The Importance of Place:

A Role for the Built Environment in the Etiology and Treatment of Problematic Substance Use

by

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Author's Declaration

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

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

Abstract

Faced with the growing North American drug crisis, and in light of the history of ineffective or even harmful approaches to treating problematic substance use, it is time to examine the problem from a new angle. There is a significant undercurrent in both the history of problematic substance use treatment and research into problematic substance use etiology that has thus far been overlooked: the role of the built environment. Based on research gathered from the fields of addiction, architecture, human geography, planning, psychology, and neuroscience, the concept of place is proposed as a new paradigm for foregrounding the built environment as a key factor in the etiology of problematic substance use. In addition, the process of placemaking, including as realized through participatory design in architecture, is proposed as a new component of problematic substance use treatment.

To knit together the seemingly disparate topics of problematic substance use and the built environment, Part 1 of this thesis first uncovers the spatial undercurrent in problematic substance use treatment and etiology research, including a greater historical correlation between etiology and spatial management than between etiology and treatment, and briefly examines the accepted, superficial intersection of problematic substance use and architecture. Next, the concept of place is leveraged to draw together research from the fields of architecture, human geography, planning, psychology, and neuroscience, summarizing the influence of the built environment on human wellbeing broadly.

Part 2 intersects the fields of place and substance use through a literature review, and generates four recommendations to establish place as a new paradigm for understanding the etiology and treatment of problematic substance use.

Part 3 explores the current state of one method of placemaking, participatory design in the field of architecture, as a first step to realizing the new support and treatment process proposed in Part 2.

Finally, Part 4 proposes an architectural conclusion through a speculative typology for the support and treatment of individuals experiencing problematic substance use and co-occurring homelessness.

Acknowledgements

To my supervisor, Dr. Elizabeth English, my deepest thanks for undertaking this journey with me. Your insight, enthusiasm, and continued support were invaluable.

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And last, but certainly not least, a big thank you to my family and friends. I am so very grateful for your support throughout this process.

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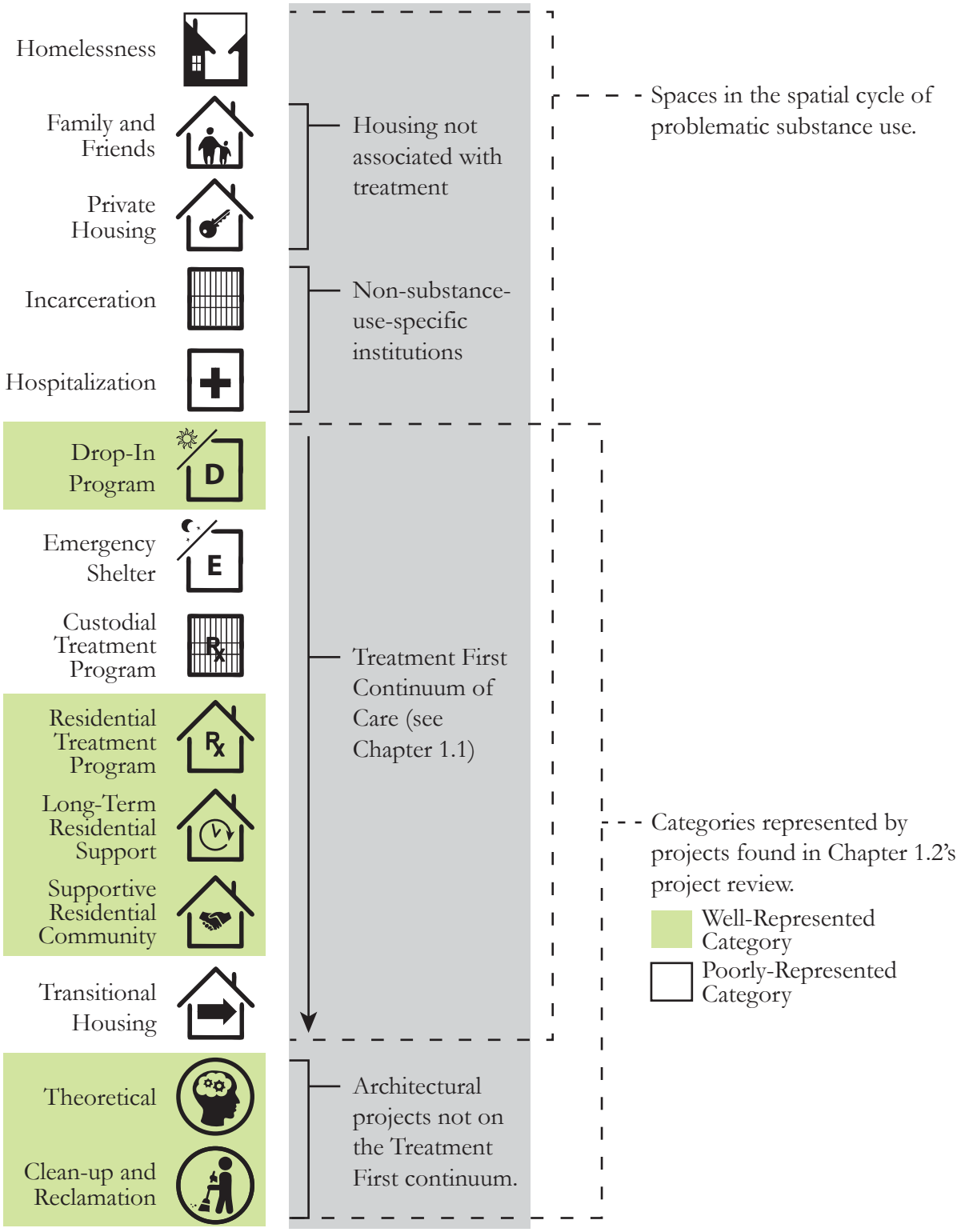
List of Abbreviations

CIAM	International Congress of Modern Architecture
DTES	Downtown Eastside
EBD	Evidence-Based Design
NIDA	National Institute on Drug Abuse
PSU	Problematic Substance Use
RIBA	Royal Institute of British Architects

Symbol Legend

These symbols are used in Chapters 1.1 and 1.2 to describe the spatial progressions or cycles of individuals experiencing problematic substance use and to represent the categories of architectural projects that directly address problematic substance use in some way.



"[T]he built environment and its design matters far, far more than anybody, even architects, ever thought it did."

—Sarah Williams Goldhagen, *Welcome to Your World: How the Built Environment Shapes Our Lives*

Introduction

This thesis was inspired by the TedTalk *Everything you think you know about addiction is wrong*[1] and the book on which the TedTalk was based, *Chasing the Scream: The First and Last Days of the War on Drugs*[2]. Both challenge the prevailing scientific consensus that addiction is a 'chronic brain disease'[3], referencing a study from the late 1970s, known as the 'Rat Park' experiment, that exposed a fundamental flaw in the studies on which the disease theory of addiction was founded[4].

The studies that the Rat Park experiment critiqued all used rats as an experimental model, housing the animals individually in bare laboratory cages and giving them a choice between a morphine solution and water. The rats overwhelmingly consumed the morphine solution rather than the water. The Rat Park experiment proposed that this apparently addictive behaviour was due in greater part to factor overlooked in the previous experiments, the isolation of the rats, than to a chemical dependence or craving. The study's findings were striking: when socially housed rats were given the choice between a morphine solution and water, they largely chose the water[5]. Bruce Alexander, one of the study's authors, went on write extensively on the social component of addiction[6].

The Rat Park experiment was an important step forward in understanding the causes of addiction. However, after examining the study, and B. Alexander's subsequent writing, from the perspective of an architect, this author proposes that the Rat Park study *also* overlooked an important factor in the development of addiction: the built environment. When comparing socially housed and isolated rats, the Rat Park experiment researchers did not just change one variable, social environment, between the two sets of rat populations; they also significantly changed the spatial environment.

Based on this observation, this thesis investigates whether the built environment may play a role in development and treatment of addiction.

How to Read the Thesis

This thesis is intended to speak to both architects and researchers in other disciplines. To bridge this gap, the author tried to err on the side of more explanation rather than less when discussing concepts unique to each discipline.

This document is designed to be skimmed or read in depth: each chapter ends with a summary of the evidence presented in that chapter, and Chapters 2.1, 3.1, and 4.1 are summaries of Parts 1, 2, and 3, respectively. Each chapter is also organized in the following visual hierarchy:

Chapter Title

Section

Subsection

Body

Introduction Endnotes

1 Johann Hari, *Everything You Think You Know about Addiction Is Wrong* (United Kingdom: TED, 2015), https://www.ted.com/talks/johann_hari_everything_you_think_you_know_about_addiction_is_wrong?language=en.

2 Johann Hari, *Chasing the Scream: The First and Last Days of the War on Drugs* (Bloomsbury USA, 2015).

3 Office of the Surgeon General U.S. Department of Health and Human Services, "Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health" (Washington, DC: HHS, 2016), https://addiction.surgeongeneral.gov.

4 Bruce K Alexander, Robert B. Coambs, and Patricia F. Hadaway, "The Effect of Housing and Gender on Morphine Self-Administration in Rats," *Psychopharmacology* 58, no. 2 (1978): 175–79, doi:10.1007/BF00426903.

5 Ibid.

6 Bruce K Alexander, "Beyond Vancouver's "'Four Pillars,'"" *International Journal of Drug Policy* 17, no. 2 (2006): 118–23, doi:10.1016/j.drugpo.2005.12.009; Bruce K Alexander, "When Experimental Psychology Is Not Empirical Enough: The Case of the ' Exposure Orientation.,'" ed. Helen M Annis, *Canadian Psychology/Psychologie Canadienne* 25, no. 2 (1984): 84–95, doi:10.1037/h0080797; Bruce K Alexander, "The Globalization of Addiction," *Addiction Research & Theory* 8, no. 6 (2000): 501–26, doi:10.3109/16066350008998987; Bruce K Alexander and Patricia F Hadaway, "Opiate Addiction: The Case for an Adaptive Orientation," ed. George A Miller, *Psychological Bulletin* 92, no. 2 (1982): 367–81, doi:10.1037/0033-2909.92.2.367; Bruce K Alexander, "Addiction: The Urgent Need for a Paradigm Shift," *Substance Use & Misuse* 47, no. 13–14 (2012): 1475–82, doi:10.3109/10826084.2012.705681; Bruce K Alexander, *Peaceful Measures : Canada's Way out of the "War on Drugs"* (Toronto: University of Toronto Press, 1990); Bruce K Alexander, *The Globalisation of Addiction a Study in Poverty of the Spirit* (Oxford ; New York: Oxford University Press, 2008).

Part 1 | Background

Problematic Substance Use, Wellbeing, and the Built Environment

So the old experiments were, it seemed, wrong. It isn't the drug that causes the harmful behaviour – it's the environment…Addiction is an adaptation. It's not you – it's the cage you live in.

—Johann Hari, *Chasing the Scream: The First and Last Days of the War on Drugs*

1.1

Problematic Substance Use: Etiology, Treatment, and Spatial Management

This thesis puts forward the proposition that the built environment has a role in the etiology (causation) and treatment of problematic substance use (PSU)[i]. Support for this proposal is first uncovered through an examination of the history of the etiology and treatment of PSU, summarized in this chapter[ii]. A range of evidence, emerging etiology theories, and a consistent spatial undercurrent in treatment suggest that the prevailing understanding of a key characteristic of PSU (namely that impaired substance use control or compulsive substance consumption derives from the properties of substances themselves) is incomplete, and further suggest that the built environment plays a role in both the etiology and treatment of PSU.

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i *A note on terminology: the term* addiction, *commonly understood as the recurrent misuse of one or several substances, has been recently redefined to more narrowly indicate only "the most severe form of a* substance use disorder*, associated with compulsive or uncontrolled use of one or more substances"*[1]. *Breaking down the term substance use disorder, defined as "[a] medical illness caused by repeated misuse of a substance or substances":* substance use *is defined as any use of a psychoactive compound, including alcohol and drugs other than alcohol, while* substance misuse *is defined as "the use of alcohol or drugs in a manner, situation, amount, or frequency that could cause harm to the user or to those around them"*[2]. *However, the exact "manner, situation, amount, or frequency" that differentiates use from misuse and misuse from disorder is poorly defined, and varies greatly from person to person, culture to culture, and over time. Therefore, this thesis will use the term* problematic substance use (PSU)*, instead of addiction, substance use disorder, or substance misuse, to indicate a manner, situation, amount, or frequency of substance use that is causing negative effects in the life of the individual using that substance. Additionally, this thesis will hereafter follow the common practice of referring to psychoactive compounds other than alcohol simply as* drugs.

ii *The history of PSU is complex and often contradictory. To capture the broad themes as a basis for later proposals, this chapter centres around a selection of studies, previous reviews, and summaries of substance use literature*[3].

Theories of Problematic Substance Use Etiology

There has been an abundance of theories regarding the etiology of PSU, including adaptive[4], conditioning[5], and executive dysfunction[6] to name just a few. However, all of these theories can be roughly grouped into three categories, each influencing attitudes toward and treatment of PSU at different times periods. These broad categories are: a) PSU as a moral failing, b) PSU as a medical condition or disease, and c) PSU as a maladaptive coping mechanism[7]. All the theories are trying to answer the same question: Why does a user continue to consume a substance (or substances) when continued use can have negative consequences[8]?

Category Overviews

The differences between the three theory categories can be most clearly understood by examining the degree of choice or control that each category considers an individual experiencing PSU to have over their substance use. Theories in the moral failing category depict individuals experiencing PSU as either too morally weak to control their impulses or so amoral as to deliberately choose to harm themselves and others[9].

Theories in the medical category contend that some internal process or physiological change results in reduced agency, the ability to effect change, on the part of the individual experiencing PSU: the compulsions of their medical condition mean they cannot make the choice to refrain from substance consumption[10]. This framing of PSU is almost always portrayed in public dialogue as a stigma-reducing advance over the moral failing theories as a means of garnering support for treatment rather than criminalization[11].

By contrast, theories in the category of maladaptive coping mechanisms affirm the ability of the individual experiencing PSU to make positive choices. Instead of framing the etiology of PSU as the result of some internal factor (such as a weak will or a physiological response), maladaptive coping mechanism theories look to external stressors that exceed an individual's ability to be resilient or limit the apparent range of choices available to them[12]. Theories in this category are at present considered an emerging stance in opposition to the more prevalent understanding of PSU as a chronic brain disease[13].

Current Scientific Consensus: The Chronic Brain Disease Model

Released in 2016, "Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health" provides the most recent and comprehensive summary of the chronic brain disease model, currently considered the US's official position on PSU. It states that a substance use disorder is a three-stage cycle beginning with binging and intoxication, followed by withdrawal, and resulting in preoccupation and anticipation. The parts of the brain associated with each stage are, respectively, the basal ganglia, the extended amygdala, and the prefrontal cortex.

The chronic brain disease model has remained the accepted scientific explanation of PSU for over 20 years, although research and discourse are emerging to refute this stance. It has been suggested that the chronic brain disease model survives due to its utility as an "organizing metaphor" rather than its scientific value[14]. Two central aspects of the Surgeon General's Report are a) its framing of PSU as a medical disease and b) its assertion that PSU primarily derives from substance use causing brain changes that impinge upon an individual's ability to control their use, ranging from impairment of control (a substance use disorder) to compulsive substance use (addiction)[15]; these aspects are also the focus of some of the strongest criticisms of the chronic brain disease model.

Critiques of the Chronic Brain Disease Model: Social Conventions and the Question of Choice

One criticism of the chronic brain disease theory is based on the idea that a medical model should have objectively observable symptoms which do not depend on social conventions and can be localized inside the body; several researchers state that the chronic brain disease theory of PSU does not meet these criteria[16]. Furthermore, although the Surgeon General's Report asserts that repeated use creates changes in the brain, and that these changes cause the onset of substance use disorders, a later chapter on prevention outlines 29 robustly supported risk and protective factors for substance use disorders, only one of which is biological/physical; the remainder are social, behavioural, and even spatial, such as high population density, poor passive surveillance of public spaces, and transitions or high rates of mobility[17].

A second critique of the chronic brain disease model centres on its assertion that impaired substance use control or compulsive substance derives from properties of substances themselves. A significant fact contesting this assertion is that every major epidemiological study conducted in the US since 1980 shows that rates of PSU dramatically decrease as individuals get older, with many individuals simply reducing or eliminating their substance intake as they age; if PSU is the result of brain changes brought on by substance use, this apparently spontaneous remission should not occur[18]. Furthermore, there is evidence that PSU responds dramatically to minor, everyday events such as a small financial incentive for quitting[19]. As with age-related remission, a chronic brain disease characterized by compulsive substance use should not improve in response to minor incentives.

While the Surgeon General's Report acknowledges that mild substance use disorders respond to the small, everyday motivations[20], and despite recognizing social, behavioural, and spatial elements of prevention, it denies that social, let alone spatial, factors play a significant role in the development of PSU. According to this model, the built environment is at best a peripheral factor in the disorder's development and progression, and therefore its impact is not worth pursuing. However, a body of evidence, including a landmark Canadian study, suggests that both social and spatial factors may play a crucial role in PSU etiology.

The Rat Park Study

In the 1970s, researchers at Simon Fraser University in British Columbia began questioning the research design of several studies[iii] on which the then-current exposure and conditioning theories (and subsequently, the chronic brain disease model) had been based[21]. The researchers, B. Alexander, Coambs, and Hadaway, proposed that the previous studies, which had used rats as an experimental model for human substance use, were deeply flawed. B. Alexander, Coambs, and Hadaway observed that, although rats are highly social creatures (much like humans), all previous studies had housed the rats in isolated laboratory cages; no studies had been done to determine the effect of social isolation on substance consumption. To address this flaw, the researchers conducted a new study, housing half of the rat test subjects in the same isolated cages, while housing the other half in a stimulating, social 'Rat Park' enclosure. All rats in both housing types

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iii *Specifically referencing:*
V. P. Dole, "Narcotic addiction, physical dependence and relapse," *New England Journal of Medicine 18 (1972): 988-992.*
A. Goldstein, "Heroin addiction and the role of methadone in its treatment," *Archives of General Psychiatry 26 (1972): 291-297.*
J. R. Nichols, "How opiates change behavior," *Scientific American 212 (1965): 80-88.*

were subjected to a sequence of forced morphine consumption that was intended to induce compulsive substance use. When the rats were subsequently given a series of days on which to choose between a morphine solution and water alone, as in the previous studies, the isolated rats largely chose to consume the morphine. In contrast to the isolated rats, and opposing today's prevailing understanding of PSU as compulsive consumption, the socially housed rats largely chose the plain water[22].

For the isolated rats, B. Alexander, Coambs, and Hadaway posited, the discomfort of isolated and bare cages was so severe that they would ingest morphine in an attempt to cope[23]. Additionally, the fact that the socially housed rats, although supposedly addicted, simply chose not to consume morphine when given the opportunity was, and is, compelling evidence that PSU has far more to do with social living conditions than it does with the substance being consumed[24]. B. Alexander subsequently expanded on the results of this landmark study to detail a theory of substance use as a maladaptive coping mechanism[25]. His theory can be briefly summarized as the assertion that a network of supportive relationships is a basic human need, and when that need is not met, people substitute for it, at times with drugs or alcohol[26].

The Rat Park study, and B. Alexander's subsequent writing, provide strong evidence that the etiology of PSU is more related to social factors than to the properties of a given substance. However, B. Alexander, Coambs, and Hadaway did not only change the social environment between their two rat populations; they also changed the spatial environment.

Spatial Factors in the Etiology of Problematic Substance Use

The spatial environment of the isolated rats was described as "standard 18 x 25 x 18cm rat cages with sheet metal walls that prevented visual contact with adjacent animals", while the spatial environment of the socially housed rats was "a large open-topped wooden box, with a floor area of 8.8 m … [containing] a layer of cedar shavings and 12 small, open-topped metal cages for climbing and nesting"[27]. In addition to differences with direct impacts on social opportunities (walls that prevented visual contact versus a series of open-topped boxes), there are contrasts in materiality (sheet metal walls versus cedar shavings), opportunities for stimulation (bare standard cages versus a series of metal cages for climbing), and opportunities to create privacy or define territory (bare standard cages versus a series of metal cages for nesting). These contrasts are too significant to ignore as potential factors determining the differences in consumption between the two rat populations.

Other studies also provide further suggestions that the built environment may be a significant factor in PSU etiology. As noted above, the Surgeon General's Report identifies several spatial risk factors for PSU. In addition to this, a series of studies in the 1970s and early 1980s found that consuming drugs in a new location reduced an individual's drug tolerance, sometimes to the extent of causing an overdose at a consumption level the individual could normally tolerate[28]. Other researchers have written about the "emotional, temporal, and even spatial dimensions" of reward[29]. Finally, in B. Alexander's later writing elaborating his theory of PSU as a maladaptive coping mechanism, he outlines two historical Canadian case studies of social dislocation preceding increased rates of PSU, the displacement of Indigenous Canadians and the Hudson's Bay Company's employment of Orcadians in isolated fur trading outposts, that are also examples of significant spatial dislocation[30].

However, despite the clear spatial implications of both B. Alexander, Coambs, and Hadaway's 1978 study and other research, the potential for a significant spatial component in the etiology of PSU has been almost entirely ignored.

Theories of Problematic Substance Use Etiology: Summary

The first portion of this chapter has shown that the prevailing understanding of problematic substance use, the chronic brain disease theory, characterized by compulsive substance consumption, does not adequately explain evidence demonstrating consumers' ability to control their consumption. Furthermore, a key study demonstrating the role of social factors in the development of problematic substance use, as well as other research, indicate the built environment may have a significant role as well.

In order to be able examine how the varying etiological theories have influenced problematic substance use treatment over time, and to assess whether spatial factors have previously had a role in this treatment, the next section of this chapter will examine the historical development of theories in the moral, medical, and maladaptive coping mechanisim categories.

Historical Trends: Etiology

Up to the 1950s, this summary is primarily based on William L. White's 1998 book *Slaying the Dragon: The History of Addiction Treatment and Recovery in America* with the 2011 anthology *The Real Dope: Social, Legal, and Historical Perspectives on the Regulation of Drugs in Canada*, edited by Edgar-André Montigny, reinforcing White's findings and providing the Canadian viewpoint.

Early Etiological Theory Development

Today, theories of PSU (problematic substance use) are considered to encompass both alcohol and drugs. However, this was not always the case: until the 1980s, problematic alcohol use was considered a separate condition from problematic drug use[31].

Initially, both drug and alcohol consumption were considered largely unproblematic: consumption of alcohol was pervasive among the early European colonists, while drugs were commonly used in North America as medicine and in Indigenous cultural rituals[32]. Colonists saw alcohol in particular as a blessing in many cases. Socially and legally, excessive or problematic alcohol consumption was defined as only public drunkenness, the result of moral lapse[33].

However, "[b]etween 1790 and 1830, America fundamentally altered its pattern of alcohol consumption", with per-capita alcohol consumption more than tripling over that 40-year period[34]. According to researcher William L. White, this was due to a combination of factors, including a shift from beer and wine consumption to consumption of "potent, cheap, and highly portable" distilled spirits, as well as the pressures of immigration, industrialization, and frontier expansion creating a new class of men whose lives were organized around drinking[35]. As public perception shifted, alcohol switched from blessing to curse and a growing temperance movement pushed first for moderation and then for total abstinence. Several mutual-aid societies, early precursors to the modern Alcoholics Anonymous movement, were founded during this period to inspire and support fellow alcoholics (then called 'inebriates') into sobriety[36].

This first temperance movement was largely unsuccessful, but there was still a sense that public drunkenness was an issue that needed to be managed. By the 1870s, this, combined with early medical dialogue around the etiology of problematic alcohol use, developed into an impetus for a system of medical treatment. There were a wide variety of theories put forward, but one of the most influential was that of Benjamin Rush, who saw alcohol as a "disease of the will"[37]. However, much like the preceding temperance movement, treatments resulting from this early medical understanding of problematic alcohol use failed to make a significant impact. As a result, in the early 1900s, public opinion of problematic alcohol use etiology shifted strongly back toward moralization; this in turn led to Prohibition-era criminalization[38].

At this point, the etiological theory histories of alcohol and drugs briefly converged. Previously categorized as beneficial medicines, public perception of opioids and similar drugs shifted from medicines toward them being public safety risks[39]. This increased stigmatization was closely related to the 'othering' of Chinese immigrants[40]. Opiates were widely available, both through prescriptions and in over-the-counter medications, and the typical consumer was actually most likely to be white and middle-class if not affluent[41]. Despite this, the growing moralization movement focused on Chinese immigrants and their supposed corruption of affluent, white women via opium dens. The moral outrage was catalyzed into a series of anti-drug laws focused on the types of use typical to immigrants, pioneered by Canada in 1908[42]. In 1914, the first US federal law restricting opiate and cocaine use was passed, and by 1922 consumption of alcohol and drugs was fully criminalized in the US[43]. In Canada, a similar increase in criminalization culminated in the Opium and Narcotic Drug Act of 1929[44]. However, criminalization of alcohol consumption only lasted into the early 1930s, while drug consumption is still mostly criminalized in North America today[45].

Development of the Chronic Brain Disease Theory

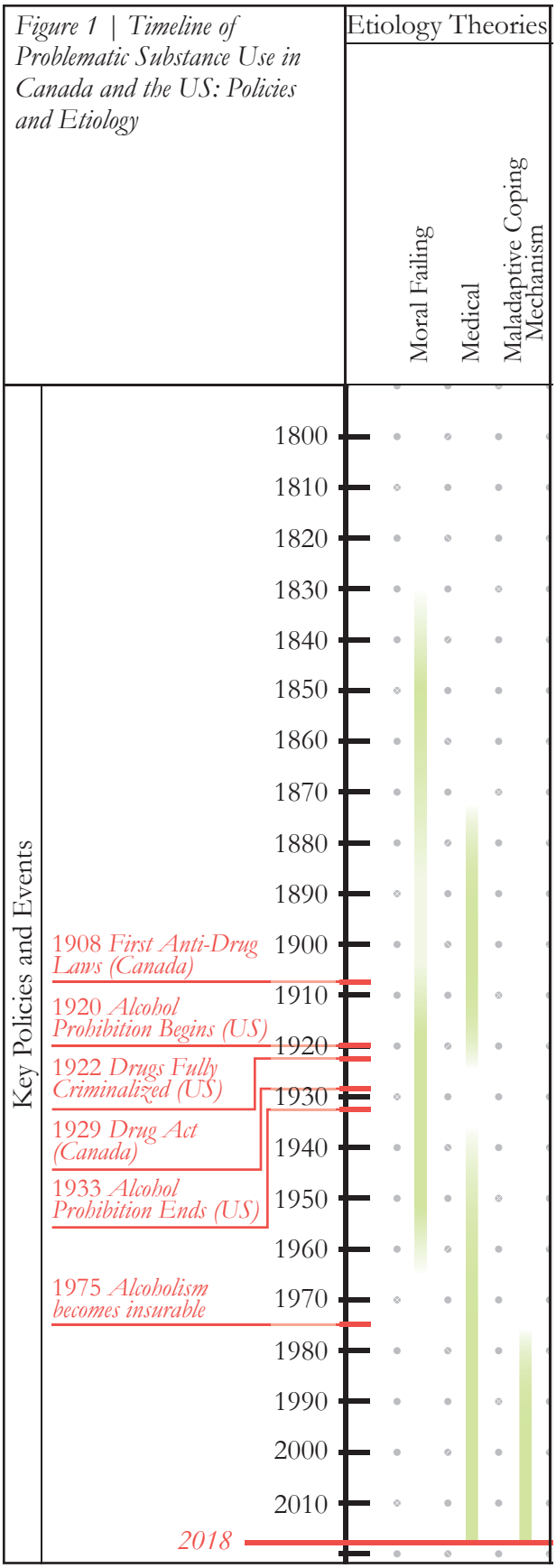
In the 1950s, the moral theories of PSU etiology were scientifically discredited thanks to an increase in addiction research, although it was still considered two separate diseases (alcoholism and drug addiction)[46]. By the 1970s, the leading etiological theories of drug addiction both fit in the medical theory category. One was exposure, namely that any substance consumption caused physical dependence[47]; the other was conditioning, where cycles of negative and positive reinforcement created an overwhelming desire for drug consumption[48]. These theories were based on rat studies which found that, given the choice between drug self-administration and water, rats would choose the drug[49]. During the 1980s, pressure from professionals working at the clinical level finally led to the integration of the alcohol and drug branches of PSU theory[50].

The National Institute on Drug Abuse (NIDA) was established 1972; since then, it has been a primary driver of the US's official position on PSU[51]. In 1997, the then-director of NIDA, Alan Leshner, published a key article stating that compulsive substance use was a chronic brain disease, primarily the result of fundamental changes in brain structure and function, with some minor social and environmental influences[52]. This article has continued to influence research and policy for the last two decades, as researchers focused on localizing the area of brain dysfunction, isolating genetic mutations associated with compulsive substance use, and deriving effective medications for treatment[53].

Figure 1 is a visual summary of the key policy events and varying prevalence of the moral, medical, and maladaptive coping mechanism theories outlined above. To connect these events and theories to the various methods used to treat problematic substance use over time, the next part of this chapter examines the ways in which individuals experiencing problematic substance use were cared for, treated, or managed over time.

Historical Trends: Treatment

As noted in the previous section, up to the late 1700s, neither alcohol nor drug consumption was considered particularly problematic in the US or Canada. Therefore, there were no specific institutions that dealt directly with PSU (problematic substance use), and no direct methods of treatment. Instead, individuals who found their consumption problematic "landed in all manner of institutions – the almshouse, the charitable lodging home, the jail, the workhouse, and the newly created lunatic asylum"[54].



1800-1900

With greater awareness of the problem of alcohol in the early 1800s, as noted, mutual aid societies began to spring up. These addressed PSU through a primarily moral view, often combined with religious conversion as a form of treatment. Although medical and scientific discourses began discussing PSU as a disease at this time, until the 1870s the medical model manifested more as patent cures or the substitution of one substance for another, rather than as a specific program of treatment. Beginning in the 1870s, two new institutions developed: the inebriate home and the inebriate asylum. Inebriate homes developed from the tradition of mutual-aid societies, and "tended to view the etiology of inebriety in religious, moral, and characterological terms", while the inebriate asylums grew out of medical discussions and "tended to emphasize genetic, biological, and psychological causes"[55]. A wide variety of treatments were offered in these institutions, ranging from religious practices to electrotherapies (see Figure 8 for a visual summary of the treatments used over time), but the treatment program in both the homes and the asylums essentially involved three steps: 1) isolation "from the stresses and temptations of normal life"; 2) detoxification; and 3) restoring the inebriate to health[56]. The exact methods used in each of these steps tended to the moral in the homes and the medical in the asylums, but there was no clear-cut division between the treatments by each. Additionally, at this time, private sanitaria for 'affluent clientele' began to appear[57].

Meanwhile, during this period many drugs were readily available as medicines, and their use was largely considered unproblematic. Over time, once doctors began to view problematic drug use as a disease, three methods of treatment were employed: 1) maintaining individuals on a steady supply of drugs to allow them to continue their work and family lives; 2) gradual withdrawal by slowly lowering prescribed doses; and 3) cold turkey detoxification[58].

1900-1980s

In the early 1900s, the increasing shift of public opinion toward a moral model altered the treatment landscape entirely. The inebriate asylums and homes closed or shifted mandate, often becoming psychiatric facilities, and the treatment and management of individuals with problematic alcohol use was taken over by inebriate colonies, general hospitals, psychopathic hospitals, state insane asylums, or private, very expensive, hospitals/sanitaria. Criminalization of drugs made prescribed maintenance increasingly illegal; with some individuals managing to game the withdrawal system, while others found doctors who secretly supplied them, in order to maintain their use[59].

Medical and scientific discourse around problematic alcohol use resumed in the post-prohibition era. However, institutional development lagged behind, leaving a period of roughly a decade when private sanitaria and mutual-aid societies carried most of the treatment load. During this same period, as drugs were increasingly criminalized, the legal system was leveraged to manage and contain individuals who used them[60].

The increasing development of the scientific discourse around problematic alcohol and drug use led to several policy and treatment practice shifts in the 1960s and 1970s. It is during this time that the current system of PSU treatment was born[61].

1980s-Present: Treatment First

Throughout most of this history, public action regarding PSU is only taken when the consequences of PSU manifested themselves in public space, as "[p]eople with money, stable housing and supportive family or friends can often maintain stability in their life for long periods of time while being addicted"[62]. The first efforts to treat a 'professional class' of alcoholics (that is, individuals who were still housed and employed) did not occur until the late 1940s. Therefore, the history of PSU is deeply intertwined with both the treatment of mental illness (as a co-occurring disorder) and the provision of shelter for those who are experiencing homelessness.

Today, treatment of PSU for individuals who are housed follows essentially the same steps established in the late 1800s: isolation, detoxification, and restoration. One of the most significant developments is the renewed legal ability to maintain individuals experiencing problematic drug use, now on drugs such as methadone rather than morphine, but otherwise the process remains very similar[63].

PSU frequently co-occurs with serious mental illness, and both are associated with and exacerbated by homelessness[64]. In these instances, the medical treatment model is intersected with the *continuum of care* used to address homelessness[65]. The continuum of care model itself originally arose from necessity rather than

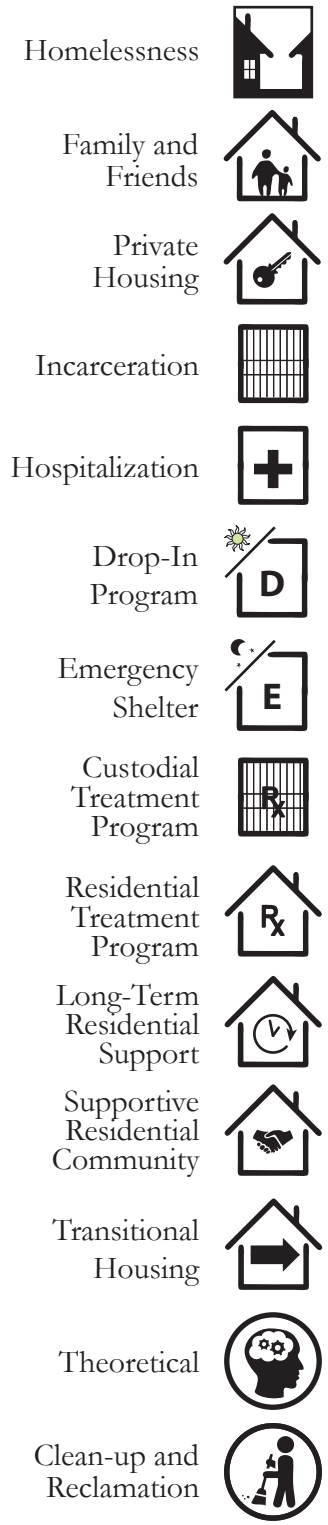


Figure 2 | Symbol Legend.

being formally developed, starting from an effort to provide housing and services to homeless individuals and evolving to accommodate those with serious mental illness after the closure of the state hospital system[66]. Due to the high co-occurrence rate of PSU with serious mental illness, it became clear that the continuum of care model needed to also accommodate individuals experiencing PSU.

When applied to homelessness only, the continuum of care model is an explicitly spatial and linear progression from high to low financial need (see Figure 3). Housing is provided with respect to need, namely what an individual can afford, and as their situation improves, they progress to housing with lesser levels of financial support[67]. Addressing co-occurring problematic substance use, therefore, theoretically requires only one additional step: treatment. This addition results in a hybrid process, often called *Treatment First*.

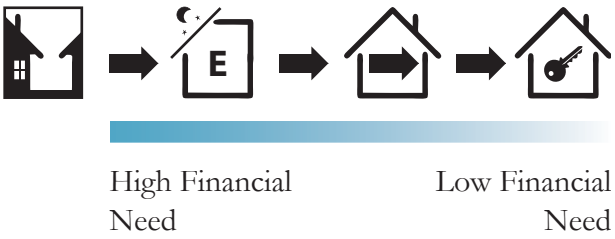


Figure 3 | Idealized Spatial Progression of the Continuum of Care, Homelessness Only

Conceptually, Treatment First is very similar to the continuum of care for homelessness alone, and many researchers simply refer to Treatment First as the continuum of care model[68]. However, it is important to make a distinction between the two, because despite their apparent similarity, they have important differences. In Treatment First, the medical treatment philosophy permeates the entire continuum of care rather simply acting as an added step, and fundamentally changes the requirements an individual must meet to remain housed (Figure 4). Instead of a transition from more to less financial need, the Treatment First progression is best understood as a transition from less to more self-control and independence, based on a) the understanding of PSU as a lack of self-control, b) the assertion that "behavior change…is optimally achieved through…treatment attendance and rewarding more 'desirable' behavior", c) the assumption "that the skills a client needs for independent living can be learned in transitional congregate living", and d) the use of housing as a reward[69]. Thus, treatment begins in a communal and highly regulated environment, with individuals only progressing to more independent settings as they demonstrate 'housing readiness', typically through the practice of strict sobriety in addition to full attendance of therapy sessions or other treatments[70]. Failure to meet these requirements, particularly that of substance abstinence, is grounds for removal from housing[71]. In the Treatment First paradigm, successful treatment is a prerequisite for housing; independent housing is framed as a reward to be earned through demonstrated improvement rather than a factor that supports health and wellbeing.

In practice, this high-stakes model fails frequently and rarely follows the idealized linear progression[72]. Instead, it becomes a complicated loop of homelessness, treatment, relapse, jail, etc.; more like a game of snakes and ladders than an effective means of providing treatment and stable housing (see Figure 5)[73]. Individuals may go through multiple cycles before finally obtaining and maintaining sobriety and permanent housing, with others remain caught in the institutional circuit, deemed 'hard-to-house' or 'chronically homeless'[74].

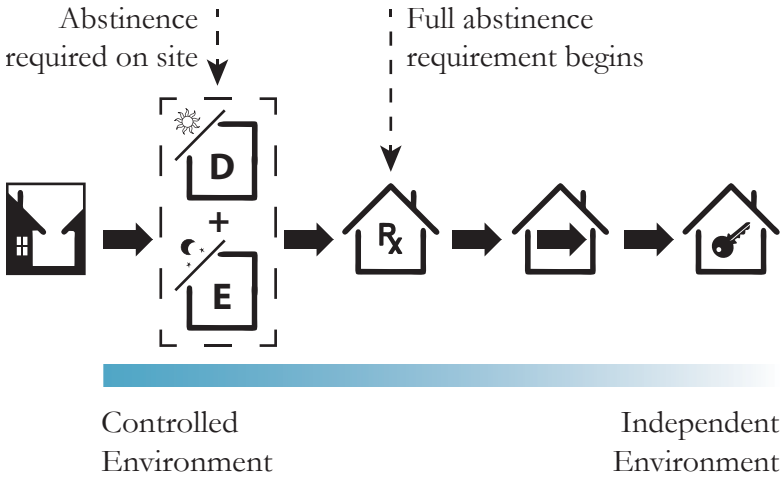


Figure 4 | Idealized Spatial Progression of the Treatment First Model

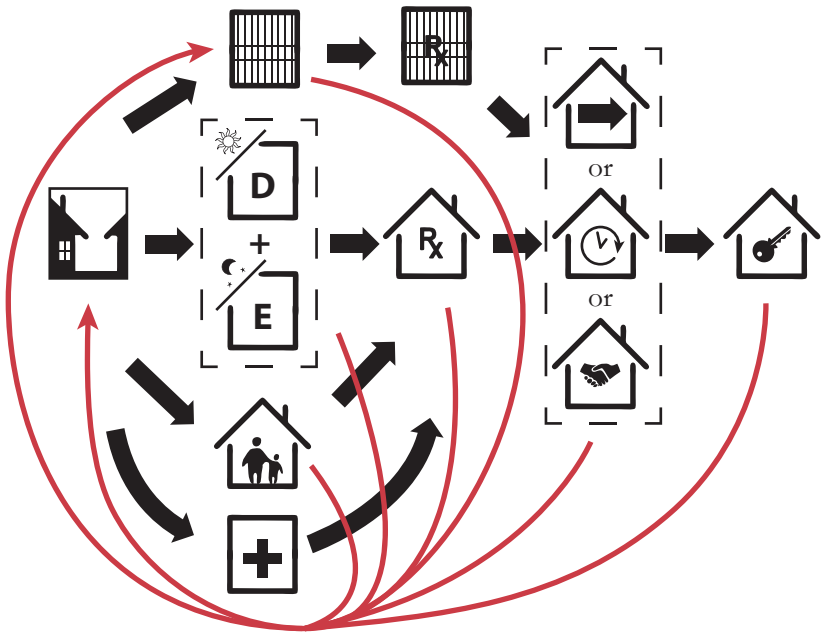


Figure 5 | Realistic Spatial Progression of the Treatment First Model

1980s-Present: Harm Reduction and Housing First

In the 1980s, around the same time that Bruce Alexander and his colleagues were questioning the dominant theories of PSU, the accompanying practice of treatment first was also being questioned. Studies were finding success rates "between five and 39 percent", with additional estimates that "80 per cent of clients failed to complete traditional treatments"[75]. Moreover, HIV/AIDs emerged during this same period, and it quickly became clear that the spread of HIV/AIDs via shared injection equipment use was far more dangerous than the use of injection drugs itself[76]. The combination of these factors resulted in the emergence of the harm reduction philosophy for addressing PSU: "an approach…aimed at reducing the risks and harmful effects associated with substance use…for the person, the community and society as a whole, *without requiring abstinence*" (see Figure 6)[77]. Sobriety, in this model becomes a potential long-term goal, rather than a prerequisite for aid.

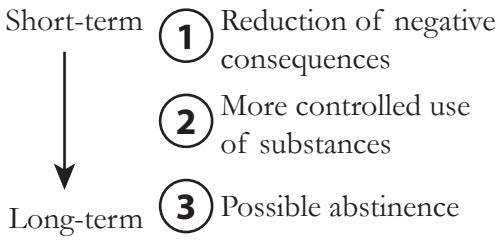


Figure 6 | Staged Goals of a Harm Reduction Approach

Applied to housing, the harm reduction philosophy resulted in the development of the *Housing First* approach. Pioneered in 1992 by Pathways to Housing in New York, Housing First takes an opposing stance to many aspects of the Treatment First model. First, housing is seen as a right, not a reward, and is not contingent on sobriety or treatment compliance (see Figure 7). Second, agency is given to the 'client' or 'consumer' from the very beginning, as they, rather than the professionals, make decisions regarding their own goals and treatments. Third, skills for independent living are learned in place, rather than needing to be transferred from a separate, more communal living environment. Fourth, Housing First is based on the premise that stability from consistent housing allows other issues to be addressed, in opposition to the Treatment First view that addressing other issues creates enough stability to maintain housing[78].

Figure 7 | Spatial Progression of the Housing First Model

Roughly a decade after the establishment of Pathways to Housing, Housing First had gained significant popularity as an approach to housing and treatment and today it is considered an evidence-based practice. It has been proven to increase housing stability for the 'hard to house', regardless of PSU and/or serious mental illness, while also reducing interactions with emergency services[79]. However, there is mixed evidence as to the effectiveness of Housing First as a specific treatment for PSU[80].

What stands out in the history of PSU treatment is that there were essentially two approaches to treatment, mutual aid and medically supported detoxification, that gradually developed into a hybridized third approach: a treatment first continuum of care. Throughout the history of problematic substance use, the actual program of treatment provided, regardless of approach, essentially consist of the same general pattern: isolation, detoxification, and restoration.

Spatial Management: A Consistent Undercurrent

Thus far, this chapter has shown that the prevailing understanding of PSU does not adequately explain evidence demonstrating consumers' ability to control their consumption and that there are indications that the built environment may also play a significant role in PSU etiology. Furthermore, the history of problematic substance use treatment largely consists of a single general pattern: isolation, detoxification, and restoration.

Turning now to a comparison of the history of problematic substance use etiology with trends in treatment methods and locations (see Figure 8) reveals the following associations:

1) There is a rough correlation between the prevalence of different etiological theories and the prevalence of different treatment locations.

2) The first period during which medical theories were prevalent (1870s-1910s) began a period of treatment experimentation; the second period (1950s-present) resulted in a focusing of treatment methods

3) The 1960s were a period of significant change in treatment methods. A significant number of treatments were discontinued, and the range of treatments available for problematic drug use aligned with those available for problematic alcohol consumption. However, examining Figure 8, it is clear that no new treatment methods for problematic alcohol use began during or after this period, and only one new treatment became available for problematic drug use (narcotic blockers).

The various treatment methods appear to be more influenced by the medical fads of the time (hydrotherapy, electroshock therapy, diets, etc.) than by the etiological theories of PSU. From the perspective of the chronic brain disease theory of PSU, this is surprising: as Hall, Carter, and Forlini noted, discovering the correct etiology should result in improved treatment[81]. However, according to resources reviewed for this thesis, only one novel treatment has been adopted post-1950.

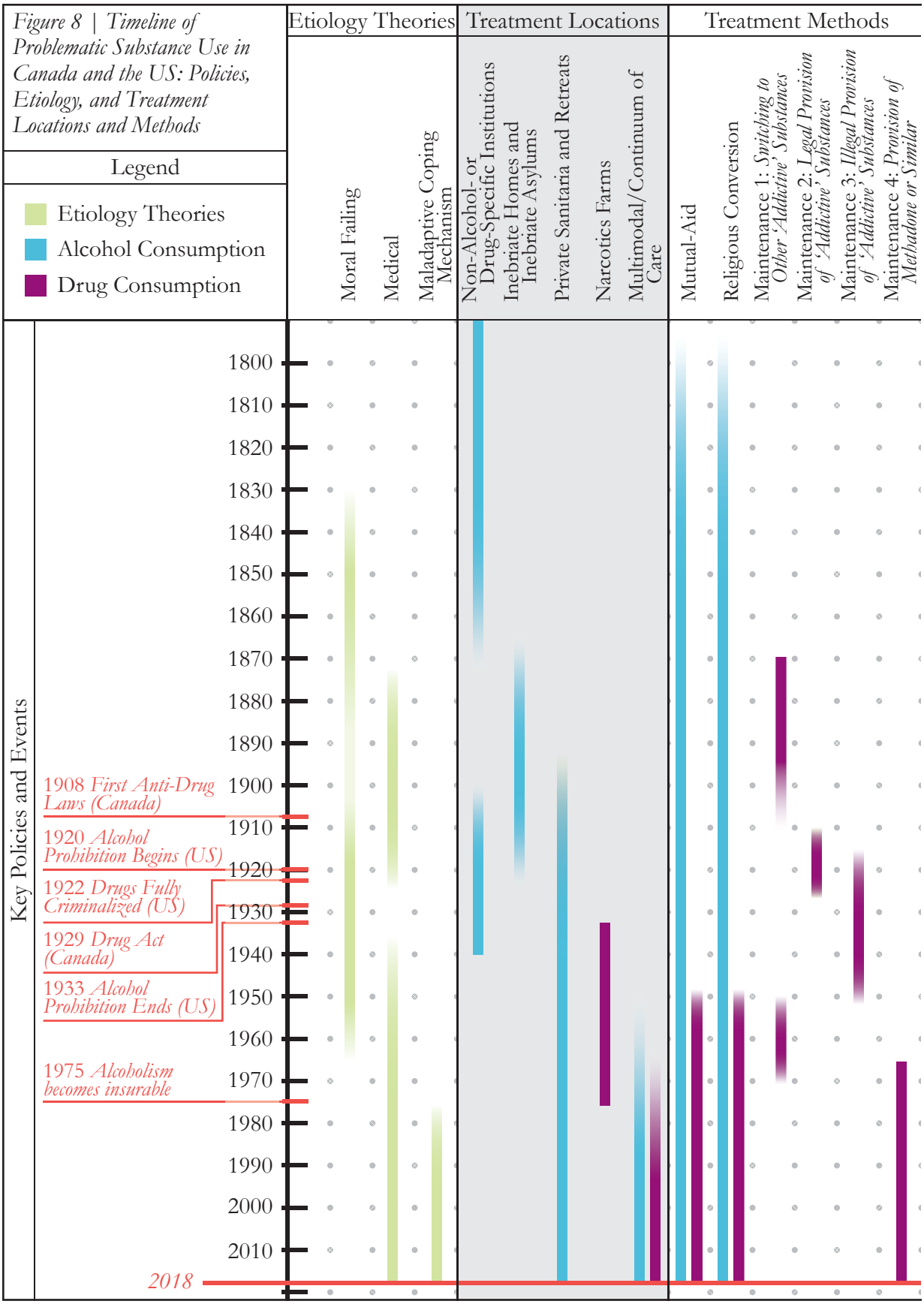
Where there seems to be a more direct influence by the etiological theories is on the spatial management of individuals experiencing PSU: *where* PSU is treated rather than *how* it is treated. Periods where moral theories dominate are more closely associated with individuals being managed in non-alcohol- or drug-specific institutions, while periods where medical theories dominate are more closely associated with individuals being treated in purpose-built institutions.

Summary

In summary, the oscillation between medical and moral theories of problematic substance use etiology appears to have had more impact on the spatial management of individuals experiencing problematic substance use than on treatment methods. Furthermore, the currently accepted medical theory, chronic brain disease, does not adequately account for multiple aspects of problematic substance use, particularly regarding the potentially role of the built environment in problematic substance use etiology revealed in the Rat Park study.

The evidence collected in this chapter points to a need to examine the role of the built environment in both the etiology and treatment of problematic substance use and to shift to a model that has room for significant environmental influence. The remainder of this thesis is an attempt to do just that. The first step, covered in Chapter 1.2, is to examine the typical way the built environment is thought to intersect with the problematic substance use field: the architecture of substance use.

Figure 8 | Timeline of Problematic Substance Use in Canada and the US: Policies, Etiology, and Treatment Locations and Methods



Treatment Methods, cont.
Diets
Work
Natural Elements
Hydrotherapy
Therapeutic Millieu
Hypnosis
Assisted Detoxification
Patent Cures
Exercise
Constructive Leisure
Aversion Therapy
Sterilization
Psychoanalysis or Counselling
Drug-Induced Convulsion Therapy
Electro-Convulsion Therapy
Lobotomy
Insulin
Steroids
Narcotic Blockers
Chemically-Induced Toxic Reaction

Chapter 1.1 Endnotes

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It's too *nice, they'll never want to leave.*

—"Rehabilitation on a City Street"

1.2

Architecture of Substance Use: A Typical Understanding of the Built Environment's Role in Problematic Substance Use

As outlined in the previous chapter, there is a clear need to explore the role of the built environment in both the etiology and treatment of PSU (problematic substance use) due to a range of evidence regarding the role of spatial factors and a consistent spatial undercurrent in the history of treatment. As a first step to exploring that role, this chapter examines the typical manner in which the built environment is thought to intersect with substance use by analyzing a range of architectural projects.

First, this chapter describes the method used to determine which projects were included for analysis. Next, the analysis is presented,representing the nine project categories found (for a full list of the projects included, refer to Appendix A). The typical understanding of the built environment's role in PSU is found to be a fairly shallow intersection, where the built environment passively reflects the implications of the chronic brain disease model rather than engaging as an active treatment partner.

