Pallasmaa 1996, 12). As I have worked on this thesis, the work has also been working on me, forming and re-forming my identity.

When approaching difficult questions and imagining better futures for the cities we live in, we are not required to be experts in the topics we approach. All that is needed to begin is to be curious and open. I think that humility—to rightly see ourselves as children, the most recent inhabitants of this land (Wall Kimmerer 2014, 205)—is what is needed, both interrelationally, and for designers and planners wherever they are situated.

The journey towards living from this attitude has certainly led me to see Calgary, the land it inhabits, and the potential for positive change in the heart of the city in a new, more optimistic way. This has been my experience; I hope that this thesis, with its investigations and methodologies, provides an alternative perspective with which to imagine convivial futures, no matter where we live.



Final defence presentation, June 21, 2023.

Appendix A: History of Inclusion and Exclusion in the Inner City

Each of the events shown below from Calgary's history can be pointed to as having contributed to inclusion or exclusion in the heart of the city.

Pre-1883 | A Place for Community to Gather

The Bow River valley is historically very important to life in the foothills. In the winter, river valleys provide warmth and shelter from winds (City of Calgary 2019b, 9).

1883 | CPR Rail Settlement and Industry

Those running the CPR were the first 'town planners' of the prairies. Westward railway building allowed for settlement, as well as destruction and assimilation of indigenous groups and bison populations. Calgary's CPR railway station was located at the heart of downtown (Sandalack and Nicolai 2006, 17).

1884 | City of Trees

Planting of trees to improve livability, environmental protection etc (City of Calgary 2016b, 1).

1909 | Streetcar Suburbs

Streetcar allowed some expansion, set the stage for a work and live separation (Sandalack and Nicolai 2006, 22).

1912 | City Beautiful Plan

Plan that was never successfully adopted – though some of its goals were (Sandalack and Nicolai 2006, 14).

1913-1920s | World War I Period

Economic depression, financial troubles, Civic spirit turns to problem-solving instead of visionary idealism (Sandalack and Nicolai 2006, 16).

1929 | Hudson's Bay Store Arcade

In 1929, the store was enlarged, adding the 8th Avenue façade and colonnade. This was beneficial in the cold climate, though few other buildings were constructed similarly (Pressman and Zepic 1986, 45).

1932 | Glenmore Reservoir

Power, and no more skating on the Elbow.

1947 | Post-World War II Boom

Discovery of oil allowed for raised standard of living, permitting many families to buy single-family homes (Sandalack and Nicolai 2006, 77).

1950 | Phase-out of the Streetcar

Saw shift to road priority, buses and personal vehicle travel (Sandalack and Nicolai 2006, 85).

1951 | Plan for 'Orderly Growth'

From lot by lot (cohesive urban form traditional and historical precedent guided decision making) to block by block (neighbourhood 'unit', collector streets, form intended for safety and health, units not 'invaded' by significant traffic) Sub-division an apt word. (Sandalack and Nicolai 2006, 80).

1958 | City Zoning Bylaw

Led to Calgary General Plan (1963) first municipal plan in western Canada. Began process that would lead to destructive 'urban renewal' (Sandalack and Nicolai 2006, 78).

1959 | Locating the University

University was planned and sited far away from the urban centre.

1961-1981 | Boomtown and urban renewal

Freeways, urban malls, and expansion in concentric rings. Much downtown urban fabric removed in urban renewal program—buildings destroyed at rate of 600 per year at peak, replaced by offices cultural facilities and municipal buildings (Sandalack and Nicolai 2006, 105).

1963 | CPR Redevelopment Plan

Rejected plan to create additional railroad along Bow River resulted in the river valley pathway system of today (Sandalack and Nicolai 2006, 87).

1964 | Meeting Parking Needs

40% of population works in downtown, 2-3% live there. Result was introduction of many parking facilities (Sandalack and Nicolai 2006, 85).

1966 | Downtown Master Plan

Moved from 3-dimensional and emphasis on public realm (Mawson) to emphasize transportation (2-dimensional, top-down).

1967 | Plus 15

Intended to provide pedestrians circulation sheltered from traffic and weather, movement from one office building to the next.

1978-1982 | *The Construction Crane – Calgary's Official Bird*

Calgary sets Canadian record for most construction permit applications 5 years in a row, millions of sq. ft of office space constructed (Sandalack and Nicolai 2006, 105).

1981a | *LRT Service Begins*

Electric rail transit is re-introduced to Calgary in the form of the C-Train, after being absent for 30 years (Hatcher and Schwarzkopf 2009, 145).

1981b | *Downtown ARP*

Advocated for integrated public open spaces, high-quality pedestrian movement, increased housing throughout downtown, increased accessibility by pedestrians and transit. Also proposed height restrictions for sunlight penetration (Sandalack and Nicolai 2006, 111). Was rejected because of interference with developer's rights and the economic function of the downtown. Resulted in the elimination of 80 planning positions, director's resignation. Core Area Policy Brief adopted instead, much less visionary document.

1988 | *Winter Olympic Games*

Put focus back on development and not scandalous radical re-imaginings of what could have been in the inner city.

1990 | *Via Rail Downsize*

Via Rail drops half of its passenger train service, including Calgary route, because of lack of ROI and ridership. Downtown rail corridor no longer has a public use. (Allen 2004).

1994 | *Urban Parks Master Plan*

For the development of river valley system, for a potential 160 park sites. While extensive, is incomplete, leading to the question of what the “landscape vocabulary” might be for more urbanised areas of the city fabric (Sandalack and Nicolai 2006, 143).

2004 | *Deerfoot Extension*

Allowed the urban core to be bypassed by vehicular traffic (Sandalack and Nicolai 2006, 148).

2008-Present Day | *Post-Recession Resurgence*

There has been a resurgence of interest in changing the perception of the downtown from a place to work to a place to live.

2019 | *COVID Shift*

Where a decade ago there was not enough office space, now 1/3 of buildings are empty with another 10% shadow vacancy (City of Calgary 2023b). Empty towers are finding new uses.

Multiple Histories

Inclusive Moments

Pre-1883
A Place for Community to Gather
 The Bow River is historically very important to life in the foothills. In the winter, river valleys provide warmth and shelter from winds (City of Calgary 2019b, 9).

1884
City of Trees
 Planting of trees to improve livability, environmental protection etc (City of Calgary 2016b, 1).

1883
CPR Rail Settlement and Industry
 Those running the CPR were the first 'town planners' of the prairies. Westward railway building allowed for settlement, as well as destruction and assimilation of indigenous groups and bison populations. Calgary's CPR railway station was located at the heart of downtown (Sandalack and Nicolai 2006, 17).

