

The only thing you need to know about winter in Edmonton is that it's cold:

Using lived experience to inform how urban spaces
are designed, planned, and governed
for winter conditions

By

Vanessa Zembal

A thesis submitted in partial fulfillment of the requirements for the
degree of
Master of Arts
In
Material Culture

Department of Human Ecology
University of Alberta

© Vanessa Zembal, 2019

Abstract

This thesis makes a case for a more entangled perspective between humans, things, and weather on urban planning and design and brings increased attention to the everyday importance of urban spaces. This research involved multiple methods, including observation, artifact analysis, go-along interviews, and visioning workshops over the course of two years, with most of the data being collected during the winter season. A nested case study of three research sites within Edmonton focused the data collection and highlighted the similarities or differences between areas with different use schemes, dominant user groups, and ownership models. Fifteen people participated in go-along interviews within and around these research sites and the two visioning workshops focused on both the entire city and these particular urban spaces. The data was analysed alongside the data collection in a series of transcribing the interviews, coding the transcripts, photographs, and sketches and highlighting any dominant themes and then categories. The final analysis phase involved writing and presenting the findings or approach to validate the results and receive feedback on my process. With an interdisciplinary, non-linear research approach, the data analysis became intermingled with the data collection allowing collection processes to adapt and improve as I progressed through the research.

Two papers are presented in this thesis and show the diversity of factors influencing people's feelings of inclusion or exclusion in urban spaces during winter conditions. The first paper highlights the potential for the governance and evolution of city planning specifically targeting cities in cold climates or with winter conditions. The second paper focuses on the specificities of the research sites paying closer attention to features that might contribute to feelings of inclusion and exclusion

during the winter months. In the analysis for this paper, I compared the sites to each other and came to conclusions that drew attention to the site-specific changes, in addition to changes at the city-scale that can improve the experience of these smaller spaces

The case conclusions are described in more detail in the articles and in the final chapter I suggest overarching conclusions that bring together both articles and the data. In particular, the first conclusion suggests a broader approach to users, uses and seasons contributes to more inclusive spaces, regardless of location or time of the year. How or when people feel included or excluded is hard to predict and manage, particularly in urban spaces, and more than ever during the winter season. In general, inclusion is a fluid concept and all people will experience some degree of exclusion at some point throughout their lives. Secondly, I am suggesting that the winter experience of Edmonton is more complex than just cold weather.

Edmonton's physical form is not designed to enjoy the winter season. And indoor spaces are necessary in any severe weather conditions, either hot or cold, dry or wet, and particularly to accommodate different people and tolerances. However, becoming reliant on indoor spaces impacts people's interest or ability to experience any less-than-ideal weather condition (Hitchings, 2011). For example, people either never learn about how to dress for the weather, forget how unpredictable weather can be, or assume the conditions are better or worse than the actual conditions. The complexity of feeling included in spaces during the winter weaves between many factors including but not limited to the weather itself, people's attitudes towards the season, the design of the city, maintenance of spaces, and planning of a city. The last overarching conclusion speaks towards both my human ecology training and more

traditionally planning principles. There are many suggestions, recommendation, principles, manuals or guidelines proposed for winter city design and planning for cold climates. And while these lists and recipes can help inspire potential improvements, I am proposing a more flexible, context informed approach, or process, to spatial planning and design.

This research supports earlier climate sensitive planning recommendations and provides qualitative evidence in favour of context-based, complete city solutions. This thesis is particularly relevant for people involved in creating spaces or cities, such as planners, politicians, and designers, and for community leaders interested in incorporating unique engagement or public participation methods, or academics interested in interdisciplinary research. With a better understanding of uses and users throughout the year, informed priorities and design decisions can be made to enhance the usability of spaces in winter and the wellbeing of winter city dwellers.

Preface

This thesis is an original work by Vanessa Zembal. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name “EXPLORING THE INCLUSION AND EXCLUSION OF WINTER SPACES IN EDMONTON” No. Pro00070415, March 20, 2017.

All images included in this thesis are produced by the author.

Acknowledgements

Making it to this point would not have been possible on my own. I would first like to thank my supervisors, Kristof van Assche and Megan Strickfaden. Thanks Kristof for your patience throughout this long process and repeating points in different ways until I could wrap my head around it and hopefully put some of into writing. I appreciate your reminders to write with the data fresh in my mind and to focus on points and ideas only related to the stories I am writing because the thesis would have been a lot more confusing without this direction. Megan, I would have never made it this far (or even in this program) without your encouragement as a professor, a teacher, a mentor, and a friend, and the opportunity to try out primary research in your undergrad class. I will continue seeking out the unseen and the obvious, while reassessing the issues or problems throughout the process thanks to your guidance, lessons on design thinking, and creative approaches to research.

Special thank to my examiners, Sherry Ann Chapman and Damian Collins, for your thoughtful comments and suggestions to improve the thesis. And to Anne Bissonnette, for chairing my defense and providing a descriptive review to guide my edits. And to Mari Bergen for providing a very necessary a final read through the thesis. Also, thank you to Jane Batcheller and Rachel McQueen for contributing to my scholarship applications and for your friendly faces and down to earth conversations in the hallways. And to the group of students who were willing to come together to write, talk about the journey, and very often smile and laugh together. Our chats and these shared times were important to keep me motivated throughout the program and teach me about the reach of Human Ecology and the significance of the field. I'm grateful to call you my friends.

Lastly, I would like to thank my family and friends for their love and support. While I entered into Human Ecology because it sounded like an interesting science degree, as I started down this path I immediately felt a connection to my upbringing and my Mom encouraging me to explore different environments, learn about relationships between and around me, and to gain a genuine interest in the world around me. I have my Dad to thank for teaching me the keys to succeed at, or at least try, multi-tasking, and valuing the input from others in the form of critiques that improve the final product. Most importantly, thank you for giving me a flexible

job to write when I needed to, make a living while going to school, and teaching me the skills to feel good about something, especially when writing felt impossible. Mekenzie, thanks for giving me necessary food/brain breaks on writing days, ignoring the stacks of library books around the house, and inviting two of the best houseguests to live with us, all while dealing with my learning-thinking-working-writing, rollercoaster self (special shout out to Don for keeping tabs and making sure the rollercoaster stayed on its tracks). Thanks to my circle of siblings for listening, helping me make sense of confusing times, and either choosing or making some great additions to our family mix. And finally, thanks to the crew who contributed to necessary distractions from beginning to the end. It is the people like you who make up the perfect support network anyone can ask for and I want to thank you for coming with me on this journey.

I would also like to thank all the people directly involved in this research and all the others who listened to me talk or talked with me about what they like or dislike about winter in Edmonton. Thanks to everyone for sharing your insights, opinions, suggestions, and experiences so openly, especially because you voluntarily participated in research and to go outside, in the winter.

This research was financially supported by the Social Sciences and Humanities Research Council through a Joseph-Armand Bombardier Canada Graduate Master's Scholarship, the University of Alberta's Walter H Johns Graduate Fellowship, the Department of Human Ecology, and the Faculty of Graduate Studies and Research.

Table of Contents

Chapter 1: Introduction	1
Research question/s and Objectives	1
Positioning the research	5
Rationale & Key Ideas	9
How I plan to address the questions.....	12
Thesis outline	13
Additional notes regarding the format and defining key terms	15
Summary	16
Chapter 2: My nonlinear process and multi-method approach.....	18
Research Design	19
Case Study Introduction.....	20
Nested Case Study	21
Data Collection.....	26
Data Types	32
Population and participants.....	34
Data Analysis.....	35
Transcription.....	36
Thematic Analysis.....	36
Writing	37
Confirming the research	38
A Reflexive Practice	39
Limitations	40
Summary.....	42
Chapter 3: Planning and Designing Cities for Cold Climates: Lessons from Edmonton	43
Abstract:	43
Introduction	43
Background:	47
The beginnings of winter architecture, planning, and design	47
Moving people into the Canadian winter	49
Introducing the Case Study	51
Limitations of the Case Study.....	52
Methods	52
Analysing the Data	54

Findings	54
The Evolution of Winter Specific Design	54
Winter-specific municipal policies and design	56
Design and planning interventions in Canada	57
The state of winter in Edmonton	59
The dominant narrative for Edmonton winters	61
Edmonton’s Shift to Embracing Winter	62
Discussion: Contributing themes to Edmonton’s winter scene	64
Living with the legacy of decisions, culture, and spaces of the past	65
Exposing priorities through economic investments	66
A -40 attitude towards the season	69
Case Conclusion/Summary of Discussion	71
Implications to design, planning, and governance	71
Balancing exposure and protection	72
A broader perspective of users, uses, and seasons	73
Conclusion	74
References	77
Chapter 4: Inclusion and exclusion in a winter city: Exploring the everyday impact of design, planning, and governance in Edmonton	81
Abstract:	81
Introduction	82
Cities with colder climates	84
Inclusion and exclusion in cities	85
Exploring the potential for inclusive cities with colder climates	86
Introducing the case study	87
A unique feature of Edmonton’s governance	88
Research Design	88
Methods	90
Detailing the lived experiences in three Edmonton spaces	92
Case Conclusions:	107
Discussion: The Patterns of Winter-Related Inclusion and Exclusion	107
1. Context specific solutions	108
2. A networked city: sharing spaces, knowledge, and experiences	109
3. Blurring the boundaries between fast/slow, interior/exterior, public/private	111

Approaches for more welcoming winter cities	114
Designing useful spaces throughout the year	114
A multi-scaled approach	116
Conclusion	117
References	120
Chapter 5: Concluding Remarks	124
Moving towards some overarching conclusions	126
Future research directions	129
The intimate experience of weather	130
Reference List	133
Appendices	141
Appendix A: Observation Sheets.....	141
Appendix B: Sample Guide for Go-Along Interviews.....	142
Appendix C: Visioning Workshop Agenda	144
Appendix D: Recruitment Posters	147
Appendix E: Sample of colour coded data analysis spreadsheet	148
Appendix F: The overarching themes.....	149
Appendix G: Mapping some of the relationships.....	150

List of Tables

Table 1: Data Types

Table 2: Summary of the participants interviewed

List of Figures

- Figure 1: Location of Edmonton within Canada with municipal boundary and major roads in detail
- Figure 2: My interdisciplinary approach
- Figure 3: An aerial photo of Churchill Square (south) and City Plaza (north) prior to current revitalisation project
- Figure 4: An aerial photo of the Riverdale neighbourhood in summer conditions
- Figure 5: An aerial view of End of Steel Park
- Figure 6: Site 1, 2, and 3 situated within south-central Edmonton
- Figure 7: Multiple method approach including four core methods
- Figure 8: Images taken of benches over the course of the research.
- Figure 9: Google Earth Pro aerial photograph for End of Steel Park and area visioning workshop
- Figure 10: These are common sights in Edmonton, where property owners are responsible for snow removal and a lack of effort or knowledge create challenges for pedestrians.
- Figure 11: Locating the WinterCity Strategy in the City of Edmonton administration
- Figure 12: Services, such as the main tourism hub in the city, either close completely or, in this case, change locations to combine with other service providers during the slower winter season.
- Figure 13: Awnings projecting out from an office tower downtown (Manulife Place)
- Figure 14: This business entrance creates an alcove for people to wait for the bus in a somewhat protected space.
- Figure 15: Churchill Square in fall and winter conditions.
- Figure 16: Churchill Square (left = looking north, right = looking south) is cleared early to accommodate morning commuters. Figure 17: Images of the stairs and steep riverbank physically separating Riverdale from the downtown area (at the top of the riverbank).
- Figure 18: Looking towards downtown on a multi-use trail running parallel to the river valley.
- Figure 19: Various walking conditions in the Riverdale community
- Figure 20: An image of the outdoor fireplace located in a public park next to the river.
- Figure 21: The walking path through the park and the sitting area with trees and benches.
- Figure 22: An image of the river valley outlook point and the edge of the park just south of a busy roadway heading east and west.
- Figure 23: A popular path that is not necessarily accessible or safe, but it is well used
- Figure 24: Ice on Whyte Festival facing north
- Figure 25: Recently installed (2017) protected bike lanes are well maintained and an increasingly popular choice for commuters.

Chapter 1: Introduction

Cold climates and winter conditions often create obstacles for people living in cities (Pressman, 1989a). For city dwellers, the physical, social, and economic obstacles can compound and become more challenging during the winter (Davies, 2015b), but the weather and conditions can also highlight the areas and opportunities for improving the way people experience the city and season. The research herein considers what factors or features of cities impact people's feelings of inclusion and exclusion within the context of winter. I am approaching the topic with the assumption that additional challenges and obstacles in the winter will expose patterns of how people move, engage, or talk about the city and smaller spaces within the city in relation to inclusion and exclusion of urban spaces.

Research question/s and Objectives

Using Edmonton as a case study, I am exploring how winter experiences can be improved on a variety of scales, including the city, the neighbourhood, and smaller spaces within the city. The main research question for this research is: What features of urban spaces or cities contribute to more inclusive or exclusive winter experiences?

Subsequent questions include:

1. How do winter conditions impact the experiences of certain spaces? Or the entire city?
2. Are there particular users or uses enabled/disabled, encouraged/discouraged in certain spaces or the entire city as a whole?
3. How can cities be improved for better winter experiences in cities?

Based on the research questions, the objectives of this research are as follows:

1. To better understand the experience of people within urban spaces
2. To highlight various features that influence experiences of inclusion and exclusion in a winter, urban context.
3. To explore potential changes to improve spaces and cities in terms of inclusion and exclusion in winter conditions.

Significance of the research

There is a growing interest in considering the relationships between climate, urban spaces, and the people who live there (Bone, Wookey, & Austyn, 2017; Stout et al., 2018). I am addressing this relationship from an interdisciplinary perspective that considers people, what things or objects people might bring into an urban space or city, how people interact with the spaces and the city, and the different factors influencing their experiences of spaces or cities. In general, the research considers the complexity of everyday experience (Kusenbach, 2003) and an entangled human-thing relationship in the experiences of spaces (Hodder, 2012) and how these impact feelings of inclusion and exclusion. This perspective and the topic itself are significant for a number of reasons.

First, an interdisciplinary, case study approach embraces the complexity of everyday experiences and people entering the same spaces from different perspectives. I am blurring the boundaries between disciplines and methods to embrace more holistic data collection and analysis. There is a potential to highlight difference or similarities of people's experiences within the same space or city and the complex relationships that contributes to these experiences (Pink, 2008). The challenges and opportunities for cities are often reduced to simple factors. For example, the challenge of snow removal is often solved with more equipment. However, a more interdisciplinary approach might suggest how people can navigate snow covered streets or how to repurpose the snow in-situ to benefit the people living there. In many cases, this can involve reassessing how data is collected and who is contributing or investing in different methods of consultation or problem finding and solving.

And secondly, positioning the data collection at the research sites supports more context-based solutions to planning, design, and governance of urban spaces. Context is important to consider, especially when best practices or solutions are being proposed. Best practices, guidelines, and manuals are common outcomes for similar research (City of Edmonton, 2016b; Pressman, 1995; Urban Systems, 2000). And while best practices and guidelines are important tools to share knowledge, adapting guidelines to a unique context requires an understanding of the past processes and the influence of these processes on the experience of people living

there today. Economic, social, political, governance and even geographical contexts influence the success of a project. The current form of a city is based on many years of decisions (Akkerman, 2016). Attitudes and narratives have developed over time and are difficult to shift over the short term (Eliasson, Knez, Westerberg, Thorsson, & Lindberg, 2007; Nash, 1981). Through engaging with these narratives and moving around the spaces, I am interested in how the context has influenced people's perception of the spaces and the entire city. Collecting these perceptions and perspectives is an important step to exploring the potential for context-based solutions.

Considering the significance for Edmonton specifically, the research contributes to growing interests in planning for the climate and attracting more people to stay and live in the city. As Canada's fastest growing city in 2016, the ability for Edmonton to accommodate a growing population will determine whether people will set down roots or only visit the city as short-term employees. Edmonton developed over the course of a number of boom-bust economies since its inception, but this is a particular concern considering the recent memories of an economic downturn in the 1980s that still impacts people and the state of the city today (S. Low & Low, 2018). During this downturn, a combination of boom-time demolition of residential and heritage buildings in the downtown core to make space for office towers and tightened government budgets led to a somewhat deserted downtown (S. Low & Low, 2018). Revitalizing the downtown and reclaiming a sense of identity continues to be a point of concern for city administration and politicians today (S. Low & Low, 2018). Over many years of a boom-bust economy tied to natural resources, developing areas and spaces was often related to efficiency and inspiration from other cities rather than careful design reflecting Edmonton's context and providing opportunities for more positive relationships with the winter season. In its current form, and in response to the development history, the vehicle dominant city and cold weather do little to encourage or promote community building. There is an opportunity to rethink how a city responds to its history, its physical form, its weather, and its citizens and this research explores the range of possibilities around these relationships.

There is also a personal motivation and significance for pursuing this research. When I spoke to people about this research or talked to anyone about winter in general, terms such as surviving or enduring the season are common. In a particularly memorable situation, I was told “the only thing you need to know about winter in Edmonton is that it’s cold”. This struck me as a somewhat narrow perspective on a season that lasts many months in this part of the country. In addition to these sentiments, a research project in my undergraduate degree involved similar topics. This earlier research studied the winter clothing needs for people with mobility impairments participating in a unique winter activity. In brief, the TrailRider allows people with mobility impairments to access single-track, bike trails with the help of two people, who push and pull the apparatus in a similar way to a wheelbarrow and a rickshaw. For this research, we took participants along a river valley trail in Edmonton during a spring snowfall in early April. Both of these personal experiences heightened my curiosity to whether city spaces and the city itself had any impact on how people experience and talk about winter in Edmonton.

And having lived in communities with colder climates, I feel that seasonality and variable weather conditions impacts my experiences of public spaces, but also not limited to only the weather. The snow and wind can be a positive or negative depending on my mood, my clothing, or who I am with. I value the seasonal aspect of where I live, the opportunity to engage with different activities throughout the year, and I often think other people appreciate it as well. At the same time, I can understand, and have heard many times over, that other people who also grew up and live here, prefer a milder climate. The impact of the weather and the changing weather over the course of the day and year was important to this topic. How people perceive, prepare, and experience the weather and the changing weather over the course of a day, or an entire year will influence their experience of space, and, potentially, their opinion of the entire city. This aspect, in addition to my own experiences, suggests a more individualized response to the weather—a factor that is often misunderstood or under-considered in planning conversations and decisions (Van Assche, 2007). The research conducted for this thesis is, therefore, an opportunity to test my personal theory about weather and people’s experiences of inclusion and exclusion, but also to identify areas where design and design thinking

might benefit public spaces and the processes surrounding the design of spaces and planning of cities.

Positioning the research

Situating myself

As a current resident of Edmonton, my own experience of the city and the winter season influences this research. My day begins like that of many others who live in places with variable weather conditions. That is the predicted weather, from various forms of media, and the actual weather impact my day to day decisions, including what to wear, how to move around the city, and what people do throughout the day (Hitchings, 2011). And yet the variability of weather reigns superior in its impact on my life. I have experienced unseasonable weather, such as warm winter days or cold summer nights, often while living in and around Edmonton. And yet the rare chance of snow in June is still quite a surprise when it happens. To cope with the changing seasons and unpredictable weather, there are certain adaptable behaviours that help develop over time (Hitchings, 2011). For myself, this includes specific clothing systems, combinations of layers, and a rather large selection of footwear (all with their own very specific purpose, I might add) to accommodate unpredictable and changing weather throughout the day. In addition, the choices I make regarding how I move around the city or what I do can be influenced by the prospect of certain weather. Thus, the impact of weather becomes tied to intimate decisions including how I present myself to the world, how I engage with the spaces around me, and whether I feel included or comfortable in these spaces. Inspired by these intimate, everyday decisions that I deal with on a personal level, I am interested in the relationship between people, their environments, the things that make up the environments and the dynamic nature of experiences. The degree to which people plan, design, develop, and maintain the surrounding environments is often based on identified needs, but also based on people's own desires and the betterment of people living there at that specific time or into the future. When people are aware of the destinations available and how to prepare for, or adapt to, varying weather conditions through choosing clothing and how they move around the city, their experience of the entire city is likely to improve and, in

turn, impacts their attitude towards the city. In my opinion, the design of entire spaces and features within certain spaces alongside planning and governance of cities can lead to better used spaces, a better-informed community and increased feelings of attachment to the community throughout the year.

My early training in human ecology promotes an interdisciplinary perspective to defining and re-defining design problems throughout the process (Strickfaden, 2006). This background and a rather nonlinear approach to design and problem finding influenced me to feel comfortable with creative approaches to research and embrace emotion and subjective responses in research. The methods employed for this thesis were considered based on the variety of data types collected and my own interest in phenomenology, in-situ interview techniques and recording the immediate responses to urban spaces. My approach to data collection is tied to my interdisciplinary, context-based perspective, with particular attention to material culture. Because winter provides a specific context to study inclusion and exclusion, I felt it was necessary to address the temporality of weather and seek out a variety of experiences based on physical ability, experience, and unpredictable weather. The in-situ, moving interviews reflect a recent interest from urban studies and the tradition of material culture that involves object-based analysis (Anderson, 2004; Pink, 2011). With an interest in the physiological responses to weather, responses to temperature were collected alongside certain sounds, smells, tactile and visual aspects of the space¹.

Situating the research

Edmonton (see figure 1) was selected as a case study, most obviously, because I live here, and the spaces were easily accessible to me over long periods of time. Because of the impact of winter on my own experiences of the city, highlighting a winter context felt important for me. Edmonton winters are not

¹ Alongside my reading in sensory ethnography and the importance of acknowledging the senses beyond the visual, which is the dominant sense in a lot of design and planning work, I was inspired by the concept of flaneur and experiencing the city and certain spaces as something to interact with and play with rather than respond to the city through the challenges and opportunities that impact my life. While this inspiration was important in how I approached the spaces in Edmonton, and as a 'new' observer of spaces, I did not feel confident including this as a significant contribution to my research or incorporate it into data collection methods.

limited to the months between the fall and spring equinox, can fall in ten out of twelve months, cold snaps with temperatures below minus twenty degrees Celsius can happen multiple times during the season, and the sun rises as late as 8:45 am and sets as early as 4:15 pm in late December (National Research Council Canada, 2018). For a recent example, in the winter of 2017-2018, Edmontonians lived through 167 consecutive days with temperatures below 0 degrees Celsius (Robb, 2018). And February 2019 was the coldest February in 40 years (Short, 2019). Edmonton weather is a constant topic of concern for major media and citizens alike and is well known in most of North America. In the past, the city has approached winter and winter amenities from a physical and recreational perspective. Winter sports, such as skiing, skating, and hockey are common and well supported through community leagues, private businesses, and public facilities. The fact that there are four privately owned downhill ski facilities, over fifty kilometres of cross-country ski trails within city limits, and over 60 outdoor ice surfaces indicates there is significant investment in winter specific activities.

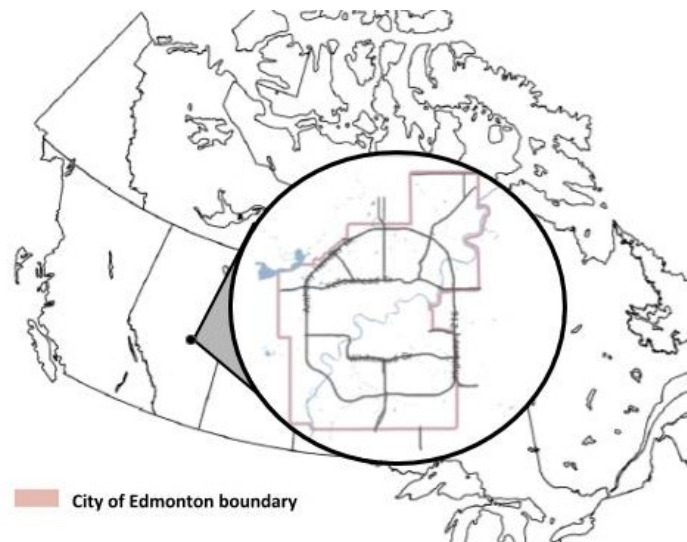


Figure 1: Location of Edmonton within Canada (Statistics Canada, 2011) with municipal boundary and major roads in detail (City of Edmonton, 2018). Images modified and combined by author.

In addition to many winter facilities within the city, it has been over a decade since the winter season captured the attention of Edmonton's city council and administration which provides the opportunity to evaluate the response to this

increased attention and investment. In 2008 Edmonton's city council created a strategy to fund festivals and art initiatives during the winter months (City of Edmonton Wintercity Strategy Project Team, 2012). In 2012, the city council further adjusted its approach and appointed a *Winter City Strategy* within city administration. In the fall of 2013, the *Winter City Strategy* became *Winter City Edmonton* and established a team of two full time planners who educate about winter living and activities and support winter focused initiatives in and around the city. A significant contribution from this group was the *Winter City Design Guidelines (2016)* targeting new and existing architecture and urban design. The *Winter City Design Guidelines* promote five main principles: incorporating design strategies to block the wind; maximizing exposure to sunshine through orientation and design; use colour to "enliven the winterscape"; using light to enhance visual interest; and "design and provide infrastructure that supports desired winter life and improves comfort in cold weather" (City of Edmonton, 2016, p. 6). These principles have been shared at conferences and gatherings since 2016 and other cities pursuing a similar winter development and promotion journey have referenced this document. In May 2018, *Winter City Edmonton* evaluated their work over the past five years. The extensive report features testimonials from local and international groups, community survey results, and a list of its achievements. Success came in the form of increased attendance at winter events and activities and international recognition for the city's commitment and overall increase awareness across the city and within city administration. Although the research herein does not consider this latest evaluation report, I did hope to hear people refer to *Winter City Edmonton* in passing as we talked about their own winter experiences and if they have felt any changes since this initiative.

Situating winter specific research in Edmonton is not a new endeavour. Studies based in the city have occurred since the 1980s and contributed to publications related to housing, climate based urban design recommendations, and climate specific challenges for developments. Details about the more recent studies are referred to the first paper. In brief, more recent research considers the planning and development of the city, or innovative design recommendations for winter activities or creating winter attractions within the city region.

Rationale & Key Ideas

Designing spaces to adapt to the needs of people, and to the climate, over the long term is a part of human life (Hitchings, 2011; Lynch, 1962). As Kevin Lynch describes ““people will suffer...in silence, adapting as they can”” in poorly designed environments (Lynch, 1971 pp. 86 as cited in Zrudlo, 1988). From an inclusion perspective, this silence is imperative and is not limited to coping with the climate, but also with the spaces or design features that are not designed for the fluidity of users and abilities, who live in the city. Providing a voice to the silenced and making the invisible visible in planning and everyday experiences, is essential to developing an empathic, welcoming city (Pitter & Lorinc, 2016; L. Sandercock, 1998), regardless of weather. Proponents of inclusive cities and design, such as Jay Pitter and Ann Heylighen, suggest a re-evaluation of processes to include different people in design and decision-making processes (Heylighen & Bianchin, 2013; Pitter & Lorinc, 2016). In the case of research, including the research herein, inclusion can emerge as listening to the voices of those people who are not included in the process, or are uncomfortable in these spaces, to understand how spaces can be designed better throughout the year and how to cultivate a winter identity for the citizens who live there.

In addition, and as I detail in the articles, cities designed or planned for cold climates or winter conditions often rely on guidelines or manuals derived from studies or assessments, such as how wind or sun and buildings interact. This quantitative data approach is important to help guide future development to mitigate wind issues and allow for sun penetration to the street level (Eliasson et al., 2007; Li, 1994; Pressman, 1995). However, there is also earlier research pointing towards are other factors and issues at play to promote winter use. In particular, Shaogang Li suggests that location, planning context and traditions, programming and management, physical design and aesthetics, cultural context, and individual attitudes to the season have more impact on winter use and public space than designing comfortable microclimates (1994). Based on previous literature, in addition to my early observations and reflections and anticipating the case studies, it is clear that a number of factors are shaping the relationship between inclusion/exclusion and urban spaces in winter. These factors include: the design of

the space; the planning of the city; culture of city and narratives related to winter and public spaces in general; governance of the city (including the role of planning and of design); and the place branding or marketing of the city and spaces. How these factors work, how they relate, and how different spatial scales influence the factors in terms of inclusion and exclusion guided this research and have shaped the method, or combination of methods, used in the research.

In general, the factors I identified are tied to the context of the spaces and the city. The context of design can include physical geography, urban form, past, present and potential uses or users, maintenance requirements, or the lifespan of the space. Often the level to which decisions consider the context will determine whether design solutions are effective or produce the intended results or not. How the space evolves over time will determine what design interventions are available or possible within the space and how this space relates and contributes to the larger city. As earlier literature illustrates, the extent to which design can transfer between cities is somewhat limited, particularly with different climatic conditions. There is potential for design inspiration, especially when considering how design processes and decisions are made in different places. However, more meaningful design will come from the people who live there and is difficult to recreate (Mehta, 2014). There is a relationship with the particular space or the entire city that can be reflected in careful design. For example, the historical significance or heritage embodied in the space can contribute to powerful connections to the space and to the history, while also encouraging people to engage with the space today and into the future (Van Assche, Duineveld, De, Aart, & Zoest, 2012).

Similar to design, planning takes into account the past, present, and future of the city through considering physical design of the city and the economic and social contexts (Van Assche, 2007). In many cities, the urban planning process is institutionalised to ensure continuity and alignment priorities with other civic matters (such as budgets, property rights, or maintenance regimes). Therefore, the existing context, including physical, social and economic environments, will differ based on the scale or range of influence and the resulting solutions or proposals will vary based on these contexts (Eliasson, 2000; Van Assche, 2007). In particular, making decisions related to inclusion and exclusion and winter at a smaller, for

example a park, scale may have a lesser impact than assuming a larger city scale. This is because making every park inclusive to a large range of users is difficult, time consuming, and an impossible task because people change much quicker than spaces and the needs are constantly evolving. However, there are opportunities at smaller scales to satisfy certain users in one park, while another park accommodates other people. This is at the core of why understanding and considering the context of the space and the city has potential for improving planning processes and spatial planning of any city in terms of inclusion and exclusion.

