Inhabiting Urban Landscapes: Reimagining Mono-Programmed Infrastructure as Accessible Public Space

by

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

To my sister, Paige, thank you for inspiring this journey. Inclusion matters, always.

Contents

Abstract

Public areas in cities are often overtaken and underutilized by surrounding infrastructure, singularly programmed spaces, a lack of urban amenities, and pedestrian access throughout public zones. This thesis investigates the relationship between urban landscapes and accessible, multi-functional public spaces, particularly in mono-programmed areas exhibiting qualities of neglected urban infrastructure. The architectural proposal seeks to connect people to the city of Halifax through the landscape by defining systems that are responsive to public needs. Concepts of form are explored by embedding, fracturing, adding, and subtracting spaces of inhabitation. Through integrated active transportation networks, a web of inclusive public space emerges, serving the community and its users. A deconstructed, multi-use program informs function, emphasizing the importance of unrestricted public space within urban contexts. The thesis argues that thoughtfully designed urban landscapes lead to safe and meaningful community areas that prioritize user needs by connecting public networks to the fabric of the city.

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I can't quite express how grateful I am to all of you, but I am certain that I would not be where I am without you.

Chapter 1: Introduction

Objective

This thesis aims to inhabit idle urban spaces by applying a multi-faceted, human-centric design approach to public areas through architectural interventions that weave into the fabric of the city, thereby fostering dynamic communities through accessible urban public spaces.

Public Urban Spaces

The stairwell used to navigate around the site's six-metre retaining wall emphasizes characteristics of anti-spaces found on the Mumford Road site.

Urban environments often suffer from a disconnect between inner-city dwellers and public spaces, impacting the quality of life in metropolitan areas. This thesis explores the human experience in public spaces and investigates conditions that have led to the demise of shared city zones. Areas with characteristics of mono-programming, inhibited access, and urban density are at the forefront of the project's analyses, as these spaces often exemplify disagreeable qualities that deter their use and fullest potential.

In this thesis, these areas have been referred to as neglected urban spaces, anti-space, and lost space, where city infrastructure exists, but fails to accommodate the community and its users. Steven Peterson's conception of "anti-space" in the article, "Space and Anti-Space," is viewed as the antithesis of thriving urban spaces, leaving public environments with remnants of what was or what could have been (Peterson 1980, 91). Echoing this sentiment, the term lost space was first coined by Roger Trancik in the book, *Finding Lost Space: Theories of Urban Design*, and is described as,

> The undesirable urban areas that are in need of redesign - antispaces, making no positive contribution of the surroundings

> or users. They are ill-defined, without measurable boundaries, and fail to connect elements in a coherent way. (Trancik 1986, 4)

This is commonly observed in expansive car-centric infrastructure, which prioritises roads and parking lots over pedestrian-friendly amenities. As a result, pedestrian zones and networks, including sidewalks, crosswalks, green spaces, and alternative transportation routes are often sidelined (Mueller et al. 2020, 1). Automotive domination in urban areas not only restricts access through singular programming, but also prevents the multi-functional potential of public spaces. Furthermore, these areas tend to develop a pseudo multi-functional program as a means of accommodating products, services, and amenities that are inevitable repercussions of public areas and facilities.

The evolving nature of urbanization that has been propelled by factors of escalated living costs and job opportunities, creates an inevitable need to reassess the use of public spaces. These factors have increased the demand for urban inhabitation and are among the many reasons that by the year 2050, approximately 75 percent of the population will move into cities (Dolley and Bosman 2019, 2). As urban centres experience greater density, repercussions of evaporating public space are felt among city dwellers, amplifying the importance of versatile and inclusive urban designations.

Furthermore, in Canada, adverse weather conditions exacerbate accessibility issues, impeding community engagement and accessibility to essential services. The concept of lost space becomes more prevalent as pedestrian and public areas that would otherwise be usable spaces during the spring and summer months, become

inaccessible in the winter. Sever weather systems isolate individuals from using shared spaces and create significant barriers to essential services, public transit, and recreational areas.

This thesis asserts that to reverse the decline of public areas that display attributes of anti-spaces, there is an imperative need for a human-centric approach to the urban strategy, program, and design to inhabit the urban landscape. By examining case studies, findings throughout this research aim to gain insights into effective design methodologies that can revitalise public spaces, specifically the utilisation of adaptive reuse and reprogramming of infrastructural elements. History and site context provide a point of reference for the car-centric model of the current site, while mapping data, a program analysis, and community observations inform design concepts that seek to prioritise the needs of people by weaving inhabited public spaces back into the city's fabric.

Thesis Question

How can architectural interventions, such as inhabiting the landscape of mono-programmed urban infrastructure, be applied to transform anti-spaces into usable and accessible public areas?
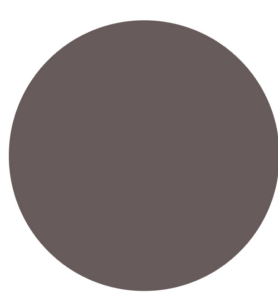
"Cities have the capability of providing something for everybody, only because, and only when, they are created for everybody."
Jane Jacobs

Collage of urban anti-spaces.

Chapter 2: Sense of Place

Finding Space

The attributes of lost space form gaps in the urban landscape and cause a detachment between people and common areas in cities. Finding one's place in a city can feel isolating, as issues of attitudinal, social, and physical barriers, as well as the prevalence of restricted infrastructure give rise to anti-spaces that are unwelcoming, unfamiliar, and unsafe. In the article, "Universal Design is a Stamp of Architectural Excellence, Not a Box-Ticking Exercise," architect Chris Downey casts light on the importance of designing highly functional spaces that make room for everyone, articulating that, "it is about serving more people in a unified way so that they aren't being segregated by types of use" (2020).

While city life can give the appearance of non-stop bustling and liveliness, forming an identity and sense of place can be difficult due to the density of urban areas and the pressure of maintaining a fast-paced lifestyle.

This chapter outlines the evolution and transformation of cities, the impact of global occurrences on their fabric, and highlights some of the constructs that have contributed to the disengagement from and erosion of public urban spaces.

Changes in Urbanism

City Model Ideals

The Garden City model proposed by Ebenezer Howard near the end of the nineteenth century and the Radiant City plan put forth by Le Corbusier in the twentieth century, introduced new and transformative perspectives of rural and urban living.

An empty bus shelter sits in an area that is not serviced by buses, indicating lost space on the Mumford Road site.

Howard's Garden City held ideas of a utopian life situated outside of London's dense and polluted urban centre (Jacobs 1961, 17). Each home within the radial grid contained its own garden, while the surrounding neighbourhood raised livestock for grazing and dairy, providing food security for those within the garden model (Jacobs 1961, 17-18). The Garden City held an idealised approach to living that prioritised access to essential services and amenities; this was achieved by dedicating every second or third avenue to commercial and institutional buildings and spaces (Howard 1902).
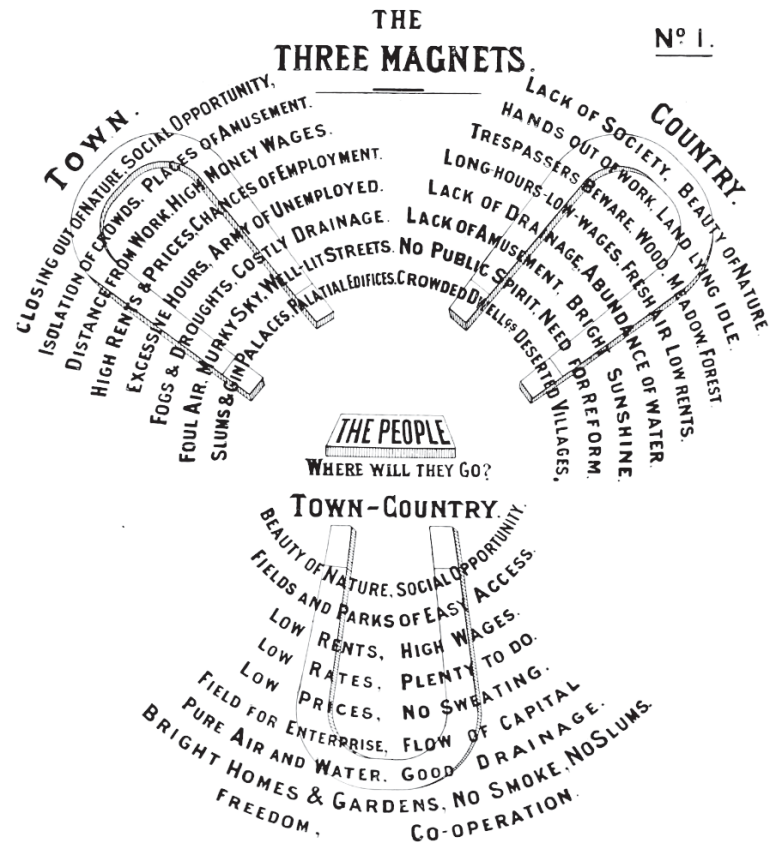
Howard's Garden City of To-Morrow diagram (Howard 1902)

Addressing issues of density, Le Corbusier's Radiant City approach, born from Howard's ideas, encouraged urbanisation though a concept that proposed building up instead of out (Corbusier 1929). A compact city model of mixed-used buildings made up of high-rise residences, shops, and restaurants, allowed for several people to live close together while the surrounding site below could be used for streets, walking paths, and garden spaces (Jacobs 1961). During this time, automobiles were on the rise as a way forward into the future of technology and possibilities, and public spaces were being devoured by streets that contributed to car-centric ideals.
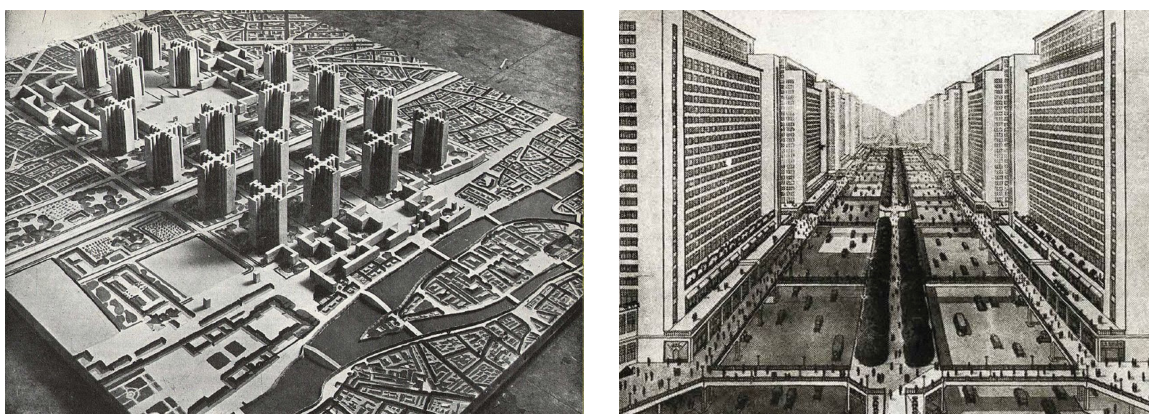
View of a model and a perspective drawing of Le Corbusier's Radiant City ("Ville Radieuse: Le Corbusier's Functionalist Plan for a Utopian 'Radiant City' - 99% Invisible" n.d.)

While Howard and Le Corbusier presented differing visions of idealised lifestyles, both prioritised the welfare of individuals, accessibility to essentials, and the integration of green spaces, fostering community growth through gathering areas and shared spaces. The Garden and Radiant City models carefully devised the layout of community blocks and street usage, aiming to optimise connectivity to daily needs and minimise lost space, thereby enhancing quality of life.

Image created by Penny Hardy for the New York City installation called Village Voices. The shadowbox image is comprised of several photos taken during the 1968 protest of the proposed Lower Manhattan Expressway. Jane Jacobs was present and arrested during the protest (Stephens 2021).