1909
Streetcar Suburbs
 Streetcar allowed some expansion, set the stage for a work and live separation (Sandalack and Nicolai 2006, 22).

1912
City Beautiful Plan
 Plan that was never successfully adopted – though some of its goals were (Sandalack and Nicolai 2006, 14).

1913-20
World War I Period
 Economic depression, financial troubles, Civic spirit turns to problem-solving instead of visionary idealism (Sandalack and Nicolai 2006, 16).

1912
Glenmore Reservoir
 Power, and no more skating on the Elbow.

1929
Hudson's Bay Store Arcade
 In 1929, the store was enlarged, adding the 8th Avenue facade and colonnade. This was beneficial in the cold climate, though few other buildings were constructed similarly (Pressman and Zepic 1986, 45).

1958
City Zoning Bylaw
 Led to Calgary General Plan (1963) first municipal plan in western Canada. Began process that would lead to destructive 'urban renewal' (Sandalack and Nicolai 2006, 78).

1951
Plan for 'Orderly Growth'
 From lot by lot (cohesive urban form traditional and historical precedent guided decision making) to block by block (neighbourhood 'unit', collector streets, form intended for safety and health, units not 'invaded' by significant traffic). Sub-division an apt word. (Sandalack and Nicolai 2006, 80).

1947
Post-World War II Boom
 Discovery of oil allowed for raised standard of living, permitting many families to buy single-family homes (Sandalack and Nicolai 2006, 77).

1950
Phase-out of the Streetcar
 Saw shift to road priority, buses and personal vehicle travel (Sandalack and Nicolai 2006, 85).

1963
CPR Redevelopment Plan
 Rejected plan to create additional railroad along Bow River resulted in the river valley pathway system of today (Sandalack and Nicolai 2006, 87).

1967
Plus 15
 Intended to provide pedestrians circulation sheltered from traffic and weather, movement from one office building to the next.

1966
Downtown Master Plan
 Moved from 3-dimensional and emphasis on public realm (Mawson) to emphasize transportation (2-dimensional, top-down).

1964
Meeting Parking Needs
 40% of population works in downtown, 2-3% live there. Result was introduction of many parking facilities (Sandalack and Nicolai 2006, 85).

1959
Locating the University
 University was planned and sited far away from the urban centre.

1961-81
Boomtown + Urban Renewal
 Freeways, urban malls, and expansion in concentric rings. Much downtown urban fabric removed in urban renewal program—buildings destroyed at rate of 600 per year at peak, replaced by offices, cultural facilities and municipal buildings (Sandalack and Nicolai 2006, 105).

1981
Downtown ARP
 Advocated for integrated public open spaces, high-quality pedestrian movement, increased housing throughout downtown, increased accessibility by pedestrians and transit. Also proposed height restrictions for sunlight penetration (Sandalack and Nicolai 2006, 111). Was rejected because of interference with developer's rights and the economic function of the downtown. Resulted in the elimination of 80 planning positions, director's resignation. Core Area Policy Brief adopted instead, much less visionary document.

1981
LRT Service Begins
 Electric rail transit is re-introduced to Calgary in the form of the C-Train, after being absent for 30 years (Hatcher and Schwarzkopf 2009, 145).

1994
Urban Parks Master Plan
 For the development of river valley system, for a potential 160 park sites. While extensive, is incomplete, leading to the question of what the 'landscape vocabulary' might be for more urbanized areas of the city fabric (Sandalack and Nicolai 2006, 143).

1990
Via Rail Downsize
 Via Rail drops half of its passenger train service, including Calgary route, because of lack of ROI and ridership. Downtown rail corridor no longer has a public use. (Allen 2004).

1988
Winter Olympic Games
 Put focus back on development and not scandalous radical re-imaginings of what could have been in the inner city.

1978-82
The Construction Crane – Calgary's Official Bird
 Calgary sets Canadian record for most construction permit applications 5 years in a row, millions of sq. ft of office space constructed (Sandalack and Nicolai 2006, 105).

2008
Post-Recession Resurgence
 There has been a resurgence of interest in changing the perception of the downtown from a place to work to a place to live.

2019
COVID Shift
 Where a decade ago there was not enough office space, now 1/3 of buildings are empty with another 10% shadow vacancy (City of Calgary 2023b). Empty towers are finding new uses.

2004
Deerfoot Extension
 Allowed the urban core to be bypassed by vehicular traffic (Sandalack and Nicolai 2006, 148).

Exclusive Moments

Condensed timeline, breaking out inclusive and exclusive moments.

Appendix B: CPR Corridor Documentation

This appendix contains a list of documents related to attitudes surrounding rail corridor-proximal development; a short description of each document's content is provided.

Bow River Valley alignment proposal (1962)

- Canadian Pacific Railway Company (CPR) revealed a new plan to reroute the primary line along the Bow River's south bank (Foran 2013, 3)
- After troublesome negotiations, public support faltered and the plan did not go ahead (Foran 2013, 187)

Centre City Plan (2007)

- Comprehensive document with action plan based on CPR Corridor Plan, suggesting a '+30' network of public spaces bridging the tracks, as well as at-grade plazas (City of Calgary 2007, 31)
- 11th and 12th Avenues imagined as becoming 2-way streets and supporting 35,000 new residents in low-rise buildings (City of Calgary 2007, 52)

CPR Corridor Plan (2011)

- Reference made to "exploring creative, bold and innovative approaches to transforming the corridor into a comprehensive landmark space along a 2.5km spine of downtown Calgary" (Foran 2013, 191)
- Feasibility study determined that because of expenses in developing adjacent to the corridor, the only feasible proformas were for office with a base 13 FAR (City of Calgary 2019a, 60)

ImagineCALGARY (2013)

- "explore innovative and creative ways to foster the expansion of the downtown business core to the south by overcoming the Canadian Pacific Railway line constraints, either by relocating the rail line outside Calgary or by developing over/under-track parking structures, parks and pedestrian walks, vehicle underpasses..." (City of Calgary 2013, 40)

Civic District Public Realm Strategy (2015)

- Describes a vision for the Civic District, emphasizing the role of architecture in building the city's heart
- Suggests that “vacant and underutilized parcels along the CPR corridor should be redeveloped into public amenity spaces as part of a long-term vision to become an “urban suture” that connects the Centre City rather than dividing it” (City of Calgary 2019a, 59)

Centre City Plan Refresh Place-making Brief (2019)

- 10th Avenue S planned to become a green boulevard complete with a streetcar (City of Calgary 2019a, 52)
- CPR corridor should be redeveloped into public amenity spaces as part of a long-term vision to become an ‘urban suture’ (City of Calgary 2019a, 59)