The ability for planning or design to influence the existing and future city depends on the governance surrounding these discussions, and most notably, the role of planning and design in the city. In general, good governance can improve the conditions of living in communities (Madanipour, 2004; Van Assche, Beunen, & Duineveld, 2014). As relationships between people develop and change over time, the needs of the community will be reflected in the evolving governance and related administration structure and priorities. However, the effectiveness of governance, and of the conditions of the physical landscape in general, are impacted by the legacies of history emerging in both tangible and intangible forms. Path dependencies refer to the certain actors or established formal and informal institutions, who may influence the current governance regimes or traditions in response to changing circumstances over time (Van Assche et al., 2014). This legacy will determine the effectiveness of innovative solutions or the lasting impact of alternative perspectives. In some situations, this dependence translates to the physical environment and the limitations established by the urban form and physical landscape or geography of a city. The current form of a city is the culmination of decisions over time reflecting certain goals or values of the decision makers at the time. The physical design, which is influenced by the existing physical form and the limitations or opportunities of this landscape in addition to cultural and economic landscapes, vary from place to place, in addition to the strength of the path dependence or the potential for influence on a broad spectrum. Therefore as a general approach, understanding the context of governance at play in the specific spaces or communities, as well as at the larger, city scale, is important when considering long term, sustainable changes and the potential to make change at all.

This research has the potential to influence how designers and planners approach spaces and cities to encourage greater engagement on a variety of scales. An understanding of the citizens' lived experiences can improve the understanding of people living there and what contributes to their feelings of inclusion and exclusion and point towards the importance of context informed processes and decisions. On a broader scale, people involved in policy may find some inspiration about the impacts of design or climate on feelings of inclusion and community members can consider alternative ways to explore their neighbourhoods and contribute to more meaningful design and planning conversations.

How I plan to address the questions

Human ecology explores several strands of thinking, many of which overlap with other fields or disciplines. In my case, material culture, design anthropology, and urban planning have influenced the research. This research is rooted in exploring everyday experiences, a trait shared between these disciplines, and these disciplines each bring an important perspective to methods or analysis that have inspired my entire process. For the purpose of this research, material culture manifests itself in many tangible forms including things or spaces people interact with, things or objects people bring with them into spaces, and the less tangible forms of weather that influence the experiences of urban spaces. For example, observing how people interact with things in the spaces and how people talk about or notice as impacting their experience. How things are used, maintained and talked about can indicate a person's inherent values (Prown, 1982). Through observing and talking about these things, I am attempting to record the multiple, potentially conflicting, and often silenced voices of experiences (Hodder, 2003).

Urban planning mediates the everydayness of people living in cities and, in the best case scenario, can "bring together in one perspective the various users of a space" (Van Assche, Beunen, Duineveld, & de Jong, 2012, P. 179). Visioning workshops sought to explore if opinions of spaces and the city can change when presented in a large group, a common approach in planning consultations. Being included, or feeling included, in the process can influence how people engage with the space and my research considered the processual impacts of design and planning.

Design anthropology is “inseparable from the larger frameworks of cultural, economic, and social life” (Clarke, 2018, p. xxii). Design anthropology extends the act of designing beyond the thing itself and involves social research to explore the impact of people and societies on the object and vice versa. Design anthropologists embrace an ethnographically-inspired design process moving from an object-centric perspective to a more creative object-human perspective (Otto & Smith, 2013). Inclusion and exclusion are experienced as a combination of relationships, both perceived and real, between people, the space itself, and the entire city (Sauter & Huettenmoser, 2008). In addition, the variability of winter and how people adapt or their attitudes towards the season are difficult to predict and design or plan for. Therefore, the combination of an object-based analysis of spaces with the experiential information gathered through interviews and workshops can benefit this topic and explore the impact of design, planning, and governance.

Thesis outline

The thesis is organised into five sections. Following the introduction, the second chapter introduces the methodology and summarizes the methods used to conduct this empirical research. This multi-method study incorporates various data collection methods and data types inspired by the different disciplines, described above, which inspired me throughout this journey. In my opinion, the methods themselves, incorporating a nonlinear approach to the research, and my role as a reflexive researcher are as important to the research as the findings and conclusions. The third and fourth chapters are presented as two articles that will be submitted to journals for publication following the oral exam and revisions for publication. These two journal publications are two separate stories written as a consequence of literature summaries and the empirical research conducted for this thesis.

The first article highlights the various features or factors that can influence people’s experiences of inclusion and exclusion in winter, urban contexts. I used the history of winter specific design and urban planning to explore the range of solutions considered throughout history, from an international and national context, and the dominant perspectives existing today. Considering the case study of Edmonton specifically, I began by exploring how Edmonton’s relationship with other self-

identified 'winter cities' has been interpreted and integrated into planning, design, and governance decisions. Edmonton has been an active contributor to ideas and developing principles related to winter specific design and planning. However, there is less attention to the governance of the city and assuming a broader perspective of how urban spaces are designed and the impact of planning and governance on people living here throughout the year. Most of the data for this article came from document and archival photo analysis, but I incorporated the other methods and data types as I felt necessary. For example, concerns of connectivity are illustrated in maps and photos and people can refer to this during the interviews or workshops. The findings indicate a need to reassess winter planning ideologies in terms more directly related to inclusion and exclusion and move beyond a climate perspective back to basic planning principles, such as connectivity and contextualized solutions for spaces throughout the city and the city itself. This article concludes with potential changes or suggestions on a design, planning, and governance level and the potential for a combined approach to improve spaces and cities in terms of inclusion and exclusion during winter conditions.

The second article builds on the first article and incorporates the lived experiences of people living in Edmonton more directly. I also speak directly to specific spaces within Edmonton as a nested case study (described in more detail in the next chapter). The lived experiences are collected through observations, in-situ interviews, visioning workshops, and my personal reflections and experiences. The article illustrates the potential for the physical design of the space and planning of the city to include or exclude certain users or uses particularly in winter conditions. In addition, I refer to opportunities in governance and marketing or narratives to provide spaces not necessarily for everyone, but a more integrated, larger scale approach to inclusion. Based on the findings from this research, the fluidity of experiences suggests a less restrictive model to winter and to design and planning. The entire city becomes the scale for inclusion, rather than specific spaces being accessible and comfortable for everyone.

Additional notes regarding the format and defining key terms

Rather than a traditional literature review, I have incorporated the literature into the articles and will use the next few paragraphs to describe my approach to defining keywords of the research questions. The definitions provided in the following articles are inspired by earlier work in similar fields and are my own interpretations. To provide some clarity, I will attempt to describe my process and provide some vague definitions that guided me throughout this research. More specifically, I will introduce how I achieved the definitions for terms in my research question: inclusion; urban space; and winter.

Based on my readings of previous work and definitions, inclusion often relates to being accessible and available for everyone all the time. And while I do believe every space can benefit from more inclusive interventions, a particular space will never be inclusive for everyone. This is often due to the fluidity of people and experiences, such as ability, perception or understanding. Different moods, weather, or situations uncontrollable by the space itself will influence the experience and cannot be designed into the space. Therefore, assuming a larger scope or scale, that is the city-scale, a combination of spaces can accommodate different populations and users or uses.

In some cases, restrictive definitions are applied to urban space, similar to inclusion. For example, Kevin Lynch's five building blocks of urban spaces: paths, edges, districts, nodes, and landmarks (1960). While these definitions may help to differentiate between spaces, I did not feel compelled to assign the spaces I studied with these characteristics. Instead, the definition I use is simply referring to a space or area within a city. I have not limited this term by number of people, size or use, but by location within city limits. In terms to maintaining focus for the research, I chose to focus on the urban rather than rural spaces. The image of urban spaces in my context is not limited to downtown high rises, traffic congested streets, or walkable retail areas. As you will see in the following chapter, the sites I selected include a range of sizes and types of open areas, natural forms, or built forms,

including residential and commercial buildings, maintained or unmaintained areas, or specifically designed features, and different perceptions of use and users.

Winter has many connotations and definitions often dependent on the field or discipline being discussed. For the purpose of my research, winter conditions refer to cold temperatures, long nights, and the potential for snow or ice accumulation. I have intentionally avoided defining or referring to Edmonton as a winter city. In some cases, I refer to the self-identified winter city or so-called winter city. However, winter city terminology can limit the potential for other cities or communities to relate based on not meeting the specific criteria. The definitions often include cities with temperatures normally below freezing, snow accumulation, long nights (located high in the northern hemisphere), and seasonal variation (Pressman, 1989). Therefore, by referring to cold climate or winter conditions in general, I am considering that the season “varies greatly from one location to another and, for that matter, from year to year” (Pressman, 1989; 14).

Through this discussion, I have attempted to express why I was interested in remaining somewhat vague. While this was not intentional to begin with, the position fits well with the research. While collecting the lived experiences of people, each person will have a different definition and rather than prescribing a definition for them, I felt this was an opportunity to embrace the complexity of perception and living in a city.

Summary

This following chapters in this thesis provides only a limited account of the experiences of people in Edmonton and the features of urban spaces or cities that impact their feelings of inclusion and exclusion during the winter. Collectively, the following articles illustrate the relationships between people, things, spaces, processes, policies, and, “the theme of [our] emptiest chatter”, the weather (Benjamin, 2002, p. 101). My hope is that I have provided an account of my research process and inspired innovative approaches to combining methods and disciplines for the betterment of living in cities and experiencing cold weather. Our experiences as citizens are a complex set of relationships that are often difficult to predict and plan. Through uncovering some of these experiences, I am attempting to highlight

some of these relationships and the potential changes in design, planning, and governance to improve people's experiences.

Chapter 2:

My nonlinear process and multi-method approach

I approached this research from an exploratory, phenomenologically and ethnographically inspired position. The methods I used for this research were influenced by scholarly research conducted within material culture, design anthropology, and urban planning fields (see Figure 2). More specifically, themes of human-thing relationships (Hodder, 2012; Prown, 1982), sensorial experiences (Pink, 2008), urban ethnography (Kusenbach, 2003) and participatory design methods (Pitter & Lorinc, 2016; Sanoff, 2000) have been employed. A nested case study and a combination of methods allows me to gather rich data about experiences: observing actions or activities (Gehl, 1987); asking participants to talk about their lived experiences and the design features or things within the space, while relating their immediate and past experiences as we traveled through the spaces themselves (Kusenbach, 2003; Pink, 2011; Ricketts Hein, Evans, & Jones, 2008); and engaging in a collaborative discussion about design, processes, and management of spaces (Pitter & Lorinc, 2016). The multiple methods used for this research seek to record the complexities of experience, while also understanding the potential for design to mediate this experience. At the same time, the choice of methods also recorded the temporality of weather and the influence of this unpredictable, uncontrollable factor on people's experiences.

The research presented in this thesis explores spaces beyond liking or disliking certain features. Moving through spaces can identify specific features of space and convey how people feel within a space (Ricketts Hein, Evans & Jones, 2008) and, in the case of the research in this thesis, to explore features of inclusive winter cities. All too often, participatory planning is limited to what people like or dislike about a designed space or their community (Pitter & Lorinc, 2016). Most people are unaware about why they like certain things or not or are unable to articulate their feelings or meanings (Hodder, 2003). Material culture analysis explores the objects themselves to identify features that are difficult to communicate verbally or are somewhat unconscious behaviours. Details, such as use

or wear markings, the direction people travel, or how they interact with objects. can provide great detail about inherent and attached values (Prown, 1982) to things that make up cities (Pietila, 1988). Analysing the characteristics, details, and nuances of the rich material culture environments people live and spend time within supports a means to identify patterns associated with meaning making processes (Prown, 1982).

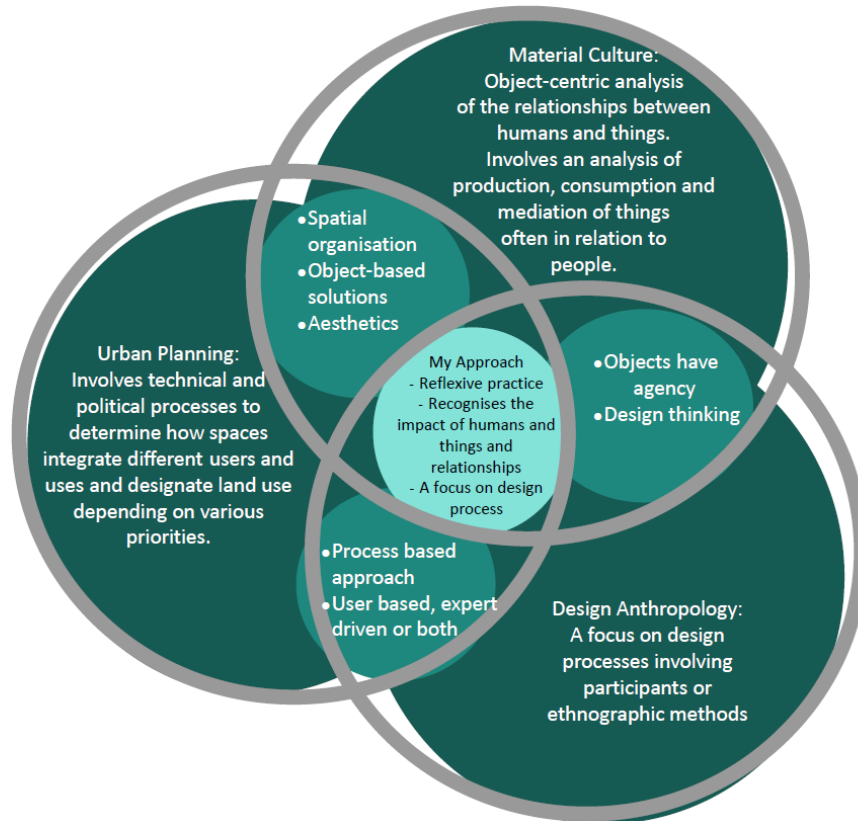


Figure 2: My interdisciplinary approach

Research Design

An understanding of design process as described by Nigel Cross, and my supervisor, Megan Strickfaden, informed the research design and research process (Cross 1982). The process is non-linear and refers to the initial question to verify that this question is still valid. As a novice researcher, the iterative process of interviewing and observing was an adaptive process. For example, my influence on the interviews changed from the beginning to the end, as did my approach to

observing the spaces. Throughout the course of the research and writing process, my confidence improved, and I felt more comfortable to test different interviewing techniques, including not responding and allowing for periods of silence.

With a general theme of inclusive winter cities in mind, a case study can explore phenomenon within a real-life context (Yin, 2009). From this perspective, rich descriptions are collected in relation to the specific population and spatial relationships that exist (Yin, 2009). As such, this thesis looks at the situation in Edmonton with the potential of expanding the results to other winter cities.

Case Study Introduction

Edmonton has many similar struggles to other modern North American cities including sprawl, low density downtowns, and vehicle dominance, and the additional context of having an economy attached to volatile, or boom and bust, industries and requiring a fluctuating workforce. But figuring out how to live and thrive in the city is becoming more of a priority for people living in Edmonton and the city administration and has the potential to change the lives of around a million people—not to mention to inspire other cities in similar climate, cultural, and economic situations.

Edmonton's boom and bust economy is driver for population and development booms throughout the history of the city. Industries tied to resource extraction has a long history in Edmonton and continues to be a main source for the economy. Beginning with the fur trade and continuing into coal, gold, oil and gas, natural resources have contributed to Edmonton becoming a hub for entrepreneurs and people willing to work for a chance at cashing in on the resource of the time (S. Low & Low, 2018). Resource prices correlate to population booms, which influences housing prices and demand for services (S. Low & Low, 2018; Wonders, 1959). The recessions or depressions that often follow a booming market are a challenge for fast growing cities (Van Assche et al., 2016). And accommodating people, both with homes and services, is an efficiency issue and changes should happen quickly to succeed in attracting people and their capital during the boom times. Between 1941 and 1951, the end of World War II and the discovery of oil in Leduc in 1947 contributed to a population boom in Edmonton increasing its population by, 76.9 percent within the period (Wonders, 1959). This is impressive because the second

highest boom within the same period was in Calgary (a city in the southern region of Alberta) with its population growing 49.5 percent (Wonders, 1959). Neighbourhoods in the 1950s were developed at unprecedented rates under the guidance of Edmonton's first town planner, Noel Dant (Larmour, 2005; S. Low & Low, 2018). Dant's planning regime reflected the suburban ideals of private space, inspired by American cities and accommodated increased car ownership with designated thoroughfares and slower neighbourhood streets (S. Low & Low, 2018). Facilitating car travel from suburban neighbourhoods into the downtown core became a contentious issue when the river valley and ravines were proposed as part of a freeway system (S. Low & Low, 2018). On the one hand, large swathes of undeveloped land could provide vehicle efficiency at low cost and little interruption. On the other hand, community leagues valued their proximity to natural landscapes in the ravines extending perpendicularly from the river into the heart of their communities. The community won the use of ravine and river space while freeways, overpasses, and vehicle connections were established. Current land use planning for the Edmonton area involves competition between a growing downtown metropolis, suburban development, and preservation of the longest green belt in North America for both private and public interests (S. Low & Low, 2018). At times throughout Edmonton's history the competition between public and private interests appears unbalanced in favour of industry, market-driven priorities. However, at the same time, the creation and support of community leagues allows for communities to remain vocal and engaged in the conversations concerning their neighbourhoods.

Nested Case Study

A nested case study of smaller areas within Edmonton narrowed the scope of sections of the research and allowed me to compare the impact of different site-specific design decisions on people's experiences. I was interested in the nuances of spatial design and urban planning of different spaces based on users and uses, but also the impact of different ownership models and the position or relevance of the spaces within the larger city. These sites were selected because they are markedly different in their use schemes, user groups, maintenance programs, and involvement from City Council or the community. They were also selected for their

proximity to downtown and Whyte Avenue, two well known areas in Edmonton, somewhat similar development periods (early to mid 1900s).

The first site, Sir Winston Churchill Square (aka: Churchill Square), is designed as a public space in the heart of downtown and is often considered the main city square and bordered by the City Hall, the Alberta Art Gallery, the downtown library, and two performing arts centres (see figure 3). The area operated as a market throughout most of the twentieth century, as the city grew up around it and many buildings were built and rebuilt over time. It was preserved from large scale development and remains a space for predominantly social and cultural activities. With direct access to public transit (both light rail and buses) and parking lots to the north and east, many people walk across the spaces most often during morning and early evening commutes. In addition to commuting, people will carry their lunches from nearby office towers to take a break in the sunshine or take part in the festivals occurring here, particularly during fair weather conditions. The result of the last revitalisation of the space in 2004 replaced most of the grass with decorative paving stones and built bleacher style seating and two commercial buildings (a retail store and restaurant). It is largely programmed throughout the year with festivals, including the Works Art and Design festival, Taste of Edmonton, and the Cariwest

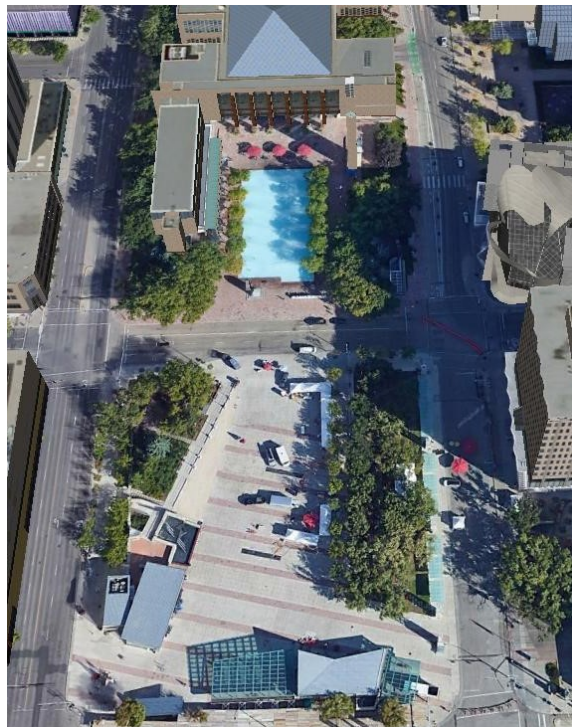


Figure 3: An aerial photo of Churchill Square (south) and City Plaza (north)

Caribbean Festival, and more informal programming, such as ice skating, basketball and ping pong. Currently, the area is currently being redeveloped again, including installing a boardwalk in the grassed areas and new street level light rail tracks being set along the road to the south of the square.

The second site is the community of Riverdale (see figure 4). It is a mature neighbourhood located next to the river and a fifteen-minute walk from Edmonton's downtown. This area is dominantly residential, with some urban parkland located next to the river, an elementary school, a large area for the community league, including a hall, outdoor rink, community garden and playground, and one cafe. Riverdale was established as an industrial area in the 1890s producing many of the bricks that helped build Edmonton's prominent buildings (S. Low & Low, 2018). Throughout most of the twentieth century, people who lived there, mostly Dutch immigrants, lived without municipal services (S. Low & Low, 2018). Development ceased between World War II and the 1970s due to the recommendation to regrow the river valley flood plains and develop a large urban park system (City of Edmonton, 2010). In 2016, Riverdale has grown into a community of over 2000 people and over 900 dwellings (City of Edmonton, 2016a). Other than the café, no other commercial or industrial properties exist within the community. However, with an active community league, events and activities are common in and around the community. In particular, hockey tournaments, musical performances, and river

valley education are highlights for people living there (and referred to by participants in this research who lived there).



Figure 4: An aerial photo of the Riverdale neighbourhood in summer conditions highlighting the proximity to the river (this image does not illustrate the topographical changes moving from far left to right) (Google Earth, 2017)

The third site, End of Steel Park, is located on the south side of the river across from downtown and Riverdale and is situated between the river valley and the popular entertainment district, Whyte Avenue (see figure 5). It was designed as a passive green space to honour the end of the first railway into the city of Strathcona (which was amalgamated by Edmonton in 1912) and then connected Edmonton by rail to the cities of the south. The original train station that stood where End of Steel Park is now, was used during World War I to transport soldiers from Edmonton. To honour its previous role, sections of track and a caboose car have been moved here and provides as visual reminders of the park's former role in the community. In its current state, the park is not particularly active except for one or two festivals a year. People will walk across the park to government and education facilities about a fifteen-minute walk to the west of the park and from parking lots near the park to theatres and restaurants in the area.



Figure 5: An aerial view of End of Steel Park

These three sites make up the nested case study in this thesis. Figure 6 illustrates the relationships that each of the sites have to the river valley in central and south-central Edmonton. The rationale for choosing these areas was to explore differences in land uses, users, and ownership models and location within the city.



Figure 6: Site 1, 2, and 3 situated within south-central Edmonton

Data Collection

The data collection for this study involved four main methods: observation (Bernard, 2006); artifact and document analysis (Hodder, 2003); go-along interviews (Kusenbach, 2003); and visioning workshops (Sanoff, 2000) (see figure 7). From the onset, an inductive exploration guided the data collection and analysis. I was open to exploring the themes which emerged at each step of the process and embrace a non-linear approach to design and exploration (Strickfaden, 2006).

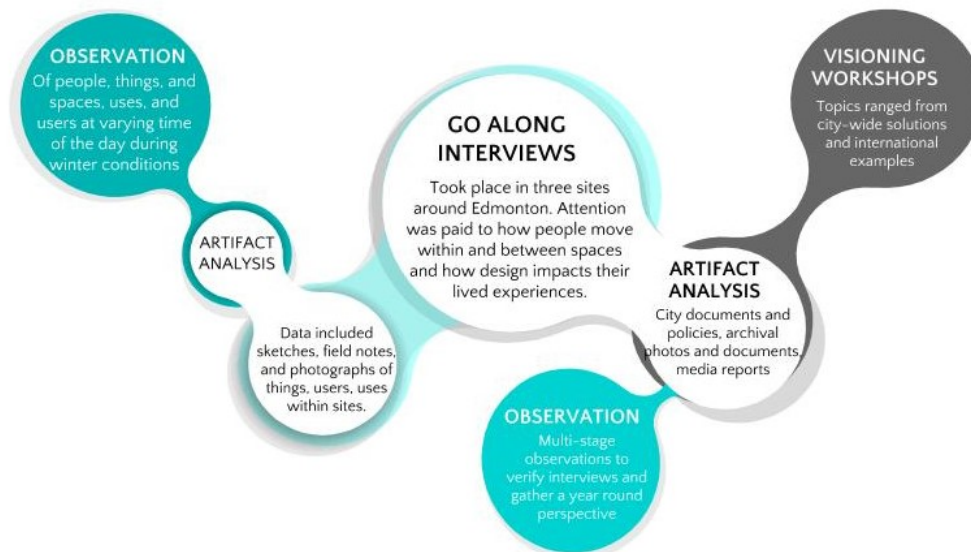


Figure 7: multiple method approach including four core methods

Observations at the research sites helped to orient me with the spaces, take an inventory of the things or objects within the spaces, and get a basic understanding of how the space might be used, who frequently visits the space, and highlight some of the prominent design features. This observation process included taking photographs of the space and design features, noting the time of day, weather conditions and how many people travel through or within the space during a particular time (see Appendix A for Observation Sheet). I recorded observations as I moved through the spaces in a somewhat random path. I wanted to move around the space in no particular path, but with the intent of highlighting many different perspectives or views, as well as interact with many different features of the spaces.

Observing the things or objects within the spaces visually was the first phase in the artifact analysis, which is common in material culture research (Prown, 1982).

My process, similar to other artifact analysis (Prown, 1982), began with a visual analysis. For example, I noted or photographed various benches or other seating, including the location and types of materials that were used (Figure 8). Evidence of usage, weathering, and repair were also considered and details were noted in my fieldnotes.

Observations were done at different times of the day and throughout the week included the number of people who passed through, and some generalisations



Figure 8: Images taken of benches over the course of the research. Dates when images were taken clockwise from top left: November 23, 2017, January 9, 2018, March 20, 2017, March 13, 2017, April 3, 2017, December 30, 2018

about who is using the spaces and for what purposes. For example, people in groups or alone, if they stayed for a certain length of time or passed through without stopping, what times are most popular during the day, etc. The users and uses of the space were the starting point of the research observations. Inspired by traditional land use planning, which links design to uses, this felt like an appropriate approach (Gehl, 1987). It is important to note that the research was not bound to the approach and observations changed throughout the research process. For example, rather than correlate space with specific uses, I became more interested in the uses during different weather conditions. In addition, physical design features were recorded and the conditions or maintenance of the design features

The act of randomly moving through a space interacting with objects and other people in a spontaneous manner encouraged a more sensorial experience (Pink, 2008), but also allowed closer analysis of certain objects and attention to my own movements that I was not aware of during past experiences within the same space. This was intentional to provide this closer analysis or different experience for me than earlier visits, similar to what might occur during the go-along interviews. I also considered other sensorial experiences, such as the sounds and smells, that might impact the experience or interrupt a thought, in both a positive and negative way, like the sounds of construction or people talking and the smells of food being cooked nearby. I wanted to interact with the things within the space beyond a visual analysis to establish a base for how people might engage with the spaces and determine how the things and interactions between humans and things impact urban experiences. I interacted with objects and things as a user and I thought about the intended uses or purpose of the things within the larger space. For example, I saw on benches, climbed stairs, used signs to navigate the space, and moved through the spaces as I traveled to different destinations. My field notes and sketches recorded my experience including physical comfort of the space or designed features, such as being cold or warm, and the emotional responses to my experience in the spaces, such as feeling safe, anxious, or comfortable, or the larger city, such as feeling disappointed due to lack of connections or surprised by certain buildings being open or not.

Document analysis took place at points when the data could be compared to municipal policies or procedures, current media reports, or archival photos, maps, and media reports. This approach took place throughout the data collection and analysis process to help me understand Edmonton's history and the priorities throughout history and the current situations.

Incorporating movement and positioning interviews within research sites was at the centre of this research for two reasons. First while ethnographic research is new to me, walking outside feels familiar and I thought other people (for example, potential participants) might feel the same way about walking around outside. As an interview process, Jon Anderson's 'talking whilst walking' method produces "not a conventional interrogative encounter, but a collage of collaboration: an unstructured dialogue where all actors participate" (2004; 260). It encourages a conversation to develop in a relaxing act of walking and draws on previous memories within this space or reminders of other spaces, emotional responses, and reflections on what people experience in the moment (Anderson, 2004). In addition to its unique approach to people-focused research and the potential for interesting data, I felt this method suited my personality because I find having conversations with new people rather easy and walking around new or familiar spaces together can provide a unique perspective to exploring spaces.

The second reason relates to the potential of eliciting memories within the spaces or elsewhere and refer directly to their immediate experience while moving through the space (Kusenbach, 2003). Because the interviews were participant-led and took place outside, there are many factors, including the weather, that impacted the length, topics of discussion, and overall experience of the interviews. For example, while we started near one of the three research sites, many participants were interested or felt it necessary to travel beyond the sites and explore the neighbourhood or surrounding areas. Through exploring the range of experiences that can occur within the same spaces, I am attempting to rethink the vast network of relationships and influences involved in designing a space. Moving through these spaces with participants slows down the conversation because we are not only talking, but also navigating through other people, the space itself, activities happening in the spaces, things within the space, and things we have brought into

the space (such as clothing, notepads, cameras, and recording devices). In many cases, the immediate experience, including how participants generally felt that day or their level of interest in the research, entangled with past experiences of the spaces we were moving through or reminded participants of other spaces and experiences. This provided an additional level of detail beyond what could be recalled in more traditional interview formats (Pink, 2008).