In recent years, architecture and planning projects regarding urban renewal initiatives that seek to mitigate the loss of desired urban spaces have been exceedingly prevalent. These projects often focus on reinvigorating the urban environment to contain green spaces, gardens, pedestrian paths, and public facilities. Additionally, the regeneration of urban public spaces frequently involves remedying the amount of car-centric infrastructure that was initially added to rapidly growing cities to accommodate the onset of vehicle use. For instance, in New York in the 1960s, the fate of Washington Square Park was on the line when Robert Moses, New York's "Master Builder" threatened to uproot the frequented inner city green space with a road that would create a more direct route through the city (Graham 2016, 154-159). Jane Jacobs was on the frontline of the protest, arguing that spaces like Washington Square Park were not only few and far between in the densely-packed city of New York, but an essential component of the well-being of the city and its residents (Graham 2016, 159). The debate around preserving Washington Square Park as a pedestrianised area within New York City highlights the potential loss of identity when public spaces are sacrificed for singular programming. Today, Washington Square Park thrives as a public amenity-rich space, featuring splash showers, washrooms, eateries, public wifi zones, monuments, and gathering spaces, demonstrating the vitality of multi-use urban landscapes when they are designed for people (NYC Parks n.d.).

From Rural to Urban

In the article, "Our Vanishing Third Places," Ray Oldenburg (1997) wrote, "life without community has produced, for many, a life style consisting mainly of a home-to-work-and-

back-again shuttle. Social well-being and psychological health depend upon community" (cited by Dolley and Bosman 2019, 2). In recent times, this observation is particularly prevalent, as cities grapple with the effects of growing populations. For instance, within the span of the past five years, the largest municipalities across Canada have witnessed a steady rise in population growth rates, exemplified by an increase of 9.1 per cent in Halifax, Nova Scotia (Government of Canada 2022). The demand for necessary infrastructure, particularly housing and usable public space is not isolated to Halifax but represents a wider trend affecting many cities of all sizes. This is undoubtedly a rising concern throughout cities and poses the question of how lost space can be utilised to create public areas that will benefit a densifying landscape.

The departure of public spaces can be observed during political and social events in history, such as the 1900s industrial revolution that caused a circuit of rural and urban inhabitation. Initially, public spaces like parks and promenades were prominent features of urban life but were diminished as industries grew and the need for factories and places to live became more important. Rural communities that were once considered havens of uninhibited green space for leisure and agriculture became inconvenient for daily commutes, and therefore, city dwelling densified ("City Life in the Late 19th Century" n.d.).

Today, the influx of urban living and a desire to have proximal access to necessities, including well-planned public spaces within cities, is one of the many reasons why reclaiming neglected urban spaces and repurposing them as safe and reliable community areas is exceedingly crucial.

Poster illustrating the five-person bubble rule in Nova Scotia during the COVID-19 pandemic (Communications Nova Scotia 2020).

COVID-19

The COVID-19 pandemic has sparked significant changes in urban and rural lifestyles since its onset in March 2020. As the world quickly began to shut down, finding ways to work and communicate remotely became an issue resolved by a series of platforms offering easy and efficient access to video conferencing and organisation. This effectively altered conventional working models and the perception of a nine-to-five workday, and allowed for the flexibility of working and communicating across diverse locations.

While offices and public buildings were shutting down in Halifax, Nova Scotia, and the rest of the world, so too were public areas, including beaches and parks (CTV News 2020). The "bubble" system was introduced shortly after to help mitigate gathering during a time of unknowns, limiting social groups to no more than five individuals. By May 2020, the Halifax Regional Municipality began to re-open parks and green spaces with social distancing protocols, and outdoor spaces became vital refuges for residents seeking recreation and a sense of normalcy (Halifax 2020).

In the article, "The impact of COVID-19 on public space: an early review of the emerging questions – design, perceptions and inequalities," the authors reiterate that it may take years to understand how the COVID-19 pandemic has influenced the way public space is used and perceived, and variables such as one's age when the pandemic occurred, one's job during the pandemic, and the experience and connections one may have had to public spaces before the lock-down, contribute to the outcome of future studies (2021, 4-6).

Another study by Reinwald et al. in the paper, "Urban Green Infrastructure and Green Open Spaces: An Issue of Social

Fairness in Times of COVID-19 Crisis," emphasizes the importance of urban green spaces and their proximity to city neighbourhoods in promoting the overall health and well-being of city dwellers (2021, 5-6). Reinwald et al. highlights how accessibility and the quality of green spaces are not equitable for all urban residents, which is an important consideration in the context of the pandemic (2021, 5).

The COVID-19 pandemic has illuminated the indispensable role that public spaces play in fostering community engagement, particularly in multi-programmed areas with a hybrid model of indoor and outdoor space. Creating zones of inhabitation from lost space, like third spaces, has become a precedent for both private and public areas since the pandemic. It is more apparent than ever that response-oriented design integrations within the public landscape are integral elements in developing urban connectedness.

Caution tape indicating the closure of a park in Halifax in 2020 during the COVID-19 pandemic. Image originally posted by CityNews Halifax (2020; cited by Mosky 2020).

Illustration from Chapter 7, Social Interaction, Community and Sense of Place, in *The Happy Design Toolkit* (Channon 2022), captioned "Social furniture."

Public Spaces as Third Places

Third places are defined as the in-between-zones that you retreat to for solace and peace, as they become a dependable space outside of your home and place of work. In the book, *The Great Good Place: Cafés, Coffee Shops, Bookstores, Bars, Hair Salons, and Other Hangouts at the Heart of a Community*, author Ray Oldenburg (1999) describes a series of characteristics that comprise the essence of third places, declaring them as,

> Neutral ground or a common meeting place; levellers or places that encourage, and are inclusive of, social and cultural diversity; places that are easy to access and accommodate various sedentary and active activities; place champions or regular patrons; low profile and informal places; places which foster a playful atmosphere; a home away from home; and a place where conversation is the primary activity. (Dolley and Bosman 2019, 2)

Third places are essential public spaces because they do not require an explanation of their use; they embody qualities that encourage a sense of community and belonging; and they connect people with areas of the urban landscape that might otherwise be neglected, such as lost spaces. These qualities distinguish third spaces from typical public areas as they exist as a vital component of the urban landscape, rather than a result of what is left to fill.

In the book, *Rethinking Third Places*, authors Joanne Dolley and Caryl Bosman highlight that, "Numerous social researchers suggest that everyday incidental interactions of third places improve relationships between neighbours; decrease loneliness and isolation; improve the perception of safety, build social capital and create a sense of place" (Dolley and Bosman 2019, 3). These spaces are often flexible and adaptable; they do not require an imagined or prefabricated area to exist, but rather they thrive when

they appear in the least expected areas. Implementing third places as a primary program in urban public spaces creates a lively and vibrant environment that reinforces one's sense of belonging and connectedness to the community; such areas have been exemplified in the case study projects.

Illustration from Chapter 5, Aesthetics and Legibility, in *The Happy Design Toolkit* (Channon 2022), captioned "Colour for joy and colour for wayfinding."

Case Studies

Urban Renewal and Regeneration

The following case study projects provide a glimpse into the design of meaningful public spaces that have utilised principals of adaptive reuse and regeneration methods to reimagine the program and intention of urban infrastructure. These spaces invite users to participate in public activities and events while creating dependable places of comfort in their communities. Though each project has a similar objective, they each serve their respective rural and urban landscapes through purposeful architectural concepts that resolve elements left by anti-spaces and display the tremendous potential for creating innovative public spaces for people.

One of the "bents" within The Bentway in Toronto, Ontario ("Welcome to The Bentway" n.d.).

The Bentway

Public Work Studio

The Bentway is an expansive path system located beneath one of Toronto's main inner-city freeways, the Gardiner Expressway. The project utilises shelter provided by the substructure of the overpass, while the substructure piers create a covered pedestrian walk and spaces for design interventions situated within the "bents." Located between the piers of The Bentway, the 55 bents become conceptualised rooms and spaces that strive to connect the community to the city through innovative installations that expand public space ("Welcome to The Bentway" n.d.). While the project itself has become a network within the city of Toronto, community areas are formed through social initiatives that inspire creativity and promote local performances, events, and art. Rather that removing or reprogramming the entire Gardnier Expressway, The Bentway uses a model of regeneration and adaptive reuse to create additional programming within a singularly functional structure.

The Bentway intervention in Toronto, Ontario ("Welcome to The Bentway" n.d.)

Public car-free space within the Sant Antoni Superblock, Barcelona ("Superblock of Sant Antoni / Leku Studio" 2020)

The Superblock of Sant Antoni

Leku Studio - Jokin Santiago, Marta Sola

> Where the pedestrian and the clean air are protagonists. Barcelona City Council ("Barcelona to Convert a Third of Central Streets into Car-Free Green Spaces" 2020)

Superillas, or Superblocks, are a method of urbanism that work to repurpose existing inner-city streets as public urban spaces, parks, green infrastructure, areas of seating and rest, relaxation, and dining ("Bienvenido a Superilles" n.d.). The Barcelona neighbourhood of Sant Antoni is introducing the Superblock model as a rejuvenation effort that strives to improve air quality of the area while creating greater access to pubic and active transportation. However, the Eixample District, located in Sant Antoni, is not working alone to revitalise neighbourhoods in Barcelona, as it will contribute 21 Superblock designs toward a much larger city planning project that has proposed a total of 503 pedestrian-forward Superblock plans throughout the city (Mueller et al. 2020, 3).

Public spaces within the Superblock of Sant Antoni, Barcelona ("Superblock of Sant Antoni / Leku Studio" 2020)

The Eixample District is known to be particularly dense, and as a result, it has become car-centric and congested over the years. Mono-programming of car-heavy infrastructure and the presence of anti-space are evident throughout the Eixample District, as dangerous levels of nitrogen dioxide have contributed to a pollution-related death rate of 23 percent in the Sant Antoni neighbourhood ("Barcelona to Convert a Third of Central Streets into Car-Free Green Spaces" 2020).

The design response for the renewal of the Sant Antoni Superblock involves introducing 21 plazas with amenities and green spaces for public gatherings which will be located as a central node on the city's grid-like street system. Additionally, 33 percent of the roads that were previously intended for vehicle use are being transformed into parks and pedestrian paths and are closely connected to the public transit system to ensure residents have reasonable proximal access to other methods of transportation ("Barcelona to Convert a Third of Central Streets into Car-Free Green Spaces" 2020).
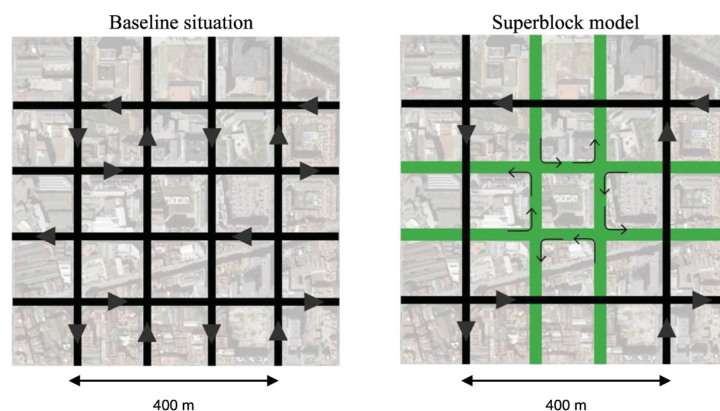
Existing car model versus new Superblock model to be applied to the Sant Antoni neighbourhood (Mueller et al. 2020)
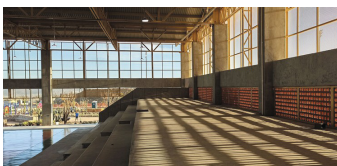
The skate park at Jardin de Sombras in Los Cabos, BCS, Mexico ("Jardín de Sombras: Public Space as Infrastructure for Cities in the Desert" 2022).

Interior view of the Shade Garden ("Jardín de Sombras: Public Space as Infrastructure for Cities in the Desert" 2022).

Jardín de Sombras

Julián Arroyo Cetto, Gabriel Azuara Pellicer, ORU-Oficina de Resiliencia Urbana, Virens

Urban revitalisation and disaster preparedness were at the forefront of the Jardín de Sombras project located in Baja California Sur, Mexico. Jardín de Sombras, which translates in English to "shade garden," is comprised of a fascinating multi-use program that pursues a strong relationship between indoor and outdoor space (Oficina de Resiliencia Urbana n.d.). The structure and site area are contrasting to its barren surroundings as the desert-like landscape inhibits ample cultivation of vegetation. The Shade Garden structure has been designed with a permeable façade and jagged roof that was constructed to maximise solar collection and utilise strong winds as passive ventilation ("Jardín de Sombras: Public Space as Infrastructure for Cities in the Desert" 2022). The grounds of the project include a soccer field, a playground, a skatepark, and community amenities for gathering. Additionally, the adaptable Shade Garden space can be used in the event of emergencies as a central meeting place and first response hub for the community ("Jardín de Sombras: Public Space as Infrastructure for Cities in the Desert" 2022).