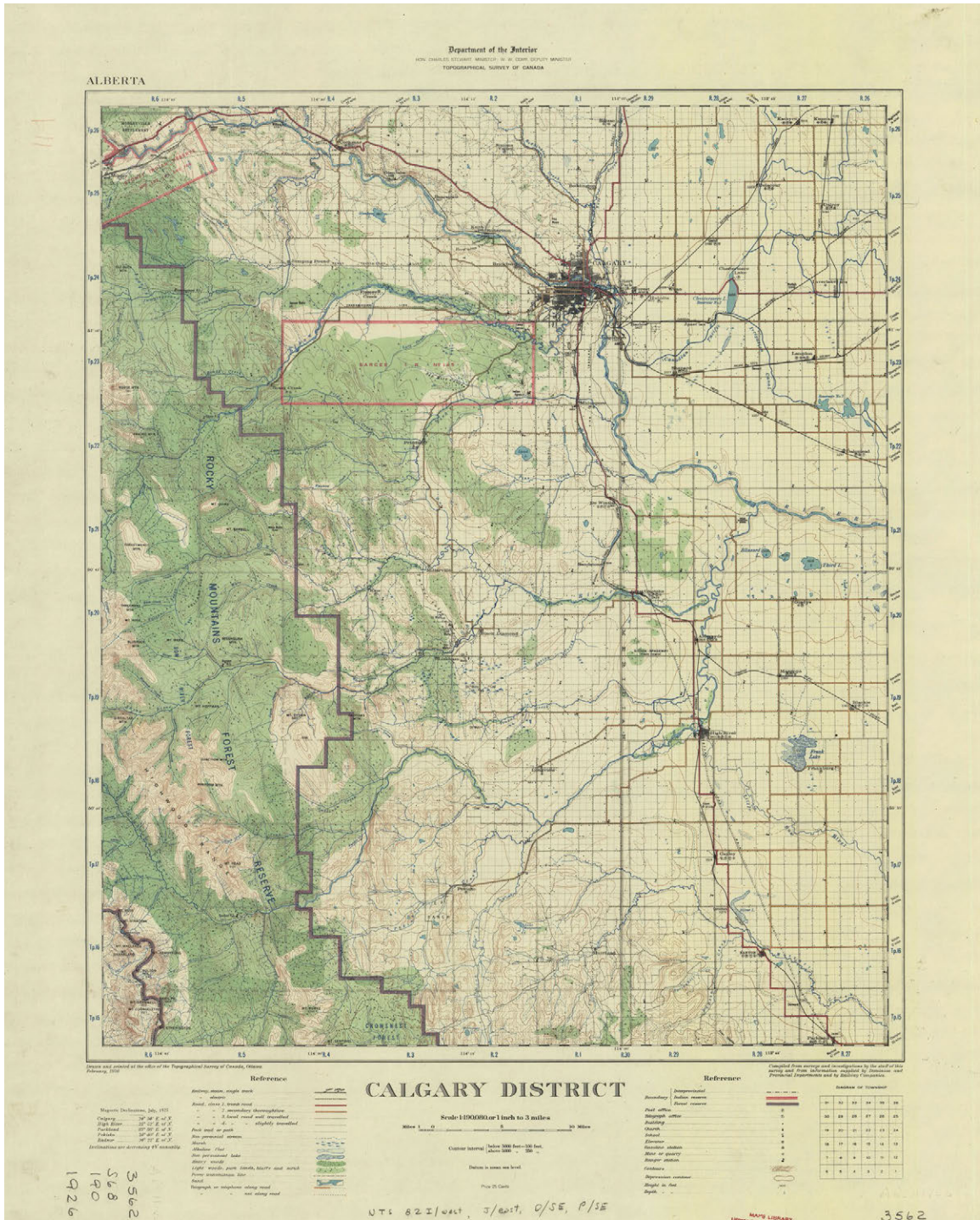
Municipal Development Plan (MDP) (2020)

- Speaks of development next to the corridor, but only regarding risk management (City of Calgary 2020b, 123)

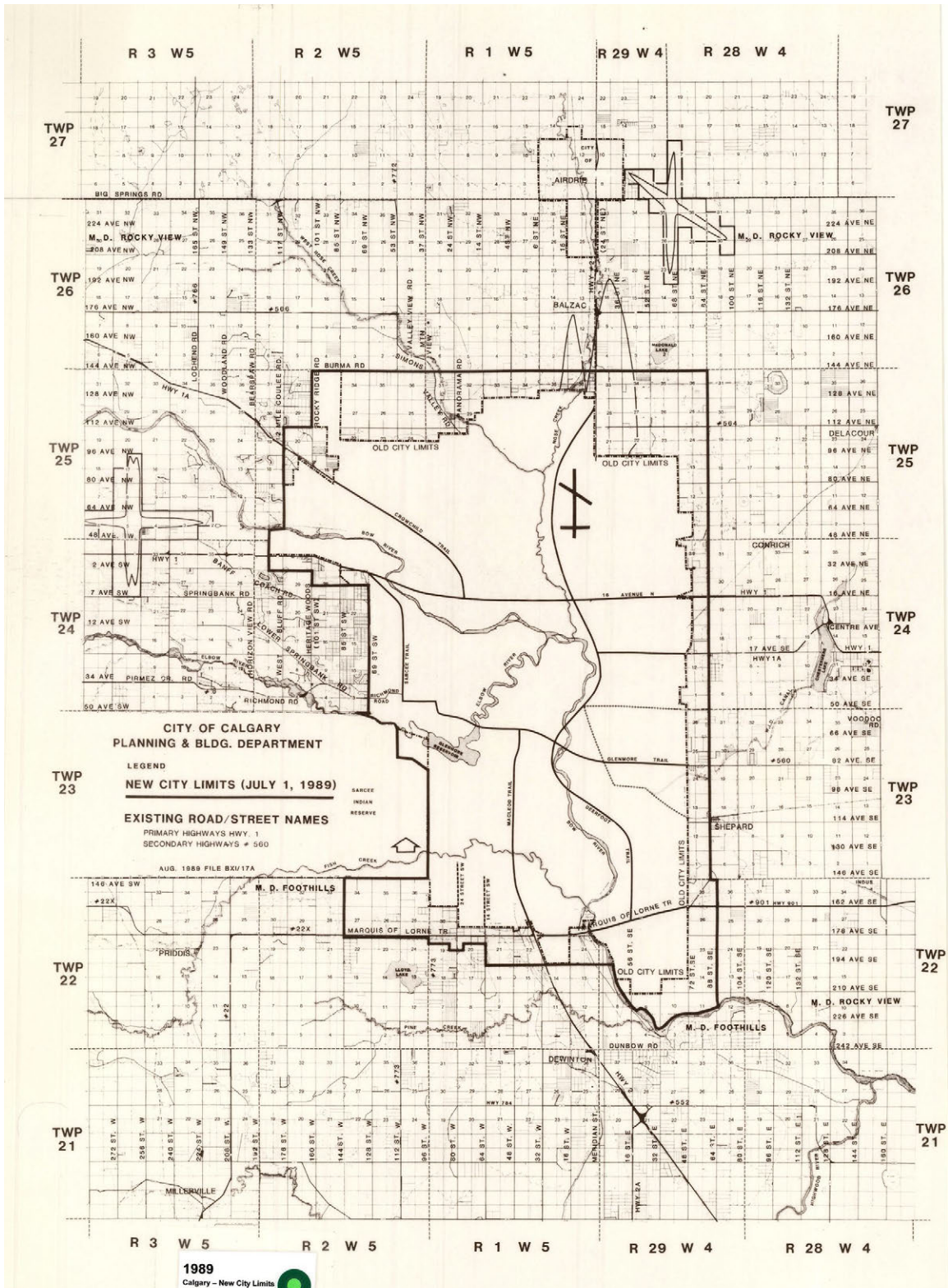
City Transportation Plan (CTP) (2020)