Participants were informed ahead of time that they were being asked to guide the researcher (myself) and there were no restrictions related to time or space. Fifteen people participated in interviews at one of the three research sites and the length of the interview or breadth of topics covered was based on the participant's interest in contributing or features they wanted to talk about or refer to during their tour. Because of this variance, the interviews ranged from twenty minutes to one and a half hours. I began the interviews with a short conversation asking how participants came to the site, if they had any previous experiences in the space, and why they might visit the space during the winter (Appendix B provides an example of a sample interview guide used at points during the interviews). Participants were then asked to lead me on tours through the sites and comment on how the design makes the space might include or exclude certain people or themselves. This concluded the 'structured' portion of the interview. Unstructured interviews, including the participant-led tours and stories, can elicit this information while building rapport and encouraging a more natural response to the interview (Bernard, 2009). In the case of this research, by asking participants to lead the tours, I allowed participants to consider the themes of winter and inclusion very broadly. Inspired by Andersen's interviewing style, I felt my role as a researcher was to respond as a member of the conversation, ask questions when I felt I wanted clarification, or provide some of my own opinions or perspectives to develop the relationship. The interviews were recorded with a portable audio recorder over the course of a 13-month data collection period. The somewhat long data collection period allowed me to transcribe the interviews at three times during the collection process. While the timing was mostly based on participant availability and to align somewhat with the winter season, it also provided the opportunity to evaluate my process and the quality of the transcripts throughout the process. For example,

listening to early interviews revealed an issue with wind, clothing, and other sounds interfering with the recording. In response to this issue, I asked participants to wear the audio recorder themselves and position it higher on their bodies to collect better quality audio recordings. In addition, I listened to the recording soon after the interview to “fill in the gaps” with my field notes or memory and made sure to jot notes of important interactions or features to ensure accuracy of this (Bernard, 2011, p. 293).

The interviews provided the inspiration for topics or themes to include in the visioning workshops (Sanoff, 2000). These workshops intended to explore how decisions are made as a group and further understand group priority making. They were not planned in traditional public consultation formats with specific questions to respond to, but rather participatory research settings (see Appendix C for the agenda of the first workshop). The focus of these workshops was a combination of the resulting design decisions or suggestions and the communicative processes between members working towards a similar goal (Sanoff, 2000). The first workshop was more exploratory, and we discussed features of cities and spaces which might include or exclude people. The conversation concluded with discussions relating specific to winter challenges or opportunities and specific design features. With a diverse range of backgrounds, professions and interests, participants were asked to reflect on their experiences in Edmonton and other cities and consider how design, planning, or governance might improve their winter experiences. The second workshop focused specifically on the three research sites in Edmonton. Participants had access to the ideas of the first group and evaluated these ideas based on the specific sites. Aerial view photographs from Google Earth Pro (e.g., see figure 9) were used and participants were asked to talk about the spaces in terms of their winter uses and connectivity from a larger neighbourhood and city scale.



Figure 9: Google Earth Pro aerial photograph for End of Steel Park and area used during the second visioning workshop (Google Earth, 2017)

Data Types

This research produced a large amount of data in a wide variety of formats. More specifically, this research gleaned its findings from a combination of photographs, audio recordings, my own sketches, fieldnotes, and participants' sketches or suggestions (see Table 1). I felt this breadth of data was necessary to represent the complexity of the human experience within a certain space and time, different ways people express themselves, and how people communicate their values and make decisions in a group setting.

In terms of the data collection process, the sketches, field notes, jottings and photographs were collected throughout the research process. Sketches helped to orient myself with the spaces and provide additional information to the static nature of photographs. I focused sketches and field notes on information such as movement patterns (such as directions and speeds of movement), details about the weather conditions (such as the presence of wind which is difficult to note in a photograph), or prominent sounds or smells. In addition, I included my own reflexive work as part of the field notes (I cover this topic more thoroughly later in the thesis). This involved my aspects of my experience in the spaces immediately after each visit to the spaces on my own and after each interview and throughout the transcription process. The field notes also assisted in the analysis phases to help remind me of the data collection and highlight areas of importance or refer to points in the data that needed more clarification in future interviews or discussions.

Phase	Date Range	Data Type	Total	Information collected from data
Observation	October 2016 to February 2018	Field Notes	15 hours	<ul style="list-style-type: none"> • Time of day • Weather conditions • Number of people • Approx. length of stay • Note if people are in a group or alone • Activities taking place (if any) • Designed objects (specific to the site and shared between sites)
		Sketches	8 pages of sketches: including maps, objects within the spaces, etc.	<ul style="list-style-type: none"> • Popular routes to walk/bike/drive • Location of activities • Location of designed things
		Photographs	208	<ul style="list-style-type: none"> • Specific features or activities taking place
Interviews	March to September 2017	Audio recording	10.25 hours	<ul style="list-style-type: none"> • Interview conversation
		Transcripts	96 typed pages	<ul style="list-style-type: none"> • Easier and quicker analysis of interviews • Improved ability to analyse through direct mark ups of text files.
		Photographs	9 photos	<ul style="list-style-type: none"> • Specific features or occurrences referred to in the interview (taking photos became a distraction from the interview and photos were not taken during interviews after the third interview)
Workshops	December 2017 to January 2018	Field Notes	7 typed pages	<ul style="list-style-type: none"> • Highlights about conversations, shifts in conversation, or particularly dominant themes throughout the workshops • Provide an additional resource in the case thoughts or ideas were not collected on the sheets.
		Mind Maps/ Participants notes	6	<ul style="list-style-type: none"> • Participant-made mind maps of thoughts and ideas • Provide an opportunity for people to come together and share ideas (but also an opportunity for domination, depending on who is holding the pen).
		Photographs	6 photos	<ul style="list-style-type: none"> • Visually record participants' thoughts and ideas • Provide better access for analyzing data
		Participant marked maps	2	<ul style="list-style-type: none"> • Suggested design features and locations; major travel routes

Table 1: Data Types

Population and participants

Along with the material culture and design components of the data collection, participants were essential for the go-along interviews and visioning workshops. Recruitment began with a combination of poster and word of mouth methods (Appendix D). Seemingly related to people's interest in talking about the weather, initial interest to participate in this research was high. However, at times when the stipulation of being a walking interview during the winter was presented, people lost interest in participating. This effect was not surprising though and corresponds to previous literature related to outdoor activities, especially optional activities (Gehl, 2002). Walking around outside in the winter for no apparent reason (especially without a personal connection) was considered easy to refuse and supports the idea that weather influences people's decisions to participate in optional activities. Because of this, it is likely that people involved in this study had a certain passion for the subject or wanted to share and have their perspectives contribute to research. Initial recruitment targeted community members from anywhere in the city and people who worked in planning and design at the municipal and provincial level; from the initial participants, snowball sampling was used. The process of participant involvement occurred with either contact being made through invitations or participants contacting the researchers and expressing their interest in participating in the study. A summary of the participants of this study is shown in table 2 that also illustrates if and how they have urban planning experience and whether they had been to the study site before.

Participant	Location	First time experiencing the space	Position in the community or urban planner	Length of Interview (hours: minutes)
1	Churchill	No	Member of the Public	0:40
2	Churchill	No	Accessibility Advisor	0:30
3	Churchill	No	Planner	1:45
4	Churchill	No	Planner	1:00
5	Churchill	No	Planner	0:45
6	Churchill	No	Planner	0:45
7	Churchill	No	Planner	0:20
8	Riverdale	No	Resident/Community League Member	0:45
9	Riverdale	No	Resident	0:30
10	Riverdale	Yes	Member of the Public	0:30
11	Riverdale	Yes	Member of the Public	0:30
12	End of Steel	No	Member of the Public	0:30
13	End of Steel	Yes	Planner	0:30
14	End of Steel	No	Resident/Community League Member	0:45
15	End of Steel	Yes	Member of the Public	0:30

Table 2: summary of the participants interviewed

After being made aware of the details and agreeing to participate (either by phone or email), participants were asked to select the site they were interested in ‘touring’. Most people selected sites they were familiar with, while others asked me to select the sites and, most often, I would delegate a site with lower levels of participation in an attempt at collecting a fair representation between all three sites. In the end, there were more people interested and with access to Churchill Square and a few more interviews took place at this site because of this.

Data Analysis

Similar to the data collection techniques, data analysis involved a mix of visual, textual, and analytical methods, including artifact analysis, multiple readings of field notes and transcripts, coding, writing memos and generating themes and categories. I approached the analysis with a three-pronged, grounded theory inspired approach: transcription, thematic analysis and writing. Because of the inductive and iterative processes involved in this research, data analysis was sometimes integrated into data collection without following a particular timeline of activities. For example, transcribing in stages, having access for multiple

observations throughout the entire process and in some cases reacting to changing city policies or events over the course of the research⁹.

Transcription

I transcribed the interviews verbatim using a voice recognition program (Bernard, 2011; 171) and typing and time-stamping the transcript. The transcripts were then edited and cleaned for easier analysis. Transcribed text was read again while listening to audio and read several times. Throughout this process, audio tracks were paused to take notes about initial comments and highlight interesting statements or themes (similar to memoing, Bernard, 2011). These notes included potential connections or similar topics to other participants, whether or not a photo would help describe the point being made, and questions that came up while reading the transcripts.

Thematic Analysis

Thematic analysis began with the transcripts and then into artifact analysis, field notes or sketches and photos. Connections were made between the notes that I made, the photos, and comments that came up during the workshops. Coding began with highlighting quotes and colour coding the interviews for similar ideas, processes, or categories. The transcripts were colour coded based on the initial themes based on my interpretations of what people were saying. Following Prown's material culture analysis (1982), my observations and descriptions led to speculations based on my own cultural beliefs and biases. People's values of a particular thing or the entire space can be indicated by levels of maintenance and wear or use markings and this analysis sought to reflect the values related to the topics. In some cases, I was able to find quotes or images from either the interviews or workshops to support my notes and sketches and provide the voices or reasons that are missed in observations.

These emergent themes were then interpreted to create categories which relate to the conclusions presented in the following papers. The memoing recorded beside particular quotes or topics (or concepts) was gathered into theme clusters

⁹ Over the course of this research (2+ years), the sites may have undergone small or large construction projects and winter specific policies at the administration level may have changed.

and inspired the initial coding. The theme clusters represent relative phenomena in order to combine different perspectives and find common ground between participants and research sites. I used a colour coding system to differentiate between themes and translated the colours into a spreadsheet compiling quotations into themes (a sample of the colour coded spreadsheet is provided in Appendix E). A similar theming analysis took place for the photographs and marked maps and comments provided during the workshops. To begin with, the exemplar quotes, related photos, and my comments were compiled without dividing the data based on research site or location. The first article (see chapter 3) written in relation to this data benefited from this holistic perspective and Edmonton generalisations. Because the second article (see Chapter 4) compares three particular sites, the data was reorganised according to interview location. This allowed new themes to emerge, more specific to the site, but also indicated some shared themes with the more generic Edmonton experience. The final list of themes incorporated data collected through primary and secondary research and was became

From these initial themes, I began to consider broader categories (see Appendix F) and related the themes specifically to the research question and issues of inclusion and exclusion in urban spaces during winter conditions. These broader categories provided the impetus for the writing and inspired the overarching conclusions that synthesized the research methods and various data types.

Writing

The writing process was the final analysis phase. I began writing for the purpose of presenting my process and findings at conferences and presentations. Presenting and talking about the research was intentional to allow me to flush out ideas, come to a better understanding of the findings, and simplify the language surrounding the research. The initial themes, and the related spreadsheet, took several drafts as I adapted my perspective and developed the ideas in relation to themes that emerged through my thinking, writing, and sketching. In particular, mind mapping and sketching felt especially important to simplify the writing, combine the writing with imagery and visual analysis and illustrate the connections between terms. This process was also supported by confirming the research and receiving feedback throughout the process. In my opinion, the analysis phase can

only venture so far before the data must be translated into writing. Thus, by incorporating writing early on in the process, I felt more comfortable with the direction of my analysis and was able to communicate my process with others, including my supervisors, participants, and conference attendees, during the journey.

Confirming the research

Confirming or validating the research in terms of the topics and results occurred at a couple of different levels. Firstly, using a combination of methods allowed for a cross-analyses and triangulation of the data. At the same time, triangulation, while important to ensure a degree of rigour, it held less weight for this analysis. As I followed themes shared between multiple participants, I also recognised the opportunity for multiple themes to overlap, a common feature in material culture analysis (Prown, 1982) . While my spreadsheet approach did not necessary visualise the overlapping, mapping the themes visually did illustrate the connections and relationships between factors that impact people's experiences (see Appendix G). In this way, I was entangling the themes to construct a shared narrative of lived experiences in Edmonton. Through this process, the themes became linked to certain generalisations about the spaces and of Edmonton as a whole. For example, most of the participants in this study did not identify as a pedestrian or driver, they were both. Their experiences are difficult to disentangle from their mobility, which depended on many other factors, including the activity, the location, and the weather. My initial code for this segment of data related to mobility was transportation. It evolved into connectivity, which relates to physical access, knowledge about the roadways and transit systems, and people's physical and social comfort in urban spaces or their ability or interest to access or engage with certain spaces.

I also presented the methods and preliminary themes at conferences to receive feedback from other professionals in similar fields. Each presentation was another form of analysis to confirm the research and the direction for data collection and analysis. The focus of presentations changed based on the conference themes or where I was in the research process. And in many ways, these presentations also reconnected me with the data and inspired different ways to

communicate the research. Most of the feedback coming from the presentations and conversations was directed to questions about specific challenges in Edmonton, such as the economy or weather, reflecting back on their own communities and how similar approaches might benefit spaces around their communities. Critical remarks came in the form of climate change related questions and the need for winter city planning that considered global warming. This feedback was appreciated and supports the need for more nuanced urban planning and design throughout the year in general planning and design and more adaptable cities as the climate changes around the world. As I presented the research, my attention to different areas or themes changed and new findings were discovered. Reflecting on my process also suggests that the value of this research has many applications including specific policy and procedural suggestions and to processes of problem finding or solving or involving a design process approach to research.

A Reflexive Practice

Having lived in Edmonton for almost ten years and growing up in the bedroom community of Gibbons a half hour drive north of Edmonton, I know my way around the city. This is where research and lived experience begin to entangle. Reflexivity in this study refers to the process of understanding how I (the researcher) is involved in the participant's perspective of place and their experience (Pink, 2008). The approach to research and the research process itself is tied to my own experiences and the immediacy of myself being in the place being researched (Pink, 2008). More and more scholars, especially those studying material culture, acknowledge reflexivity as a key part of their research (e.g., Hodder, 2003). The tradition of conducting my research reflexively means that along with listening to other people's stories about Edmonton as a winter city, I am simultaneously reflecting upon my own experiences and recognising how my opinions and presence is influencing how data is collected, analysed, interpreted and written. My experiences in the urban spaces cannot be eliminated and my process of being acquainted with certain spaces and learning about city processes and perspectives will contribute to the research. Over the past five years of being interested in winter city planning, and on a more a more general level of living in similar conditions as the participants, I have become more aware of the deficiencies, opportunities, and

success stories in the city and my opinions and assumptions for certain spaces and the city that participants may pick up on, will influence their responses to spaces and how I interpret what people say or do. In particular, my choice of methods and analysis relate to my interpretation of the issues and data (Hodder, 2003). As the interpreter of material culture within the spaces, I am making assumptions about use, or users, based on the silent indicators, including wear markings, soiled areas, or evidence of repair. If I limited my research to the material culture, a more in-depth analysis of specific features or smaller spaces may provide some conclusions about users, uses, or limitations based on design. However, by expanding my research to include observation, interviews, and visioning workshops, I can confirm my interpretations by watching how people use the spaces, asking them about their experiences, and explore what the spaces can afford in terms of winter users and uses in the current form and into the future. In this case, my influence on data types indicated a certain trajectory for the research that is design informed but also interested in the policies influencing the spaces and the city. As an exploratory study, I felt this research was an opportunity to incorporate multiple methods for data collection, different types of data and my own reflections relating to the topic of inclusion and exclusion in urban spaces during winter.

Limitations

There are certain limitations related to the methods and the approach used in this research, specifically in relation to the generalisability of the results. Exploring the lived experiences of participants and participatory methods through visioning workshops meant that quantitative statistics were not considered and there was also a seasonal aspect that put additional pressures on the timing of interviews. The weather conditions associated with winter (such as snow, ice, and cold temperatures) are impossible to predict or plan interviews according to the weather. At the same time, this limitation supports the lived experience of the participants and that a winter lens is not always limited to winter-specific weather. The unpredictability of winter provides unconsidered opportunities for the season, such as unexpected warm periods and sunny afternoons. In addition, because the interviews were participant-led, I felt that my role as an interviewer had less influence on the data, but also relied on the participants to provide a direction for

the walk and topics to guide the conversation. This led to different interview lengths and coverages, ranging from twenty minutes to an hour and a half and different directions of travel around the sites and surrounding areas, if participants chose to move into surrounding areas. In addition, the quality of audio tracks depended was impacted by exterior noises, including other people, traffic, and wind. As a result, the influence on analysis varied between participants, which could lead to missed perspectives on certain topics. Although many topics were probed during this research, the range of topics offered by participants were extremely varied based on their idiosyncratic interests, opinions and insights.

Another limitation relates to the demographic information of each participant. An understanding of the contextual situations requires an analysis of the socio-economic perspectives, cultural histories, and intangible relationships between individuals, spaces, and specific places (Mehta, 2014). Part of the intimate perspectives of users and uses, such as income level and cultural background, were not specified in this research. For a more explicit analysis of the lived experiences and the potential influences on these experiences, including this degree of detail may be recommended for future research. For this research, the case study provides general processual suggestions and potential methods to integrate different perspectives to consider when designing spaces for cold climates. Inclusion has the presumptions of being for everyone and, while more nuanced data would have proved this, I felt there was value in adding the lived experience from a general perspective to the broader inclusion conversation.

Finally, the data represents a limited group of people and was collected using qualitative methods. Thus, the ability to make sweeping statements about most Edmontonian's experiences of inclusion and exclusion during the winter is impossible. Quantitative statements were not a goal for this research. I was interested collecting specific stories and investing the time in recording the experiences of a limited number of people rather than the experience of many people. However, general opinions related to experience in the form of surveys, mapping or tracking movements of many people, or polling people about their opinions can expand this research with similar themes in the future.

Summary

The methods for this research relate to my interdisciplinary approach to research in general and the topics presented in this thesis. A nested case study and multiple method approach is taken that is largely explorative resulting in rich data that is relative to participants, three sites within the city of Edmonton, and visioning workshops considering how a group comes to a decision or communicates common or different interests. Although the research in this thesis has been inspired by research frameworks and in accordance with certain timelines, a non-linear design process emerged that included many drafts and reflections on the previous literature and the data that resulted from this work. As a reflexive researcher, I strived to orient myself within the research process in ways that are used within material culture. Additionally, as a designer, I appreciate the opportunity to re-orient the findings and my own perceptions based on feedback from other people. The variety of data collection included spatial observations, material culture analysis, document and policy review, go-along interviews, and visioning workshops and contributed to a wide breadth of exploring the complexity of inclusion or exclusion and winter experiences in Edmonton. Furthermore, using a nested case study allowed a closer analysis of three Edmonton spaces and the larger city. At the same time, the lived experiences of people are uncontained allowing people to refer to other spaces, walk beyond the perceived boundaries of the research sites, and reflect on their memories in relation to the immediate experience. To sum up, the process of completing the research, including data collection and analysis, was inspired by both my personal interest in non-linear and reflexive research and providing opportunities to highlight the complexities involved in topics such as these. People's experiences, especially related to the fluid nature of inclusion, ability or comfort, the unpredictability of weather, and the evolution of urban spaces, cannot be summed up in a neat analysis or conclusion. Rather, as I have presented in the following articles, embracing a more entangled perspective to the research process, in addition to urban spaces and the people or variety of uses that can exist within a space and a city, can emphasize the potential changes for more positive winter encounters and experiences.

Chapter 3:

Planning and Designing Cities for Cold Climates: Lessons from Edmonton¹¹

Abstract: Drawing on case study research from Edmonton, Canada, this article outlines some of the concepts that drove earlier planning targeting cities with cold climates, or so-called winter cities and provides a re-assessment about the theme of winter cities in general. Qualitative analysis of fifteen go-along interviews, two visioning workshops, analysis of media and policy documents, and site observations reveals how Edmonton has ignored, accommodated, or embraced the climate and weather in its physical design, planning, and governance. More broadly, the results suggest that many of the challenges related to living in Edmonton are not related to the harsh climate, but rather poor planning and governance traditions are significant to the experiences of the city, regardless of the season. Focusing on the lived experience indicates the need for better connectivity throughout the city and flexible spaces that can adapt to different users and use requirements. This research supports earlier climate sensitive planning recommendations and provides qualitative evidence in favour of context-based, citizen-informed city solutions.

Keywords: winter city planning, lived experience, northern planning, urban design, urban governance, cultural and economic context, seasonal adaptation

Introduction

This article reviews early planning and design proposals for cities with cold climates and the more recent development of an international “winter city” community. Winter is a challenge for people in most Canadian cities. Cold temperatures, excessive snow accumulation, and low levels of daylight influence all parts of our lives, including our mental health, social lives, and economic opportunities (City of Edmonton, 2016; Hjorthol, 2013; Pressman, 1995). In response to this reality, academics and professionals have come up with innovative design and architecture solutions (Matus, 1988; Pressman, 1996). Edmonton is considered one

¹¹ This article is intended to be published in: *GeoForum or International Planning Perspectives*

of the coldest large cities in the world (Pressman, 1985b) and with a growing population of over a million people, planning spaces to accommodate people and encouraging positive engagement with the season is critical to attracting and sustaining an increasingly mobile workforce. There is a need to explore reasons for resisting winter friendly guidelines, while also evaluating the impact of winter friendly spaces on everyday life and how to integrate winter planning principles in the design, planning, and governance of the whole city.

Coming from an interdisciplinary perspective on research design, I used qualitative data to explore what factors impact the inclusion/exclusion of urban spaces, paying special attention to winter conditions . A multi-method approach was developed to gather a range of experiences and a broad data set. Observations focused on recording the potential users and uses along with the physical design and current interactions maintenance of urban spaces in and around Edmonton. Go-along interviews confirmed the observations and allowed a dialogue between myself and the participants about their experiences while moving through the areas. The immediate responses were recorded alongside the memories or reflections on the space and the entire city. The visioning workshops were used to explore potential design, planning, and governance interventions to improve the quality of winter life in the city. The findings point towards areas of city planning and design that ignore the winter experience and opportunities to capitalise, both in financial and livability terms, on the season, or variety of seasons, in general. There is a shared negativity to the season based on physical comfort, but also related to inaccessible, or not enough, winter destinations.

Exploring these issues is worthwhile for the following reasons. First, it relates to the prevalence of relying on experts or academically derived winter design and an overreliance on interior spaces. Urban planners, architects, climatologists and other scientists rely on modeling environments to achieve quantitative values and assess or compare different spaces (Bosselmann, Arens, Dunker, & Wright, 1995; Eliasson, 2000; Jaffe & Woloszyn, 2013). The results from the modeling inspired principles for development based on wind patterns, temperatures, sun exposure, and other calculations translated into guidelines, manuals, and bylaws (City of Edmonton, 2016; City of Fort St. John, 2000). While this analysis is important

as a basic understanding for how the built environment and climate interact, there are also inherent assumptions about peoples' behaviours, attitudes, or responses to comfort. Assuming everyone experiences comfort the same negates the cultural element and dynamic nature of people's response to climate (Hitchings, 2011). The unpredictability of weather contributes to adaptive behaviours, such as carrying an umbrella or wearing layers, which are behaviours that develop over time and only if people are exposed to the varying conditions. Russell Hitchings' review about human's experience of temperature suggests relying on development with climate controlled, comfortable environments, such as those in promoted in current winter city design, contributes to less willing and adaptive behaviours and an increased reliance on interior spaces during winter conditions (2011). Yet, recommendations for winter urban design and planning often focus on extending interior space and protecting people from the elements, to the point of no contact with the weather (Pressman, 1989b). And while protectionist design does benefit people in extreme weather conditions, avoiding the weather and going outside in the long term can contribute to social isolation, lower levels of physical activity, and other health and wellbeing concerns (Pressman, 1995; Hitchings, 2011; Hjorthol, 2013). These protected walkways, indoor corridors, or large shopping centres are common solutions for cold weather cities, particularly in North America. The research herein references the impact of these earlier solutions on people's everyday interactions with these spaces or not because these are prevalent solutions. In some situations, the opinions surrounding these physical design solutions relates to a larger opinion about the city at large and how people have adapted to behave or move around the city. In addition, observations and object analysis, of people, actual spaces, or things within spaces can indicate how people use or interact with designed things, spaces, and cities.

The second reason relates to the need for context-based solutions and the ability to make changes based on the current landscapes of a city. The influence of the built environment on the microclimate and on designing buildings accordingly is a well-known field of study (Erskine, 1968; Pressman, 1995; Olgyay, 1963). However, a pleasant microclimate does not correlate to a successful winter urban space (Li, 1994). The experience of public space involves physical concepts, such as weather or

design features, and abstract concepts, such as memory or sensory experience (Kusenbach, 2003; Pink, 2008). Because these experiences are also subjective, integrating abstract concepts into tangible spatial design features or program planning is difficult (Erskine, 1968). An exotic space may be photo worthy, but it only becomes a successful public place if the impact persists beyond the first impression. Designing spaces for tourists can be an easier feat than designing a successful place that attracts and engages citizens over time and throughout the year (Montgomery 1998). This includes acknowledging the physical histories, cultural contexts, and planning landscape of the immediate space and the larger community. The context of a space consists of the legacies of the past decisions, the current users, and the projected uses for the future.

In some cases, urban planning can be seen as solving similar problems, such as growth, transportation, or walkability (Davies, 2015; Montgomery, 1998). Therefore, solutions can be shared between cities. This was often the case for younger Canadian cities. However, this shared knowledge does not consider the significant differences that may occur. In addition to a completely different climate, the cultural, economic, and governance traditions can vary dramatically from place to place leading to designed spaces that can be misunderstood by the people who live there. And the potential for more issues in the long term. For example, debating between designing spaces that relate to the people who live there and social or cultural histories and the physical landscape or waiting to modernize rather than maintaining heritage properties (both significant issues in this case study). A context-sensitive city requires planning and design innovations to vary between cities. Therefore, while design features can be shared or inspire different cities, how or where particular features are implemented will depend on who currently uses the space and what the uses are, but also how the community and city relate to the space, including both tangible and intangible elements.

The third reason refers to the economic impacts of people not feeling physically and emotionally adapted to their city . With technology advancements leading to more mobile populations, a cold climate is a deterrent for employees who have a choice of where to live. While this research does not study the economic impacts of cold climates directly, it does shed light on elements of winter livability.

Winter livability in early winter planning discourse was interpreted as protecting people from the harsh climate. However, more people are moving into cities with less harsh climates, but these cities also experience winter conditions.

Accommodating employees is still a concern for industries and has extended to more southern cities where winter exists, but where the climate is much milder than the far northern regions of the Arctic. The design solutions for the Arctic regions are not suited to the milder temperatures and unpredictable seasons of the more highly populated cities in southern Canada. The introduction of climate sensitive planning and design utilises design and planning to mitigate climate-based limitations to economic growth.

This article is organised into four major sections. The first section provides some background into the topic. This includes how winter planning and design have evolved over time and some of the dominant design proposals and individuals engaging with similar types of design and planning. The second section describes the methods and guiding perspectives involved with this study. Section three describes the findings from this study beginning with a scan of the state of winter planning on an international, national (Canada), and local (Edmonton) scale. The conclusions specific to the case study in Edmonton are written in the fourth section. These conclusions are divided into three parts: in terms of planning legacies that contribute to the current everyday experiences; how the city has/has not prioritized winter through planning and financial investments; and the impact of narrative, branding and marketing on the city's identity as a winter city. The final section of the article outlines broader conclusions gleaned from this research and the implications to design, planning, and governance.

Background: The beginnings of winter architecture, planning, and design

A close attention to the impact of climate on behaviour started the conversation around alternative design, planning, and architecture for colder climates. In 1963, Victor Olgay proposed that climate “strongly affects the character of plants and animals in different regions and—most important from our point of view—man’s energy” (1963, p. 7). Physically, our metabolisms adapt to

changing seasons and the availability of resources, and how we adapt influences our emotional and physical wellbeing (Olgyay, 1963). The concept of room temperature developed from these perspectives and began to influence planning and architecture throughout the mid twentieth century; access to sunlight and regulating wind were the first climatic factors to consider, with the goal being stable environments in a comfortable temperature range in any region (Erskine, 1968). At the time Ralph Erskine traveled around the world designing and evaluating northern urban design, he saw cities or towns designed and built with little inspiration beyond what was functional and allowed people to survive in cold climates (1968). In his words, these communities lacked the “local flavour of the north” that contributes to a space becoming a place (Erskine 1968, p. 166). Erskine’s designs tried to reflect the “seasonal rhythm of the north” and involve the “people in the climate” rather than design for them (Erskine, 1968, p. 165). There was an over-abundance of survivalist architecture and no acknowledgement of the beauty in nature (Erskine, 1968). Both Erskine and Olgyay recognised the need to design with climate, rather than to replicate development and policies from other cities with largely different climates. More recently, for Norman Pressman, a proponent of the winter cities movement throughout the 1980s and into the 2000s, tolerating and accepting winter relied on reducing winter-specific discomforts, such as cold temperatures, wind, and isolation (1995). His suggestions included physical changes to the space, such as building orientation and heights, but also improving winter life through festivals and reconnecting with the outside world through naturally derived solutions (Pressman, 1995). The northern proposal designed with the basis of preventing wind and harnessing the sun through orientation of buildings and using height to create a wall of protection are the basic principles of climate sensitive planning today.