Jardín de Sombras is an outstanding example of how mono-programmed infrastructure could have been formed to fill a lost space, but instead was regenerated as a community hub that provides a safe and expansive area for people within the neighbourhood to relax, gather, and play.

Access to Public Spaces

Underrepresented Groups in Public Spaces

Singularly programmed spaces, while accomplishing their primary intention, often lack the consideration of safety, access, and inclusion; the crucial aspects of design that encourage the use of public spaces by underrepresented groups. In *The Death and Life of Great American Cities*, Jane Jacobs refers to the experience of living in New York as a narrative to describe the impact and importance of community on public safety. Jacobs explains that street lighting and categorically 'safe' pedestrian areas are not the backbone of creating secure inner-city spaces, but rather it is the unofficial and unintentional role of neighbourhoods and a sense of community that encompasses qualities of protection and familiarity (Jacobs 1961, 38-42).

"Stop Telling Women to Smile" by Tatyana Fazlalizadeh. Photo by Luna Park ("Navigating (and Improving) Public Space" 2017).

Dolley and Bosman (2019) reinforce Jacobs' ideas by resolving that "Women's access and use of leisure places are constrained by patterns of work and family, but also by fears of safety, violence and harassment and lack of planning and infrastructure" (33). Therefore, the concept of safety in public spaces becomes just as important as the actual experience of safety.

In the article, "Putting Women's Safety At The Heart Of Urban Design," author Sheya Michaelides explains that improving the urban environment, even in a small way, such as opting for a softer street light, can increase participation in inner-city areas by underrepresented groups and individuals (2022). While neglected urban spaces are often categorised by their infrastructure, the perception and experience of these areas plays an important role in how these zones are valued and utilised; public urban spaces must include everyone in order to be truly public.

The site's six-metre retaining wall highlights the need for greater access universally designed public spaces.

Physical and Social Barriers

> I have heard it said in the disability community that there are really only two types of people: there are those with disabilities, and there are those that haven't quite found theirs yet. It's a different way of thinking about it, but I think it's kind of beautiful, because it is certainly far more inclusive than the us-versus-them or the abled-versus-the-disabled, and it's a lot more honest and respectful of the fragility of life. (Downey 2013)

Many public community spaces have conditions, guidelines, and programs that limit their use to a particular user group, therefore becoming exclusionary and inaccessible. Some of these constraints include: a fee for entry, time restrictions, and physical access to, from, and throughout public spaces. Physical and social barriers contribute to this concept immensely as public space is often determined and controlled by façade conditions, thresholds, and program.

In *The Death and Life of Great American Cities*, Jacobs dissects elements of history, bylaws, and city planning and design that have contributed to the demise of urban spaces (1961). Through studies and lived experiences as a writer and activist for maintaining safe and meaningful public spaces in New York City, Jacobs explains that "Impersonal city streets make anonymous people, and this is not a matter of aesthetic quality nor of a mystical emotional effect in architectural scale" (Jacobs 1961, 57; Graham 2016, 160).

A sign placed before the entrance of the Jasper National Park informs visitors that a park pass and fee for entry is required for visitors intending to hike, camp, or spend the day in Jasper (Reilander 2022).

In the article, "Universal Design is a Stamp of Architectural Excellence, Not a Box-Ticking Exercise" (2020), and TED video podcast, "Design with the Blind in Mind" (Downey 2013), Chris Downey recites his experiences as an architect before and after he lost his vision in 2008. Downey's mindset and perspective of the urban environment since losing his sight has been one of discovery, as he began to experience new aspects of moving through inner-city life in San Francisco that he had not before. Of note, Downey remarks that while elements of accessible design, such as

tactile paving on sidewalks are helpful, it is also important to think of navigating environments "with the blind in mind" (TED 2013). Opportunities of creating more universal environments can be missed by striving to apply elements within spaces based on aesthetic qualities, rather than by functionality. Downey explains that acoustics, particularly in main areas of public spaces, can help with wayfinding by offering sound ques that become familiar associations with a space (Harnett and Hoff 2019; Donnelly 2016). By tuning to his olfactory, tactile, and auditory senses, Downey realised that each city and smaller districts within cities have their own expression concerning the senses, and it is from there that spaces began to identify themselves (TED 2013).

There are many steps that need to be taken to ensure that universal design in public urban spaces continues to improve. Representation, voices, and ideas from differently abled individuals and advocates contributing to the outcome of the public landscape is a priority when looking at the future of shared urban spaces. Reclaiming neglected urban areas for everyone involves reinforcing that public spaces require people-centric design planning and functionality, not just the application of aesthetic qualities.

Accessible Building Codes

The National Building Code of Canada (NBC) 2020 includes sections of its publication that review accessibility standards that must be adhered to throughout the design process. These standards ensure that public spaces contain barrier-free attributes. However, these standards typically outline the minimum requirements needed to achieve moderately accessible spaces, and often miss the mark when considering the needs of a wider range of individuals with additional

needs. For example, in Article 3.8.3.13. of Division B, the NBC 2020 specifies that universal washrooms "be designed to permit a wheelchair to turn in an open space not less than 1 700 mm in diameter" (Canadian Commission on Building and Fire Codes 2022). This diameter, however, usually only considers the dimensions of manual wheelchairs, while electric wheelchairs often require a 2400 mm turning diameter or greater for uninhibited access ("Wheelchair Turning Radius: Everything You Need to Know!" n.d.).
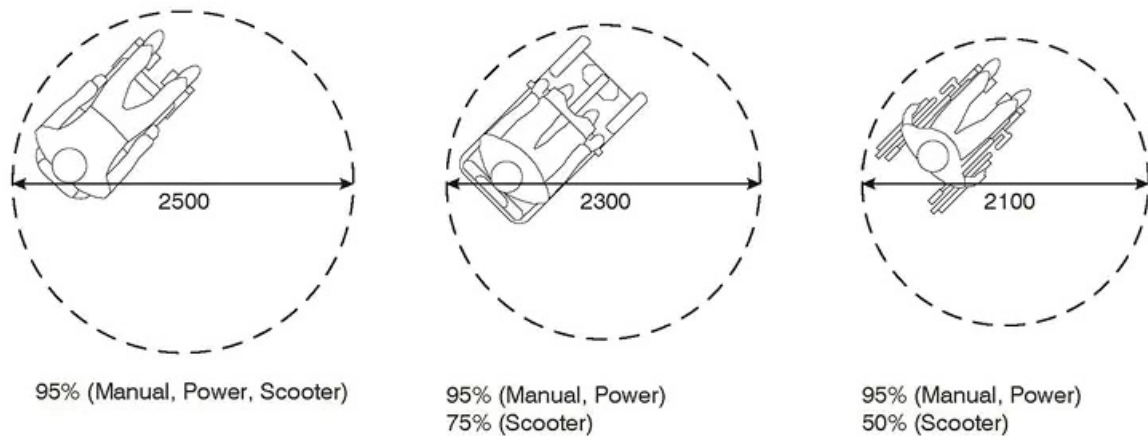
Illustrations from the Ontario Building Code indicate the minimum turning diameters required for certain assisted mobility devices (Pothier n.d.)

In conjunction with the National Building Code, several accessibility organisations have been set up to challenge, develop, and advance regulations across Canada. In 2019, the nation-wide Accessible Canada Act (ACA) was launched to tackle specific areas and industries where social and physical barriers inhibit those with additional needs from equally participating and belonging in society (Legislative Services Branch 2023). Furthermore, five provinces in Canada have initiated supplementary standards to the ADA,

including: British Columbia (Accessible British Columbia Act 2022); Manitoba (The Accessibility for Manitobans Act 2013); Ontario (The Accessibility for Ontarians with Disabilities Act 2013); Nova Scotia (Nova Scotia Accessibility Act 2017); and Newfoundland and Labrador (Accessibility Act 2021) (Lau et al. 2020; Ministry of Social Development and Poverty Reduction 2022; Compliance Works 2023).
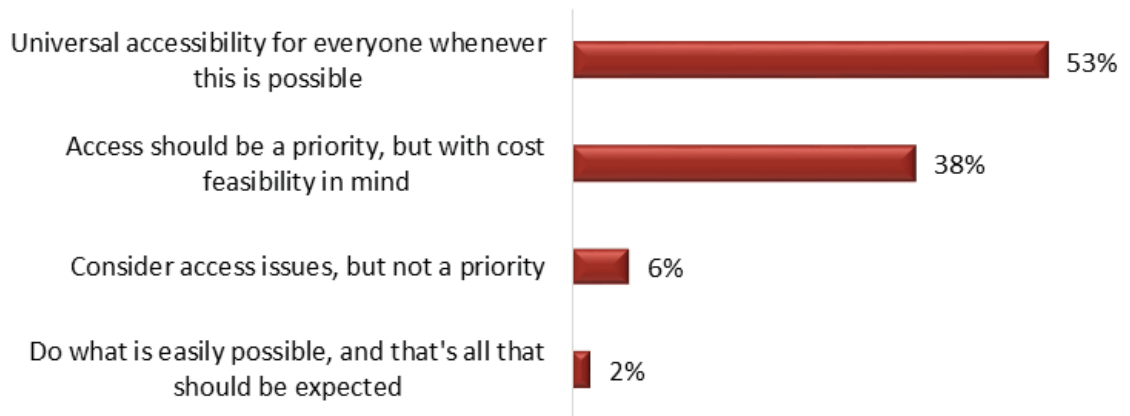
While some accessibility obstacles are physical and concern universal design standards in the built environment, others consist of attitudinal barriers based on biases formed against individuals with additional cognitive, physical, and mental health-related needs.

In 2015, a poll by the Rick Hansen Foundation and the Angus Reid Institute, asked the following question: "Thinking of public spaces in Canada today, what is your overall view about the level of accessibility that should exist for people with physical disabilities?" (Rick Hansen Foundation n.d.; Angus Reid 2015). The results concluded that a mere 53 percent of people voted in favour of "universal accessibility for everyone whenever this is possible," while 38 percent voted that "access should be a priority, but with cost feasibility in mind" (Rick Hansen Foundation n.d.; Angus Reid 2015).

There are often misconceptions that designing universally will take away from the aesthetic qualities of spaces and that it will cost more to implement universal standards in public spaces, however, this is not the case. Universal design anticipates what is referred to as "aging in place" by incorporating universal design elements into public spaces that accommodate for different needs of users, and therefore, the longevity of spaces is extended between periods of necessary code upgrades (Stanis 2021).

By understanding how universal design standards can be incorporated into urban public landscapes, community engagement is strengthened and greater access to and throughout inclusive spaces is achieved. This is a crucial step of reinhabiting neglected urban and anti-spaces, as it begins to set a new standard for design that allows everyone to take part in and rely on public urban areas.

Thinking of public spaces in Canada today, what is your overall view about the level of accessibility that should exist for people with physical disabilities?