Method

To examine the typical manner in which the built environment is thought to intersect with substance use, the author searched two architectural literature databases, Avery Index and RIBA, using the search term **(addict* OR "substance use" OR drug* OR alcohol OR "substance abuse" OR "substance misuse")**. This returned in a total of 507 results, including several duplicates. The author then examined the titles and abstracts for relevance and chose 51 to be included in the final review. Additionally, two further projects found through the literature review in Chapter 2 were included, bringing the total number of projects to 46 (see Appendix A for full list). Criteria for inclusion were: a) the article must focus on a specific building or selection of buildings; b) the article must approach the project from a primarily architectural perspective, rather than a social or other sciences perspective; and c) the article must be written and/or captioned in English.

The earliest articles were published in 1968, and the latest in 2017. Most of the projects adhere to the Treatment First model, although several espouse a harm reduction philosophy within a Treatment First system. None of the articles included in this review specifically states that a project it describes operates in a Housing First model; however, the Lyons building appears in a case study report comparing several treatment programs, and is characterized as Housing First there[1]. The lack of representation of Housing First programs could be due to the more recent emergence of the model[2], as well as to the fact that many of these programs do not have dedicated buildings, instead renting market housing from landlords[3].

Examination of the 46 projects found six well-represented project categories (defined as including at least three projects, with most of these having medium- to high-quality orthographic drawings), including Drop-In, Residential Treatment, Long-Term Supported Residential, Supportive Residential Community, Theoretical, and Clean Up and Reclamation (see Figure 9). Three further categories, Transitional Housing, Emergency Shelter, and Custodial Treatment, do not include enough projects and/or drawings to allow generalization, but are important enough in the Treatment First continuum to still be examined.

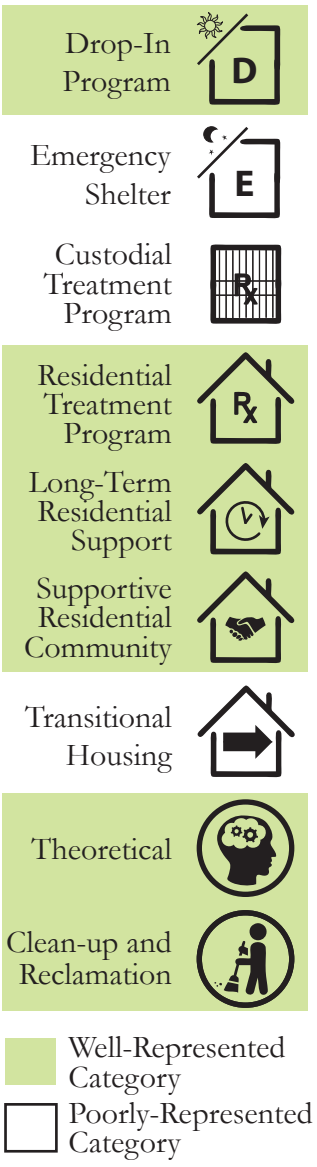

Figure 9 | Project Categories

Analysis

As noted in the previous chapter, the idealized Treatment First model is a linear progression from a controlled environment to an independent environment, yet the reality is a more complicated loop of treatment and relapse. Analysis of the projects included in this review reveals that the idealized conceptual progression of the Treatment First continuum is reflected in the architectural design of buildings at each stage. The progression from a controlled environment to an independent environment is symbolized spatially in two ways: a progression from supervision to privacy, and a progression from isolation to integration.

Supervision to Privacy

Projects located earlier on the Treatment First continuum tend to have surveillance spaces built in to main residential areas. The surveillance spaces vary, including nurses' stations, staff office space, or, in the case of the Custodial Treatment category, guard stations. By contrast, projects later on the continuum, such as those in the Long-Term Supported Residential category, will have office spaces located adjacent to, but outside of, the program's residential spaces.

Interestingly, although located later in the Treatment First progression, many projects in the Supportive Residential Community category embody the supervision to privacy progression internally through the provision of bedrooms. These projects have shared or dormitory-style bedrooms for new arrivals to the program, and progress to the privacy of a single-bed room is earned through treatment compliance.

The provision of cooking and dining spaces also appears to be correlated the progression from control to independence. Programs situated earlier in the Treatment First process tend to have either cafeterias or communal kitchen and dining areas (aside from Drop-Ins, which mostly don't provide dining space). Those situated later in the continuum, intended to accommodate residents who have demonstrated the ability to handle greater independence, often have at a kitchenette or full kitchen in each individual suite.

The exceptions to this rule are projects in categories that place an exceptionally high value on community. The Supportive Residential Community category in particular has a focus on shared kitchen and dining facilities. Additionally, the Long-Term Supported Housing category tends to value community, often include a shared dining area in addition to private kitchenettes.

Isolation to Integration

Generally, the earlier in the Treatment First process that a program is situated, the more likely it is to be architecturally withdrawn; that is to say, rurally located, set well back from the property line on a larger urban site, or utilizing high walls and minimal ground-floor windows on a smaller urban site (Drop-Ins are again an exception). This trend is likely extension of the practice of removing individuals experiencing PSU to inebriate asylums and inebriate or narcotic farms, and/or the idea of the geographic cure as a retreat. Individuals who are further along in their treatment journey are therefore either allowed or ready for, depending on perspective, re-entry into 'regular' society, and this is symbolized architecturally by more transparent buildings with active facades (more and larger windows) that are generally located closer to the street.

This is particularly true of projects in the Supportive Residential Community category. Programs in this category tend toward an active outreach and integration strategy, which is reflected in their architectural form. The Supportive Residential Community buildings reviewed in this analysis are exclusively adaptive reuse of existing buildings, perhaps due in part to issues of cost, and therefore closely match their surrounding architectural context.

In addition to the more deliberate isolation described above as part of the early treatment process, the Clean-up and Reclamation category revealed that isolation also occurs pre-treatment as a striking example of the spatial effects of social stigma. Projects in this category are specifically intended to displace individuals from a particular space without any consideration of where they will or can go instead. Often this type of project will include what is known as hostile architecture; elements specifically designed to prevent common behaviours of these individuals deemed undesirable (such as sleeping on park benches). By explicitly excluding entire groups of individuals from public spaces, these projects implicitly dehumanize those groups by excluding them from the definition of 'public'.

Missing and Underrepresented Spaces

Equally as important as the themes represented in the projects reviewed are the spaces that are underrepresented or missing all together. In terms of project categories, Emergency Shelter projects are published in architectural literature, but very few of these make any reference to PSU and therefore are underrepresented in this review. This suggests that Emergency Shelters are not being designed for the specific needs of individuals experiencing PSU. Housing First projects and Custodial Treatment projects are also poorly represented.

Within the project categories that are represented in this review, administrative or service-provision spaces are typically poorly represented. These spaces are frequently located in buildings or on floors separate from the kitchen, dining, bed, and bathroom areas provided for residents and clients, and are either missing from the published orthographic drawing set or are represented in significantly less detail. Even when administrative and service-provision spaces are located directly adjacent to kitchen, dining, bed, and bathroom areas, they are typically represented as empty spaces, lacking furniture or any architectural indication of the activities they are meant to contain. One possible explanation for the poor representation of these spaces is that they are considered architecturally irrelevant; square-footages to fit within a floorplate rather than design.

Summary: A Superficial Intersection

The projects reviewed in this chapter demonstrate that architecture is currently understood to play a role in the treatment and management of problematic substance use. However, this is only a superficial intersection of the built environment and problematic substance use, where the built environment is largely a passive medium, unconsciously reflecting the consequences of societal value judgements and the 'organizing metaphor' of the chronic brain disease model, rather than an active partner engaged to create specific effects. Furthermore, significant portions of the spaces involved in the treatment and management of problematic substance use are either missing or underrepresented in the architectural literature. Therefore, in order to generate a deeper understanding of the relationship between the built environment and problematic substance use, the next chapter takes a step back and outlines the ways in which the built environment is understood to impact wellbeing more generally.

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Category 1 | Drop-In

These projects are focused on providing some combination of non-residential drop-in or daytime services such as a safe injection site, needle exchange, methadone program, and education. There is often an aspect of harm reduction in the provided services.

Projects (see Appendix A): 5

- Children's Institute, Inc. Burton E. Green Campus
- Creche, Senior Citizen Housing and Drug Dependency Clinic
- Faro Rehabilitation Centre
- Mentlvilla
- Kaleidoscope Project

Category Characteristics

Urban | All but one of the projects reviewed in this category are located in an urban or urbanizing area; Faro Rehabilitation Centre is located in a suburban area.

Part of a Whole | Projects are one portion of a larger building complex, with the remaining building program primarily containing other services for people experiencing homelessness and problematic substance use, such as residential treatment or emergency shelter. The Creche, Senior Citizen Housing and Drug Dependency Clinic project is paired with a creche (kindergarten) and seniors' residence instead.

Separated, not Isolated | Drop-in programs tend to be separated from the other building programs on site (separate entrance and/or located on a separate floor), but less isolated from the surrounding urban context than projects reviewed in other categories, often occupying the first floor when located in a multi-story building.

Representative Project | Creche, Senior Citizen Housing and Drug Dependency Clinic

Location | 2 Jobstown Rd, Dublin, Ireland

Project Completion | 2005

Architect | Henchion + Reuter Architects

This project was picked to represent the Drop-In category because its floorplan clearly illustrates several key characteristics: 1) it is part of a larger building complex; 2) the drop-in is separated from the rest of the building, in this case by a continuous wall (denoted in Figure by the dotted orange line); and 3) located on the ground floor, it is visually connected to the surrounding context via a fairly high number of windows (denoted in Figure by the green triangles).

Figure 10 | Exterior Photo

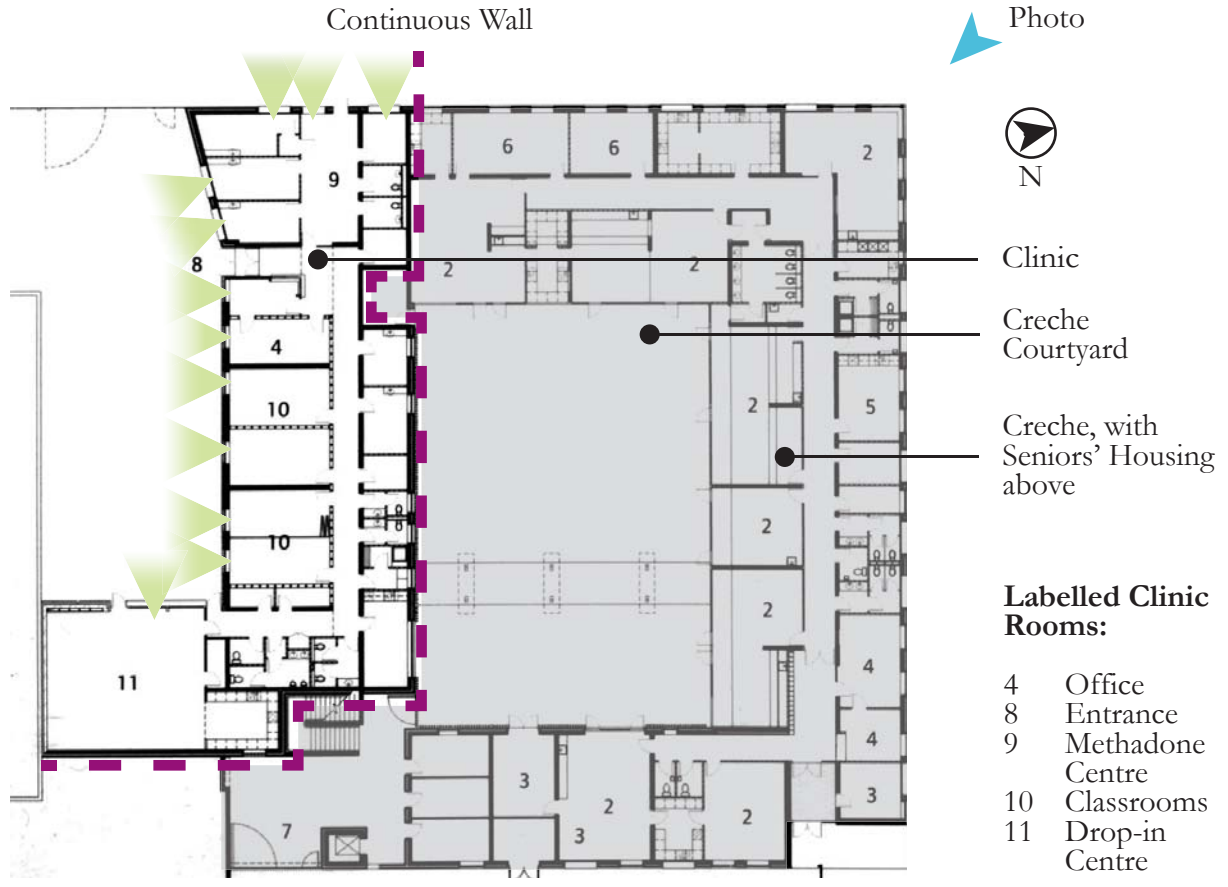


Figure 11 (Top) | Context Plan

Figure 12 (Bottom) | First Floor Plan

Category 2 | Residential Treatment

Residential programs that provide time-limited treatment interventions in a professional, often medical, setting.

Projects (see Appendix A): 17

- ARC West Treatment Center
- Central City Lodge
- Centre for Addiction and Mental Health, Redevelopment Phase 1
- Children's Institute, Inc. Burton E. Green Campus
- Detox in Cornwall
- Emiliehoeve
- Faro Rehabilitation Centre
- Fountain
- Gross Gllenicke Rehabilitation Centre
- Kaleidoscope Project
- Lake Rotoehu National Alcohol and Drug Rehabilitation Centre
- Phoenix Academy/Venice
- Rock Creek Center
- Sid Martin Bridge House
- The Donwood Foundation
- The House of Benjamin
- Women's Alcoholism Center

Category Characteristics

Privacy and Communal Living | Bedrooms in these programs are single, private rooms, with the exception of the Women's Alcoholism Center (designed specifically for mothers and their children). However, dining is communal in all reviewed projects and occurs in either a cafeteria or shared kitchen setting.

Institutional Character | Many of the projects reviewed are highly medicalized, with hospital-like room layouts and strategically located nursing stations, while others give the appearance of hotels or retreats. Day-to-day cleaning and maintenance are often provided as a service.

Isolation | Buildings are either rurally located or, when urban, withdraw from their surroundings through the use of setbacks, on larger sites, or high windowless walls on smaller sites.

Representative Project | The Donwood Foundation (now Bellwood Health Services)

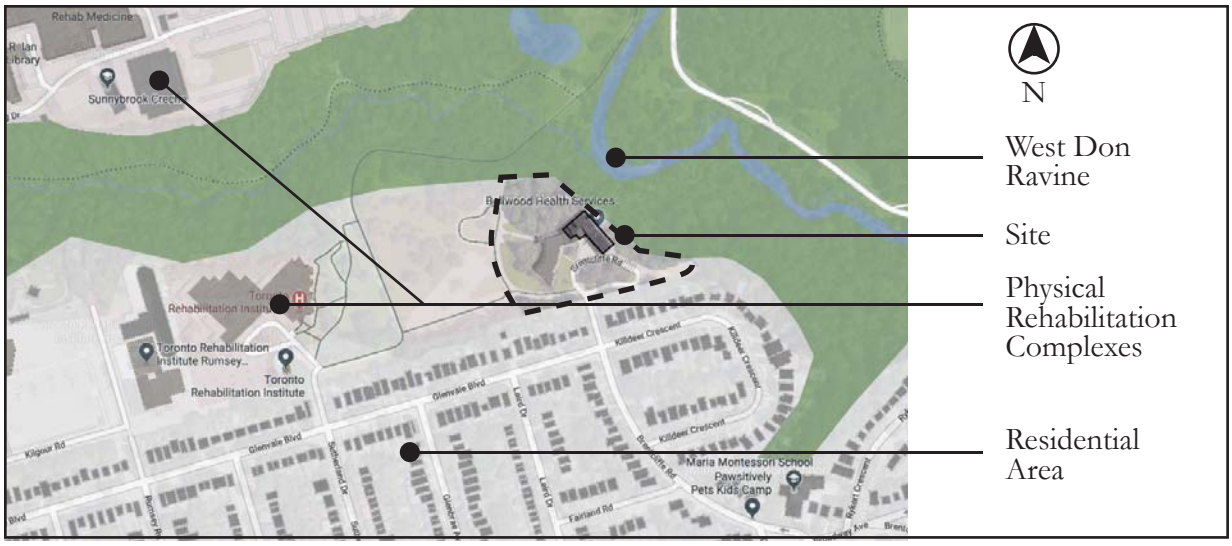
Location | 175 Brentcliffe Rd, Toronto, ON, Canada

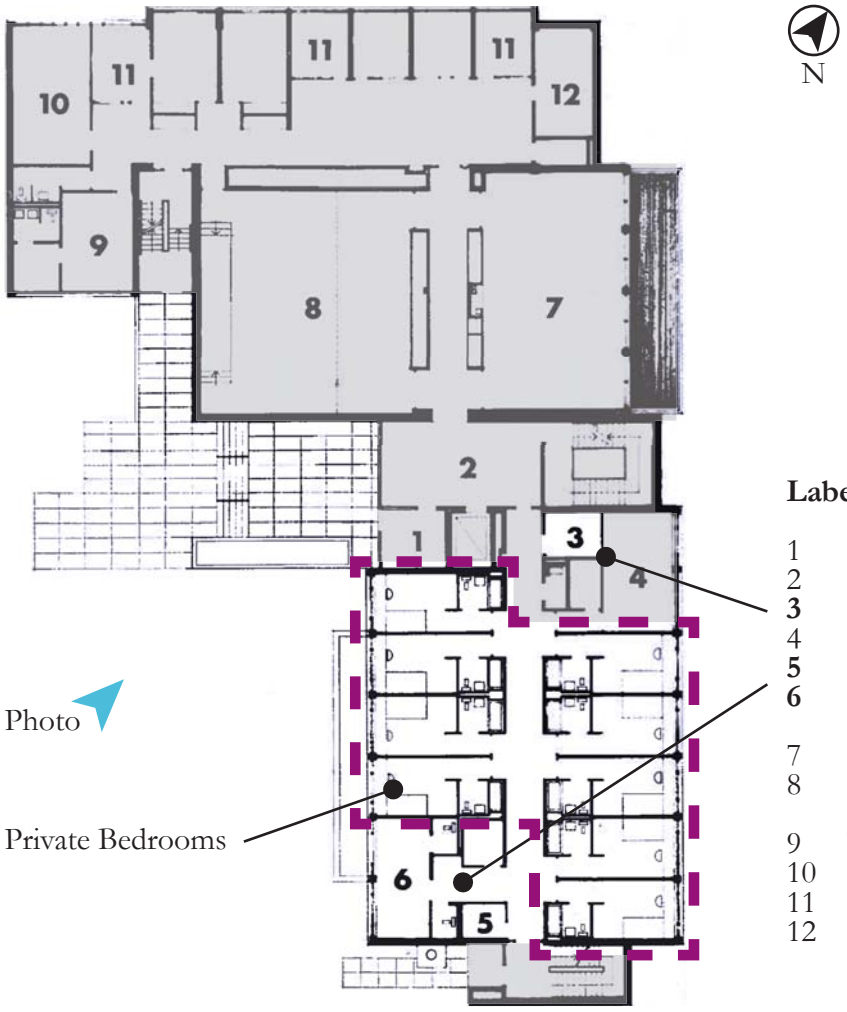
Project Completion | 1966

Architect | John B. Parkin Associates

The Donwood Foundation is representative of more medicalized residential programs, with single rooms located near to a nursing station and examination/treatment room. Furthermore, the soiled utility & linen room indicates that day-to-day maintenance is provided as a service to the residents. The building withdraws from adjacent medical complexes and housing, oriented instead to the ravine of the river Don.

Figure 13 | Perspective





Labelled Rooms:

1 Entrance Vestibule
2 Main Lobby
3 Soiled Utility & Linen
4 Initial Group Therapy
5 Nursing Station
6 Examination and Treatment
7 Main Group Therapy
8 Main Physical Therapy and Recreation
9 Women's Lounge
10 Library Lounge
11 Offices
12 Records & Storage

Figure 14 (Top)| Context Plan

Figure 15 (Bottom)| First Floor Plan

Category 3 | Long-Term Supported Residential

Residences for individuals who need ongoing support, including those with additional diagnoses such as psychiatric illness or HIV/AIDs. The supports may be provided exclusively for residents or may also serve the broader community.

Projects (see Appendix A): 7

- Arveset Farm
- Multi-Focus Reception Centre, Apeldoorn
- New Housing Prototype for Homeless
- NUVA/Easler House
- The Lyon Building
- Veiskillet, Housing for the Homeless
- 8NW8

Category Characteristics

Privacy and Independence | Residents are given private suites, including a single bedroom and private bathroom and kitchenette. Additionally, staff and services are available on site but spatially distinct from living suites.

Community | Common space is provided, including a shared eating space.

Urban vs. Rural Contrast | Building massing and public engagement reflect the urban/rural divide: urban programs typically utilize a mixed-use building typology, with services on the lower floors open to the wider community and residences located above, while rural programs adopt a more introspective domestic or farming typology.

Representative Project | Veiskillet, Housing for the Homeless

Location | Asvangveien 2A, Trondheim, Norway

Project Completion | 2005

Architect | Bard Helland

Veiskillet is a particularly clear example of the spatially symbolized privacy and independence typical of this category: it has five self-contained residential suites, complete with kitchenettes, with a staff office located in close proximity to but separate from the suites. In addition to the kitchenettes provided in each unit, there is a shared cooking and eating space located on the first floor. Finally, located on a suburban site, the building has a modern-domestic architectural language and scale.

Figure 16 | Exterior Photo

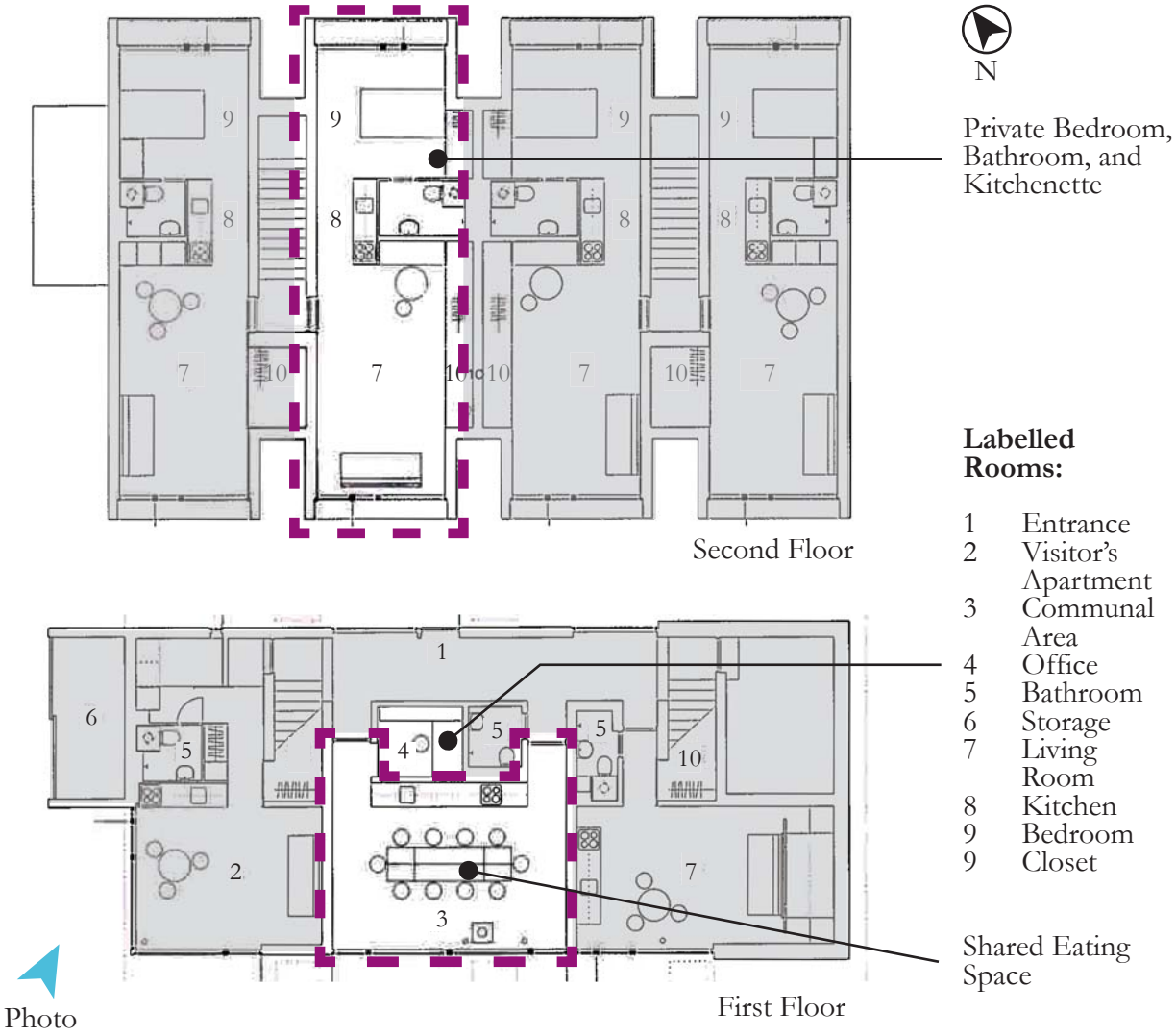


Figure 17 (Top)| Context Plan

Figure 18 (Bottom)| Floor Plans

Category 4 | Supportive Residential Community

Supportive Residential Communities, also called therapeutic communities, provide sober living in a community of peers who are also in recovery. These projects often include some component of education, whether academic or trade, as well as adherence to a 12-step or similar self-help program. Professional treatment is not offered on site. Frequently, the communities are founded by an individual in recovery. Unlike the Long-Term Supported Residential category, residents are expected to progress through the program and eventually leave the site, although some later return as staff.

Projects (see Appendix A): 5

- Belle Terre
- Clean and Sober Living
- Delancey Street Embarcadero Triangle
- Exodus House
- Phoenix Career Academy
- The Saman Community at Lenzi

Category Characteristics

Highly Communal, with Earned Privacy | Dormitories or shared bedrooms, shared kitchen and dining, and large social areas are typical. In some programs, increased privacy (such as moving to a private bedroom) is earned by adherence to sobriety and treatment, internalizing the Treatment First progression within the program.

Architectural Integration | Regardless of location, the buildings are a normalized part of the surrounding urban or rural fabric. All projects reviewed in this category are adaptive reuses of existing buildings.

Participation in Placemaking | Several of the projects were renovated by the residents themselves, and all put a strong emphasis on daily chores and maintenance as a part of recovery.

Representative Project | Clean and Sober Living

Location | 8938 Madison Ave, Fair Oaks, CA, USA

Project Development | 1986-2004

Architect | N/A

Clean and Sober Living is located in a series of typical neighbourhood houses in Fair Oaks, California. The program contains three phases of the Treatment First continuum, including one house dedicated to detoxification, five adjacent houses for the early stage of recovery (Phase I), and a number of individual single-family houses scattered around the neighbourhood for the later, more independent stage of recovery (Phase II). Founded by an individual in recovery, the program gradually expanded over nearly 20 years. The largest house in Phase I was renovated so that the first floor is now dominated by a set of interconnected community spaces that serve as the primary social space for Phase I residents and as a gathering point for Phase II residents. Bedrooms in Phase I houses are shared between at least two people; the privacy of a single bedroom is only earned by graduating to Phase II.

Figure 19 | Exterior Photo

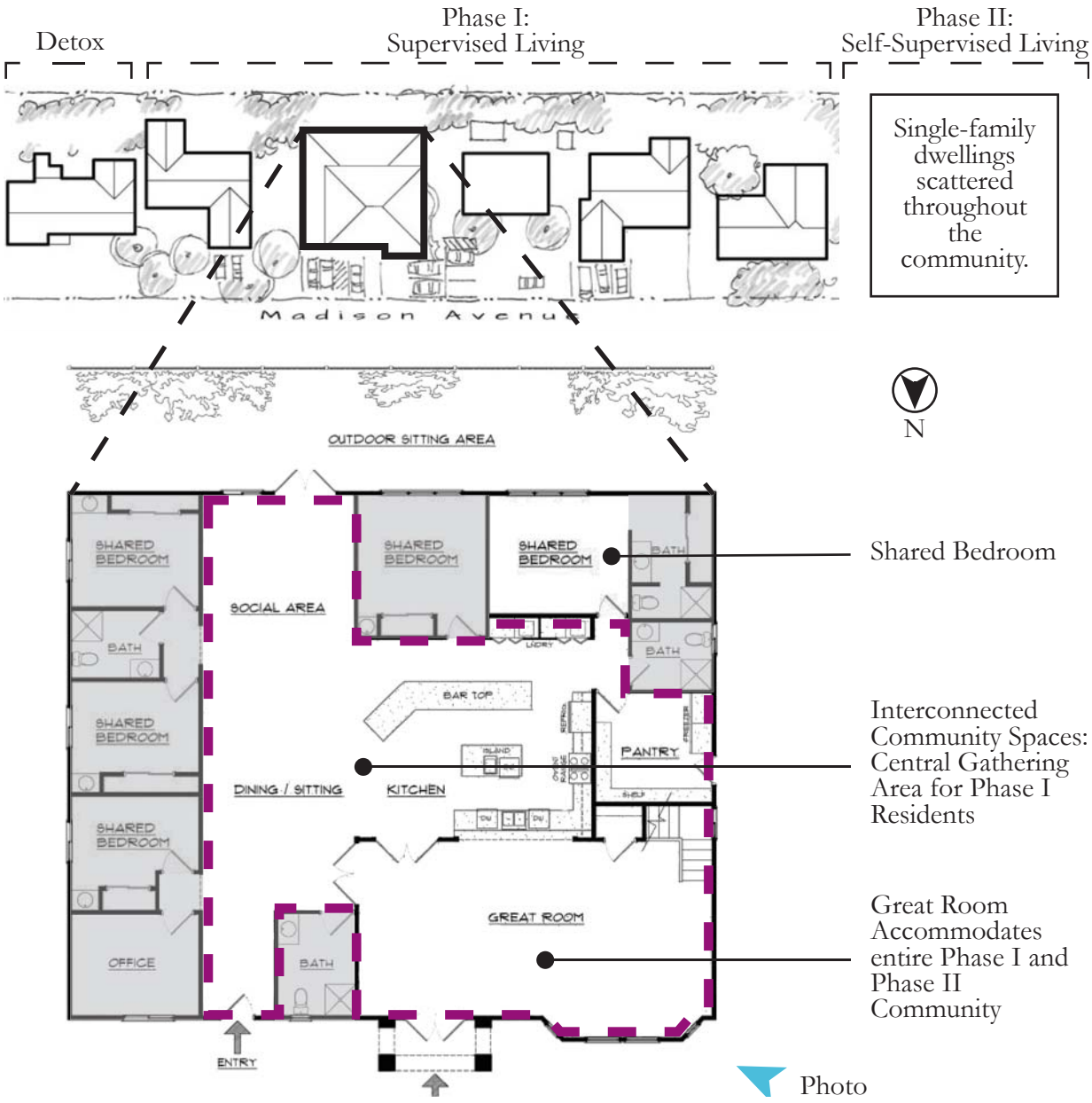


Figure 20 (Top) | Context Plan

Figure 21 (Bottom) | Site Plan and First Floor Plan

Category 5 | Theoretical

Substance misuse treatment projects that were designed for competitions, theses, or otherwise theoretical treatment programs. All were designed prior to 2000, all remain unbuilt.

Projects (see Appendix A): 3

- A Treatment Center for the Catawba Indian Nation
- Drug Addiction Rehabilitation
- Drug Rehabilitation Centre

Category Characteristics

Total Treatment | Each proposal frames the development as encompassing all aspects of treatment required for a 'cure', with one containing the entire idealized Continuum of Care in one development.

Spatial Congruency with a Linear Treatment Process | Of the three projects reviewed, two do not reflect the linear Treatment First process in a spatial hierarchy. The third, Drug Rehabilitation Centre, has a spatial progression from supervision to privacy much like that of projects in the Supportive Residential Community category.

Unprogrammed Communal Space | All the projects group treatment and living spaces around central shared areas whose uses are not fully specified.

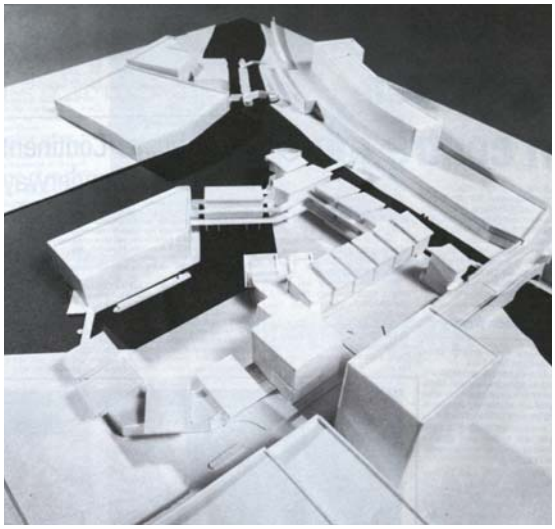


Figure 22 | Model Photo

Representative Project | Drug Addiction Rehabilitation

Location | 61 Wharf Rd, London, UK (unbuilt)

Project Publication | 1996

*Architect*s | Ian Tansley, David Haward, and Emyr Dafydd

This project represents a total treatment proposal, and is one of the two that does not spatially reflect the linear Treatment First process. The building complex is centred around two loosely-programmed community spaces.

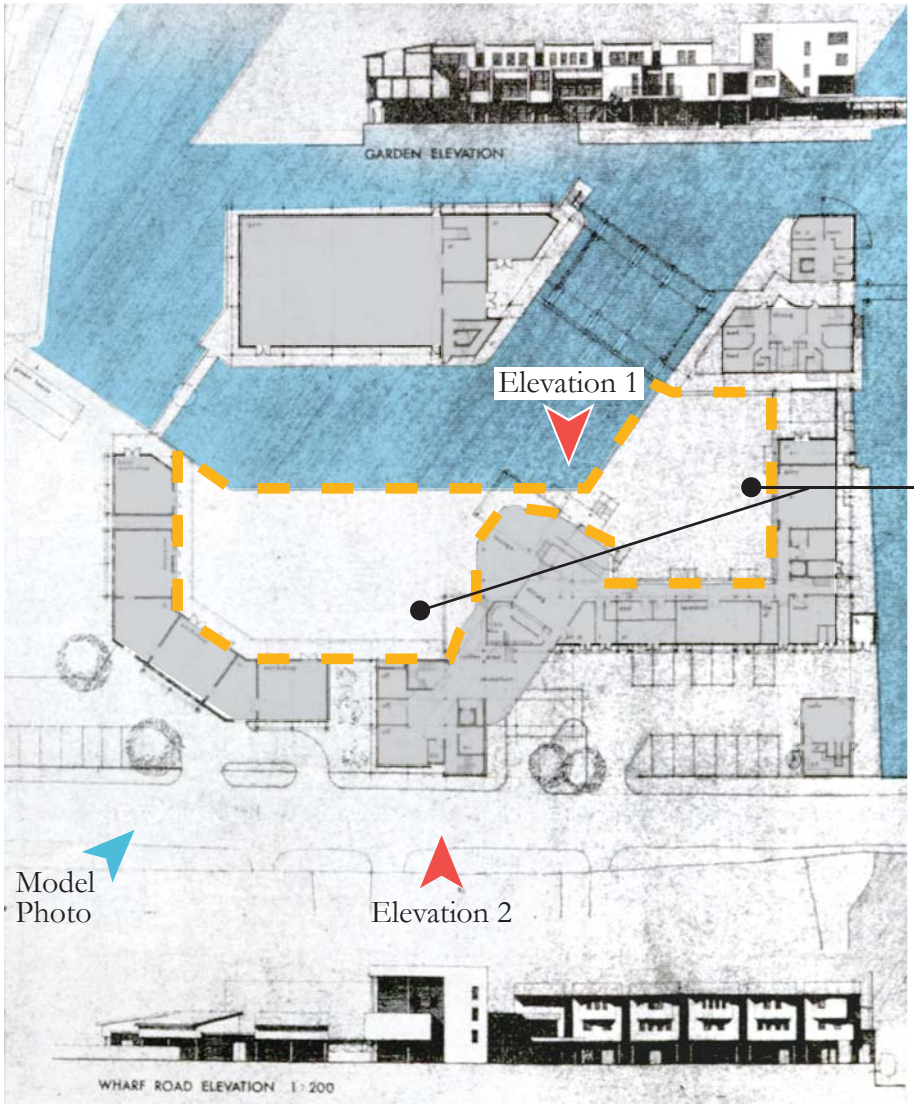


Figure 23 (Top) | Context Plan
Figure 24 (Bottom) | Elevations and First Floor Plan

Category 6 | Clean-up and Reclamation

These are projects where marginalized individuals, often people who are using and/or dealing substances, are seen to have 'taken over' a public or private space, thereby making it dangerous. The spaces are then redeveloped with the goal of reclaiming them. Most of the projects in this category are urban parks, while one project, Horatio West Court, is a reclamation of two houses.

Projects (see Appendix A): 6

- Cal Anderson Park
- Horatio West Court
- Multi-Focus Reception Centre, Apeldoorn
- Park Platzspitz
- Regrade Park
- St Anne's Garden

Category Characteristics

Success = Exclusion | Projects are considered successful when the dangerous, dirty, and/or criminal individuals using or occupying the space are removed and excluded, allowing 'the public' or 'regular people' to comfortably use the spaces again. Only one project, the Multi-focus Reception Centre in Apeldoorn, provided services for the population it was displacing. Designed as part of the overhaul of the city's run-down harbour area, the project took the novel approach of 'cleaning up' the area by providing services for the marginalized population that it was displacing.

Spatial Expression of Value Judgement | For the urban parks, fences and other defensive strategies are used to narrow the definition of 'public' to a group of people who are considered to be acceptable. For Horatio West Court, originally designed as a low-income housing development, the project was considered successful when it 'restored' the buildings into high-end private dwellings.

Representative Project | St Anne's Churchyard Garden

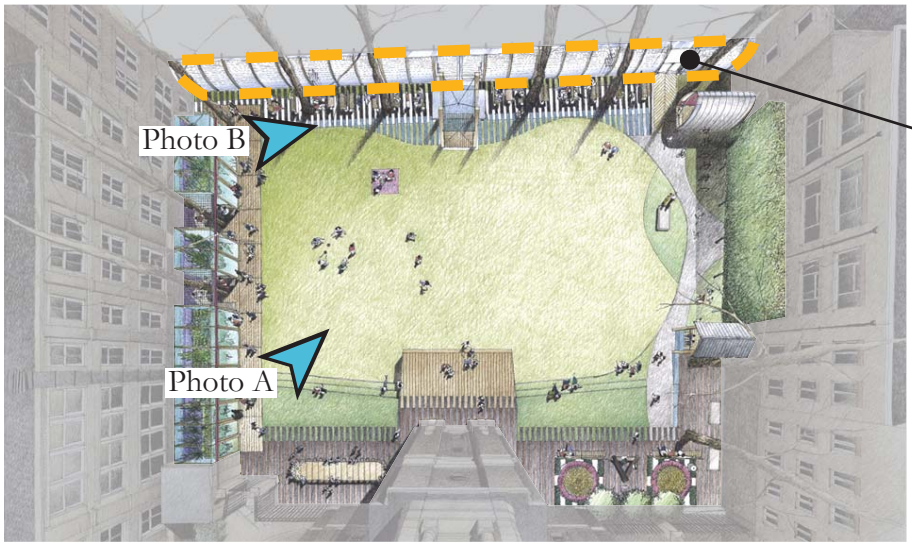
Location | 55 Dean St, Soho, London, UK

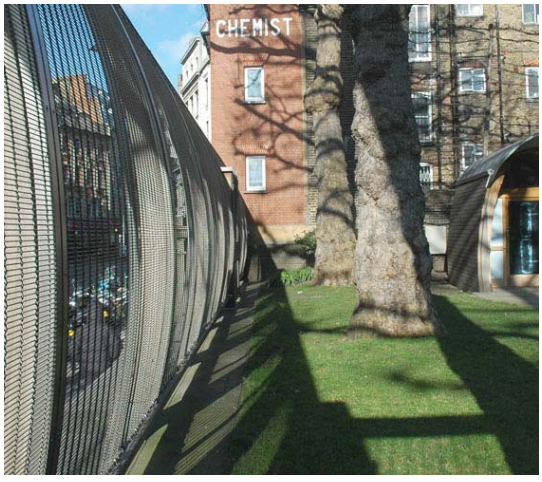
Project Completion | 2010

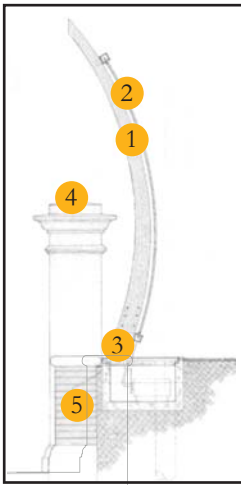
Architect | Architecture Ensemble

The main element of the renovation of St Anne's Churchyard Garden is a carefully designed fence. The fence controls access, limiting the times of day that the garden can be used and thereby preventing 'rough sleeping'. Furthermore, the fence was specifically designed to prevent drug dealing, using a mesh with holes that are too small to pass drugs through.

Figure 25 | Photo A







Fence Components:

1 Glulam Oak Tusk
2 Stainless Steel Mesh Clamped to Back of Tusks
3 Stainless Steel Flitch Bases
4 Line of Existing Granite Pillars
5 Existing Brick Wall with Granite Capstone

Figure 26 (Top) | Context Plan
Figure 27 (Middle) | Site Plan Perspective
Figure 28 (Bottom Left) | Photo B
Figure 29 (Bottom Right) | Fence Section

Category 7 | Transitional Housing

For those who are ready for a step-down in support (either from intensive residential treatment or a custodial treatment program). When directly associated with a residential treatment program, graduation from intensive treatment to transitional housing is earned through treatment compliance.

Projects (see Appendix A): 4

- Faro Rehabilitation Centre
- Fountain
- Hospitality Centre for Former Prison Inmates
- 8NW8 (now the Richard L. Harris Building)

Category Characteristics

Privacy and Communal Living | Similarly to the Residential Treatment category, reviewed projects typically have private sleeping areas but shared kitchen and dining areas.

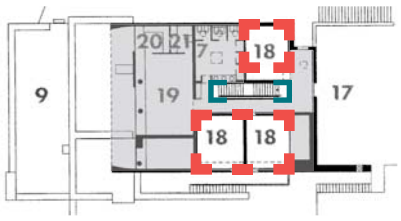
Urban | All but one of the projects reviewed in this category are located in an urban area; Faro Rehabilitation Centre is located in a suburban area.

Aside from the above shared characteristics, there are a number of contrasting features in the projects reviewed in this category.

In two of the projects, Faro Rehabilitation Centre and Fountain, the Transitional Housing is paired directly with a Residential Treatment program. In Fountain, the Transitional Housing is spatially distinct, but is not represented in the provided floor plans and is only described as an annex containing ten bedrooms across two floors. From an examination of Faro Rehabilitation Centre floor plans (see Figure 30), it appears that the Transitional Housing is not spatially distinct from the Residential Treatment: the project contains only three bedrooms (outlined in red), and all three floors are connected by an open staircase (outlined in teal).

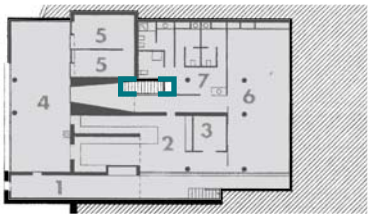
The Hospitality Centre for Former Prison Inmates (see Figure 31, top) is not associated with any other program, but appears very similar to the Women's Alcoholism Centre (see Figure 31, bottom), a Residential Treatment program, in terms of overall architectural character and approximate ratio of staff and treatment spaces to residential spaces.

The final project, 8NW8, contains both Transitional Housing and Long-Term Supported Residential but these are not delineated spatially. Instead, two types of residence, single room occupancy and studio apartment, are offered based on income.



Third Floor

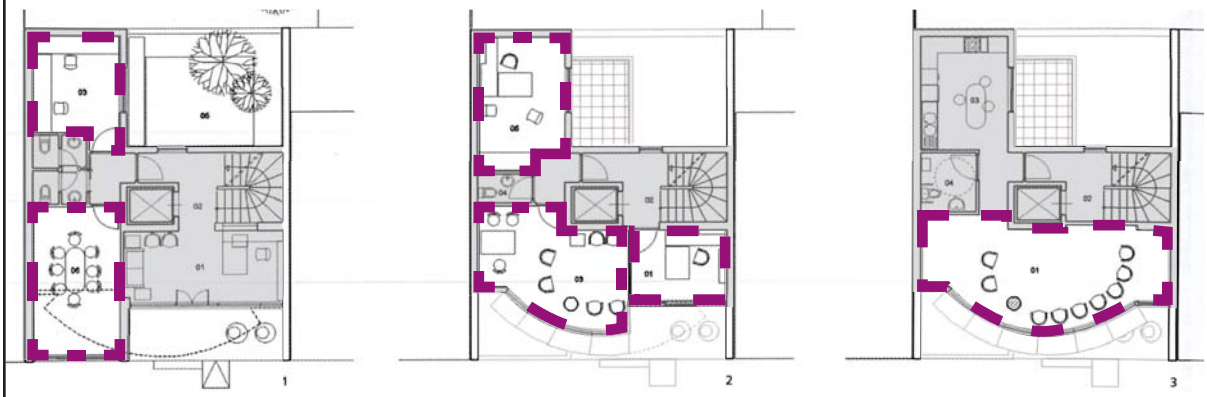
Second Floor



First Floor

Figure 30 | Faro Rehabilitation Centre First to Third Floor Plans

= Staff and treatment areas



Hospitality Centre for Former Prison Inmates: Floor plans 1-3 (of five: plans for upper two floors, containing bedrooms, not in article).

Women's Alcoholism Center: Floor plans 1-3

Figure 31 (Top) | Hospitality Centre for Prison Inmates and Women's Alcoholism Centre: Floor Plan Comparison

Figure 32 (Bottom) | 8NW8 Typical Single Room Occupancy and Studio Apartment Floor Plans

Category 8 | Emergency Shelter

Temporary overnight accommodation.

Projects (see Appendix A): 2

- Multi-Focus Reception Centre, Apeldoorn
- House in Innsbruck

Category Characteristics

Only two projects for this category emerged in this review. This was in contrast to the author's initial assumption that most, if not all, cities in Canada (and other developed countries) would have at least one emergency shelter serving individuals who are homeless, including those with co-occurring problematic substance use.

However, as noted in the previous chapter, analyzing the Treatment First model reveals that on-site abstinence is typically a requirement of shelter entry. This suggests a possible explanation for their lack of representation in this review: shelters are not typically designed for the specific needs of individuals experiencing problematic substance use. A follow-up search of the Avery and RIBA databases using the search term **((emergency OR homeless) AND shelter)** revealed the missing projects.

Figure 33 (Left) | Photo of Model, Multi-Focus Reception Centre
Figure 34 (Right)| Exterior Photo, House in Innsbruck

Category 9 | Custodial Treatment

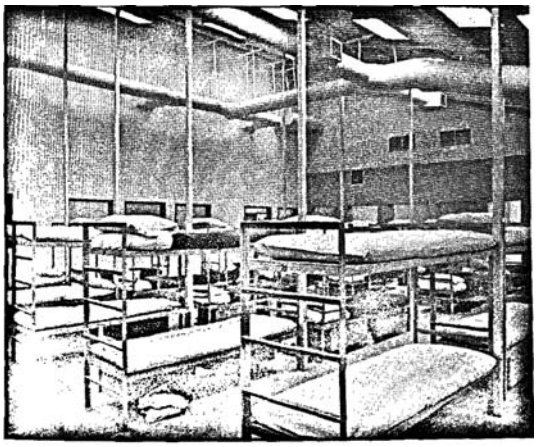
Specialized detention facilities providing treatment for incarcerated individuals experiencing problematic substance use.

Projects (see Appendix A): 2

- Texas Department of Criminal Justice Thomas R. Havins Unit
- Correctional Treatment Facility

Category Characteristics

Only two of these projects emerged in the review, limiting the ability to discern category characteristics. However, they still have the following similar spatial characteristics:



Design for Surveillance and Control | Privacy is limited or eliminated, and movement restricted, through the use of typical correctional architecture (eg. 'pods' of cells arranged around a common area, exposed concrete block walls). Their designation as 'treatment' facilities appears to be due to the additional provision of space for educational and counselling, rather than a modification of correction architectural typologies. Detention considerations appear to outweigh treatment ones, with guard stations in contrast to the nurses' stations or staff offices found in projects in the Residential Treatment category.

Isolation | The Justice Thomas R. Havins Unit is located in an isolated rural area and surrounded by a fence. The Correctional Treatment Facility is urban, yet is largely set apart from residential areas by a cemetery and a river.

Figure 35 (Top) | Lounge, Correctional Treatment Facility.
Figure 36 (Bottom) | Dormitory, Texas Department of Criminal Justice Thomas R. Havins Unit

Chapter 1.2 Endnotes

1 Deborah Kraus, Michael Goldberg, and Luba Serge, "Homelessness, Housing, and Harm Reduction: Stable Housing for Homeless People with Substance Use Issues" (Canada: Canada Mortgage and Housing Corporation, 2006).

2 Julia R. Woodhall-Melnik and James R. Dunn, "A Systematic Review of Outcomes Associated with Participation in Housing First Programs," Housing Studies 31, no. 3 (2016): 287–304, doi:10.1080/02673037.2015.1080816.

3 Benjamin F. Henwood, "Understanding Program Models to Address Homelessness and Serious Mental Illness : A Qualitative Inquiry of Service Providers" (New York University, 2011).

The fact is that the difference between a good building and a bad building, between a good town and a bad town, is an objective matter.

—Christopher Alexander, *The Timeless Way of Building*

1.3

Wellbeing: The Influence of the Built Environment

The previous chapter examined the typical ways in which the built environment is understood to intersect with the field of PSU (problematic substance use). In an effort to gain a deeper understanding of the relationship between PSU and the built environment, this chapter steps back to investigate the ways the built environment is currently understood as an aspect of more general wellbeing. Research in this chapter is drawn from the closely-related fields of architecture, urbanism, and planning. Together, these three fields constitute what I am calling the 'practicing spatial disciplines' in order to differentiate the spatial fields that have a regular and significant role in the physical construction of the built environment from those that do not (geography in particular).

History

The idea that architecture specifically, or the built environment more generally, has an impact on health is not a new one; in fact, it can be traced back at least as far as Vitruvius' *Ten Books on Architecture*[1]. Starting in the early 1900s, and particularly during the post-WWII period, both architectural modernism and environment-behaviour research advanced claims that good design and the physical environment, respectively, could strongly influence human behaviour, even to the point of largely determining it. This view was called environmental determinism (see Figure 37)[2]. In the 1960s, however, these claims came under severe, criticism for overstating their case and lacking sufficient evidence. This led, in the case of behavioural research, to it becoming something of an anathema for researchers to theorize the physical environment had *any* clear influence on behaviour. This attitude lasted well into the mid-1980s[3]. In architecture, these same criticisms led to a reaction against the style of modernism and a parallel damping of research into architecture's influence on behaviour. The damping effect in architecture was less severe than in environment-behaviour research, however, with research resuming in the mid-1970s[4].