While early adopters, such as Erskine and Pressman, saw opportunities to embrace the winter with climate sensitive design, planners, developers, and governments did not adopt the perspective to an extent that would make a difference on the lives of winter city dwellers (Eliasson et al., 2007). North American cities developed and expanded quickly in the mid-twentieth century with a focus on efficiency and accommodating growing populations. Car-dominant, protectionist

planning traditions were considered the solutions for climate challenges and efficient transportation was high priority for many cities.

On the other hand, Erskine, and others, saw opportunities in design for a more human and culturally informed approach (1968). This included the ability for people to develop emotional stability or connection and establish some sort of culture beyond the basic needs for survival in colder climates (Erskine, 1968). Pressman's belief of a common northern identity suggests that how we identify with the seasons is not only individual, but also societal and cultural (1995). For example, images of saunas and steam are ingrained in Scandinavian culture and essential to Finnish identity (Zabinski, 2014). Homing in on the symbolic perspective of seasons or contact with nature can peak people's interest and improves the sense of belonging to a larger group experience (Pressman, 1995). This belonging and adapting to the climate through behavioural and cultural changes influences people's perceptions of the weather and relationship with the season. For example, positive associations, both physically and culturally, contributes to more positive experiences (Hitchings, 2011). North American cities rarely reflect the beauty of the natural environments (Erskine, 1968). Successful winter cities utilise design and planning to rediscover a relationship with nature and to cultivate a cultural symbolism. Natural features of the city are linked with residential features and integrated into commercial and retail to enhance the lived experience throughout the year (Gehl, 1992). The perspective moves beyond the microclimate and harshness of winter conditions and begins to highlight the beauty of the season and encourage a connection with the season and the community.

Moving people into the Canadian winter

For many people, Canadian winters evoke images of snow-covered expansive land masses with little development and darkness enveloping the few people who live there (Pressman, 1995). This northern identity became internationally recognised and the northern exoticism continues to lure people into the country today (Pressman, 1996). Instead of representing the experience of people who live in Canada, the winter, illustrated in these images, is experienced by very few people living in the regions north of the Arctic Circle. Over 85% of Canada's population lives in what are considered to be the southern parts of the country with

milder winters, larger cities, and diverse geographical landscapes. Still, while most Canadians are not isolated in the darkness of winter, almost every Canadian city is, according to Norman Pressman, considered a “winter city” (1985a).

Canada’s experience with cold climate planning and development is limited to communities in the far north. In many cases, development proposals for northern communities near the arctic circle in the 1960s reflected the ideas of European and Soviet architecture, most notably fortress type walls to protect from the wind and capturing the sun with buildings shaped as half circles. Select northern communities were supported by the federal government and received complete town plans, often consisting of moving the current population and constructing new facilities above ground to avoid issues with the permafrost and provide similar infrastructure of a southern Canadian community (Farish & Lackenbauer, 2009). Unfortunately, these communities embodied the reality that Erskine saw and lacked a connection to culture identity, a component crucial to any successful community (1968). However, Canadian communities were more complicated. Erskine involved the people of Resolute Bay in creating the development proposals, but implementation of the plan failed for other reasons. Misunderstandings about the political histories and subsequent strained cultural relationships that were difficult to understand for planners and consultants coming temporarily into the area. In addition to economic changes and government hesitation, no complete town plan was adopted, and these communities are barely surviving today (Farish & Lackenbauer, 2009).

For Canadian cities in the southern region, such as Edmonton, and with rapid growth in the early to mid-twentieth century, accommodating residential needs and automobile traffic was often a goal (S. Low & Low, 2018). In the early 2000s, urban populations continue to grow and cities with cold climates and winter conditions are welcoming people from all over the world (Davies, 2015b; Laruelle & Hohmann, 2017). This has motivated a shift towards more winter friendly development in the form of sharing best practices with a national and international community of so-called winter cities and supporting winter festivals and winter tourism.

Introducing the Case Study

Located in Alberta with a latitude of 54 degrees north—the same latitude as Moscow—Edmonton has annual average highs of 8.5 degrees Celsius and snowfall averages of 115cm and is one of the coldest cities in the world (Pressman, 1995). While other Canadian cities, in particular those along the Atlantic Ocean, receive higher snowfall levels, Edmonton’s prairie location and latitude make it considerably colder than most Canadian cities. In 2018, Edmontonians lived through 167 consecutive days with temperatures below 0 degrees Celsius. As North America’s most northern city with a population over one million people, designing spaces for people to enjoy during the winter can be crucial to the livelihood of Edmontonians, Edmonton-based businesses, and people moving into the city. Like other North American cities, tangible, winter-specific development is limited (Eliasson, 2011).

However, recent shifts in the attitude and approach to the winter and cold climate illustrating the potential of innovative planning and design. *Winter City Edmonton* is the City of Edmonton initiative aimed at promoting positive winter experiences in Edmonton. What began as a council initiative has grown into hosting multiple winter city conferences and publishing a *WinterCity Design Guidelines* document to encourage more winter-positive growth in and around the city (City of Edmonton, 2016b).

In addition to the city administration, community leagues play an important role for promoting positive winter experiences. As a unique element of civic governance, one hundred and fifty-seven community leagues are located throughout the city and consist of volunteers who live in the specified region with an interest in community planning and advocacy. City administration is expected to consult the community leagues on proposals for the community or issues that might concern the particular community or the larger city. The community leagues can provide infrastructure, such as a community hall, garden space, or outdoor skating rink, and is responsible for funding (through operating and projects grants offered by the city) and maintaining the activities and programs offered.

Limitations of the Case Study

The research herein is limited to regions without permafrost or extreme winter conditions. The permafrost and deep winter poses challenges beyond the scope of this research. At the same time, the background literature does refer to communities north of the Arctic circle because most of the research comes from these areas and these proposals provide inspiration for specific design features or planning regimes to consider in locations with warmer climates. However, most winter specific design or planning does not make this distinction and instead assumes a “winter city” definition that includes cities within a certain prescription of climate and weather related factors (Pressman, 1995), rather than considering geography. In my opinion, this perspective fails to consider the complexities of the frozen ground and what constitutes as urban development in different regions. The research herein continues the work of Royle and focuses on people living between the 40th and 60th latitudes (1985). Through limiting my research to a particular region, the results can be more readily applied to cities with a similar climate.

This is not suggesting that far north regions are not impacted by poor urban design. In fact, communities located in the farther north often have very low, dispersed populations, which creates additional urban design and land use challenges. This is a topic needing more research and while the results of this research may apply to these communities in terms of research approach and methodology, closer attention to the unique historical contexts and relationship between climate and lived experiences is necessary for a complete analysis.

Methods

Data collection took place between March 2016 and January 2018 with varying weather conditions including seasonal winter condition, such as snow and wind, to unseasonal conditions, including melting snow, warm temperatures, and sunny skies. A multiple methods approach to data collection involved observation (Bernard, 2011), archival photos and policy document review (Hodder, 2003), go-along interviews (Kusenbach, 2004) and visioning workshops (Sanoff, 2000). The data set included field notes and sketches, photographs, transcripts, participant-developed mind maps and notes and participant marked aerial view maps.

Observations took place before, after, and during the interviews in each of the three research sites and focused on the length of stay, if people came in groups or alone, the time of the day, and weather conditions. A visual analysis of design features, including things such as benches or other seating features, ground surfaces, lighting, public art and signage, was also noted during the observations. To access the immediate experience of space and associated memories, I conducted go-along interviews with fifteen people involved in planning and design, as well as community members living in Edmonton. I asked participants to lead me on tours through one of the three spaces and comment about whether they had previous experience within the space and their perceptions of features that might include or exclude themselves or other people. Similar to other research involving talking and moving, memories of this space or comparisons to other spaces were intertwined with the immediate experience, the weather conditions, and other people within the site (Carpiano, 2009; Pink, 2011). To record a shared perspective on the topic, two participatory-style workshops (Sanoff, 2000) were held after the interviews and reflected on general themes brought up during the interviews. The workshops were moderated with guiding questions and participants provided input as individuals and in groups. The first workshop explored what factors should be considered for functional winter cities and what can make winter cities more inclusive. We discussed people's individual experiences and the difference in uses between summer and winter conditions. The second workshop homed in on how design can help Edmonton be a more inclusive and welcoming winter city. Participants had access to the ideas of the first group and evaluated these ideas based on the research sites used for the interviews. Aerial view photographs (from Google Earth Pro) were used and participants were asked to talk about the spaces in terms of their winter uses and connectivity on a larger neighbourhood and city scale. Books, publications, reports, and guidelines provided the basis for collecting the international context. In many cases, books written about winter cities and winter design come from an international community of contributors and are published internally by this community (J Manty & Pressman, 1988; Pressman, 1985b). And in some cases, included Edmonton-based research. Archival photos illustrated what life was like during the time the city grew and changed. In particular, I was interested in

photos taken during the winter to see what sort of activities and locations might have been popular in the past.

Analysing the Data

The analysis of this diverse data set began by grouping the data into shared themes relating to the design, planning, and governance of spaces and cities. Themes, such as design, mobility, emotional responses, ownership, and physical accessibility, were compared to city policies or discussions specifically regarding winter conditions. More specifically, the photographs and sketches, interview transcripts, and maps annotated during the workshops were coded based on themes related to winter weather or inclusive experiences. These general themes were specifically derived from the data and preliminary findings were written and presented in a variety of ways to collect feedback and verify the direction of the research in general. Broader perspectives and interpretations on the themes pointed towards the potential for design, planning and governance to improve the experiences, which were recorded as findings in the following sections.

Findings

The initial results indicated that the experience of winter had little direct relationship with the city decisions. Rather memories of place and the immediate experience, including other people in the space and the weather, had a greater impact on the lived experiences. However, with an interest in a more holistic experience, the impact of design and planning traditions cannot be ignored. The results presented in this article provide a snapshot into the role of design and priorities that contribute to useful, winter spaces. The findings begin with presenting a more detailed story about winter specific design proposals

The Evolution of Winter Specific Design

Winter-specific design is a rather new field in architecture and planning. Human settlements in cold climates were sparsely populated and the desire or need to design buildings and communities for these areas was not a concern until governments began to recognise the value of resources and unclaimed land masses. The earliest winter design innovations can be traced to the urbanization of the Soviet Union after 1922 (Jull, 2017). Similar to North America, the Soviet Arctic was

previously unceded territory and governments sought to quickly develop and settle these areas. In particular, the city of Norilsk was considered an experimental city for many winter/northern innovations and began large scale residential development in the 1940s (Bond, 1988; Jull, 2017). Tall apartments forming walls surrounding the city and narrow pedestrian corridors prevented snow from piling up along streets. Concrete piles were driven deep into the permafrost to build taller buildings without the burden of melting the permafrost below. The final step was the introduction of the microrayon—protected, residential enclaves where services, shops and other everyday necessities are located within walking distance (Jull, 2016). The microrayon community plan was considered the perfect plan for communities solving climate and distance issues and architects incorporated it into other cities (Jull, 2017).

Around a similar time, architects in Scandinavia and Alaska were also beginning to consider winter appropriate designs. For example, Erskine’s ‘windscreen building’ was similar to the apartment walls and wrapped around the northern perimeter of a city providing protection to the area within in (Pressman, 1995). An alternative to the walled cities was completely enclosing a portion of the city under a dome. Beginning around 1960, one of the first dome proposals was Buckminster Fuller and Shoji Sadao’s dome over Manhattan; the intention being to control the climate, avoid issues related to snow removal and, somewhat convenient at a time when nuclear tensions were high, physical protection from nuclear fallout (Diaz, 2011). Another well known dome proposal followed the discovery of oil in Alaska in 1968 and provided the need to house 40,000 people moving into the area for work and into a very different environment and climate. This dome would house a 20-story tower to allow people to move through the city and avoid contact with unfavourable weather conditions. Across the Atlantic, the “Arctic City” dome encompassed an area with a two-kilometre diameter and also intended to house 40,000 residents (Jull, 2016). Because it was not designed for a specific site, the Arctic City could be transplanted into any location across the Arctic, a seemingly innovative and appropriate solution for the large open spaces of the north. More recently, proposals show the dome as solving problems of excessive heat and pollution in Dubai and Shanghai. While images of winter utopias and endless snow-free days caught the world’s attention and many dome proposals won design and

architecture awards, none have been implemented on a large scale. Instead, smaller scale options have provided similar solutions around the world. Large indoor shopping centres were a development phenomenon in North America, glass ceilings and other covered pedestrian pavilions are found in Sweden and moving underground for winter months is a solution in Canada and Japan.

Planning and design knowledge for cold climates has been growing steadily since the 1980s (Pressman, 1995). The *Winter Cities Institute* emerged from a common understanding of winter experiences and an interest in sharing solutions for weather-related challenges (Coleman, 2018). Throughout the 1980s and 1990s, the international community of municipal leaders, architects, planners, engineers, parks professionals and chambers of commerce and economic developers came together with the shared commitment to improve the quality of life for people living in winter cities (Coleman, 2018). These conversations evolved into international conferences, guidelines for best practices, publications and manuals educating people about winter focused urban design and planning, safe and appropriate winter clothing, and activities or events to help people celebrate the winter season. Winter design guidelines are the most recent developments for planners around the world, including Edmonton where our case study takes place. For the most part, these guidelines are inspired from climate sensitive planning perspectives favouring wind protection, harnessing solar energy for heat, colourful exteriors, creative snow removal and storage solutions, and cultivating positive winter culture through events and festivals (Urban Systems, 2000; City of Edmonton, 2016). In each of these cases, the unique climates, geographies, and cultures are addressed before providing a set of design guidelines or suggestions for future development.

Winter-specific municipal policies and design

Winter planning at the administration level is often limited to a combination of snow removal and road maintenance decisions. Often these policies prioritise high use roads, emergency and transit routes first and many cities provide timelines for their removal procedures. However, as behaviours related to transportation change, there are opportunities to change policies and processes surrounding issues, including snow removal. For example, in 2016, Stockholm began testing a snow removal policy reflecting a gender-based snow removal strategy (CBC News, 2018).

Previously major roadways were given priority and surveys reflected men were the primary users of these roads. This initiative proposes to clear sidewalks before streets and give people walking, cycling and using public transit priority over car dominant spaces and roads. Thus, catering to transportation methods used more by women and children.

The design of neighbourhoods and sidewalks can also influence how snow can be moved and what type of equipment can be used. As a maintenance policy, responding to changing demands or priorities, such as expanding the snow cleaning program to other neighbourhoods or accommodating unpredictable snowfall can be a short-term decision. Long term changes and planning might include decisions related to neighbourhood renewal or sidewalk restoration to change the size or weight capacities and accommodate different types of equipment. Long term planning might also include design stipulations such as regulating sunlight and preventing wind tunnels through building height, placement and orientation to improve the winter experience. Ensuring sunlight penetrates certain streets and pedestrian malls and attempting to mitigate wind tunnels are human-focused design solutions for urban development and have been incorporated into many design manuals focusing on cities with colder climates and winter conditions (City of Edmonton, 2016b; Urban Systems, 2000). The validity of these types of initiatives is reflected in cities requiring sun and shadow studies for new development permits (City of Edmonton, 2016b; Westerberg, 1993).

Design and planning interventions in Canada

Development in Canada's North was initially spurred by military concerns, resource extraction, or scientific needs and overall short-term considerations. In the early 1970s, oil and gas exploration were a government priority and motivated the need for a new town in the far north. Aware of his successful, northern city plans in northern Sweden, such as Kiruna and Svappavaara, the Canadian government commissioned Erskine to design a new town to accommodate over 1,200 people (Marcus, 2011). The proposal at Resolute Bay integrated the Inuit community and settler population and provide them with technological and spatial comforts inspired by larger communities in the southern regions in an attempt to encourage people, particularly the newcomers, to stay in the region (Marcus, 2011). Reflecting similar

designs to the Russian microrayon, Resolute Bay involved moving the town to the top of a hill and building a wall of apartments above the ground to provide protection from wind and keep development above ground to avoid issues with permafrost (Marcus, 2011). It also incorporated a domed structure enclosing the area within the walls to provide temperature controlled, artificially lit public space. Erskine's proposal emphasized social integration with designated private and communal spaces and included Inuit and settler populations throughout the design process. Unfortunately, the end of the international oil boom led to decreased demand in exploration and the end of development in Resolute Bay before any of Erskine's plan was ever developed (Farish & Lackenbauer, 2009; Jull, 2016).

Frobisher Bay was another government-planned community built to support the war effort and maintain autonomy over Canada's portion of the Arctic. This design proposal considered many factors such as privacy, thermal insulation of buildings, construction costs, family separation due to work outside of the community, provisions for green spaces and nature, and providing mixed use type living spaces. The completed scheme included a combination of protected urban space, tower residential, and a concrete dome encompassing the main services and residential accommodations with lighting integrated into the pillars. The proposal seemed to contrast with the survivalist solutions of the past and provide the people with a successful, connected community. Here again, the government was unable to fund the project completely and many people who moved there for the work left for the south when funding ran out. Another northern community, Inuvik was proclaimed as the first northern community above the Arctic Circle to provide " 'the normal facilities of a Canadian Town' " (Farish & Lackenbauer, 2009, p. 543) –including modern technologies, construction techniques, and political landscape in 1961. As government led initiatives that employed the voices of experts in the field, the resulting proposals and development in Resolute Bay, Frobisher Bay, and Inuvik fail to represent the phenomenon of people already living there and the necessities for positive well being rather than just survival and avoidance of contact with cold weather conditions.

Farther south in Canada, for instance, in cities like Montreal or Calgary, winter was seemingly less an issue and often ignored in favour of efficient planning

and rapid growth. This resulted in cities reflecting the growth patterns for of cities with milder climates, where accommodating population densities and economics was well understood. The majority of Canadians, who live in the southern latitudes, still experience winter in varying degrees. Canadian cities with populations over one million people experience snow, long stretches of extreme cold warnings, and unpredictable ice storms and these same cities have done little to change the climate-avoiding, car-reliant planning traditions of the past.

Where winter friendly designs have been considered, avoiding contact with the weather and protection have been major concerns. Toronto and Montreal have the largest underground pedestrian malls in the world and all major Canadian cities have enclosed shopping centres. Edmonton and Winnipeg built their enclosed walkways both above and below street level and incorporated them into their transit system, while Calgary has 59 walkways connecting buildings predominantly above ground. While these networks were developed in the 1960s and 1970s, this type of infrastructure continues to influence architecture and the networks are expanding in Canadian cities today .

The state of winter in Edmonton

The primary data from the Edmonton case study suggests there are factors of design, planning, and governance that can improve winter experiences in urban spaces and entire cities. As a self-proclaimed winter city, Edmonton has little winter friendly design to show for it other than the climate. Initially established as a Fort during the fur trade, access to the city grew from the river, to rail and air travel quickly (Wonders, 1959). Edmonton's early development was in government, military, and education, which attracted a top-down, expert perspective to planning and most civic operations throughout most of the twentieth century. The city that exists today is a combination of architecture and planning trends from the past one hundred years with little attention to connecting the trends in a cohesive manner. Busy roadways cutting through a large river valley dominate the current design of the city and accommodate the 1.63 vehicles per household in the city (City of Edmonton, 2015a). Traffic flows, road maintenance, and parking concerns dominate development conversations and proposal debates. During the winter, this translates into snow removal and storage and ensuring snow plows can access neighbourhood

streets and giving priority to bus lanes . Currently, the city’s winter friendly features are limited to destinations, including skating rinks and ski or toboggan hills, often tucked into the river valley. Reserving land in neighbourhoods for community leagues, as part of an additional level of governance in the city, has also allowed some communities to build ice rinks and toboggan hills within their communities.

For Edmontonians who enjoy winter, being involved in winter sporting activities, such as skating or skiing, is a common theme. However, changes to facilities and lack of maintenance have discouraged users and limited the range and scope of available activities. For example, a cross country ski trail system historically connected trails through the river valley and across the city. Recent construction or redevelopment projects have interrupted, permanently broken this network, or the ski trails connect to parks that “are not really set up for skiing or any sort of activity like that” (Participant 8). In addition, accessing the winter friendly areas or activities is difficult for people seeking them out. Skiing or skating facilities are either not on transit routes (ex: Rundle and Victoria skating loops) and require long walks from the nearest bus stop. It makes it difficult for someone without access to a vehicle and does nothing to encourage visitors to use these sites, however there is an opportunity to accommodate different users and target these destinations, during the winter and throughout the year.

An example of the unique, permanent winter-friendly destinations are winter warming pavilions located throughout the river valley. *WinterCity Edmonton* provides a map of the pavilion network to encourage people to take advantage of the infrastructure that supports winter life. As a network, one would expect accessible paths connecting multiple pavilions. In this case the network covers large distances without long distance winter activities, such as cross-country skiing or ice skating considered in the design of the network. While the map features mostly permanent pavilions used in the summer, the concept of temporary warming huts has good potential. Winnipeg and Ottawa use warming huts along their river-based skating paths, which allows people to warm up and stay engaged in the activity for longer periods of time. In Edmonton, skating on the river is not possible, but winter walking and cross-country skiing is possible. Rather than benefiting people walking and skiing on commonly used paths, some participants felt the huts are located as

destinations for people to drive and walk to and explore for a short time before returning to their car and leaving the park. Accessibility and location are also related to the recently installed funicular. This developed makes the river valley trail system more accessible for people as an alternative to the many staircases. An additional benefit of the funicular, and not promoted or likely considered in initial designs but referred to by participants in this research, is as a place to warm up without having to “stop” traveling closer to their destination.

When people spoke about moving around the city, there were concerns with the wind and the weather, but also the exposure and openness between spaces or destinations: “I wish this area was more walkable...it’s just like dirty open lots, or parking lots” (Participant 1); “In the winter they meticulously clean [the snow] off making sure it’s all smooth but it’s too open and there isn’t some way to tuck in capture the sun” (Participant 3); “When it’s really windy I think the perception of being this big wide open vast space makes it colder than it actually is” (Participant 4). People turn to driving personal vehicles and using interior spaces to avoid the large openness and potential of being caught in unpleasant windy or cold weather situations.

The dominant narrative for Edmonton winters

Beyond the physical form of the city, how Edmontonians speak about winter and associate with the season on emotional level was an important finding and referred to often during the interviews and workshops. Edmontonians have created a winter story that is all their own. The narratives have developed over time and continue to influence people’s experience: “when people see kids [outside] they get happier and older people reminisce” (Participant 11). Past memories of deep snow and skating with family and friends are set in contrast to areas that are enjoyed in the summer and avoided in the winter: “there’s nothing slowing down the wind and...it’s actually a really horrible corner” (Participant 3) and “I saw a whole bunch of ice in the winter might prevent me from going, but the summer it’s beautiful” (Participant 11). How people converse about the season becomes a larger, shared experience and can become repeated over time and in various forms of media. This is the culmination of unmet expectations, but also an overall negative attitude to the season that is reflected in the maintenance of personal properties (Figure 9)

Edmonton's Shift to Embracing Winter

"We remember the old days. When it was fashionable to grumble about the cold. When we started the winter season by wondering aloud how soon it would end. Edmonton isn't like that anymore" (WinterCityEdmonton, n.d.)

Over the past ten years, Edmonton's administration has begun to develop winter grammar and align the experience of the city with the reality of the climate.



Figure 10: These snow-covered sidewalks, packed down by people walking across create challenges for pedestrians and can occur in both commercial (left image) or more residential (right image) areas of the city (Edmonton).
Images taken March 13, 2017

The *WinterCity Strategy* was a city council initiative to claim itself as a 'winter city' in order to improve Edmontonians' experiences of winter and develop a relationship with the international winter city community. As a festival city and well-versed in planning festivals during the summer months, the initial investments targeting winter were in promoting and developing winter festivals. The *WinterLight Festival* (City of Edmonton Wintercity Strategy Project Team, 2012) received four years of funding (from 2008 to 2011) to produce and fund events and festivals celebrating winter culture. This was somewhat successful, and many festivals continue to draw people from around the city.

Participants felt festivals are an important part of their connection to their communities and the larger city. However, for at least one participant, being within the same neighbourhood was important: "When I lived [there] I used to volunteer...But now that I don't live there, I don't go to it" (Participant 11). Other

participants felt the spaces used for festivals were often only visited during the festivals: “I rarely come here during non festival times” (Participant 1). Yet most participants mentioned festivals as either being part of their experience of urban spaces or important contributions to their community life.

And similar community festivals are a part of Edmonton’s history. In the 1960s, Edmonton’s larger winter festivals, such as the Mukluk Mardi Gras, brought people from the community and abroad to enjoy snow sports, fashion shows and other events that included both the businesses and neighbourhoods. More recently, Edmonton has attracted national and international winter activities or festivals, such as Ice Castles, Red Bull Crashed Ice, Winter City Shake Up Conferences and the International Panel on Climate Change. These events require significant investment, both in personnel time and financial contributions.

In addition to festivals, the City is investing in promoting Edmonton as a leader in winter city planning and design. The creation of the *WinterCity Strategy* and subsequent *WinterCity Edmonton* office (responsible for implementing the Strategy) is a step in the right direction for the city to create a winter friendly city and reflects an intention to acknowledge the climate (Winter City Edmonton, 2018). The *Winter Design Guidelines: Transforming Edmonton into a Great Winter City* (2016) provides design and development recommendations based on five principles: blocking prevailing winds and downdrafts; maximising exposure to sunlight through orientation and design; using colour; enhancing visual interest with light; and infrastructure that supports winter life and improves comfort and access in cold weather (City of Edmonton, 2016). These Guidelines have allowed the WinterCity team to engage with cities around the world. Another recent Edmonton-development with the potential to improve movement around the city throughout the year is protected bike lanes. Constructed mainly for summer users in 2017, the significant increase of bicycles during the following winter illustrates the willingness of people to change their behaviours when the design and planning accommodates them. Protection from vehicles improves perception of safety, especially when ice is an issue. In the winter of 2018, snow and ice were significant challenges and the City responded by ensuring the bicycle paths were cleared early, even before some car-dominant roads.

With Edmonton being a key player in the international “winter city” communities, it is likely the city will continue to invest in this group and their efforts. The city was the first to host an international conference, and essentially reboot the international community after an almost twenty-year hiatus and hosted it for two years before Saskatoon took over in 2018. This investment and effort targets changing the attitudes of Edmontonians and promoting ways for people to enjoy the season which can be very long.

Discussion: Contributing themes to Edmonton’s winter scene

After analysing the primary data presented in the previous section in addition to related secondary data, three separate themes emerged relating the design, planning, and governance of the city to people’s relationships with the winter season.

These include: living with the decisions, culture, and spaces; exposing civic administration’s priorities through investments; and a cold attitude to the season. The first section elaborates on potential path dependencies that have developed throughout the history of the city. In particular, material path dependencies or the physical landscapes will facilitate or challenge any opportunity to change perspectives of planning, design, or governance and influence perceptions towards the weather and overall experience and opinion about the city. Secondly, the priorities of administration, often expressed through funding or financial decisions, reflect a certain trajectory that influences the present and future experiences. In addition to direct funding for projects or departments, the private-public-voluntary relationships within the city can impact people’s engagement at the neighbourhood and larger community level. The third theme describes the relationship between community engagement and individual or community attitudes towards the urban spaces and winter. The role of promoting winter activities, events, and festivals would seem to solve a lot of these attitudinal, psychological or social challenges. However, the lasting impression of cold, dark winters and lifeless city spaces can transcend any attempts to promote or brand cities as winter friendly.

Living with the legacy of decisions, culture, and spaces of the past

“Little by little, small individual decisions concerning our homes and workplaces combine to have deleterious, culminating consequences” (Frederick Steiner, 2002, p. 171)

The physical landscape is the legacy of the past and, in Edmonton, past decisions were based on priorities other than adapting to or accommodating the climate. Edmonton’s experience of winter is linked to path dependencies of market driven urbanism, trend dominant planning and architecture, and an international reputation of harsh winters. The years of predominantly unregulated development, during an imperative growth development period in Edmonton, correlate to the time when people began to ignore or avoid going outside and the climate that exists here. With advancements in technology, we are a more mobile population and it is easier to move families and work to more temperate climates. Recruiting and retaining employees is essential to developing a city and weather-related challenges can be issues with economic impacts. Ignoring the colder climate and protecting people from the weather in the form of built environments or infrastructure continue to influence urban developments, in the form of pedways and large indoor shopping malls. People move through spaces alongside their memories, experience nostalgia towards other places, and have expectations for the immediate experience (Pink, 2011). The perception of climate is a very similar experience ripe with memories and relationships to other areas of people’s life including their ability to afford appropriate clothing or participate in winter activities (Milligan, 2013). Therefore how cities are designed in terms of accommodating growth and change influence how day to day decisions and the ways people experience or see their city.

However, for people involved in this research a negative attitude towards the city was not limited to the cold climate and winter conditions. The economy and industries surrounding Edmonton have contributed to an enduring lack of value for heritage and the loss of many historical and heritage buildings over the years (S. Low & Low, 2018). Buildings fall into disrepair or even are demolished as a form of stimulus during times of low economic activity and rebuilt during economic booms, leaving the city with very few physical reminders of the past. This narrative of lost buildings is consistent with a loss of attachment to place and community, a concept

similar to other expert led planning schemes (Arefi, 1999). The lack of connection to place and community is perfectly illustrated in the evolving brand of the city itself. Early in the 20th century, the city was known as the “Gateway to the North” , “The Oil Capital of Canada”, followed by the “City of Champions (to honour the various athletic championships and survival of a tornado all in 1987), and finally settling with “Edmonton” in 2017—ultimately reflecting the identity confusion of the City administration and its citizens—a feeling that also influences our experience of the climate. Ignoring winter in our identity as a city and avoiding it through focusing on fair weather or indoor activities contributes to a disinterest in improving the experience of the season and how people cope or adapt to the conditions. The negative winter identity that exists is in part related to the ignorance of winter in the design of the city and the attitudes of people that have developed and evolved over time. Often this attitude develops because technology cannot completely remove the challenges of winter, with the exception of potentially the dome-utopias of the past; people who are living in ill-adapted cities begin to commiserate and perpetuate the difficulties of the season, blinded to the potential to thrive (Pressman, 1991; Royle, 1985).