- No longer contains any mention of the CPR corridor, or appropriate attitudes towards it

Appendix C: Additional Maps

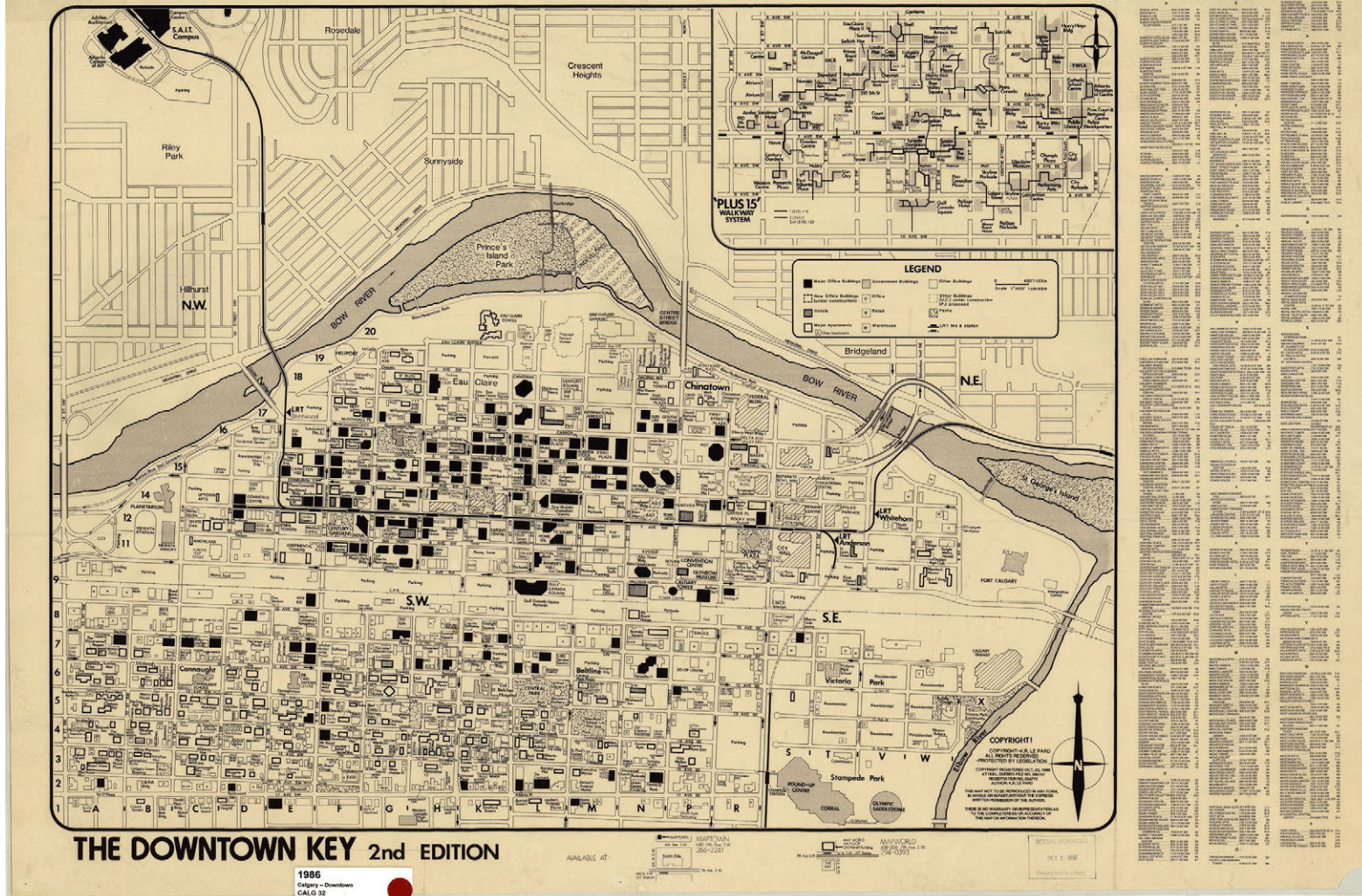


“Calgary District” (University of Calgary 1926). Note the contrast between the irregularity of natural geographies (rivers, woods, lakes, bluffs) and the cardinal regularity of imposed grid. Also note the grid extents (reaching the foot of the Rocky Mountains) and totality; they also define Tsuu T’ina Nation Reserve 145 (upper middle) and Stoney Reserves 142, 143, and 144 (top left).