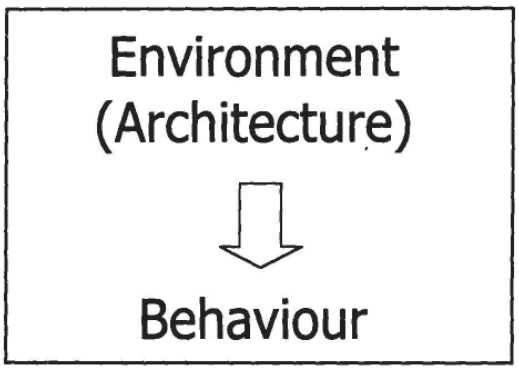


Figure 37 | "A Model of the Deterministic Paradigm [Environmental Determinism]"

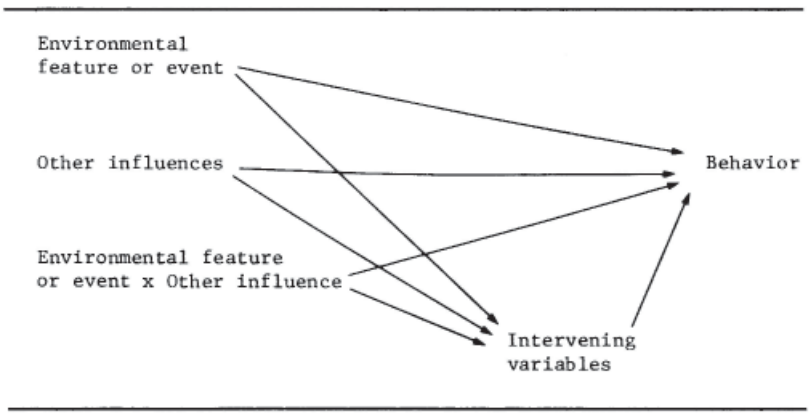


Figure 38 | "Interaction Effects on Behavior"

Subsequent research has thus been conducted with the understanding that the environment and other influences, including choice, interact in complex ways to impact behaviour (Figure 38)[5]. Furthermore, there is a greater understanding that the relationship between people and the environment is *reciprocal* rather than one-directional: people also have a profound impact on the built environment[6]. Even taking account this more nuanced understanding, research in several fields has demonstrated that the built environment does indeed have measurable impacts on human behaviour and health.

Evidence on Three Scales

The research findings can be roughly grouped into three scales: interpersonal, personal, and intrapersonal.

Interpersonal

The interpersonal scale refers to research into the physical environment's influence at a social level. At this scale, there is a strong set of architecture and urban design theory, practice, and research around the design of good public and social spaces, much of this research originated in the 1960s. Four key researchers and theorists in this area are Jane Jacobs, William H. Whyte, Oscar Newman, and Jan Gehl.

Jacobs and Gehl found that wide sidewalks, short city blocks, open and engaging street-level facades, and a mix of uses lead to positive social interaction, vibrant, walkable cities, and strong neighbourhoods[7]. Newman found that an urban environment that lends itself to being 'defensible' (i.e. one that is definable as 'mine' or 'ours') is physically and socially safer than an 'indefensible' one. His findings echo Jacobs' recommendations of benign citizen surveillance or 'eyes on the street'[8]. Whyte also found that greater control over smaller *spatial* elements, such as movable rather than attached furniture in public spaces, gives people the ability to better control their *social* interactions[9].

These findings are reinforced by the research of physician Humphry Osmond and psychologist Robert Sommer. Osmond noticed that some spaces discouraged social interaction, while others encouraged it; he called these sociofugal and sociopetal spaces, respectively[10]. Together, Osmond and Sommer set up a study in an effort to determine what elements made some spaces more sociopetal, and then applied those findings to a geriatric ward at the hospital Osmond directed. They arrived at essentially a combination of Newman's defensible space and Whyte's control over

spatial elements independently of those two researchers. By adding small tables and a number of chairs to the geriatric ward, they provided both a 'territory' to claim and the opportunity for flexible interaction, and succeeded in revitalising the social life of the ward's patients[11]. Whyte also dove further into people's use of public spaces and observed that people tend to sit or stand in public squares in three main places: in the flow of pedestrian traffic, along defined borders, or near objects[12].

Furthermore, the scale of any given spatial environment has been shown to impact social interactions, due to the limits of human perceptual abilities, including vision (Figure 39)[13]. An approximately 100 meters distance is the limit of people's ability to see other people (Figure 40). Shouts can be heard starting at about 70 meters, while the outer limit of people's ability to perceive emotions is about 35 meters, improving significantly under 25 meters (Figure 41). Within seven meters, "all of the senses can be used, all details experienced and the most intense feelings exchanged"[14]. Many of the most vibrant streetscapes are under 25 meters wide, keeping within the distance at which people can comfortably perceive each others emotional states[15].

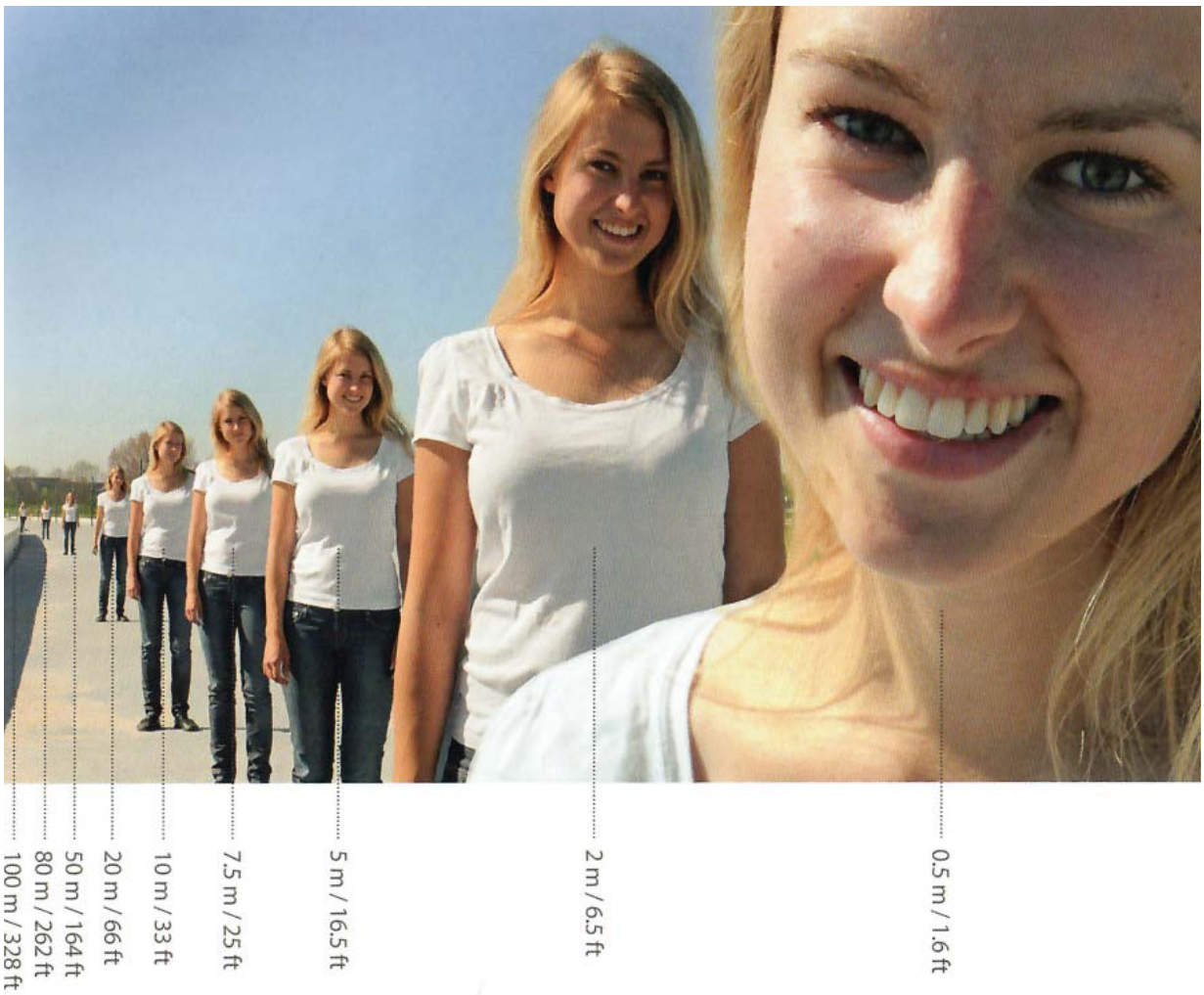


Figure 39 | "We can see people 100 meters/328 feet away, and if the distance is shortened, we can see a bit more. But the experience only becomes interesting and exciting at a distance of less than 10 meters/33 feet, and preferably at even closer ranges where we can use all our senses."

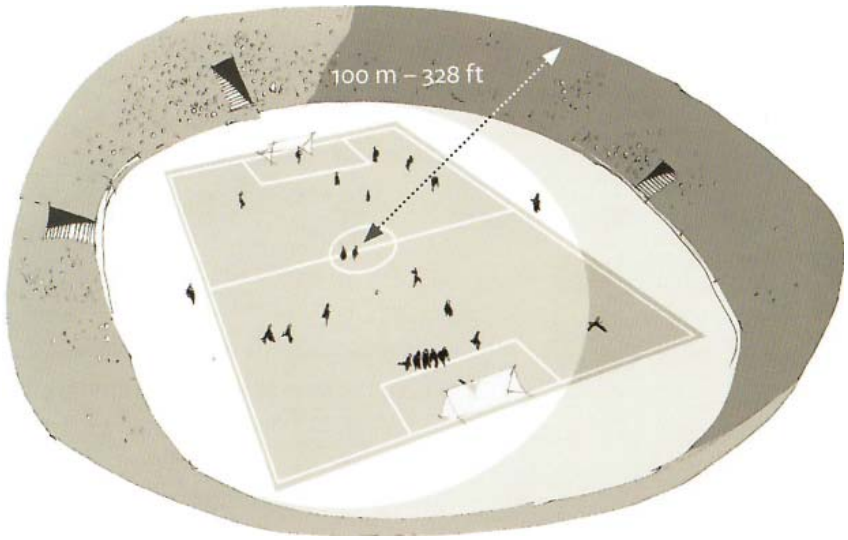


Figure 40 | "The ability to see people at distances up to 100 meters/382 feet is reflected in the dimensions of spectator space for watching sports and other events."

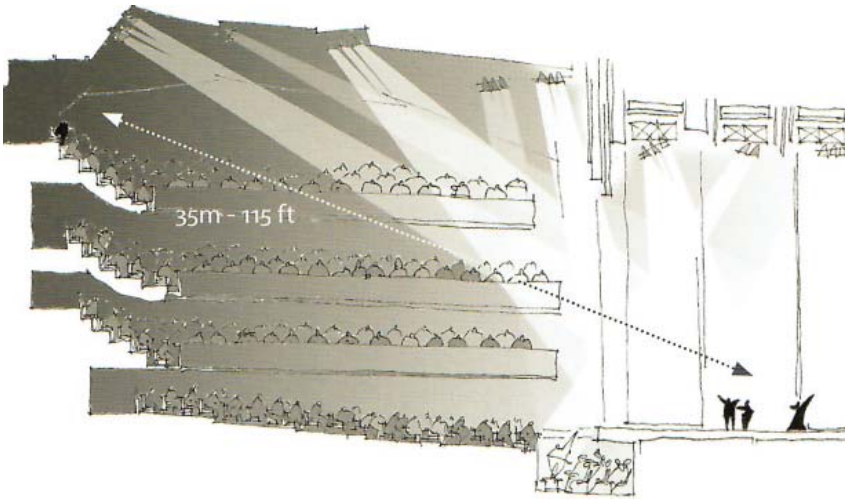


Figure 41 | "When emotion rather than motion is in the spotlight, 35 m/115 feet is the magic number. Used in theatres and opera houses all over the world, this is the greatest distance at which audiences can read facial expression and hear speech and song."

Personal

Moving to the personal scale, research intersecting the fields of architecture and medicine looks at the impact of discrete factors on individuals' psychology and physiology. Known as Evidence-Based Design (EBD), this set of research is focused primarily on the context of acute-care hospitals, although there has also been some investigation into mental health facilities and educational settings[16]. The catalyzing study for EBD is generally agreed to be Roger Ulrich's landmark 1984 study 'View Through a Window May Influence Recovery from Surgery'[17].

EBD proved to be something of an antidote to the 60s-era criticisms of environment-behaviour research. Studies in this discipline rigorously control for variables in order to tease apart what effect various aspects of the physical environment have on health. Typically, these effects are observed by measuring physiological data and/or health outcomes. By utilizing a method well accepted as scientifically robust, EBD is able to demonstrate that the impacts it finds are without question due to the physical environment[18]. However, the corollary to this is that EBD investigations risk ignoring more complex interactions in favour of simple, direct relationships between single elements of the built environment and health outcomes, taking more of an environmental determinism view[19].

Factors investigated by research in EBD tend to be focused in the following categories: reducing disease transmission, reducing injury risk (such as from falls), reducing medical error, and reducing patient stress[20]. Some of the most effective architectural moves, as summarized from Ulrich et. al. 2008, are:

> *Single-Bed Rooms* | These reduce infections, improve patient sleep, privacy, and social support while reducing staff stress.
>
> *Access to Daylight and Appropriate Lighting* | This reduces medical errors, pain, depression, and length of stay, while improving sleep.
>
> *Family Zone in Patient Room*s | This increases social support and reduces patient falls.
>
> *Noise-Reducing Finishes* | These improve patient sleep, privacy, and satisfaction, and reduce both patient and staff stress.
>
> *Views of Nature* | These reduce pain, length of stay, and patient stress.
>
> *Acuity-Adaptable Rooms* | Rooms that can adapt to differing levels of care reduce patient falls and medical errors, while increasing patient satisfaction.

While the above points focus largely on fairly straightforward, cause-and-effect influences of architecture on health and healing, there have also been some investigations into more relational influences of the built environment, including the construction of more than 20 Maggie's Centres in an effort to provide caring and healing spaces for patients undergoing cancer treatment[21]. One of the relational influences found by EBD to have a positive impact on wellbeing is individual control over the immediate environment. Complementing Whyte's observations that people prefer control over spatial elements, such as chairs, in order to carefully tune social interaction, multiple EBD studies have found that the ability to control levels of privacy is an important spatial factor of wellbeing[22].

Intrapersonal

Moving to the intrapersonal scale, that is, the internal cognitive and physiological mechanisms of an individual, there is also a collection of research looking at how the built environment is involved in perception and cognition. Termed 'embodied', 'grounded', or 'situated' cognition, it "holds that much of what and how people think is a function of our living in the kinds of bodies we do… [and] reveals that most – much more than we previously knew – of human thought is associative and nonconscious"[23]. The intersection of neuroscience and architecture is a new field, emerging primarily in the last fifteen years[24].

Much of this research reinforces and explains the observations made at the interpersonal scale. For example, in his seminal book *The Image of the City*, urbanist Kevin Lynch identified five factors as crucial sensory cues that guide human wayfinding. Three of these, paths, edges, and landmarks, echo Whyte's findings on the intrapersonal scale; the remaining two are districts and nodes[25].

Of the five factors identified by Lynch, multiple researchers in diverse fields have noted that people like edges in particular, and "tend to stick to the sides" of any given space unless there are specific elements of interest in the middle[26]. This edge-driven, 'wall-hugging' navigation trait is found in many species and has a scientific name: 'thigmotaxis'. This trait was first identified in bacteria in 1897, and by the 1960s and '70s (when Jacobs, Lynch, and Alexander were making their observations, although they did not use that term) it was being studied in earthworms and rats[27]. In 2007, nearly 50 years after first being documented by Jacobs and Lynch, thigmotaxis in humans was fully recognized in the scientific literature[28]. The impact of the thigmotaxis trait is significant: "when edge conditions are ill-defined, we instinctively go on alert…Clear edge conditions…can release us from anxiety, [and] enable our subconscious construction of mental maps"[29].

Neuroscience research has found that thigmotaxis and other spatial elements of perception and cognition are governed by the hippocampus. This area of the brain contains a "diverse and entangled network of cell types with distinct functions in spatial representation", including 'place cells', grid cells (arranged hexagonally, not rectangularly) and border cells[30]. These cells fire in patterns that are directly associated with the spatial environment, "express[ing] current as well as past and future locations" and responding strongly to boundaries or edges[31]. Place cells in particular "pull together all the sensory inputs we receive…they are responsible for assembling all the bits and creating a multidimensional, multisensory image of where you are in space"[32]. It is clear from this research that the spatial environment has a profound impact on human perception and cognition.

Significant Evidence, Little Cohesion

An assessment of the existing research around the impact of the built environment on human wellbeing reveals significant and growing evidence that the built environment does indeed have an impact. There is evidence regarding what environmental elements contribute to happy, healthy communities, and positive social identity[33]. Some research observes how we use spaces typically and most comfortably[34], while other research proves the direct impact of certain environment elements on wellbeing and healing[35], and still other research illuminates how the built environment factors into our perception and cognition[36].

However, while the evidence gathered from the practicing spatial disciplines resonates and self-reinforces among all three scales, it is not integrated into a single cohesive framework. To find this framework Chapter 1.4 looks to a spatial field much more closely tied to the social sciences: geography.

Chapter 1.3 Endnotes

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36 Moser, Rowland, and Moser, "Place Cells, Grid Cells, and Memory"; Sternberg, *Healing Spaces the Science of Place and Well-Being*; Lengen and Kistemann, "Sense of Place and Place Identity: Review of Neuroscientific Evidence"; Sussman and Hollander, *Cognitive Architecture : Designing for How We Respond to the Built Environment*.

When environments provide opportunities and possibilities for making meaningful places, people find them intimate and feel 'at home' in them. Such places support the way of life of their dwellers, and provide settings for emotionally charged, cherishable experiences. Place *in this sense, is that which is attached and taken possession of, invested with meaning, and expresses the identity and sense of well-being of a people.*

—Ranjith Dayaratne, "Supporting People's Placemaking: The Case of Support Housing in Sri Lanka"

1.4

The Concept of Place

Chapter 1.3 found a range of evidence demonstrating the impact that the built environment has on social relationships, health and wellbeing, and perception and cognition. However, the evidence is not integrated into a single cohesive framework. Human geography (a branch of geography more broadly) has, separately from the practicing spatial disciplines of architecture, urbanism, and planning, developed a vein of research and theory connecting wellbeing and the built environment. This vein is centred around *place*, a scientifically supported concept that bridges multiple scales cohesively to describe the relationship between human wellbeing and the physical environment[1]. Furthermore, it is well integrated with the body of psychology literature exploring environment-based identity[2].

Place "has geographical, architectural, and social connotations"[3], generating a vast amount of thought in the Western tradition with a deep history in philosophy, phenomenology, and human geography. However, it has proved difficult to pin down, and "is one of the trickiest words in the English language, a suitcase so overfilled one can never shut the lid"[4]. Therefore, the following is intended as an overview of the concept of place, not an exhaustive review.

Place's resistance to delineation has resulted in multiple definitions across several disciplines, including "a space which has become totally familiar to us"[5], spaces that "have attracted and concentrated our intentions"[6], "those units of experience within which activities and physical form are amalgamated"[7], "a geographical space that has acquired meaning as a result of a person's interaction with the space"[8], and "a zone of experience and meaning"[9]. It has also been associated with Heidegger's concept of 'dwelling'[10], and the phenomenology (in philosophy, human experience and consciousness, studied in the first-person by the process of living[11]) of Husserl[12]. However, despite the variations in detail, these definitions express a similar idea:

Place is a specific location in space that has become memorable and meaningful.

Memory and Identity

As this summary indicates, memory is central to the concept of place. Memory is considered to have a positive reciprocal relationship with particular spaces, and to be the cornerstone of an individual's identity[13]. Places frame memories, giving them solidity and presence, and memories frequently focus on a specific place or places[14]. Reciprocally, it is the memory of "what happened in a particular spot...and thereby changed it"[15] that marks a place. Because we remember, we can talk about where we have been, where we are, and where we hope to go: highly place-oriented language with which we situate our identity in time and space. As Edward S. Casey states: "It is the stabilizing persistence of place as a container of experiences that contributes so powerfully to its intrinsic memorability...we might even say that memory is naturally place-oriented or place-supported"[16].

This is more than just speculation. In 1965, the National Academy of Sciences-National Research Council produced a report entitled 'The Science of Geography', which proposed avenues of scientific research to take the concept beyond theory[17]. In 2012, Lengen and Kistemann followed up on the report's recommendations in order to evaluate whether subsequent neuroscientific research had substantiated the geographic concept of place. They found that neuroscience has shown spatial processing to be intrinsically linked to perception, memory, orientation, attention, and emotion, validating place as "a distinct dimension in neuronal processing"[18].

The geographical concept of place and its relationship to identity and memory have also been taken up in the field of psychology, informing a vein of environmental psychology theory. Casey's assertion that place is a container of experience is supported by a growing body of research that recognizes that place is in fact integral to identity[19]. There are several areas of theory relating place and identity, of which Hauge[20] examines three theories in particular, each with differing degrees of empirical support: place-identity, social identity theory, and identity process theory. In her analysis of these theories, Hauge notes that the term 'place-identity' refers specifically to the framework put forward by Proshansky *et. al.* (which includes five central functions for place-identity: "recognition, meaning, expressive-requirement, mediating change, and anxiety and defense function"[21]), currently the least developed and supported of the three. However, she proposes that the term 'place-identity' should not be discarded along with the theory, as it succinctly conceptualizes complex relationships between self and the environment better than any other phrase.

In the same way that it works to frame individual identity and stabilize memory, place also contains social and collective identities, with landscape features, building traditions, and even buildings themselves providing continuity over multiple lifetimes and helping to "trigger social memory"[22]. The centrality of identity-as-place in both individual identity and social life is underscored by geographer-philosopher Yi-Fu Tuan: "Identity of place is achieved by dramatizing the aspirations, needs, and functional rhythms of personal and group life"[23].

Theories of Place:

Within the broad similarities described above, differing theories of place can be grouped by whether they approach place as largely positive, largely negative, or as ambivalent. Additionally, there is disagreement over the meaning and utility of the term placelessness. Finally, the concept of place in Indigenous North American cultures differs from definitions derived via Western traditions.

Place as Positive: Therapeutic Landscapes, Enabling Places, Salutogenesis and Sense of Coherence

Much of the place and place-identity literature gives an underlying positive connotation to place. This positive perspective has been further developed into several frameworks that conceptualize socio-spatial relations and their role in maintaining "physical, emotional, mental and spiritual health"[24]. Two of these concepts are therapeutic landscapes and enabling places. Therapeutic landscapes examine the therapeutic properties of certain places[25], while enabling places are defined as sites that "[allow] discrete enabling resources to support health related activities"[26]. A third concept, salutogenesis, focuses on the factors that create health rather than those that create disease[27]. Although this concept did not originally relate to place, it has since been incorporated into the literature around place, identity, and wellbeing.

Therapeutic landscapes were initially conceived as "places that had achieved a reputation for healing"[28]. This included locations many would consider 'therapeutic' or 'restorative' landscapes alongside settings not normally labelled 'landscapes': hospitals, the houses of traditional healers, and doctors' offices[29]. Subsequently, this definition has been expanded to encompass "places that [promote] well-being and [maintain] health"[30], with the aim of determining "the role specific places play in generating or enabling the conditions necessary for wellbeing"[31]. Further extensions include, but are not limited to, consideration of 'non-western healing landscapes' and 'everyday geographies'[32], the latter ultimately leading to Masuda and Crabtree's assertion that "the therapeutic potential of place is neither universal nor fixed, but is a relational construct, a negotiation"[33].

Place is also considered relational, "an active and constitutive presence", in the concept of enabling places[34]. Cameron Duff draws on Rhode's risk environments, Gesler's therapeutic landscapes, restorative places, enabling environments, and Bruno Latour's Actor Network Theory to eliminate the traditional dichotomy between subject (human) and object (environment), attribute agency (the ability to effect change) to both human and non-human actors, and frame health as an activity in itself [35]. Duff considers the activity of health to be enabled through resources created by networks of (human and non-human) actors, and divides these resources into three categories: social, material, and affective. This categorization is intended to allow description and analysis of what properties make a particular place restorative, or health-enabling, in order to move beyond "psychological accounts of restorative *experiences*"[36].

A focus on what enables health is also what led Aaron Antonovsky to coin the term *salutogenesis*[37]. Although not linked to place, his definition of what enables health (what he called a *sense of coherence*) is strikingly similar to Duff's definition of enabling places. Antonovsky proposed that wellbeing originates in a sense of coherence comprised of three (3) components: comprehensibility ("[believing] that the challenge is understood"), manageability ("[believing] that the resources to cope are available"), and meaningfulness ("[being] motivated to cope")[38]. In this framework, whether or not an individual is exposed to stressors does not determine their wellbeing, as exposure is inevitable. Rather, wellbeing is based on whether or not that individual is able to cope with stressors[39]. Antonovsky proposed generalized resistance resources (GRRs) as the mechanism(s) that allow an individual to manage stressors before they turn into unhealthy stress (Figure 42) [40]. In Antonovsky's conception of wellbeing as a spectrum from ease to dis-ease, rather than a binary opposition between health and disease, stressors act as a force pushing individuals into dis-ease. However, the stressors can be mitigated if individuals have access to GRRs (Figure 43).

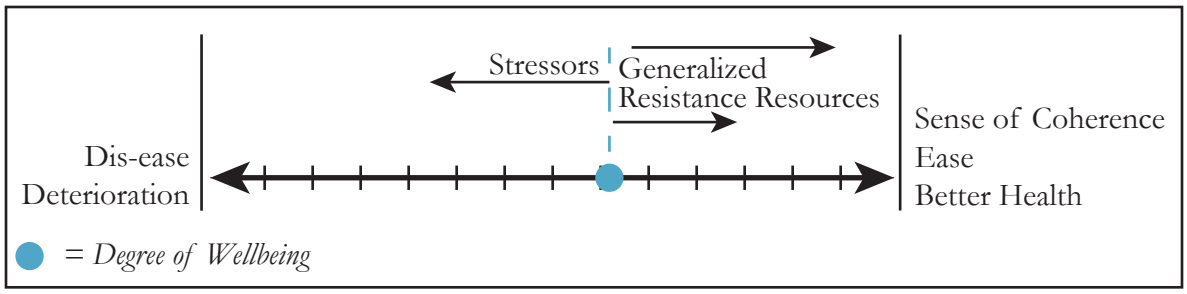

Figure 42 | Antonovsky's Wellbeing Continuum

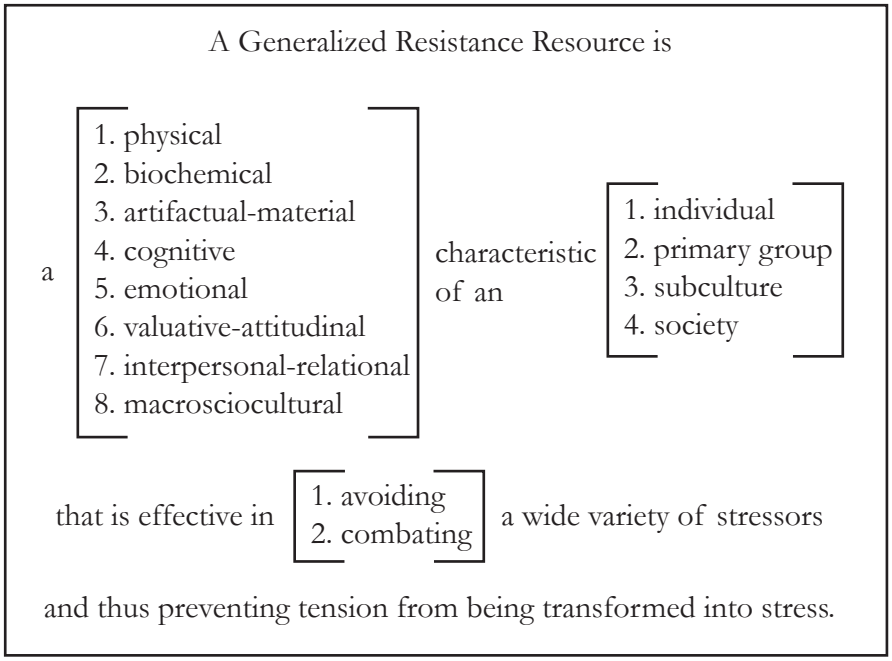

Figure 43 | Mapping Sentence Definition of Generalized Resistance Resources

Since Antonovsky's original development of the concept, salutogenesis has also been applied directly to literature on place, particularly where place has an underlying positive connotation[41]. Kearns, Collins, and Conradson[42] directly link salutogenic environments, therapeutic landscapes, and enabling places.

Place as Ambivalent: Affordances

While not directly related to the concept of place, the concept of affordances describes ideas with significant parallels, particularly to the concept of enabling places. Psychologist James Gibson defined affordances as the opportunities, positive or negative, that an environment provides to those who occupy it[43]. Gibson further elaborates, stating that different places have different affordances, but that the affordances present between any one place and any one individual are innate, and "[do] *not change* as the need of the observer changes"[44]. In other words, an affordance is a potential which may not always be perceived, but nevertheless always exists until either the individual or the physical environment changes[45]. Urbanist Jan Gehl refers to the most obvious or easiest to manifest affordances as 'invitations'[46].

Affordances and invitations also incorporate the idea of a complementary relational dynamic between an individual and their environment[47]. This dynamic eliminates the subject-object dichotomy in a similar manner to the concept of enabling places [48]. However, unlike enabling places, affordances and invitations can have both positive and negative implications for the individual.

Place as Negative: Isolation, Dislocation, Nostalgia, and Solastalgia

There are also veins of theory that frame the impacts of place as explicitly negative, although these are less prevalent than those that frame places as positive. The previous definition of place as specific location in space which has become memorable and meaningful could quite easily describe something harmful, such as a particular space associated with a negative meaning or memory. There are several terms which describe various kinds of negative places or negative place-associations: *isolation*, *dislocation*, *nostalgia*, and *solastalgia*.

Isolation has always been both social and spatial, and "assumptions about what behaviour belongs in which particular places" result in the separation of individuals and/or actions that are deemed 'lesser than', dirty, diseased, or deviant from the rest of society[49]. As stated by Richard Symanski, quoted in Draus *et al.*, "[f]or two thousand years one of the state's primary methods of coping with the visible manifestations of an immoral landscape - socially defined - has been zoning": controlling the social environment spatially[50]. Whether the stigmatized 'other' is subjected to exclusion (from mainstream society) or inclusion (labelled as belonging to a particular group) and dispersed (sent to an exterior spatial condition, exiled, removed) or concentrated (confined to an interior spatial condition, detained) is dependent on which examples are being examined and from which perspectives[51]. Regardless, isolation as the spatial management of the social realm frequently involves physically moving or dislocating individuals or entire groups. This kind of spatial management is clear in the history of PSU (problematic substance use) recounted in Chapter 1.1.

Beyond the common usage of being out of place or displaced, dislocation has been defined in several different ways. Psychologist Bruce Alexander, who conducted the Rat Park study, uses the term in an explicitly social sense to describe individuals who have poor, damaged, or broken social relationships[52]. He sets dislocation in contrast to 'psychosocial integration', a term borrowed from E. H. Erikson to describe individuals who have positive relationships with those around them. B. Alexander posits that individuals do not function without a wider social context[53]. Conversely, G. M. Breakwell defines dislocation with reference to individual identity, as when a "previous location becomes irrelevant because the related aspects of identity are no longer salient" after a relocation[54]. Although B. Alexander's definition is not socio-spatial, the examples that he gives of dislocation are. From the colonization of indigenous Canada to Orcadian fur traders in the Canadian north, B. Alexander's examples are highly spatialized, echoing Breakwell's overtly socio-spatial definition[55]. A key difference between the two definitions is that Breakwell's use of the term considers previous location (that was dislocated from) to become less important to an individual's identity over time, whereas in Alexander's definition the original location remains important. A third option, that Breakwell posits as an alternate to her definition of dislocation, is for a previous location to become more important to identity after a move[56], in ways that echo the concept of nostalgia.

Nostalgia was originally considered a 'place-based distress': a potentially fatal psychosomatic condition defined as "the melancholia or homesickness experienced by individuals when separated from a loved home"[57]. More recently, however, the term has taken on positive connotations of a sense of home and is considered to provide "positive sentimental attachments to a real or imagined past" that are a psychological resource in the present[58].

As described above, the concepts of dislocation and nostalgia (particularly in its original definition) both refer to negative impacts that occur when individuals or groups move between places, and the concept of isolation also has a strong, although not absolute, implication of movement. The term solastalgia, however, conceptualizes the distress that can occur without any physical displacement whatsoever when a place changes more substantially and rapidly than an individual is able to cope with[59]. Glen Albrecht coined the term in 2005, building on the early definition of nostalgia. Although initially proposed to in response to the environmental degradation resulting from open-cut mining[60], it has since been expanded to refer to a broad range of negative environmental shifts, including disease epidemics and climate change[61]. Subsequent research has supported solastalgia as a framework for understanding the impact of rapid environmental change[62], with one study finding that "individuals from [mountaintop removal coal mining]-active zip codes in Kentucky had 37% higher odds of accruing a depressive disorder diagnosis and 41% higher odds of being designated with a substance use disorder"[63]. In the wider context of this thesis it is important to note the connections that are already being made between the negative connotations of place and PSU.

Place and the Land in Indigenous North American Cultures

The literature discussed thus far has primarily focused on place in a Western worldview, yet the concept of place has a deep resonance with many Indigenous North American epistemologies (worldviews, or ways of knowing). The 'Native' or 'Indigenous' worldview as described by Cajete[64] encompasses the cosmologies of the first peoples of North America and is set in contrast to the 'Western' (European-derived) worldview. Use of the terms 'Native', 'Indigenous', and 'Western' will follow this definition. These Indigenous cosmologies are all strongly grounded in place, often referred to as 'the land'[65].

In an Indigenous worldview, it is understood that every entity of the natural world has "its own expression and way of the Spirit" and is a living soul, "an alive and ancestral entity"[66]. This base understanding leads to a sense of responsibility to the land and a profound awareness of the interrelatedness of all things[67]. For the Indigenous nations inhabiting a particular landscape, each entity who is part of their context also has a role in their creation story and/or an associated ceremony or teaching. These stories, ceremonies, and teachings are continuously spoken and performed in acts of active remembrance[68]. Thus, the landscape is full of places: "personal and tribal history made visible"[69].

Within these overarching similarities, the worldview of a particular Indigenous nation will, unsurprisingly, have more or less extensive differences from the worldviews of those around it. Locally, the province of Ontario is home to First Nations from three primary language groups: the Haudenosaunee (also called the Iroquois or the Six Nations), the Anishinaabe (Ojibwe/ Powawatomi), and the Nehiyawak (Cree). The Haudenosaunee are known as the people of the Longhouse (Figure 44), while Anishinaabe and Nehiyawak share closely related cosmologies (Figure 45 and Figure 46 respectively) centred around the Medicine Wheel[70]. The Medicine Wheel is both a conceptual and physical place which concisely makes visible the complex relationships between all things, roots all aspects of Anishinaabe and Nehiyawak life, and is explicitly reflected in the architecture of these nations[71].

The Medicine Wheel is visibly reflected in the plan and structure of both Anishinaabe and Nehiyawak traditional dwellings: domed or conical circular structures built around a central fire (Figure 47). The connection between cosmology and architecture goes even deeper than this, however, with the entire process of construction performed as active remembrance. Offerings of intention are made to begin the process, offerings of thanks are made as materials are collected, and the teachings of the dwelling are recounted as it is constructed[72]. Thus, the dwelling is not simply a shell to be filled with memories later, but is a place imbued with meaning and collective identity from the outset.

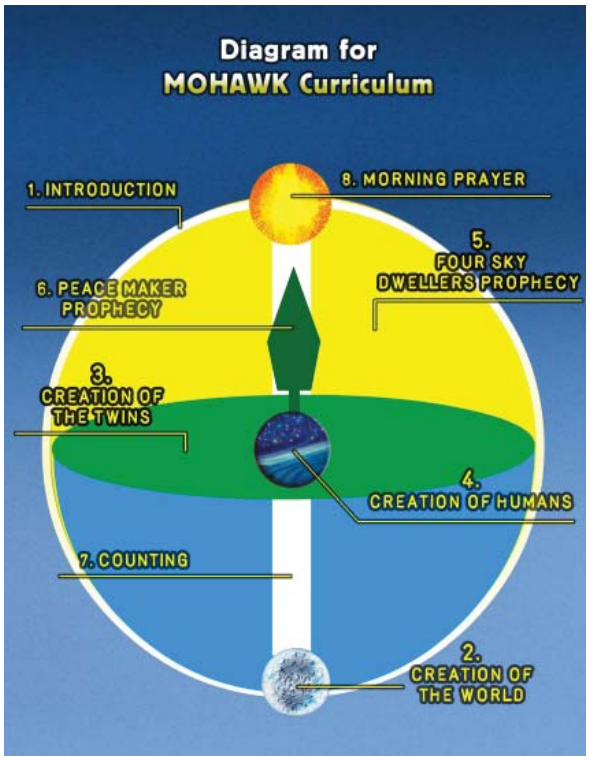

Figure 44 | Haudenosaunee Medicine Wheel

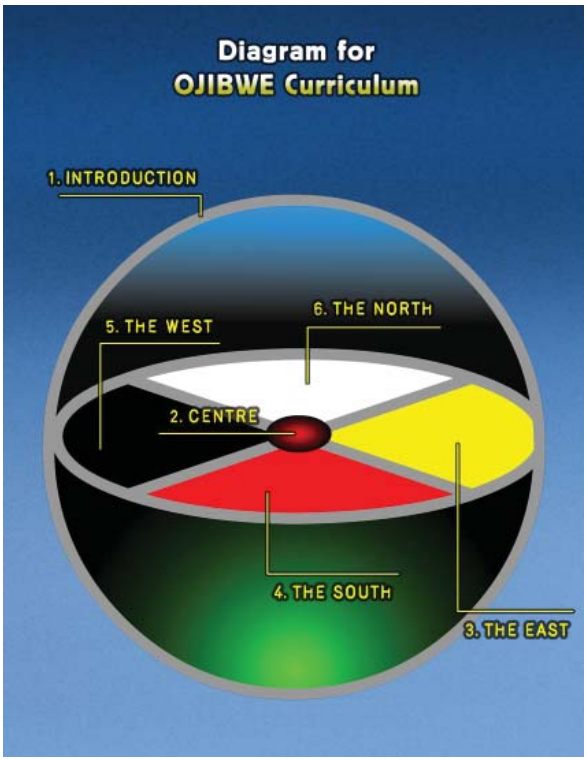

Figure 45 | Anishinaabe Medicine Wheel

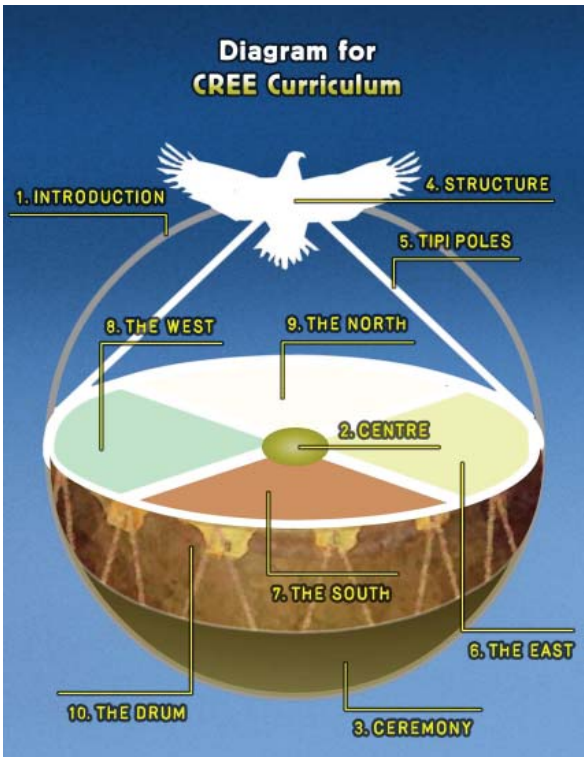

Figure 46 | Nehiyawak Medicine Wheel

Figure 47 | Nehiyawak Encampment

Place and Space in Architecture

Of the place-associated terms outlined thus far, only a few have entered into architectural discourse or been applied to building design. Fairly recent examples include application of the concept of salutogenesis to healthcare architecture[73] and architecture for psychiatric care[74], Golembiewski's application of spatial affordances to schizophrenia treatment[75], and Townshend & Robert's use of affordances in analyzing young people's use of public parks[76]. The concept of therapeutic landscapes has also been applied to healthcare design and building processes[77].

The broader concept of place has been explored within architectural discourse, but to a lesser extent than in human geography literature. A key source is Dolores Hayden's *The Power of Place*[78], which draws from phenomenology[79], environmental psychology[80], human geography[81], feminist geography[82], and philosophy[83] to highlight the importance of spatializing the histories of marginalized populations within the urban landscape of Los Angeles. Another source is David Canter[84], who examines place from the perspective of an architectural psychologist. Canter studies environmental perception and cognition, and establishes methodologies with which to identify and organize 'places'. Christian Norberg-Schulz, architect and theorist, is a third key source. Within a larger theory of space, he defines places as "goals or foci where we experience the meaningful events of our existence … points of departure from which we orient ourselves and take possession of the environment"[85].

Beyond investigating the concept of place itself, architectural writers also conceptualize the purpose of architecture in ways that echo definitions of place from human geography. Just as Tuan postulates that "identity of place is achieved by dramatizing the aspirations, needs, and functional rhythms of personal and group life"[86], Norberg-Schulz connects identity directly to

architecture and the built environment, asserting that, "[a]ny society necessarily has a particular 'structure' which should find a corresponding physical frame", and that architectural space is the "concretization" of a shared image of our environment[87]. Architect Juhani Pallasmaa arrives at a strikingly similar phrase when he defines the task of architecture as "to create embodied and lived existential metaphors that concretise and structure our being in the world"[88]. The idea that "emotions are often experienced, made understandable, and symbolised in architecture" also occurs in human geography[89].

Space and Henri Lefebvre

Returning to the working definition of place given at the beginning of this chapter, *place is a specific location in space which has become memorable and meaningful*, reveals a second term that needs to be defined: space. There is significant body of architectural theory which revolves around definitions of space, explored in detail by Norberg-Schulz' book, *Existence, Space & Architecture*[90]. Broadly, writing and discourse on space and place in architecture draws from philosophers such as Henri Lefebvre, Michel Foucault, Gaston Bachelard, Maurice Merleau-Ponty, and Martin Heidegger.

Regarding the importance of space, Norberg-Schulz quotes Merleau-Ponty, who in turn is channelling Heidegger: "space is one of the structures which express our 'being in the world': 'We have said that space is existential; we might just as well have said that existence is spatial' "[91]. And quoting psychologist Jean Piaget: "Space is therefore the product of an interaction between the organism and the environment in which it is impossible to dissociate the organization of the universe perceived from the activity itself'…space forms a necessary part of the structure of existence"[92]. This echoes the dynamic relationship between self and space and collapse of the subject-object divide articulated by Duff and Gibson.

Lefebvre in particular is seen as a key source of architectural thought on the theory of space; in the process of writing this thesis, the author received multiple recommendations to examine Lefebvre's writings. Similarly to Norberg-Schulz, Lefebvre saw space as an inseparable part of human existence, "a complex social construction that affects social and spatial practices and perceptions"[93]. However, where Norberg-Schulz ultimately saw space as structuring existence, Lefebvre contended, similarly to Piaget, that "[s]pace is not external to our bodies … but rather generated by them"[94]. Furthermore, Lefebvre argues that "social relations 'have no real existence save in and through space. *Their underpinning is spatial*' "[95].

This second assertion, that social relations are inseparable from spatial relations, in combination with his first assertion that space is generated by our bodies, leads Lefebvre to conclude that "(Social) space is a (social) product"[96]. Echoing Norberg-Schulz's contention that "architecture is a human *product* which should order and improve our relations with the environment"[97], space, in Lefebvre's understanding, space "encourages and discourages certain forms of interaction and gives form to social structures and ideologies": reciprocally shaping and shaped by social relations[98].

Lefebvre describes "three moments of social space": spatial practice, representations of space, and representational spaces, which are also known, respectively, as perceived, conceived, and lived space[99]. Perceived space is physical, material space, while conceived space is how we draw, write about, think about, and conceptualize space in order to communicate about it[100]. The third 'moment', lived space, is defined as "space as directly *lived"* and experienced, with all its meanings and symbolism[101]. Without using the term 'place', Lefebvre proposes a reciprocal set of psycho-socio-spatial relationships that mesh neatly with place and place-associated concepts outlined above.

Placelessness

One aspect which has been significantly undertheorized in both architecture and geography, however, is whether the term *placelessness* (that is, being no place or having no place) is a valuable contrast to the concept of place. Linguistically this duality makes sense, but within existing theory it is unclear what placelessness describes and there are serious reasons to doubt that humans can experience a state of placelessness at all.

There is significant agreement among the writers quoted above that space is inextricable from being, and that an individual can not experience *spacelessness*. As summarized by Canter: "One cannot be a subject of an environment, one can only be a participant"[102]. The question then becomes whether a space can lack the meaning and memorability necessary to make it a place. On this, theorists are divided; for example, Hayden critiques Relph's use of the term as simply describing a bad place, and Lefebvre sees meaning and symbolism as an inextricable part of space as directly lived[103]. It is also worth noting that all the place terms with negative connotations outlined above are associated with spatial exclusion or change rather than ongoing inhabitation of a consistent space.

Taking Lefebvre's interpretation in combination with the fact that most (if not all) concepts of place as negative are related to change or exclusion indicates that what is perceived as placelessness in others is actually experienced in the self as repeated relocation, possibly chosen by but more often imposed on an individual or group. Therefore, it may be more useful to consider an opposition of negative and positive place rather than of place and placelessness.

Clearly this chapter has outlined how place can be considered positive, ambivalent, or negative and has been strongly linked to individual and collective memory and identity and, when given negative connotations, with PSU. Furthermore, place theory in human geography echoes writing on place and space in architectural discourse, and architectural concepts of space, drawn from philosophy, mesh with place and place-associated concepts. Finally, the contrast of negative and positive place is found to be a more useful contrast than that of placelessness and place. However, this chapter has yet to explore the process by which space becomes place.

Placemaking: How Space Becomes Place

Given the definition of place as a specific location in space which has become memorable and meaningful, it is fairly obvious that place*making* is then "the process by which a space in a location is made meaningful to an individual or a group of people"[104]. This implies a level of interaction; a process of use and appropriation: as "[w]e personalize objects [and spaces], or as these objects [and spaces] age under our care, they acquire special properties"[105]. Thus, the definition of place given at the beginning of the chapter can be extended:

Place is a specific location in space that has become memorable and meaningful, made by those who interact with that space.

This definition allows for both positive and negative connotations of place (see Figure 48). Interactions such as caretaking, creation, and personalization of spaces, as well as experiencing positive events in certain spaces, will lead to the creation of positive places, while negative interactions such as exclusion, rapid and/or massive environmental change, relocation, and the experience of traumatic events will create negative places.

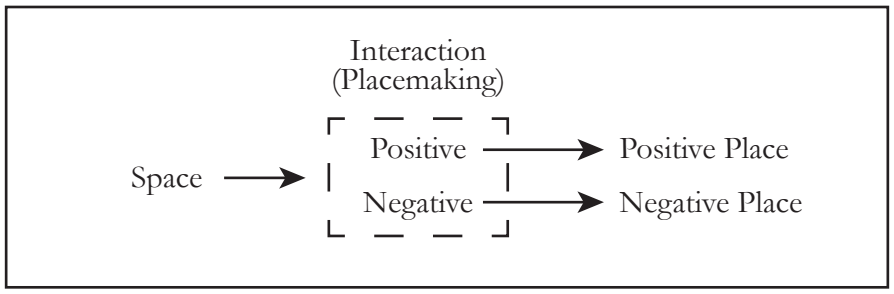

Figure 48 | Placemaking can lead to both positive an negative connotations of place.

Participatory Design as Placemaking

An area of architecture theory and design where a process of placemaking (with the intention of it being positive) has been developed and implemented is that of *participatory design*. Participatory design is a process whereby the eventual occupants of a building give intensive input into the design of the building. This differs from current methods of designing and building in Canada (and the Western world more broadly), where the client is often a developer rather than the building's eventual occupants and where the design process has become the purview of a series of professionals. This largely eliminates the ability of the general population to participate in their built environment on more than a superficial level (such as paint colours, furniture, etc.).

Participatory design is, as noted above, far from the only method by which placemaking may be achieved, However, it is powerful one. According to architect Ranjith Dayaratne, who studied housing development in Sri Lanka [106], the best way to create a built environment that effectively mediates complex, subtle social relationships is to consider architectural plans as negotiation tools and allow the "dwellers themselves … to be the main actors of any healthy placemaking process"[107]. This has strong parallels to Indigenous practices of active remembrance, where involvement in the dynamic process of making is as important to the outcome as the final form of the building. Christopher Alexander also proposes a similar process in his 1979 book *The Timeless Way of Building*. To C. Alexander, people need to be able to negotiate and understand a collective spatial language. Furthermore, they need to use that language to participate in the creation of the built environment in order to create a healthy built environment and healthy societies[108].

Participatory design alters the role of the architect from the sole expert to "an enabler and supporter of people's own processes", integrating the professional knowledge of architects with the personal-level knowledge of those who will occupy the spaces [109]. It is difficult to evaluate precisely how widely such participatory design methods are currently applied, as there is not a depth of research available in this area[110]. However, Dayaratne's studies strongly suggests that participatory design is an important method of achieving placemaking.

Summary: The Concept of Place is Persistent, Pervasive, and Scientifically Supported

It is evident is that, despite its complexity, the concept of place, defined as *a specific location in space that has become memorable and meaningful, made by those who interact with that space,* has consistency and continuing resonance across time and between disciplines (including philosophy, psychology, neuroscience, architecture, and human geography). Place has been validated as a framework that bridges multiple scales cohesively to describe positive, negative, and ambivalent relationships between human wellbeing and the physical environment, while the contrast of negative and positive place is found to be a more useful contrast than that of placelessness and place.

Furthermore, connections are already being made between negative connotations of place and the literature around PSU (problematic substance use): solastalgia has been correlated with increased rates of PSU, while the concept of dislocation is proposed to play a key role in the etiology of PSU as a maladaptive coping mechanism.

Overall, the evidence summarized in Chapter 1.3 and this chapter's literature on place complement each other well. Chapter 1.3 described the significant and growing evidence that the built environment plays an important role in human wellbeing, much of which relates to tangible design moves and elements of the built environment at multiple scales that are known to promote wellbeing. However, this evidence was found to be poorly integrated between sources and across scales. By contrast, literature on place summarized in this chapter is strongly integrated across scales, yet lacking in tangible suggestions for how the concept could be used to improve the built environment. Therefore, before exploring and expanding on the connections between place and PSU in Part 2, the Chapter 1.5 will propose an integration of the literature on wellbeing and the built environment and the literature on place.

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[A] true functionalism could develop, depending not upon what architects believe human beings should feel about the design of buildings, but upon the perceptions and needs of actual human beings under the many differing conditions of their existence.