For Edmonton, the narrative of loss for the buildings and the summer resulted in a `modern city with few people feeling a sense of attachment to the community and the city. In an increasingly mobile world, proximity to natural resources will have less impact on attracting people to a city and cities will begin to feel the impacts of poor design as populations begin to drop, similar to what Edmonton has experienced in the past when the economy struggles.

Exposing priorities through economic investments

In addition to investing in physical infrastructure, investing in winter tourism, community-led initiatives and private-public partnerships have been both successful and challenging models in Edmonton. Edmonton has a history of successful winter tourism and attracting inter economic investment, even with the unpredictability of the season. While the investments in winter tourism have increased the awareness of the city as a winter destination, both nationally and internationally (City of Edmonton, 2016), some participants were concerned these type of investments target the temporary tourists rather than meeting the needs of

citizens who live there throughout the year. To provide an example from city documents, in 2017, the City of Edmonton gave \$200,000 to three community festivals that have grown significantly in the past five years. Compare this to the \$550,000 anticipated for to Red Bull Crashed Ice and another \$100,000 to the *Winter Cities Conference* in 2018 and the priorities are evident (City of Edmonton, 2015)¹⁴.

With the *WinterCity Edmonton* department housed in the *Citizen Services* branch of administration, these events are well within the scope of this department and the limits of its influence becomes clearer. Rather than having close ties to planning, city design, or even maintenance and snow removal, the City of Edmonton has designated winter as a citizen/people problem. From their perspective, the attitude causes the lack of engagement rather than the city's design. The recent *Winter Design Guidelines* illustrates the interest in expanding the issues beyond the people-centric; however, based on our interviews and workshops people are also concerned with issues such as transportation and predictable connectivity rather than wind and colour. At the same time, this may reflect a limited perspective of participants on the potential for design to impact their experiences. Furthermore, if they are unable to get to the few, well designed destinations, these winter friendly spaces are limited to a privileged group with access to a vehicle and an ability to navigate the city.

Yet the intended roles and position of the *WinterCity Edmonton* within the organizational structure may limit its influence. This "high profile project" (City of Edmonton, 2018) consists of two full time employees and is housed in the Citizen Services Branch (see Figure 11 for the organisational structure of the *WinterCity Strategy*), rather than being directly involved in basic planning decisions, such as transportation and zoning. Their focus is on marketing the city, community event

¹⁴ These investments do not reflect the economic impacts of these events, which can be significant considering the return on investment for the city. For Red Bull Crashed Ice, the expected economic benefit was \$20.6 million (City of Edmonton, 2015b) and a boost to the city's reputation in the form of media stories. The intention for including this analysis was to reflect the impact of tourism focused events on developing community spirit within the community. Because this research is rooted in qualitative analysis, the emotional attachments and perceptions of the events were weighted heavier than the financial stories. At the same time, determining a city's priorities is evident in their budget decisions and acknowledging the quantitative issue is necessary.

planning, promoting winter activities, and advocating for a “winter lens” on all development decisions. From the perspective of the city and the positioning of the Strategy, winter is considered a human and behavioural issue and negative associations with the season can be changed if people know what activities are available or when events are happening. While this attitudinal issue is essential, it is limiting the scope of winter challenges and winter design. The ‘bigger ticket’ items of municipal budgets, such as transportation, maintenance, and planning, are lacking a winter lens beyond basic snow removal, which the *WinterCity Edmonton* team can provide.



Figure 11: Locating the WinterCity Strategy in the City of Edmonton administration

Narrowing the scope from the city as a whole to the community level, Edmonton’s unique community league governance model allows communities to plan and attend events within their community in addition to the larger, city-wide events. Winter festivals, investing in community outdoor ice rinks, and programming classes or events are examples of successful community league strategies for promoting community engagement during long winters. Events happening within the community were considered benefits to reduce the need to travel and social isolation through more regular contact. The success of these initiatives relies on financial planning and the willingness of volunteers. Maintenance of ice rinks and facilities is expensive, yet most communities recognise the value of a gathering space and active winter activities for winter cities and prioritize accordingly or combine resources between communities.

There is also a role for public-private partnerships and private businesses to take in fostering a sense of place and a more winter-positive approach in their operations. Firstly, the city is well versed in supporting private events and festivals and a similar model might be possible for private businesses, operating all year. Rather than a one-time event, support can emerge through changing bylaws or even marketing and promotion, similar to what occurs now through the winter patios promotional activities, but on a broader, more intentional scale. Specifically

regarding winter patios, implementation costs are higher than summer patios with higher finishing and maintenance costs, but with more patio-friendly policies and encouragement from the administration level, there is potential for developing this type of investment in Edmonton (Sanborn, 2017). The municipal funding provided to privately operated events, such as *Red Bull's Crashed Ice* and *Ice Castles* (Winter City Edmonton, 2018), illustrates the city's commitment to promote these events and similar relationships should be considered for permanent businesses in the city, such as patios or other unique winter activities. With increasing support from the city administration and council, the community and public support will grow and determine the success of these business ventures. For the excitement of events and festivals to make an impact and sustain people's attention, more permanent, everyday accommodations should be made in the design and processes of the city.

A -40 attitude towards the season

"A popular belief...has associated privation of sunlight during winter and inclement weather with melancholy" (Akkerman, 2016, p. 177)

Due to Edmonton's location, the city enjoys some of the highest levels of sunshine in the country, particularly during the winter months, but the shortened day lengths and potential for cold contribute to a depression felt by many during the winter season (Lindsay et al., 2015). And while the shared experience of winter makes the weather a common conversation topic and should provide an opportunity to share coping strategies, rather than celebrating the season many Edmontonians use the weather as an opportunity to commiserate rather than celebrate. Rather than sharing the enjoyments of changing seasons or the potential for mild weather,



Figure 12: "The welcome centre is closed for the winter, but we're not hibernating." Services, such as the main tourism hub in the city, either close completely or, in this case, change locations to combine with other service providers during the slower winter season.

Image taken March 26, 2017

we are beholden to the negativity of the season that becomes ingrained in our identity as a winter city and contributes to the overall winter depression and dissatisfaction with the city – a sentiment I referred to earlier in the article that the WinterCity Edmonton team has acknowledged as a prominent narrative of Edmontonian’s relationship with winter (WinterCity Edmonton, n.d.). In addition, a preoccupation with celebrating the summer and dreading the winter influences the way people perceive space and the sort of activities they are interested in investing their time and money. This negativity with the season may seem like a citizen or community services issue (which is the how the WinterCity Edmonton team is responding to this challenge); however, this attitude is also a response to a poorly designed city—an issue that is more infrastructure related than many cities are willing to admit. At the administrative level, there is investment in winter specific branding and promoting the city as a winter destination. In the past ten years, Edmonton has begun to promote its “winter city” status in a more positive light. Edmontonians are beginning to take note, but it is a slow process and there’s the chicken and an egg scenario about what comes first providing services or destinations or getting people on board (Figure 12).

The memories of lifeless downtown streets, such as Edmonton’s downtown throughout the 1990s and even more empty during the winter, are difficult to overcome and require the combined effort of community members, community leaders and developers or architects to foster a sense of place and community through design, planning, and governance of space. Members of the community should be open to new experiences, willing to challenge long-standing perspectives and have a desire to learn and share knowledge with their neighbours. Community leaders and politicians need to reflect on how they themselves use certain spaces and ask the community about the different landscapes, including cultural, economic, physical, and social, to achieve more holistic, community minded solutions.

Developers, planners and architects should design spaces to reflect the memories of the past and promote long term perspectives to development that accommodate the weather, without fixating on specific weather occurrences and protecting people, and are more in tune with how actually live and move in the city. This multi-party, multi-season approach is a point covered in earlier research (Li, 1994;

Pressman, 1995), but often ignored in more recent discussions about solving the winter issues with design and planning, where the commentary is much more about wind, colour, lighting, and winter-specific festivals and activities. As per the Edmonton case, the city administration perceives the winter city solutions to be very specific to the winter season. But with poor connectivity and networking the city can benefit people throughout the year and lead to more lasting impressions about how and what Edmonton has to offer during the winter.

Case Conclusion/Summary of Discussion

Through involving the lived experiences of people living in Edmonton and a brief analysis of the history of winter planning here and elsewhere, this research points to previously discussed themes that are reminiscent of traditional planning principles (Gehl, 1992). The legacies of urban spaces and climate can become engrained into the same experience or memory, which then influences the attitudes and associations to the spaces. Being fixated on the struggles of winter is not uncommon for winter city dwellers and planners alike (Royle, 1985). And the limitations of the physical infrastructure can be limiting to the innovative opportunity to integrate winter friendly designs. This case study does provide some insights into the relationship between the existing spaces, what people are experiencing, and what they feel is possible for improving winter livability in Edmonton.

Implications to design, planning, and governance

Reflecting on the three reasons for doing this research that I discussed in the first section, I am supporting two approaches, previously championed by “winter city” planners to designing, planning and governing cities with winter conditions: balancing the needs of protection with choosing to be exposed and a broader perspective of users, uses, and seasons. Having the choice gives users a degree of agency in the use of urban spaces and the opportunity to creatively interact with spaces to meet their current needs (Li, 1994; Pressman, 1988). The expert-driven model becomes less apparent and rather than a completely participatory-led design process, the final space is adaptable and flexible for many different users and uses. There is also an opportunity for context-based or informed design decisions. People

value spaces that are relevant to them. Whether this is geographical, ideological, cultural, or economical, spatial design has the potential to transform the relationships people have with the spaces and the larger city as a whole (Nash, 1981). In turn, this can develop into physical and social attachments and to people who are willing to stay and contribute to the winter city, and maybe feel less of an urge to retreat to milder climates (Desrosiers-Lauzon, 2008).

Balancing exposure and protection

“... the absence of human encounter in urban space, in winter-cities in particular, could be seen as attributable to the lack of opportunity to walk under the open sky” (Akkerman, 2016, p. 183)

As Erskine (1968) and Olgyay (1963) suggested, for people to succeed and even flourish in winter, we must adapt to it. Hitchings’ more recent survey echoes this perspective (2011). The regularity of seasonal change can provide opportunities for people to trial a variety of solutions and encourage people to cope and adapt to the season in different ways. Places rely on people developing social relationships and a cohesive social and public identity (Arefi, 1999). Flexible spaces that are easy to understand and well connected can encourage people to adapt the space to meet their unique needs and share the space with their neighbours and community. To learn from the mistakes of the past is to break out of the path dependencies; the design should reflect the values of the people who live there today. This also means allowing people to adapt to the space and adapt the space to meet their needs. Carrying an umbrella or wearing layers that can be removed as weather changes are examples of how people can adapt their behaviours to the varying weather (Hitchings, 2011). When spaces or entire cities are designed with a focus on interior spaces, people begin to rely on the indoor comforts, particularly when heating spaces is cost effective and available like it is in North America. This reliance or dependence takes away the agency of weather and the potential to experience varying weather conditions. For many cities, winter conditions are unpredictable and periods of sunlight, warmth, or heavy snowfall can change throughout the day. It is difficult to plan for, but people will adapt provided the conditions allow it. They will find refuge under a tree during the rain or bring an extra pair of shoes to change into when they reach their destinations. It is when people regularly avoid contact, such

as driving from their attached garage into an underground parkade and using only pedways, that people essentially forget how to adapt and believe that heat sources will be available regardless of the situation they encounter (Hitchings, 2011).

A broader perspective of users, uses, and seasons

Climate becomes less of an issue if the city functions properly in terms of flexibility, connectivity, and accessible public spaces. The ability to adapt a space to meet the needs of many users, at different times of the year or in different weather conditions, leads to a more functional, enjoyable space. In addition, a basic understanding of the assets of a city, including both the tangible assets, such as maintained ski trails or hills, ice rinks and indoor space to provide warmth, and intangible assets including community leagues, members of administration who are passionate on the subject or the skills and experience, can provide the type of details that are context-based and important to the community. When this type of perspective becomes common rather than a special topic, addressing future proposals with a winter lens will eventually be unnecessary, because the winter lens will be accounted for in the use and users 'lens'.

In addition, efficient and effective connections within the urban space, either between destinations, inside/outside spaces, or warm and cold can encourage people to venture outside and explore the public realm. Visual cues from the inside, such as shining sun or steam coming from a bath or sauna, can positively influence a person's perception, and then experience, of the weather outside (Zabinski, 2014). Even being able to access the space at all, through effective public transit, well-maintained areas and access points, or the ability to navigate a space easily, will determine whether people can engage in and stay in the space. More broadly, these considerations reflect Jan Gehl's perspective of well-designed winter cities being well designed cities throughout the year (1992). Gehl also observed that most northern cities work poorly in all seasons, echoing Erskine's observation, only sixty years later (1992). Rather than providing specific suggestions or solutions to winter issues, Gehl reflects back on the basic intention of urban design and the value creating functional and attractive public spaces and networks connecting activities, people, retail outlets and spaces (1992). According to Pressman, thinking winter is a year round habitability perspective (Li, 1994; Pressman, 1989b). Our case study

revealed issues with public transit, connectivity, and an overall lack of attachment to the city. These are not only winter issues. When challenges are reduced to single factors, such as the weather, a broader perspective of the lived experience is misunderstood, and mistakes can be made.

Conclusion

What makes a good city in the winter? The literature does not agree on one ideal form of adaptation to the cold, and in practice, one can see a wide variety of adaptations to the north and a pallet of winter activities and lifestyles that transcend a negative image of the winter. Cultural diversity, as illustrated by the similarities and differences in solutions around the globe, is a main factor, yet the case of Edmonton helped me to identify a series of other factors which together shape how a city is used and usable in the winter, and how people understand and represent this winter aspect of city life. The Edmonton case further identified how some of these factors can entangle and create both positive and negative path dependencies with the eye on making the city more attractive year-round, indoors and outdoors.

Firstly, we can distinguish between factors associated with narration and representation, secondly spatial organization, and thirdly the use of space. How one interprets a space or city influences how it will be used and how it will be organized in the future, while the existing organization of space (and the administrative organization behind it) will affect its use and the formation of new interpretations and narratives. On the organizational side, one can thus further distinguish between physical and administrative organization; while on the interpretive side, one can distinguish between existing, culturally grounded narratives and purposeful creation and dissemination of new narratives, as by way of branding. Both the literature and the Edmonton case showed that creating more attractive winter cities is a matter of working on all these aspects: branding (so people might overcome negative images and inhibitions), organizing (making both physical space and organizational processes more sensitive for winter use) and using space (winter activities, both as events and as routines)

A further distinction I can make is between features of a city (and its improvements) as to improvements in spatial quality year-round, and features (or changes) specifically aimed at enhancing the winter city character. Both the

literature and the Edmonton case point out that more general planning improvements might make a big difference in the winter. If we speak of improving and enhancing spaces in this context, we speak of making winter use as apparent, more obvious and attractive. Under general improvements we understand changes towards what is often understood as spatial quality: a diversity of neighborhoods and areas with a distinct character and distinct mixes of uses and different densities; easy connectivity; and linked fast and slow networks of transport, use, and open space. In the case of Edmonton, more broad policies towards densification, diversity, mixed use, and connected neighborhoods can make a bigger difference in winter. In other words, improving spatial quality through design changes that are not winter specific. For many people it is less motivating to go out in winter, so a generally appreciated form of planning is even more appreciated under the harsher conditions of a northern winter.

Among the features and interventions aiming specifically at the winter life, shelter, accessibility, linking of indoor and outdoor spaces and networks are important, as are attempts to change more bleak or lazy narratives on winter life ('just sit it out'), either directly, by telling other stories, or indirectly, by organizing events, and creating more attractive spaces at different scales (from heated patios to green space networks). The case study showed that all these changes are possible and can be partly coordinated to reinforce each other positively, but that also this takes time, and that these are slow learning and adaptation processes beyond policy changes. This is not so unique either, as what is attempted is a reinterpretation of a set of connected problems as a major asset. In this case, 'winter city life' becomes a unified notion across multiple perspectives or disciplines.

On the side of process organization, or administration, one can distinguish between design policy, planning, and governance more broadly. Planning and design are always embedded in governance, yet both the literature and the Edmonton case illustrate that winter cities must think more deeply about the form of embedding or linkage between concepts or priorities. Planning in general must be more design-focused (as opposed to procedural or individual) in order to create the type of spaces and spatial networks which will enable winter use and enhance winter appreciation. Networking a city is critical because connecting spaces and people is

critical in winter conditions. Pleasant winter use in city environments requires short distances and opportunities for shelter or refuge, feelings of vibrancy, and thus density and connectivity, variation in use, in open and closed spaces.

Such requirements are much easier to meet in some places than in others. I can speak of path dependencies, where the material path dependencies (existing space, connectivity, mixed use, density, etc.) entangle with the institutional or organizational path dependencies. These institutional dependencies can then be situated at the level of planning, design, and governance. At each level, more fundamental choices made early in the process are difficult to influence. The Edmonton case showed how an historical choice for suburban living in the city and car-dependent lifestyles (including generally oversized infrastructure) created a physical landscape presenting serious obstacles to winter living, while forms of governance and planning were created to facilitate the expansion of the city in a similar way. In the Edmonton case, one can observe a change in political culture, in governance, in planning procedures, and towards more winter friendly ideologies, which all together enable a shift towards more urban (versus suburban) living, more diversity of lifestyles and transportation forms. The material path dependencies are still harder to break, since a history of boom and bust created a landscape very deeply marked by the mostly car-oriented, suburban, choices in the boom times of fast growth. The emerging attractive winter living areas are therefore the same ones attracting the diversity in lifestyles. That is, the ones already designed with certain assets, in terms of green, density, retail, attractive open space, connectivity, and heritage, restaurants.

Edmonton can thus serve to illustrate both path dependency and path creation. One can expect that the strength of particular dependencies will vary from case to case, hinging on different city histories, cultures, and landscapes. What emerges as an obstacle, or a driver, will differ per case but the principles mentioned above do not seem tied to the specificity of the case of Edmonton. Analysis of governance paths, of embedding planning and design in governance, of different sorts of dependencies, in combination with mapping of assets, including what emerged as assets for winter city living in this research, can be a basis for considering further interventions. We speak of general principles, but it is clear that

those cannot be crystallized into universal guidelines for winter city design. That is, they cannot be translated into forms, only in principles and points of attention.

A major takeaway in my view is that the case study suggests that designing spaces for winter requires an integrated approach between planning, design, governance, and sensitivity to culture, history, and the practicalities of management. And this context-based approach to land use planning is not new in the field but is worth reiterating and supported by the research herein. Comfortable winter cities are much more than reducing suffering. It is not only about encouraging people to cope or adapt themselves, but also about creating places, and whole cities that are attractive and connected throughout the year. In other words, a city that focuses on the people living there rather than the winter.

References

- Akkerman, A. (2016). *Phenomenology of the Winter-City: Myth in the rise and decline of built environments* (1st ed.). Heidelberg, New York, Dordrecht, London: Springer.
- Arefi, M. (1999). Non-place and placelessness as narratives of loss: Rethinking the notion of place. *Journal of Urban Design*, 4(2), 179–193.
<https://doi.org/10.1080/13574809908724445>
- Bosselmann, P., Arens, E., Dunker, K., & Wright, R. (1995). Urban form and climate: Case study, Toronto. *Journal of the American Planning Association*, 61(2), 226–239. <https://doi.org/10.1080/01944369508975635>
- Carpiano, R. M. (2009). Come take a walk with me: The “Go-Along” interview as a novel method for studying the implications of place for health and well-being. *Health and Place*. <https://doi.org/10.1016/j.healthplace.2008.05.003>
- CBC News. (2018). Should Ottawa adopt Sweden’s gender-balanced snow-clearing policies? Retrieved November 10, 2018, from <https://www.cbc.ca/news/canada/ottawa/sweden-snow-clearing-gender-ottawa-1.4500636>
- City of Edmonton. (2015a). *2015 Edmonton and Region Household Travel Survey*.

- City of Edmonton. (2015b). *2016-2018 Operating Budget*.
- City of Edmonton. (2016). *Winter Design Guidelines: transforming Edmonton into a great winter city*.
- City of Edmonton Wintercity Strategy Project Team. (2012). *For the love of winter: Strategy for transforming Edmonton into a world-leading winter city* (Vol. 1).
- Coleman, P. (2018). About Winter Cities Institute. Retrieved October 12, 2018, from <https://wintercities.com/home/about/>
- Davies, W. (2015). Winter Cities. In W. Davies (Ed.), *Theme Cities: Solutions for urban problems* (pp. 277–310). Heidelberg, New York, Dordrecht, London: Springer.
- Desrosiers-Lauzon, G. (2008). *Southern Seduction: Canadian and American snowbirds in Florida since 1945*. University of Ottawa.
<https://doi.org/10.1007/s10103-015-1798-2>
- Eliasson, I. (2000). The use of climate knowledge in urban planning. *Landscape and Urban Planning*. [https://doi.org/10.1016/S0169-2046\(00\)00034-7](https://doi.org/10.1016/S0169-2046(00)00034-7)
- Eliasson, I., Knez, I., Westerberg, U., Thorsson, S., & Lindberg, F. (2007). Climate and behaviour in a Nordic city. *Landscape and Urban Planning*, 82(1–2), 72–84.
<https://doi.org/10.1016/j.landurbplan.2007.01.020>
- Erskine, R. (1968). Architecture and Town Planning in the North. *The Polar Record*, 14(89), 165–171.
- Farish, M., & Lackenbauer, P. W. (2009). High modernism in the Arctic: planning Frobisher Bay and Inuvik. *Journal of Historical Geography*, 35(3), 517–544.
<https://doi.org/10.1016/j.jhg.2009.02.002>
- Gehl, J. (1992). A Good City for All Seasons. *Winter Cities*, 10(3), 28.
- Hitchings, R. (2011). Coping with the immediate experience of climate: Regional variations and indoor trajectories. *Wiley Interdisciplinary Reviews: Climate Change*, 2(2), 170–184. <https://doi.org/10.1002/wcc.106>
- Hjorthol, R. (2013). Winter weather - an obstacle to older people's activities? *Journal of Transport Geography*, 28(1), 186–191.
<https://doi.org/10.1016/j.jtrangeo.2012.09.003>
- Jaffe, M., & Woloszyn, M. E. (2013). *Recommendations to the City of Chicago for Winter Adaptation Measures and an Indicator Suite for Climate Change Metrics*.

- Jull, M. (2016). Toward a Northern Architecture: The Microrayon as Arctic Urban Prototype. *Journal of Architectural Education*, 70(2), 214–222.
<https://doi.org/10.1080/10464883.2016.1197672>
- Kusenbach, M. (2003). Street phenomenology The go-along as ethnographic research tool. *Special Issue: Phenomenology in Ethnography*, 443035818(43), 455–485. Retrieved from <http://www.jstor.org/stable/24047846>
- Laruelle, M., & Hohmann, S. (2017). Biography of a polar city: population flows and urban identity in Norilsk. *Polar Geography*, 40(4), 306–323.
<https://doi.org/10.1080/1088937X.2017.1387822>
- Li, S. (1994). Users' behaviour of small urban spaces in winter and marginal seasons. *Architecture & Behaviour Journal*, 10(1), 95–109.
- Lindsay, S., Morales, E., Yantzi, N., Vincent, C., Howell, L., & Edwards, G. (2015). The experiences of participating in winter among youths with a physical disability compared with their typically developing peers. *Child: Care, Health and Development*, 41(5), 980–988. <https://doi.org/10.1111/cch.12220>
- Low, S., & Low, S. (2018). *Edmonton's Neighbourhood evolution: Evolving infill*. Edmonton, AB. Retrieved from
<https://www.cityofedmontoninfill.ca/public/download/documents/46666>
- Manty, J., & Pressman, N. (1988). *Cities designed for winter*. (J. Manty & N. Pressman, Eds.). Helsinki: Building Book Ltd.
- Marcus, A. (2011). Place with No Dawn: A Town Evolution and Erskine's Arctic Utopia. In R. W. Liscombe (Ed.), *Architecture and the Canadian fabric* (pp. 283–310). Vancouver: UBC Press.
- Milligan, W. J. (2013). *Social Perceptions of winter--Thesis Paper*. Colorado State University.
- Nash, J. E. (1981). Relations in frozen places: Observations on winter public order. *Qualitative Sociology*, 4(3), 229–243. <https://doi.org/10.1007/BF00988379>
- Pink, S. (2008). An urban tour : The sensory sociality of ethnographic place-making. *Ethnography*, 9(2), 175–196.
- Pink, S. (2011). Multimodality, multisensoriality and ethnographic knowing: Social semiotics and the phenomenology of perception. *Qualitative Research*, 11(3), 261–276. <https://doi.org/10.1177/1468794111399835>

- Pressman, N. (1985a). Developing Livable Winter Cities. In N. Pressman (Ed.), *Reshaping Winter Cities: Concepts, strategies and trends* (pp. 27–47). Waterloo: Livable Winter Cities Association.
- Pressman, N. (1985b). *Reshaping Winter cities: Concepts, strategies, and trends*. Waterloo, ON: Livable Winter Cities Association.
- Pressman, N. (1988). *Images of the North: Cultural interpretations of winter*. Winnipeg, MN.
- Pressman, N. (1989). The search for northern settlement form. Dilemmas and directions. *Habitat International*, 13(2), 127–137.
[https://doi.org/10.1016/0197-3975\(89\)90077-5](https://doi.org/10.1016/0197-3975(89)90077-5)
- Pressman, N. (1991). Human health and social factors in winter climates. *Energy and Buildings*, 16(1–2), 765–773. [https://doi.org/10.1016/0378-7788\(91\)90049-9](https://doi.org/10.1016/0378-7788(91)90049-9)
- Pressman, N. (1995). *Northern Cityscape: Linking design to climate* (1st ed.). Yellowknife, NT: Winter Cities Association.
- Royle, J. (1985). The Challenge of Being Northern. In N. Pressman (Ed.), *Reshaping Winter Cities: Concepts, strategies and trends* (pp. 19–27). Waterloo: Livable Winter Cities Association.
- Sanoff, H. (2000). *Community participation methods in design and planning*. New York: John Wiley & Sons, Inc.
- Urban Systems. (2000). Fort St. John. The Energetic City. Winter city design guidelines, (February), 14.
- Westerberg, U. (1993). Climatic Planning- Physics or Symbolism ? *Architecture & Behaviour*, 10(1), 49–71.
- Winter City Edmonton. (2018). *Keep the Snowball Rolling: WinterCity Strategy evaluation and report*.
- Wonders, W. C. (1959). Repercussions of war and oil on Edmonton, Alberta. *Cahiers de Géographie Du Québec*, 3(6), 343–351. <https://doi.org/10.7202/020190ar>
- Zabinski, M. (2014). *Generating an Oasis : Architecture of Climatic Engagement for a Northern City*. Dalhousie University.

Chapter 4:

Inclusion and exclusion in a winter city: Exploring the everyday impact of design, planning, and governance in Edmonton¹⁵

Abstract: This article describes how involving people's lived experiences can help make urban spaces can be more inclusive or exclusive during winter conditions. Drawing on case study research, involving site observations, material culture and document analysis, go-along interviews, and visioning workshops, the findings point towards challenges with maintenance, innovative design and connecting the benefits of winter programming, community-led initiatives, and an expansive river valley. I am suggesting priorities for winter cities to be more inclusive, including: a well connected, networked city that is easy to share with neighbours and visitors; acknowledging the contexts of cultural and economic histories and planning legacies to guide design processes; and blurring the boundaries between interiors and exteriors, private and public spaces, fast and slow movement, or summer and winter distinctions. This article supports incorporating everyday, lived experiences into winter urban design and planning schemes. The findings build on the theory of climate sensitive urban planning and add an element of qualitative, social comfort and inclusive planning to an often quantitative analyses of space. This article highlights the need to view the experience of public spaces in winter from the users' perspective and provides some interesting methods of involving lived experiences throughout the research and design process. With a better understanding of uses and users throughout the year, informed priorities and design decisions can be made to enhance the usability of spaces in winter and the wellbeing of winter city dwellers.

Keywords: lived experiences, multiple methods, nested case study, cold climate urban design, context-based planning

¹⁵ This article is intended to be published in: *Journal of Urban Design, Administration & Society* or Cultural studies/cultural geography journals

Introduction

This article describes how involving people's lived experiences can help make urban spaces can be more inclusive or exclusive during winter conditions. When people interact with spaces and cities, they are constantly evaluating spaces and responding to the space with often positive or negative opinions (Mehta, 2014). The success of public spaces can be evaluated based on numerous criteria, including density (number of people in the space), length of time they stay, support of a variety of activities, and overall sensory pleasure (Mehta, 2009). These factors are products of the design of the space itself, connections between and within the space, and relationships to neighbouring buildings or spaces (Gehl, 2011). Design has the potential to invite more people to urban spaces regardless of the season or weather conditions. In many cases, design solutions are architecturally related. For example, Walter Benjamin noticed the value of arcades, or transition spaces in general, in Paris for the purpose of protection but also for the visually purpose of create connection and distinction between spaces (2002). A modern example, such as the awnings pictured in Figure 13, provide a space protected form the snow, rain, or sun, while still allowing people to walk outside and choose to either be under the protection or not. These types of spaces, or other covered or temperature controlled public spaces (such as shopping malls or indoor corridors, in combination with exposed spaces and contact with nature, can lead to more overall better used and enjoyed spaces (Pressman, 1995). I am exploring the range of experiences that can occur within different urban spaces and attempting to rethink the network of relationships involved in designing inclusive urban spaces in winter conditions. The focus begins with the lived experiences of spaces and assumes a reciprocal relationship between humans and the built environments they live in. Through assuming a more ecological, holistic perspective of users and uses, the space becomes more relevant to more people and thus should reflect the unpredictability of space including the audience and the weather (Pressman, 1989a). The research herein does not intend to challenge or ignore the physical and psychological qualities, rather that spaces should not be limited to physical comfort but be

inclusive and welcoming as well. On a broader scale, this research is a general inquiry of planning and design interested in social effects of planning. It contributes to a growing body of research addressing inclusion in urban environments and earlier claims relating to climate, weather, urban spaces, lived experiences, and physical design. Through analysing the lived experiences of people in three different places within the same city, the research reveals the complexities of comfort in varying scales (including the immediate, neighbourhood, and entire city) and winter opportunities.