Response	Percentage
Universal accessibility for everyone whenever this is possible	53%
Access should be a priority, but with cost feasibility in mind	38%
Consider access issues, but not a priority	6%
Do what is easily possible, and that's all that should be expected	2%

Poll results from the Angus Reid Institute in collaboration with the Rick Hansen Foundation (Angus Reid 2015)

Chapter 3: Site Context

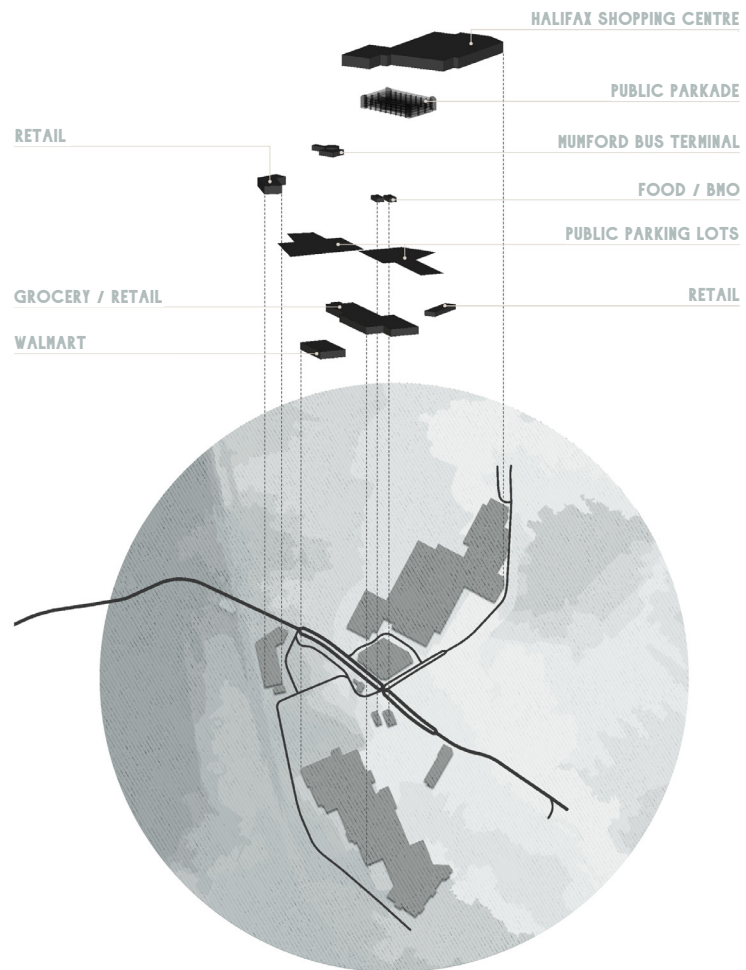## Site Analysis

Existing Conditions

Mumford Road, situated in the West End of Halifax's peninsula, serves as a connector to local amenities, such as the Halifax Shopping Centre and Mumford Bus Terminal. However, the area exhibits signs of urban neglect and an imbalance of infrastructural programming, favoring vehicular traffic over pedestrian accessibility.

View beyond the fence that divides the site from the rail line and adjacent residential areas.

HALIFAX SHOPPING CENTRE

PUBLIC PARKADE

RETAIL

MUMFORD BUS TERMINAL

FOOD / BMO

PUBLIC PARKING LOTS

GROCERY / RETAIL

RETAIL

WALMART

The general program and placement of buildings on the existing Mumford Road site. Base maps collected from ArcGIS Open Data ("Halifax Regional Municipality" 2022).

The current infrastructure of the site channels buses via two roads, Ta16 and Ta17, to the Mumford Terminal, a 140-metre bus-only lane that loops back to Mumford Road (Google Earth n.d.). These roads also guide public traffic to nearby shops and parking lots. Notably, the area's design is dominated by car-related infrastructure, with a lack of pedestrian areas and features. For instance, at the main junction of Mumford Road, crosswalks span across up to five lanes of multi-directional traffic, and there is an absence of bike lanes within 300 metres of the site.

CURRENT BIKE PATHS

300 MM RADIAL DISTANCE

Diagram showing the proximity of existing bike paths in relation to the site. Base map collected from ArcGIS Open Data ("Halifax Regional Municipality" 2022).

The existing Mumford Road site; area of project focus highlighted. Base maps collected from ArcGIS Open Data and Google Earth ("Halifax Regional Municipality" 2022; Google Earth n.d.).

Historically, Mumford Road served as a mail-order supply route, which has led to high traffic density in this area, mainly comprising of buses, shipping trucks, and personal vehicles (Paynter 2019). This type of car-centric planning makes pedestrian navigation challenging and unsafe due to the limited right-of-way for foot and bike traffic.
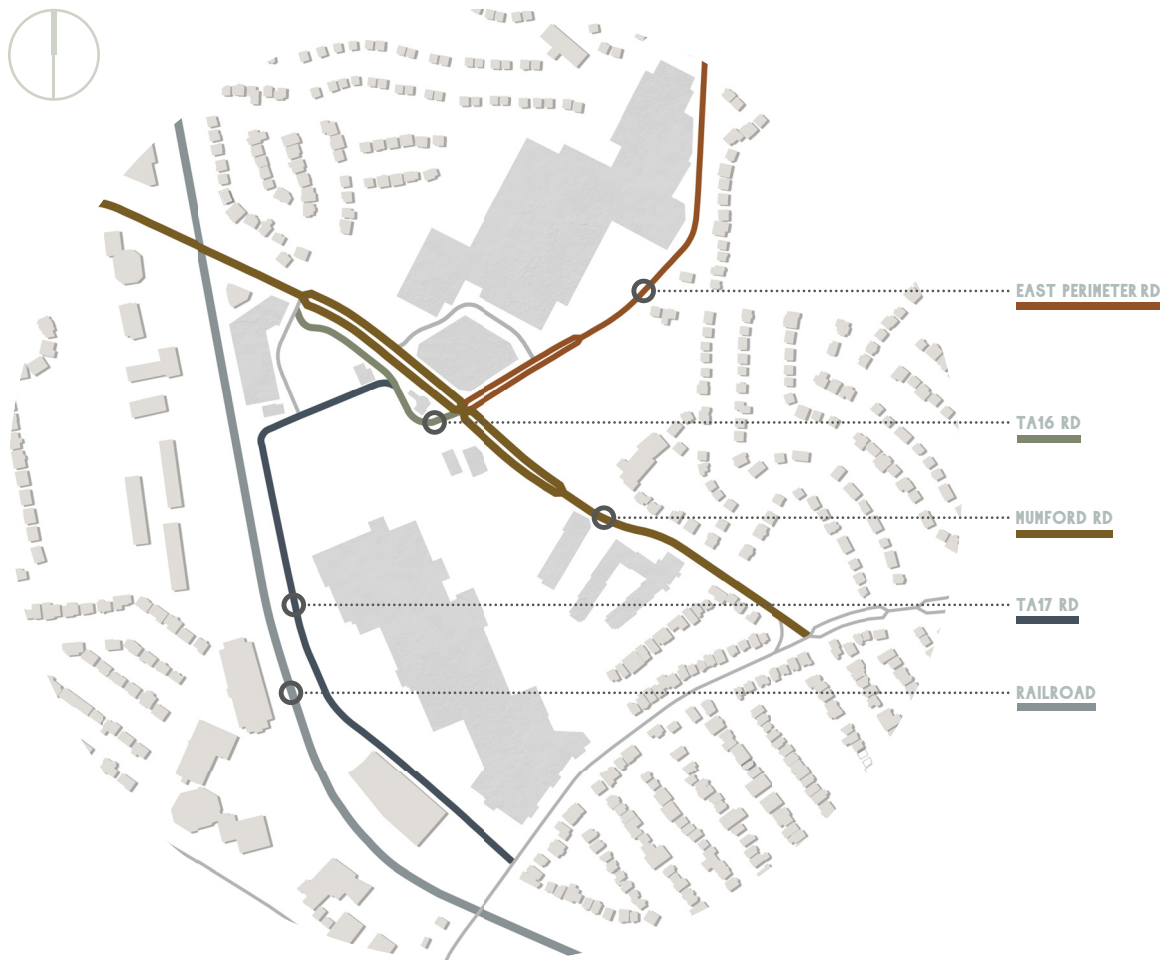
Diagram indicates existing roads and the railroad tracks included in the site's analysis. Base map collected from ArcGIS Open Data ("Halifax Regional Municipality" 2022).

In the article "Wider Roads, More Cars," authors Næss, Mogridge, and Sandberg explain that the "supply and demand" of vehicular infrastructure will only continue to increase the amount of car users, rather than resolve bottlenecking (2001, 147). This research has also been considered in the Superblock model, as studies have provided quantitative preliminary results prioritising pedestrian streets, predicting that a pedestrianised framework will not only alleviate traffic, but create more efficient and functional public areas (Mueller et al. 2020).

The current Mumford Road site reflects issues arising from infrastructure that heavily favors vehicular traffic at the expense of pedestrian accessibility and safety, as it contains lost spaces that have been left or filled with elements that further place barriers of access around the site.

A History of Mumford Road

Simpson's Department Store

The Simpson's Building in Halifax, Nova Scotia, n.d. (Paynter 2019)

Mumford Road was originally home to a building called the Simpson's Mail Order Service Centre that opened in 1919 (Paynter 2019). Located outside of the city limits, Simpsons was marketed as an all-encompassing one-stop shop that offered Haligonians the opportunity to gather, relax, socialize, and enjoy the building's amenities. Marketing for the department store included details of its expansive parking lots and the integration of new technology, such as elevators and air conditioning that offered solace from warm and humid days.

An advertisement for the new Simpson's building expansion located on Mumford Road in Halifax, Nova Scotia, n.d. (Paynter 2019)

To provide greater accommodations for people living in downtown Halifax, a tram line was built in 1930 to connect shoppers to the Simpson's Department Store (Paynter 2019).

The Simpson's Building in Halifax, Nova Scotia, n.d. (Paynter 2019)

The tram connecting downtown Halifax to The Simpson's Building (Paynter 2019).

Era of the Car

The car-era was reaching new heights in the early 1900s as an efficient way of travelling to locations that were typically more difficult to reach (Bernabo et al. 2008). Owning a vehicle during this time meant greater access to community spaces, getting together with friends, and enjoying amenities like shopping centres and drive-in theatres.

Considering the history of the site, the Mumford Road area was developed to be accessed by vehicles and public transportation. As more people acquired cars, the demand for parking rose. The original Simpson's Building encouraged community gathering; however, similar to the current development of the site, it was an isolated destination and disconnected from the city.

In the book, *Finding Lost Space: Theories of Urban Design*, Trancik argues that,

> dependence on the automobile is more difficult to deal with [when looking at factors that have contributed to lost space], since it is so deeply engrained in the American way of life. It has resulted in an urban environment in which highways, thoroughfares, and parking lots are the predominant types of open space (1986, 4-5).

Additional to the parking lot infrastructure that consumes the site, the Mumford Road area also experiences a figurative disconnect between the site and public users, creating an essence of temporality caused by a lack of communal, desirable, and safe zones within the neighbourhood.

Site Observations

Monoprogramming

Parking Lots

Existing Walmart parking lot located on the site.

The existing infrastructure of Mumford Road is predominantly car centric and consists of several parking lots that comprise most of the site area. A site analysis and urban mapping exercises determined the approximate occupancy of parking lots within and adjacent to the site (Google Earth n.d.). The following occupancies include (see associated diagram on page 33):

- Parking Lot A: has a 75% occupancy (118 stalls in use out of 157)
- Parking Lot B: has a 47% occupancy (286 stalls in use out of 605)
- Parking Lot C: has an 87% occupancy (380 stalls in use out of 435)
- Parking Lot D: has a 97% occupancy (182 stalls in use out of 187)
- Parking Lot E: has an 78% occupancy (210 stalls in use out of 270)

- Parking Lot F: has a 9% occupancy (6 stalls in use out of 65)
- Parking Lot G: has a 37% occupancy (37 stalls in use out of 100)

In addition to the single-level lots, there are several parkades and underground parking garages that serve the businesses and institutions located adjacent to the site. From the analysis, it can be determined that the parking lots within the site's parameters (Parking Lot B and G in the diagram), as well as Parking Lot F that services Walmart's back of house, have the least amount of parking stall occupancies compared to the surrounding lot totals. Numerous site visits resolved that most of Parking Lot F, as well as areas of Parking Lots B and G were being used for the storage of goods and heavy machinery, as well as for loading, and truck-stop resting.

The site's parking lot analysis demonstrates how lost spaces often form as a result of singular programming in urban areas, as designated parking infrastructure in an otherwise residential and community-driven zones demands more flexible space.