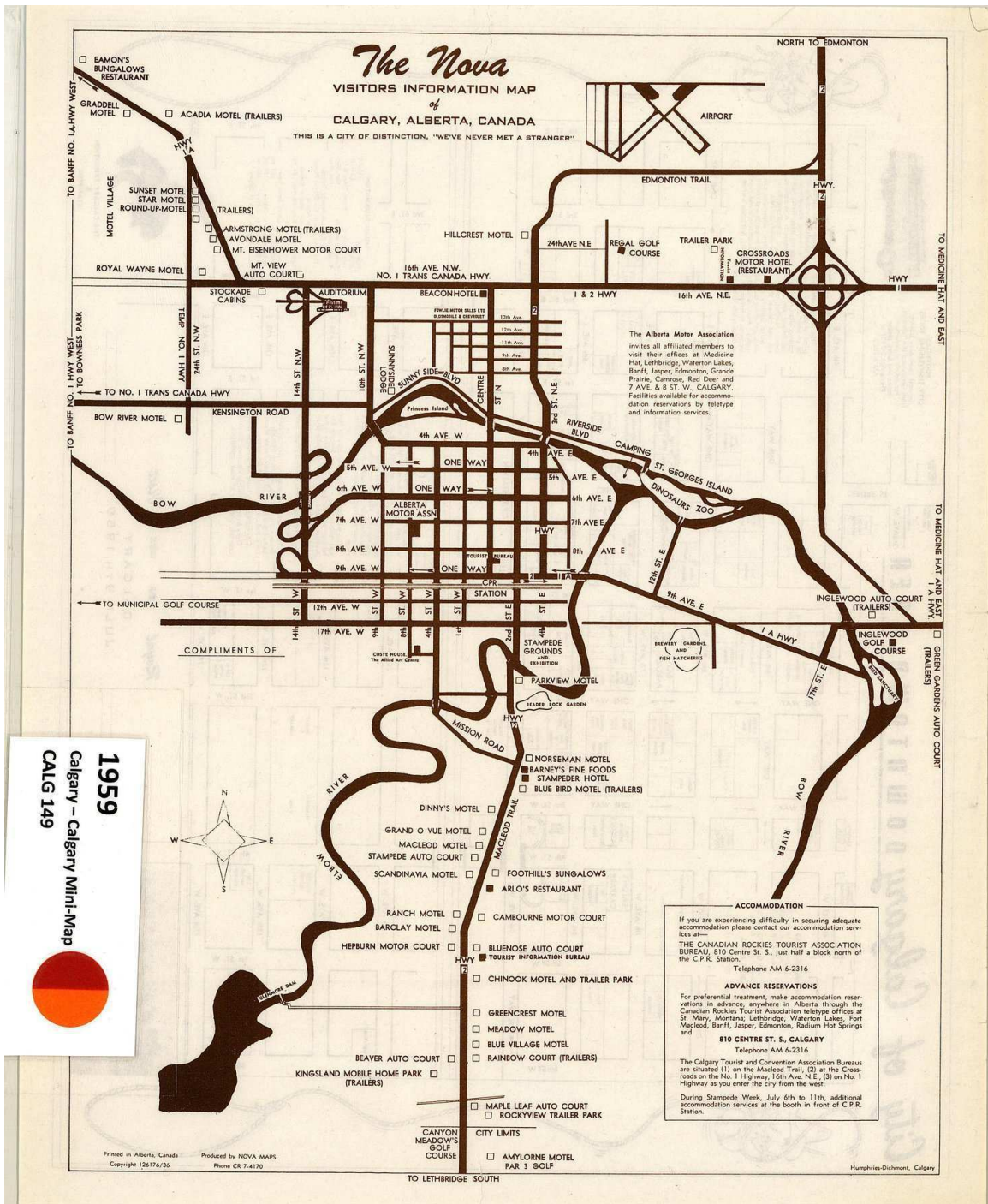


“Calgary – New City Limits” (Calgary Public Library Archives 1989). This cadastral map shows how the DLS grid made expansion plans easy, with ‘new’ spaces represented as empty space.

Calg 32



“The Downtown Key” (Calgary Public Library Archives 1986). Compared to the previous map from 1891, the result of urban renewal initiatives is evident in the re-scaling of downtown away from human-scale housing and towards municipal and civic infrastructure.



"The Nova: Visitor's Information Map of Calgary, Alberta, Canada" (Calgary Public Library Archives 1959). Note the visual preference of roadway infrastructure as a means of wayfinding



“Oblique aerial view of the City of Calgary” (University of Calgary 1967). Note the severe physical presence of the CPR line. This photograph was taken while the Calgary Tower (centre) was still under construction; urban renewal initiatives had just begun.



“Calgary’s Easy: City Mini-Map” (Calgary Public Library Archives 1987). Note the vague abstraction of landscapes and emphasis on infrastructure.

References

- AACC (Aaron Aubin Consulting Committee). 2017. *The Case for a Calgary Indigenous Gathering Place*. <https://www.sisn.ca/wp-content/uploads/2019/05/TheCase-foraCalgaryIGPPublic2017-2.pdf>.
- Alberta. Community Development Unit. 1999. *Calgary: Atlantic avenue, Inglewood: historical walking tours*. Edmonton, AB: Community Development Unit. <https://open.alberta.ca/dataset/0a229b0f-a25f-477a-9b08-8d1c649151fa/resource/b9c1f530-6973-465b-950d-6f4e0375902c/download/tour-calgary-atlantic-inglewood.pdf>.
- Alberta. Tourism, Parks and Recreation. 2015. *Natural Regions and Subregions of Alberta. A Framework for Alberta's Parks*. Edmonton, AB: Tourism, Parks and Recreation. <https://www.albertaparks.ca/media/6256258/natural-regions-subregions-of-alberta-a-framework-for-albertas-parks-booklet.pdf>.
- Alexander, Christopher, Murray Silverstein, and Sara Ishikawa. 1977. *A Pattern Language: Towns, Buildings, Construction*. Oxford: Oxford University Press.
- Alexander, Shelley M., and Dianne L. Draper. 2019. "Worldviews and Coexistence with Coyotes." In *Human-Wildlife Interactions: Turning Conflict into Coexistence*, edited by Beatrice Frank, Jenny A. Glikman, and Silvio Marchini, 311–334. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781108235730.018>.
- Alexander, Shelley M., and Dianne L. Draper. 2021. "The rules we make that coyotes break." *Contemporary Social Science* 16, no. 1: 127–139. <https://doi.org/10.1080/21582041.2019.1616108>.
- Amin, Ash. 2012. *Land of Strangers*. Cambridge: Polity Press.
- Amin, Ash. 2013. "Land of Strangers." *Identities* 20, no. 1: 1–8. <https://doi.org/10.1080/1070289X.2012.732544>.
- Antoniuk, Tim. 2022. "Expanding the Creative Economy in Alberta: Creative Hybridity from Small Producers." In *Situating Design in Alberta*, edited by Isabel Prochner and Tim Antoniuk, 93–121.
- Archives of Manitoba. 1802. "Sketch map "Drawn by Ak ko wee ak a Black Foot Indian 1802", redrawn by Peter Fidler." Map. http://pam.minisisinc.com/SCRIPTS/MWIMAIN.DLL/421631360/1/8/750363?RECORD&DATABASE=LISTINGS_WEB_INT.
- Arendt, Hannah. 1958. *The Human Condition*. Chicago: University of Chicago Press.
- Arendt, Hannah. 1972. *Crises of the Republic*. New York: Harcourt Brace Jovanovich.
- AWES (Agroforestry & Woodlot Extension Society of Alberta). 2018. *Manual for Riparian Forest Buffer Establishment in Alberta*. <https://www.awes-ab.ca/wp-content/uploads/2018/11/Riparian-Manual.pdf>.