The article is separated into four main sections. It begins with a brief introduction to winter cities and inclusive cities separately, and then the intersection of winter planning and inclusion planning. Taking a topic-based approach in planning is common in planning discourses, and the similarities between these areas indicate why a mixed or blurred perspective is appropriate in this context. Following this, I will introduce Edmonton's relationship with winter, insights about how the city developed and specific features that influence this research. I then outline the methods used in this research. The findings discuss the nested case studies separately with a similar outline. The case conclusions refer to emergent themes in comparing the three cases and discussing them within the larger context of Edmonton. The article concludes with three approaches to design, planning, and governance processes moving towards more inclusive, winter cities.



Figure 13: Awnings projecting out from an office tower downtown (Manulife Place). Left: along the west side of the building. Right: along the south side of the building. Images taken on April, 23, 2017.

Cities with colder climates

Living in cold climates is a recent phenomenon, especially considering the long history of human settlement (Erskine, 1963; Marchand, 2014; Pressman, 1995). The “conquering of the world’s different regions” (Broberg, 1985, p. 3) in a geographical sense was motivated by the desire for more space to accommodate growing urban populations, government interests to claim unceded territories, or the potential for economic success through the discovery and extraction of natural resources (Pressman, 1985; Jull, 2016). In order for humans to survive in colder climates, technological and architectural interventions provided protection and moderated weather and temperatures (Pihlak, 1994; Pressman, 1985a). Reducing wind speeds and wind tunnels through building orientation and shape or allowing sun penetration through careful window placement are some of the earlier building considerations targeting specific climatic features. In the early 1900s, arcades and awnings provided protection from weather conditions and carriage traffic (Benjamin, 1927/1972). The opportunity to navigate spaces or entire cities indoors or protected from outside environments, including the weather, vehicles, construction projects, influences how people experience and perceive a city. At the very least, design features, such as arcades and awnings (see Figure 14) or more recently pedways and grade separated walkways, can provide people with a choice about how they move through a space or their level of contact with poor or potentially dangerous weather conditions.



Figure 14: This business entrance creates an alcove for people to wait for the bus in a protected space. Image taken March 6, 2017.

According to Norman Pressman, one of the most influential winter city proponents, this element of protection is crucial for winter cities (1995). At the same time, Pressman also offers a contradictory perspective against overprotection and believes people can only learn to adapt or accept the weather if they can experience it (1995). Nonetheless, previous inhospitable spaces can become more physically comfortable with the help of innovative design and temperature regulating technologies.

Inclusion and exclusion in cities

In terms of public space, inclusion has been associated with many concepts including: age, such as 8 to 80 cities which refers to the potentials of users being between 8 and 80 years of age (880cities.com); socio-economics or social classes and the segregation that can occur with dividing urban space according to this (Pitter & Lorinc, 2016); and the representation of histories with changing governments or residents over time (Sandercock, 1998). In many cases, inclusive cities provide an openness for multiple perspectives, inclusive processes, and access for all, including physical, social, and economic access (Imrie & Hall, 2001; Pitter & Lorinc, 2016). The World Bank considers “a complex web of multiple spatial, social and economic factors” to define an inclusive cities concept (2015, p. 2). Inclusive Cities Canada suggests an approach that considers diversity, human development, civic engagement, living conditions, and community services (Maxwell, Edwarth & Salole, 2005). Another perspective of inclusion, one that aligns with my personal position, suggests that ability or a person’s level of inclusion or exclusion is a fluid or temporary concept. For example, temporary or permanent injuries as well as the carrying of heavy objects or pushing strollers or carts can create challenges to navigate spaces and impact almost everyone at some point in their lives (Imrie & Hall, 2001). Thus, the benefits of inclusive spaces have a broader impact than most accessibility or inclusion manuals or reports suggest. Despite multiple iterations and definitions, building inclusive cities is a challenge and is often limited to defining certain vulnerable or excluded populations before pursuing design solutions (Pitter & Lorinc, 2016) . In addition, the very concept of inclusion directly relates to exclusion. That it is designing spaces for the majority or on the other hand a specific group of people excludes other people either intentionally or unintentionally

(Madanipour, 2004). And with this understanding, spaces are often designed for specific purposes without attempting to reach an impossible goal.

Exploring the potential for inclusive cities with colder climates

Microclimate is often suggested as the first step to improving winter livability (Pressman & Tennyson, 1983). A basic understanding of how the built environment alters the climate above and around it can provide a base level for climate-based design solutions (Pressman in Manty and Pressman, 1988). However when people are considered, the experience of a space is more complex than only the climate, and the design solutions should continue beyond a study of microclimates. Vikas Mehta's evaluation of public space extends beyond physical comfort and includes inclusiveness, meaningfulness, safety, and pleasurability (2014). Building codes and accessibility manuals (or design manuals) have a similar audience as microclimate assessments. Codes and manuals provide the basic requirements for buildings and public space considerations. Unfortunately, these requirements often do not represent the actual lived experience, interpreting the codes can be difficult, and implementing requirements limits the potential for innovative approaches to accessibility (Rimmer, Riley, Wang, Rauworth, & Jurkowski, 2004).

Therefore, instead of viewing design challenges related to inclusion and winter as equations to be solved with enacting different regulations or manuals, reassessing how people perceive and communicate the challenges can reveal alternatives. While inclusion and welcoming spaces are necessary throughout the year, winter can be particularly challenging for people to leave their homes and engage with the larger community and city spaces (Hjorthol, 2013; Wennberg, 2009). In many cases, this sense of exclusion is related to physical discomfort and the weather conditions (Ripat, Brown, & Ethans, 2015; Wennberg, 2009). Removing snow banks or ice build up and other maintenance related tasks can improve physical access and begin to remove boundaries that prevent people from engaging with their community (Ripat et al., 2015). However, limiting inclusion to physical and climatic factors is a narrow perspective about what influences comfort and usability of spaces. Physical access and the microclimate are critical to the experience, but there is a more complex story involving the design, planning and governance of

space regardless of the time of the year or weather conditions (Li, 1994; Nikolopoulou & Steemers, 2003). For example, maintaining some sense of predictability can help people cope with unexpected changes in weather, predictability such as reliable transit routes or effectively communicating traffic detours and delays (Burton & Mitchell, 2006). The intersection of winter and inclusion points towards the potential for different scales of impact and context-informed solutions to consider for improving experiences of urban spaces. Intentional planning for cities with colder climates should do more than design comfortable microclimates and create guidelines or manuals to improve the built environments (Li, 1994). And from some perspectives, so-called winter cities “work poorly in all four seasons” (Gehl, 1992, p. 15). Therefore, a case study of the experiences of inclusion and exclusion in one city during the winter, such as this one, can indicate which factors of spaces or cities impact people and determine if there are winter specific, or more general, improvement opportunities are necessary for more inclusive, winter cities.

Introducing the case study

With a history of development rooted in natural resources and developing governments, Edmonton is planned for efficiency and the city’s design reflects the many boom-bust cycles impacting the city and its economy (S. Low & Low, 2018). The city developed as an urban, vehicle-dominant metropolis during the mid-twentieth century and has remnants of different planning traditions and architectural trends from the past one hundred years (S. Low & Low, 2018). The resource-based economy and significant development booms during the twentieth century align with readily available technologies, including vehicles, central heat, and personal televisions and computers, and a growing desire for single family homes and private space. Like other Canadian cities, suburban communities grew, and accommodating commuters became the goal of planning throughout most of the twentieth century.

From some perspectives, the extreme climate projects a certain “seasonal enthusiasm”, particularly in Edmonton, that is limited to the short summer months (Stuart, 1998, p. ii). Edmonton capitalises on this with many summer festivals that take advantage of warm summer days and long summer evenings (as a benefit of

the northern latitude). At any time of the year, Edmontonians are known for being particularly hardy when it comes to the weather and showing their support regardless of the weather. Festivals and special events are often hampered by varying weather fronts (including high or low temperatures, rain, hail, snow, and forest fire smoke), but this does not discourage people from attending events ranging from colder late-night art shows, rained out music festivals, or windy winter sporting events. There are also many active winter athletes in Edmonton. Downhill skiing facilities have developed in the steep river banks, cross-country ski courses are set along the river valley paths and in golf courses, and both indoor and outdoor skating rinks are common amenities in the city. Hockey, skating, curling, or more recently winter biking are popular activities for all ages and introductory courses are marketed to newcomers as ways to engage with the community and potential survive the season.

A unique feature of Edmonton's governance

The city of Edmonton is divided geographically into 157 number of communities with corresponding, volunteer-run community leagues. As one of the world's first cities to adopt community leagues into its governance model, this entity adds another level of ownership and responsibility to managing and designing public space (S. Low & Low, 2018). The community league is provided with space and responsible to develop according to the desires or needs of the community. In many cases, this public space includes a community hall, outdoor ice rink, and other indoor and outdoor amenities. The league is organised by volunteers living in the community who are responsible for managing, maintaining, and developing the areas, very similar to a private business. Being involved in the processes that shape spaces and conditions of the community contributes to a sense of ownership and responsibility toward the environment (Madanipour, 2004). As illustrated through the following case studies, these community leagues are important to programming spaces and providing connections to the neighbourhood community and larger city.

Research Design

A nested case study approach is taken to explore how the current design of three spaces in Edmonton support everyday, winter experience and if design

interventions can contribute to a more inclusive and welcoming winter city. As North America's most northern city (latitude 54) with over a million people, an annual average temperature of 8 degrees Celsius, and 123.5 cm of snow a year, Edmonton fits well within Pressman's definition of a "winter city" (Government of Canada, 2019). And life in Edmonton and specific winter-related research has taken place in the city in the past. Among this research includes a study comparing Edmonton's development patterns to Phoenix, Arizona, a city with a very different climate. Although Phoenix is in a desert, both cities had access to inexpensive energy sources and developed within similar eras (the mid-1900s) and both have ignored the climate in the design of urban places (Pihlak, 1994). Another study compared two parks within Edmonton's downtown to consider the uses, access, comfort/image, and sociability within a winter context (Davies, 2015b). Qualitative data in the form of mapping, counting, and tracking was collected and evaluated in a quantitative manner of rating spaces in terms of specific qualities. Most recently, the barriers and opportunities for winter patios were also the topic of recent research in Edmonton (Sanborn, 2017). This research assumed a climate sensitive planning perspective and addressed potential challenges and barriers to incorporate winter patios in the city. Privately-owned businesses participated and discussed barriers in design knowledge to create comfortable, outside winter spaces and the inability to analyse the current microclimate for their patio areas. In addition, the research revealed economic barriers, a lack of interest, and the assumption that patrons shared the owners' lack of interest in winter patios (Sanborn, 2017). Other research has identified design interventions targeting winter experiences. A decommissioned power plant in downtown Edmonton was the setting for a study proposing architectural interventions aimed at improving engagement within the city and creating a temperature controlled, year-round public space (Zabinski, 2014). In this research, the focus was on harnessing warmth that exists in winter conditions, such as steam, but also providing warmth in a public realm. Another project resulted in a design proposal for an ice-skating path connecting neighbourhoods on the north side of the city. The intention was for the path to become an active transportation route during the winter season (Gibbs, 2013).

The City of Edmonton has also participated in its own research. Beginning with tours of international examples of “winter cities”, involvement in the *Winter Cities Institute* and their recently published *Winter City Design Guidelines*, which includes prominent winter city advocates (such as Norman Pressman) and echoes climate sensitive design and planning principles (City of Edmonton, 2016). The extent of previous research along similar lines and the interest from council illustrates the support for this type of research and the desire to adapt the city for more positive winter experiences. The research herein builds on these previous studies, earlier climate sensitive design literature, and adds a critical lived experience to Edmonton-based research.

Methods

To narrow the scope of the research, I prioritized three sites within Edmonton for this research. Three centrally located research sites were selected to collect a basic understanding of how design, planning, and governance people’s experiences in the winter. More specifically, these areas (Churchill - city square; Riverdale - downtown residential; End of Steel – central green space) are where observations and go-along interviews took place and the focus of visioning workshops. The areas were selected to represent diverse physical environments, users and uses, and forms of ownership. The methods are inspired by anthropology (Gunn & Donovan, 2012; Kusenbach, 2003), material culture (Hodder, 2011; Prown, 1982) and urban planning approaches (Mehta, 2009; Sanoff, 2000). I am basing my analysis on the assumption that built environments involve intangible social elements and that socio-spatial environments impact the winter users, uses, and lived experiences of urban spaces. I began the data collection with observing the spaces at various times of the day, week, and throughout the year. Observing the spaces helped orient myself and collect basic information to guide the future interviews and workshops. During these observations, I also experienced the space on my own and explored the areas with more attention to detail than past experiences in the same spaces. I highlighted how other people were interacting with the space, noted my own opinions about the design of the space and my personal comfort levels as I moved around the spaces and into the broader city. These interactions also led to deeper analysis of the designed things within the

spaces. For example, I made notes and photographed how things were oriented in relation to other things or movement patterns, evidence of wear and maintenance, and how people might interact with the things or not. The material culture analysis of things can highlight factors of things that are difficult to communicate verbally. And because things make up spaces and, entire cities can be described as an assemblage of things, the things hold weight in the experience of the spaces and the city as a whole. And this type of analysis can indicate towards the shared values and communicate meaning relating to people's attitudes towards things or other factors that are beyond the thing itself (Prown, 1982).

Next, to access the individual and immediate experience of these spaces, the moving, in-situ interviews (Kusenbach, 2003) took place at one of three research sites. Participants were asked to lead tours through the sites and refer to design features, the function of the entire space, or broader city-wide issues that impacted their experience during winter conditions. More specifically, I asked participants if there were certain features that might include or exclude them or other people in both winter and non-winter conditions. This included accessibility features, such as surface selection, effective lighting for signage, and features that made them feel welcome or comfortable, such as benches, windows, or programmed activities. I approached participants using snowball recruitment and targeted community members and people involved in planning and design. This led to a combination of people referring to their lived experiences and people referring to creating or designing spaces for other people's experiences. In total, fourteen people were interviewed, and interviews lasted between twenty and ninety minutes.

The interviews provided the inspiration for progressive visioning workshops with a participatory research approach (Sanoff, 2000). The first workshop explored winter-specific definitions of inclusion and inclusive cities and challenges that are specific to winter cities. Participants were asked to reflect on their own experiences, consider other perspectives in the room, and suggest general design interventions that might improve overall winter experiences. The second workshop targeted how design can help Edmonton be a more inclusive and welcoming winter city. Participants had access to the ideas generated in the first session and evaluated these ideas based on specific areas in Edmonton. Aerial view photographs (from

Google Earth Pro) were used and participants were asked to talk about the spaces in terms of winter uses and connectivity from a larger neighbourhood and city scale.

Analysing and interpreting the data was an iterative process and integrated the multi-staged data collection and a diverse data set. Transcribing and coding interviews began this process and the codes and categories were compared to themes in the visioning workshops. Initial themes based on climate, weather, previous experience, physical access, social and emotional responses, and responses to other people were interpreted as connectivity, physical and social inclusion, a winter vs. year-round issue or solution, or attitude themes. Thematic analysis from the interviews and workshops was cross evaluated with observations and either presented as a common theme shared by many perspectives and supported by observing others, or as an individual feature that is unique to the participant's experience. The final stage of analysis involved writing initial findings and presenting the results and preliminary conclusions at conferences. This process ensured the data was relevant and the findings could be applicable to other places with different contexts.

Detailing the lived experiences in three Edmonton spaces

The next sections describe the findings from each research site separately before intertwining the cases and exploring the experiences of the larger city.

Churchill Square

Churchill Square is designed as an open public space. It is in the heart of downtown Edmonton surrounded by City Hall, the provincial art gallery, Edmonton public library, a downtown mall, and two performing arts centres. The space itself is one square city block and is currently used for various events, festivals, and other gatherings.

The square was originally conceived as Market Square and was the site of a farmers' market from 1900 to 1964 (Merrett, 2001). As development grew up around the square, preserving the space as a public space was deemed valuable and various iterations of revitalisation and redevelopment occurred, with the most recent completed development in 2004 and another redevelopment currently underway. The 2004 re-development replaced grass with paving stones for easier

maintenance, better access for wheeled users, and more open space for people to congregate (Figure 15). For the most part, people use the space for what it was intended: a public space to take a break, “I like to come here on lunch breaks to people watch and enjoy a space in the middle of the city” (Participant 4); as an open area to traverse across and access nearby spaces, “I will park east from Churchill Square and walk across the square into the pedways and nearby shopping mall” (Participant 1); or to celebrate culture and community in the city, “I come here most often during the festivals that happen here” (Participant 2).

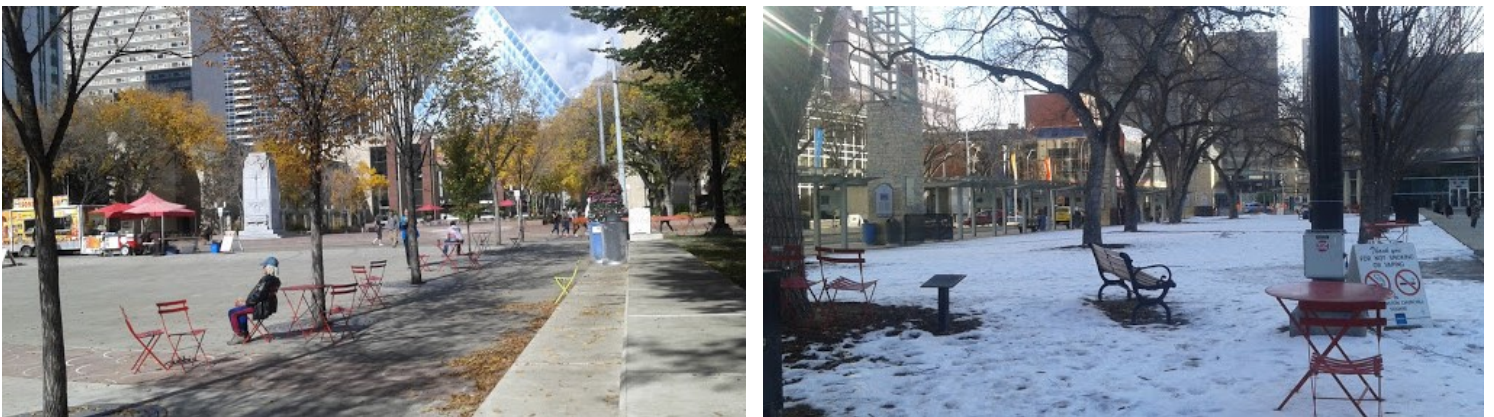


Figure 15: Left: Churchill Square large concrete surface facing north in sunny conditions. Image taken September 19, 2017.

Right: The small area of grass in Churchill Square that is not cleared of snow during the winter and located in the shade of trees. Image taken February 13, 2017

Specific design features encourage families into an area of the city predominantly used for civic affairs and businesses. People are drawn to a large fountain in the summer and a skating rink in the winter: “I like to bring my nieces and nephews here for the wading pool and fountain. It’s nice for them to experience an adult space that is good for kids too” (Participant 2). To counter downtown safety concerns, the square is monitored with a heavy police presence throughout the day. While it is unclear if this translates into people feeling their privacy is compromised, the space is often populated by diverse groups from different cultures and socio-economic backgrounds, and the people we spoke to enjoyed being able to watch different groups interact and share space with other people.

Programming is critical to the function of this space. Multi-day food, cultural, or art festivals often target different groups and encourage an after-work

crowd. More informal programming is organized by non-profits, such as the Edmonton Arts Council, who provide basketball hoops, ping pong tables, and portable campfires for the public to enjoy at their leisure during the daytime. City Hall is one of the few buildings in the area open to the public to use washrooms, warm up during the winter, or find some shade in the hot summers. This public access into the building provides the necessities required for people to stay for longer periods of time and different events and programming invites multiple visits by locals and visitors to the city.

Winter context of Churchill Square

In the square, winter and summer are visually quite similar, but with much less density in the colder months and snow is removed early in the morning to ensure morning commutes are uninterrupted (Figure 16). People use the space for similar purposes throughout the year: as a commuter path or shortcut and a gathering space. For example, New Years' Eve fireworks and the city Christmas Tree take place here. The City Hall is located along the north west corner and "the building acts as a wind break, so the area close to City Hall is not very windy" (Participant 6). "Edmonton gets a lot of sun in the winter" (Participant 5) and the Churchill Square is large enough and far enough away from tall buildings that sun can penetrate to the sidewalk. On the other hand, the large, empty space allows wind to pick up speed and make the space rather uncomfortable at the far end of the square .



Figure 16: Churchill Square (left = looking north, right = looking south) is cleared early to accommodate morning commuters. Wind can pick up speed in the large, unobstructed space. Image taken at 8:57am on March 6, 2017.

The buildings around the square are important to its function. The public access into City Hall and some surrounding buildings provides a refuge from cold weather and accommodate groups with varying comfort levels. In addition, large south facing windows on City Hall create a connection with the outside and convey a sense of transparency through the design of the building. In addition, the pedway system runs underneath the Square connecting it to a major transit station and with other downtown buildings, parking, and entertainment facilities. Participants felt these features are important to the winter specific experience and allowed the space to accommodate people with varying tolerances to the weather conditions: “One of the nice things here in the winter or summer is that you get sun and shade... if you have somebody who can’t do a lot of sun, then you can find shade or air conditioning, or find heating depending on the season” (Participant 2).

Reflections on inclusion in Churchill Square

Participants in this research rarely remained within the confines of the City Square suggesting an urge or desire to experience these other areas and the importance of connection between spaces and places. From a winter perspective, the need for connection and creating a network between spaces or destinations is critical (Pressman, 1995). In the downtown core, buildings, parking facilities, and retail centres are connected with a series of pedways located on the second level or below ground. The intention is to allow people to move freely between buildings without needing to go outside, particularly convenient during cold, wet or snowy conditions. Participants appreciated the choice to “take the LRT..., grab a coffee and then walk through the pedways...if it was cold [or] If it’s beautiful then I want to walk outside” (Participant 1). The ability to walk across most of downtown without being exposed to inclement weather was a positive for not needing to put on winter clothing to move between buildings, and access to transit or commuting to parking lots was a benefit for most people. For people who struggle with walking outside, the pedways can also provide “get out of [the house] and go for a long walk” without having to navigate snow covered or icy sidewalks (Participant 5).

At the same time, Edmonton’s Winter Design Guidelines oppose the use of pedways under the assumption that pedways contribute to a decrease in street life, which is detrimental to the city regardless of the weather conditions (2016). Some

participants felt there is a need to re-educate about clothing choices to prepare for being outside because “the worst is when you wear crappy shoes and you’re not bundled up. And...I definitely dress differently if I’m only spending a bit of time outside versus if I’m going outside [all day]” (Participant 12). Navigating pedway system is also a concern. A combination of private and public ownership and lack of elevators or access points connecting to the street level creates frustration and confusion for people: “If you go from city hall and you're in a wheelchair, you can take a elevator from city hall, through the pedway, past the first entrance to the trains, snake all the way through past the mall entrance and then the entrance is over there. And the elevators are really slow...So it's a really long trek if you need an elevator... it becomes a usability issue rather than checking a box” (Participant 5). Opinions on both sides were shared, sometimes in the same interview. Some participants were aware of the city’s negative opinion of the pedways and often understood the concerns but also appreciated the comforts they offered and referred to situations when they would use either pedways or sidewalks and potential reasons related to this decision, most often related to wet, hot, or cold weather conditions or avoiding street challenges such as long wait times at lights or loud, dusty and difficult to navigate construction.

The square is designed to either walk across between places or to stay and take part in the activities. The mostly empty space and paving stones or concrete surfaces are easy to maintain and move through or across “and much better [than the grass] if you have somebody in a walker, stroller, wheelchair, and seniors with physical disabilities” (Participant 2). However, the material is not well suited to the conditions (both for the climate and freeze/thaw cycles and to provide a smooth surface to walk or roll across) and cracks or missing pieces can add “mobility and balance issues...the less even it is the more difficult it is to get around” (Participant 2).

Amphitheatre type seating on one side of the square allows for clear views during shows and performances, but also ensures that people who are using the space or participating in the programming are effectively on display and people can watch them. In some cases, like during festivals, this is intended. Other times, while unintended, such as “people playing table tennis...or chess” (Participant 2), or “the

man changing his socks...[or] a woman doing interpretive dance in the fountain with no clothes on” (Participant 4), the people watching adds an element of comfort and entertainment. People are allowed to “make [themselves] at home and...have every right to be here, just like I do” (Participant 4). To sum up, this urban space, while highly designed and programmed, is as I would expect contentious in terms of who uses the space and for what purposes. It is easily accessible via transit, less so for drivers or pedestrians (because parking lots and residential units are not close by), but with multiple civic and arts institutions in the vicinity, the square does attract large amounts throughout the year. However, the winter and summer uses vary significantly highlighting the opportunities for design and planning to improve the winter experiences of the space.

Riverdale

The second site is a mature neighbourhood (Riverdale) located in the river valley and a fifteen-minute walk from the downtown location. This area is primarily residential, with some urban parkland located next to the river, an elementary school, a cafe, and a community hall and garden space. Built as an industrial area in the 1890s, the community is in a floodplain and development was stalled throughout most of the 1900s when the City banned development permits to expand the river valley naturalisation program (Participant 8). The City began to allow development again in the early 1970s and the community swelled into a community of 2000 people and over 900 dwellings today (City of Edmonton, 2016).

The steep riverbank physically separates the community from the downtown and creates an exclusive community along the river with almost 360 degrees of river frontage. A strong sense of community is instilled in many residents and shared through the community league, who plan projects and programs and advocate on behalf of the community regarding various issues and concerns. Most notably, interview participants from the neighbourhood felt a sense of responsibility for the river valley and preserving the connection to nature through views, path systems, education, and the unique history of the community through information nights, monthly newsletters, and publications of activities or histories (Participant 8). People also referred to a sense of uncertainty throughout its history, beginning with the status of it as a community, and the recent City administration decisions that the

community opposed. A distrust in government is suggested by the strength of the community league and community efforts to communicate within the community. The history of the community continues to influence the involvement of many community members. The addition of a recently opened cafe (2015) in a historically recognized house was welcome in a community with no other commercial properties and quickly became a gathering space for the community and for people visiting the community.

Finding and accessing the community is physically challenging due to both the neighbourhood design and the natural geographical features. With only one main road bisecting the neighbourhood, driving into the community requires navigating confusing intersections from downtown with little signage indicating the way to neighbourhood features. Public transit is available on a main thoroughfare and a community route operates during peak hours. Walking or biking into the neighbourhood is also somewhat difficult. The steep riverbank, which also acts as a visual boundary, is also a physical boundary and “stairs are really steep and...skinnier than normal...It makes it hard to walk down (Participant 10) (Figure 17). Although the river valley path system goes through the community, the connection to the downtown has been cut off and under construction for the past two years. The



Figure 17: Images of the stairs and steep riverbank physically separating Riverdale from the downtown area (at the top of the riverbank). Images taken: March 17, 2017

detour reroutes people to above the park or through the neighbourhood streets and up the steep hill into downtown.

Once in the neighbourhood, the mobility story is quite different. Walking and biking are common and with light traffic, the roads are often shared between vehicles and the slower modes of transportation, including walking: “walking on the street feels easier than the sidewalk and other people are doing it too” (Participant 10). Tree lined sidewalks throughout the community, a paved path with benches, an additional unpaved route closer to the river, and a large park provide a physical connection to nature and the river (Figure 18). For newcomers or visitors to the neighbourhood, feeling comfortable walking on the streets was important because navigating the neighbourhood and street system was at times difficult: “I came here once in the summer...we wanted to see if we could walk along the other side, but we couldn’t figure it out, so we just turned around” (Participant 10).



Figure 18: Looking towards downtown on a multi-use trail running parallel to the river valley.
Image taken February 9, 2017

And with no definable or well-known features, except for the cafe, visitors are unlikely to venture beyond here because navigating the community is difficult. A modified grid system superimposed on the former brickyard has led to dead ends and unexpected roadways. Not to mention, the cafe itself is difficult to locate due to no signage or clear frontage; other features, such as river valley access or a large park could also benefit from wayfinding and signage. While the time spent in the neighbourhood is rather pleasant, a first impression of the neighbourhood unmediated by a community member can be daunting and considerably more difficult in winter conditions.

Winter context of Riverdale

'Considerably more difficult' relates to the sudden onset of a snowstorm I experienced on a late January afternoon, after the cafe had closed. Having walked from downtown earlier in the day, and unaware of the transit available in the area, the same pleasant walk down into the river valley felt like climbing a mountain to find a public space with heat as a snowstorm came in and the sun was quickly setting. The isolation of the neighbourhood was the lasting impression from that day.

However, for people who live in Riverdale or others visiting in fairer weather, the winter experience is not limited to isolation and is more about design of the community and its destinations. The tree lined sidewalks and steep riverbanks pose certain snow related challenges, including "sidewalks covered in water. There are a few lakes around here" (Participant 10). Ice buildup and "crazy runoff [would make it] very hard to walk here" (Participant 11). However, rather than preventing people from walking at all, there are "not as many cars [on the street], so it feels safer" (Participant 10)—something I also observed in the neighbourhood (figure 19).