Pedestrian Desire-Line

An analysis of the site's major program, public parking, indicates that users of this area rely heavily on vehicle access and the dependency to park. The Mumford Terminal functions as a one-way circular transit system that is designed to house multiple buses servicing different routes throughout the city. Sidewalks are provided along the perimeter of the main streets; however, they do not frequently intersect to connect people to the other side of site's expansive infrastructure. As a result, a series of pedestrian desire-lines can be found

RETAIL STORES

FOOD ESTABLISHMENT

SALON

MUMFORD TERMINAL STATION

FOOD ESTABLISHMENT

BANK

WALMART

PARKING LOTS

SITE AREA

Occupancies of parking lots and their location within and beside the site. Base map collected from ArcGIS Open Data ("Halifax Regional Municipality" 2022).

throughout the site, and it is evident that vehicles take precedence over pedestrian access in this area. Perhaps one of the most prominent examples of this is shown by the pathway that has been formed across the railroad tracks, as an infrequency of bridges connect the adjacent residential areas to the amenities surrounding the site.

Pedestrian desire-lines created across the railroad tracks to the amenities located on and surrounding the site, including Walmart and Sobeys.

This type of human-formed system often informs the user experience as desire-line paths mark routes that are most convenient for people to travel, suggesting a lack of infrastructure and transportation systems that would otherwise accommodate these routes. Indications of pedestrian-formed design emphasizes the anti-space nature of this site, as people are no longer infrastructurally supported by their environments.

Mumford Terminal Station

Mumford Terminal is a main transfer stop within the Halifax Transit Bus System and services over 10 of the main bus routes within the Halifax Regional Municipality ("Halifax

Mumford Terminal Station
2023

Transit" 2022). Currently, most of the Mumford Terminal area is comprised of a large outdoor waiting zone with four covered bus shelters, while a small circular indoor shelter takes up the remainder of the terminal. There are, however, six additional bus stops located within a 500-metre radius of the Mumford Terminal, some servicing routes that the main terminal does not.

Jacobs' ideas regarding 'gray zones' from *The Death and Life of Great American Cities* can be applied to better understand a functional analysis of this space, as gray zones, like lost spaces, are often categorised as areas within a city that do not promote or contribute to the connectedness, safety, or the overall well-being of the community, and therefore, these spaces are often avoided (Jacobs 1961). These zones are formed around the Mumford site due to poor infrastructural planning of pedestrianised areas, numerous bus stop locations, and the current approach to the site's topography that leads to inaccessibility and feelings of disconnectedness.

The 140-metre long sidewalk at Mumford Terminal Station
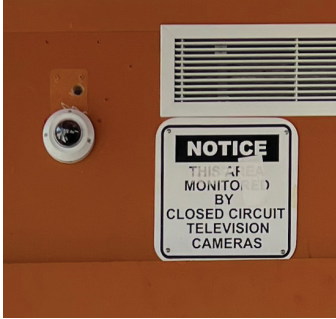
Surveillance cameras located within the Mumford Terminal Bus station

Hostile Architecture

Hostile architecture is frequently integrated into the design of public spaces, and it is often concealed to appear as a design intention rather than a deterrent. It can be observed in most public spaces; for instance, through the implementation of security cameras, on park benches where dividers separate seating and inhibit people from being able to lay down or sleep, and on benches and retaining walls by way of steel notches that restrict skateboarders from partaking in recreational activities in public areas (Licht 2017, 3-4). Often the goal of hostile architecture is to prevent permanence in public spaces, to maintain the aesthetic quality of public spaces, and to refine and control the use of public areas.

Within the Mumford Road site, hostile architecture is particularly present around the bus terminal, however, it exists in subtle ways throughout the Mumford area. Hostile architecture is not only present through additive elements in public spaces, but also through the intentional lack of elements and useful design integrations like seating. This is evident at the Mumford Terminal as there are only seven benches intended for transit goers along the protracted stretch of sidewalk. Additionally, benches within bus shelters are divided by armrests and take up a small fraction of the available interior space of the shelter. Due to limited seating within the terminal station, it has been observed that most commuters opt for standing or sitting on the curb while waiting for buses. Furthermore, a series of 360 degree seeing eye cameras have been added to both the interior and exterior of the transit station with signs that state, "Notice: This area monitored by closed circuit television cameras."

Benches with dividers located within bus shelters at the Mumford Terminal Station.

In "Putting Women's Safety At The Heart Of Urban Design," Michaelides highlights underlying questions of the true intentions for harsh lighting and surveillance equipment in public spaces, asking, why is it needed in the first place? Is it provided to keep people safe, or to keep people away? (2022). Hostile architecture embodies characteristics of lost spaces, and in many ways, the focus of maintaining safety in public areas has shifted to crime management. Arguably, these two models look very different when seeking to create comfortable and inclusive public spaces. Characteristics found in hostile architecture are among the various reasons that neglected urban areas are viewed as a temporary stop on one's journey home to a safer and more reliable environment.

EAST PERIMETER RD BEFORE BAYERS RD

EAST PERIMETER RD 2ND STOP

EAST PERIMETER RD AFTER MUMFORD RD

MUMFORD TERMINAL STATION

MUMFORD RD OPPOSITE ST. AGNES SCHOOL

MUMFORD RD BEFORE LEPPERT ST

MUMFORD RD

TA16 RD

Diagram illustrates the existing Mumford Terminal and bus-related infrastructure, including the path of travel around the Mumford Terminal. Base maps collected from ArcGIS Open Data and Google Earth ("Halifax Regional Municipality" 2022; Google Earth n.d.).

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Chapter 4: Urban Strategy

Approach to Infrastructure

Mapping Data

The Halifax Centre Plan 2021, as well as population, topographical, and environmental data from the site and surrounding areas within the Halifax Regional Municipality (HRM) offered insight into attributes that would contribute to a multi-functional, accessible, inhabitable urban public landscape.

- — 200 M RADIUS
- — 300 M RADIUS
- — 400 M RADIUS
- — 500 M RADIUS

Diagram creates a visual connection between the building types adjacent to the site and the radial distance of these buildings from the site at 200 to 500 metres. Base map collected from Google Earth (Google Earth n.d.).

From the data collected, it was determined that structures within a radial distance of 300 metres of the site consisted mainly of Established Residential designations (ER), Future Growth Node designations (FGN), and Higher-Order Residential designations (HR) ("Halifax Centre Plan" 2021). This information indicates who will benefit from the design and infrastructure of the new site, which aims to better connect the community to public spaces within Halifax's West End.

ER	ESTABLISHED RESIDENTIAL DESIGNATION
FGN	FUTURE GROWTH NODE DESIGNATION
HR	HIGHER-ORDER RESIDENTIAL DESIGNATION
IE	INSTITUTIONAL EMPLOYMENT DESIGNATION
PCF	PARK AND COMMUNITY FACILITY DESIGNATION
	SITE AREA

Urban structure designations from the Halifax Centre Plan. Base map from Halifax Regional and Community Planning ("Halifax Centre Plan" 2022).

In conjunction with mapping data retrieved from the Halifax Centre Plan, open data concerning current bike routes, public facilities, and urban green spaces in HRM indicated that there is an absence of sufficient public services to aid the number of residential designations surrounding the site. Additionally, there is a lack of active transportation infrastructure connecting residential areas to the site, and limited public transportation facilities for commuters and passersby. This type of evidence-based data indicates the type of public amenities that could be included in the new design strategy to best serve the community.

New Proposal

Overview

The approach to infrastructure for the new urban strategy was to inhabit the urban landscape by way of pedestrianised spaces, including walking paths and green areas; cycling paths; a deconstructed program of usable indoor and outdoor spaces; and through the maintenance and simplification of access to public transportation, parking, and roadways. By incorporating these elements into the site's new infrastructure, the current site conditions, including its abrupt and expansive grade, mono-programmed anti-spaces, pedestrian desire-paths, hostile design, and lack of community areas is addressed though a people-centric strategy that highlights the value of repurposing lost urban spaces.

Plan view of the new inhabited urban landscape overlaid with the existing site plan. The new site has been transformed from a mono-programmed non-place to a pedestrianised walkable public space. Base maps collected from ArcGIS Open Data and Google Earth ("Halifax Regional Municipality" 2022; Google Earth n.d.)

Roads and Parking Lots

To create a pedestrianised urban public space, a harmonious solution was formed by isolating vehicle-oriented infrastructure to areas that were car reliant, which resulted in situating roads and parking lots directly in front of stores and businesses, rather than as the primary program

that spans through the site. Ta16 and the majority of Ta17 Roads were removed to allow people to travel through the landscape without a concern for traffic, creating a more usable, community-oriented public space. Additionally, Mumford Road was narrowed to accommodate for new pedestrian and cycling paths and to enforce slower traffic while passing through the site area.

Bike Lanes and Pedestrian Paths

Supplemental safety considerations for active transportation users included adding 2400 mm wide walking and cycling paths throughout the site that are separated from Mumford Road, and from one another, by 1500 mm wide green medians. The Mumford Terminal bus station shifted from a spanning one-way semi-circle to a one-way bus loop that does not interfere with traffic on Mumford Road. The bus loop contains a series of crosswalks that allow users to access the new transit station from each direction, while connecting people to the pedestrian and cycling paths within the new urban public landscape.

Diagram illustrates new bike and pedestrian paths integrated within the urban public landscape.
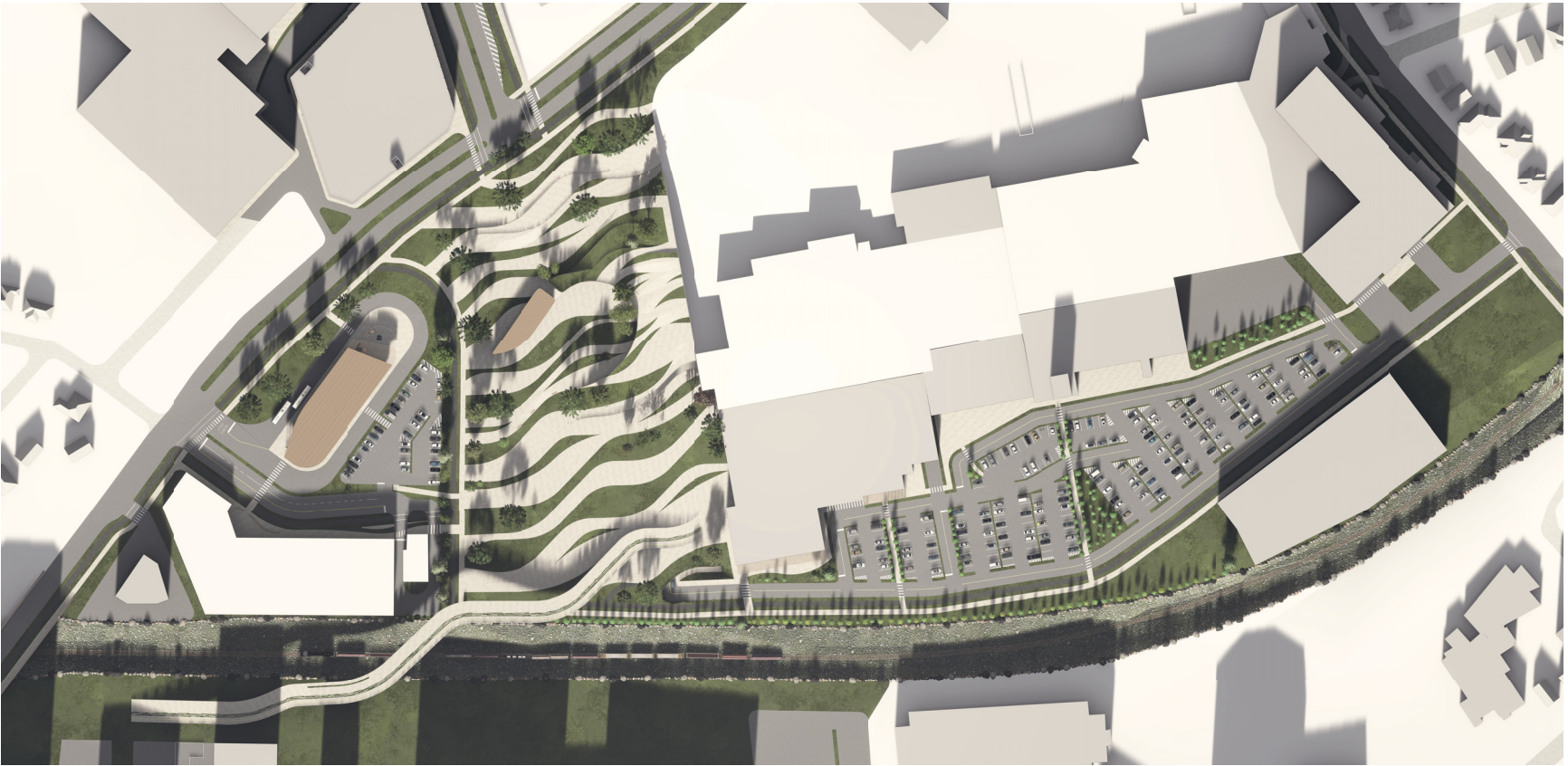
A closer look at the plan view of the new inhabited urban landscape.