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1.5

Place as a Cross-Disciplinary Framework

Place was defined in Chapter 1.4 as *a specific location in space that has become memorable and meaningful, made by those who interact with that space,* and the concept has been found to be applicable wide range of situations, including PSU (problematic substance use). There have been important attempts at a definition of the constituent parts of place, but so far none of these has given a clear, practical answer. Conversely, research from the practicing spatial disciplines of architecture, urbanism, and planning has generated ample practical examples of ways the built environment can be used to improve wellbeing, but lacks an overarching framework to provide cohesion. This chapter proposes that, by merging both areas of research, it is possible to define a clear set of elements and principles that make up place and define place as a practical, cross-disciplinary framework, for understanding the role of the built environment in wellbeing.

Building the Framework

A key starting point in building an integrated framework is the concept of affordances, namely that the built environment provides or suggests one set of potential actions or interactions, precluding or hindering others[1]. For example, a park bench affords both the ability to sit and the ability to lie down, unless arm rests are installed in the middle. This eliminates the possibility of lying down comfortably, and is a hostile architecture strategy used to discourage individuals from sleeping overnight. Affordances based in physical determinism have been fairly well understood through the early study of environmental psychology and evidence-based design[2]. In addition, however, there are also relational affordances, that include "social, cultural and psychological meanings" and differ between individuals, communities, and cultures[3]. To return to the previous example, the installation of arm rests in the middle of park benches has greater implications than simply whether or not a person can lie down on them; it communicates a value judgement, claiming the space for certain types of people and excluding others. This kind of affordance is difficult to define because of its variation across cultures and over time, but it is no less important. A cross-disciplinary framework of place must have room for both deterministic and relational affordances, and be equally clear about both.

As identified in Chapter 1.4, a corollary to grounding the concept of place in the built environment is that the idea of 'placelessness' is not a productive concept[4]. The built environment by definition exists in space, and always contains some kind of meaning (even if that meaning is a negative one such as alienation, boredom, or hostility).

Setting aside the idea of placelessness in the current discussion, the next step towards describing a framework of place is to intersect the concept of place with Antonovsky's concept of health as a spectrum and his description of a sense of coherence [5]. Chapter 1.4 has already shown that place is a factor that either contributes to or detracts from wellbeing; therefore, in the new framework place can be thought of as either a GRR (generalized resistance resource), place-positive, or as a stressor, place-negative. Overlaying these on the same spectrum as Antonovsky's health continuum (Figure 49), place-negative is aligned with dis-ease while place-positive is aligned with ease and wellbeing.

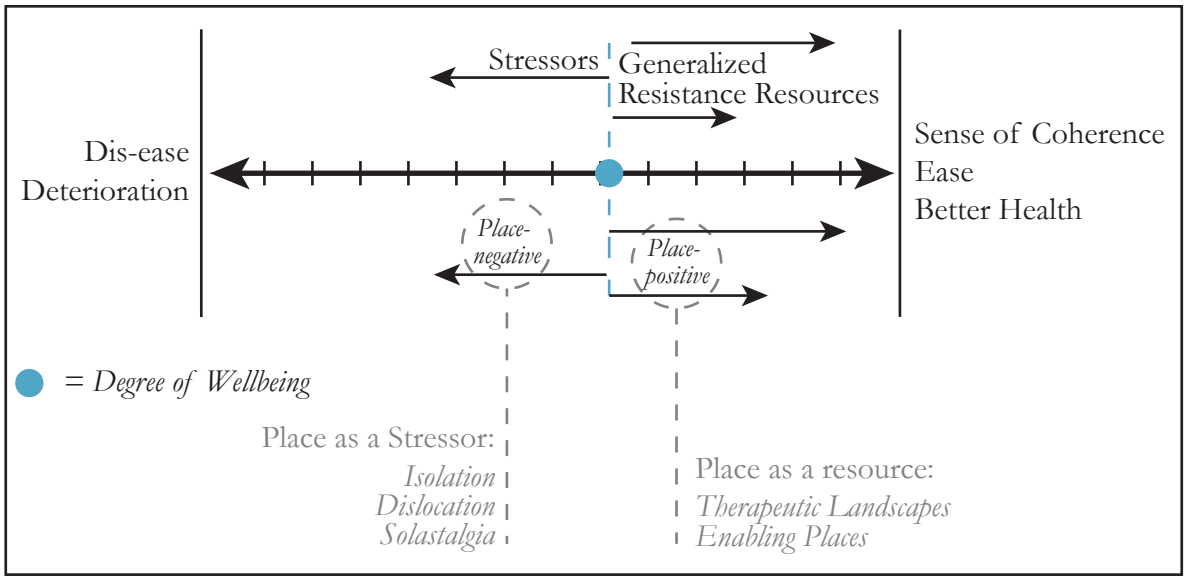

Figure 49 | Antonovsky's Wellbeing Continuum Applied to Place

In the same way that GRRs contribute to ease and stressors to dis-ease, positive or salutogenic elements of a place contribute to ease while stressor elements contribute to dis-ease. This allows for individual places to have multiple contradictory effects, such as those places which have an overarching negative meaning and yet still provide positive resources when examined on an everyday scale[6]. This intersection also adds 'space' as a resource-containing category to Antonovsky's definition of GRRs (in red, see Figure 50).

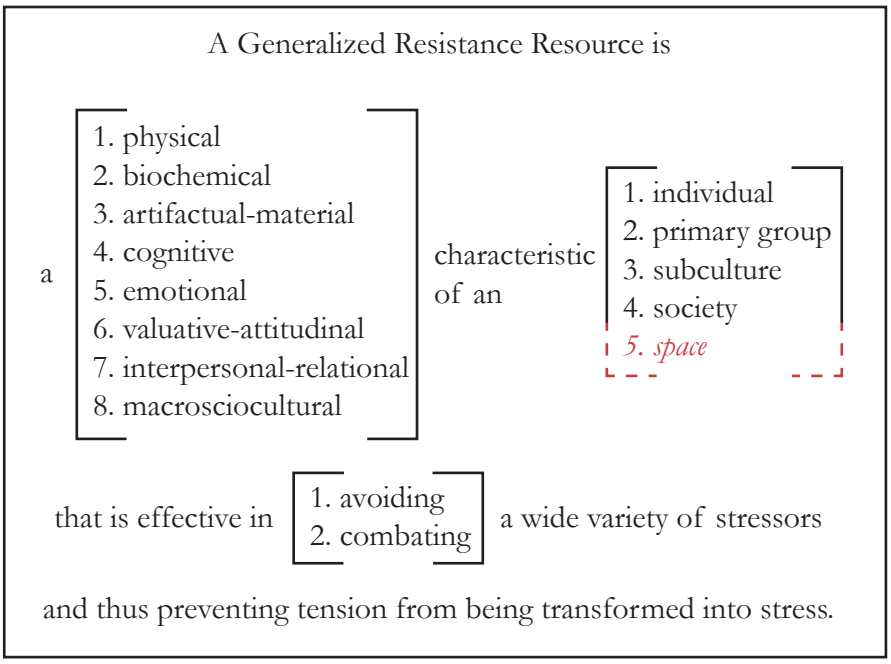

Figure 50 | Mapping Sentence Definition of Generalized Resistance Resources with Space Included

Based on the existing literature described in Chapters 1.4 and 1.3, it is possible to identify several elements of a place that shift it more toward place-positive than place-negative. These elements can be summarized in the following eight points:

Place-positive…

1. Frames collective identity[7]
2. Orders a worldview[8]
3. Is sociopetal[9]
4. Frames individual identity[10]
5. Links past and present[11]
6. Organizes daily life[12]
7. Allows control over the physical and social environment[13]
8. Provides resources necessary for daily life[14]

These eight points contributing to place-positive can then be grouped under the three components that, according to Antonovsky, define a sense of coherence. This results in a detailed, comprehensive definition of the properties of a salutogenic built environment (Figure 51, first two columns).

However, these properties are still at a conceptual level, rather than constituting physical, spatial principles or tactics that can be utilized to design and build salutogenic homes, neighbourhoods, and cities. To achieve this, specific design principles found in Chapter 1.3 need to be integrated into one or more of the eight properties of place-positive. During this integration process, the author found it helpful to first group the eight properties into five themes (Figure 51, column three): Connection, Continuity, Order, Efficacy, and Support. These themes mesh with Antonovsky's three elements to define a sense of coherence in a more specifically spatial, self-reinforcing way (Figure 52).

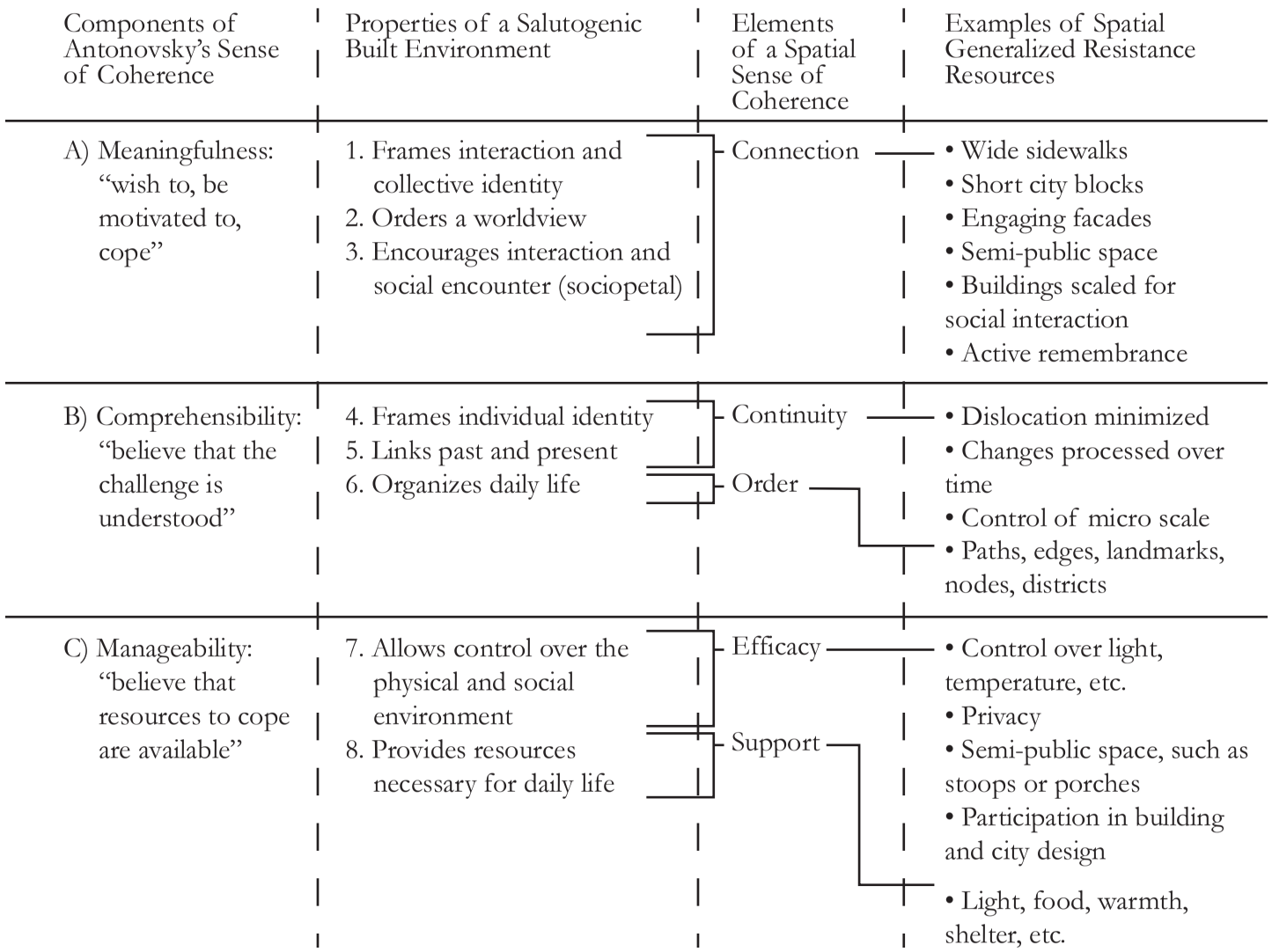

Figure 51 | Cross-disciplinary Framework for Understanding the Impact of the Built Environment on Wellbeing

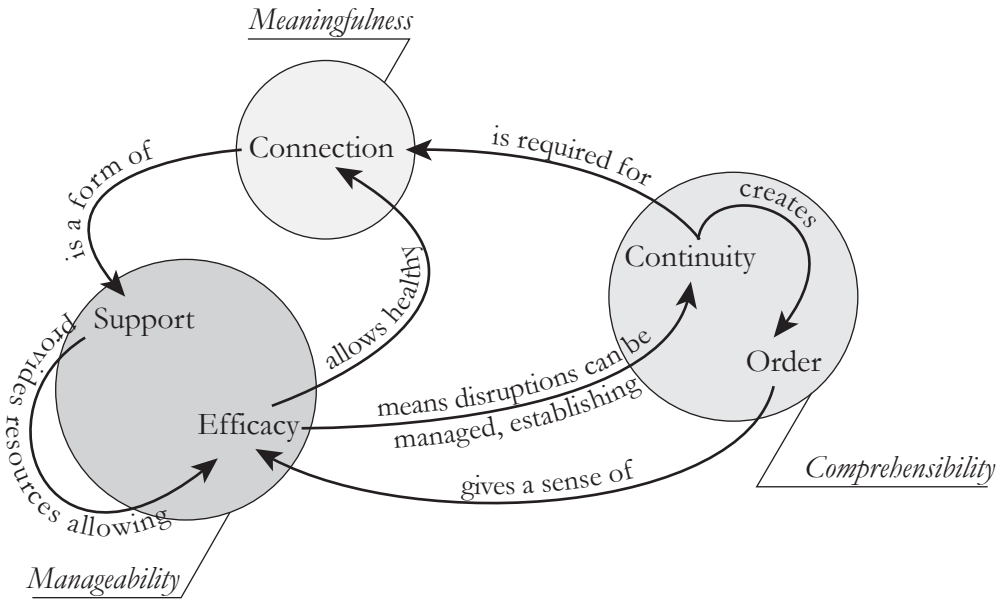

Figure 52 | Self-Reinforcing Spatial Interpretation of Antonovsky's Elements of a Sense of Coherence

Place as a Cross-Disciplinary Framework

Bringing all of these elements into Figure 51 results in an integrated understanding that connects health and the built environment and spans from theory into practice. Therefore, when analyzing a place, renovating, or designing anew, designers and researchers can now ask if these elements are present or absent, and furthermore identify if there is a particular category that is stronger or weaker. The more elements that are present, the more a given place is on the place-positive end of the spectrum, salutogenic, and contributing to wellbeing.

Crucially for the focus of this thesis, the framework provides an integrated practical and conceptual basis on which to build an understanding of the role of the built environment in the etiology and treatment of PSU (problematic substance use). Chapter 1.1 showed that throughout the history of PSU there has been a consistent spatial undercurrent in both etiology theories and treatment practice. Chapter 1.2 explored the generally accepted yet shallow way that the built environment is understood to intersect with PSU. Chapter 1.3 summarized the ways that practicing spatial disciplines currently understanding the impact of the built environment on wellbeing, and Chapter 1.4 introduced place as a strand of theory that conceptualizes that impact from multiple perspectives and across multiple scales. Finally, the current chapter integrated the evidence and theory from Chapters 1.3 and 1.4 in order to create a cross-disciplinary framework of place for understanding the impact of the built environment on wellbeing. Next, Part 2 of this thesis reviews the literature at the intersection of place and PSU to more deeply understand the role of the built environment in the etiology and treatment of PSU.

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Part 2 | Literature Review

Connecting Place and Substance Use

2.1

Summary of Part 1

Chapter 1.1 | Spatial management is a consistent undercurrent throughout the history of problematic substance use etiology and treatment. The currently accepted 'medical model' ignores this undercurrent and does not adequately explain other documented characteristics of problematic substance use. Models that consider problematic substance use to be a maladaptive coping mechanism fit the evidence better. These models hint at a role for the built environment but leave it virtually unexplored.

Chapter 1.2 | The accepted intersection of the built environment and problematic substance use is the architecture of addiction treatment. In this case, the built environment is a silent partner following treatment philosophies or moral judgements in an unconscious way. To gain a deeper understanding of the connection between the built environment and problematic substance use, Chapters 1.3 and 1.4 summarize the literature that addresses the connection between the built environment and general wellbeing.

Chapter 1.3 | Research-backed understandings of the impact of the built environment on wellbeing are a relatively recent development in the practicing spatial disciplines (architecture, urbanism, and planning) but are substantial and mesh with neuroscientific discoveries about how human perception functions. However, individual discoveries in this area are not well integrated with one another.

Chapter 1.4 | The concept of place is used in human geography to understand the impact of the built environment on wellbeing. Place is found to play a key role in identity and memory on both the individual and societal scales. As a concept it is well-integrated and cohesive but lacks suggestions for practical implementation.

Chapter 1.5 | The literature from Chapters 1.3 and 1.4 is combined with Aaron Antonovsky's Sense of Coherence, resulting in a framework of Place for understanding the impact of the built environment on wellbeing. The framework is both practical and cohesive, and is utilized in Part 2 to review the existing literature at the intersection of place and problematic substance use.

The ubiquity of disruption or change [of use patterns] in times of relocation, we would argue, clearly illuminates the indivisibility of spatio-temporalities from patterns of drug use.

—Ella Dilkes-Frayne, Suzanne Fraser, Kiran Pienaar, and Renata Kokanovic, "Iterating 'addiction': Residential relocation and the spatio-temporal production of alcohol and other drug consumption patterns"

2.2

Literature Review: Understanding the Role of Place in Problematic Substance Use

Thus far, Chapter 1.1 and 1.2 have indicated that there may be a role for the built environment in the etiology and treatment of PSU (problematic substance use). Chapter 1.3 and 1.4 summarized current understandings of the role the built environment plays in wellbeing more generally, finding a small number of sources that indicated connection between concepts with negative *place* connotations and increases in rates of PSU. Finally, Chapter 1.5 integrated the evidence from Chapters 1.3 and 1.4 into a framework of place capable of bridging theory and practice. In order to reveal the extent of the connection between the built environment, using the framework of place, and PSU, this chapter reviews the existing literature at the intersection of the two.

Method

In attempting this review, the author encountered the same initial problems as others when researching place: namely that "simple phrase searches for [place and sense of place in databases] …did not yield any relevant or meaningful hits"[1]. However, a study by Lengan & Kistemann[2] was able to overcome these problems by applying an open coding analysis to four key works on place, resulting in the identification of several dimensions of place that returned relevant hits in ScienceDirect's neuroscience database (see Figure 53 and Figure 54). The author of this thesis repeated Lengan & Kistemann's search in ScienceDirect's Pharmacology, Toxicology, and Pharmaceutical Science database as the first step in a process of identifying key words that linked place and substance use.

This initial search returned 4812 matches, which, when limited by topics was reduced to 184 articles. The author examined the titles and abstracts of these articles to evaluate their relevance and selected eight for further study (see Figure 55). In order to conduct the final search for this literature review, the keywords indicated for each article were compared in order to identify words and phrases shared by multiple articles. While the term *solastalgia* was not among the shared words and phrases, it was also included upon recommendation from the thesis supervisor, as it conceptualizes a loss of place.

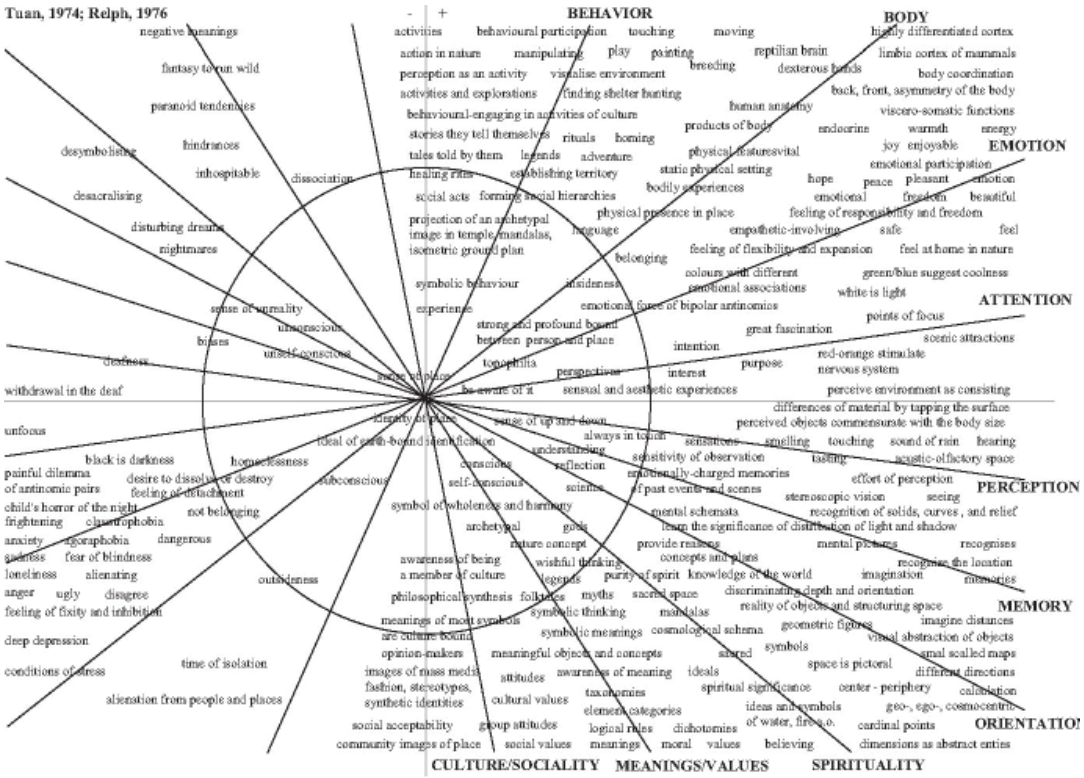

Figure 53 | "Phenomenological sense of place/place identity model developed based on Tuan (1974) and Relph (1976)."

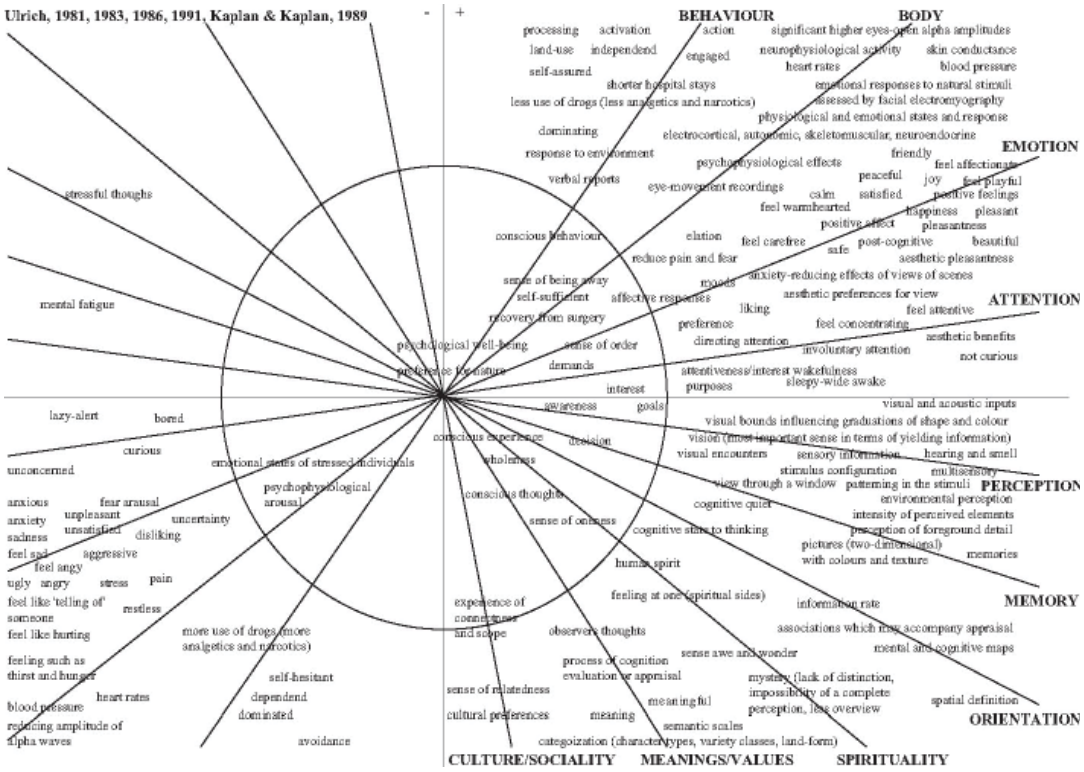

Figure 54 | "Phenomenological sense of place/place identity model developed based on Ulrich (1981, 1984, 1986) and Kaplan and Kaplan (1989)."

Search Terms	Matches	Limited by Topic	Limited Matches	Relevant	Repeats	Final Articles Included
Attention and place	296	Drug *note: 1 article excluded by topic limitation re-added*	16	2	0	2
Perception and place	136	Drug, cocaine, alcohol	11	0	0	0
Image and place	295	Drug, needle	0	0	0	0
Memory and place	285	Memory, cognitive	13	0	0	0
Orientation and place	76	*No useful results*	0	0	0	0
Spiritual* and place	1	--	1	0	0	0
Meaning* and place	65	Drug, harm reduction, aboriginal	7	3	0	3
Value* and place	929	Drug, morphine, place	66	1	0	1
Cultur* and place	443	Drug, culture, alcohol	30	5	3	2
Societ* and place	163	Drug	8	1	1	0
Body and place	947	Drug + addiction	1	0	0	0
Behaviour OR behavior and place	1158	Drug + behavior, cocaine, abuse, abuse potential; place preference; morphine + place preference, behavior; alcohol + social, social behavior; behavior + treatment	13	0	0	0
"Therapeutic landscapes"	4	--	4	0	0	0
Salutogen*	14	--	14	1	1	0
Total Matches	4812		184			8

Figure 55 | Initial search conducted in ScienceDirect's Pharmacology, Toxicology, and Pharmaceutical Science database to identify keywords.

The resultant search term was: **((salutogenesis OR "enabling places" OR "socio-spatial relations" OR "therapeutic landscape" OR solastalgia) AND (addict* OR "substance use" OR drug* OR alcohol OR "substance abuse" OR "substance misuse"))**, which the author searched in JSTOR, PsycNet, Scholars Portal, Web of Science, Science Direct, and Google Scholar, as well as two architectural databases: Avery and the RIBA British Architectural Library Catalogue. However, this search returned no relevant hits from the architectural databases, so those databases were re-searched with the less specific term **((place OR "sense of place") AND (addict* OR "substance use" OR drug* OR alcohol OR "substance abuse" OR "substance misuse"))**.

Database:	**Modifications to Part 1 of Search Term**	**Modifications to Part 2 of Search Term**
JSTOR	--	--
Scholars Portal	Removed: Salutogenesis (returning too broadly in medicine unrelated to addiction), Solastalgia (returning too broadly in climate change).	--
PsycNet	--	--
Science Direct	--	Added: AND NOT (cancer OR melanoma)
Web of Science	--	--
Avery	Part 1 removed.	--
RIBA British Architectural Library Catalogue	Part 1 removed.	Added: AND NOT (Boots OR factory OR factories OR distillery OR distilleries OR plant OR "drug store" OR "drug stores")
Google Scholar	Removed: Salutogenesis (returning too broadly in medicine unrelated to addiction).	--
Total Matches		
Additional Articles Included:		
Early Searches:		
From Article Reference or Same Author:		
Total Articles Included		

Figure 56 | Final Literature Review Search.

This resulted in a total of 982 matches, including several duplicates. The author again examined the titles and abstracts for relevance and chose 64 to be included in the final review, as well as eight articles from early searches that had not appeared in the final searches and nine further sources either referenced in one of the 64 relevant matches or written by the same author, for a total of 81 sources (see Figure 56). Although smoking is not a focus of this review, and thus not searched for directly, tobacco is increasingly being considered a substance which is used similarly to other drugs. Furthermore, it is rapidly losing its status as socially acceptable, with stigma and associated marginalization still in the process of developing, offering a parallel example to the stigma and marginalization experienced by drug users; therefore, the few smoking-focused articles revealed by the search have been included[3]. Problematic gambling, however, is beyond the scope of this review and articles with this focus were discarded.

Limited By	**Matches**	**Relevant**	**Repeats**	**Final Articles Included:**
Included: English, articles, books, and research reports.	61	2	0	2
Included: Peer reviewed, arts and humanities, environmental sciences, health sciences, life sciences, medical sciences, social sciences.	85	13	0	13
Included: Peer reviewed.	26	8	1	7
Search in: Abstract/title/keywords.	25	7	6	1
Excluded: Oncology, urology nephrology, hematology.	88	17	10	7
Excluded: Book reviews.	399	12	0	12
--	108	8	0	8
Excluded: Hepatitis, cancer. Results sorted by relevance, pages 20 and greater excluded due to irrelevance.	190	31	17	14
	982	98		64
				8
				9
				81

Figure 56, cont.

Overview of Sources Reviewed

Research on place in relationship to substance use is an emerging field; of the resulting 81 sources, only one was published before 1990 and nearly half (49%) were published in 2012 or later. 60 of the sources contain primary research. Of these, nearly 20% (ten articles) studied Vancouver, Canada, and in particular Vancouver's Downtown Eastside (DTES). The next most-studied location was New York City, USA, appearing in five sources with primary research, followed by Melbourne, Australia. Interestingly, none of the sources studied so-called Skid Row in Seattle.

The authors of the 81 sources draw a broad range of expertise, including but not limited to medicine, sociology, psychology, ethnography, sexual health, epidemiology, and personal experience. Geography, urban studies, and planning are all represented, as well as a few authors with a background in architecture. Given that there are few architects publishing about the topic of place more generally, it is perhaps not surprising that they are in the minority when looking at the specific intersection of place and addiction.

There is a general sense in the sources reviewed that drug use (substances other than alcohol or tobacco) is inherently problematic; only nine articles do not take this stance [i]. There is also a lack of robust spatial representation in most of the articles; only a few contain maps or floor plans, and these tend to contain only a few elements.

Most of the articles draw their definitions of place from human geography, but through several different strands of theory: therapeutic landscapes and enabling environments[4], feminist analyses of space[5], geographies of survival[6], risk environments and social production of risk[7], solastalgia[8], and territorial stigmatization[9]. Duff utilizes Latour's Actor-Network Theory to put forward a new concept, enabling places[10], which in turn has been taken up by multiple researchers[11]. Several works merge human geography with philosophy, including Massey's feminist geography with de Certeau's spatial tactics[12], Butler's performative identity with Deleuze's spatial folding[13], Harvey's geographic place with Bourdieu's *habitus* and Antonovsky's salutogenesis[14], and geographic place more broadly with social space from Lefebvre and Foucault[15]. Others draw more directly from philosophy, including thinkers such as Phillipe Bourgois, Lefebvre, and de Certeau[16], Deleuze and Guattari[17], and Husserl[18]. Foucault's concepts of spatial governmentality and the spatialization of power appear in multiple papers[19]. Dilkes-Frayne[20] draws on work by Jayne *et al.*, Tempalski, Malins, and Vitellone for an understanding of geographic place, and combines it with Actor-Network Theory. Finally, Tran Smith *et al.* approach the concept of place from a unique direction, combining place-identity with narrative identity reconstruction[21]. Sources reviewed appear to represent several parallel strands of investigation, rather than a more integrated area of study.

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i *Bell, "Self, Meaning, and Culture"; Bocking," Making Friends"; Dilkes-Frayne, "Drugs at the Campsite"; Dilkes-Frayne et al., "Iterating Addiction"; Duff, "Assemblages of Drugs, Spaces and Bodies"; Fjær and Tutenges, "Departies"; McLafferty, "Placing Substance Abuse"; Reimer, "Pusher Street and the Theatre of Emergence"; West et al., Safe Havens and Rough Waters.*

Of these, three (Bell, Fjær and Tutenges, and West et al.) note dichotomous understandings of substance use where the general public perceives drug use as inherently problematic, while individuals using the drugs identify particular contexts where use is acceptable and even beneficial. Only one article (Dilkes-Frayne) frames drug use as primarily social and positive, investigating how substance consumption is intrinsically connected to the sociality and spatiality of music festivals.

Themes

Dirty vs. Clean

The association between substance use and dirtiness, particularly when the individual is also experiencing homelessness, is a theme which appears in more than 50% of the papers reviewed. The 'dirt' or 'mess' referred to is sometimes literal waste, such as urine, faeces, and discarded needles, but frequently the label is also extended to the bodies and identities of individuals who use substances[22]. Urine, faeces, and used needles are unpleasant and can pose health risks if incorrectly disposed of, but the activities of urinating, defecating, and consuming substances are, for the most part, not *inherently* dangerous; they are just "in the wrong place"[23], in the way soil is considered acceptable, even valuable, in a garden but called dirt inside a house. At its most basic, dirt is simply "matter out of place"[24].

Social otherness has always been inherently spatial, particularly so when the 'other' is considered dangerous, diseased, or immoral[25], and dirt in this context has a moral as well as physical dimension, linked since at least the 19th century "to the backwardness, filth and misery that plagued the working classes…the 'stench' of poverty and incivility" which cities try to eliminate[26]. In the context of smoking, Tan[27] also makes the same connection between 'filth' and the bodies of individuals, explicitly including olfactory cues (tobacco smoke in particular, but also 'foul smells' more broadly) as a mode by which 'dirt' may be defined. Following the relatively recent redefinition of smoking as a 'transgressive bodily practice' (and therefore, smokers as a stigmatized group), spatial marginalization has been enacted against smokers, through a transparent process of increasingly restrictive legislation[28]. This parallels the social, spatial, and legal processes that have been occurring in the context of substance use, particularly injection drug use, for decades (refer to Chapter 1.1 for an exploration of this history).

Extending the moral label of 'dirt' or 'dirty' to human bodies and identities is deeply problematic, not in the least because it sets up an oppositional, hierarchical binary. This clean/dirty hierarchy is employed by non-users to define themselves as separate from, and by implication better than, those who consume substances (or, in the case of alcohol, those who drink at acceptable levels from those who overconsume)[29]. The hierarchy is so pervasive that recovery, particularly when characterised as abstinence (as in the Treatment First process, see Chapter 1.1), is frequently labelled 'getting clean', with individuals defining their new, clean identity as totally separate from their old, dirty identity[30].

In the face of all this social invalidation, stigmatized users retain a positive sense of their own identity by distinguishing themselves from a subgroup of more dangerous, or 'dirtier' users, variously labelled "out of control"[31], "junkie"[32] or "smack head"[33]. In the same way that 'clean' non-users or ex-users separate themselves from 'dirty' users, the identity of the responsible user allows an individual (or group) to take "all the dirtiness, disease, deviances, dangerousness, laziness, and absence of will"[34] associated with their own substance use and transfer it onto another, more reprehensible group[35]. Tan[36] finds the same delineations occurring around smoking. In each instance, the separation is explicitly spatial as well as social, as stigmatized individuals work to construct a more positive place-identity for themselves; defined spatial areas, from the scale of an interpersonal interaction[37], to a bathroom[38], to an entire neighbourhood[39], are maintained as 'clean', or at least clean*er*[40], distiguishing between the responsible users and the 'junkies'.

One example on the scale of a neighbourhood is the differentiation between the Downtown South and DTES (Downtown Eastside) neighbourhoods in Vancouver, Canada (Figure 57). Both neighbourhoods are associated with substance consumption, but with explicitly different substances (crystal methamphetamine in the Downtown South and crack cocaine, injection cocaine and heroin in the DTES). Furthermore, substance use in the DTES is perceived as significantly more intense, 'out of control', and dangerous compared to substance use in the Downtown South, and a transition from spending time in the Downtown South to spending time in the DTES was seen as marking a significant deterioration in an individual's situation[41].

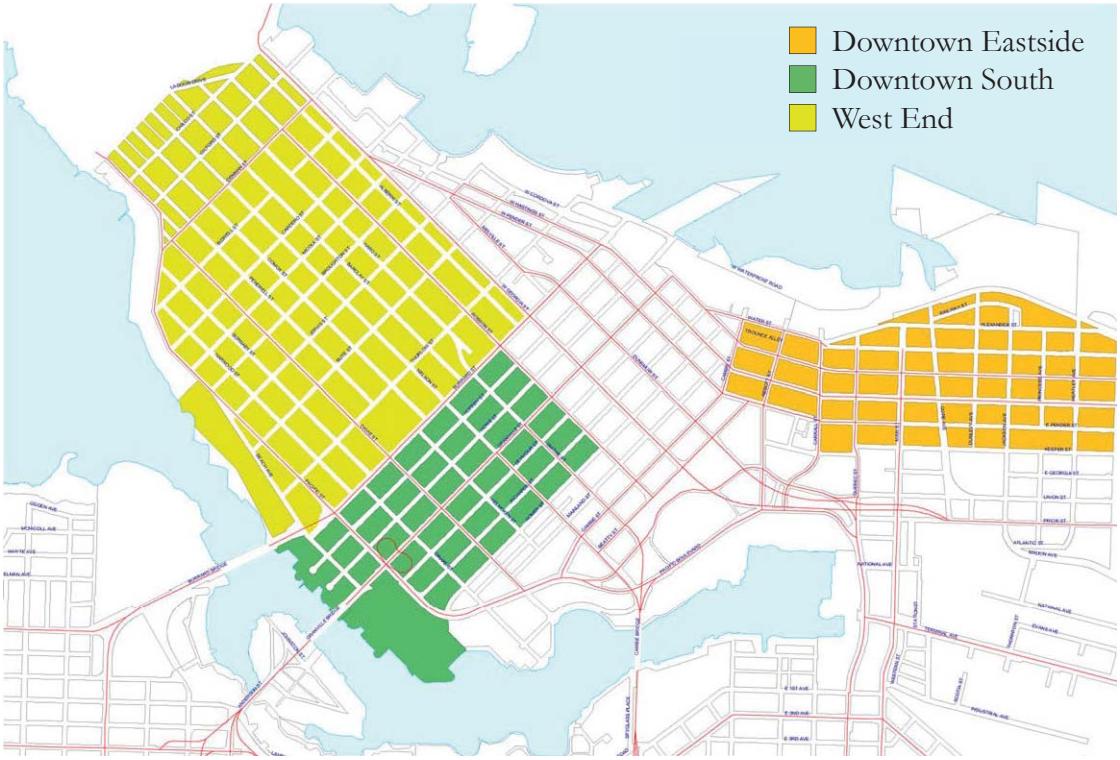

Figure 57 | Downtown South vs. Downtown Eastside, Vancouver, Canada

Defensive Placemaking, Embodied Exclusion, and the Homelessness Circuit

Although individuals (or groups) may work to construct a more positive place-identity in contrast to others around them, several sources have focused on the limiting aspects of a 'dirty' identity, including Davidson & Howe[42], Fast *et al.*[43], Malins *et al.*[44], McLean[45], McNeil *et al.*[46], Tempalski & McQuie[47], and Wardhaugh[48]. Their studies all demonstrate that the spaces substance users physically occupy, and the identities bound up in those spaces, "structure not only how people may live, but especially *whether* they may live"[49].

Despite their efforts to construct a cleaner identity, multiple studies found that the spaces occupied by the 'dirty' social outcast become dirty by association, and in turn contaminate the identities of all who occupy those spaces in the future[50]. This provokes what Davidson & Howe call defensive placemaking, namely:

> *deliberate efforts to carve out a 'separate' neighbourhood or enclave…and by doing so limit who can speak for the new space and hence what the material future of the new space will be… [through] induc[ing] the state and its agencies to exclude, remove, or at least repress and control a less-well resourced group of citizens*[51].

Drawing on Lefebvre's concept of (social) space as a (social) product, and Margaret Rodman's term 'rightful producers', Davidson & Howe argue that control over physical space is not simply control over physical resources, it "also confers control over the social relations produced by the space in question"[52] and thus drives processes of isolation: stigmatized individuals are only allowed to exist in 'other' or liminal spaces, therefore the presence of 'dirty' individuals in a 'clean' space is perceived as an attack on both the character or meaning of the space and on the identity of 'clean' individuals who occupy it or want to occupy it, leading to a contest over who are the space's 'rightful producers'[53]. This phenomenon explains how individuals or groups who reject the moral theory of substance use and understand the principles of harm reduction can still be virulently NIMBYist[54].

Again, this process has occurred more recently in the related context of smoking[55]. Prior to the 1950s, smoking was considered socially acceptable, and even promoted as healthy, but it is now considered a 'dirty habit', resulting in the enactment of "smoking bans…as a means of spatial purification, thereby leading to the exclusion of smokers in some public spaces"[56]. This process of perceived contamination and defensive placemaking in response, although a recent phenomenon in the context of smoking, has for decades impacted individuals who consume substances, limiting their access to prime spaces[57].

Beyond preventing marginalized groups from accessing a new place, generating a NIMBY reaction, defensive placemaking can ultimately lead to marginalized groups being pushed out of the places they previously occupied through processes of city cleaning, revitalization, and gentrification[58]. These spatial processes, from zoning to policing practices, represent the application of the adage 'the solution to pollution is dilution' onto human bodies and human lives; the 'dirt' is shifted, but the underlying problem is not addressed[59]. Consequently, for individuals who consume substances, "often places represent failure, threats, or feelings of not being wanted", resulting in low self-esteem[60].

Gesler[61] attributes these feelings of low self-esteem to a *lack* of place identity, rather than an embodiment of a stigmatized identity. However, as both Malins *et al.* and Goldhagen articulate (echoing Lefebvre as referenced in Chapter 1.4), it is physically impossible to not occupy space: the body is embedded in space, space is embedded in the body, and "when something happens in the world or in our minds, that 'something' is always *situated*, in our bodies, in a given time, and in place" [62]. This understanding of how humans perceive our world and our lives is termed 'embodied', 'grounded', or 'situated' cognition, and it aligns with the critique of placelessness made in Chapter 1.4: placelessness is a condition to inflict upon others, but it can never be experienced in the self[63]. Therefore, a lack of place-identity that Gesler proposed is simply not possible; instead, as both Tan[64] and Fast *et al.*[65] suggest, socio-spatial exclusion leads, not to a sense of placelessness, but to a hyper-awareness of spatial dynamics for individuals in marginalized groups.

For marginalized individuals, being deemed 'out of place' can not only mean being excluded *from* a particular physical space, but can also mean having their existence and worth invalidated when they *are in* a space, an experience termed 'embodied exclusion'[66]. Although they may perceive "themselves as embodying meaningful intersecting identities and experiences", others around them do not, and their embodied self-understanding is dismissed[67]. In Malins *et al.*'s study[68], one female participant, a homeless substance user, explains how this embodied exclusion impacts her life: several times previously she had been attacked when people were near enough to intervene, but no one did. For multiple participants in Carter *et al.*'s study[69], embodied exclusion meant that their access to health care was limited or of poor quality: "although a place may be physically close, it is not always accessible".

The severe limitations of spatial access mean that individuals in socio-spatially marginalized groups must either find otherwise overlooked spaces, or are dependent upon spatial access granted to them by others. This can result in something Wardhaugh calls the *homelessness circuit*, where individuals rotate among various liminal spaces and spaces of service provision, as the former change throughout the day (a park may be policed during the daytime but considered liminal at night) and the latter will have specific opening hours[70].

Clearly, spatial exclusion through processes of defensive placemaking and embodied exclusion have significant negative socio-spatial impacts. By contrast, having even a small amount of space to call one's own can have a massive positive impact on an individual's identity and wellbeing. Kraus *et al.*[71] found that "stable housing is nearly always central to attaining treatment goals" in the context of drug and alcohol misuse, and one respondent in Masuda & Crabtree's study[72], who lived in an unsanitary single room occupancy hotel, stated: "Despite all the craziness and the unhealthiness, it's mine, and nobody could tell me that I couldn't come home".

The Built Environment is Dynamic

Like Davidson & Howe[73] and Malins *et al.*[74], many papers in this review speak of individual identities and place *meanings* as dynamic and relational, combining the social, cultural and affective aspects of place with its spatiality[75], considering "a network of people, objects, built environments, discourses and affects that generate a particular mode of action"[76] or investigating "the socio-spatial construction of difference"[77], but, as Dilkes-Frayne[78] also notes, these dynamic and relational meanings occur in an otherwise static *space*. For the most part, spaces are presented in the sources reviewed as though they were constructed once, and only superficially modified from then on.

But space and the built environment are not static. It is constantly being built and rebuilt, and hints of this begin to emerge through multiple spatial descriptions and participant narratives: Evans *et al.*'s study[79] of a managed alcohol program notes that it occupied a former medical clinic, and that the previous use continued to affect the building's spatial layout; the needle exchange program in McLean'sstudy[80] was located in a converted warehouse, and undergoes a "total-facility renovation" during the course of the study, although the implications of this renovation were not explored.

One participant in Malins *et al.*[81], Ruth, articulates how rebuilding the physical environment changes both how people act in a space and how they feel about that space:

> *"There's this one building on the corner or [sic] Collins and Swanston, it used to be a little fountain and steps…a lot of street kids and that used to sleep there…the rocks used to be hot and that…and they knocked that down and I felt a bit sad about that 'cause they're building a new skyscraper there – flash buildings…apartments and all that…and it sort of affected me – I felt a bit down."*

The *place* she describes has changed from public, inclusive, and human-scaled to private, exclusive, and towering (moving, according to the framework outlined in Chapter 1.5, from place-positive to place-negative), and the new physical relationship also brings new social relationships (Figure 58 and Figure 59).

Placemaking of Substance Use: Positive Place-Interaction Boosts Efficacy

The above examples show the impacts on wellbeing that result from the 'dirty' identity associated with substance use, but these are not exclusive to individuals experiencing PSU and can be applied to other marginalized groups. There are two sources reviewed that examine the interaction between place, placemaking, and substance use in depth.

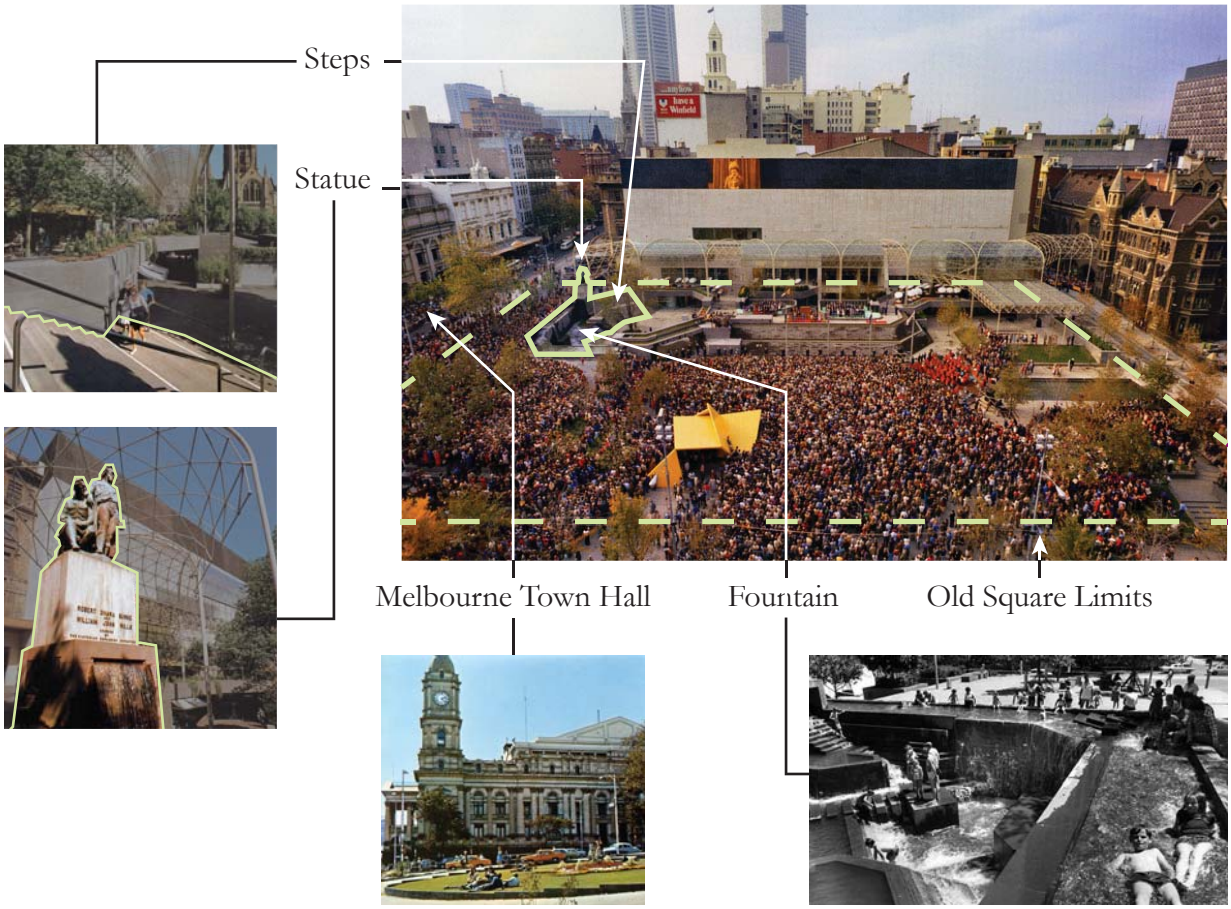

Figure 58 | Previous Square: Fountain, Steps, and Statue

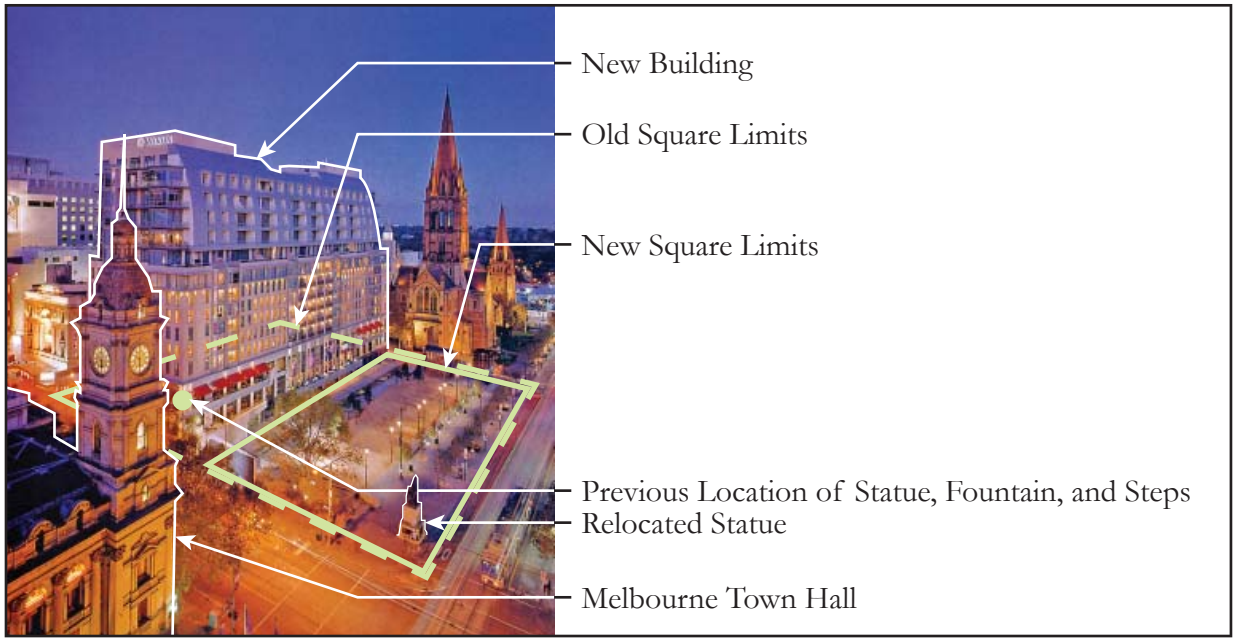

Figure 59 | Current Square

The first analyzes an Australian music festival (Figure 60) framing substance consumption as intrinsically connected to the dynamic sociality and spatiality of the festival rather than inherently problematic[82]. When arriving at the festival site, festival-goers first position themselves in relationship to the broader site, both 'natural' (trees, ground slope) and human-determined (roads, toilets, central festival grounds, how many people were in each camping group). Spaces are claimed via the physical distribution of objects, and the work of making the campsite begins. The central hub is constructed first, "a shared area resembling an outdoor lounge room" (Figure 61, step 1), and then more private spaces added (Figure 61, step 2); "[t]ents, cars, camper- and caravans are haphazardly arranged outwards"[83]. Dilkes-Frayne describes this arrangement as spatially and socially 'porous', allowing people from other groups to enter. Meanwhile, in the shared lounge, seating is arranged in a circle, "enabl[ing] everyone to be included in large group conversations or meet others around them"[84]. Within groups and between groups, people bond by sharing tools, materials, stories, and drugs (Figure 61, step 3). Dilkes-Frayne sums up succinctly: "[t]he spatial layout of campsite areas, and the movement of materials and people through them, could thus facilitate a sense of community that permeated people's festival experience"[85]. The vernacular architecture of the music festival represents a small part of the answer to a question that was originally posed by Gifford & Hine: "What is the vernacular architecture of the drug subculture?"[86]

Figure 60 | "Example of campsite area (photo credit: Ella Dilkes-Frayne)."