Figure 19: Various walking conditions in the Riverdale community

Left: People walking on the street during clear conditions.

Right: Ice builds up on a shaded area of steep section of sidewalk. Images taken February 9, 2017.

The neighbourhood has a number of winter destinations both programmed and unprogrammed, but well known in the community. One notable destination is a toboggan hill, otherwise known as Mount Graham, to honour Mr. Graham who built a toboggan hill out of straw bales every year (Participant 8). It was built to repurpose excess material removed during the community garden construction. There was also

reference to the temporary ski or snowboard hills and jumps being built in a nearby ravine. A city operated park is located on the far north end of the neighbourhood and provides a connection to the river valley and the path system, an off-leash area for pets, and public washrooms. There is also an outdoor fireplace in the park, a rather lesser known feature of the park and somewhat unique to Edmonton parks (Figure 20). More programmed spaces, such as the outdoor rink and community hall, are well programmed and maintained. Annual hockey tournaments bring the community out and the community hall and heated skate shack are important features are popular gathering spaces (Participant 9).



Figure 20: An image of the outdoor fireplace located in a public park next to the river.
Image taken February 9, 2017

The cafe is also one of the few businesses in Edmonton with a winter patio that encourages people to take advantage of the warm, winter day. Winter patios are a growing trend in Edmonton and supported by the city of Edmonton administration, specifically *WinterCity Edmonton*, who provides marketing, promotion and information to encourage business owners to incorporate winter friendly patio features, such as wind barriers, blankets, and south facing seating. This Riverdale cafe is often used in publications as a good example for other businesses to replicate in terms of design and programming.

Reflections on inclusion in Riverdale

Likely related to its controversial history and conflicts with city administration about numerous community and river valley projects, the community is motivated to protect certain values, and in turn, either protect private developments or open spaces. A sense of community and shared responsibility sustains this community and this is being challenged by economic and social changes (Participant 9). For example, large homes along the river bank illustrate a sense of economic wealth overcoming the social benefits of access to the river. At the same time, there is a feeling of responsibility for the space and neighbourhood. Conserving the river valley and natural areas are important values for some people living in the area (Participant 8), and this is likely due to the proximity to the river itself. Located in the river valley, the water's edge is somewhat accessible, a unique feature in the city.

However other than a steep riverbank, the community is not physically exclusive, and anyone can enter and leave as they desire. River valley path systems once connected the community to others along the river valley and provided a scenic and direct route into the downtown core. At the present time, this route is closed for construction of a rail transit bridge. Special features and potential destinations, like the outdoor fireplace, are not well known to the general Edmonton public, even for people exploring the neighbourhood such as those involved in this research (including myself, until a resident participating in the research pointed it out). The spaces within this neighbourhood require a sensitivity to the community, ensuring a sense of ownership, while encouraging other members of the community towards destinations and to share a sense of responsibility for the river valley. There is also an opportunity for the community to share knowledge with others about their successes and challenges.

End-of-Steel Park

The third site was designed as a passive green space and to honour the first railway connection between Edmonton and the south. End of Steel Park is located on the south side of the North Saskatchewan River and the downtown, this park space is two city blocks long by one block wide and within two blocks of many of the city's theatre venues. Most of the landscaping is grass with a newer sidewalk bisecting the

park. The historical significance of this space is represented with a CP Rail Caboose located on the site and (unmaintained) signage. Across the street from the park is the Strathcona Community Hall and facilities, including tennis courts, outdoor skating rink, splash park, and playground. Other than people passing through the park, the uses for the park are limited to open spaces and one area of benches (Figure 21).



Figure 21: The walking path through the park and the sitting area with trees and benches.
Image taken December 28, 2018

The location, size, and connection to the city’s history contribute to the potential for a useful, urban green space but a lack of vision and maintenance resulted in its current unfunctional, uninspiring state: “Obviously the park has something to do with trains, but I have no idea what” (Participant 12). Being only two block away from the city’s popular entertainment district and on the corner of two popular vehicle thoroughfares is the park “is really quiet already compared to White Ave” (Participant 12). Other than one or two festivals a year, the dominant users of the park are commuters crossing through the park, like the City Square location, but instead connecting residential neighbourhoods to the government institutions farther to the west.

However, the park is “not a very interactive space at all” (Participant 13) and “[other than the open space and trees] there’s nothing else about it that would make me stop” (Participant 15). Instead, the community league park and facilities across the street are more of a draw. But there is a sense the “space has a lot of potential” (Participant 13). Recent development reflects a reactive solution to make

maintenance easier, such as paving a path where grass died due to people walking over it, or to reduce criminal activities, such as removing bushes or trees to improve visibility from the streets: “it’s a weird balancing act [between] intimate and private, but it also needs to be viewable by the general public to keep an eye on it” (Participant 13). There are planted trees creating “little nook [where] you can hide from the world and have a little bit of nature even during the winter” (Participant 13).



Figure 22: An image of the river valley outlook point and the edge of the park just south of a busy roadway heading east and west. Image taken December 28, 2018.

The opportunity to connect with nature and have some privacy was a positive feature, but also something that needed to be managed for security reasons (Figure 22). And even though the river valley can also provide a connection with nature, the physical barriers are difficult to overcome: “I find it funny that you don’t get the view from here since this is supposed to be the viewpoint [here] on the raised section...it would be nice [the park] was actually connected [to the river valley]” (Participant 12); “you don’t get drawn to the space with any sort of a pretty path [from Whyte Ave]...instead you immediately have another parking lot” (Participant 13).

According to the signs that are still legible, the installation of plaques and information cards and the train caboose sitting on tracks occurred in the 1990s through a fundraising campaign, but lack of maintenance has led to their currently illegible and damaged state: “the boards don’t even work, they’ve just been abandoned” (Participant 13). Nearby signage indicate that the park is owned by the city, who is responsible for maintaining it. However, this is likely limited to park

maintenance and not special features, such as talking information booths or information panels.

Winter context of End-of-Steel Park

With little maintenance requirements, winter is not that different from summer in the park. The uses are clearly defined through design and the location and proximity to Edmonton's popular entertainment district is a benefit for the park. Venturing to this park is possible and safe in winter conditions because there are commercial properties close by to provide a place to warm up (unlike the Riverdale location) and somewhat easy access to very regular public transit on the main road two blocks away and main traffic thoroughfares, but neither of these occur within the actual boundaries of the park. The draw of the park for festivals and larger events is this connection to nearby venues, particularly in winter. However, the close proximity does not necessarily ensure physical connectivity. Walking to the park requires walking through a parking lot or unpaved path beside a busy road, crossing at only one demand-lighted crosswalk, or "you basically have to jaywalk" (Participant 13), which is very popular based on the snow path seen in snow. Even short barricades to prevent this behaviour are ineffective or too short and tall snowbanks are traversed over to save a few seconds or minutes, depending on traffic (Figure 23). Within the park itself, the choice between pavement or grass can make a difference: "obviously flat surfaces are easier to walk [on], but I enjoy walking on the grass... if I was going to do distance I would look for something hard to walk on" (Participant 15), especially if the grass provides a shorter route or a shortcut: "if I can shortcut on the grass I might do that" (Participant 15). In this case, the path is positioned at an angle creating a triangle and snow clearing is easy and occurs often throughout the winter.



Figure 23: A popular path that is not necessarily accessible or safe, but it is well used. Image taken on February 4, 2017.

Reflections on inclusion in End-of-Steel Park

As an urban park site, a main difference between Riverdale and the End-of-Steel Park is likely an ownership issue. An active community league, like Riverdale, maintains a hall, ice rinks, spray park, and playgrounds, but this area is located across the street from the End-of-Steel Park. With their own facilities to maintain and advocate on behalf of, the city-owned park is not considered a community resource.

As a city-maintained park and mostly undeveloped grass area, there is a potential to host large gatherings, such as festivals throughout the year, which happens in the park about once per year (the annual Pride Festival). However, without any access to interior space, visits to the park in poor weather conditions will be short and often limited to a quick walk through. Winter festivals supply their own interior space (as is the case with Ice on Whyte (Figure 24), which occurred here in the past), which can increase people's length of stay and can accommodate different tolerances for weather conditions. For the most part, participants "have driven that road a lot" (Participant 12) and knew about the park, but only actually visited the park for festivals (the aforementioned Pride Festival), they came as a child when "you used to be able to go into the [train] car and...[the park] was used more like a museum" (Participant 13), or had not visited the park before. The history

of the site is a point of interest, but not reflected in the current state of the park. People wanting to know more about the historical significance, beyond what is inferred to based on the name, had to look elsewhere for resources separate from the physical environment. And the bisecting nature of the path draws people through the park quickly, as a shortcut, rather than highlighting the interesting features of the park. Thus, reiterating that “there is nothing to draw people in” (Participant 13). And while there is good proximity to nearby retail, restaurants and theatres, parking lots and busy roadways create a visual barrier. But, the “space has lots of potential” (Participant 13). A well-maintained destination that is easily accessible from nearby retail and restaurants, and even parking lots, can motivate people to get outside for even a short while and learn about their city’s history while being outside and in the actual place where the history took place.



Figure 24: Ice on Whyte Festival facing north
Image taken February 7, 2017

Case Conclusion: The Patterns of Winter-Related Inclusion and Exclusion

The following section describes the situation in Edmonton and more particular details about the three research sites and the potential conclusions based on people’s experiences and my observations.. The conclusions presented here point to the patterns of inclusion and exclusion that I felt became clearer during winter conditions or how people talk about their experiences during the winter.

1. Context specific solutions

Context refers to the people, culture, and histories of particular spaces (Amin & Thrift, 2002). For example, Edmonton's history relates to a boom-bust economy and has contributed to very few preserved reminders of its history (S. Low & Low, 2018) and yet how this historical context contributes to an area will change based on scale or perspective. Preservation of buildings or tangible heritage will occur at different rates throughout the city, based on the specific needs of the community, but also the influence of the administration or the relevance of that heritage to the larger city or region (Madanipour, 2006). All three sites in this study are challenged by this relationship with heritage, especially in relation to the current construction and renewal projects. City-wide projects, such as expanding or improving public transit, can impact the short-term and long-term experiences of smaller spaces throughout the city. For example, the transit expansion and a renewal project in Churchill Square relocated two summers of festivals to other areas of the city impacting the businesses there. The construction of a new transit rail bridge for at least two years cut off the 'easy' trail into the downtown and now going from Riverdale to downtown requires hiking up the steep, vehicle-friendly hill. Potential solutions are not necessarily to prevent development completely, but rather to take proper considerations for users to ensure a level of predictability that encourages repeated use and familiarity. Improving communication of interruptions or renewals through signage and wayfinding, or involving user groups, community members, and business owners, in the design of accommodating decisions, has the potential to alleviate concerns and improve the reaction to temporary, construction detours, or permanent changes in the spaces.

The context of a space or city will determine if duplicating designs or plans from other cities are successful (Van Assche, 2007), particularly when climate and personal comfort are considerations. Edmonton's cold, dry climate is different than eastern Canadian cities with much higher humidity levels and thus individual decisions, such as the types of clothing required to be comfortable outside, will vary. For example, participants in this research made clothing and shoe decisions based on anticipated length of time spent outside or the ability to use indoor spaces to move around or the potential for temperatures to increase and melt snow into slush

later in the day. Inspiration from other cities and design criteria for winter cities and inclusive cities will benefit the end users on a basic level and on a greater level if the values and specific contexts in place are understood and involved in the design process (Westerberg, 1993). This consideration will produce more culturally relevant and user-friendly spaces, but also accommodate the economic and physical landscapes that exist, and which histories dictate the design and use of particular spaces.

2. A networked city: sharing spaces, knowledge, and experiences

Planning a winter-friendly city where people feel included is not just a matter of planning for specific winter activities or events, but also efficient connections between people and places, opportunities to engage with a variety of different activities, and interesting destinations that encourage people to get out and experience their city. Roads, bike lanes, pedestrian paths, or even cross-country ski paths that link to public transit and destinations can impact people's experience beyond the potentials of design or planning and should be a focus for all cities, regardless of the weather or climate... Promoting multi-modal transportation in lower density cities, such as Edmonton, is an all year solution for winter city dwellers. In Edmonton, year-round activated bike lanes (figure 14) and a community-led cross-country ski/public transit network are success stories that illustrate the potential benefits of network thinking. In addition, the ability to incorporate physical activity into commutes contributes to better health and improved perceptions of the city. However, for less physically active or sports interested Edmontonians, winter can be difficult to navigate and engage with. Leaving the warmth of private homes for rather uninspiring public spaces that are difficult to access without a vehicle makes winter a long, lonely season. For people involved in this research, getting outside felt easier if they could actually get around, including factors such as efficient and predictable transit, cleared and maintained sidewalks, and if there was somewhere to go, like creative or interesting destinations.

And these factors relate to the network between and among them. Creating an easily read network between spaces with proper wayfinding, but also ensuring the long-term perspectives of developing a network will improve the usability of the

network –something that came up through discussions in this research and an element of planning that is applicable to most cities, regardless of the climate. When routes and paths are interrupted with construction, such as those discussed above, there is the potential for misunderstanding users and, for a case in this research, prioritizing long-term goals of moving vehicles more efficiently rather than the pedestrian using it today. As we referred to earlier, people can adapt to changes. However, managing how people adapt is difficult, if not impossible. For example, as we heard from participants getting people back on the paths after many years of construction or interruption is often difficult as people have changed their behaviour in reaction to the earlier interruption. In addition, communication within a space can also occur in a more intentional, purposeful way. Careful use of materials and colour can direct people to spaces or destinations without signage. One participant in this research referred to the Edmonton Transit System’s use of tactile finishes and concrete design to indicate the edge of platforms or direct people to the station. Concrete design is also employed in a privately-operated downtown park to direct people to a ramp across the park. In contrast, the downtown square uses colour and finishing materials for visual interest with no apparent purpose. This is a missed opportunity to acknowledge the complexity of the landscape and incorporate useful design as visual interest.



Figure 25: Recently installed (2017) protected bike lanes are well maintained and an increasingly popular choice for commuters. Image taken on February 6, 2018.

In this research, the importance of a network or connectivity to other spaces was an unexpected finding. The interviews were not limited to time or space and participants were directed to comment on the elements of a space without specific definition of the space. In most of the interview tours, people wanted to explore and engage with spaces beyond the named research sites. Or in other words, the boundaries as defined by the research sites are fluid and perceived differently by participants. Churchill Square either began in the square or not, and in every interview included streets around the square and the larger downtown area. The End of Steel Park tours began in the park and moved into the residential neighbourhood surrounding the park. And because the Riverdale case included the whole community, the boundaries were unfixed from the beginning. The span of the area provided enough context to refer to and draw upon during the tours. However, because of the large expanse included in the 'boundary' of Riverdale, the participants referred to experiences in other areas or features and often compared this area to other spaces in the city. Thus, in a way, the boundaries were being crossed in a more figurative form rather than physically moving from the space itself. Each participant chose to talk about and refer to different elements of the space or traverse the spaces and neighbouring areas differently.

Through talking about how people accessed these spaces or others, how often they came, and if they were compelled to travel beyond their own community or homes, or more generally, what features of the city or spaces got them outside in winter conditions. Networks between spaces, homes, people, and places and the perception of boundaries influenced if people felt welcome or included in the spaces and the city as a whole. Knowing about and being able to access the networks of paths, ski routes, or skating trails, was as important as having parking available, predictable transit options, and feeling connected to other areas or other people in the same space and the city.

3. Blurring the boundaries between fast/slow, interior/exterior, public/private

Similar to the fluid boundaries of the research sites, urban spaces and entire cities can benefit from more integrated, fluid thinking in most degrees of design,

planning and governance. The results of decisions such as interior and exterior were easier to discuss when people talked about the spaces in terms of the winter conditions. On one hand, providing interior space can be considered as ignoring the weather and forcing people inside (Pressman, 1995). On a larger city design scale, being accustomed to accessing interior spaces creates opportunities to escape from the cold, but also leads to a reliance on the publicly accessible, unlocked buildings, like pedways. Individual or cultural adaptations to climate are methods of coping and will increase the length of stay in any space, particularly when poor weather is an issue (Hitchings, 2011). Therefore, as an alternative allowing people to adapt, through learning how to dress for the weather and to reflect one's personal style or becoming more comfortable with being chilled or cold, is an important and complex consideration (Hitchings 2011). At the same time on a smaller scale, the option of interior space can increase the amount of time spent in public spaces and the variety of users who feel welcome. For example, families with varying tolerances for the cold can find different spaces to satisfy different needs, such as the need to warm up, use the washroom, or stay outside longer than other people would like to. The accessible, open interior space in City Hall welcomes people inside to warm up or use the public washrooms while large windows maintain a visual connection with the outside. The presence of a community hall or commercial businesses with flexible operating hours allows people to escape poor weather and still engage with their community. In addition, smaller design decisions, such as adding trees or other natural or built shelters, provides shelter from the elements and a sense of protection for people. Harkening back to Jane Jacobs' eyes on the street theory, more people in a space or on a street contributes to an increased feeling of security and the ability to reach out in times of need (1961 as cited in Amin, 2008). If people can stay within a space for longer periods of time, they can experience the space from multiple perspectives and their interaction with other people, or not, can help guide people's experience of the space.

Although winter has specific climate challenges, previous research shows the experience of a space relates to more than just the weather (Li, 1994), something that my research also indicated. How people get to or the ability to access the space, past experiences or memories, and the ability to adapt to the

space through clothing decisions and attitude or adapt the space to meet our needs, such as moving chairs into sunlight or moving under an awning or trees if it rains will influence people's experience. The multiplicity of experiences, users, and uses that could occur within a space is at the root of this perspective. As I referred to earlier, connectivity is critical and without an understanding of what *could* occur between spaces, the ability or desire to connect spaces is ignored. Integrating users and uses within one space contributes to a more useful space overall; however, satisfying all possible uses is unrealistic. Rather, an entire city scale perspective can ensure that almost all users and uses can be accommodated; flexible space ensures people can adapt the space to their own needs should a space not be designed with this need in mind. This relies on a multi-department perspective, but also a multi-community perspective.

Varying degrees of ownership, such as community leagues, city or privately-owned properties, also influence the people's feelings towards the space, relating to how they are able to influence or change the space to meet their personal or business needs (Madanipour, 2004; Mehta, 2014). As cities begin to realise the benefits of privately-owned space and promote this type of development through different permitting requirements and zoning, the implications on people's ability to engage with the space should not be ignored. From a cultural perspective, this emerges in people gravitating towards single family homes and the sense of ownership in making decisions about the design and function of their private space (Pressman, 1996). Successful private development will acknowledge the socialness of people and incorporate public spaces for spontaneous contact (Gehl, 1992). For winter cities, this can include opening golf courses for cross country skiing and promoting winter patios, the City of Edmonton's preferred approach.

Bridging the divide between urban and nature is another factor where more integrated approaches can benefit everyday users. Improving contact with nature leads to improved overall winter experiences (Nikolopoulou & Steemers, 2003; Pressman, 1996)). In Edmonton, preserving the river valley and providing access with trail systems and more recent infrastructure, such as the funicular, are positive examples of how Edmonton has capitalised on their proximity to natural environments. As the longest, uninterrupted green space in North America, the river

valley has the potential use as a refuge from the urban environment of Edmonton. However, this privilege is often limited to people walking through the river valley on their commutes to and from work or to communities who live alongside the river valley. In Riverdale, the proximity and access to the river and being located in the river valley itself may contribute to increased awareness of conservation issues and a shared value in nature. The End of Steel Park is in close proximity to the river but has poor connectivity due to a steep valley and a busy roadway. It is difficult for people visiting the park to associate the park with the river valley, or with any interaction to a natural environment. As for other areas of the city, connection with nature or natural landscapes is very concentrated in the river valley and ravines. Considering nature from a planning perspective, rather than defaulting to the river valley is a more appropriate approach and an approach common in planning and design discussions. For example, better integrated green spaces and well designed and maintained parks throughout the year, with trees or gardens, can have a similar effect as the river valley and should be accommodated for in the planning and design of the entire city. Therefore, planning or designing in natural landscapes through creative, accessible parks can act as natural refuges away from the river valley.

Approaches for more welcoming winter cities

Rather than design spaces for everyone, all of the time as is expected when discussing inclusion and including people in urban spaces, this research suggests that traditional planning principles, like effective connections, walkability, or being able to adapt spaces to satisfy certain users or needs, has greater impact on the degree of inclusion, or people feeling included. The context of winter provided additional challenges for everyday living and therefore highlighting the impact of design, planning, and governance on feelings of inclusion within spaces and a whole city. The following section suggests generalisations that are applicable to other cities and communities based on this research.

Designing useful spaces throughout the year

In most cases, winter planning or winter appropriate urban design is the principle of good urban design in general. Creating physically warm spaces often

related to the microclimate, appropriate materials, and lighting. However, beyond the microclimate the factors contributing to a more useful, accommodating space relates to design that has a lasting effect throughout the year. Going back to the previous literature, planning contexts or traditions, the programming and management of the space, cultural context and the individual attitudes were identified as having greater impact on winter use than the microclimate alone. In addition, promoting connection through effective and predictable networks has a combined benefit during the winter and all other times of the year. As this research highlights, consistency is crucial for people to feel confident traveling around their city and to plan their days and lives efficiently, especially when the unpredictability of winter already contributes to an uncertainty for people. Determining their clothing choices before leaving, and their routes between destinations, are influenced by the predicted weather and immediate weather conditions. When more effective networks are established and a balance between creating meeting places, markets, and traffic spaces, people can rely on certainties and plan their day accordingly (Gehl, 1992).

At the same time, winter conditions do create additional challenges for people's daily life. A balance must be found because "not all of winter's negative aspects can be eliminated throughout the city [and]... all can be eliminated from parts of the city" (Blumenfeld, 1985 as cited in Pressman 1996, p. 525), which is a similar scenario I am suggesting for more inclusive cities too. Approaching urban design from multiple scales of reference, from the block to the street, to the neighbourhood, to the city and finally to the region, can satisfy this balance and contribute to a more inclusive experience of the season and the city. This can also suggest that spaces can be designed with a degree of flexibility to allow people to develop their own concept of place. The concept of place and developing a sense of place is an individual experience and differs based on past experiences and associations (Montgomery, 1998). Therefore, when cities assume a particular placemaking strategy, shared or homogenized experiences often provide the basis, negating any recognition of the minority experience. Instead of delegating a common sense of place, or in my case experience, I am suggesting going back to

planning basics and evaluating the connectivity, flexibility, and accessibility for cultural and social interactions.

A multi-scaled approach

For the everyday user, smaller design decisions can have an immediate impact and are often more context specific. Enjoying the view, a comfortable place to sit, or a welcoming sound can change a person's perspective on the space and lead to return visits in the future (K. Low, 2015). However, if all small spaces are treated the same, there is a risk in forgetting about the urban space as part of a larger community and city. Making every space inclusive for everyone is close to impossible but allowing people to adapt to urban spaces or adapt the spaces to meet their unique needs is more realistic¹⁶. For example, transit and transportation networks should assume a city-wide scale, such as connecting roads. That is acknowledging how people move in smaller sections, but also how they access city amenities that are unavailable in their community, such as larger recreation centres, service providers, and festivals. More people can engage with the city and enjoy the destinations around a city outside of their community and connect with the greater community. More often summer destinations, such as zoos or dog parks, can open during the winter and provide alternative winter activities if well-known and effective connections are established and predictable. Public transit, connected path systems, and roads influence the way people choose to move around their city. Efficient and easier to navigate routes improve people's perception of the environment and can motivate people to move around their communities and cities to experience the entire city, rather than being limited to their smaller community. This is not suggesting that smaller community minded solutions are irrelevant, but that if decisions can be made to benefit multiple scales, there will be greater successes. Major public spaces are known to have larger city-wide benefit through attracting locals and tourists into the spaces (Madanipour, 2004). In contrast, spaces with little ability to attract large investments are often funded less, leading to less

¹⁶ Nash refers to this concept in a winter context from a territorial perspective. For example, he suggests that spaces should accommodate an "increased individual freedom in definitions of territoriality" (1981, p. 242). In other words, 'quasi-legal' activities are more likely to happen in cold weather and should be supported in the designs of urban spaces.

effective spaces overall (Madanipour, 2004). If spaces are well funded but a lack of physical access, the variety of perspectives is limited and the benefits to the community and people living there may be only experienced seasonally.

For large, winter cities without prominent features, such as mountains, large amounts of snow, or northern lights, performing as a home base to experience neighbouring features can be more effective than recreating destinations that exist nearby. Snow is a rarity in many parts of the world, and the opportunity to climb a mountain and experience snow is often a highlight of a tourist destination. Winter city dwellers live with the cold, dark, snowy winters and should be proud of their ability to survive, or even thrive, and share these experiences with the people around them. In addition, recreational facilities that require more physical space, such as longer cross-country skiing paths or downtown ski hills, should be well known and shared with the people living in the city.

A more holistic approach to users and uses, in addition to climate, weather and inclusion, will reveal more flexible spaces that people can adapt for themselves and opportunities to accommodate certain needs in certain spaces. The entire city may benefit from changes to policies, such as patio permits or improved public transit; but factors such as historical significance or accessibility will vary, by space and site, and should be considered as unique factors throughout planning and design decisions. These factors have a lasting impact on the design, planning, management, and governance of the spaces. Influencing change, such as new winter activities or a more positive outlook to the season begins with understanding the layers of the story.

Conclusion

This paper explored what inclusive winter cities could be by starting from the smallest scale and observing and reasoning upward from there. Using a nested case study method, I identified Edmonton, Alberta, as an excellent case to study both the winter city aspect and the inclusivity aspect of my quest, and within Edmonton, I identified three spaces each representing their own mix of issues and possibilities for winter use. The choice of nested case studies followed from my assumption that it would be useful to look at different spatial scales in order to understand inclusion and exclusion in winter cities. The truth of the assumption was

borne out by my observations. I relied on a wide variety of methods and sources to assess the patterns of inclusion and exclusion at different scales because I was most interested in the lived experience of residents, and how this experience shaped the use of the place. The experiences that proved relevant were not just experiences of the smaller places, but of the city as a whole, and they were affected by previous experiences, by narratives, by the physical form of the place itself, and the way it was linked to and accessible from other spaces, which together could enable an experience of more than the particular site studied. From that narrower view on inclusion/exclusion I could derive several other aspects of inclusivity, in terms of backgrounds, identities, social positions. But my approach is firmly rooted in the space, in the observation of what is really happening in winter and summer in a place, how it is connected to others, and which stories people are telling about the place, its character, its usability, and its connectivity.

This multiple method approach thus explored the relationship between people, things, spaces, scales and weather to address the complexity of lived experiences and the variety of factors shaping what happens in a place in winter. And what does not. Inclusion/exclusion was thus narrowed down and understood as the pattern of activities and people that a space was enabling or affording. Neither theoretically, nor practically, can a place be fully inclusive, that is, allowing for all activities and all people at all times. Assessing a problem or quality thus has to take place at a particular scale, in the awareness of what kind of inclusivity might be expected at that scale. However, both in the case and in the literature, it is clear that, beyond the broad questions of inclusivity, social justice, of the right to the city and its' urban spaces and areas, cities as a whole could do more, could enable more uses, more users of variable abilities and backgrounds in whatever space they have. Winter conditions highlight and intensify patterns of exclusion, and this could be observed, heard and read over and over again.

Making winter spaces and winter cities more inclusive thus looks like a real necessity and a real promise. It does require however an insight in the culture, in the form and in the use of spaces, the way they are linked and the way they are organized. The research illustrated the need to integrate small scale designs with broader planning and governance priorities that impact the whole city. Again, it

makes little sense to speak of inclusion/exclusion on one scale, without grasping the pattern at other scales, and, I might add, without looking at policy domains beyond spatial planning and design, beyond the policy domains and administrative units which are focusing on the organization of space. Indeed, the Edmonton spaces and stories made it abundantly clear that e.g. indigenous policy, homelessness policy, waste management, water quality, recreation policy affect what will happen in the non-privatized urban spaces in wintertime.

Moving through spaces highlighted opportunities to design more winter friendly spaces, while also indicating the limitations based on existing features of the physical space. There are opportunities to design spaces with better access, better linkage of interior and exterior spaces; accommodating more creative approaches, for uses and users together, impacts the lived experiences of that space and the perceptions of the city as a whole. The workshops confirmed these issues and broadened the scope to explore the role of larger-scale issues that influence how people experience the spaces, such as transit options, governance and partnership models, and planning traditions based on rather outdated priorities.

I could infer from our combination of small cases, and Edmonton as an encompassing case, that patterns of inclusion and exclusion emerge through the design and maintenance of spaces, but also through the connections, or lack thereof, between smaller spaces, destinations, and residential neighbourhoods. Overall winter accessibility issues (think incomplete or not winter-maintained pedestrian and bike networks, think gaps in the transit network) compound this specific connectivity problem. Both general and specific accessibility, and limited use issues, are shaped by a history of mono-functional zoning, befitting an originally car-oriented city. When addressing accessibility issues, Edmonton did not envision intense winter use, varying density, mixed use, networks of slow use, and unique place identities which might be connected together to create attractive winter networks. Many assumptions in planning and governance of the city thus did not aim at spatial forms and lifestyles which would enable a vibrant winter use of urban spaces, and this in turn created an array of not necessarily intended exclusions in winter spaces, either through the features of the space itself or its networking. In recent years, more attention is being paid to all these issues, that is, to slow

networks, to winter city life, to a more urban, diverse, dense environment, and in some cases, I could observe the effects of these changes. Since policy priorities were usually not in the realm of winter design and connectivity, whatever change in the pattern of inclusion/exclusion observed, is usually an indirect effect.