Program

People ignore design that ignores people. Frank Chimero, Designer (cited by Channon 2022, 180)

In the case of inhabiting the landscape, the form becomes the function. The approach to the urban public space by way of the program is three-fold.

First and foremost, creating spaces that are for people. This means that the site and its buildings strive to serve the needs of users through their design, amenities, and connection to the city, and are both visibly and physically accessible to those within the site's parameters. The program of the inhabited landscape seeks to provide people with unrestricted public spaces that are safe, reliable, and physically and socially inclusive.

Second, creating spaces that meld into the natural fabric and landscape of the city. The proposed design applies deconstructed zones of dwelling that serve the needs of users by applying principles of form that produce areas of inhabitation. These areas include an Active Transportation Lodge, a Terraced Landscape, Community Gathering Zones, Resting Nooks, Public Parking, and a new Bus Terminal that includes a local market and café.

And third, reprogramming the current car-centric infrastructure as a pedestrian-forward model that prioritises active transportation and access to public transit, placing universal design standards at the forefront of the urban strategy. This is achieved through a series of gradually sloped active transportation paths that connect users from the top of the site near Mumford Road, down to the new Pedestrian and Cycling Bridge that connects to the residential areas across the train tracks.
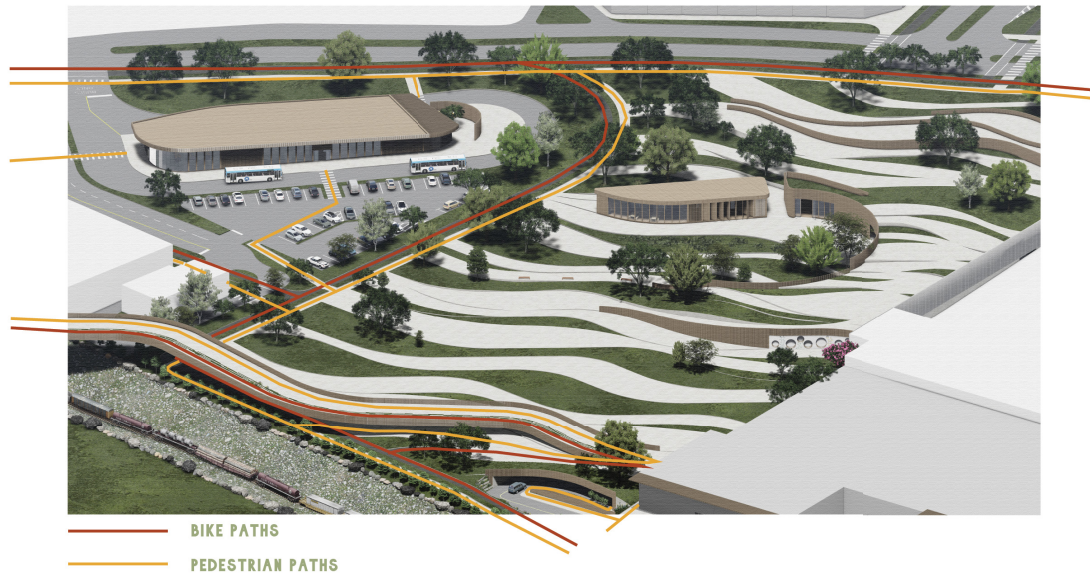
BIKE PATHS
PEDESTRIAN PATHS

Diagram indicates the new bike and cycling paths around the site.

The program meets issues associated with neglected urban areas by providing amenities through a multi-functional public space that considers the needs of users, contributing to a safe, accessible, and community-driven landscape. These elements connect the Mumford Road area to the fabric of the city through a responsive design that views inclusive public space as a necessary component of the everyday.

Relationships of Environment, Form, and Space

Spatial Articulation

Vernacular materials used to create walls of buildings at Taliesin West.

Ideas put forth in Frank Lloyd Wright's Taliesin West, Christopher Alexander's writings, *A Pattern Language*, and Anthony Di Mari and Nora Yoo's, *Operative Design: A Catalogue of Spatial Verbs*, have been drawn on to inform the spatial principles of form and their response to surroundings that resolve the landscape of this particular site.

Taliesin West, Scotsdale, Arizona

Wright was a leader in preserving and incorporating elements of the environment into his designs. This can be observed throughout Wright's project, Taliesin West, located in Scottsdale, Arizona. Upon visiting Talisen West during my thesis research, I was captivated by the experience of walking through spaces, as each threshold and room created a moment that interacted with its environment. This inspired a focus on the encounters created by inhabited landscapes and the ability they have to form, meld, contain, and project areas that allow people to move and meander through them in a natural pattern of occupancy.

The triangle pool at Taliesin West. At the right angle, the pool reflects Arizona's desert mountains.

At Talisen West, Wright integrated the site by way of vernacular materials and figurative representations of Arizona's desert, which are reflected through a mutualistic

relationship between the landscape and its structures ("About Taliesin West" n.d.). Materials from the land were used to build walls and pathways, while an opening between buildings relies on the strong desert winds to pass through the narrow space to create the "Venturi effect." These thoughtfully integrated design elements form an inhabited landscape by composing moments of interaction within spaces and the desert environment.

Passage between buildings causing the "Venturi effect" at Wright's Taliesin West.

A Pattern Language

A Pattern Language by Christopher Alexander offers a conceptual 'kit-of-parts' as a way of visualising the necessary components of spatial planning and design. Alexander presents 253 design elements that can be applied to create and describe projects of any scale (Alexander 1977). Some examples of Alexander's ideas that would apply to the urban

public landscape include activity nodes, green streets, raised walks, bike paths and racks, small public squares, and pedestrian streets.

The kit-of-parts approach is helpful when planning public urban spaces, as it can be readily adjusted to accommodate varying site scales, the needs of users, and the community.

Operative Design: A Catalogue of Spatial Verbs

While *A Pattern Language* focuses on program and its relationship to function, the manual *Operative Design: A Catalogue of Spatial Verbs* by Anthony Di Mari and Nora Yoo, describes volumetric forms and their relationship to function. This is another way of approaching the program of the urban landscape as Di Mari and Yoo provide a guidebook of outcomes using standard forms found in the built environment, such as a cube, and apply spatial principles, like stacking or fracturing (Di Mari and Yoo 2013). These manipulations of form create simple and innovative ways to navigate through spaces, particularly those that deal with unique surroundings, deconstructed spaces, and multi-functional programs.

Fracturing of a volumetric form and its variations. Illustrations from *Operative Design: A Catalogue of Spatial Verbs* (Di Mari and Yoo 2013)

Chapter 5: Design

Joy and happiness may sometimes be seen as frivolous or unimportant, but in fact research shows that they play a critical role in our quality of life. If we can create buildings that make people feel happier than they are currently, the potential benefits to both individuals and society as a whole could be enormous (Channon 2022, 2).

Inhabiting the Landscape

A view from the Community Courtyard at sunset.

The concept of this project was driven by interventions that seek to derive public urban spaces from non-places, such as mono-programmed inner-city infrastructure. By weaving a dynamic program and network through the fabric of the urban landscape, spaces that include necessary amenities and encourage community growth begin to emerge. For these spaces to function harmoniously, they have been designed with thoughtful intentions that strive to place the needs of people at the forefront of the design strategy. The approach to the urban landscape has three main overarching elements:

First, to address restrictions and setbacks of singularly programmed spaces that exhibit qualities of neglected, underused, and lost urban areas. This includes analysing the relationship of these spaces with their surroundings, while determining how they can be repurposed, rerouted, or resituated to adequately serve the community.

Second, to create a public space without social and physical barriers that allows users to have access to a dependable, safe, and inclusive environment within the Mumford Road area in Halifax. Approaching issues of inclusion and access have been addressed through a connected active transportation network, the integration of sufficient indoor

and outdoor space, a terraced solution to the existing grade, and the reorganisation of vehicle-focused infrastructure.

And third, to apply methods of placemaking that transform the existing car-centric program of parking lots into a pedestrianised urban public area. This is conveyed through the form of buildings, the program, and the site's topographical approach, where public spaces become inhabitations of the landscape and function as a meandering sequence of embedded, added, fractured, and subtracted spaces.

By responding to the site's existing conditions through the application of these three approaches, connectivity to the community and access to active transportation routes, public transit, parking, and local goods and services are strengthened.

PEDESTRIAN
DESIRE-PATH

MUMFORD TERMINAL
STATION

MUMFORD
RD

6 M
RETAINING WALL

RAILROAD
TRACKS

WALMART
PARKING LOT

TA16 RD
/
TA17 RD
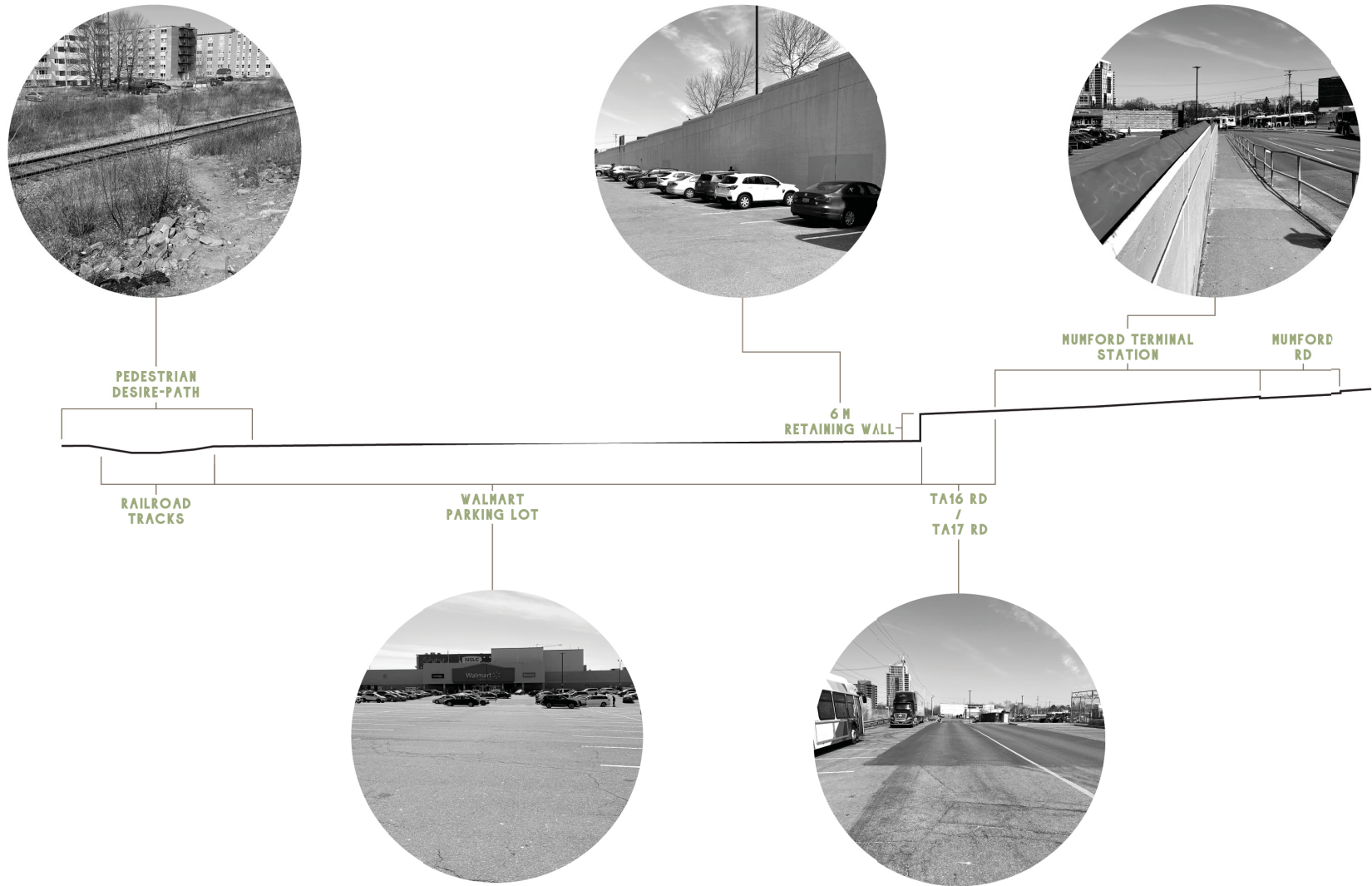
Existing east to west section of the site. Images indicate occurrences of lost spaces within the site, including a pedestrian desire-line, the main Walmart parking lot, and additional parking areas that have adopted a program outside of their intended use.