- AWES. 2020. *Planning your Riparian Planting Project in Alberta*. https://www.awes-ab.ca/wp-content/uploads/2020/07/293-riparian_planting-factsheet-FINAL-1.pdf.
- Bartlett, Cheryl, Murdena Marshall, and Albert Marshall. 2012. "Two-Eyed Seeing and Other Lessons Learned within a Co-Learning Journey of Bringing Together Indigenous and Mainstream Knowledges and Ways of Knowing." *Journal of Environmental Studies and Sciences* 2, no. 4: 331–340. <https://doi.org/10.1007/s13412-012-0086-8>.
- Beattie, Judith H. 1985. "Indian Maps in the Hudson's Bay Company Archives: A Comparison of Five Area Maps Recorded by Peter Fidler, 1801-1802." *Archivaria* 21: 166–175.
- Belyea, Barbara. 1997. "Mapping the Marias: The Interface of Native and Scientific Cartographies." *Great Plains Quarterly* 17, no. 3/4: 165–184.
- Besters, Minouche, Ramon Marrades Sempere, and Juliet Kahne, ed. 2019. *Our City? Countering Exclusion in Public Space*. Amsterdam: STIPO Publishing.
- Calgary Public Library Archives. 1891. "Plan of the Town of Calgary." Map. <https://library.biblioboard.com/content/ab3bed43-023a-466e-8de0-3d9d44b8669d>.
- Calgary Public Library Archives. 1959. "The Nova: Visitor's Information Map of Calgary, Alberta, Canada." Map. <https://library.biblioboard.com/content/f2848d20-21f8-4a35-9fe9-e8dbdfb8fa45>.
- Calgary Public Library Archives. 1986. "The Downtown Key." Map. <https://library.biblioboard.com/content/0e82257b-6141-4172-92ca-c04ab80b3a17>.
- Calgary Public Library Archives. 1987. "Calgary's Easy: City Mini-Map." Map. <https://library.biblioboard.com/content/d98bdbc9-6c7d-4da2-8ef7-7a91a3ff905> .
- Calgary Public Library Archives. 1989. "Calgary – New City Limits." Map. <https://library.biblioboard.com/content/65e52f9f-eb04-4543-9d12-3a44c1a66b97>.
- Calgary: Transportation Department. 1967. Imagined 1986 Highway Network. Map. Calgary, AB: Transportation Department.
- Cardinal, Douglas. 2022. "Foreword." In *Situating Design in Alberta*, edited by Isabel Prochner and Tim Antoniuk. ix–xi.
- Chapman, David, Kristina L. Nilsson, Agatino Rizzo, and Agneta Larsson. 2019. "Winter City Urbanism: Enabling All Year Connectivity for Soft Mobility." *International Journal of Environmental Research and Public Health* 16, no. 10: 1820–1831. <https://doi.org/10.3390/ijerph16101820>.
- The City of Calgary. 2007. "Centre City Plan." <https://www.calgary.ca/content/dam/www/pda/pd/documents/centre-city/centre-city-plan-one.pdf>.

- The City of Calgary. 2010. "West Village Area Redevelopment Plan." <https://publicaccess.calgary.ca/ldm01/livelink.exe?func=ccpa.general&msgID=RTTrAcyyKTV&msgAction=Download>.
- The City of Calgary. 2013. "ImagineCALGARY." <https://www.calgary.ca/pda/pd/office-of-sustainability/imaginecalgary.html>.
- The City of Calgary. 2016a. "Community Profiles." <https://www.calgary.ca/communities/profiles.htm>.
- The City of Calgary. 2016b. "Timeline of Trees in Calgary." <https://www.calgary.ca/content/dam/www/csps/parks/documents/planning-and-operations/tree-management/calgarys-urban-forestry-history.pdf>.
- The City of Calgary. 2019a. "Centre City Plan Refresh." <https://ulidigitalmarketing.blob.core.windows.net/ulidcnc/2019/07/Centre-City-Plan-Refresh-Place-Making-Brief.pdf>.
- The City of Calgary. 2019b. "Uncovering Human History: Archaeology and Calgary Parks." <https://www.calgary.ca/content/dam/www/csps/parks/documents/history/archaeology-and-calgary-parks.pdf>.
- The City of Calgary. 2020a. "Calgary Transportation Plan – 2020." <https://www.calgary.ca/planning/transportation/plan-home.html>.
- The City of Calgary. 2020b. "Municipal Development Plan 2020." <https://www.calgary.ca/pda/pd/municipal-development-plan/municipal-development-plan-mdp.html>.
- The City of Calgary. 2021. "The Guidebook for Great Communities: Creating Great Communities for Everyone." https://cambrianheightscommunity.com/wp-content/uploads/2021/03/2021_Jan4_Guidebook_for_Great_Communities.pdf.
- The City of Calgary. 2023a. "Downtown Development Incentive Programs." <https://www.calgary.ca/development/downtown-incentive.html>.
- The City of Calgary. 2023b. "Downtown's office vacancy." <https://www.calgary.ca/our-finances/downtown-vacancy.html>.
- Cochrane, Regina. 2014. "Climate Change, Buen Vivir, and the Dialectic of Enlightenment: Toward a Feminist Critical Philosophy of Climate Justice." *Hypatia* 29, no. 3: 576–598. <https://doi.org/10.1111/hypa.12099>.
- Collin, Philippa. 2019. "The Intimacy of Exclusion: An Embodied Understanding." In *Our City? Countering Exclusion in Public Space*, edited by Minouche Besters, Ramon Marrades Sempere, and Juliet Kahne. 121–125.
- Colville-Andersen, Mikael. 2019. "The Arrogance of Space." <https://colvilleandersen.medium.com/the-arrogance-of-space-93a7419b0278>.