Patterns of use in this environment do not align with the chronic brain disease theory. Substance use is considered the social norm, a "social glue"[87] that eases new social connections and enhances group bonding, and is understood as a choice, something that can be controlled[88]. Experimentation is encouraged, but supervised by peers, and doses are timed to create specific effects[89]. This aligns far more readily with an adaptive view of substance use than with the compulsive use characterized by the chronic brain disease theory. Furthermore, the social hierarchy of clean/dirty appears to be toned down to a somewhat blurred separation between acceptable use and 'destructive' or 'messy' use, and the spatial separations accompanying this distinction are similarly less defined.

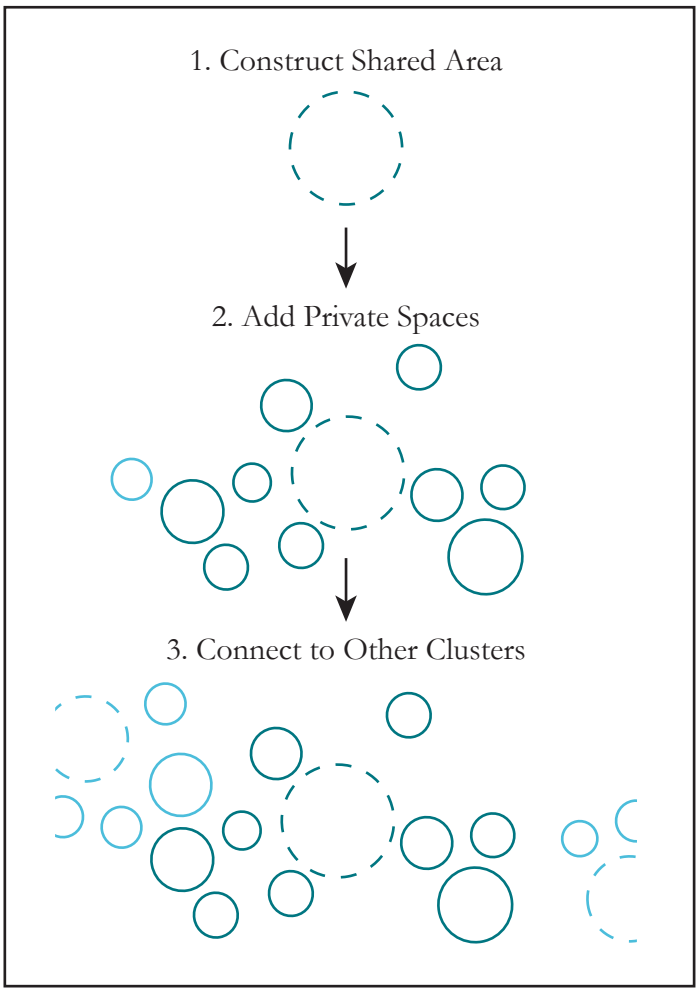

Figure 61 | Festival Campsite Construction Process

The temporary nature of a music festival is likely the reason that the process of physical spatial construction is so clear in this study in comparison to others. The small scale, light materiality, and vernacular nature of festival space-making mean the building and rebuilding process is quick and easy: setting up camp occurs in an afternoon and spatial adjustments can occur in a matter of minutes or seconds. But very little of our built environment is as easily modified as the space of a music festival, and the making process of a building or a neighbourhood can take months or years. Furthermore, "[u]sers of illegal drugs do not often have the resources to create new, specialized settings for drug use"[90]. Instead, many leverage existing public spaces to create small amounts of privacy, mainly occupying niches of various sorts (Figure 62 and Figure 63) with either just their bodies or with small, light, tent-like structures (Figure 64)[91].

The second example is one where a group of individuals who use injection drugs succeeded in creating a 'new, specialized setting' specifically for drug use: InSite, in Vancouver's DTES (see Figure 65, Figure 66, and Figure 67). Prior to the construction of InSite, Canada's first two supervised consumption sites, both operating without any legal approval, were created in the DTES by peer-led groups[92]. The first, opened in 1995, operated for approximately one year before being shut down, while the second, opened in 2002, was active for 184 days[93]. After years of peer and allied activism, including the unsanctioned safe consumption sites, group demonstrations, and an unsanctioned syringe exchange programme, the Portland Hotel Society "quietly built a safe consumption site within a boarded up and seemingly vacant building, and then one day announced publicly that the safe consumption site had been built", forcing government approval[94]. InSite officially opened on September 22, 2003[95].

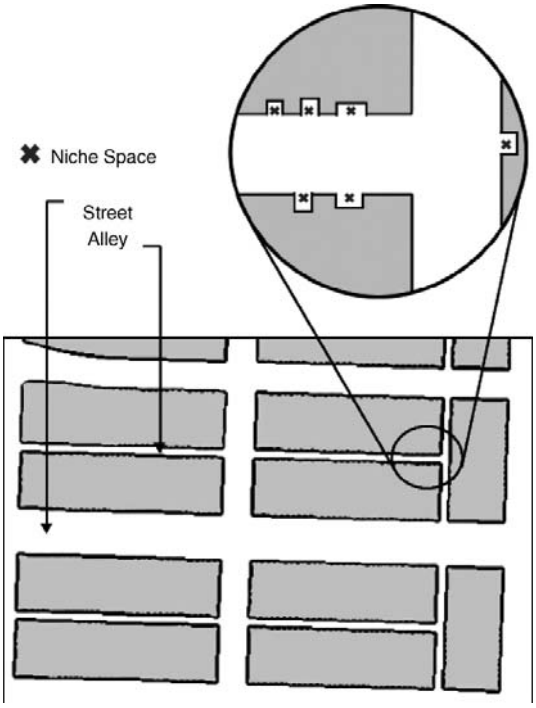

Figure 62 | "Public injecting in the DTES [Downtown Eastside] most frequently occurs within narrow alleys that cross-cut many city blocks. Within these alleys recessed 'niche spaces' are used for the purpose of injecting."

Figure 63 | "A typical injection niche in an alleyway provides a small measure of shelter and privacy, but are [sic] highly unsanitary."

Figure 64 | " 'Structures' (photocredit:'Jim')."

Figure 65 | InSite's Safe Consumption Booths

Figure 66 | InSite: Exterior View

Figure 67 | "Gail Hunt, 52, carefully injections a syringe laced with heroin into a vein in her neck."

Nearly 15 years of research has since shown that InSite has had multiple benefits and few, if any, negative impacts in the DTES[96]. Jozaghi[97] found that InSite now serves as a therapeutic landscape, "increase[ing] belonging and 'connection to place"', creating a sense of "self-efficacy and empowerment", and allowing "participants to alter the structural and cultural dimensions of power relations"; many of the same effects found by Dilkes-Frayne[98] in her study of vernacular music festival architecture.

Tran Smith *et al.*[99] also highlight the agency which ownership of spaces, in this case apartments, gives individuals. Ownership allows occupants to mediate their social relationships and define social boundaries: they can decide who they see, how often, and for how long. For many of the participants in this study, the apartment represented security and a renewed, 'normalized' identity (Figure 68 and Figure 69)[100]. By contrast, negative interactions with place can limit efficacy. For one participant in Tran Smith *et al.*'s study[101], his apartment only reinforced his homeless identity, as rules were posted on a bulletin board inside the unit (Figure 70) regulating how he occupied the space both physically, with standards of cleanliness, and socially, with limits on visitors. The rules limiting his interaction with his spatial environment also limited his social relationships and his identity.

Furthermore, different individuals can experience the same place in different ways, something made particularly clear by divergent experiences of rural or semi-rural asylums and residential treatment facilities[102]. For example, Kearns *et al.*[103] identify ambivalent spatial affordances occurring at the detention/treatment centre for alcoholics on Rotoroa Island, New Zealand: the confinement of the island setting can be perceived as either constraining, disabling personal agency, or as enabling agency and providing respite. Because "the design of physical surroundings, the orchestration of social relations and the enactment of rules of conduct" all influence and are influenced by one another, small social changes can also impact the experience of place[104].

Places Have Agency

Many of the papers associate places and spaces with 'affects' or 'feeling states'[105]. Of these, a subgroup draws on Actor-Network Theory as summarized by Dilkes-Frayne: through "relations of mediation…people and things modify one another, and new possibilities for action and relation are created"[106]. An additional paper[107] references Karen Barad's concept of phenomena and intra-action, to speak of the physical environment as something with its own agency, a participant in human action and interaction, and an actor the in process of substance use.

Actor-Network Theory eliminates the subject-object divide, proposing instead "the subject's production or emergence within complex networks of practice, discourse, affect, power, and technology"; the context is at least as important as the individual in the creation of any given situation[108]. Places, therefore, are not *simply specific locations in space that have become memorable and meaningful,* but are also "*complex nodes in a network of relations"*[109]. Barad's concept of intra-action similarly removes any hierarchical distinction between subject and object, and further proposes that agency is not a feature "of any single pre-existing entity, but [rather] emerging from the intra-action of phenomena"[110].

Both these concepts also have striking parallels to Indigenous North American understandings of place, most notably that land does not simply represent ancestral spirits but *is* an ancestral entity or entities[111]. Thus, for many Indigenous cultures, interactions with the physical environment are "fundamentally *interpersonal* in nature…[and] places are not merely the 'sites' of interpersonal relations, but instead remain actual interlocutors in such relations"[112].

Figure 68 | "Stocked Refrigerator."

Figure 69 | "Toiletries, etc."

Figure 70 | "Negative Reminder."

In 1991, Robert Gifford and Donald W. Hine published a paper titled 'Substance Misuse and the Physical Environment: The Early Action on a Newly Completed Field'. In it, they addressed the longstanding concept of a 'clear break', or physical relocation (frequently to a rural setting) as an important part of treatment for substance misuse. They speculated that, as this model of treatment involves 'learning out of context', "[i]f the misuser is to return to the original setting, newly learned ('nonmisuse') behaviours are literally out of place in the old familiar setting" and old use behaviours become dominant[113].

When Dilkes-Frayne *et al.* revisited the topic, they found that, although relocation remained "a key principle of residential treatment modalities", there was very little previous research on "the role of residential relocation in the development of consumption patterns"[114]. Analyzing interviews with 60 diverse individuals who self-identified as having "a drug habit, dependence or addiction", Dilkes-Frayne *et al.* found that residential relocation impacted substance use in several ways, which they grouped into three themes: generating new consumption patterns, disrupting existing consumption patterns, and the effort it takes to maintain patterns of consumption and abstinence through a relocation[115]. Observing the "ubiquity of disruption or change in times of relocation", and that "[c]ontinuity [of use] was a tenuous achievement", Dilkes-Frayne *et al.* proposed "the indivisibility of spatio-temporalities from patterns of drug use"[116]. Furthermore, drawing on Barad's concept of intra-action, and echoing both Actor-Network Theory and Indigenous North American understandings of place, they proposed that "place cannot be regarded as passive" in the treatment of substance misuse and instead is an active participant[117].

Summary

The most noteworthy aspect of this review of the literature at the intersection of place and PSU (problematic substance use) is finding that emerging research, grounded in Actor-Network Theory, indicates that, contrary to the current mainstream understanding of substance use disorders, the agency of and responsibility for consuming substances does *not* lie solely or even mostly within the individual. Instead, it is produced within the relationships amongst individuals, circumstances, and *places*.

Further findings include:

- The binary of dirty and clean established between non-use and use identities, as well as between responsible and out of control users in an attempt to create a positive self-identity, results in socio-spatial processes of defensive placemaking and embodied exclusion. These processes have implications for what spaces and services individual may access, and even whether they are allowed to simply *be* in the world.
- The vernacular architecture of substance use is an area explored by only a handful of sources.
- Positive place-interaction builds a sense of efficacy for individuals experiencing PSU, while negative place-interaction limits efficacy.

To address these findings, Chapter 2.3 discusses these points in the context of evidence from this and all preceding chapters and makes a series of recommendations on this basis.

Chapter 2.2 Endnotes

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108 Duff, "Accounting for Context: Exploring the Role of Objects and Spaces in the Consumption of Alcohol and Other Drugs," 146; Evans et al., ""This Place Has given Me a Reason to Care': Understanding 'managed Alcohol Programs' as Enabling Places in Canada."

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110 Dilkes-Frayne et al., "Iterating 'Addiction': Residential Relocation and the Spatio-Temporal Production of Alcohol and Other Drug Consumption Patterns," 166; Duff, "Accounting for Context: Exploring the Role of Objects and Spaces in the Consumption of Alcohol and Other Drugs."

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112 Ibid., 393–94.

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115 Ibid., 167.

116 Ibid., 170.

117 Ibid., 171.

2.3

Discussion and Recommendations

The literature reviewed in Chapter 2.2 indicates that, contrary to the current mainstream understanding of substance use disorders, the agency of and responsibility for consuming substances does not lie solely or even mostly within the individual[1]. Instead, it is produced within the relationships amongst individuals, circumstances, and places.

The literature reviewed, including multiple fields of study approaching the subject independently, directly implicates place in both the etiology and treatment of PSU (problematic substance use). This connection between place and PSU is couched primarily in place-negative terms, such as embodied exclusion and dislocation.

As noted in Chapter 1.1: "People with money, stable housing and supportive family or friends can often maintain stability in their life for long periods of time while being addicted"[2]. By contrast, processes of socio-spatial marginalization negatively affect the identity of individuals experiencing PSU and, moreover, prevent them from accessing resources. Due to the stigma attached to PSU in general, and homelessness-associated PSU in particular, individuals experiencing PSU and homelessness are continually socio-spatially marginalized through processes of embodied exclusion and defensive placemaking. There is a substantial amount of evidence that socio-spatial marginalization compounds the detrimental physical and mental impacts of PSU. This finding, although certainly having implications for PSU policy and treatment, is not exclusive to PSU and could be applied to virtually any marginalized demographic.

There are other aspects of place that relate to PSU specifically. Dislocation has been correlated with both the onset of PSU[3] and shifts in patterns of substance consumption[4]. Processes inducing solastalgia have also been correlated with increased instances of PSU[5]. There is significantly less literature in these areas than in the area of socio-spatial marginalization. However, the findings are compelling and independent of one another, suggesting that place must be considered as both a factor in PSU prevention efforts and a component of PSU treatment.

Themes and Recommendations

Analysis of all the evidence gathered thus far results in four themes that generate four spatially-informed recommendations for shifting how PSU is addressed. The remainder of this chapter discusses these themes and makes recommendations for improving the ways PSU is addressed.

Theme 1: Providing Spatial Stabilization

[P]erhaps the most striking finding was that [those interviewed] need a space to just be – where they can exist without judgment or exclusion.

—Allison Carter, Saara Greene, ValerieNicholson, Nadia O'Brien, Julia Dahlby, Alexandra de Pokomandy, Mona R Loutfy, Angela Kaida, " 'It's a very isolating world': the journey to HIV care for women living with HIV in British Columbia, Canada"

A large portion of the literature reviewed in Chapter 2.2 documents the negative physical, mental, and emotional impacts of socio-spatial marginalization. As seen in Chapter 1.1, socio-spatial marginalization has a lesser effect on people experiencing PSU who also have access to significant reserves of social and/or financial resources. Only once those reserves are exhausted, or if they never existed in the first place, does significant socio-spatial marginalization occur.

Homelessness in combination with PSU results in people being labelled dirty, setting the stage for defensive placemaking (often in the form of NIMBYism) to be used to push them out of desirable and so-called 'public' spaces. This may occur on a day-to-day basis (being told 'it's time to move on') or through longer processes of gentrification and revitalization (see Chapter 1.2, category 'Clean-up and Reclamation', for an example). There are virtually no spaces where people in these situations are allowed to just be themselves; embodied, in space, without the stigma of dirt and danger and the constant knowledge of being unwelcome.

Turning to the services that are specifically intended for people experiencing PSU and homelessness, even those that do provide space do not provide space consistently. Harm reduction and outreach techniques such as needle exchange programs provide access to resources and a network of care, but mostly not to physical spaces. Shelters, day- or drop-in programs, and meal programs are often separate from one another, resulting in a 'homelessness circuit' to be traversed every day[6]. Furthermore, as noted in Chapter 1.1, these programs frequently have a strict on-site abstinence policy. Safe consumption sites do provide a non-judgmental space, but not overnight shelter or a place to reside.

These are all important services, but they are provided in a patchwork that does little to address the exacerbating effects of socio-spatial marginalization. Furthermore, some of these services are not intended for people experiencing PSU (see Chapter 1.2, category *Emergency Shelters*). Returning to the framework outlined in Chapter 1.5, in this situation continuity is essentially missing from the spatial sense of coherence. Therefore, place is acting as a stressor, place-negative, further depleting individuals' abilities to cope. To improve this situation, stable access to a place should be considered a resource as necessary as food and warmth.

Recommendation 1:

For those whose substance use has had severe impacts, resulting in homelessness or unstable housing, reduce the negative impacts of socio-spatial marginalization by providing stable access to places.

Theme 2: Maintaining Spatial Stability

Continuity was a tenuous achievement…[t]he relations in which participants found themselves after moving played a key role in facilitating or impeding previous practices.

—Ella Dilkes-Frayne, Suzanne Fraser, Kiran Pienaar, and Renata Kokanovic, "Iterating 'addiction': Residential relocation and the spatio-temporal production of alcohol and other drug consumption patterns"

There are a handful of compelling studies that connect shifts in place directly to shifts in patterns of substance consumption[7]. They indicate this can happen in three ways. First, that dislocation and solastalgia can trigger PSU in individuals who were not previously experiencing PSU. Second, that for those already experiencing PSU a single dislocation can, in some instances, have a positive effect, acting as a catalyst for resetting habits and shifting away from a using identity. Finally, the literature indicates that, after the single dislocation, subsequent moves risk destabilizing any progress and furthermore, that returning to the place of PSU risks re-inhabiting the old use patterns and identity.

Therefore, typical PSU treatments for both individuals experiencing co-occurring homelessness (cycling individuals through the spatial stages of the Treatment First continuum) and individuals in stable housing (removing individuals to residential treatment only to return them to their original spatial context upon treatment completion) can be understood as a disruption rather than a progression, and a significant trigger for relapse. Again, referring to the framework in Chapter 1.5, each dislocation should be considered a severe disruption to the continuity component of a spatial sense of coherence.

Instead, there should be a conscious effort made to limit the number of dislocations to a maximum of a single, potentially positive one and thereafter maintain spatial stability. In addition to reducing relapse-triggering events, this could also have the effect of reducing stigma. By specializing facilities for several discrete stages of treatment, some places (and therefore some neighbours) only ever see people in crisis, whisked away as they begin to improve, and then perhaps back, in crisis again, a few weeks or months later. Maintaining spatial stability throughout the treatment process could therefore also work to combat socio-spatial marginalization, reduce instances of NIMBYism, and build connection.

Recommendation 2:

Limit the negative effects of place-shifts by minimizing or eliminating dislocation and rapid changes to the built environment. If such changes are necessary, provide extra support to stabilize new habits and identities.

Theme 3: Re-establishing Efficacy and Consolidating Identity Through Placemaking

They're in their own house… [t]he right and freedom to be in their own house… You can see the pride that they have because it may have been ten years since they've been in a home and that can be a powerful thing.

—James Kennedy, Godwin Arku, Evan Cleave, "The experiences of front line service providers of Housing First programmes delivery in three communities in Ontario, Canada"

One of the hallmarks of PSU is an apparently uncontrollable craving for a given substance. The medical, chronic brain disease model suggests that this craving is caused initially by the substance itself and latterly by changes within the consumer's brain. As a result, the individual's agency (their ability to chose whether or not to consume the substance) is diminished or even eliminated. However, as outlined in Chapter 1.1, the chronic brain disease model does not adequately account for the fact that patterns of PSU respond to small incentives and a significant portion of people age out of their problematic use. This evidence suggests that PSU does not diminish *agency*, the ability to cause change (in this specific case, to choose not to consume a substance), but rather *efficacy*, the sense that one is able to cause change.

This is a subtle difference, but a crucial one. Returning to the framework in Chapter 1.5, Antonovsky's component 'manageability' ("[belief] that the resources to cope are available") is broken down into two elements: efficacy and support. Support is the resources themselves, efficacy is the belief that the resources are available. Both must be present for manageability; if the resources are available to you but you do not perceive them as available, then, essentially, they are not available. In this framework, agency can be considered in the same way as any other supportive resource: if you do not believe you have agency, then in effect you don't have agency.

As noted in Chapter 2.2, positive interactions with places have been found to boost a sense of efficacy in individuals experiencing PSU. This suggests that spatial strategies of placemaking can be employed as immediate, tangible demonstrations of agency, as bridges to social agency, and as longer-term demonstrations of agency to build an individual's confidence over time and shift toward a positive, efficacy-filled identity.

Spatial strategies for immediately and tangibly demonstrating agency tend to work on smaller scales. As described in Chapter 1.3 and summarized in Chapter 1.5, some simpler methods include providing the ability to control light and temperature in a given room. Spatial agency as a bridge to social agency works on a similar scale and can be accomplished through providing individuals with a private space to take ownership of, as described in Chapter 2.2, giving them the ability to mediate relationships through granting and refusing entry to a space. Participation in community projects would be another example of spatial agency as a social bridge.

Finally, the evidence on positive place-interactions suggests that actively engaging in participatory design is potentially a powerful method for re-establishing an individual's confidence in their own agency; their sense of self-efficacy. By engaging in a longer-term project that produces concrete, semi-permanent results that are visible in the built environment, individuals would be actively creating new positive memory associations in place (as described in Chapter 1.4) to supplant the negative, non-efficacious identity describe in Chapter 2.2. Furthermore, as noted in Chapter 1.4, participatory design can be an effective way to negotiate complex social relationships, making it an additional opportunity for spatial agency as a social bridge.

Recommendation 3:

Actively engage in placemaking during the treatment process as a way to re-establish a sense of efficacy and consolidate a positive non-using or reduced-use identity.

Theme 4: Leveraging the Built Environment as a Preventive Resource

[H]uman beings evolved to look at nature and make deep connections with other human beings. [Human]-made environments that reflect these facts in various ways…will be places that are more likely to enhance our lives.

—Ann Sussman and Justin B Hollander, *Cognitive Architecture: Designing for How We Respond to the Built Environment*

The three recommendations outlined above are all reactive, responding to PSU after it has developed and has begun to have substantial or extreme negative impacts on individuals' lives. The fourth theme, and accompanying recommendation, describes how the built environment could be leveraged proactively to help prevent the development of PSU in the first place.

Again, this is based on the model, described in Chapter 1.1, of PSU as a maladaptive mechanism that is employed when an individual's ability to cope is exceeded. Chapter 1.5 described how places can be considered resources that protect against stressors and provide a greater ability to cope, if they meet the criteria outlined (such as wide sidewalks and buildings scaled for social interaction). Much of the built environment in Canada, when evaluated against the framework described in Chapter 1.5, acts as a stressor rather than a resource. Therefore, creating a more salutogenic built environment would act as a buffer against other stressors that could contribute to PSU rather than as an additional stressor causing it, and be a resource for wellbeing generally.

Recommendation 4:

Enhance wellbeing and protect against problematic substance use by building cities that act as resources rather than stressors. This can be accomplished by using the principles of spatial Generalized Resistance Resources to design salutogenic spaces.

Towards Practical Implementation

Not all of these recommendations are applicable to every individual experiencing PSU (problematic substance use). For example, Recommendation 1 does not apply to stably housed individuals, and the ways Recommendations 2 and 3 would be implemented differ significantly depending on whether or not an individual has access to significant reserves of social and/or financial resources. Both cases are worth elaborating on, but within the scope of a master's thesis there is only time to explore one in sufficient detail. Given the author's architectural background and connections, and given that more of the recommendations above apply to those who are not stably housed, the remainder of this thesis, therefore, focuses solely on how these recommendations might be applied for individuals who are experiencing both PSU and homelessness.

A gap inherent in Parts 1 and 2 of this thesis is that they engage solely with theory and not with practice. Two questions that point to that gap, raised to the author multiple times during the process of this thesis, were a) "would people in the midst of a PSU-induced crisis even be able to engage with design?" and b) "how can architecture or design possibly be useful during that period of crisis; aren't there more urgent things to deal with first?" Part 3 now begins to fill that gap by conducting interviews with architects and intern architects who design for individuals experiencing Problematic Substance Use and homelessness and/or facilitate placemaking through participatory design processes. Finally, Part 4 synthesizes the recommendations outlined in this chapter with the study findings in Part 3 to describe a spatial proposal for addressing co-occurring Problematic Substance Use and homelessness.

Chapter 2.3 Endnotes

1 Ella Dilkes-Frayne et al., "Iterating 'Addiction': Residential Relocation and the Spatio-Temporal Production of Alcohol and Other Drug Consumption Patterns," *International Journal of Drug Policy* 44 (2017): 164–73, doi:10.1016/j.drugpo.2017.05.024; Cameron Duff, "Accounting for Context: Exploring the Role of Objects and Spaces in the Consumption of Alcohol and Other Drugs," *Social & Cultural Geography* 13, no. 2 (2012): 145–59, doi:10.1080/14649365.2012.655765.

2 Deborah Kraus, Michael Goldberg, and Luba Serge, "Homelessness, Housing, and Harm Reduction: Stable Housing for Homeless People with Substance Use Issues" (Canada: Canada Mortgage and Housing Corporation, 2006), Appendix C, 8.

3 Bruce K Alexander, "The Globalization of Addiction," *Addiction Research & Theory* 8, no. 6 (2000): 501–26, doi:10.3109/16066350008998987.

4 Dilkes-Frayne et al., "Iterating 'Addiction': Residential Relocation and the Spatio-Temporal Production of Alcohol and Other Drug Consumption Patterns."

5 Will H. Canu et al., "Mountaintop Removal Coal Mining and Emergent Cases of Psychological Disorder in Kentucky," *Community Mental Health Journal*, 2017, 1–9, doi:10.1007/s10597-017-0122-y.

6 Julia Wardhaugh, "'Homeless in Chinatown': Deviance and Social Control in Cardboard City," *Sociology* 30, no. 4 (1996): 701–16.

7 Dilkes-Frayne et al., "Iterating 'Addiction': Residential Relocation and the Spatio-Temporal Production of Alcohol and Other Drug Consumption Patterns"; Alexander, "The Globalization of Addiction"; Bruce K Alexander, Robert B. Coambs, and Patricia F. Hadaway, "The Effect of Housing and Gender on Morphine Self-Administration in Rats," *Psychopharmacology* 58, no. 2 (1978): 175–79, doi:10.1007/BF00426903; Canu et al., "Mountaintop Removal Coal Mining and Emergent Cases of Psychological Disorder in Kentucky."

Part 3 | Study

Placemaking in Architecture Through Participatory Design

3.1

Summary of Part 2

Chapter 2.1 | Summary of Part 1.

Chapter 2.2 | Place has been directly implicated in both the etiology and treatment of problematic substance use by multiple fields of study approaching the subject independently. Both negative connotations of place and disruption of place have been connected to the development of problematic substance use, while disruption of place has been associated with a disruption of substance consumption patterns that can be either positive (cessation or reduction of consumption) or negative (relapse).

Chapter 2.3 | Based on the evidence gathered in the background and literature review, this chapter proposes four spatially-informed recommendations for addressing problematic substance use:

1) For those whose substance use has had severe impacts, resulting in homelessness or unstable housing, reduce the negative impacts of socio-spatial marginalization by providing stable access to places.

2) Limit the negative effects of place-shifts by minimizing or eliminating dislocation and rapid changes to the built environment. If such changes are necessary, provide extra support to stabilize new habits and identities.

3) Actively engage in placemaking during the treatment process as a way to re-establish a sense of efficacy and consolidate the new non-using or reduced-use identity.

4) Enhance wellbeing and protect against problematic substance use by building cities that act as resources rather than stressors. This can be accomplished by using the principles of spatial Generalized Resistance Resources to design salutogenic spaces.

Through participation in setting goals and developing implementation strategies, residents assume ownership of the process…[t]his collaborative involvement builds social capital.

—Henry Sanoff, *Community Participation Methods in Design and Planning*

3.2

History of Participation in Architecture and Planning

Parts 1 and 2 of this thesis summarized existing evidence indicating that place has a role in the etiology and treatment of PSU (problematic substance use). Chapter 2.3 built on this evidence to propose a set of four spatially-informed recommendations that shift the ways we as a society currently address PSU. However, as noted in Chapter 2.3, there is a gap between proposing something in theory and implementing it in practice. A common question raised by multiple individuals throughout the process of this thesis was some variation of "would people in the midst of a PSU-induced crisis even be able to engage with design?" A second, related question was "how can architecture or design possibly be useful during that period of crisis; aren't there more urgent issues to deal with first?"

As detailed in Chapters 1.4 and 1.5, active placemaking is an element of place-based wellness that contributes to a positive sense of place at both an individual and collective level, yet has received less focus than other aspects of place. Chapter 1.4 briefly described ways that place is cultivated by some of the Indigenous cultures of North America, including through rituals of active remembrance during the construction of dwellings and ceremonial spaces as well as through interactions with the beings who animate the land, and noted that in the context of architectural practice, one process of placemaking that can be employed is called participatory (or collaborative) design. Despite the richness of Indigenous placemaking, Canadian architectural practice is only just beginning to pay attention to and incorporate these practices. Instead, participatory design is based in, and closely aligned with, participatory planning practices that stem from a European or Western architecture and planning tradition. In order to introduce the context and concepts necessary for a full discussion of the study described in Chapters 3.2 and 3.3, this section will briefly examine that history.

History of Participatory Design in Western Architecture and Planning

Participation in the Western architectural tradition grew largely from post-WWII developments in urban planning, specifically as a reaction to the doctrine of functional standardization promoted pre-WWII by the International Congress of Modern Architecture (CIAM). Although organized by prominent Modernist architects such as Le Corbusier, and despite ostensibly addressing issues of architecture, CIAM's proposals of mass-produced housing and discrete categories of urban function sit squarely in the realm today claimed by urban planners[1].

Shortly after the Second World War, CIAM's doctrine came under scrutiny, particularly by several of its own members – who would later form the group Team Ten – due to its lack of "understanding of the complexities of the relationships of people in their everyday existence to form"[2]. By the 1960s this resulted in the Structuralist movement in architecture, where biological or vernacular patterns inspired urban-scale structures that contained or framed infill components. These infill components were to be used for living and dwelling. Dutch architects Aldo van Eyck, Herman Hertzberger, and John Habraken all made important contributions to this movement, notably Habraken's 1961 book *Supports: an Alternative to Mass Housing*[3]. One of the key principles Habraken outlined was that control and construction of the infill components should be given to the occupants who dwelt there; an explicitly participatory stance[4].

A contemporary example of this kind of structuralist participation can be seen in the work of ELEMENTAL. The Quinta Monroy social housing project (Figure 71 and Figure 72) was their first project in this vein. The complicated and technically difficult elements of the project, for example, site planning and, on the scale of individual houses, plumbing and loadbearing walls were designed by the architects and built first, leaving framed but empty spaces. As a result, the occupants could later expand their houses safely, inexpensively, and to suit their individual needs. Beyond the Structuralist idea of participation, ELEMENTAL also involved the community in the design of the houses themselves[5].

Around the same time as Habraken was writing, several other books emerged that further argued for the necessity of understanding the reciprocal relationship between people and their physical environment. These books including writing by John F. C. Turner as well as Jane Jacobs' seminal work *The Death and Life of Great American Cities*. Jacobs' arguments for participation came from a very different background than that of most other participation theorists: she was a journalist observing and advocating for her own built environment, rather than an architect or planner. As a result, her work is also explicitly tied to the rebellious tradition of citizen groups "defending the interests of weak against strong"[6]. Today's theory of Advocacy Planning within the planning profession grew from this same 'community consciousness', influenced to a large extent by the work of Paul Davidoff[7].

Through the 1970s and '80s, participatory planning processes gained greater acceptance, and literature in this period from writers and designers such as Lawrence Halprin and Jim Burns, Henry Sanoff, and Stanley King moves from arguing *for* a participatory process to "perfecting the process of effective citizen participation"[8]. Participation in the planning profession and literature became far more prevalent than in architectural practice, even with participation's significant architectural origins[9]. Participatory design is still not considered mainstream in architectural practice.

By the 1990s, citizen participation had become a planning process requirement in many cities, but its implementation was often more problematic than beneficial. Frequently participation was "a placatory gesture of goodwill" to give individuals or groups a *feeling* of participating rather than a genuinely participatory process; what Sherry Arnstein deemed 'tokenism' and Carole Patemen called 'pseudo-participation', rather than true citizen power (Figure 73)[10]. 'Consultation fatigue' also occurred when participatory processes were too long and onerous[11]. This demonstrates that participatory design is not always a positive interaction, and can lead to the creation of negative places if not carried out correctly (see Figure 74).

Despite these criticisms, "[p]eople do indeed gain satisfaction from feeling competent, in control, and free to choose for themselves", and participatory design is capable of providing that feeling[12]. Participatory planning (and by extension, participatory architecture) is a way for occupants to negotiate and construct narratives of place identity, rather than having an identity imposed upon them. Furthermore, participatory design allows the occupants to communicate the expert knowledge they have about their own lives to professionals, improving the professionals' ability to design[13]. When implemented successfully, "sense of community and place attachment are linked to participation"[14].

Figure 71 | "Quinta Monroy Social Housing: As Designed"

Figure 72 | "Quinta Monroy Social Housing: With Additions"

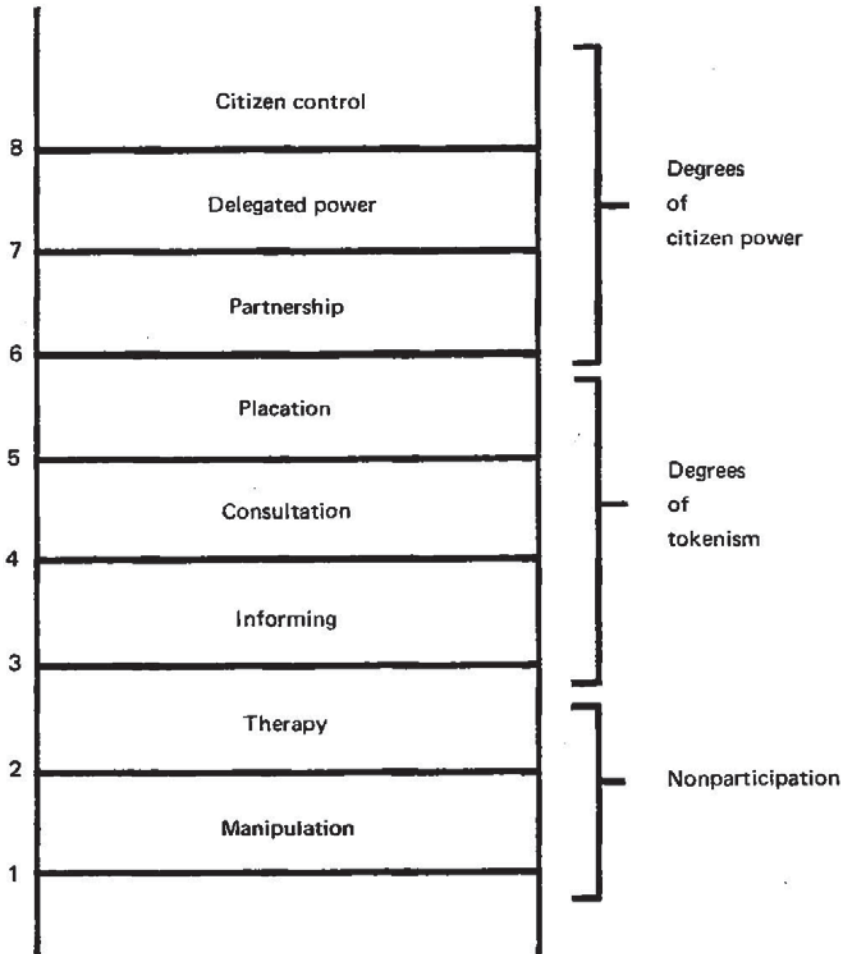

Figure 73 | "Eight Rungs on a Ladder of Citizen Participation"

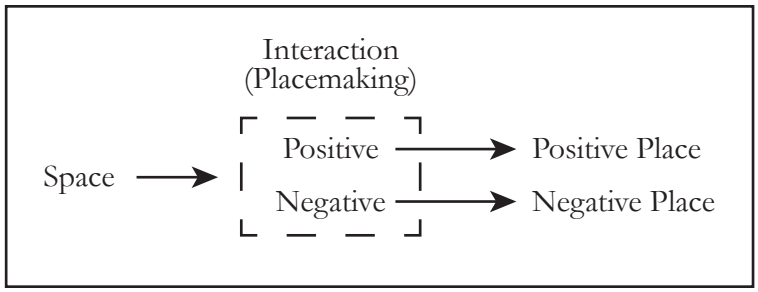

Figure 74 | Placemaking can lead to both positive an negative connotations of place.

Today, participatory design in architecture involves a broad range of methods, depending on factors such as the architect's knowledge of techniques, the client's level of engagement, the project timeline, and more. A staple of this process is the *charrette*, an intense, time-limited, creative problem-solving workshop attended by client(s), facilitated by architect(s), and consisting of a series of activities intended to reveal key values and solve design problems by building consensus[15]. It is not traditionally considered or intended to be a healing process. However, within planning there is a newly-emerging sub-discipline that aims to do exactly that, called *therapeutic planning*.

Participatory Design as a Healing Process: Therapeutic Planning

Therapeutic planning is an emerging planning method that:

> *[I]ntends to support a process of healing and reconstruction of meaning. It is a dialogical, rational, embodied and collaborative process that brings community members together and creates the conditions for them to work through their collective traumas*[16].

The term 'therapeutic' is used in direct contrast to Arnstein's definition of the word; where Arnstein used the word to indicate a placatory, dismissive process, therapeutic planning uses the term to indicate healing and transformation[17].

Change in the social and built environment brings a tension between a lost past and the uncertain future that is comparable to the grief of personal loss, even when that change is desirable: "the emotional impact of moving homes voluntarily three times is equivalent to the emotional impact of watching one's house burn down"[18]. Echoing the discussion of defensive placemaking in Chapter 2.2, Aftab Erfan, a planner deeply involved in developing the therapeutic planning approach, frames NIMBYism as the result of the tension between past and future, as people "struggle to maintain their hold on the meaning of life"[19]. Erfan proposes therapeutic planning, which uses deeply participatory techniques, as a way to "create a liminal space…where the past comes into conversation with the future" as a way to resolve this grief-like tension and bring healing[20]. When implementing therapeutic planning with the Gwa'sala-'Nakwaxda'xw First Nations community, Erfan found "evidence of modest but promising patterns of individual and collective healing and transformation in the course of the workshops"[21].

In his summary of therapeutic planning, David Alton notes the ways planning currently touches on wellbeing through "active/public transportation, green/blue infrastructure, limiting conflicts between cars and pedestrians, inclusive urban design, and complete communities" [22]. Alton also suggests making the planning-wellbeing connection more explicit by developing a theory of care for planning similar to that of the medical and social work fields. His analysis finds that "therapeutic planning has the capacity to improve planners' ability to address trauma, conflict and reconciliation."[23]

Summary

Originating after the Second World War, participatory design has emerged as a method of placemaking in the context of architectural and planning practice. If implemented incorrectly, it has the potential to create negative place-interactions, but if implemented successfully it can provide a sense of efficacy and a positive place-identity. The still-emerging field of therapeutic planning extends this further, employing a participatory process as a means of addressing conflict and trauma.

Therapeutic planning has shown promising early success. It proposes a similar concept of mediating wellbeing through the built environment, particularly using participatory processes similar to that outlined in this thesis. However, there are key difference between therapeutic planning and the use of placemaking as proposed in this thesis, including the scale each focuses on (community and individual, respectively), and the fact that therapeutic planning addresses "colonization, trauma, and conflict"[24] broadly, rather than problematic substance use specifically.

With this context in mind, Chapter 3.3 outlines a study conducted by the author to examine current practices of participatory design for individuals experiencing problematic substance use and homelessness.

Chapter 3.2 Endnotes

1 Matthew Hessey, "Participation and Pattern: Towards a Systemic Understanding of Participatory Methodology in Architecture" (University of Waterloo, 2003); Christine Wing Sze Man, "Empowering Architecture Citizen Participation in the Design of Urban Public Spaces," ed. University of Waterloo. School of Architecture (University of Waterloo, 2010).

2 Hessey, "Participation and Pattern: Towards a Systemic Understanding of Participatory Methodology in Architecture," 83.

3 Hessey, "Participation and Pattern: Towards a Systemic Understanding of Participatory Methodology in Architecture"; Man, "Empowering Architecture Citizen Participation in the Design of Urban Public Spaces"; Herman van Bergeijk, *Herman Hertzberger* (Basel ; Boston: Birkhauser Verlag, 1997).

4 Hessey, "Participation and Pattern: Towards a Systemic Understanding of Participatory Methodology in Architecture"; Man, "Empowering Architecture Citizen Participation in the Design of Urban Public Spaces."

5 Alejandro Aravena Mori and Andreas Iacobelli, *Elemental : Manual de Vivienda Incremental y Diseno Participativo = Incremental Housing and Participatory Design Manual* (Germany; Ostfildern: Hatje Cantz, 2012).

6 Hessey, "Participation and Pattern: Towards a Systemic Understanding of Participatory Methodology in Architecture"; Jane Jacobs, *The Death and Life of Great American Cities* (New York: Vintage Books; Random House, 1961); Barclay M. Hudson, Thomas D. Galloway, and Jerome L. Kaufman, "Comparison of Current Planning Theories: Counterparts and Contradictions," *Journal of the American Planning Association* 45, no. 4 (1979): 387–98, doi:10.1080/01944367908976980.

7 Henry Sanoff, "Multiple Views of Participatory Design," *International Journal of Architectural Research* 23, no. 1 (2008): 131–43, doi:10.15368/focus.2011v8n1.1; Hessey, "Participation and Pattern: Towards a Systemic Understanding of Participatory Methodology in Architecture."

8 Man, "Empowering Architecture Citizen Participation in the Design of Urban Public Spaces," 12.

9 Jeremy Till, "The Negotiation of Hope," in *Architecture and Participation*, ed. Peter Blundell-Jones, Doina Petrescu, and Jeremy Till (London ; New York: Spon Press, 2005), 23–42.

10 Man, "Empowering Architecture Citizen Participation in the Design of Urban Public Spaces"; Sherry R. Arnstein, "," *Journal of the American Institute of Planners* 35, no. 4 (1969): 216–24, doi:10.1080/01944366908977225; Till, "The Negotiation of Hope."

11 Till, "The Negotiation of Hope."

12 Henry. Sanoff, *Community Participation Methods in Design and Planning* (New York: Wiley, 2000), 34.

13 Paul Jenkins, "Space, Place and Territory: An Analytical Framework," in *Place Identity, Planning and Participation*, ed. Cliff Hague and Paul Jenkins (London: Routledge, 2005), 19–38; Till, "The Negotiation of Hope"; Sanoff, *Community Participation Methods in Design and Planning*.

14 Sanoff, "Multiple Views of Participatory Design," 61.

15 Sanoff, *Community Participation Methods in Design and Planning*.

16 Aftab Erfan, "Confronting Collective Traumas: An Exploration of Therapeutic Planning," *Planning Theory and Practice* 18, no. 1 (2017): 37, doi:10.1080/14649357.2016.1249909.

17 Erfan, "Confronting Collective Traumas: An Exploration of Therapeutic Planning."

18 Ibid., 45.

19 Ibid., 46.

20 Ibid., 43.

21 Ibid., 36.

22 David Alton, "Therapeutic Planning," 2018, What is Care?, https://therapeuticplanning.weebly.com/.

23 Ibid., Therapeutic Planning.

24 Ibid., Summary.

When we build it this way, we have to go in right from the beginning and actually get design ideas from the community because they know the community better than we do… and the people who live there know a lot of things that we don't know.

—'Thomas', interviewee

3.3

Study: Interview Responses

As noted in Chapter 2.3, two questions raised to the author multiple times during the process of this thesis were a) "would people in the midst of a PSU (problematic substance use)-induced crisis even be able to engage with design?" and b) "how can architecture or design possibly be useful during that period of crisis; aren't there more urgent things to deal with first?"

In order to address those questions, as well as to close some of the gap between theory and practice identified in Chapter 2.3, the author chose to interview architects and intern architects (that is, people who have completed their professional degree but are still working toward their architectural licence) who:

a. design for individuals experiencing problematic substance use

and/or

b. encourage the making of spaces by those who occupy them; in the architecture and planning professions, this occurs through processes known as participatory, collaborative or community-engaged design.

Additionally, to reduce the variation that arises from the disparate ways architectural practice is structured globally, potential study participants were limited to those working in the US and Canada.

Study Method

Figure 75 illustrates the procedures followed in this study, including a recruitment process that included a combination of convenience and snowball sampling. First, individuals known to the author and in the target demographic were approached (convenience sampling). As interviews were conducted with participants successfully recruited in the first round, recommendations for further potential participants were gathered (snowball sampling); these individuals were subsequently approached. The process of the study differed in one detail from its original intention: due to a significantly lower volume of snowball recommendations than anticipated, there was not an opportunity to update the initial interview themes. The initial themes were instead used for all interviews conducted.

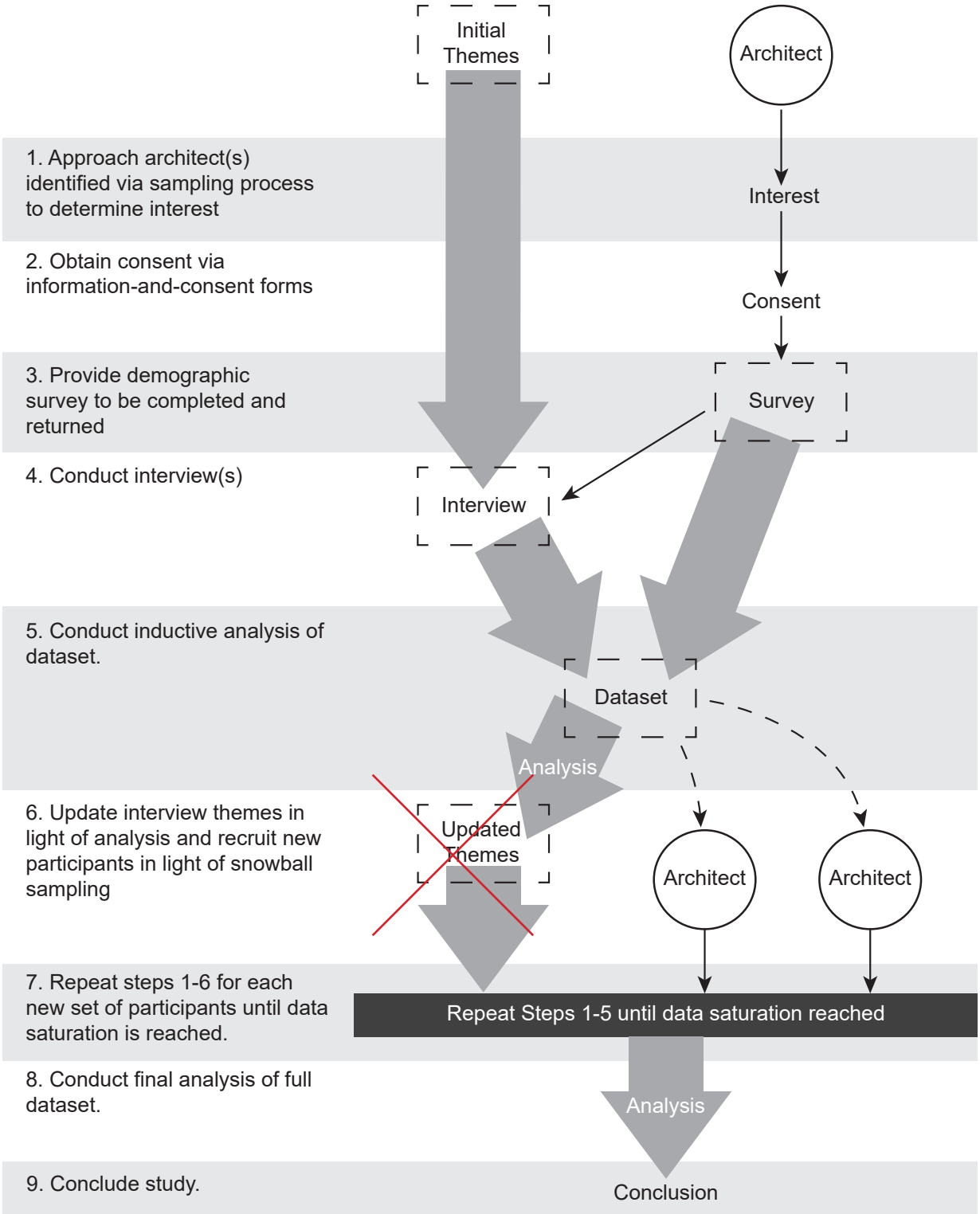

Figure 75 | Study Procedures Flowchart

The study was designed to be cross-sectional, gathering data only once from each participant. Additionally, the study was designed to be descriptive, investigating the experience and practical knowledge gained by architects through participatory design processes and/or designing for individuals experiencing PSU, rather than attempting to correlate between factors and outcomes or explaining why relationships between certain factors and outcomes exist[1].

Participation in the study consisted of 1) completing a brief online demographic survey of less than 5 minutes in length, and 2) participating in a semi-structured interview of approximately an hour in length. Each interview was transcribed and lightly edited for clarity. Upon collection of the data set, an inductive process was used to analyze it. Following initial data analysis, a feedback letter was emailed to participants with a summary of initial findings, thanking them for their participation, and allowing them the opportunity to respond.