RAILROAD
TRACKS

BIKE +
PEDESTRIAN
PATHS

NEW PUBLIC
PARKING LOT

COMMUNITY GREEN
SPACES • ACTIVE
TRANSPORTATION
PATHS

RESTING
NOOKS +
RAMP

COMMUNITY
COURTYARD

ACTIVE
TRANSPORT.
LODGE

ACCESSIBLE
TERRACED PUBLIC
PATHWAYS
+ GREEN SPACES

BIKE + PEDESTRIAN
PATHS /
MUMFORD RD

New east to west section of the inhabited urban landscape. Perspective renders convey moments within the site's terraced landscape that resolve issues related to access and usability.

Concept illustration of embedding.

To Embed

Active Transportation Lodge

Embedded in the landscape, the Active Transportation Lodge is the grounding element of the inhabited urban public space, as it offers the community a place of solace, rest, reliability, and protection from the elements. Embodying qualities of third places, amenities of the lodge are available to commuters who may use the Mumford Road site as a transfer point between active and public transportation use, as well as to people within the community and surrounding neighbourhoods. The program of the lodge includes public facilities and conveniences, such as washrooms, showers, change rooms, day lockers, communal seating areas, indoor bike racks, and a wood stove that provides warmth during the winter months.

A rainy spring day inside the Active Transportation Lodge.

The Active Transportation Lodge is situated on what Wright referred to as the "brow" of the site, where a six-metre retaining wall divided the upper and lower shops and parking lots (Frank Lloyd Wright Foundation n.d.). The new tiered landscape of the site allows the building to protrude outward so that it is visible from Mumford Road, the new Bus Terminal, and the Pedestrian and Cycling Bridge that connects the residential neighbourhoods across the rail line to the site. The embedded section of the lodge allows the landscape to partially form overtop of the building, creating an amphitheatre and experiential walking paths that connect to the site's lower amenities. An operable wall system allows the space to retain a cross-draft during the warmer months while creating a connection between indoor and outdoor public spaces. Adaptability to the site and its surroundings is the driving force behind the design of the Lodge, as the needs of users and their experiences determine the building's form and function. Like hiking shelters, the Active Transportation Lodge becomes a point of grounding, regrouping, and exploration, encouraging the community to gather, seek warmth, and interact with their surroundings.

Exterior view of the Active Transportation Lodge following the form of the terraced landscape.

View from the upper terraces that span over top of the embedded Active Transportation Lodge.
Rendered plan of the Active Transportation Lodge (top centre).

Community Courtyard and Terraced Landscape

The outdoor Community Courtyard located on the west side of the Active Transportation Lodge contains benches, green spaces, covered spaces, and a promenade of pedestrian paths. This space is both visually and physically accessible to users of the site, and fosters conviviality through a circular form that creates a designated area for congregations and community functions.

Terraced of green spaces and pedestrian paths within the Community Courtyard of the Active Transportation Lodge.

Due to the site's existing topographical conditions, a solution to the dramatic grade, as well as a means of connecting people to and through the site was a necessary implementation in the new design strategy. This arose in the form of terraced walking paths that provide the public with community gathering zones, nodes of activity, active transportation routes, and a physically accessible landscape where the terraces no steeper than a 1:15 slope. The terraces create an experience of travel and encourage moments of reflection within the deconstructed spaces that comprise the inhabited landscape.

Concept illustration of addition.

To Add

New Transit Terminal

The goal of the new Mumford Bus Terminal was to create a public area within the city's transit system that was viewed as a destination, rather than a temporary pass-through zone. The station provides public transit users, passersby, and the community access to indoor and outdoor public seating areas, accessible washrooms, a local market, and café. Pedestrian paths that connect to the greater active transportation network direct people to the Transit Terminal, which can be accessed through automatic doors on each side of the building. Emulating the terraced curves of the landscape, the new Transit Terminal contains wave-like openings that form covered and partitioned zones for seating, socialising, and waiting. The use of glazing and slatted wall systems creates a visual connection throughout the space and provides sightlines to the arriving buses.

The Mumford Cafe located at the south end of the new Transit Terminal on the Mumford Road site.

The new Transit Terminal was added to the inhabited urban landscape to maintain visual access to the building, even from the base of the site. The existing Mumford Terminal was located at the intersection of Mumford Road and Ta 16 Road (which led throughout the site), and it was evident which buses were available as they lined up along the expansive loading zone designation. However, the infrastructure that served the existing Mumford Terminal was relocated in the design of the new Terminal; this was done for three main reasons:

First, to form a physical separation between the bus loading zone and Mumford Road. This was achieved by creating a bus loop that surrounded the new Transit Terminal. Offset from the new Terminal is a vast outdoor area that provides waiting space sheltered by the building's roof overhang, followed by a one-way, transit-only road that allows buses to pullover and safely load and unload passengers in one lane, and travel around the loop in the other.

Inside the courtyard cafe space of the new Mumford Transit Terminal.

View of the new added Transit Terminal and local Mumford Market. Rendered plan of the Transit Terminal (top centre).

Second, to isolate car-centric infrastructure to areas that rely on vehicle access, such as the adjacent shops and businesses that surround the site. By moving the new Transit Terminal closer to the shops, public spaces dedicated to necessary roads and parking lots are utilised more efficiently and pedestrian areas are maintained.

And lastly, to mitigate and slow traffic passing through the site area of Mumford Road. By resituating the new Transit Terminal, Ta16 and the majority of Ta17 Road, as well as a north and south lane on Mumford Road were able to be removed. Similar to the existing Ta16 Road, the new Transit Terminal contains a dedicated road that can only be used by bus traffic.

Pedestrian and Cycling Bridge

Connecting the surrounding residential areas to the site was an imperative step in seeking to create an urban public space that brings people together through the inhabited landscape. As mentioned, dividing elements that separated the west residential areas from the site have been pried away to form a pedestrian desire-line across the railroad tracks, generating unsafe conditions for those who rely on the amenities surrounding the site.

Map highlights the existing site conditions of the pedestrian desire-line that spans across the railroad tracks from the residential area to the site. Base map collected from Google Earth (Google Earth n.d.).

Experiential view from the Pedestrian and Cycling Bridge that connects the site to the residential communities located across the railroad tracks.

The Pedestrian and Cycling Bridge has a gradual grade that creates an expansive experience from the site to the residential communities across the railroad tracks. When striving to design a thoughtful space that exceeds the conventional function of a bridge, the Pedestrian and Cycling Bridge has integrated areas where gathering, meeting, and socialising can take place. This elevates a typical mono-programmed urban structure by introducing elements that encourage creativity of use.

To Fracture

Sightlines Through the Landscape

Sightlines throughout public spaces offer greater visual accessibility to users through landmark situating. Navigation around the existing site's retaining wall involved taking a set of stairs located at the steepest point of the wall, or travelling around a 220-metre switchback ramp to reach the shops and bus station located above. By fracturing or dividing

Concept illustration of fracturing.

View through the fractured Active Transportation Lodge that creates a visual connection to the public outdoor courtyard. Rendered plan view of the fractured Active Transportation Lodge (top centre).

buildings to create openings, many positive outcomes are presented, including creating alternate routes of travel throughout the space, improving proximal access to other zones of inhabitation, and forming opportunities for visual connectedness to other spaces within the site.

A closer look at sightlines through the fractured landscape.

When looking to establish design principles for the public inhabited landscape, fracturing the Active Transportation Lodge, which contains several grade variances, presented an opportunity of increased access through the area. Sightlines through the landscape present unique moments of visual interest that are determined by use of the space, time of day, and the changing seasons.

To Subtract

Resting Nooks

Areas to rest and regroup are often difficult to find throughout public urban spaces and are commonly hindered by hostile architecture, proximity, and concerns for safety. Design intentions of the site's landscape were led by the

Concept illustration of subtraction.

fundamentals of thoughtful design by way of utilising and forming spaces, and the elements within those spaces, that consider and provide areas for everyone. In the book, *Finding Lost Space: Theories of Urban Design*, Trancik explains that,

> In the use of public space, integration is also desirable. Spaces that can accommodate mixed or integrated uses have much greater richness and vitality than single-use spaces, which are often static and remain lifeless for substantial periods of time. Design must respond to the dynamics of social uses in its physical form (1986, 219).

The principles of subtraction concerning form have been applied to the inhabited landscape to create Resting Nooks that are situated within the base of the ramp that connects the upper terraced spaces to the lower Community Courtyard. Providing small scale spaces, like Resting Nooks, within larger programmed designations, adds to the dynamic of multi-use urban landscapes by creating designated areas that allow people to feel safe and comfortable in public spaces.

Resting nooks subtracted from the ramp leading over the embedded Active Transportation Lodge provide areas of solace and relaxation.

Covered Public Parking

Staying true to the objectives and intentions of the design, which prioritises accessibility as a solution and path forward toward reimagining lost urban spaces, it was important to re-integrate parking back into the pedestrian-centric model. While several studies have shown that city regeneration can thrive when mono-programmed infrastructure is repurposed for public urban landscapes, it is necessary to consider the inclusivity of transportation and the experience of all users. Until there are new and innovative methods of transportation that offer the conveniences associated with personal vehicles, the removal streets and parking entirely can be harmful to those who rely on these services.

Based on the parking analysis of existing lots on the site (page 31-33), particularly the Walmart parking lot that was most affected by the design of the inhabited landscape, less than half of the parking is being used for its intended use. Of note, the lot behind Walmart where the entrance

A closer look at the covered parking lot.

was relocated to better accommodate shoppers is seldomly occupied, and provides people visiting the department store with an additional 65 stalls.

Methods of subtraction were applied to form a covered parking lot within the inhabited landscape, providing an additional parking area for people using the site. By subtracting space for the parking area and situating the road that accesses the lot to align with the remaining Ta17 Road, pedestrian access and safety throughout the site was not compromised. The top of the Covered Parking Lot begins at the edge of the designated pedestrian landscape, integrating, but isolating, parking to exist with the design parameters of the space.

View of the entrance to the subtracted covered parking lot and active transportation paths that connect people throughout the site. Rendered plan view of parking (top centre).

Chapter 6: Conclusion

Public Spaces for All

The presence of underutilised and singularly programmed infrastructure can be found in all cities. Entities of the inhabited urban landscape contribute to a larger idea that seeks to form public spaces where non-places and lost inner-city realms exist. This is accomplished through the integration of meaningful zones that acknowledge and apply architectural strategies to strengthen urban communities through a multi-use program and approach to public space.

Research for this thesis involved analysing periods in time that have contributed to the occurrence of these spaces, such as the car era, where driving to amenities like department stores and drive-in theatres placed a demand on the uninhibited infrastructure of vast parking lots. Furthermore, global crises, such as the COVID-19 pandemic, and urban conditions, such hostile architecture, and physical and social barriers, amplify why multi-functional public spaces are imperative and necessary components of the urban landscape. While these topics do not solely guide the design outcome of the inhabited landscape, they contribute to a greater dialog within the public realm that is worthy of analysis, and it is through these conversations that urban public areas continue to evolve to better serve the needs of city dwellers.