- CLIC (Community Life Improvement Council). 2004. "Safe Streets - Safe City: A Crime and Disorder Reduction Strategy for the Beltline Communities of Victoria and Connaught." https://beltline.ca/media/04-11-00_Safe%20Streets%20-%20Safe%20City_SAFE.pdf.
- Corner, James. 1999. "The Agency of Mapping: Speculation, Critique and Invention." In *Mappings*, edited by Denis Cosgrove, 213–252. Chicago: University of Chicago Press.
- Cosgrove, Denis. 1984. *Social Formation and Symbolic Landscape*. Madison: The University of Wisconsin Press.
- Dalla Costa, Wanda. 2021. "Design (Re)Thinking: Situated Experience and Spatial Agency in Indigenous Architecture." In *All-Inclusive Engagement in Architecture: Towards the Future of Social Change*, edited by Farhana Ferdous and Bryan Bell, 96–111.
- Debord, Guy. 1957. "The Naked City". Illustration. The Frac Centre-Val de Loire. https://www.frac-centre.fr/_en/art-and-architecture-collection/debord-guy/the-naked-city-317.html?authID=53&ensembleID=705.
- de Certeau, Michel. 1984. *The Practice of Everyday Life*. Translated by Steven Rendall. Berkeley: University of California Press.
- Dillon Consulting Ltd. 2018. "Calgary-Bow Valley Mass Transit Feasibility Study." <https://www.calgaryeconomicdevelopment.com/assets/Reports/Research/Calgary+Report+Calgary-Bow-Valley-Mass-Transit-Feasibility-Study.pdf>.
- Escobar, Arturo. 2011. "Sustainability: Design for the Pluriverse." *Society for International Development* 54, no. 2: 137–140. <https://doi.org/10.1057/dev.2011.28>.
- Ferdous, Farhana, and Bryan Bell, ed. 2021. *All-Inclusive Engagement in Architecture: Towards the Future of Social Change*. New York: Routledge.
- Ferry, Todd, and Sergio Palleroni. 2021. "Architects and Villagers: Utilizing a Participatory Design Process to Revolutionize Responses to Houselessness in Portland, Oregon." In *All-Inclusive Engagement in Architecture: Towards the Future of Social Change*, edited by Farhana Ferdous and Bryan Bell, 303-308.
- Foran, Max. 2013. *Development Derailed: Calgary and the CPR 1962-64*. Edmonton: Athabasca University Press.
- Fuller, R. Buckminster. 1944. "R. Buckminster Fuller's Dymaxion Map." Print. Boston Rare Maps. <https://bostonraremaps.com/inventory/buckminster-fuller-dymaxion-map/>.
- Girling, Cynthia, and Ronald Kellett. 2005. *Skinny Streets and Green Neighbourhoods: Design for Environment and Community*. Washington, D.C.: Island Press.

- Glenn, Nicole M., Krystyna Kongats, Heather Cowie, Julie K. Guimond, and Candace I. J. Nykiforuk. 2022. "Promoting children's play in Calgary, Alberta: A case study of collective impact and municipal leadership." *Cities & Health* 6, no. 2: 309–325. <https://doi.org/10.1080/23748834.2020.1779994>.
- Gravel, Ryan. 2016. *Where We Want to Live: Reclaiming Infrastructure for a New Generation of Cities*. New York: St. Martin's Press.
- Grinnell, George Bird. 1892. "Early Blackfoot History." *American Anthropologist* 5, no. 2: 153–164. <http://www.jstor.org/stable/658663>.
- Government of Alberta. 2013. "MacKenzie Lake/Cranston Blvds. S.E. Interchange." Photograph. <https://www.transportation.alberta.ca/Content/docType5463/Production/Calgary%20Ring%20Road%20Stoney%20Trail%20SE%20Map.pdf>.
- Government of Alberta. 2023. "Alberta Township Survey System." Illustration. <https://www.alberta.ca/assets/documents/energy-alberta-township-survey.pdf>.
- Hargraves, Peter. 2021. "City Turning." In *Warming Huts: a decade + of art and architecture on ice*, edited by Lawrence Bird, Peter Hargraves and Sharon Wohl, 26–31. Halifax: Dalhousie Architectural Press.
- Hatcher, Colin, and Tom Schwarzkopf. 2009. *Calgary's Electric Transit: An illustrated history of electrified public transportation in Canada's oil capital: Streetcars, Trolley Buses, and Light Rail Vehicles*. Montreal: Railfare DC Books.
- HeRMIS (Heritage Resources Management Information System). 1989. "Alberta Heritage Survey Program: Fort Calgary Archeological Site." <https://hermis.alberta.ca/ARHP/Details.aspx?DeptID=2&ObjectID=HS+17957>.
- Holt-Lunstad, Julianne, Timothy B. Smith, and J. Bradley Layton. 2010. "Social Relationships and Mortality Risk: A Meta-analytic Review." *PLoS Medicine* 7, no. 7: 1–20. <https://doi.org/10.1371/journal.pmed.1000316>.
- Ingold, Tim. 2013. *Making: Anthropology, archaeology, art and architecture*. New York: Routledge.
- Jacobs, Jane. 1961. *The Death and Life of Great American Cities*. New York: Random House.
- Johns, Barry. 2022. "Reset: Changing the Built Environment in Alberta." In *Situating Design in Alberta*, edited by Isabel Prochner and Tim Antoniuk, 3–34.
- Jolicoeur, Marc. 2010. *Planning and Design for Pedestrians and Cyclists: A Technical Guide*. Montreal: Velo Quebec Association.
- Karuka, Manu. 2019. *Empire's Tracks: Indigenous Nations, Chinese Workers, and the Transcontinental Railroad*. Berkeley: University of California Press.