The interview itself was structured in four parts, with a series of themes (framed as sample questions) in each part (please refer to Appendix C for all recruitment and follow-up materials, including the full themes of the semi-structured interview). Part 1 was intended to gather respondents' uninfluenced definitions of the terms 'place' and 'placemaking', as well as to gain an understanding of how or if these terms informed their architectural practice. Additionally, respondents were asked what (if any) methods they use to understand the impact of their architecture on the people who ultimately occupy it. Part 2 introduced the definitions of 'place' and 'placemaking' summarized from the literature and asked the interviewees to respond to them. Part 3 focused on the process of participatory design generally, including best practices and challenges, while Part 4 specifically examined participatory design processes with marginalized individuals, particularly those experiencing PSU and/or homelessness.

Study Analysis

The study had a total of nine respondents. Eight interviews were conducted; one interview was conducted with two interviewees simultaneously. The respondents' self-identified genders were split nearly equally between female (five respondents) and male (four respondents); no respondents selected 'other' or 'prefer not to say'. One respondent, Paul Dowsett, Principal Architect at Sustainable.TO, wished to have his responses fully attributed; the remaining eight have been anonymized.

Three respondents described their current career situation as 'intern architect', four as 'architect', one as 'leadership', and one as 'prefer not to say'; fairly good representation of all categories. Interestingly, two respondents that the author would have categorized as 'leadership' instead self-identified as 'architect'.

All respondents had worked on at least one project involving a participatory design processes, and furthermore the firm they currently work for has also designed at least one project via a participatory design process. Seven respondents had worked on at least one project with or for individuals experiencing problematic substance use; five of these said that the firm they currently work for has also designed at least one. Six of the seven respondents who had worked on at least one project for individuals experiencing PSU also stated that they had worked on at least one project with or for individuals experiencing homelessness; the same five respondents said that the firm they currently work for has also designed at least one.

These five respondents represent three firms, including Sustainable.TO, with a significant history of participatory design practice and work addressing PSU and homelessness. Of these five respondents, three had worked on at least one project for or with Indigenous communities, and two of these said that the firm they currently work for had designed at least one project for or with Indigenous communities.

Themes: Place and Placemaking

The first two parts of the semi-structured interview addressed the terms 'place' and 'placemaking' generally.

Place and Placemaking

As noted above, two of the initial questions asked in the interviews were intended to gather respondents' uninfluenced definitions of the terms 'place' and 'placemaking'. Similarly to the literature summarized in Chapter 1.4, respondents spoke of as place something meaningful, associated with memory, emotion, and home:

> *Vanessa: So, I would say that place is a word to define or identify a sense of relationship for the human to the space that they're in. So, it's more than just physical space it's an association or an emotion or a feeling towards the space.*
>
> *Isaac: First word that comes to mind is home, familiarity, some kind of welcoming environment that - yeah, is kind of like a foundation.*
>
> *Paul: To me place means something which exists in your memory and is – is usually something that evokes feelings whether those are positive or negative.*
>
> *Thomas: To me it's something that has a memory so, you know, it's something that can be recalled and has specific properties like someone's home for instance.*

These responses support the proposal made in Chapter 1.5 that place can be used as a framework in both theory and practice.

Placemaking was described by many respondents as an intentional act of creation. As noted previously, all the respondents engage or have engaged in participatory design practices. In this context, some framed placemaking primarily through the lens of their own responsibility as architects to listen to and spatially interpret the needs of their clients, while others emphasized client involvement more directly.

> *Paul: [F]or me, placemaking is – is the creation of that place through a series of intentional moves, usually architectural built environment moves for our specific case.*
>
> *Eric: Oh, placemaking? I guess the intentional act of intellectualizing the myriad activities that might go on, could go on, could be anticipated, and making that place, and ensuring that the making of that place is, is inclusive of the people that are going to potentially participate in it, or have some sort of stake in it – stakeholder.*
>
> *Vanessa: I guess placemaking then is, from a designer's point of view, would be creating that feeling and understanding what it maybe needs to be from the beginning. When you talk to a client if you're designing a house you try to understand what kind of space they want to be in and what kind of place they want to feel like they're in and then you try to make that place.*
>
> *Victoria: So placemaking I would define, I guess, as creating something in that location to suit the people that are in that location. And so placemaking, in my ideal world would be creating something by the people who are in that location for people in that location.*

Nearly all respondents saw placemaking as very forward-looking, talking about meeting needs and providing place for future activities. By contrast, one respondent also saw placemaking as a process of accepting what is already there:

Isaac: I think it's driven by a couple of things. One is individual likes and dislikes, and then the other might be adjustment to what exists or first accepting and honoring what people before you have made but also trying to improve upon what's there. I would say for me the inheriting or the gratitude for tradition or for things that are given comes first and then changing based on individual inspiration comes after.

When asked to comment on the definitions of place and placemaking given in Chapter 1.4, most respondents stated that the definitions clearly and succinctly describe the two concepts. However, the terms were also questioned by a few respondents. Two respondents noted the association of 'placemaking' with public planning practices that, as described in Chapter 3.2, became less than truly participatory when widely adopted. A third respondent thought that the given definitions were apt but reflected that in his own practice the term 'placemaking' was associated with Indigenous buildings; his sense was that the two uses of the word should be delineated in some way.

Placemaking and the Consideration of Meaning are Only for Special Spaces

Several respondents reported that, in their experience, placemaking is only requested by their clients for special programs or public spaces and buildings:

Carrie: [I]t's something that you almost only think about when you're doing religious buildings or public buildings or that sort of thing. As opposed to what's the meaning of this office or a clinic or a lab.

Paul: [C]lients don't necessarily understand that as part of the process, we don't do enough to educate them that that should be part of the process, and the clients that do seem to understand it and ask for it seem to understand and ask for when they know that they're doing something special…[but] when they recognize its something special then, then everybody understands from the beginning that there's a placemaking exercise to be done.

Taylor: I do [consider the meanings of the spaces I design], as much as I can. Again, I'm looking for almost like pro- and con-ing the cost vs. the effect of what is going to be applied in the project. And if the impact is great enough, then yes.

In essence, some buildings and some parts of buildings are considered not special or valuable enough to consider the meaning(s) that make them places or to be designed via placemaking processes. Respondents also reported that it is more likely for a client to expect a consideration of place, realized through a participatory design process, if they provide services for marginalized demographics. Corporate clients, as well as some wealthy private house clients, are much less likely to request or understand the benefits of a participatory design process.

Paul: It's like, some get it and some don't. Generally, when we're working at the community level, though, we are working with people who come from the social work sector; they get it like that [finger snap]. Business people - maybe not so much.

Heather: I think it depends on what the goals of the project are, in my experience anyway. So, a lot of our not-for-profit housing projects or day drop-ins, transitional housing, the people have been very active, but that's because - although they're [not] our end-client, our client who hires us has a goal to enrich people's lives by including them in all aspects of it. Whereas if you get a, say, a wealthy house client, they expect a certain amount of ability to affect things, and probably either are too busy to be integrally involved or don't have the – or don't feel the need to. It's a more corporate delegation based on your roles.

In summary, the uninfluenced definitions of place and placemaking given by the respondents reflected much the same themes as those found in the literature, and the respondents generally agreed that the definitions given in Chapter 1.4 were accurate. Additionally, respondents noted their clients were more likely to request placemaking through a participatory process if the clients were service providers for marginalized demographics.

Themes: Participatory Design Process

The third part of the interview investigated the general processes of participatory design.

Participatory Design: Processes

When asked to describe the methods they used to achieve a participatory design process, most respondents spoke about the power of simple, face-to-face conversations supported by trust. Fun, food, transparency, following through with promises, and ensuring small wins early in the often years-long process were seen as key to achieving and maintaining the necessary trust.

> *Carrie: I think one of the most effective ways is interviewing people about how they work. Getting people to talk about what they do … in the end, if you want to get insights that are valuable and useful, people need to feel comfortable and that they're being heard, and if you're not fully understanding the background there's some trickiness there.*
>
> *Eric: I think it's just, it's conversations. That's all it is. And, you know, trying to achieve a certain amount of ease and familiarity to be able to solicit out of people stuff. Not to manipulate them into their answers and stuff like that. So, I mean all we do is just talk to people… there's always got to be some sort of breaking bread and honorarium, something that kinda loosens everyone up. I think just being approachable, not using jargon, being authentic. I think people can figure out pretty quickly if you're just bullshitting them and you're not going to listen to a thing they have to say. I think being human, being kind; it's how you ask the questions.*
>
> *Isaac: I guess you could sum it up by saying it's very real, like working with actual people with personalities and with their own likes and dislikes. We come together and come up with ideas and try things out.*
>
> *Victoria: [C]reating a space for people to have open and honest conversations and really building trust with the people as well. Because they're not going to tell you how they feel unless they trust you … Things that work really well is really just a lot of face time and following through on what you promise, and actions speak louder than words. They'll only listen so many times before they're like, "well, you're not gonna actually make it happen", and then they won't come back, right. So definitely actions speak louder than words.*

In addition to conversations, participants described a variety of other techniques they used in the participatory design process, including: design charrettes, models and model-making, sketching, brainstorming, interviews, referencing real spaces (through precedents, tours, or even measuring out distances on the ground), and not using jargon.

Participatory Design: Benefits

When asked to describe the value of using a participatory design process, respondents described benefits in three categories: better projects, benefits for the clients, and benefits for the architects.

A major theme in the 'better projects' category was the idea that, as a result of the participatory design process, architects gain valuable information from the client about how they live and what they like. This means they are making fewer assumptions and are therefore able to design better solutions.

Thomas: When we build it this way, we have to go in right from the beginning and actually get design ideas from the community because they know the community better than we do… and the people who live there know a lot of things that we don't know: where's a safe area, where's a – where do people hang out.

Carrie: I feel that the projects where you have a better relationship with the clients and they're more involved, when you move in at the end they are more satisfied with the space and it better reflects what they do… the chemicals company lab that we had, I actually talked to them recently and they have been touring people from the chemicals company, globally, through the space and saying "hey, this is the nicest lab we have!" Mainly because it's designed in a way that makes everything safer: anything that's explosive or that sort of thing is pulled to the back. And that was part of us working with them to figure out how they work and how things go together. And they were heavily involved with that. So, I think, anecdotally, the projects that I've worked on where you have more connection to the users and really understand them better seem to be the projects that go smoother after move-in, as opposed to the ones where you're just kind of deciding in isolation or they're like, "oh, you just figure it out".

Vanessa: I mean there's just, there's so much that you won't understand until you [engage the client face to face] …. because how are you even supposed to begin to know what to design. It doesn't make any sense. Because if you don't have these conversations, if you don't go through this process, you're going to end up designing something that isn't in any way correct or right for the project.

Additional benefits described by respondents included a faster design process, more client buy-in for the proposed design, and a smoother move-in at the end of construction.

A major theme in the 'benefits for the clients' category was that the clients had an increased sense of ownership as a result of the participatory process. In turn, this was seen to lead to the space being used and maintained more carefully, as well as a sense of pride and confidence for those involved.

Victoria: So, the benefit definitely is in creating a community that will be used properly by the community.

Thomas: [R]eally, they take ownership of the design. And we find that that – then people'll use things more carefully, like they're actually taking care of the – the space doesn't get vandalized as much because they had a part in the process, so there seems to be more care for it.

Paul: [P]eople are so proud of the things that they've, that they've had a hand in. One of our favorite examples to talk about is at the East Scarborough Storefront: one of the youth – who we were mentoring through the Community Design Initiative – one of the youth came up with the idea when we were talking about the floor patterning and how that would be laid out in different colors for different visual acuities and wayfinding and all sorts of things, and he had this idea that we should – you know the neighborhood is called Kingston Galloway Orton Park and goes by KGO for short – and he just had this idea that we should, you know, put KGO into the floor right at the front entrance. And he was completely blown away one, that we thought that it was a good idea, that it made its way into the construction documents, that it was actually constructed, and now every time he walks into that space he will point to whoever is standing around and say "that was my idea" and he is so pumped up about that years later, and you just think, what did that one small act give him confidence to do in other aspects of his life that we will never know?

Eric: I think a lot of times it's about – a lot of times building the foundational framework of the building from the get-go there, that people are actually buying into the process, taking a certain amount of ownership of it.

Some further benefits described in this category included: building social relationships and demystifying the architectural process. Additionally, one respondent reported an anecdote of an individual participating in a building process specifically as part of his recovery from Problematic Substance Use:

> *Isaac: I know from the few times we've talked about it that he uses work around the temple as part of his recovery in a way. And again, like I said, just to feel productive and feel like he's contributing sort of emotionally. It's good for him.*

In the 'benefits for the architects' category no one theme emerged strongly. Examples given by respondents included that the process was personally rewarding, was eye-opening regarding personal biases, and was an opportunity to think outside the box.

Participatory Design: Challenges

When asked about the challenges faced in a participatory design process, as significant theme that emerged was the need for the architect to check their own ego.

> *Paul: I also think that one of the big obstacles that is faced by us as the architects and designers is checking our ego at the door. That's a big one. The process doesn't go well when we walk in with preconceived ideas. We have to be open and very often we'll start with preconceived ideas because it's what we do and our minds just go to that but we have to be open and flexible enough to discard those and…go with the flow and go with where the community is leading things. Whether it's where we want to go or not.*
>
> *Eric: So, I feel like we have quite a responsibility and it's the kind of thing where, like I say, I think that you have to put your ego on hold and that you have to acknowledge that you might not create an award-winning building and if that's what you want to do in your profession, maybe this isn't the kind of stuff you should be doing.*
>
> *Vanessa: [Placemaking] also reminds you that you're not designing a place for yourself. You're designing it for someone else 'cause, I think that that's the biggest shift, I'd say, between studying architecture and then actually practicing it 'cause you have to let go of that - I guess ego maybe is the right word and thinking about the idea of making a place for someone else is important to constantly keep on your mind when you're designing and when you're asking them questions and when you're communicating with them.*

Another major theme was the limitations of tight budgets, and therefore the necessity of not raising expectations that can't be followed through:

> *Thomas: Yes - money. People don't want to pay for it…people have to take time out of their day to do it. Why aren't you as professionals that we're paying just doing this? So, you have to show people the value.*
>
> *Eric: The biggest challenge is getting money.*
>
> *Heather: Well, you have challenges when the client doesn't understand that you are asking them all these things, but not everything will show up in the end. That you're asking a lot to try and get a sense of – to get to understand who they are and how they tick, what makes them tick, and what they like, but it's not saying, if we talk about hot tubs that there's going to be a hot tub at the end. It may be just 'oh, do you like baths more than showers, would you want to use a hot tub?... there's challenges because some people go away thinking 'oh, I'm gonna get a hot tub!' So, you have to be very clear and repeat it many times, that just because we're talking about it*

doesn't mean it's actually gonna show up in the end. And, related to that would be issues about the budget, so if you have a very strict budget and we've talked about things and then you have to reduce the scope, it can lead to a lot of misunderstanding.

Carrie: So, it's a careful balance … to ensure that you're not giving staff an impression that everything that they'll come up with are going to end up in the design. Because some things just cost too much…

Vanessa: Obviously a big [roadblock] is money…

A third theme discussed by several sources was the difficulty of navigating bureaucracy and the various codes and policies regulating spaces:

Victoria: I think one of the other challenges of working in community are the policies. So, we can do what we can, between you professionals and the residents and getting them to - empowering them to come up the ideas and all that but a lot of times, in the end, what will slow things down is red tape.

Vanessa: [I]f it's a health project, Ministry of Health is very strict. If it's a community housing projects - again [the local social housing provider] has very strict guidelines. In general, there's really strict accessibility guidelines. There is a lot of strict framework around all of these projects.

Several other challenges were discussed, including: obtaining buy-in from the design team (especially in large firms with large teams), obtaining buy-in from senior staff or management in a more corporate setting, navigating individual differences in understanding space, and building trust with communities and people who have been misled a lot in the past.

An unexpected finding in this study was the unanimous perception of a dearth of resources on participatory design and the sense that each firm was the only one implementing participatory techniques.

Paul: There's not a lot out there. I saw the possibility in this when we were invited at the last minute to join a design charrette for the East Scarborough nine years ago and the organizers of the charette … had engaged a collection of A-list architects in the City of Toronto to participate … [and] At the last minute every one of those A-list architects pulled out of participating because they were too busy to dedicate time to this … And everything built off of that. But that was kind of the touchstone moment for a lot of us.

Eric: [T]here was a lot of connection with Dutch architecture and the humanist school of Dutch architecture. Particularly Herman Hertzberger would come and lecture at our school a lot, and he wrote a famous book about teaching architects about – so his thing was he always carried a tape measure, and he talked about place. The chair of the school talked about things called 'friendly objects'… So [the other partner at the firm] and I had been doing primarily single-family housing, a lot of subdivision housing … And we were invited to bid on our first public housing project, I think it was a homeless shelter, or second-stage housing maybe, one step up from a homeless shelter, and we went in for the interview and we were up against two heavyweights of the day; there was no way we were gonna win this one…And then I said, "and what we would do is we would go into the shelter and talk to the men that are going to eventually be living in this project … and we would afford them the same consideration we would do for a rich person"; you wouldn't just design a house for someone and not ask them what they wanted, or their lifestyle, what their hobbies are. And, we won the project. So, when I got to know the ED [executive director] after winning it, I said "why would you give it to us?" And she said, "we were blown away. We had never heard such a thing where you'd actually go in and talk to the homeless guy".

Heather: Well, Jan Gehl's firm. Umm. I can't think of any other – nothing's really coming to me at the moment.

Vanessa: I took a course that had nothing to do with architecture, actually, it had to do with environmental research, and this particular lecturer was talking about the process of census as a method of informing data with which to use to understand and make policies. And the guy was talking about the idea that in, especially in a developing country, you would go in and take a certain census or - it doesn't have to be a census, but a certain data set from the community. And literally in a week it would be different. And then you'd be doing a project for five years and you'd never go back to the site and you'd never understand how this thing might have completely transformed and just doesn't seem that the efforts you're making are at all in line with reality anymore. So, then what's really the point. And then thinking about that and comparing it to architecture it's kind of the same thing.

Victoria: Well you know I feel this process has been an evolution … I think Jane Jacobs is definitely one of the inspirations for pretty much everybody, in terms of how she thinks about cities and places and spaces, and then just the proof is in the pudding, in the sense that … just seeing the kids' eyes and seeing them believe that what they think and what they design really matter has stuck with me.

This finding forced participant recruitment to rely more heavily on convenience sampling, as far fewer snowball recommendations were generated than expected. Additionally, it meant the decision to keep participants anonymous precluded participants in contact with each other and creating the very network the study was intended to reveal.

There is Little-to-No Feedback Loop

Perhaps related to the lack of resources and the sense of isolation discussed by respondents regarding participatory design is the fact that few of those interviewed reported gathering follow-up information on their designs in any formal way:

Thomas: Ideally, yes. I can't say we do a lot of [post-occupancy surveys or other follow-up]. I mean we have visited some of our homeowners and some are friends, still; they've been back and back. But a lot of them no, unfortunately. That's after the fact, and before the fact we try to use 3d modeling, physical modeling, drawing, all those sort of things to put ourselves in the space and we can – now we've been using virtual reality to even immerse ourselves more to try and get the feeling before its built.

Heather: [W]e always do an extensive amount of consultation with our clients before we start on the project … Not as much as I would like to [after]. More – I think we've done [post-occupancy surveys or other follow-up] mostly with the – when we've done youth housing. Probably because they're so vocal [chuckles].

Carrie: [A] lot of work goes in to predesign or pre-occupancy … on the more empathy related design side, we'll do interviews with staff, we'll do focus groups, or visioning sessions. In some cases, tours of the space or even inhabiting the space like where we might do an interview with a department and then actually work out of their space for a couple hours and observe how the space is being used currently.

Eric: I wish we could, I mean that's actually very sad that it's not included in – you know, we have all sorts of other things that we're obligated to do at the end of a project, like the one-year warranty follow-up, but no-one ever asks you to do a one-year warranty follow-up on the wellbeing of the people that are in the building. So, we do it by, usually, maintaining close contact with

our clients - we're very fortunate that most of our clients become our friends and we're invited back over and over again to their buildings or we come and visit them – and we observe, and we encourage our clients to tell us what works, what doesn't work, and if you get repeat business that's when you usually find out what worked and what didn't work. But I think it's a huge failure of our profession not to have that feedback loop.

Despite the positive results seen from the participatory design process, and the desire several respondents expressed for gathering more feedback, there are few mechanisms for follow-up. Most of the effort of understanding how the spaces are going to impact people happens pre-construction through participatory and observational processes rather than post-occupancy. Only two respondents reported ever formally gather post-occupancy feedback:

Victoria: So, I'm not an evaluator by any means. So often times I will work with an evaluator to really properly assess but on just my own informal basis it's really more - it's conversations with people.

Carrie: So sometimes we'll go back and see how the space is working afterwards or redo some of the exercises, whether that's an employee survey or interviewing people to see how the space is working afterwards. But I would say post-occupancy is definitely more rare than going in at the beginning.

Respondents proposed several reasons for this lack of follow-up: architects are not trained for it, the complexity makes it hard to be objective about the reasons why something did or didn't work, and a lack of time means immediately moving on to the next job. Regardless, this puts each firm in the position of separately evolving its own participatory process.

In summary, respondents found the process of participatory design involves open conversations supported by various engagement methods. The process has benefits for the project, the clients, and the architects, and challenges include the architect's ability to set aside their own ego, limited budgets, navigating bureaucracy, and a lack of participatory design resources. However, the post-occupancy evaluation process for nearly all projects is, at best, informal.

Themes: Participatory Design with Individuals Experiencing problematic substance use and Co-occurring Homelessness

The fourth part of the interview investigated whether participatory design was used for this particular demographic, and if there were any special considerations that needed to be taken when doing so.

Is it possible and/or useful?

As noted in Chapter 2.3, and above, the question "would people in the midst of a PSU-induced crisis even be able to engage with design?" was raised multiple times throughout this thesis. Respondents who did not have experience working with this client group expressed a similar sentiment:

Carrie: I think you would have to start working a lot with the services around it; people that are offering services or helping to get people into those housing or treatment spaces. But I think if there was any way to involve, not necessarily people in crisis, because I think that would be - I don't know if it would be appropriate to work with people in crisis to design a happy new space that may not be able to directly help them immediately - but if there was a way to involve people who had gone through crisis or who had lived in previous types of space, that were stable enough to be involved with the process, I think there could be a lot of insights there that you wouldn't get otherwise … [but] I think it might be unnecessarily cruel to involve people that wouldn't directly

benefit from this space, who might need the benefit of what you're designing, in the process. You'd also have to make sure that you're vetting any exercises you're doing with your higher-level client, service providers, just to make sure, because as architects we're not necessarily overlapping with a Venn diagram of the type of people who would live in this space, generally.

Taylor: The problem … is a) it's not easy to get a hold of them; "hey, person A who drinks so much and wants to go to a rehab, come and sit down with me and tell me what you want in such space" is rather unattainable. Also, on this you can actually find the people who have been through these spaces and was cared for and now they're coming in with their experiences. So, I think that would be a good group to tackle. But the future users is kind of hard 'cause, again, if they haven't been and they haven't experienced it they also don't have that many realistic ideas of what is going to be.

Essentially, they suggested do not bother people in crisis; instead speak with those who have lived experience but have recovered. By comparison, those respondents who do work with this demographic saw participatory design as equally rewarding for this group:

Heather: And that doesn't matter whether it's like a single-family house or a shelter for homeless adults or transitional housing for youth; it always begins with understanding, really in a very hopefully deep way, not about what kind of architecture they like, but how they like to live, how they want to live, how they want to work - whatever the program type is - and start to really understand what the issues are, and what they're hoping that this new space will allow them to do better, or to feel better.

Paul: [We did a design charrette with street-involved youth] And it was interesting, there was already an interior design firm on board, there was already construction management firm on board, and both of those firms – so they're both very well-established firms … to call them skeptical would be a misuse of the word skeptical. They were so far in the skeptical range I don't think there's really a word – they were disbelieving that there's gonna be any value to this process at all. And they left that evening singing the praises of this and "why don't we do this all the time" and they were turned around in one session. They were very standoffish at the sides of the room to begin with, and by the end of the session they were, you know, sleeves rolled up elbows in doing the work with the community members at the tables. They couldn't get enough of it. And so, it would be nice if there was a mechanism where we could engage with the street involved more regularly… and so that's not something that we, as an office flinch from. So, I think that's the sort of work that we really love to do and want to do more of and want to be recognized in the world for engaging that way with all sorts of people who are marginalized for reasons that they really shouldn't be.

Eric: And boy, [talking to the street-involved individuals who would be using the shelter] was enlightening. What would you know – what would I know – about living on the street, homelessness, their history, why they are there, and all the stuff that went with it; drugs, mental illness, poverty…In fact, what was so disappointing was their values were incredibly middle-class. Totally middle-class. You're expecting this heroic character with life experience and then build them some tin can for them to live in – they didn't want that! They wanted exactly what I was living in. They wanted a door that locked, they wanted tenure, they wanted security. So, sometimes you hear things that you don't want to hear. So that's what we give them.

These responses should allow the question of whether or not individuals experiencing problematic substance use and co-occurring homelessness can engage in participatory design to be set aside: not only can it be done, it is already being done successfully. The respondents did note, however, some particular considerations that should be taken when designing with this demographic.

Special Considerations for Client Interaction

The main consideration noted by several respondents was the need to meet clients in this demographic where their level of ability and comfort is at any given moment. This could mean hosting shorter sessions, perhaps with smaller groups, and being aware that some people may feel uncomfortable participating.

> *Eric: I think I might do it more one-on-one with someone that is marginalized and make them feel more comfortable, that it isn't a huge big thing that they feel uncomfortable talking in a group of 20, 30, 40 people.*

> *Victoria: I think the approach there would have to be a little bit different in the sense that the techniques to build trust would have to be a little bit different. I think when you have somebody that is not necessarily the most stable on day to day basis, you have to work with where they're at literally in that minute. … So, probably looking at it as 20 to 30 minute spurts as opposed to a two-hour session, because they probably wouldn't last for 20 to 30 minutes because they don't ever stay anywhere for that long, right. And then the idea of asking them to collaborate; a lot of them aren't very trustful of others, so the idea of collaboration would have to be a little bit different. It'd be less about each individual table collaboration probably more of a group conversation but then there would likely be a lot of refereeing probably of ideas and different conversations just to make sure that we're still creating a safe environment for people to be there.*

Respondents also noted that, due to the inherent transience of this demographic, it is difficult to get the same group of individuals for multiple design consultations:

> *Paul: [O]f course it would have been really nice to have some continuity of mentorship in the design process with the street-involved youth, but just by their very nature they're rather transient. They don't have fixed addresses or email addresses or ways to contact them, so unless they come into what is now the Egale Counseling Centre – unless they come in and they can sort of be… gathered at the right moment to come to a session of community engaged design, there's not really a way to reach them…And the next encounter we're about to do in that vein is … with a group from Peel Region who work with the homeless or street involved – certainly the residentially challenged – and we'll see how that goes because we're able to gather together a group of people for one charette tomorrow and the idea is – the hope is that we will have the same group of representatives of that community in Peel Region that we'll be able to keep them together for at least three charettes. That's the hope. We don't know that that's going to work yet, but, stay tuned.*

Finally, respondents noted that it's important to be aware that not everyone will participate in an open manner:

> *Eric: There's a lot of cons and bullshitters. We've had situations where you get a guy who's just a keener, who's on every single committee … and then you find out all the computers that are being stolen, all the guys that're being victimized, is this guy. And he's just really good at it, like so good at it, because he's made you believe he's a fantastic, classic case of a guy who's come off the street, been rehabilitated, and the building is working for him and he's gonna - they're so good, they're making you feel like, man, my building's a huge success because of 'Bob', and then Bob is just playing the system. Got himself in and then took over the building. So, I think you have to be cognizant and aware of all the different dynamics that are going on.*

> *Heather: [P]eople with addictions are very canny individuals, who can read you better than you can read yourself. There's a lot of bullshit, and they can – they're very good at telling you what you want to hear, in a sense.*

Despite these additional considerations for client interaction, all respondents who had previously worked with individuals experiencing problematic substance use and co-occurring homelessness described the process as achievable and rewarding.

Special Considerations for Building Design

Two respondents in particular also noted that there were particular considerations that had to be taken with the building design. Foremost among these was that the client group is not homogenous, and what works for an individual or a group of individuals could be exactly the wrong thing for another:

> *Eric: [T]he homeless population … is not a homogeneous group, and it can be pretty complex and people can tend to romanticize it a bit…*
>
> *Heather: [O]ne thing I'd say … is that near-homeless, drug and alcohol addiction, those are all very separate groups of people. Lots of times, it is a really, really, really bad idea to mix them together, because they have very different issues that they're grappling with. And what you don't want is for people to feed on – it can become its own ecosystem.*

Examples they gave of specific solutions included: no hiding places in which to secrete substances, open-air storage to address lice and bedbugs, no surface or furniture that can't survive being hosed down and drains in bedrooms, large tiles instead of small tiles in bathrooms, and designing escape routes for the people providing the services. However, there was one general principle that applied to all: the buildings and materials had to be extremely tough:

> *Eric: [T]he buildings have to be more resilient. And so, I've seen the damage done, and so I do care a lot about human dignity, so you want buildings to be resilient, you want them to be maintained, you don't want them to look like social housing where we put people.*
>
> *Heather: You want to make sure it's incredibly robust, because people can have psychotic episodes. Or, as part of the, just, gaining life skills, you know, good – whether it's a shelter or detox or whatever – they'll be like 'take it out on the column, don't take it out on your friend', if you're feeling – so you have to have surfaces that can withstand that … but if you know it then you can still design a really welcoming, domestic space. The problem is if you don't know about that and you design it, it falls apart.*

Architecture Isn't Everything

These two respondents also noted that architecture isn't everything; the social aspect is extremely important.

> *Heather: And all of this is prefaced by saying, if you don't have the right [service] operator, no matter how good your architecture is, it's not going to do anything. And there's a real example of that with the project we did, Project A, which at the time we designed it the client was incredibly forward-thinking and the building was really innovative not only architecturally, but in terms of service delivery. So, there was no staff office: the staff were in little pods all throughout the building. Which supported a service delivery that was consistent with their community-building mandate.*
>
> *Then after the Harris government got in after about five/six years and his government had eviscerated the not-for-profit sector, none of those goals – housing goals or community-building goals – were able to be achieved, and they made a staff office and the staff would always sit in that office instead of being deployed all over the building. People started to have serious personal safety issues because the staff weren't there in a non-confrontational manner. If you weren't a drug addict when you moved in there, you were a drug addict after a week because the amount of*

drugs that were getting into the place, and alcohol. The first sign of bedbugs, they just took out all the shared furniture and never replaced it. So, all those things can materially affect the success – and again, doesn't matter how good the building is; that's all about what are your goals as a housing organization, and how you treat your client.

Eric: A thing I've found that was interesting … actually taking care of their space was difficult. Which then made me think, well, architecture can't solve everything. So, I've worked with some pretty creative providers and we've talked about things like, … maybe this is one group of people who should actually have a cleaning person come in once a week as they're just totally incapable of organizing themselves around cleaning and then what happens is the apartment becomes so out of control they can't clean it. Or they're hoarders.

However, all respondents did still see architects as carrying out important roles, including:

- Observing how the space is/is not being used and bringing that to people's attention
- Utilizing a heightened spatial understanding to create certain effects through spatial moves
- Differentiating between social issues, spatial issues, and social issues with a spatial basis
- Facilitating conversations that go way beyond architecture
- Navigating the various codes and bureaucracy

In summary, participatory design with individuals experiencing problematic substance use and co-occurring homelessness is both possible and beneficial. There are some adjustments that need to be made around how interactions occur, but all the benefits described for participatory design more generally still apply.

Anecdotal Support for the Three Treatment-Related Spatially-Informed Recommendations

Finally, although not specifically discussed in the interviews, several responses provide anecdotal support for the three treatment-related recommendations outlined in Chapter 2.3.

Recommendation 1: Providing Spatial Stability

Two respondents described projects with highly successful outdoor space that allowed individuals to simply hang out:

Vanessa: So, the main entrance is through the back and they did this specifically to not piss off neighbours because it is an area that is being gentrified and they don't want to have any problems … They have a really nice back patio which the firm designed. And when you're walking in someone comes up and talks to you and asks you about how your day is going and what - you know - "why are you here? Have you been here before?"

Heather: So we did a drop-in at Birch and Main, it was an old bank building. And the proper entrance, when it was a bank building, was on Main, and in talking to the client we realized that, actually that's not the right entrance for this client group, because a lot of them would come very early in the morning, like six, seven o'clock when the shelter closed where they slept, so there was a lot of friction and conflict if they waited right at Main and Birch at the front, the old front entrance. So, we said, … 'let's make the entrance here, at what was formerly the back, and make this a courtyard', so that in that space of time when they get out of their residential shelter at seven in the morning, and before the drop-in opens at, say, ten, they can actually get in through the gate here and have a place to hang out that's covered, if they want to they can put a barbecue out

there, they can make something, and then they're not in conflict with all the people all around here, who generally are not very supportive of people hanging around.

Recommendation 2: Maintaining Spatial Stability

One respondent reported anecdotal relapses occurring when individuals re-inhabited the spaces of their using identity:

> *Eric: The difficult thing with substance abuse, including alcohol, is that, the guys have told me that, when they've come clean if they're set back into a world where there's other users the relapse is very, very high. So, I've heard stories of guys moving all the way to [Ontario city B], for example, where they don't know anybody and they can actually have a better recovery. And then they come back to [Ontario city A] and within two weeks they're back because they smell the alcohol on someone's breath.*

Recommendation 3: Re-establishing Efficacy and Consolidating Positive Identity Through Placemaking.

All the reports of an increased sense of pride and ownership, in particular the anecdote recounted by Paul where a youth suggested a specific floor pattern for the community centre (see page 133), speak to the success of participatory design in creating a sense of efficacy for those who participate. Furthermore, one respondent, Isaac, reported knowing someone who was actively engaging in placemaking, of his own accord, as part of his recovery from PSU.

Summary

The responses to this study:

- support the use of the definitions of place and placemaking (as given in Chapter 1.4) in architectural practice
- support the process of participatory design as efficacy-building
- demonstrate that participatory design is both possible and rewarding with individuals experiencing problematic substance use and co-occurring homelessness

and

- provide anecdotal support for the three treatment-specific recommendations outlined in Chapter 2.3.

The next chapter compares these results to the evidence gathered from the literature in Parts 1 and 2 and Chapter 3.2. Finally, Part 4 of this thesis describes a new spatial proposal for addressing co-occurring PSU and homelessness.

Chapter 3.3 Endnotes

1 Ranjit Kumar, *Research Methodology : A Step-by-Step Guide for Beginners*, vol. Fourth edi (Los Angeles: SAGE, 2014).

3.4

Study Discussion

Combining the themes uncovered in the study interviews with the evidence gathered in Parts 1 and 2, there are three main points to be drawn from this study. These, together with the anecdotal evidence reported at the end of Chapter 3.3, support the recommendations made in Chapter 2.3.

Point 1: Participatory Design is Achievable and Rewarding with Individuals Experiencing problematic substance use and Co-Occurring Homelessness

Regarding the question of whether or not individuals experiencing problematic substance use and co-occurring homelessness can engage in participatory design, the respondents emphatically answered that not only can it be done, it is already being done successfully. Respondents who had participatory design experience with individuals experiencing problematic substance use and co-occurring homelessness were able to describe detailed examples of knowledge they had gained from the process.

Furthermore, Heather described the ability of individuals in this group to describe spatial ideas in a very similar way to that represented in studies reviewed in Chapter 2.2, such as the study by Malins *et. al.*[1]: using (unsurprisingly) colloquial language rather than terms from architecture, urbanism, planning, or geography, yet effectively able to communicate their thoughts, feelings, and wishes about the built environment.

Finally, it is worth noting that respondents stated that organizations that provide services for individuals in this and other marginalized demographics, the same demographics that Tan[2] and Fast *et. al.*[3] suggested have a hyper-awareness of spatial dynamics (see Chapter 2.2), compose the client group most likely to request participatory design processes. This may be a coincidence, or be related instead to the broader set of values that would draw someone to work at such an organization, but this trend was noted by three of the respondents with the most experience designing with individuals experiencing problematic substance use and co-occurring homelessness.

Therefore, the study substantiates that participatory design is achievable and rewarding when practiced with individuals experiencing problematic substance use and co-occurring homelessness, and that individuals in this group are able to effectively express spatial ideas through informal language.

Point 2: Place as a Spatial Framework for Wellbeing has Utility and Resonance in Practice

When asked to give their uninfluenced definitions of the word 'place', study respondents spoke of it as something meaningful, associated with memory, emotion, and home. This echoes the neuroscientifically-substantiated descriptions of place put forward by theorists such as Dolores Hayden[4], Yi Fu Tuan[5], and Edward Casey[6] (see Chapter 1.4), indicating that the concept is both similarly defined and useful within architectural practice. Respondents also defined 'placemaking' in a manner that echoed the literature (see Chapter 1.4), framing it as a process of interaction and creation rather than an instance of discovery.

These definitions of place and placemaking suggest that the place theory originating in geography has resonance with architectural practice, supporting place as a useful framework for conceptualizing the relationship between wellbeing and the built environment. Additional support comes from the fact that the study revealed specific instances where the two fields can directly contribute to each other. For example, respondents and their clients identified placemaking as something that primarily applies to special spaces (religious buildings, gathering spaces, etc.), whereas therapeutic landscape theory has extended the concept of place to more mundane, everyday spaces[7].

Conversely, a concept arising from the interview responses that is not prevalent in the geographic literature around place (but was previously mentioned in the architectural literature on placemaking[8], see Chapter 1.4) is the idea of a facilitator of placemaking. Most respondents saw their role as something of an interpreter, translating the social and practical needs and wants of their clients into a spatial language. Two respondents suggested, similarly to the emerging field of therapeutic planning[9], that the process of facilitation could be even stronger if it were integrated with the theory and practice of social work.

Many respondents, particularly those in 'architect' or 'leadership' roles, had gained a significant body of practical knowledge and experience regarding what participatory design techniques work and do not work; as noted in Chapters 1.3 and 1.5, this practical knowledge could contribute significantly to geographic theories of place and placemaking. However, the study also revealed a significant gap in the architectural profession: a lack of follow-up resulting in minimal feedback collection that relies primarily on coincidence. As a result, design knowledge is largely built by an individual or within a firm, not across the profession as a whole. This was demonstrated by the fact that the respondents had difficulty identifying both precedents and peers as sources of good participatory design knowledge.

Therefore, the study indicates that the concepts of place and placemaking already resonate with architectural practice and further identifies areas where place theory can contribute to architectural practice and architectural practice can expand place theory. This supports the concept of place as a spatial framework for wellbeing (as described in Chapter 1.5). A gap identified in the interviews is that architectural practice currently suffers from a lack of follow-up research.

Point 3: Participatory Design, Placemaking, and the IKEA Effect

Recommendation 3 (see Chapter 2.2) proposed that, as evidence gathered in Chapter 1.1 indicates that problematic substance use is the result of a *perceived* lack of agency (ability to make a change occur; in this case, the ability to choose not to consume a substance or substances) rather than an actual lack of ability to choose, problematic substance use treatment should centre on restoring an individuals' sense of self-efficacy. Recommendation 3 further proposed placemaking as a way to demonstrate spatial agency and restore a sense of efficacy.

Some of the benefits of participatory design reported by study respondents, particularly an increased pride and confidence in themselves and an increased sense of ownership over the finished spaces, echo a concept from marketing and consumer research called the IKEA effect: namely, that "when people imbue products with their own labor, their effort can increase their valuation" of an object[10]. Tested on small-scale items such as Lego kits, origami items, and IKEA boxes (hence the name), this recently substantiated effect is present even when people are not able to customize the things they are constructing[11]. While the underlying mechanisms of the IKEA effect are still being investigated[12], one study proposes that directly making or building is a method of demonstrating to one's self (and to others) one's competence and self-efficacy[13].

Therefore, this thesis is proposing that participatory design is a larger-scale instance of the IKEA effect; in fact, the article in which the term originated concludes by proposing home improvements as a possible extension of the concept[14]. Doing so offers a further substantiation of, and theoretical backing for, this thesis' proposal and study finding that placemaking, including through participatory design, is effective as a means of boosting or even restoring a sense of self-efficacy and self-worth. This, in combination with the anecdotal report by one of the interviewees (refer to Chapter 3.3) suggests that there may be therapeutic benefit to engaging in placemaking processes for individuals experiencing problematic substance use.

Conclusion

Connecting evidence from the background, literature review, and interviews leads to the following conclusion: there is evidence to suggest that a poor-quality built environment contributes to the development of problematic substance use, that physical dislocation and changes to the built environment disrupt substance use patterns in ways that can be helpful or harmful, and that placemaking (including, but not limited to, through participatory design) may be an effective and practical mechanism to restore the sense of efficacy that problematic substance use destroys.

These findings support the recommendations made in Chapter 2.3, namely:

1. For those whose substance use has had severe impacts, resulting in homelessness or unstable housing, reduce the negative impacts of socio-spatial marginalization by providing stable access to places.
2. Limit the negative effects of place-shifts by minimizing or eliminating dislocation and rapid changes to the built environment. If such changes are necessary, provide extra support to stabilize new habits and identities.
3. Actively engage in placemaking during the treatment process as a way to re-establish a sense of efficacy and consolidate the new non-using or reduced-use identity.
4. Enhance wellbeing and protect against problematic substance use by building cities that act as resources rather than stressors. This can be accomplished by using the principles of spatial Generalized Resistance Resources to design salutogenic spaces.

This is a paradigm shift in the way the etiology and treatment of problematic substance use is addressed. Therefore, Part 4 of this thesis outlines a proposal of what this new paradigm might look like and how it might be achieved.

Chapter 3.4 Endnotes

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2 Qian Hui Tan, "Smoking Spaces as Enabling Spaces of Wellbeing," *Health and Place* 24 (2013): 173–82, doi:10.1016/j.healthplace.2013.08.003.

3 Danya Fast et al., "Safety and Danger in Downtown Vancouver: Understandings of Place among Young People Entrenched in an Urban Drug Scene," *Health and Place* 16, no. 1 (2010): 51–60, doi:10.1016/j.healthplace.2009.07.004.

4 Dolores Hayden, *The Power of Place: Urban Landscapes as Public History*, vol. 1st MIT Pr (Cambridge, Mass.: MIT Press, 1995).

5 Yi-fu Tuan, *Space and Place: The Perspective of Experience* (Minneapolis: University of Minnesota Press, 1977).

6 Edward S Casey, *Remembering: A Phenomenological Study*, vol. Second (Bloomington, IN: Indiana University Press, 2000).

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9 David Alton, "Therapeutic Planning," 2018, https://therapeuticplanning.weebly.com/.

10 Michael I. Norton, Daniel Mochon, and Dan Ariely, "The IKEA Effect: When Labor Leads to Love," *Journal of Consumer Psychology* 22, no. 3 (2012): 453, doi:10.1016/j.jcps.2011.08.002.

11 Norton, Mochon, and Ariely, "The IKEA Effect: When Labor Leads to Love"; Daniel Mochon, Michael I. Norton, and Dan Ariely, "Bolstering and Restoring Feelings of Competence via the IKEA Effect," *International Journal of Research in Marketing* 29, no. 4 (2012): 363–69, doi:10.1016/j.ijresmar.2012.05.001; Marko Sarstedt, Doreen Neubert, and Kati Barth, "The IKEA Effect. A Conceptual Replication," *Journal of Marketing Behavior* 2, no. 4 (2017): 307–12, doi:10.1561/107.00000039.

12 Sarstedt, Neubert, and Barth, "The IKEA Effect. A Conceptual Replication."

13 Mochon, Norton, and Ariely, "Bolstering and Restoring Feelings of Competence via the IKEA Effect," 364.

14 Norton, Mochon, and Ariely, "The IKEA Effect: When Labor Leads to Love."

Part 4 | Spatial Proposal

A New Paradigm for Addressing Problematic Substance Use and Co-occurring Homelessness

4.1

Summary of Part 3

Chapter 3.1 | Summary of Part 2.

Chapter 3.2 | Originating after the Second World War, participatory design has emerged as a method of placemaking in the context of architectural and planning practice. If implemented incorrectly, it has the potential to create negative place-interactions, but if implemented successfully it can provide a sense of efficacy and a positive place-identity. The still-emerging field of therapeutic planning has shown promising early success employing a participatory process as a means of addressing conflict and trauma.

Chapter 3.3 | Interviews were conducted to investigate the feasibility of placemaking through participatory design for individuals experiencing problematic substance use. The responses to the interviews a) support the use of the definitions of place and placemaking (as given in Chapter 1.4) in architectural practice; b) support the process of participatory design as efficacy-building; c) demonstrate that participatory design is both possible and rewarding with individuals experiencing problematic substance use and co-occurring homelessness; and d) provide anecdotal support for the three treatment-specific recommendations outlined in Chapter 2.3.

Chapter 3.4 | Connecting evidence from the background, literature review, and study leads to the following conclusion: there is evidence to suggest that a poor-quality built environment contributes to the development of problematic substance use, that physical dislocation and changes to the built environment disrupt substance use patterns in ways that can be helpful or harmful, and that placemaking (including, but not limited to, through participatory design) may be an effective and practical mechanism to restore the sense of efficacy that problematic substance use destroys.

4.2

Conclusion: Spatial Proposal for Addressing Problematic Substance Use and Co-occurring Homelessness

The following is a proposal for addressing problematic substance use with co-occurring homelessness, based on the background (Part 1), literature review (Part 2), and interviews (Part 3) contained in this thesis. For a summary of Parts 1, 2, and 3, please refer to Chapters 2.1, 3.1, and 4.1 respectively. The aim of this proposal is to benefit those who experience the most marginalization and the most negative health effects on a day-to-day basis: individuals experiencing problematic substance use and co-occurring homelessness.

Criteria

Chapter 2.3 outlined four recommendations as the basis of a new paradigm for addressing PSU (problematic substance use), including PSU associated with co-occurring homelessness:

- Recommendation 1: For those whose substance use has had severe impacts, resulting in homelessness or unstable housing, reduce the negative impacts of socio-spatial marginalization by providing stable access to places.
- Recommendation 2: Limit the negative effects of place-shifts by minimizing or eliminating dislocation and rapid changes to the built environment. If such changes are necessary, provide extra support to stabilize new habits and identities.
- Recommendation 3: Actively engage in placemaking during the treatment process as a way to re-establish a sense of efficacy and consolidate the new non-using or reduced-use identity.
- Recommendation 4: Enhance wellbeing and protect against PSU by building cities that act as resources rather than stressors. This can be accomplished by using the principles of spatial Generalized Resistance Resources to design salutogenic spaces.

Simplified, these recommendations become four criteria for the treatment process of individuals experiencing problematic substance use and co-occurring homelessness:

1. Immediately provide stable spaces for individuals to take ownership over.
2. Do not change their built environment abruptly.
3. Facilitate their engagement in placemaking.
4. Ensure the spaces provided for them promote wellbeing.

These four criteria form the basis of the proposal. This is a paradigm shift in the way PSU is treated. The process works to stabilize people spatially as well as medically and socially, seeing all three as important and to be addressed congruently rather than sequentially.

Evaluating Existing Treatment Models

Neither of the existing treatment models, Treatment First and Housing First, meet these criteria. The Treatment First process does not meet any of the four criteria. In this framework, spatial stability is contingent upon participating in treatment and (frequently) maintaining abstinence. Moving between different stages in the Treatment First process means that Criterion 2 is also not met. This is further exacerbated by the fact that Treatment First often results in continuously cycling through the system rather than steadily progressing through it. Criteria 3 and 4 may be met by individual service providers, but only incidentally. By these criteria, the Treatment First model is found to be inadequate.

The Housing First treatment process fares somewhat better. It meets the first two criteria by quickly providing individuals with a stable space that is theirs to take ownership of with the intention of letting them keep it indefinitely. However, as with the Treatment First model, Criteria 3 and 4 may be met by individual service providers but are not considered a standard part of the treatment process. Therefore, Housing First is a significant improvement on the Treatment First model, but ultimately still does not put enough focus on the spatial aspects of PSU.

Additional Considerations

Two preliminary solutions were considered and discarded due to further considerations in addition to the criteria listed above. The preliminary solutions were:

a. Engage individuals currently experiencing PSU and co-occurring homelessness in placemaking through participatory design to envision their future residence, construct the home, and then house them.

b. House people in a building that changes over time in response to their preferences and changing needs.

Solution A was problematic because, due to the length of the design and construction process for a building, it left people unsheltered on the streets or cycling through the traditional shelter system during the placemaking process, rather than providing immediate access to stable spaces.

Solution B was considered for a significant period of time, but ultimately discarded due to the fact that living in or even next to a construction site is, to put it mildly, deeply unpleasant.

Consequently, the final proposal provides spatial stabilization and prompt access to shelter before engaging in placemaking, and avoids forcing residents to live in a construction site.

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Proposal

Based on the evidence described in Parts 1-3 of this thesis, a 5-step solution is proposed for addressing problematic substance use with co-occurring homelessness:

5-Step Proposal	1	2	3	4	5
Step Description	Spatial stabilization: construct harm reduction centres	Medical/social stabilization: safe consumption and placemaking	Placemaking, continued: home construction	Transition to occupation of new home	Transition to ownership of new home
Associated Figures	Figure 76 Figure 81 - Figure 91	Figure 77	Figure 78	Figure 79	Figure 80

1

Step 1 aims to eliminate the homelessness circuit[1] and give individuals a stable spatial resource of which they can take ownership. The harm-reduction centres (Figure 76) would be deliberately located and designed to minimize isolation from wider society, in contrast to many residential treatment centres currently available (see Chapter 1.2). The ideal location for any given centre would depend on local circumstances; however, there is some indication that centres should be situated adjacent to, and easily accessible from, areas frequented by individuals experiencing PSU and co-occurring homelessness, rather than immediately within those areas[2]. Note, however, that all of the above refers primarily to urban areas, which were the focus of much of the literature reviewed in Chapter 2.2; additional research is required to make recommendations for more suburban or rural regions. Similarly, the location of the homes referenced in Steps 3-5 of the proposal should be located in areas that minimize isolation and maximize social and spatial connections.

2

In Step 2, residents would begin to live in the harm-reduction centre, which would act as an access point for physical and mental healthcare for both residents and the wider public, including through a Safe Consumption Site (Figure 77, Panel 1). During this time, residents would be engaged in placemaking through participatory design (Figure 77, Panel 2). The interview responses reported in Chapter 3.3 indicate that a wide array of participatory design methods could be effective, so long as they involve open, face-to-face conversations and building and maintaining trust. One of the key factors for success described by respondents was in fact the attitude of the placemaking facilitator; several respondents noted the importance of leaving their ego out of the interactions and ensuring they don't impose their own preconceived ideas.

3

4

Placemaking is not limited to the participatory design of Step 2, however, as Steps 3 and 4 continue the process of interacting with a space to make it memorable and meaningful. Step 3 in particular employs the Ikea Effect described in Chapter 3.4, with individuals participating in the physical construction of their new homes to boost their sense of efficacy (Figure 78). Step 4 continues this process on a smaller scale through the gradual occupation of the newly finished space (Figure 79).