The design of the inhabited urban landscape provides people with spaces that are safe and dependable. These spaces include varied programs that consider the needs of people living in adjacent residential neighbourhoods; individuals with additional mobility and cognitive needs; daily public

transit and active transportation commuters; and those who pass through the Mumford Road site, whether daily or once a year. While buildings, nodes, and amenities included in the new urban strategy seek to establish lively and meaningful public spaces, navigation through the terraced landscape via pedestrian and cycling paths is as equally important when creating urban areas that are as useful as they are jovial.

Exploring new ways to improve urban public spaces through architectural interventions is an area of study that continues to shift and develop as new technologies, building codes and strategies, and environmental conditions prevail. By striving to create public spaces for everyone, reliable city places by way of inhabited urban landscapes continue to form and improve, not only through their function, but through a connected community homogeneity. These spaces are as important as ever, as they offer people within cities a sense of place and familiarity, while opening doors for growth and belonging within urban environments.

View of terraced walking and biking paths within the inhabited urban landscape; facing west toward the railroad tracks.

View of the inhabited public landscape, facing east toward Mumford Road.

References

Alexander, Christopher. 1977. *A Pattern Language: Towns, Buildings, Construction.* New York: Oxford University Press.

Angus Reid. 2015. "Opinion Poll on Accessibility in Canada: Rick Hansen Foundation." Angus Reid Institute. December 3, 2015. https://angusreid.org/rhf-accessibility/.

"Barcelona to Convert a Third of Central Streets into Car-Free Green Spaces." 2020. *Dezeen*. November 19, 2020. https://www.dezeen.com/2020/11/19/barcelona-eixample-masterplan-streets-green-space/.

The Bentway. n.d. "Welcome to The Bentway." Accessed November 27, 2022. https://www.thebentway.ca/about/.

Bernabo, Maria, Ivan Garcia-Bassets, Laura Gaines, Christian Knauer, Alfred Lewis, Liem Nguyen, and Leila Zolfaghari. 2008. "Technological Convergence through-out the Eras: Part 1 - Cars." *Business Strategy Series* 10, no. 1: 3–11. https://doi.org/10.1108/17515630910937742.

"Bienvenido a Superilles." n.d. Accessed June 2, 2023. https://ajuntament.barcelona.cat/superilles/es/.

British Columbia Ministry of Social Development and Poverty Reduction. 2022. "Accessibility Legislation - Province of British Columbia." https://www2.gov.bc.ca/gov/content/governments/about-the-bc-government/accessibility/legislation.

Canadian Commission on Building and Fire Codes. 2022. "National Building Code of Canada: 2020." National Research Council of Canada. https://doi.org/10.4224/w324-hv93.

Channon, Ben. 2022. *The Happy Design Toolkit: Architecture for Better Mental Wellbeing*. London: Routledge.

CityNews Halifax. 2020. "Parks, Trails and Driving Ranges Reopen as Province Eases Some Restrictions." 2020. https://halifax.citynews.ca/.

Communications Nova Scotia. 2020. "Coronavirus (COVID-19): Posters, Factsheets and Resources." Coronavirus (COVID-19). January 30, 2020. https://novascotia.ca/coronavirus/resources/.

Compliance Works. 2023. "Accessibility Laws in Canada – What to Watch for in 2023." February 22, 2023. https://complianceworks.ca/accessibility-laws-in-canada-2023/.

CTV News. 2020. "Halifax Closes All Parks, Beaches, Fields to Reduce Spread of COVID-19." March 22, 2020. https://atlantic.ctvnews.ca/halifax-closes-all-parks-beaches-fields-to-reduce-spread-of-covid-19-1.4863417.

Di Mari, Anthony, and Nora Yoo. 2013. *Operative Design: A Catalogue of Spatial Verbs*. Amsterdam: BIS Publishers.

Dolley, Joanne, and Caryl Bosman. 2019. *Rethinking Third Places: Informal Public Spaces and Community Building*. Northampton, MA: Edward Elgar Publishing.

Donnelly, Erin. 2016. "How Blind Architect Chris Downey Keeps Working." *Azure*. December 15, 2016. https://www.azuremagazine.com/article/blind-architect-chris-downey/.

Downey, Chris. 2013. "Design with the Blind in Mind." Video, 11:40. TED Talk. https://www.youtube.com/watch?v=apiScBmE6rA.

Frank Lloyd Wright Foundation. n.d. "About Taliesin West." Accessed May 13, 2023. https://franklloydwright.org/taliesin-west/.

Google Earth. n.d. Accessed May 13, 2023. https://earth.google.com/web/@44.6479452,-63.62167516,18.17276652a,462.83579938d,35y,356.07297891h,0t,0r.

Government of Canada, Legislative Services Branch. 2023. "Consolidated Federal Laws of Canada, Accessible Canada Act." April 27, 2023. https://laws-lois.justice.gc.ca/eng/acts/a-0.6/.

Government of Canada, Statistics Canada. 2022. "Canada's Fastest Growing and Decreasing Municipalities from 2016 to 2021." February 9. https://www12.statcan.gc.ca/census-recensement/2021/as-sa/98-200-x/2021001/98-200-x2021001-eng.cfm.

Halifax Regional Municipality. 2020. "Response to COVID-19: Municipal Parks and Green Spaces to Reopen." May 1, 2020. https://www.halifax.ca/home/news/response-covid-19-municipal-parks-green-spaces-reopen.

Halifax Regional Municipality. 2021. "Halifax Centre Plan: Urban Structure Designations. https://www.halifax.ca/about-halifax/regional-community-planning/regional-plan/centre-plan.

Halifax Regional Municipality, 2022. "Halifax Transit: Routes and Schedules." https://www.halifax.ca/transportation/halifax-transit/routes-schedules.

Harnett, Sam, and Chris Hoff. 2019. "An Architect Who Listens to Buildings." KQED. September 6, 2019. https://www.kqed.org/news/11771686/california-sounds-an-architect-who-listens-to-buildings.

Honey-Rosés, Jordi, Isabelle Anguelovski, Vincent K. Chireh, Carolyn Daher, Cecil Konijnendijk van den Bosch, Jill S. Litt, Vrushti Mawani, et al. 2021. "The Impact of COVID-19 on Public Space: An Early Review of the Emerging Questions – Design, Perceptions and Inequities." *Cities & Health* 5 (sup1): S263–79. https://doi.org/10.1080/23748834.2020.1780074.

Howard, Ebenezer. 1902. *Garden Cities of To-Morrow: Being the Second Edition of 'To-Morrow: A Peaceful Path to Real Reform.'* https://www.gutenberg.org/ebooks/46134/pg46134-images.html.utf8.

Jacobs, Jane. 1961. *The Death and Life of Great American Cities*. New York: Vintage Books.

"Jardín de Sombras: Public Space as Infrastructure for Cities in the Desert / ORU-Oficina de Resiliencia Urbana + Julián Arroyo + Gabriel Azuara Pellicer + Virens." 2022. *Arch-Daily*. August 30, 2022. https://www.archdaily.com/988082/jardin-de-sombras-public-space-as-infrastructure-for-cities-in-the-desert-oru-oficina-de-resiliencia-urbana-plus-julian-arroyo-plus-gabriel-azuara-pellicer-plus-virens.

KONE Corporation. 2020. "Universal Design Is a Stamp of Architectural Excellence, Not a Box-Ticking Exercise." June 24, 2020. https://www.kone.com/en/news-and-insights/stories/universal-design.aspx.

Lau, Sin-Tung, Konika Nirmalanathan, Minahil Khan, Cindy Gauthier, Jordana Maisel, and Alison Novak. 2020. "A Canadian Roadmap for Accessibility Standards." CSA Group. https://www.csagroup.org/article/research/a-canadian-roadmap-for-accessibility-standards/.

Library of Congress. n.d. "City Life in the Late 19th Century. Accessed June 8, 2023. https://www.loc.gov/classroom-materials/united-states-history-primary-source-timeline/rise-of-industrial-america-1876-1900/city-life-in-late-19th-century/.

Licht, Karl Persson de Fine. 2017. "Hostile Urban Architecture: A Critical Discussion of the Seemingly Offensive Art of Keeping People Away." *Etikk i Praksis - Nordic Journal of Applied Ethics*, no. 2 (November): 27–44. https://doi.org/10.5324/eip.v11i2.2052.

Michaelides, Sheya. 2022. "Putting Women's Safety At The Heart Of Urban Design." All-work.Space (blog). June 28, 2022. https://allwork.space/2022/06/putting-womens-safety-at-the-heart-of-urban-design/.

Mosky, Sasha. 2020. "Access to Parks during the COVID-19 Crisis," August. https://peachresearch.ca/access-to-parks-during-the-covid-19-crisis/.

Mueller, Natalie, David Rojas-Rueda, Haneen Khreis, Marta Cirach, David Andrés, Joan Ballester, Xavier Bartoll, et al. 2020. "Changing the Urban Design of Cities for Health: The Superblock Model." *Environment International* 134 (January): 105132. https://doi.org/10.1016/j.envint.2019.105132.

Næss, Petter, Martin J. H. Mogridge, and Synnøve Lyssand Sandberg. 2001. "Wider Roads, More Cars." *Natural Resources Forum* 25, no. 2: 147–55. https://doi.org/10.1111/j.1477-8947.2001.tb00756.x.

"Navigating (and Improving) Public Space." 2017. Art in Ad Places. https://www.artinadplaces.com/news/2017/4/2/navigating-and-improving-public-space.

NYC Parks. n.d. "Washington Square Park." Accessed July 3, 2023. https://www.nycgov-parks.org/parks/washington-square-park.

Oficina de Resiliencia Urbana. n.d. "Jardín de Sombras." Accessed May 17, 2023. https://www.o-ru.mx/jardin-de-sombras.

Paynter, Sarah. 2019. "Simpson's Halifax." Historic Nova Scotia. March 13, 2019. https://historicnovascotia.ca/items/show/86.

Peterson, Steven Kent. 1980. "Space and Anti-Space." *The Harvard Architecture Review: Beyond the Modern Movement*. Cambridge, Mass.: MIT Press.

Pothier, Amy. n.d. "Accessibility and the Ontario Building Code - Part 1." Blog. BDP Quadrangle. Accessed June 28, 2023. https://www.bdpquadrangle.com/ideas/blog/post/blog/2015/01/09/https%3a%2f%2fwww.bdpquadrangle.com%2fideas%2fblog%2fpost%2fblog%2f2015%2f01%2f09%2faccessibility-and-the-ontario-building-code-part-1.

Reilander, Dwayne. 2022. "Jasper: Park Pass Required." https://commons.wikimedia.org/wiki/File:Jasper-Bear-Hunt-1.jpg.

Reinwald, Florian, Daniela Haluza, Ulrike Pitha, and Rosemarie Stangl. 2021. "Urban Green Infrastructure and Green Open Spaces: An Issue of Social Fairness in Times of COVID-19 Crisis." *Sustainability* 13, no. 19: 10606. https://doi.org/10.3390/su131910606.

Rick Hansen Foundation. n.d. "Accessibility and Attitudes about Disability in Canada." Accessed May 31, 2023. https://www.rickhansen.com/news-stories/blog/accessibility-and-attitudes-about-disability-canada.

Scootaround. 2017. "Wheelchair Turning Radius: Everything You Need to Know!" https://scootaroundstore.ca/en/wheelchair-turning-radius-everything-you-need-to-know.

Stanis, Smith. 2021. "Spotlight on Universal Design: Q&A with Stanis Smith." *Canadian Architect* (blog). March 12, 2021. https://www.canadianarchitect.com/a-spotlight-on-universal-design/.

Stephens, Lannyl. 2021. "Woman Crush Wednesday: Jane Jacobs." *Village Preservation.* September 22. https://www.villagepreservation.org/2021/09/22/woman-crush-wednesday-jane-jacobs/.

"Superblock of Sant Antoni / Leku Studio." 2020. *ArchDaily*. April 27, 2020. https://www.archdaily.com/938244/superblock-of-sant-antoni-leku-studio.

Trancik, Roger. 1986. *Finding Lost Space: Theories of Urban Design*. New York, N.Y: Van Nostrand Reinhold.

"Ville Radieuse: Le Corbusier's Functionalist Plan for a Utopian 'Radiant City'." n.d. *99% Invisible.* Accessed June 3, 2023. https://99percentinvisible.org/article/ville-radieuse-le-corbusiers-functionalist-plan-utopian-radiant-city/.