- Korthals Altes, Renet. 2019. "The Intimacy of Exclusion: An Embodied Understanding." In *Our City? Countering Exclusion in Public Space*, edited by Minouche Besters, Ramon Marrades Sempere, and Juliet Kahne, 277–286.
- Krause, Darren. 2022. "Downtown Calgary office conversion projects announced." *Live-wire Calgary*, April 27, 2022. <https://livewirecalgary.com/2022/04/27/downtown-calgary-office-conversion-projects-announce>
- León, Magdalena. 2012. "Economic redefinitions toward buen vivir in Ecuador: A feminist approach." In *Feminist perspectives towards transforming economic power: Topic 2, buen vivir*, edited by AWID (Association for Women's Rights in Development). Toronto, Mexico City, and Cape Town: AWID, 23–29. https://www.awid.org/sites/default/files/atoms/files/the_feminist_perspectives_towards_transforming_economic_power.pdf.
- Long, John W. 1973. "Everyman the Planner." Master's thesis, McGill University. <https://www.proquest.com/dissertations-theses/everyman-planner/docview/302676429/se-2>.
- Louv, Richard. 2005. *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*. Chapel Hill: Algonquin Books.
- Métis Nation of Alberta. 2021. *Youth Department - Traditional Plant Flashcards*. <https://albertametis.com/app/uploads/2021/09/Youth-Department-Traditional-Plant-Flashcards.pdf>.
- Monno, Valeria, and Silvia Serreli. 2020. "Cities and migration: generative urban policies through contextual vulnerability". *City, Territory and Architecture* 7, no. 6: 1–17. <https://doi.org/10.1186/s40410-020-00114-x>.
- Montgomery, Charles. 2013. *Happy City: Transforming Our Lives Through Urban Design*. New York: Farrar Straus & Giroux.
- Morrow, Ruth, and Timothy Waddell. 2021. "Engaged Practices: Learning from Improvisation." In *All-Inclusive Engagement in Architecture: Towards the Future of Social Change*, edited by Farhana Ferdous and Bryan Bell, 134–140.
- Noble, Greg. 2013. "Strange Familiarities: A Response to Ash Amin's Land of Strangers." *Identities* 20, no. 1: 31–36. <https://doi.org/10.1080/1070289X.2012.752373>.
- Pallasmaa, Juhani. 1996. *The Eyes of the Skin: Architecture and the Senses*. Hoboken: Wiley Academy.
- Pallasmaa, Juhani. 2009. *The Thinking Hand: Existential and Embodied Wisdom in Architecture*. Hoboken: Wiley Academy.
- Pressman, Norman, and Xenia Zepic. 1986. *Planning in Cold Climates: A Critical Review of Canadian Settlement Patterns and Policies*. Winnipeg: Institute of Urban Studies, University of Winnipeg.

- Prochner, Isabel, and Tim Antoniuk, ed. 2022. *Situating Design in Alberta*. Edmonton: University of Alberta Press.
- Rehan Usman, Muhammad. 2016. "Urban Sprawl in northwest Calgary, Alberta, Canada." Photograph. <https://doi.org/10.1109/ICSGTEIS.2016.7885770>.
- Rhodes, Ted. 2015. Untitled. Photograph. *Calgary Herald*, October 6, 2015. <https://calgaryherald.com/opinion/letters/letters-for-tuesday-oct-6>.
- Sandalack, Beverly A., and Andrei Nicolai, ed. 2006. *The Calgary Project: Urban Form / Urban Life*. Calgary: University of Calgary Press.
- Sandalack, Beverly A. 2020. "Morphology is destiny: Calgary's downtown (re)evolution." *ISUF 2020 Cities in the Twenty-first Century* 1, no. 2: 1–6. <https://doi.org/10.26051/0D-N1EX-Z5A2>.
- Shivji, Ameer. 2022. "Urban sprawl is not the answer to affordable housing." *Enough for All*, September 22, 2022. <https://enoughforall.ca/articles/urban-sprawl-is-not-the-answer-to-affordable-housin> .
- Speck, Jeff. 2013. *Walkable City: How Downtown Can Save America, One Step at a Time*. New York: North Point Press.
- Stehlin, John. 2019. *Cyclescapes of the Unequal City: Bicycle Infrastructure & Uneven Development*. Minneapolis: University of Minnesota Press.
- Thomas, Brodie. 2022. "City working to repair relations with Indigenous Gathering Place society." *Calgary Herald*, December 14, 2022. <https://calgaryherald.com/news/local-news/city-working-to-repair-relations-with-indigenous-gathering-place-society>.
- Tran, Paula. 2023. "Calgary the second most unequal city in Canada: report." *Global News*, March 8, 2023. https://globalnews.ca/news/9533451/calgary-community-well-being-report/?utm_source=%40GlobalCalgary&utm_medium=Twitter.
- TRC (Truth and Reconciliation Commission of Canada). 2015. "Truth and Reconciliation Commission of Canada: Calls to Action." https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/indigenous-people/aboriginal-peoples-documents/calls_to_action_english2.pdf.
- Turner, Victor. 1969. *The Ritual Process: Structure & Anti-Structure*. London: Routledge.
- United Way of Calgary and Area. 2019. "The Indigenous landscape of Calgary and area." <https://calgaryunitedway.org/blog/the-indigenous-landscape-of-calgary-and-area/>.
- University of Alberta. n.d. (1900s). "Blackfoot Indian Camp Assembled for Sun Dance, Alberta, Canada." Postcard. <http://peel.library.ualberta.ca/postcards/PC009305.html>.

- University of Calgary. 1926. "Calgary District." Map. Libraries and Cultural Resources Digital Collections. <https://digitalcollections.ucalgary.ca/Detail/2R3BF1F3R2O79>.
- University of Calgary. n.d. (1940s). "Welcome sign to Calgary, Alberta." Photograph. Libraries and Cultural Resources Digital Collections. <https://digitalcollections.ucalgary.ca/Detail/2R3BF1OA9BV6>.
- University of Calgary. 1967. "Oblique aerial view of the City of Calgary." Photograph. Libraries and Cultural Resources Digital Collections. <https://digitalcollections.ucalgary.ca/Detail/2R3BF1F3OX71Q>.
- University of Calgary. 2021. "Chinook Arch Panorama." Photograph. Libraries and Cultural Resources Digital Collections. <https://digitalcollections.ucalgary.ca/Detail/2R3BF1SXZ6URL>.
- van Eyck, Aldo. (1962) 2008. *The Child, the City, and the Artist*. Amsterdam: Sun Publishers.
- Wall Kimmerer, Robin. 2014. *Braiding Sweetgrass: Indigenous wisdom, scientific knowledge, and the teaching of plants*. Minneapolis: Milkweed Editions.
- Watt-Cloutier, Sheila. 2016. *The Right to be Cold: One Woman's Story of Protecting Her Culture, the Arctic and the Whole Planet*. Toronto: Penguin Canada.
- Weisser, Wolfgang W., and Thomas E. Hauck. 2017. Animal-aided Design: using a species' life-cycle to improve open space planning and conservation in cities and elsewhere. *bioRxiv*. <https://doi.org/10.1101/150359>.
- White, Richard. 2021. "Revitalizing downtown Calgary: a 60-year history of over-promising and under-delivering." *CBC News*, April 9, 2021. <https://www.cbc.ca/news/canada/calgary/road-ahead-calgary-downtown-plan-richard-white-1.5979963>.
- Wilson, Nicole J., and Jody Inkster. 2018. "Respecting water: Indigenous water governance, ontologies, and the politics of kinship on the ground." *Environment and Planning E: Nature and Space* 1, no. 4: 1–23. <https://doi.org/10.1177/2514848618789378>.
- Withagen, Rob, and Simone R. Caljouw. 2017. "Aldo van Eyck's Playgrounds: Aesthetics, Affordances, and Creativity." *Frontiers in Psychology* 8. <https://doi.org/10.3389/fpsyg.2017.01130>.