Figure 76 | Perspective 1: View from Street to Courtyard

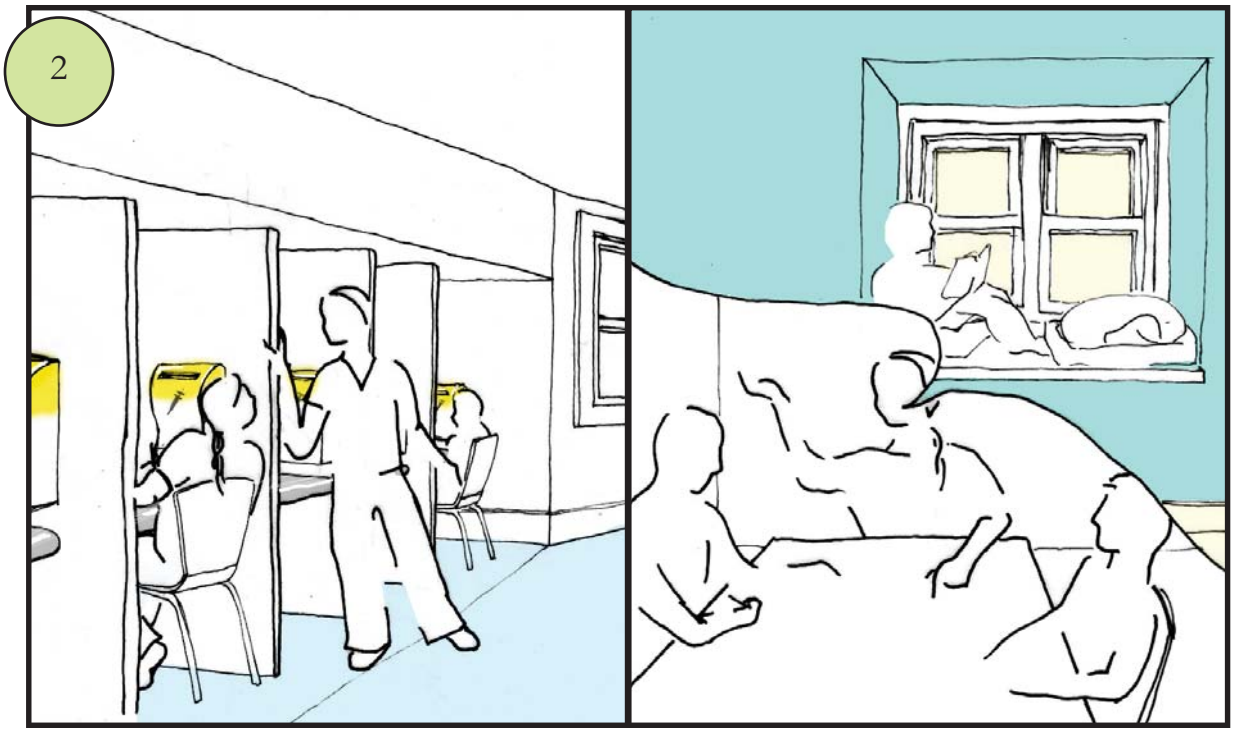


Figure 77 | Safe Consumption Site/Placemaking Process

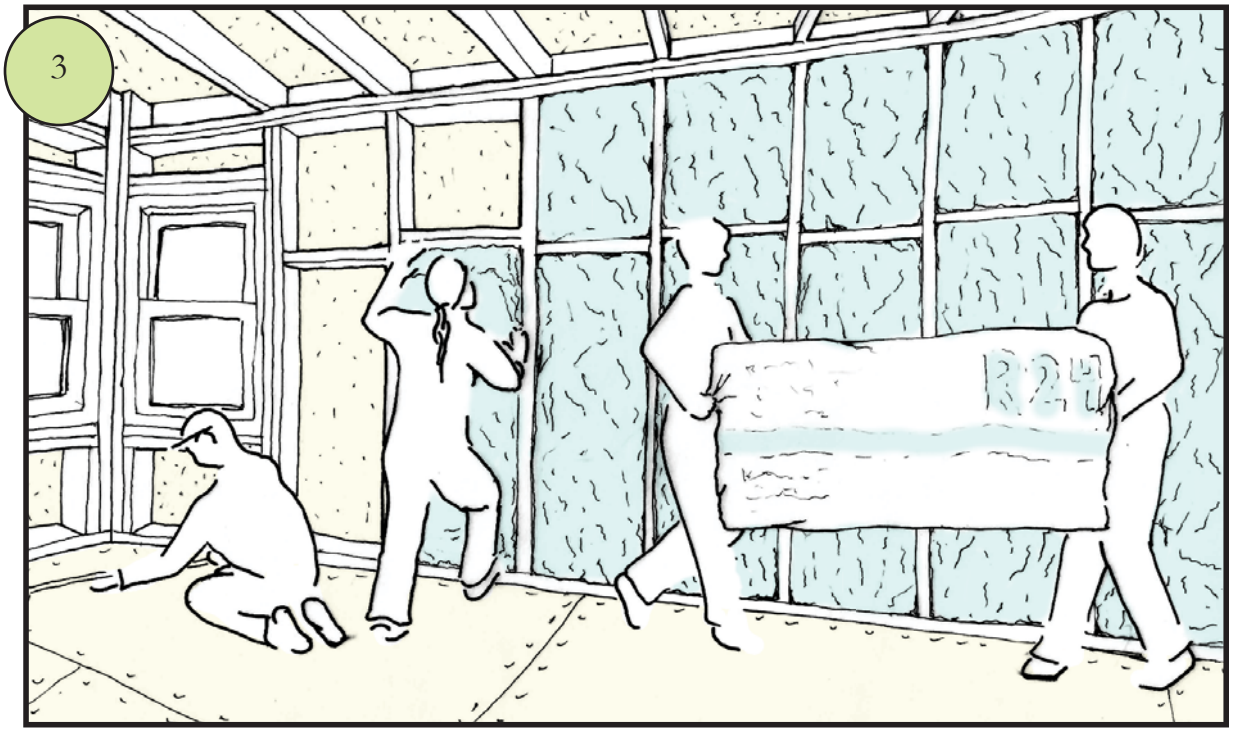


Figure 78 | Construction

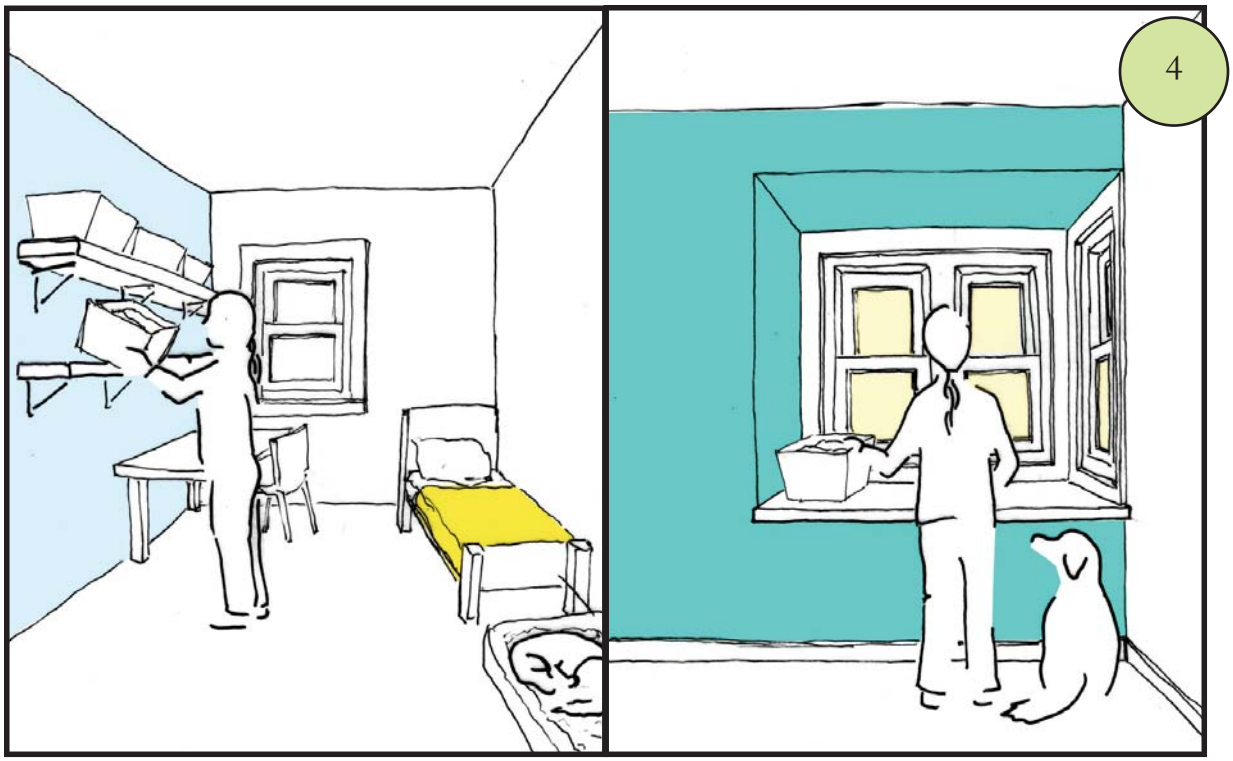


Figure 79 | Moving Out/Moving In

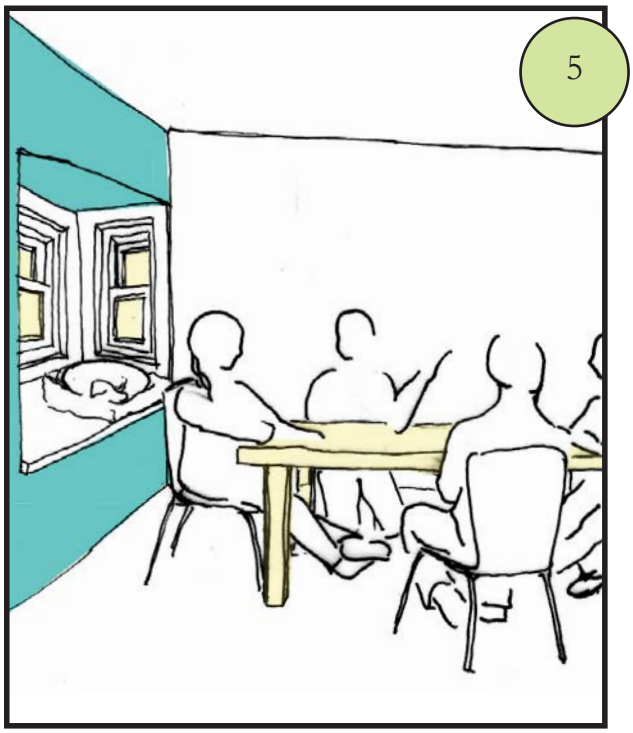


Figure 80 | Friends Visiting

Finally, Step 5 is intended to allow the new homes to be financial resource reserves in addition to spatial ones (Figure 80). As noted in Chapter 1.1, individuals experiencing PSU who have access to significant financial, spatial, and social resource reserves are significantly more able to maintain stability than those who do not. Furthermore, as describe in Chapters 1.4 and 1.5, individuals who have access to what Antonovsky called Generalized Resistance Resources are better able to cope with stress in general. Therefore, by making mortgage payments geared to income and gaining financial ownership of their homes, individuals both acquire a resource reserve and obtain access to a much broader range of possibilities within today's money-driven society.

Harm-Reduction Centres: Detail

The following pages illustrate what one of the proposed harm-reduction centres might look like if realized in an urban setting. Note that is *only* one possible solution, based on the framework established in Chapter 1.5 the literature reviewed in Chapter 2.2, and the responses gathered in Chapter 3.3, but filtered through the author's own likes, dislikes, cultural background, and personal experience. The author has endeavoured to draw as much as possible from the evidence outlined and lived experiences gathered in Parts 1-3 of this thesis; however, without engaging in a participatory design process for a real-world building site with a group of people who will be occupying that space, the author must rely to a greater extent than ideal on her own personal experience.

Figure 81 provides a basic building program for the urban harm-reduction centre, divided in to two portions: residence and public. The residence portion is geared toward providing stable and comfortable living space for individuals who would otherwise be experiencing homelessness, while the public portion is geared toward providing healthcare and harm reduction services for both residents of the centre and the wider neighbourhood.

This basic building program can be easily reorganized or expanded to meet the needs of specific communities. For example, a centre built for a Nehiyawak community could be arranged according to the Medicine Wheel and include culturally important spaces such as a sweat lodge (refer to Chapter 1.4); a centre built for women could include a daycare. Including participatory design processes in the building of the harm-reduction centres themselves would provide valuable insight into the needs of the local community.

Building Scale

As seen in Chapter 1.3, the scale of the building has a big impact on the social interactions that occur within it. There are several strategies employed in this design to support (or, as Jan Gehl would say, invite) positive social interactions. First, the number of bedrooms is kept low to minimize the level of social complexity within the harm-reduction centre and thereby improve group cohesion[1]. 20 bedrooms are shown; however, further research is needed to determine whether this number is low enough.

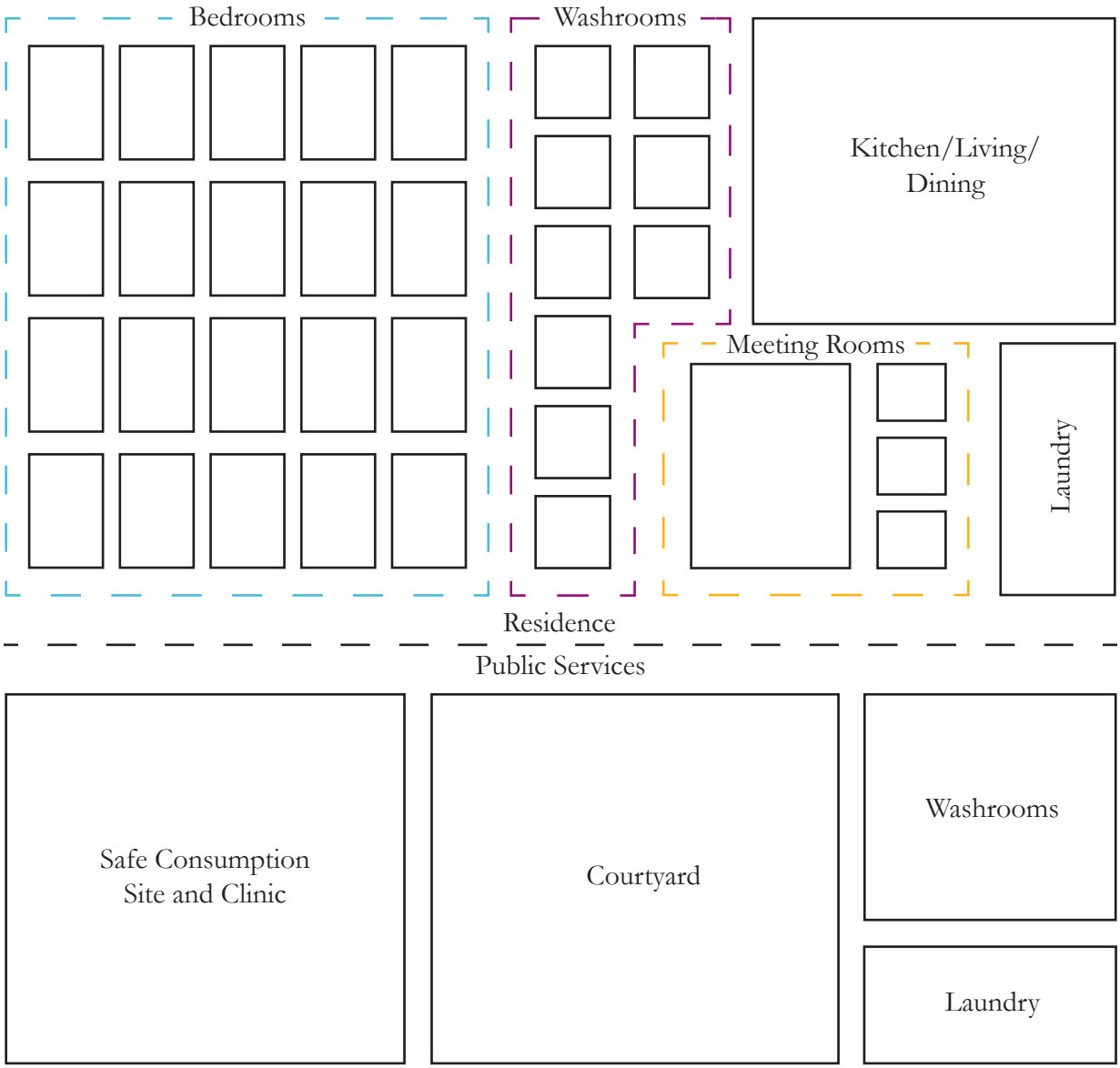
The building itself is only three stories tall (Figure 82), approximately 10 meters, keeping even the upper floors comfortably within the 25-meter distance at which emotion is readily perceivable[4]. Similarly, the courtyard is dimensioned to stay within the visual limits of emotional perception (Figure 82).

The courtyard is one of the most important spatial elements to be included in the harm-reduction centre. It is a semi-public area, available all day every day (Figure 84), but pulled back off the contested space of the street to create uncontested room for those who experience socio-spatial marginalization to simply be, as with the courtyard described by Heather in Chapter 3.3. The harm-reduction centre as a whole, but the courtyard in particular, becomes an antidote to the pressures and danger of defensive placemaking and embodied exclusion.

---

1 *As Osmond observed, "as groups of people become larger so the complexity of interactions increases enormously…while in a group of two people there is only one possible two-person interaction – in a group of four there are six and in a group of eight, twenty-eight"[9]. Essentially: social interaction does not scale up well.*

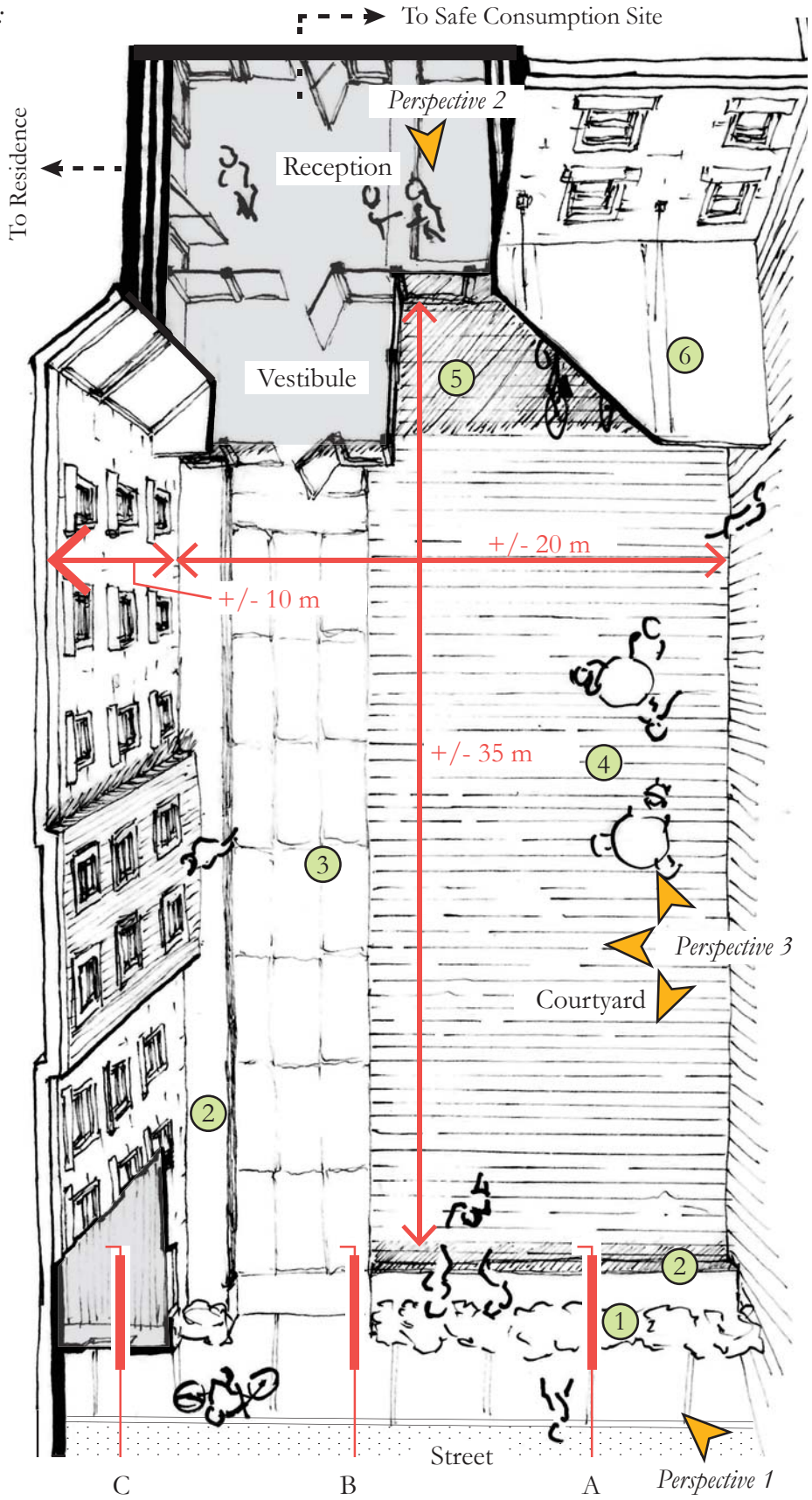
The dimensions and layout of the courtyard are important as well (Figure 82). At 20 meters wide, the courtyard is narrow enough to allow easy perception, and therefore interpretation, of body language, yet not so narrow as to feel intimidatingly intimate. The courtyard sets the main entrance of the building (still clearly demarcated) back off the street, acting as an extended entrance for the harm-reduction centre. The courtyard has two areas of transition, two thresholds (street to courtyard, courtyard to building), that employ many of the place-positive strategies outlined in Chapter 1.5.



Not Shown: Offices, Storage, Mechanical, Janitorial

Figure 81 | Approximate Building Program

Figure 82 | Courtyard: Dimensioned and Annotated Plan Perspective



Legend:

1. Planter
2. Bench
3. Entry Path
4. Seating/ Flexible space
5. Bike Parking
6. Canopy

Perspectives:

1 - Figure 76

2 - Figure 83

Sections:

A - Figure 85

B - Figure 86

C - Figure 87

Threshold – Courtyard to Building

The transition between the courtyard and the building itself occurs through the reception area, which should be well-lit, easily visible, and welcoming. The space itself separates the residence from the safe consumption site so access to the two can be determined independently. The reception desk has clear visibility into the entrance of the residence, into the safe consumption site, and out to the courtyard (Figure 83), so a staff member located there can provide passive surveillance and increase safety for all. The length of the courtyard becomes important here: at a maximum of 35 meters, the entire courtyard is within the staff member's visual range for perceiving body language.

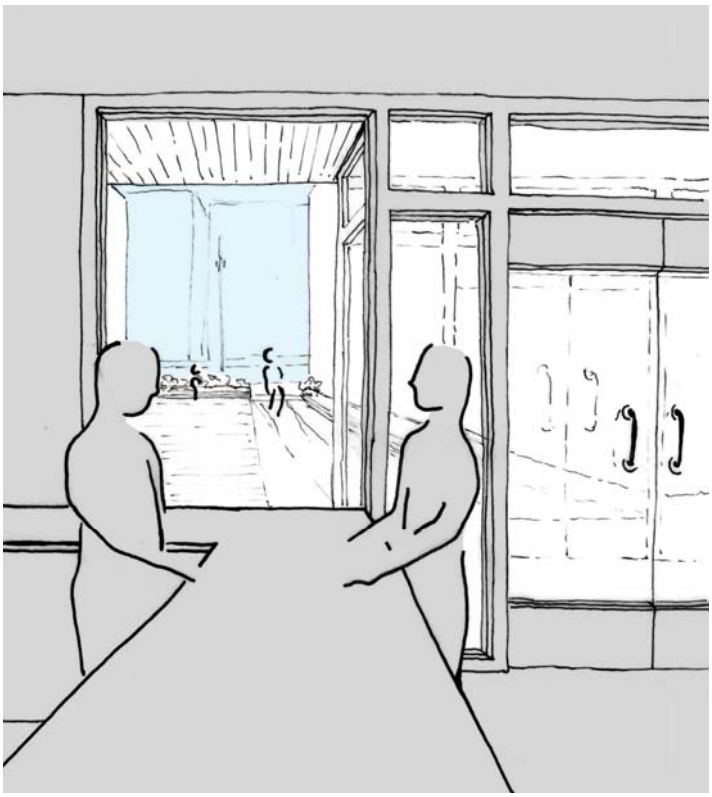


Figure 83 | Perspective 2: View from Reception to Courtyard

Threshold – Street to Courtyard

The transition between street and courtyard could potentially be an area of conflict due the intersection of a space for marginalized individuals (the courtyard) with a space in which socio-spatial marginalization is active (the street). To minimize this conflict, several place-positive strategies are enacted, illustrated in Figure 85, Figure 86, and Figure 87:

1. Easy visibility into and out of the courtyard allows both residents and passers-by to passively surveil each other, creating both interest and greater safety[5].
2. Plants are used to clearly but softly define the boundary between courtyard and street, providing a sense of enclosure (refer to Chapter 1.3, discussion of thigmotaxis) without fencing, which could carry negative connotations for some individuals.
3. Wide, comfortable benches without anti-skateboarding or anti-sleeping hardware (refer to Chapter 1.2 and 1.3 regarding hostile architecture) are provided, indicating a welcoming space for all. The benches face internally to emphasize a sense of enclosure and minimize confrontations with non-residents.
4. A gate-free courtyard entrance communicates that this is a space that is always open.
5. A change in paving visually and tactilely delineates the courtyard entrance from the adjacent sidewalk.
6. Generous windows provide views, connection to the public realm, and natural light (refer to Chapter 1.3).

Following Spread: *Figure 84 | Courtyard: Four Seasons, Four Times of Day*

7. On the ground floor, visibility into and out of a lounge/living area provides further passive surveillance and as sense of connection[6].
8. The viewing angle from the sidewalk combined with deep windowsills means that visibility into private rooms on the second and third floor is reduced.
9. High ceilings throughout the building give a sense of generousness and lightness.

Spatial Experiences

To give a sense of what interactions with this harm-reduction centre might feel like, the following Figures illustrate three potential ways the space might be encountered: a pedestrian passing by, a visitor entering the Safe Consumption Site, and a resident exiting the building. Figure 88 traces each of these three paths through and by the courtyard. Figure 89 illustrates the experience of a pedestrian, Figure 90 that of a visitor, and Figure 91 that of a resident.

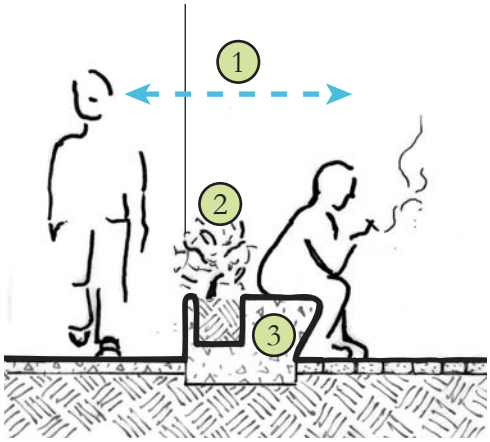


Figure 85 | Section A: Visibility at Bench and Planter

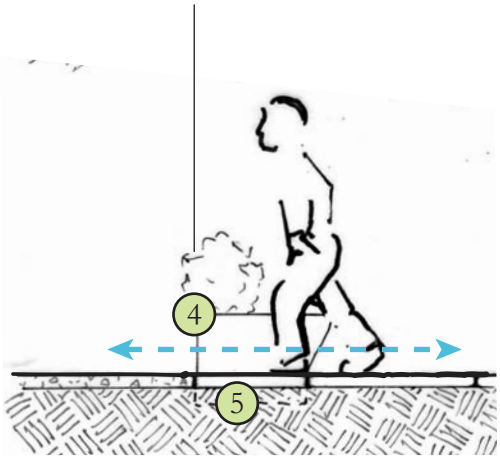


Figure 86 | Section B: Walking Through Courtyard Entry

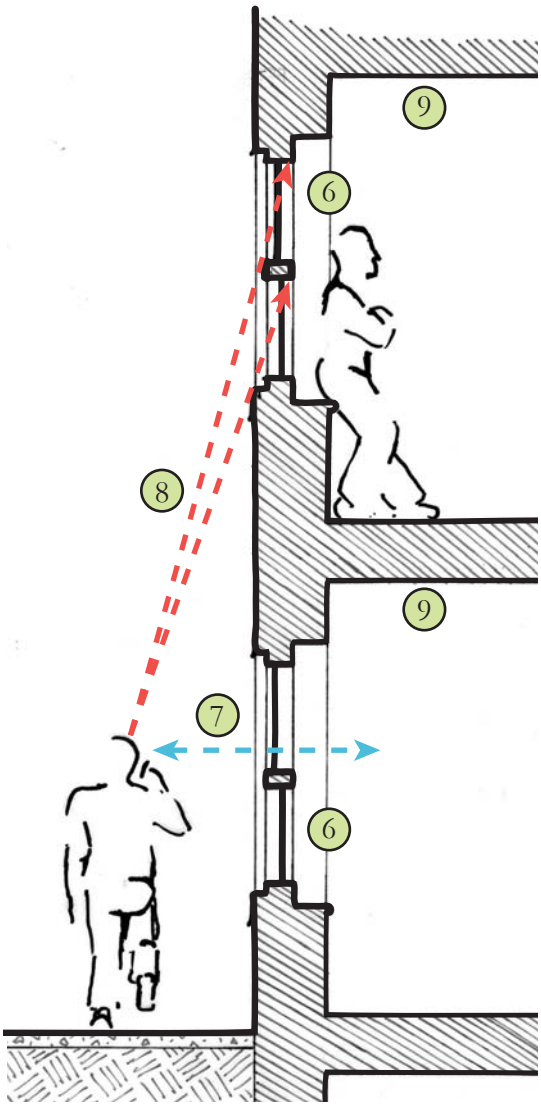
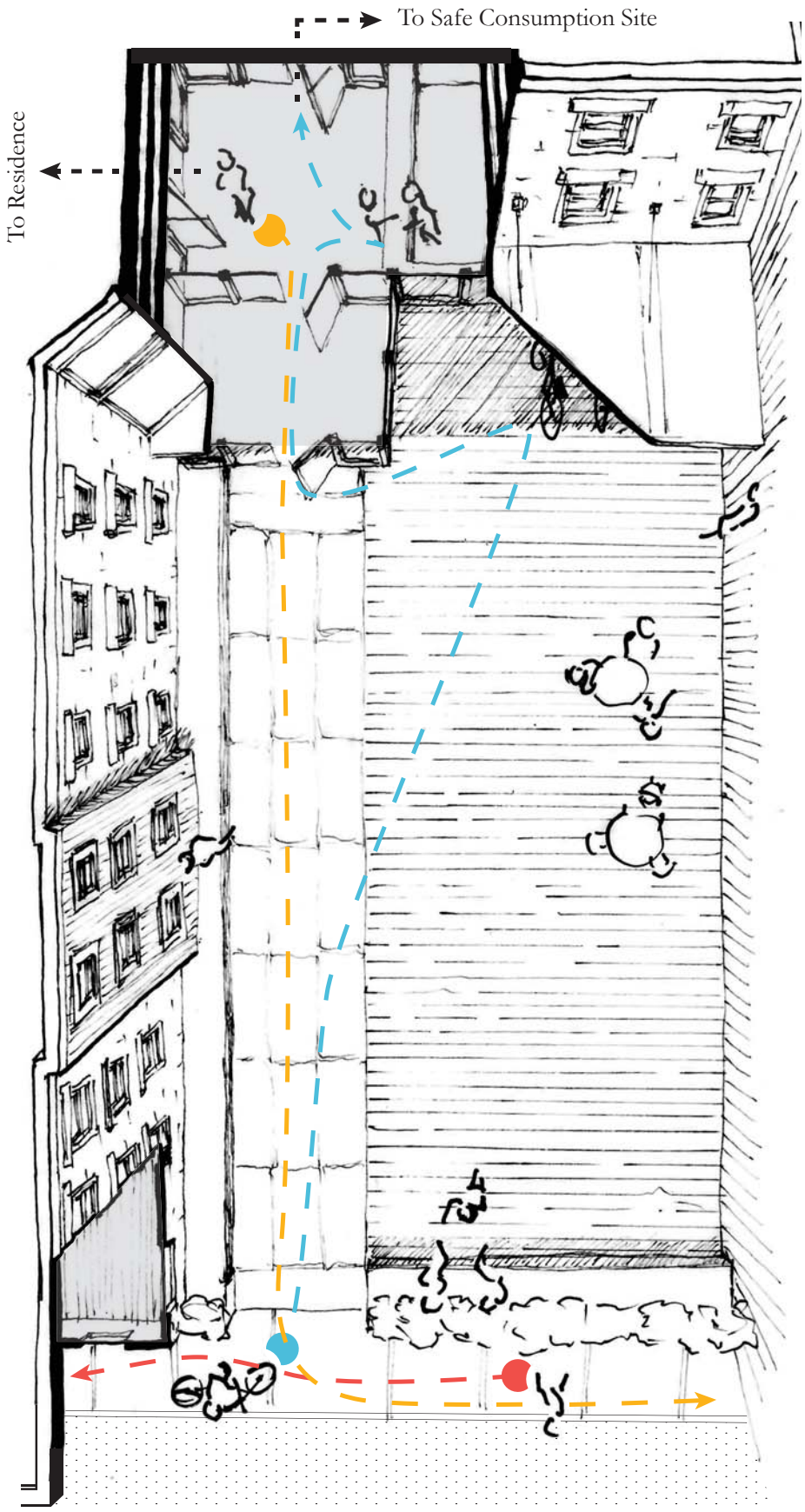


Figure 87 | Section C: Visual Access to Building from Sidewalk

Figure 88 | Courtyard: Paths of Travel



Legend:

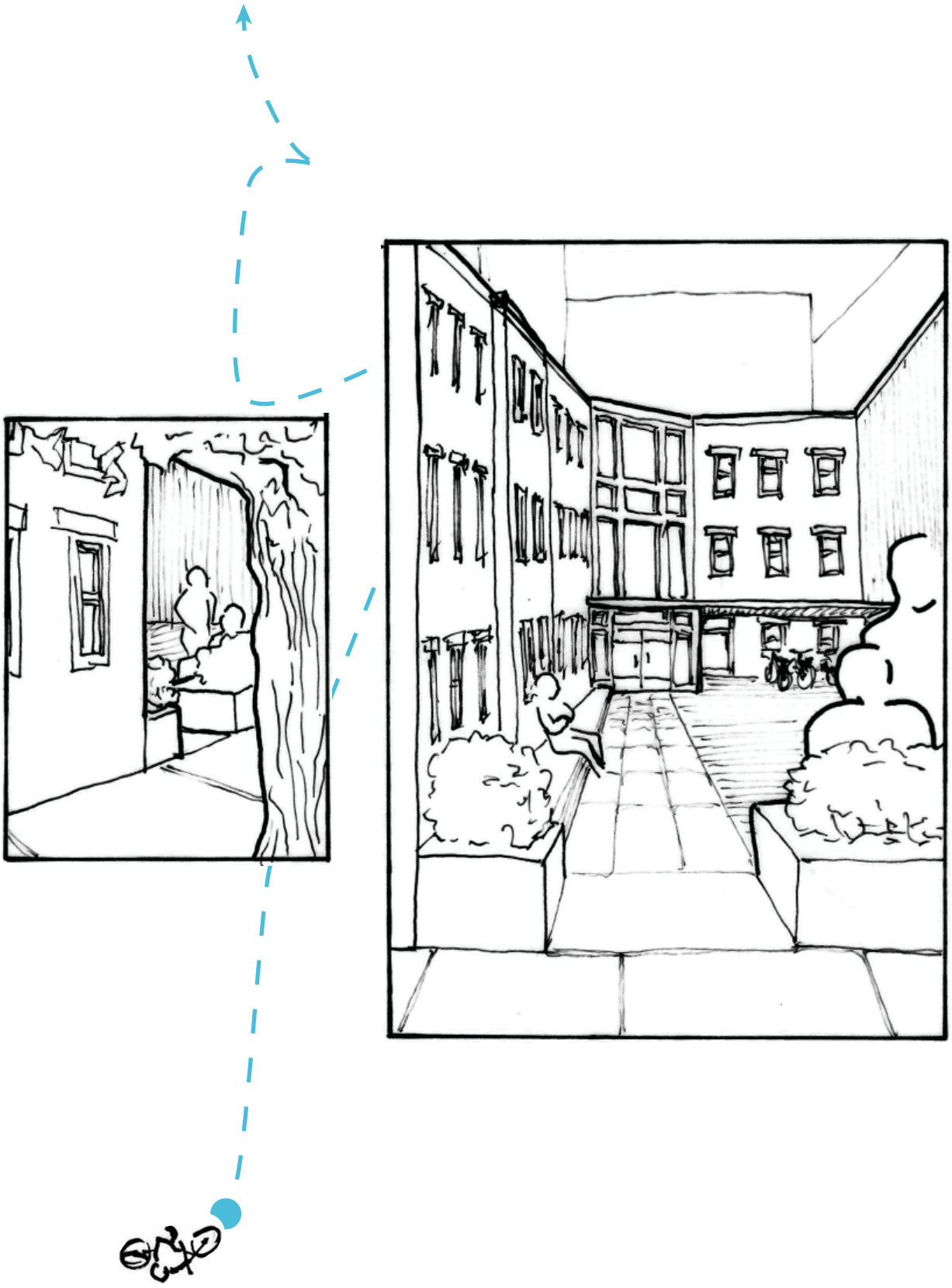
- Figure 89
- Figure 90
- Figure 91

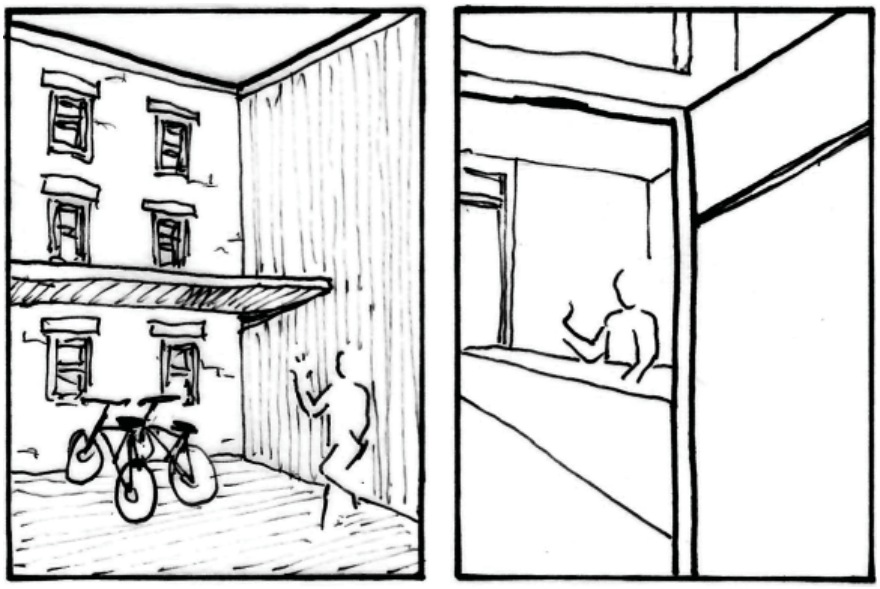
Figure 89 | Pedestrian Passing By

For a pedestrian passing by, the building first appears as an integrated part of the surrounding context. Crossing in front of the building, a generous open space comes into view, perhaps occupied by a number of people sitting, chatting, smoking, etc. As the pedestrian continues walking ,the buildings push up against the sidewalk again.

Figure 89, cont.

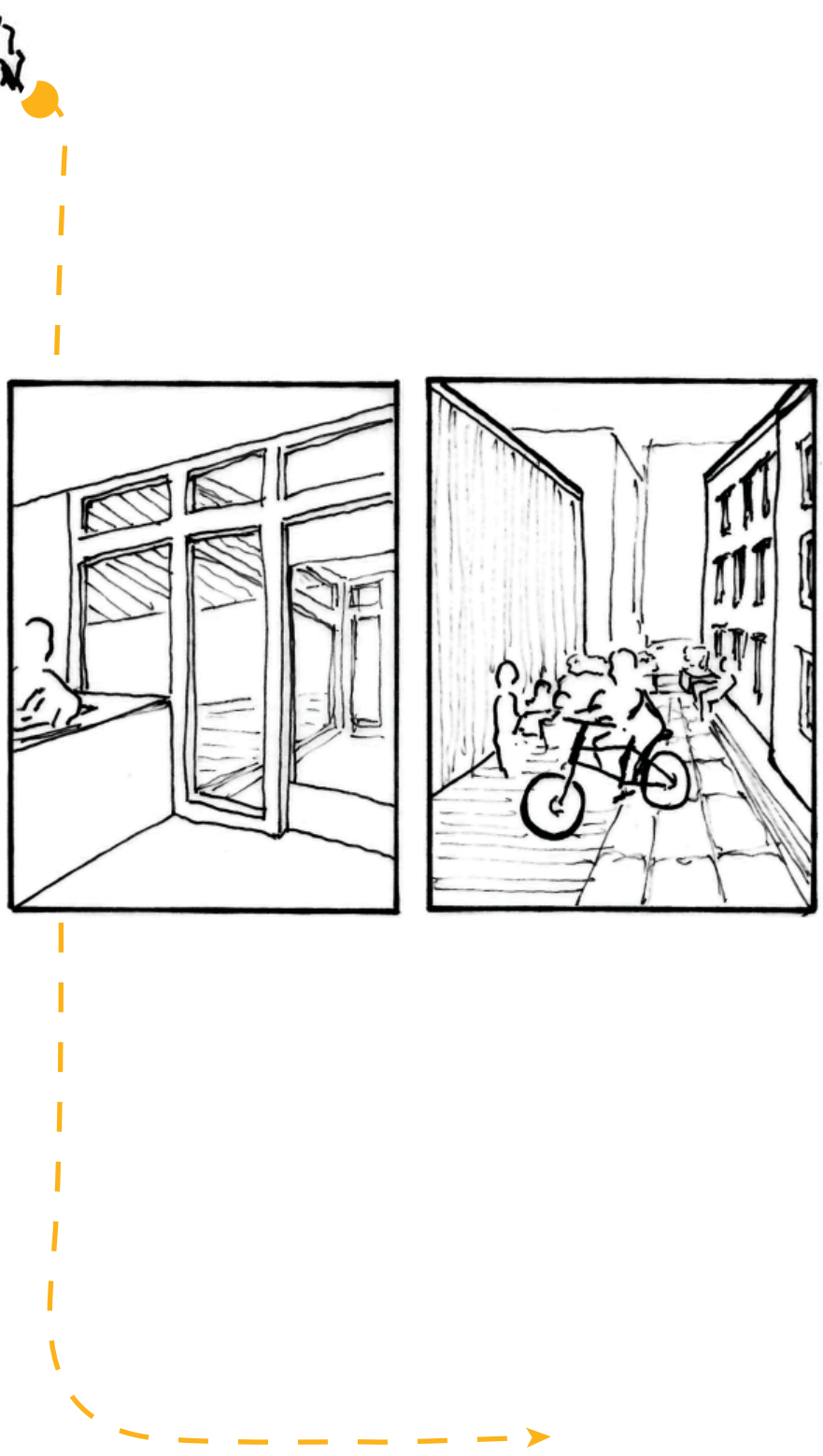
Figure 90 | Visitor Entering Safe Consumption Site





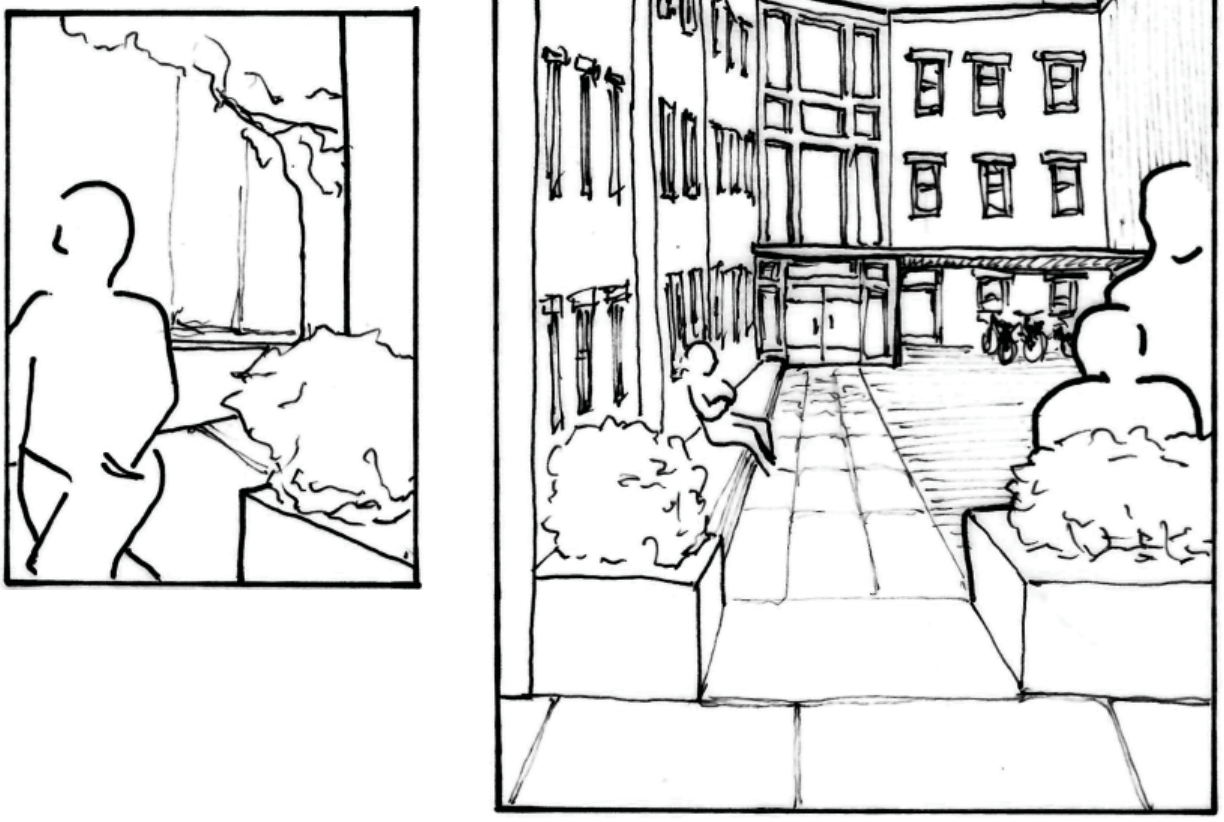
For a non-resident visiting the safe consumption site, the courtyard first appears as a gap between two buildings. Approaching the entrance, a generous open space comes into view, perhaps occupied by a number of people sitting, chatting, smoking, etc. The visitor parks their bike, greeting a friend, and enters to register with reception.

Figure 91 | Resident Exiting Building



A resident exiting the building passes through reception, nodding to the person at the desk on the way out. As they walk through the courtyard, they see people arriving to visit the safe consumption site or just to sit where they know they won't be disturbed. A pedestrian walks past as the resident exits and briefly glances back to the courtyard.

Figure 91, cont.



Financial Feasibility

The proposal outlined above would require significant financial investment to realize. Major costs include the design and construction of new all-in-one centres as well as the design and construction of houses during the treatment process.

There is a growing body of research indicating that increased housing stability for individuals results in a reduction in the intensity and frequency of their service use. This reduction has not been found to lead to direct cost savings, but does reduce the amount of emergency system and service expansion needed to accommodate growth[7]. Therefore, investment in the design and construction of new all-in-one centres could reduce pressure on hospitals and emergency services, providing savings in the long term.

Regarding the cost associated with designing and constructing houses as part of the treatment process, Habitat for Humanity provides an example of an existing financial model, and could even be a potential treatment process partner. Through the use of a revolving loan fund and no down payment, interest-free mortgages in combination with volunteer labour and the 'sweat equity' of the future homeowners, Habitat for Humanity already creates affordable housing in communities across Canada[8]. This model could be replicated by some combination of local, provincial, and federal governments (referring to Canada specifically), or Habitat for Humanity could be engaged as a partner. As a result, after an initial financial investment, mortgage repayments made by treatment recipients would maintain the fund going forward.

Limitations and Unanswered Questions

The evidence gathered and proposal put forward in this thesis only begins to address the unrecognized impact of physical space on wellbeing broadly and on the etiology and treatment of PSU in particular. Many questions remain to be answered, including:

- What is the best size of social group for the proposed harm-reduction centres?
- What is the best scale of placemaking for rebuilding efficacy?
- How much impact can placemaking actually have?
- Can dislocation be leveraged positively?

It is also important to recognize the limitations of the proposal to address PSU spatially. The primary limitation is that, while much of the evidence gathered indicates that the impact of the built environment has not been given due credence, addressing the spatial aspects alone is not sufficient. As Heather noted (refer to Chapter 3.3), "if you don't have the right [service] operator, no matter how good your architecture is, it's not going to do anything". The spatial environment is the underpinning of the social environment, but if spatial strategies are not employed in conjunction with social and medical ones, the spatial strategies will not be effective.

Extensions and Other Applications

The findings of this thesis, particularly the framework outlined in Chapter 1.5, can be applied far beyond the context of PSU and homelessness to improve the built environment more broadly. If architects are aware of the health impacts of the spaces they design, they build in place-positive elements from the beginning of design development. Chapter 1.5's framework also makes it simpler to analyze existing spaces and identify which aspects contribute to wellbeing and which aspects detract from it.

However, one of the most significant ways this thesis could be applied is through advocacy. Making people be aware of their instincts toward defensive placemaking and exclusionary behaviours in relation to space, and how those negatively influence the wellbeing of others, could be a significant step toward lessening marginalization for individuals, including but not limited to those experiencing PSU and co-occurring homelessness. Architects, planners, urbanists, and geographers, with their heightened spatial awareness and spatial communication skills, have both an opportunity and a responsibility to educate others on the topic of socio-spatial marginalization and how it can be mitigated.

Chapter 4.2 Endnotes

1 Julia Wardhaugh, "'Homeless in Chinatown': Deviance and Social Control in Cardboard City," *Sociology* 30, no. 4 (1996): 701–16.

2 Geoffrey DeVerteuil, Robert Wilton, and Shaun Klassen, "Making Clean and Sober Places: The Intersections of Therapeutic Landscapes and Substance Abuse Treatment," in *Therapeutic Landscapes*, ed. Allison Williams (Aldershot, Hampshire, England: Routledge, 2007), 77–94; Danya Fast et al., "Safety and Danger in Downtown Vancouver: Understandings of Place among Young People Entrenched in an Urban Drug Scene," *Health and Place* 16, no. 1 (2010): 51–60, doi:10.1016/j.healthplace.2009.07.004.

3 Humphry Osmond, "Some Psychiatric Aspects of Design," in *Who Designs America?*, ed. Laurence B Holland (Garden City, N.Y.: Anchor Books, 1966), 297–300.

4 Jan Gehl, *Cities for People* (Washington, D.C.: Island Press, 2010); Ann Sussman and Justin B. Hollander, *Cognitive Architecture : Designing for How We Respond to the Built Environment* (New York: Routledge, Taylor & Francis Group, 2015).

5 Jane Jacobs, *The Death and Life of Great American Cities* (New York: Vintage Books; Random House, 1961); Oscar Newman, *Defensible Space: People and Design in the Violent City*, vol. 1st paperb (London: Architectural Press, 1977).

6 Jacobs, *The Death and Life of Great American Cities*; Newman, *Defensible Space: People and Design in the Violent City*.

7 Steve Pomeroy, "Pro-Active Versus Reactive Responses : The Business Case for a Housing Based Approach to Reduce Homelessness in the Region of Waterloo September 2007 Housing and Social Planning , Policy and Program Administration," 2007.

8 Habitat for Humanity Canada, "Build and Homeownership Process," 2018, https://www.habitat.ca/en/how-we-help/building-and-ownership-process.

Glossary

Addiction ..... According to the United States' Office of the Surgeon General: "the most severe form of a substance use disorder, associated with compulsive or uncontrolled use of one or more substances… [a] medical illness caused by repeated misuse of a substance or substances"[1]; term not employed in the context of this thesis. See *Problematic Substance Use*.

Actor-Network Theory ..... The theory, originated by philosopher Bruno Latour, that the 'objects' or material context of a given situation, traditionally not thought to 'act', have as much *Agency* as the human 'subject' of the given situation.

Agency ..... The ability to effect change.

Built Environment ..... Everything constructed by human beings, including both the products of building professions (such as architecture, engineering, and urban planning) and vernacular construction.

Defensive Placemaking ..... "[D]eliberate efforts to carve out a 'separate' neighbourhood or enclave…and by doing so limit who can speak for the new space and hence what the material future of the new space will be"[2].

Dislocation ..... The state of being displaced or out of place; the act of displacement. May be social, spatial, or both.

Drugs ..... In the context of this thesis, psychoactive compounds other than alcohol.

Efficacy ..... The belief that one is able to effect change.

Embodied Exclusion ..... Invalidating the existence and worth of an individual in a space without physically excluding them from that space; dismissing their embodied self-understanding.

Epistemology ..... Worldview, or way of knowing.

Etiology ..... Causation.

Indigenous ..... In the context of this thesis, this term refers to the first peoples of North America.

Nostalgia ..... Originally, "the melancholia or homesickness experienced by individuals when separated from a loved home"[3]. More recently, "positive sentimental attachments to a real or imagined past"[4] that act as psychological resources.

Participatory Design ..... Any process whereby the eventual occupants of a building give intensive input into the design of the building.

Phenomenology ..... The investigation of human experience and consciousness, studied in the first person by the process of living[5].

Place ..... A specific location in space that has become memorable and meaningful, made by those who interact with that space.

Placemaking ..... "[T]he process by which a space in a location is made meaningful to an individual or a group of people"[6].

Place-Identity ..... The complex relationships between self and the environment.

Problematic Substance Use ..... A manner, situation, amount, or frequency of substance use that is causing negative effects in the life of the individual using that substance.

Salutogenic ..... Relating to the origins of health (in contrast to pathogenic: relating to the origins of disease).

Solastalgia ..... Distress that can occur when a place changes more substantially and rapidly than an individual is able to cope with.

Socio-Spatial Marginalization .. The combined social and spatial processes that push an individual or group deemed problematic or undesirable to the periphery of social life and out of public spaces.

Space ..... The physical, material basis of existence.

Substance Use ..... Any use of a psychoactive compound, including alcohol and drugs other than alcohol.

Substance Misuse ..... According to the United States' Office of the Surgeon General: "the use of alcohol or drugs in a manner, situation, amount, or frequency that could cause harm to the user or to those around them"[7]; term not employed in the context of this thesis. See *Problematic Substance Use*.

Therapeutic Landscapes..... Places that promote well-being and maintain health[8].

Vernacular..... In the context of architecture, buildings constructed without the input of an architect; often referring to the particular style(s) unique to a given geographic area.

Western ..... European-derived.

Glossary Endnotes

1 Office of the Surgeon General U.S. Department of Health and Human Services, "Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health" (Washington, DC: HHS, 2016), 1–6, https://addiction.surgeongeneral.gov.

2 Peter J. Davidson and Mary Howe, "Beyond NIMBYism: Understanding Community Antipathy toward Needle Distribution Services," *International Journal of Drug Policy* 25, no. 3 (2014): 630, doi:10.1016/j.drugpo.2013.10.012.

3 Glenn Albrecht et al., "Solastalgia: The Distress Caused by Environmental Change," *Australasian Psychiatry* 15, no. 1 suppl (2007): S95.

4 Victoria J. Wood et al., ""Therapeutic Landscapes' and the Importance of Nostalgia, Solastalgia, Salvage and Abandonment for Psychiatric Hospital Design," *Health and Place* 33 (2015): 84, doi:10.1016/j.healthplace.2015.02.010.

5 Shaun Gallagher, *Phenomenology* (London: Palgrave Macmillan, 2012).

6 Ranjith Dayaratne, "Supporting People's Placemaking the Case of Support Housing in Sri Lanka," *Forum, Annual Publications of the CARDO Research Group* 01 (1992): 43.

7 U.S. Department of Health and Human Services, "Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health," 1–1.

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Appendix A

Complete List Of Projects Reviewed In Chapter 1.2

Appendix A Legend

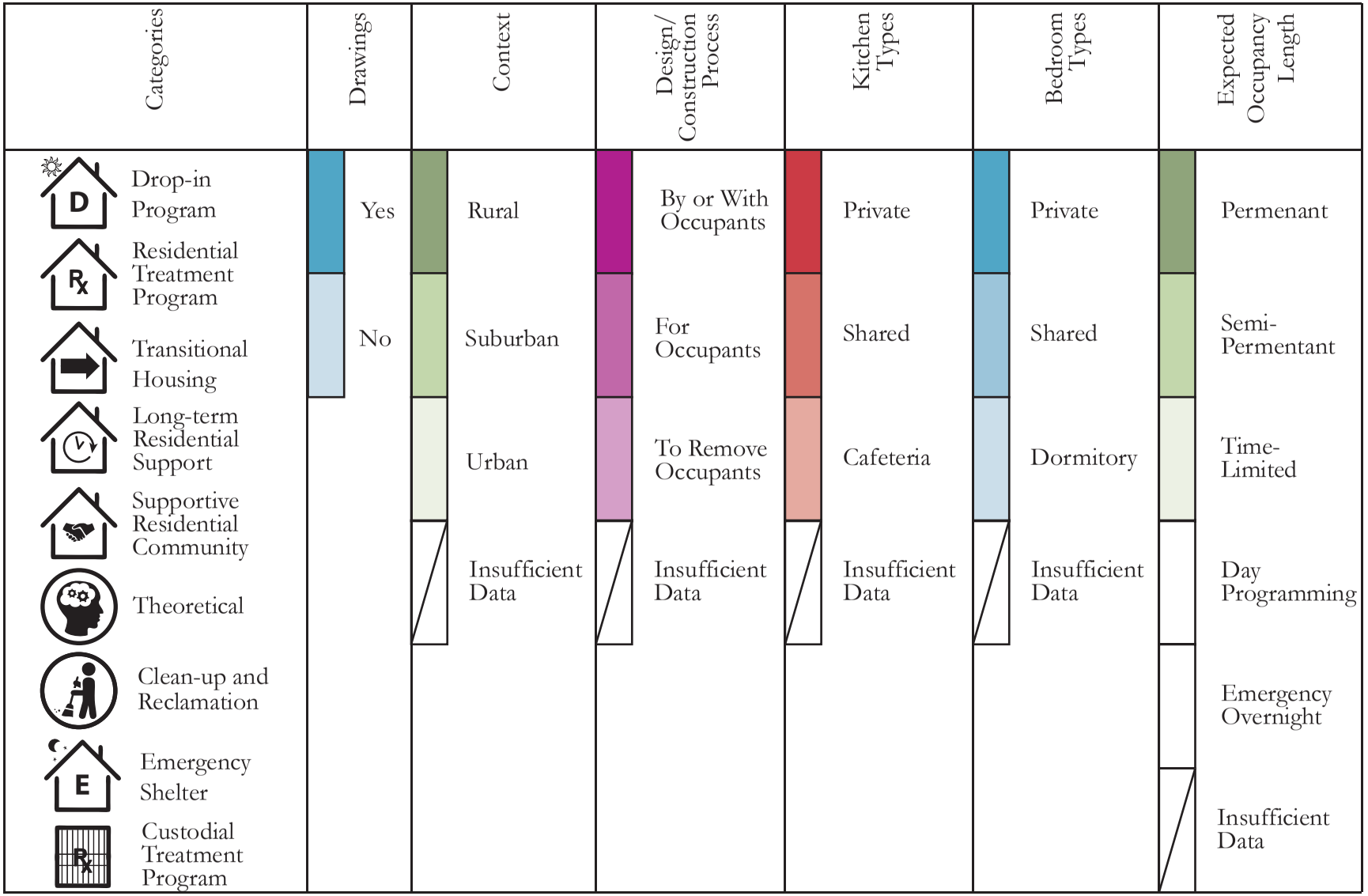


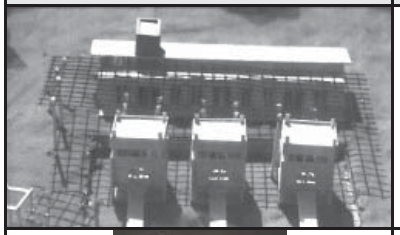
Image	Categories	**Project Title** Date Completed (or published) Location	Endnote	Project Intent	Drawings	Context	Design/Construction Process	Kitchen Types	Bedroom Types	Expected Occupancy Length
		**A Treatment Center for the Catawba Indian Nation** (1998) Near Rock Hill, SC, USA	1	Residential treatment integrating cultural heritage.	Y	R	F	S	S	T
		**ARC West Treatment Center** (1990. Project completion date not found) Westchester County, NY, USA	2	Residential treatment	Y	R	F	C		T
		**Arveset Farm** 2014 Alfaset, Oslo, Norway	3	Living units for people with a dual diagnosis of substance abuse and psychiatric illness.	Y	S	F	P	P	S
		**Belle Terre** (1993. Project completion date not found) South Kortright, NY, USA	4	Residential rehabilitation in a community of peers.	Y	R	B	C	D	

Image	Categories	**Project Title** Date Completed (or published) Location	Endnote	Project Intent	Drawings	Context	Design/Construction Process	Kitchen Types	Bedroom Types	Expected Occupancy Length
		**Boswyns Drug Detox Centre** 2010 Cornwall, UK	5	Residential rapid-detox centre.	N	R	F			T
		**Cal Anderson Park** 2005 Seattle, WA, USA	6	Reclaiming a park from people experiencing homelessness and/or who use and/or deal substances.	Y	U	R	--	--	--
		**Central City Lodge** 1993 Vancouver, BC, Canada	7	Long-term care and treatment for alcohol and drug-related illnesses	Y	U	F	C	P	S

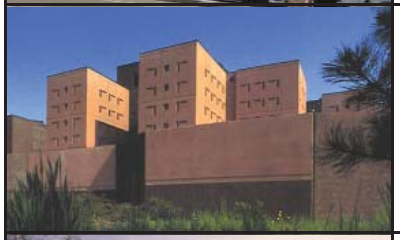
	Rx	**Centre for Addiction and Mental Health, Redevelopment** In Progress Toronto, ON, Canada	8	Mental health hospital stitched into the surrounding urban fabric to normalize hospital stays.	Y	U	F			
	D Rx	**Children's Institute, Inc. Burton E. Green Campus** (1992. Project completion date not found) Torrence, CA, USA	9	Flexible facilities to cater to abused and drug-addicted infants and their families.	N	U	F			☀ ☾ T
		**Clean and Sober Living** 2004 Fair Oaks, CA, USA	10	Sober community of peers.	Y	U	B	S	S	T
	Rx	**Correctional Treatment Facility** (1993. Project completion date not found) Washington, D.C., USA	11	Treatment in a custodial setting	Y	U	F	C	P	T
	D	**Creche, Senior Citizen Housing and Drug Dependency Clinic** 2005 Dublin, Ireland	12	Clinic, education, and methadone centre. Developed as part of a suburban densification program.	Y	S	F	--	--	☀

Image	Categories	**Project Title** Date Completed (or published) Location	Endnote	Project Intent	Drawings	Context	Design/Construction Process	Kitchen Types	Bedroom Types	Expected Occupancy Length
		**Delancey Street Embarcadero Triangle** 1991 San Francisco, CA, USA	13	Development (including residences) for 'lost causes' to self-improve (including through gaining high school-equivalencies and learning trade skills) supported by peers.	Y	U	B	P C	S	P
		**Drug Addiction Rehabilitation** (1996) Virginia, USA (unbuilt)	14	Residential treatment.	Y	R	F	C	P S	T
		**Drug Rehabilitation Centre** (1987) London, UK (unbuilt)	15	Competition to design a residential treatment facility.	Y	U	F			

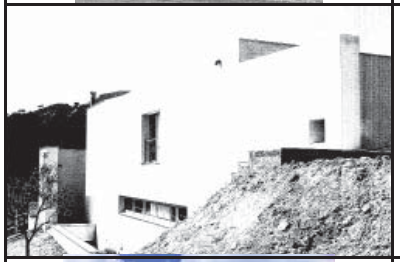
		**Emiliehoeve** (1978. Project completion date not found) The Hauge, Netherlands	16	Residential treatment	Y	S	F	C		T
		**Exodus House** (1968. Project completion date not found) New York City, NY, USA	17	Residential only for up to 3 months.	Y	U	F	C	D	T
	D	**Faro Rehabilitation Centre** (1999. Project completion date not found) Messina, Italy	18	Day centre, rehabilitation facilities, and halfway house for substance users.	Y	S	F	S	P	T
		**Fountain** (1994. Project completion date not found) Sydenham, UK	19	Residential rehabilitation for substance use and HIV/AIDS.	Y	U	F	S	P	T
		**Gross Gllenicke Rehabilitation Centre** (1996. Project completion date not found) Gross Gllenicke, Germany (unconfirmed built/unbuilt)	20	Drug and alcohol rehabilitation center modelled on the idea of a college.	N	S	F	C		T

Image	Categories	**Project Title** Date Completed (or published) Location	Endnote	Project Intent	Drawings	Context	Design/Construction Process	Kitchen Types	Bedroom Types	Expected Occupancy Length
		**Horatio West Court** Mid-1970s Santa Monica, CA, USA	21	Restoring homes considered to have historical architectural value.	Y	U	R	--	--	--
		**Hospitality Centre for Former Prison Inmates** (2008. Project completion date not found) Exarchia, Greece	22	Housing for female former substance users recently out of prison and their children.	Y	U	F	S	P S	
		**Hulme** Late 1990s Manchester, UK	23	Neighbourhood redevelopment.	N	U	R			
	D Rx	**Kaleidoscope Project** 2003 Kingston upon Thames, UK	24	Christian-run detox and education for people dealing with substance use.	Y	U	F	S	P	T

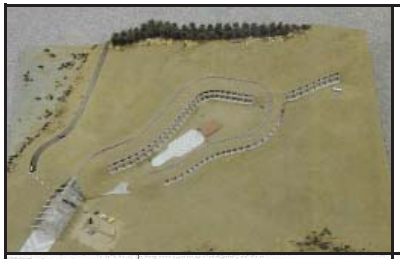
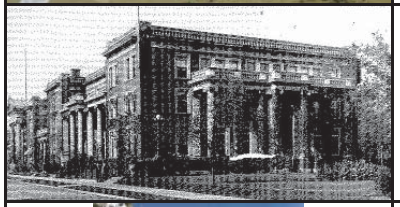
		**Lake Rotoehu National Alcohol and Drug Rehabilitation Centre** (1994) Lake Rotoehu, New Zealand (Unbuilt)	25	National alcohol and drug rehabilitation centre.	N	R	F			
		**Leslie E. Keeley Institute** 1902 Dwight, IL, USA	26	Residential treatment centre.	N	U	F			
	D E	**Mentlvilla** 2015 Innsbruck, Tyrol, Austria	27	Drop-in/needle exchange sharing a site with an overnight emergency shelter.	Y	U	F	S	P	T
	D E	**Multi-Focus Reception Centre, Apeldoorn** 2008 Apeldoorn, Netherlands	28	Rehabilitation addressing homelessness, addiction and mental illness. Includes safe injection site.	Y	U	F R	P	P	S
		**New Housing Prototype for Homeless** 1996 New York City, NY, USA	29	Housing for homeless adults in recovery from substance use.	N	U	F		P	P

Image	Categories	**Project Title** Date Completed (or published) Location	Endnote	Project Intent .	Drawings	Context	Design/Construction Process	Kitchen Types	Bedroom Types	Expected Occupancy Length
		NUVA/Easler House (1991. Project completion date not found) Gloucester, MA, USA	30	Residence for people in substance use recovery and/or with HIV/AIDS.	Y	U	F		P	S
		Park Platzspitz 1993 Zurich, Switzerland	31	Reclaiming a park from people experiencing homelessness and/or who use and/or deal substances.	Y	U	R	--	--	--
		Phoenix Academy/Descanso (1993. Project completion date not found) Descanso, CA, USA	32	Residential education and rehabilitation for high school students.	Y	R	F			T
		Phoenix Career Academy (2000. Project completion date not found) New York City, NY, USA	33	Residential rehabilitation and skills training.	N	U	B	C	D	T

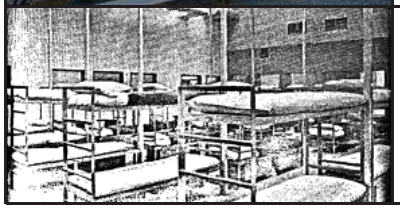
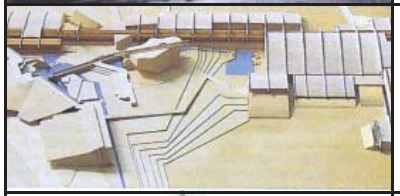
		**Regrade Park** 2004 Seattle, WA, USA	34	Reclaiming a park from people experiencing homelessness and/or who use and/or deal substances.	N	U	R	--	--	--
		**Rock Creek Center (now Timberline Knolls Residential Treatment Center** (1997. Project completion date not found) Lemont, IL, USA	35	Residential psychiatric and substance use treatment.	N	R	F			T
		**Sid Martin Bridge House** (1991. Project completion date not found) Gainsville, FL, USA	36	Residential counselling and treatment.	Y	S	F	C	P	T
		**St Anne's Garden** 2010 London, UK	37	Reclaiming a garden that had been a favourite hang-out of people experiencing homelessness and/or who use substances.	Y	U	R	--	--	--
		**Texas Department of Criminal Justice Thomas R. Havins Unit** 1994 Brownwood, TX, USA	38	Treatment and education in a custodial setting	Y	R	F	C	D	T

Image	Categories	**Project Title** Date Completed (or published) Location	Endnote	Project Intent	Drawings	Context	Design/Construction Process	Kitchen Types	Bedroom Types	Expected Occupancy Length
		**The Donwood Foundation (now Bellwood Health Services)** 1966 Toronto, ON, Canada	39	Residential treatment	Y	S	F	C	P	T
		**The House of Benjamin** (1993) Cavriana, Italy	40	Residential treatment through sport.	Y	R	F		S	T
		**The Lyon Building** Approx. 1996 Seattle, WA, USA	41	Housing and services for people disabled by HIV/AIDS and with histories of homelessness, mental illness, substance use.	N	U	F			S P
		**The Saman Community at Lenzi** 1983 Trapani, Italy	42	Residential treatment in an isolated community.	Y	R	B	S	S D	T

		**Tribeca Twelve** 2011 New York City, NY, USA	43	Supported residence for young adults attending college.	N	U	F	S		S
		**Veiskillet, Housing for the Homeless** 2005 Trondheim, Norway	44	Semi-permenant residence for young people with histories of prison and substance use.	Y	S	F	P S	S	S
	Rx	**Women's Alcoholism Center (now Women's HOPE)** Mid 1980s San Francisco, CA, USA	45	Comprehensive residential alcohol treatment program for mothers and their children.	Y	U	F	S	S	T
		**8NW8 (now the Richard L. Harris Building)** 2004 Portland, OR, USA	46	Residential treatment plus permanent special-needs housing.	Y	U	F	P	P	S P

Appendix A Endnotes

1 Rebecca Kleinbaum, "A Treatment Center for the Catawba Indian Nation: A Substance Abuse Treatment Center Integrating Cultural Heritage in a Recovery Environment," *Crit*, no. 39 (1998): 42–43q.

2 Monica Geran, "ARC West," *Interior Design* 61, no. 15 (1990): 184–87.

3 Einar Bjarki Malmquist, "Rehabilitering: I Prosjektet for Arveset Gard Pa Alna Skal Rehabiliteringen Av Det Gamle Gardsanlegget Gi Boboerne Mulighet Til Rehabilitering Av Hverdagen - Arveset Gard = [Arvest Farm], Oslo, C.F. Moller Norge AS," *Arkitektur N* 99, no. 2 (2017): 64–71.

4 Karin Tetlow, "Phoenix Rises," *Interiors* 152, no. 11 (1993): 72–79.

5 Stride Treglown, "Boswyns Drug Detox Centre," accessed September 21, 2018, https://stridetreglown.com/projects/boswyns-drug-detox-centre/; "Detox in Cornwall," *Building* 273, no. 8529 (2008): 79.

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7 "Central City Lodge, Vancouver," *Canadian Architect* 38, no. 4 (1992): 22.

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9 Peter J. Davidson and Mary Howe, "Beyond NIMBYism: Understanding Community Antipathy toward Needle Distribution Services," *International Journal of Drug Policy* 25, no. 3 (2014): 624–32, doi:10.1016/j.drugpo.2013.10.012.

10 Friedner Wittman et al., "The Setting Is the Service: How the Architecture of Sober Living Residences Supports Community Based Recover," *International Journal of Self-Help and Self-Care* 8, no. 2 (2014): 189–225, doi:10.1002/ar.20849.3D.

11 Jean Gorman, "House of Correction," *Interiors* 154, no. 7 (1995): 58–61; Paul Silver and David Miles Ziskind, *Institutional Architecture: The Design of Health Care, Educational, Municipal and Justice Facilities* (New York: PBC International, Inc, 1993).

12 Shane O'Toole, "Kinderhort, Seniorenwohnungen Und Drogenentzugsklinik in Dublin = Crech, Senior Citizen Housing and Drug Dependency Clinic in Dublin," *Architektur + Wettbewerbe*, no. 213 (2008): 44–47.

13 "Delancey Street Embarcadero Triangle, San Francisco, California," *Urban Land Institute* 22, no. 11 (1992): 1–4.

14 Benjamin Mark Rankin, "Drug Addiction Rehabilitation," *Fifth Column* 9, no. 2 (1996): 28–31.

15 "Caring Response," *Building Design*, no. 851 (1987): 8.

16 Bob Maltz, "Traditional Treatment: Emiliehoeve, Centre for Drug Addicts and Alcoholics," *Building Design*, 1978.

17 "Rehabilitation on a City Street," *Architectural Forum* 129, no. 3 (1968): 62–65.

18 Patrizia Malfatti, "Michele Cannata' e Fa'tima Fernandes a Messina: Centro Di Solidarieta' Faro = Faro Rehabilitation Centre," *Abitare*, no. 388 (1999): 158–62.

19 Deborah Singmaster, "A Residential Centre Which Emphasises Group Living," *Architects' Journal* 199, no. 2 (1994): 12–13.

20 "News in Pictures: The National Trust in Photographs, Lightweight College for Manchester [and] Helping the Young in Germany," *Architects' Journal* 203, no. 8 (1996): 10–11.

21 Glen Howard Small, "Restoring a Monument," *Small at Large*, 2013, https://www.smallatlarge.com/2013/06/restoring-a-monument/; Esther McCoy, "Horatio West Court:Private Restoration of Horatio West Court, Once a Haven for Drug Users," *Progressive Architecture* 57, no. 11 (1976): 68-.

22 M Vlahoiti and Y Vlahoitis, "Kentro Filoxenias Pofulakismenon Metepon [Hospitality Centre for Former Prison Inmates]," *Architecture in Greece* 42 (2008): 166–69.

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25 Garth Chivalle Carpenter, "In the Spirit of Partnership," *Architecture New Zealand*, no. Mar/Apr (1994): 27–37.

26 Bradley Wilkinson and Barbara Wilkinson, "Taking the Cure in Dwight: The Leslie E. Keeley Institute," *Historic Illinois* 24, no. 5 (2002): 3–8.

27 Edith Schlocker, "Innsbrucker Haus Fur Suchtkranke - Eine Villa, Die Kleine Ist [House in Innesbruck for People with Addiction Problems - One Villa, That Isn't Just One]," *Architektur. Aktuell*, no. 432 (2016): 114–23.

28 Cecile Dornseiffen, "Kleurrijk Onder Dak," *Jaargang* 20, no. August-September (2009): 54–58; Kirsten Hannema, "Multi-Focus Reception Centre, Apeldoorn: FBW Architects," *A10: New European Architecture*, no. 9 (2006): 15; Hans Ibelings, "Reality Check: Apeldoorn (NL)," *A10: New European Architecture*, no. 23 (2008): 11.

29 Julie Moline, "New Housing Prototype for Homeless," *Architectural Record* 184, no. 12 (1996): 12.

30 Karin Tetlow, "How Home Heals," *Interiors* 150, no. 17 (1991): 50–57.

31 Judith Rohrer-Amberg, "Platzpitz Zurich = Le 'Platzspitz' de Zurich = Platzspitz Zurich," *Anthos* 33, no. 1 (1994): 16–20.

32 Tetlow, "Phoenix Rises."

33 Eve M Kahn, "Clean and Sober: Residents Turned a Victorian-Era Factory into Phoenix House's Newest Drug Treatment Facility," *Interiors* 159, no. 5 (2000): 91–92.

34 Mark Hinshaw, "The K-9 Solution," *Landscape Architecture* 94, no. 9 (2004): 158–60.

35 "Burnidge Cassell Wins National Healthcare-Design Award," *Inland Architect*, no. March (1997): 14.

36 "A Therapeutic Light-Filled Space: Sid Martin Bridge House, Gainsville, Florida," *Florida Architect* 38, no. 3 (1991): 12–13.

37 Catherine Croft, "St Anne's Garden," *Building Design* August (2008): 14–15; The Architecture Ensemble, "St Annes Soho," accessed September 5, 2018, http://thearchitectureensemble.com/stannes.html .

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39 "The Donwood Foundation, Willowdale, Ontario," *Canadian Architect*, no. 13 (1968): 35–38.

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42 Claudio Gambardella, "Spazi Di Guarigione La Comunita Saman a Lenzi," *Spazio e Societa* 15, no. 59 (1992): 6–21.

43 Jennifer Caterino, "Recovery Rooms," *Architect (Washington, D.C.)* 100, no. 8 (2011): 34, 36–38.

44 "Veiskillet, Boliger for Bostedslose, Trondheim [Veiskillet, Housing for the Homeless, Trondheim]," *Byggekunst* 88, no. 7 (2006): 18–26.

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Appendix B

Complete List Of Articles Reviewed In Chapter 2.2

Author	Year	Title	Journal
Aminzadeh and Afshar	2003	Spaced out?: is there a relationship between the design of urban parks and their use by drug addicts?	Landscape design
August	2013	Challenging the rhetoric of stigmatization: the benefits of concentrated poverty in Toronto's Regent Park	Environment and planning A
Bell	2006	Self, meaning, and culture in service design: Using a hermeneutic technique to design a residential service for adolescents with drug issues	International Journal of Drug Policy
Bennett	2006	Empty bottle, empty city	Building Design
Best *et. al.*	2016	Recovery, Ambitions, and Aspirations: An Exploratory Project to Build a Recovery Community by Generating a Skilled Recovery Workforce	Alcoholism Treatment Quarterly
Bocking	2002	Rage: making friends with the locals	Blueprint
Bone	1997	Intravenous architecture: drug dealers take a free hand in redesigning vacant apartments	Metropolis
Canu *et. al*	2017	Mountaintop Removal coal mining and emergent cases of psychological disorder in Kentucky	Community Mental Health Journal
Carter *et. al.*	2016	It's a very isolating world': the journey to HIV care for women living with HIV in British Columbia, Canada	Gender, Place & Culture
Collins *et. al.*	2016	Navigating identity, territorial stigma, and HIV care services in Vancouver, Canada: A qualitative study	Health and Place
Connellan *et. al.*	2013	Stressed Spaces: Mental Health and Architecture	HERD
Davidson and Howe	2014	Beyond NIMBYism: Understanding community antipathy toward needle distribution services	International Journal of Drug Policy
DeVerteuil and Wilson	2010	Reconciling indigenous need with the urban welfare state? Evidence of culturally-appropriate services and spaces for Aboriginals in Winnipeg, Canada	Geoforum
DeVerteuil *et. al.*	2007	Making clean and sober places: the intersections of therapeutic landscapes and substance abuse treatment	Therapeutic Landscapes (book)
Dilkes-Frayne	2015	Drugs at the campsite: Socio-spatial relations and drug use at music festivals	International Journal of Drug Policy

Dilkes-Frayne	2017	Iterating 'addiction': Residential relocation and spatio-temporal production of alcohol and other drug consumption patterns	International Journal of Drug Policy
Draus *et. al.*	2015	Making Sense of the Transition from the Detroit Streets to Drug Treatment	Qualitative Health Research
Draus *et. al.*	2015	Streets, strolls and spots: Sex work, drug use and social space in Detroit	International Journal of Drug Policy
Duff	2010	Enabling places and enabling resources: New directions for harm reduction research and practice	Drug and Alcohol Review
Duff	2010	Networks, resources and agencies: on the character and production of enabling places	Health and Place
Duff	2012	Exploring the role of 'enabling places' in promoting recovery from mental illness: A qualitative test of a relational model	Health and Place
Duff	2012	Accounting for context: exploring the role of objects and spaces in the consumption of alcohol and other drugs	Social & Cultural Geography
Duff	2014	Assemblages of Drugs, Spaces and Bodies	Assemblages of Health (book)
England	2008	When 'good neighbors' go bad: territorial geographies of neighborhood associations	Environment and planning A
Evans *et. al.*	2015	"This place has given me a reason to care": understanding 'managed alcohol programs' as enabling places in Canada	Health and Place
Fairbanks	2003	Blighted Spaces and the Politics of Everyday Life	Social Work & Society
Fairbanks	2009	How it Works: Recovering Citizens in Post-Welfare Philadelphia	Book
Fast *et. al.*	2010	Safety and danger in downtown Vancouver: Understandings of place among young people entrenched in an urban drug scene	Health and Place
Fjaer and Tutenges	2017	Departies: conceptualizing extended youth parties	Journal of Youth Studies
Gifford and Hine	1991	Substance Misuse and the Physical Environment: The Early Action on a Newly Completed Field	The International Journal of the Addictions

Gone	2008	So I Can Be Like a Whitemamn': The Cultural Psychology of Space and Place in American Indian Mental Health	Culture & Psychology
Holloway, Jayne, and Valentine	2008	Sainsbury's is my local': English alcohol policy, domestic drinking practices, and the meaning of home	Transactions of the Institute of British Geographers
Jacob	2009	Sam Jacob forays into marijuana grow houses and the landscapes of drug use	Architect's Journal
James, Slater, and Thomas	1972	Alcohol and drug dependence - treatment and rehabilitation: a report correlating therapeutic principles with planning and design of facilities for the treatment of alcohol and drug dependence	King Edward's Hospital Fund for London (report)
Jayne *et. al.*	2012	What use are units? Critical Geographies of Alcohol Policy	Antipode
Jost	2006	Don't feed the homeless	Landscape architecture
Jozaghi	2012	"A little heaven in hell": The role of a supervised injection facility in transforming place	Urban Geography
Kearns *et. al.*	2015	A healthy island blue space: From space of detention to site of sanctuary	Health and Place
Kirschenbaum	1993	Drugs and the dream	City limits
Kraus, Serge, and Goldberg (CMHC)	2005	Homelessness, Housing, and Harm Reduction: Stable Housing for Homless People with Substance Use Issues	Report
Love *et. al.*.	2012	"You have to make a new way of life": women's drug treatment programmes as therapeutic landscapes in Canada	Gender, Place & Culture
Malins *et. al.*	2006	Spatial 'Folds': The entwining of bodies, risks and city spaces for women injecting drug users in Melbourne's Central Business District	Gender, Place & Culture
Marquina-Marquez *et. al.*	2016	Postcolonial healing landscapes and mental health in a remote Indigenous community in subarctic Ontario, Canada	Polar Geography
Masuda and Crabtree	2010	Environmental justice in the therapeutic inner city	Health and Place
McLafferty	2008	Placing Substance Abuse: Geographical Perspectives on Substance Use and Addiction	Geography and Drug Addiction (book)

McLean	2012	Needle exchange and the geography of survival in the South Bronx	International Journal of Drug Policy
McLean	2013	Reducing risk, producing order: the surprisingly disciplinary world of needle exchange	Contemporary Drug Problems
McNeil *et. al.*	2014	Negotiating place and gendered violence in Canada's largest open drug scene	International Journal of Drug Policy
McNeil *et. al.*	2015	Area restrictions, risk, harm, and health care access among people who use drugs in Vancouver, Canada: A spatially oriented qualitative study	Health and Place
Mendoza *et. al.*	2013	Using GIS to describe risk and neighborhood-level factors associated with substance abuse treatment outcomes	Journal of Community Psychology
Meth and Buthelezi	2017	New housing/new crime? Changes in safety, governance and everyday incivilities for residents relocated from informal to formal housing at Hammond's Farm, eThekwini	Geoforum
Montgomery	2004	Born to binge?	Town & Country Planning
Moon, Kearns, and Joseph	2006	Selling the Private Asylum: Therapeutic Landscapes and the (Re)valorization of Confinement in the Era of Community Care	Transactions of the Institute of British Geographers
Parkin	2015	Salutogenesis: Contextualising place and space in the policies and politics of recovery from drug dependence	International Journal of Drug Policy
Patient	1999	Less is Baltimore	Architecture (Washington D.C.)
Pauly *et. al.*	2016	Finding Safety: a pilot study of managed alcohol program participants' perceptions of housing and quality of life	Harm Reduction Journal
Reimer	2009	Pusher street and the theatre of emergence	Cambridge architectural journal
Romig and Feidler	2008	A therapeutic landscape? Contextualizing methamphetamine in North Dakota	Geography and Drug Addiction (book)

Shannon *et. al.*	2008	Mapping violence and policing as an environmental–structural barrier to health service and syringe availability among substance-using women in street-level sex work	International Journal of Drug Policy
Small *et. al.*	2007	Public injection settings in Vancouver: Physical environment, social context and risk	International Journal of Drug Policy
Stain *et. al.*	2008	Social networks and mental health among a farming population	Social Psychiatry and Psychiatric Epidemiology
Stienen	2009	Urban technology, conflict education, and disputed space[Medellin, Colombia]	Journal of urban technology
Tan	2013	Smoking spaces as enabling spaces of wellbeing	Health and Place
Tan	2013	Smell in the City: Smoking and Olfactory Politics	Urban Studies
Tempalski and McQuie	2009	Drugscapes and the role of place and space in injection drug use-related HIV risk environments	International Journal of Drug Policy
Thompson *et. al.*	2009	Nomadic identities and socio-spatial competence: making sense of post-smoking selves	Social & Cultural Geography
Townshend and Roberts	2013	Time, please	Town & Country Planning
Townshend and Roberts	2013	Affordances, young people, parks and alcohol consumption	Journal of Urban Design
Tran Smith *et. al.*	2015	Rebuilding lives and identities: The role of place in recovery among persons with complex needs	Health and Place
Valentine, Jayne, and Gould	2012	Do as I say, not as I do: the affective space of family life and the generational transmission of drinking cultures	Environment and planning A
Vergara	1991	The new ghetto	City limits
Vitellone	2010	Just another night in the shooting gallery? The syringe, space, and affect	Environement and planning D, society and space
Wardhaugh	1996	Homeless in Chinatown': Deviance and Social Control in Cardboard City	Sociology

West *et. al.*	2013	Safe havens and rough waters: Networks, place, and the navigation of risk among injection drug-using Malaysian fishermen	International Journal of Drug Policy
Whiteford *et. al.*	2016	Two buses and a short walk: the place of geography in recovery	Drugs and Alcohol Today
Williams	2016	Spiritual landscapes of Pentecostal worship, belief, and embodimetn in a therapeutic community: New critical perspectives	Emotion, Space and Society
Wilson	2003	Therapeutic landscapes and First Nations peoples: an exploration of culture, health and place	Health and Place
Wilton and DeVerteuil	2006	Spaces of sobriety/sites of power: Examining social model alcohol recovery programs as therapeutic landscapes	Social Science & Medicine
Wilton and Moreno	2012	Critical Geographies of Drugs and Alcohol	Social & Cultural Geography
Wilton *et. al.*	2014	No more of this macho bullshit': drug treatment, place and the reworking of masculinity	Transactions of the Institute of British Geographers
Yang	2009	Migration, urbanization, and drug use and casual sex in China: a multilevel analysis	Environment and planning A

Appendix C
Study Materials

Survey Questions

Do you identify as:

☐Male ☐Female ☐Other ☐Prefer not to say

What term best describes where you are in your architectural career?

☐Leadership ☐Architect ☐Intern Architect ☐Prefer not to say

Have you ever worked on a project which (please select all that apply):

☐Involved collaborative or participatory design processes

☐Was with or for Indigenous communities

☐Was with or for individuals experiencing substance use/abuse

☐Was with or for individuals experiencing homelessness

Has the firm you currently work for ever designed a project which (please select all that apply):

☐Involved collaborative or participatory design processes

☐Was with or for Indigenous communities

☒Was with or for individuals experiencing substance use/abuse

☐Was with or for individuals experiencing homelessness

Interview Themes

Part 1:

- What methods or tools do you use to understand the impact of your architecture on those who occupy it (for example, post-occupancy surveys)?
- What does the term 'place' mean to you in the context of architectural practice?
- How would you describe place-making?
- Does place-making inform your practice as an architect? If so, how?

Part 2:

Researchers in the area of Human Geography differentiate between the terms 'space' and 'place', where space encompasses the physical material basis in which we live and place is a specific location in space that has become memorable and meaningful.

- Do these definitions resonate with you?
- Are the meanings of the spaces you build (or as humanistic geographers would say, the things which make them 'places'), something you regularly take into consideration when you design? Why or why not? If so, how?
- Do these definitions change how you would describe place and place-making in the context of architectural practice?

Part 3:

Research has shown that place-making, using the definition from Human Geography, is often active, and places are made by those who occupy them rather than simply found.

- Does your architectural practice incorporate methods which allow the buildings you design to be 'made by those who occupy them' in some way (for example, collaborative or participatory methods)? Why or why not?

If so,

- Describe the process.
- Does the design or design process differ from other projects you've been involved in? If so, how?
- Does a collaborative/participatory approach change your approach to your client relationships? To architectural design in general? Why or why not?
- What are the benefits you've found (for yourself, your firm, your clients)?
- Are these methods used in every project, or in specific projects? If in specific projects, how are these chosen?
- What are particular challenges you've encountered when integrating collaboration/participation into your architectural practice?
- What works well? What should be avoided?
- Is there anything you take particular inspiration from or base your collaborative/participatory practice on (a book, manifesto, personal experience, professional experience, etc.)?

Interview Themes, cont.

- Are there any firms, architects, or projects that you would point to as an example of successfully integrating occupant participation/collaboration in the design process?

Part 4:

Place has been found to be particularly important for marginalized individuals, such as those who use/abuse substances (for example, drugs and alcohol):

- Do you, or have you ever, designed for this or similar demographics?

If so,

- Describe the process.
- Does the design or design process differ from other projects you've been involved in? If so, how?
- Have these projects changed your approach to your client relationships? To architectural design in general? Why or why not?
- What are particular challenges you've encountered in these projects? Benefits?
- What works well? What should be avoided?
- Is there anything you take particular inspiration from or base your design process for these projects on (a book, manifesto, personal experience, professional experience, etc.)?
- Are there any firms, architects, or projects that you would point to as an example of successfully completing these kinds of projects?
- Was the concept of place, whether the specific term 'place' was used or not, a consideration in these designs?
- Did you use a process which allowed the project to be 'made by those who occupy it' (for example, collaborative or participatory methods)? Why or why not? If so, is there anything you would like to add to your answers from Part 3?

If not,

- Would you consider using collaborative/participatory methods in future for these kinds of projects?
- What challenges can you foresee in using collaborative/participatory methods when designing these projects? What benefits?

Recruitment Email, used prior to April 2018

Dear ***(insert individual's name):***

My name is Allegra Friesen and I am a Master's student at the University of Waterloo. This email is an invitation to consider participating in a study I am conducting as part of my Master's degree in the School of Architecture at the University of Waterloo, under the supervision of Professor Elizabeth English. This study will focus on the methods used by architects who design for individuals experiencing substance use and/or encourage 'making by those who occupy' through processes such as participatory or collaborative design. Therefore, I would like to include you as one of several architects and intern architects to be involved in this study.

Participation will involve a short online survey, less than 5 minutes in length, that will be used to generate a collective picture of study respondents, followed by an interview of approximately 1 hour in length. Upon receipt of your consent, if you choose to participate, a link for the online survey will be sent to you to be completed, after which the interview will take place at a mutually agreed upon time and location, or by video conference if you prefer. Further details can be found in the attached information letter.

It is my hope to gain a rich perspective of these design methods by interviewing multiple levels of the design team, including leadership, architects, and intern architects. If you know of other architects and intern architects who may be interested in participating in this study, please feel free to pass on this email, including the attached information letter, and my contact information. If you are interested in participating yourself, please contact me, Allegra Friesen, at a3friesen@uwaterloo.ca to discuss participation in this study in further detail. Participation is completely voluntary, and may be withdrawn at any point before data analysis begins without penalty; it will not be possible to withdraw once data analysis has begun.

I would like to assure you that this study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee. However, the final decision about participation belongs you.

Yours sincerely,

Allegra Friesen
Master's Candidate

UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING
School of Architecture

Recruitment Email, used April 2018 and after.

Email Title:

Participants Needed for Research in User Collaboration in Architectural Practice

Email Body:

I am looking for volunteers to take part in a study of methods used by architects who:

a) design for individuals experiencing addiction

and/or

b) encourage 'making by those who occupy' through processes such as participatory or collaborative design.

As a participant in this study, you would be asked to complete a short online survey, less than 5 minutes in length, that will be used to generate a collective picture of study respondents, followed by an interview of approximately 1 hour in length.

Your participation would involve one (1) session, of approximately 60 minutes.

For more information about this study, or to volunteer for this study,
please contact:

Allegra Friesen

UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING
School of Architecture

519-888-4567 Ext. 27602 or
Email: a3friesen@uwaterloo.ca

This study has been reviewed by, and received ethics clearance through, a University of Waterloo Research Ethics Committee.

Information and Consent Letter

University of Waterloo

[insert date]

Hello,

This letter is an invitation to consider participating in a study I am conducting as part of my Master's degree in the School of Architecture at the University of Waterloo under the supervision of Professor Elizabeth English. I would like to provide you with more information about this project and what your involvement would entail if you decide to take part.

There is a growing body of research that supports 'place' as an important aspect of human wellbeing and can influence patterns of substance use, and further suggests that places are made by those occupy them, rather than found. However, there is little research that examines how architects can successfully integrate the users of a space into the design process in order to make space a place. The purpose of this study, therefore, is to gain a better understanding of how spaces can be 'made by those who occupy them' and become places, in order to better support those experiencing the severest forms of substance use.

This study will focus on the methods used by architects who design for individuals experiencing substance use and/or encourage 'making by those who occupy' through processes such as participatory or collaborative design. I believe that because you are actively involved in one or both of these practices, you are best suited to speak to the various issues, such as how best to integrate place-making into daily architectural practice.

Participation in this study is voluntary. It will involve a short survey, less than 5 minutes in length, followed by an interview of approximately 1 hour in length. To indicate your consent to participate in this study, including both the survey and the interview, print, sign, and scan this letter, and email a signed copy to myself, Allegra Friesen, at a3friesen@uwaterloo.ca. Upon receipt of your consent you will be sent a link for the online survey operated by SurveyMonkey. When information is transmitted over the internet privacy cannot be guaranteed. There is always a risk your responses may be intercepted by a third party (e.g., government agencies, hackers). SurveyMonkey temporarily collects your contributor ID and computer IP address to avoid duplicate responses in the dataset but will not collect information that could identify you personally. The survey will be used to generate a collective picture of study respondents which will be compared with themes arising from the interviews. Your name will not be collected as part of this survey, and only researchers associated with this project will be able to connect your demographic profile to your interview. Subsequently, the interview will take place at a mutually agreed upon time and location, or by video conference if you prefer. If you choose to participate by video conference, please note that when information is transmitted over the internet privacy cannot be guaranteed. There is always a risk your responses may be intercepted by a third party (e.g., government agencies, hackers). University of Waterloo researchers will not collect or use internet protocol (IP) addresses or other information that could link your participation to your computer or electronic device without first informing you.

You may decline to answer any of the interview questions if you so wish. Further, you may decide to withdraw from this study at any point before data analysis begins without any negative consequences by advising the researcher. It will not be possible to withdraw once data analysis has begun. With your permission, the interview will be audio recorded to facilitate collection of information, and later transcribed for analysis. After the interview has been completed, I will email you a copy of initial findings from this study, at which point you will have two weeks to respond with any reactions or further comments; these will be taken into consideration as the study

progresses. It will not be possible to withdraw once data analysis has begun, but you may decline to further comment.

Once all the data are collected and analyzed for this project, I plan on sharing this information with the research community through my Master's thesis, at conferences, and in other publications. All information you provide is considered completely confidential. Your name will not appear in any thesis or report resulting from this study, however, with your permission anonymous quotations may be used. In a small community such as an architectural firm, there is always the risk that you may be identifiable through indirect indicators, such as your position in the firm or the projects you work on. We will attempt to minimize this risk by using a pseudonym for any direct quotations from your interview, as well as never associating your position in the firm with the name of the firm or with any particular design project. All paper field notes collected will be retained locked in my office and in a secure cabinet in the School of Architecture at the University of Waterloo. All paper notes will be confidentially destroyed after three years. Further, all electronic data will be stored on a CD with no personal identifiers and erased after three years. Only researchers associated with this project will have access.

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee ORE # 22422. If you have questions for the Committee contact the Chief Ethics Officer, Office of Research Ethics, at 1-519-888-4567 ext. 36005 or ore-ceo@uwaterloo.ca.

For all other questions or if you would like additional information to assist you in reaching a decision about participation, please contact me at 1-519-888-4567 ext. 27602 or by email at a3friesen@uwaterloo.ca. You can also contact my supervisor, Professor Elizabeth English at 1-519-888-4567 ext. 27617 or email ecenglish@uwaterloo.ca.

I hope that the results of my study will be of benefit to those architecture firms directly involved in the study, other architecture firms not directly involved in the study, as well as to the broader community.

I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Yours Sincerely,

Student Investigator

CONSENT FORM

By signing this consent form, you are not waiving your legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

_____

I have read the information presented in the information letter about a study being conducted by Allegra Friesen of the School of Architecture at the University of Waterloo. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and any additional details I wanted.

Information and Consent Letter, cont.

I am aware that I have the option of allowing my interview to be audio recorded to ensure an accurate recording of my responses.

I am also aware that excerpts from the interview may be included in the thesis and/or publications to come from this research, with the understanding that the quotations will be anonymous.

I was informed that I may withdraw my consent at any time without penalty by advising the researcher.

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee ORE # 22422. I was informed that if I have questions for the Committee I may contact the Chief Ethics Officer, Office of Research Ethics, at 1-519-888-4567 ext. 36005 or ore-ceo@uwaterloo.ca.

For all other questions, I may contact Allegra Friesen at 1-519-888-4567 ext. 27602 or by email at a3friesen@uwaterloo.ca.

A signature is needed.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

☐YES ☐NO

I agree to have my interview audio recorded.

☐YES ☐NO

I agree to the use of anonymous quotations in any thesis or publication that comes of this research.

☐YES ☐NO

Participant Name: _____ (Please print)

Participant Signature: _____

Witness Name: _____ (Please print)

Witness Signature: _____

Date: _____

Feedback Email

University of Waterloo

Date

Dear ***(Insert Name of Participant),***

I would like to thank you for your participation in this study entitled “Architecture and Substance Use: The Importance of Place”. As a reminder, the purpose of this study is to gain a better understanding of how spaces can be 'made by those who occupy them' and become places, in order to better support those experiencing the severest forms of substance use. The data collected during interviews will contribute to the establishment of best practices, resulting in an improved process of placemaking and increased wellbeing for the users of the space being designed.

Attached to this email are some initial findings from this study, included to give you an opportunity to respond. I invite you to send me your thoughts on and reactions to these findings, and I shall take them into consideration as the study progresses. I look forward to receiving your comments within the next two weeks. If you do not have time to write things down, feel free to give me a call at 1-519-888-4567 ext. 27602.

Additionally, some interview participants have requested that their names be attributed in the final research findings. This email is an opportunity for you to formally request full identification of yourself and attribution of your quotes in the final research findings. Attribution may provide personal benefits to you, including potential recognition as an industry leader in participatory design. Attribution may also create psychological, social, and economic risks for you if your comments could be considered critical or controversial, as well as the economic risk (for yourself and your firm) of losing a competitive edge by publicly sharing your design process. Attribution is not required for continued participation in this study, and there is no penalty for choosing to remain anonymous.

If you wish your name to be attributed, please first review your quotes in the attached initial findings. You may also request the full transcription of your interview for your review. Your quotes are currently attributed under the name ***(insert coded name)****. Next, please print this email, complete the consent located at the bottom, and return it to me, Allegra Friesen, by email at a3friesen@uwaterloo.ca within the next two weeks. Again, attribution is NOT required and there is no penalty for choosing to remain anonymous.*

This study has been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE#31331). If you have questions for the Committee contact the Office of Research Ethics, at 1-519-888-4567 ext. 36005 or ore-ceo@uwaterloo.ca.

For all other questions contact me, Allegra Friesen, at 1-519-888-4567 ext. 27602 or by email at a3friesen@uwaterloo.ca.

Please remember that any data pertaining to you as an individual participant will be kept confidential unless you specifically request attribution as outlined above. Once all the data are collected and analyzed for this project, I plan on sharing this information with the research community through my Master’s thesis, at conferences, and in other

Feedback Email, cont.

publications. If you are interested in receiving more information regarding the results of this study, or would like a summary of the results, please indicated your interest, and when the study is completed, anticipated by September 2018, I will send you the information by email. In the meantime, if you have any questions about the study, please do not hesitate to contact me by email or telephone as noted below.

Allegra Friesen

1-519-888-4567 ext. 27602
a3friesen@uwaterloo.ca

UNIVERSITY OF WATERLOO
FACULTY OF ENGINEERING
School of Architecture

Consent to Attribution:

With full knowledge of all foregoing, I agree, of my own free will, to the use of attributed quotations in any thesis or publication that comes of this research.

☐YES ☐NO

Participant Name: _____ (Please print)

Participant Signature: _____

Witness Name: _____ (Please print)

Witness Signature: _____

Date: _____