The results suggest that an integrated approach that relies on context-based solutions, a focus on the networks within and around a city and a blurring of the boundaries between planning themes and priorities is needed. Changing states of ability and the unpredictability of weather, in addition to challenges of climate change, make planning specifically for more inclusive winter use nearly impossible. Whatever design or redesign takes place could be tested however on what it could accommodate or encourage in terms of winter use. And just as summer use networks have denser nodes and more specialized sites, each with their own inclusion/exclusion features, one has to imagine the same for winter networks. One can therefore not think of an ideal situation of absolute inclusivity for each winter place, but rather of an attempt to create more winter use options for more people in more places. And this, again, requires a network perspective, with an understanding of existing and possible specializations in the network, and a grasp of what is actually experienced as a problem of exclusion in winter space. And, we know by now that working on these issues is an issue of more than local design, more than planning, but in some cases of bigger social and economic issues which need to be addressed elsewhere. Winter planning and design for inclusivity thus will be different in each case and will have to recognize different limits and defer to other players in each case. Satisfying single priorities or a siloed approach to urban development always risks ignoring the bigger picture and the complexity that impacts the everyday lives of people living there.

References

- Amin, A., & Thrift, N. (2002). *Cities: Reimagining the urban*. Cambridge, UK: Blackwell Publishers Ltd.
- Benjamin, W. (2002). *The Arcades Project*. (R. Tiedemann, Ed.). New York: Belknap Press.
- Burton, E., & Mitchell, L. (2006). *Inclusive urban design: Streets for life* (1st ed.).

- Oxford: Architectural Press (Elsevier).
- Davies, W. (2015). Winter Cities. In W. Davies (Ed.), *Theme Cities: Solutions for urban problems* (pp. 277–310). Heidelberg, New York, Dordrecht, London: Springer.
- Gunn, W., & Donovan, J. (2012). *Design and Anthropology* (1st ed.). London: Routledge.
- Hjorthol, R. (2013). Winter weather – an obstacle to older people’s activities? *Journal of Transport Geography*, 28, 186–191.
<https://doi.org/10.1016/j.jtrangeo.2012.09.003>
- Hodder, I. (2011). Human-thing entanglement: towards an integrated archaeological perspective. *Journal of the Royal Anthropological Institute*, 17(1), 154–177.
<https://doi.org/10.1111/j.1467-9655.2010.01674.x>
- Imrie, R., & Hall, P. (2001). *Inclusive Design: Designing and developing accessible environments*. New York: Spon Press.
- Jull, M. (2016). Toward a Northern Architecture: The Microrayon as Arctic Urban Prototype. *Journal of Architectural Education*, 70(2), 214–222.
<https://doi.org/10.1080/10464883.2016.1197672>
- Kusenbach, M. (2003). Street phenomenology The go-along as ethnographic research tool. *Special Issue: Phenomenology in Ethnography*, 443035818(43), 455–485. Retrieved from <http://www.jstor.org/stable/24047846>
- Li, S. (1994). Users’ behaviour of small urban spaces in winter and marginal seasons. *Architecture & Behaviour Journal*, 10(1), 95–109.
- Low, K. (2015). The sensuous city: Sensory methodologies in urban ethnographic research. *Ethnography*, 16(3), 295–312.
<https://doi.org/10.1177/1466138114552938>
- Low, S., & Low, S. (2018). *Edmonton’s Neighbourhood evolution: Evolving infill*. Edmonton, AB. Retrieved from
<https://www.cityofedmontoninfill.ca/public/download/documents/46666>
- Madanipour, A. (2004). Marginal public spaces in European cities. *Journal of Urban Design*, 9(3), 267–286. <https://doi.org/10.1080/1357480042000283869>
- Madanipour, A. (2006). Roles and challenges of urban design. *Journal of Urban Design*, 11(2), 173–193. <https://doi.org/10.1080/13574800600644035>
- Maxwell, G., Edwarth, J. & Salole, A. (2005). *Inclusive Cities: Community voices*,

- perspectives and priorities*. Burlington, ON.
- Mehta, V. (2009). Look closely and you will see, listen carefully and you will hear: Urban design and social interaction on streets. *Journal of Urban Design*, 14(1), 29–64. <https://doi.org/10.1080/13574800802452658>
- Mehta, V. (2014). Evaluating Public Space. *Journal of Urban Design*, 19(1), 53–88. <https://doi.org/10.1080/13574809.2013.854698>
- Merrett, K. C. (2001). *A History of the Edmonton City Market, 1900-2000: Urban values and urban culture*. Houghton Boston.
- Montgomery, J. (1998). Making a city: urbanity, vitality and urban design. *Journal of Urban Design*, 3(1), 93-116. <https://doi.org/10.1080/13574809808724418>
- Nikolopoulou, M., & Steemers, K. (2003). Thermal comfort and psychological adaptation as a guide for designing urban spaces. *Energy and Building*, 35(1), 95–101. [https://doi.org/Pii S0378-7788\(02\)00084-1](https://doi.org/Pii%20S0378-7788(02)00084-1) \nDoi 10.1016/S0378-7788(02)00084-1
- Pihlak, M. (1994). Outdoor Comfort : Hot Desert and Cold Winter Cities. *Arch. & Comport. I Arch. & Behav*, 10(1), 73–94.
- Pitter, J., & Lorinc, J. (2016). *Subdivided: City-building in an age of hyper-diversity*. Toronto: Coach House.
- Pressman, N. (1985). Developing Livable Winter Cities. In N. Pressman (Ed.), *Reshaping Winter Cities: Concepts, strategies and trends* (pp. 27–47). Waterloo: Livable Winter Cities Association.
- Pressman, N. (1989). Harsh living conditions: A research agenda. *Habitat International*, 13(2), 13–22.
- Pressman, N. (1995). *Northern Cityscape: Linking design to climate* (1st ed.). Yellowknife, NT: Winter Cities Association.
- Pressman, N. (1996). Sustainable winter cities: future directions for planning, policy and design. *Atmospheric Environment*, 30(3), 521–529.
- Pressman, N., & Tennyson, J. (1983). Dilemmas facing social scientists and designers. *Association of Collegiate Schools of Architecture, Ltd.*, 36(4), 16–21.
- Prown, J. D. (1982). Mind in Matter: An Introduction to Material Culture Theory and Method. *Source: Winterthur Portfolio*, 17(1), 1–19. Retrieved from <http://www.jstor.org/stable/1180761>

- Rimmer, J. H., Riley, B., Wang, E., Rauworth, A., & Jurkowski, J. (2004). Physical activity participation among persons with disabilities: Barriers and facilitators. *American Journal of Preventive Medicine*, 26(5), 419–425.
<https://doi.org/10.1016/j.amepre.2004.02.002>
- Ripat, J., Brown, C. L., & Ethans, K. D. (2015). Barriers to wheelchair use in the winter. *Archives of Physical Medicine and Rehabilitation*, 96, 1117–1122.
<https://doi.org/10.1016/j.apmr.2015.01.020>
- Sanborn, E. (2017). Integrating Climate Sensitive Design Principles in Municipal Processes: A Case Study of Edmonton’s Winter Patios. Retrieved from <https://ltu.diva-portal.org/smash/get/diva2:1150414/FULLTEXT01.pdf>
- Sandercock, L. (1998). *Making the Invisible Visible: a multicultural planning history*. (L. Sandercock, Ed.). Oakland, CA: University of California Press.
- Sanoff, H. (2000). *Community participation methods in design and planning*. New York: John Wiley & Sons, Inc.
- Van Assche, K. (2007). Planning As/and/in Context: Towards a New Analysis of Context in Interactive Planning. *Metu Jfa*, 42(2), 105–117.
- Wennberg, H. (2009). *Walking in old age: A year-round perspective on accessibility in the outdoor environment and effects of measures taken*. Lund University.
- Westerberg, U. (1993). Climatic Planning- Physics or Symbolism ? *Architecture & Behaviour*, 10(1), 49–71.
- World Bank. (2015). Inclusive Cities: Overview. *World Bank*, 1–6. Retrieved from <http://www.worldbank.org/en/topic/urbandevelopment/brief/inclusive-cities>
- Zabinski, M. (2014). *Generating an Oasis : Architecture of Climatic Engagement for a Northern City*. Dalhousie University.

Chapter 5: Concluding Remarks

This chapter returns to my approach and inspiration for this research, reflects back on the objectives in relation to the data and states my final thoughts about the findings, the significance of the findings and offers suggestions for future research.

Seeking the relationships between humans and the things and environments surrounding us is at the heart of human ecology (Steiner, 2002). And as a discipline it weaves several strands of thinking together particularly under a common topic, which in my case involves lived experiences and the use of multiple perspectives to pursue a research question or design problem. This research, or more accurately myself as a researcher, is positioned at the intersection of material culture, design anthropology, and urban planning. There are relationships between these fields that essentially build from one to another and construct a more holistic complex perspective of lived experience within urban spaces. Relationships among people, things, spaces and behaviours are influenced by the perceived function of the space and the physical organisation of the space (Prown, 1982; Steiner, 2002). Recognising the potential for design interventions and the impact of the things within spaces is often considered a by-product of well-designed space rather than an important piece of the design process (Cross, 1982; Strickfaden, Stafiniak, & Terzin, 2015). Thoughtfully designed environments establish a context for human-thing relationships and allows for a more directed design approach to designing things within the space and the space itself. The context changes based on scale, such as a park versus a city versus a country, yet at each scale the relationships depend on the other for their existence. People's experiences of urban spaces are fluid and dynamic (Kusenbach, 2003) and the urban environment is becoming more relevant for more people as the world becomes more urban (Davies, 2015a). Celebrating so-called 'winter cities' and the need for these cities to accommodate growing populations and encourage people to live and stay is a challenge that is often considered a result of the cold climate. However, this research, and earlier statements about winter cities, suggests the challenges are often related to the city itself, regardless of the weather. This includes the design or shape of the city, the evolving priorities of

administrations throughout history, and the influence of people living in the city and people visiting and talking about the city.

The purpose of this research was to explore how urban spaces include or exclude certain people during the winter season. The purpose was motivated by my own experiences living in Edmonton, earlier research I was involved in and my assumption that how a space is designed impacts people's experiences of that space and the larger city. The research herein focuses on the everyday lives of people living in cities with cold climates, rather than how people should live or how planners and administration should plan cities for cold climates and winter conditions, which were popular topics in previous literature since the 1980s (Eliasson, 2000; Pressman, 1989a; Zrudlo, 1988). Using a case study allowed me to highlight the situation of one city at the city scale and on a smaller scale in specific spaces and parks. Information including how people access the spaces, what spaces they use, or even how talk about the city at the larger scale, can highlight opportunities that are unrelated to the space specifically, but have significant impact on the experience of the space and the city. Thus, pointing to the complex nature of these topics. As a reminder, the main research question is: What features of urban spaces or cities contribute to more inclusive or exclusive winter experiences? After my analysis of and reflection on the data, the findings support my earlier assumption that a combination of features influence, with the intention of improving, the relationship between inclusion/exclusion and urban spaces in the winter. The design of spaces, including the microclimate, but also physically accommodating users and uses through wayfinding and creating attractive spaces or destinations is an important aspect of smaller scale spatial design. On a larger scale, the urban planning of the city and connectivity, but also allocating certain users to specific spaces with predictable connections and highlighting the prominent features around a city. Specifically in regards to the people living in these cities, governing traditions, in particular the role or impact of design and planning within the city and who is involved in decisions, or how decisions are made and communicated also impact the experiences of people. If a city invests in marketing or branding the city as a welcoming, winter city or targeting the destinations and promoting them to tourists, but also locals, more people will understand the opportunities to engage with the

community and have the appropriate knowledge to enjoy the city in the winter season. On a personal level, this can influence the person narrative or attitudes people have towards the winter, but also towards the city itself, which like other aspects I have referred to, transcends the winter season and is a year-round issue.

Moving towards some overarching conclusions

“Human interactions, integrations, and institutions assume a broad range of dizzyingly diverse forms” (Frederick Steiner, 2016, p. 33)

The objectives of this thesis were to explore inclusion and exclusion in urban spaces during winter conditions. Specifically, I highlighted three particular objectives: 1. To better understand the experience of people within urban spaces; 2. To highlight various features that influence experiences of inclusion and exclusion in a winter, urban context; and 3. To explore potential changes to improve spaces and cities in terms of inclusion and exclusion in winter conditions. With the methods I selected, along with my approach to research in general, I feel like I achieved these objectives. Both tangible and intangible features came out of the observations and interviews, while the workshops provided inspiration for ways to improve people’s experiences.

In way of concluding thoughts, I have identified three overarching conclusions that were alluded to in the articles. The first conclusion suggests a broader approach to users, uses, and seasons. Inclusion is a fluid concept, and all people will experience some degree of exclusion at some point in their lives. Whether pushing a stroller, pulling a cart, visiting a place for the first time or revisiting a place that has changed since your last visit, limping on crutches after an injury, running late for a meeting, or seeking a new experience in a familiar space, this research indicated that feeling included or excluded is hard to predict and manage, particular in urban spaces, and more than ever during the winter season. Winter provides an interesting context to highlight some of the issues with spaces. For example, people (and animals or all things) leave their impressions in the snow illustrating how they choose to move or navigate spaces, having access and knowhow about clothing or dressing for the weather impacts a person’s willingness or interest to stay outside or in general the clothing mediates their experience of the city and community, and the potential for weather-related interruptions limits the

degree to which people can even consider design improvements or alternative activities. In the way of a conclusion, a broader perspective of users, uses and seasons relates to seeking a more networked approach that integrates small scale and city scale solutions to create spaces that satisfy certain needs, while the city remains accessible and inclusive to everyone. In the Edmonton case, creating networks throughout the city with attention to particular themes, such as fast and slow movements or natural and urban areas, can improve people's awareness of the spaces and destinations around them, discover areas or events in or near their home community, and assist in knowledge sharing to help people embrace the weather and find connection to people or spaces within the city. A city scale solution might relate to transit and roads or paths, while smaller scale solutions would include destination-making or innovative design that encourages people to visit and stay in the space. The city can be planned with many different spaces designed to be inclusive to different people at different times of the year.

Secondly, harkening back to the title, I believe this research confirms the 'only thing you need to know about winter in Edmonton' is that it's more complex than just the cold weather and shoveling snow. Edmonton's physical form in its current state is designed to accommodate vehicles and people's desire for private space (in the form of large lot and sprawling neighbourhoods). As a result people living here have become habituated to survive the season indoors, drive their personal vehicles, and wait for the summer before reacquainting themselves with the city. Indoor spaces are necessary in any difficult weather conditions, either hot or cold, dry or wet. However, becoming reliant on indoor spaces and personal vehicles also reduces people's interest or ability to experience any less-than-ideal weather condition (Hitchings, 2011). For example, not wearing a jacket or bringing an umbrella, wearing clothing layers or learning how to walk in icy conditions are learned behaviours through experiencing various weather conditions and developing related expectations based on the weather. These behaviours emerge out of routine and are difficult to learn if you are not exposed to the weather and have not developed them over time (Gruntfest, 2018; Hitchings, 2011; Hodder, 2011). In relation to urban space, the path dependencies that develop and evolve over time are examples of the type of behaviour that can impact a city on a larger scale.

Changing administration processes impacts the communities who are required to engage with these processes when planning events or changing their spaces. If there is a lack of communication about the changes or little assistance provided, there is a potential for people to lose interest or energy with a negative impact on community programs (similar to what may have occurred at End of Steel Park and what has happened in Riverdale). At the same time, the solution is not the status quo or allowing things to remain as they are for eternity. Change is inevitable, and in the case of weather or climate change, sometimes change is completely out of people's control. Thus, identifying where or how people can have influence becomes much more important. For example, maintaining a connection to history and community heritage, while embracing new opportunities or alternatives is a complex relationship involving intimate attitudinal factors and tangible things, like deteriorating buildings, sidewalks, or surfaces. Embracing this entangled perspective is necessary for living in cities. Acknowledging this complex relationship in decision-making processes, design processes, and engagement processes will lead to a more engaged, interested and included community.

And finally, there is no conclusive set of design guidelines, no manual to follow, and no perfect recipe for the most inclusive winter space. Instead, I am proposing a more flexible, context informed approach, or process, to spatial planning and design. A brief scan of winter city design recommendations suggest that a great deal of design inspiration comes from looking into other places with similar climates (City of Edmonton, 2016b; Eliasson et al., 2007). There are benefits from sharing ideas, defining winter cities, and identifying with an international community, most notably in providing inspiration and support to pursue design and planning changes. Edmonton is capitalizing on this relationship and investing in winter-friendly branding and marketing the city as a winter destination. However, there are also risks associated with generalising the "winter city" experiences and ignoring the unique contexts I referred to earlier, including existing or past economic, cultural, social, and/or physical environments. This approach contributed to the failure of Canadian town plans for the north in the past and, based on what I heard in the case studies, can be attributed to the survival mentality of Edmonton winters too. Instead any city, or even place within a city, is reliant on the history of

past decisions, actors, and the physical landscapes of the city (Van Assche, 2007). Reflecting on what Jan Gehl suggested in the early 1990s: “most northern cities do not work poorly in the winter; rather they work poorly in all four seasons” (1992, p. 15). Therefore northern/winter cities can be improved in general. And while seemingly forgotten in planning winter cities, this context based approach is not a new approach to planning and design and supports traditional planning principles and approaches that are applicable for most spaces and cities (Van Assche, Beunen, et al., 2012). When considering inclusive design and inclusion on a city scale, flexibility, context, and different levels or scales are essential. Suggesting that every space must be designed for everyone has the potential of satisfying the utopia of spatial planning. Unfortunately this is unrealistic and potentially misguided due to constantly changing targets and factors to consider in the planning process (Van Assche, Beunen, et al., 2012). Rather, acknowledging the multiplicity of users and uses within a space can better inform potential design and planning decisions. I am coming to this research from the perspective that an under-used space can be improved, but not to the degree that it will become useful for every possible user group. In the end, a simple answer or list of recommendations does not exist and would be inadvisable considering the fluidity of people, cities, ability, and the weather, among others. It is not desirable to have all spaces accommodate everyone or meet a certain checklist or recipe for design because there will always be someone or something who is not considered or excluded. Instead, a more holistic, entangled perspective of how people experience a city and the spaces within in, that is changing the perspective from the city to the space or the big to the small, instead of starting with the space and moving out to the city, has better potential to improving people’s feelings of inclusion in the winter, and throughout the year.

Future research directions

As an exploratory study, the research herein provides some insights into directions for future research involving similar topics. Because the research is limited to the city of Edmonton and, more specifically, three particular spaces in Edmonton, similar research could benefit from a larger scale, or quantitative approach to explore the commonalities between many people living in the city or determine the differences between certain groups or regions of the city. At the same time, I would

caution against generalizability as a goal because this could lead to the recipe/best practice approach that does not support context-specific solutions.

Another consideration might be to compare the experiences of people living in North American cities versus another region of the world. This research did consider the design innovations for other parts of the world, however a better understanding of how the people live in these regions with or without said design innovations could provide interesting conclusions related to the cultural contexts and differences. For example, performing similar research in other regions of the world could provide additional details about the cultural implications of design, and the impact of cultural differences, such as the research suggested by Russell Hitchings (2011).

This research only touched on the possibilities of lived experience and phenomenology-inspired approaches. As a personal interest, I am interested in continuing this research to incorporate the lived experience more directly. For example, I am very interested in the flaneur way of experiencing space. One that would include exploring the space with “[her] eyes open, [her] ear ready, searching for something entirely different from what the crowd gathers to see. A word dropped by chance will reveal to him one of those character traits that cannot be invented and must be drawn directly from life” (Larousse, as cited in Benjamin, 2002, p. 453). Thus, taking a more narrative approach to data collection and allude to the sensorial experiences of people in certain spaces or moving around their city. As with earlier sensorial research employing similar methods (K. Low, 2015; Pink, 2011), there is another layer of understanding that can be gathered through each of the senses. For example, certain sounds that might dominate a space will either attract or detract certain people, while the same is true for sights and smells. For this research, I touched on some of the sensorial experiences of the spaces used in the case studies; however, my results did not directly refer to the variety of senses or the alternative relationships at play, such as the various power relationships that occur.

The intimate experience of weather

“Nothing is more characteristic than that precisely this most intimate and

mysterious affair, the working of weather on humans, should have become the theme of their emptiest chatter” (Walter Benjamin, 2002, p. 102)

Closer to the end of this project, I found myself skimming back through somewhat older works, including Walter Benjamin’s *Arcade Project* (2002), and then to more recent writings, such as Abraham Akkerman’s *Phenomenology of a Winter City* (2016). While these authors refer to the history of the themes more than my research or writing, I rekindled a passion for the related histories and events that have shaped how we talk and experience spaces and the weather. It is a completely entangled experience and the factors that influence the experiences involving the design, planning, and governance of spaces and cities, but also the unpredictability of weather, how we choose to present ourselves to the world and our early experiences with weather, spaces and cities at all, play an important and, sometimes, overlooked, or mundane, role. The emotional ties to planning and governance appear in political campaigns, design competitions or activist chants and can drive civic pride, while the weather becomes part of our “the theme of [our] emptiest chatter” (Benjamin, 2002, p. 102) or “politically and emotionally neutral (if not boring and unsophisticated) topic” (Peterson & Broad, 2001, p. 71). From this perspective, the everyday human-thing interactions, such as with the weather and other mundane things in our lives, are taken for granted (Hodder, 2016, p. 2). However, when considering the design of “mundane, utilitarian objects such as domestic buildings” (p. 4), Jules Prown suggests these objects have cultural expression and potential more truthful indication to societal values (1982). Thus, giving value to their existence and the relationships to the people who interact with them. Turning back to the weather, although a rather fleeting existence and unpredictable, it impacts people’s day-to-day choices, including clothing and how they move around their community. This fleeting existence has agency over people’s lives and is entangled within other temporal relationships. Rain, snow, and ice are things requiring a special relationship with other things (i.e., footwear; de-icing or traction materials or equipment) that corresponds to a relationship with humans (i.e., people’s abilities to walk or move around outside; the potential for pain or comfort in the body), which relates to the relationship between humans and humans (i.e., the style of footwear; attitudes towards to the weather or community;

ability to connect with other people at all). With this in mind, there is potential for this research, and research along similar themes, to rekindle a conversation about the complex relationship of humans and weather and space, but also the impact of design and design processes on people living in cities, with unpredictable factors including the weather and other people, and the evolution of cities over time.

It is my hope that with this thesis, readers will begin to consider the value of lived experiences and the impact of designed things and spaces, and cities, on everyday lives. Through reimagining how people and citizens are involved in consultation processes, the role of design and planning in the city, and the intimate effects of weather, I believe people will feel more included in their city and community to engage with the community, create spaces for people to feel included at any time throughout the year, and embrace the opportunities of cold climates and winter conditions.

Reference List

- Akkerman, A. (2016). *Phenomenology of the Winter-City: Myth in the rise and decline of built environments* (1st ed.). Heidelberg, New York, London: Springer.
- Amin, A., & Thrift, N. (2002). *Cities: Reimagining the urban*. Cambridge, UK: Blackwell Publishers Ltd.
- Anderson, J. (2004). Talking Whilst Walking: A Geographical Archaeology of Knowledge. *Area*, 36(3), 254–261.
- Arefi, M. (1999). Non-place and placelessness as narratives of loss: Rethinking the notion of place. *Journal of Urban Design*, 4(2), 179–193.
<https://doi.org/10.1080/13574809908724445>
- Benjamin, W. (2002). *The Arcades Project*. (R. Tiedemann, Ed.). New York: Belknap Press.
- Bernard, R. (2006). *Research Methods in anthropology: Qualitative and quantitative approaches* (4th ed.). Lanham, MD: AltaMira Press.
- Bone, A., Wookey, R., & Austyn, K. (2017). *Cold Weather Plan For England 2013: Making the Case: Why long-term strategic planning for cold weather is essential to health and wellbeing*. London. Retrieved from <http://www.gov.uk/phe>
- Bosselmann, P., Arens, E., Dunker, K., & Wright, R. (1995). Urban form and climate: Case study, Toronto. *Journal of the American Planning Association*, 61(2), 226–239. <https://doi.org/10.1080/01944369508975635>
- Burton, E., & Mitchell, L. (2006). *Inclusive urban design: Streets for life* (1st ed.). Oxford: Architectural Press (Elsevier).
- Carpiano, R. M. (2009). Come take a walk with me: The “Go-Along” interview as a novel method for studying the implications of place for health and well-being. *Health and Place*, 15(1), 263-272.
<https://doi.org/10.1016/j.healthplace.2008.05.003>
- CBC News. (2018). Should Ottawa adopt Sweden’s gender-balanced snow-clearing policies? Retrieved November 10, 2018, from <https://www.cbc.ca/news/canada/ottawa/sweden-snow-clearing-gender-ottawa-1.4500636>
- City of Edmonton. (2010). *Riverdale Area Redevelopment Plan*.

- City of Edmonton. (2015a). *2015 Edmonton and Region Household Travel Survey*.
- City of Edmonton. (2015b). *2016-2018 Operating Budget*.
- City of Edmonton. (2016a). *Riverdale 2016 Summary*.
- City of Edmonton. (2016b). *Winter Design Guidelines: transforming Edmonton into a great winter city*.
- City of Edmonton Wintercity Strategy Project Team. (2012). *For the love of winter: Strategy for transforming Edmonton into a world-leading winter city* (Vol. 1).
- Coleman, P. (2018). About Winter Cities Institute. Retrieved October 12, 2018, from <https://wintercities.com/home/about/>
- Cross, N. (1982). Designerly ways of knowing. *Design Studies*, 3(4), 221–227.
- Davies, W. (2015a). *Theme cities: Solutions for urban problems*. Heidelberg, New York, Dordrecht, London: Springer.
- Davies, W. (2015b). Winter Cities. In W. Davies (Ed.), *Theme Cities: Solutions for urban problems* (pp. 277–310). Heidelberg, New York, Dordrecht, London: Springer.
- Desrosiers-Lauzon, G. (2008). *Southern Seduction: Canadian and American snowbirds in Florida since 1945*. University of Ottawa.
<https://doi.org/10.1007/s10103-015-1798-2>
- Eliasson, I. (2000). The use of climate knowledge in urban planning. *Landscape and Urban Planning*, 48(1), 31-44. [https://doi.org/10.1016/S0169-2046\(00\)00034-7](https://doi.org/10.1016/S0169-2046(00)00034-7)
- Eliasson, I., Knez, I., Westerberg, U., Thorsson, S., & Lindberg, F. (2007). Climate and behaviour in a Nordic city. *Landscape and Urban Planning*, 82(1), 72–84.
<https://doi.org/10.1016/j.landurbplan.2007.01.020>
- Erskine, R. (1968). Architecture and Town Planning in the North. *The Polar Record*, 14(89), 165–171.
- Farish, M., & Lackenbauer, P. W. (2009). High modernism in the Arctic: planning Frobisher Bay and Inuvik. *Journal of Historical Geography*, 35(3), 517–544.
<https://doi.org/10.1016/j.jhg.2009.02.002>
- Gehl, J. (1987). *Life between buidlings: Using public space* (1st ed.). London: Island Press.
- Gehl, J. (1992). A Good City for All Seasons. *Winter Cities*, 10(3), 15-20.
- Gruntfest, E. (2018). *Weather and Society: Towards integrated approaches* (1st ed.).

- Oxford: Wiley Blackburn.
- Gunn, W., & Donovan, J. (2012). *Design and Anthropology* (1st ed.). London: Routledge.
- Heylighen, A., & Bianchin, M. (2013). How does inclusive design relate to good design? Designing as a deliberative enterprise. *Design Studies*, 34(1), 93–110. <https://doi.org/10.1016/j.destud.2012.05.002>
- Hitchings, R. (2011). Coping with the immediate experience of climate: Regional variations and indoor trajectories. *Wiley Interdisciplinary Reviews: Climate Change*, 2(2), 170–184. <https://doi.org/10.1002/wcc.106>
- Hjorthol, R. (2013). Winter weather – an obstacle to older people’s activities? *Journal of Transport Geography*, 28, 186–191. <https://doi.org/10.1016/j.jtrangeo.2012.09.003>
- Hodder, I. (2011). Human-thing entanglement: towards an integrated archaeological perspective. *Journal of the Royal Anthropological Institute*, 17(1), 154–177. <https://doi.org/10.1111/j.1467-9655.2010.01674.x>
- Hodder, I. (2012). *Entangled* (1st ed.). Malden, MA: Wiley-Blackwell.
- Imrie, R., & Hall, P. (2001). *Inclusive Design: Designing and developing accessible environments*. New York: Spon Press.
- Jaffe, M., & Woloszyn, M. E. (2013). *Recommendations to the City of Chicago for Winter Adaptation Measures and an Indicator Suite for Climate Change Metrics*, 1-22.
- Jull, M. (2016). Toward a Northern Architecture: The Microrayon as Arctic Urban Prototype. *Journal of Architectural Education*, 70(2), 214–222. <https://doi.org/10.1080/10464883.2016.1197672>
- Kusenbach, M. (2003). Street phenomenology The go-along as ethnographic research tool. *Special Issue: Phenomenology in Ethnography*, 443035818(43), 455–485. Retrieved from <http://www.jstor.org/stable/24047846>
- Larmour, J. (2005). *Laying down the lines: A history of land surveying in Alberta*. Edmonton: Brindle & Glass Publishing.
- Laruelle, M., & Hohmann, S. (2017). Biography of a polar city: population flows and urban identity in Norilsk. *Polar Geography*, 40(4), 306–323. <https://doi.org/10.1080/1088937X.2017.1387822>

- Li, S. (1994). Users' behaviour of small urban spaces in winter and marginal seasons. *Architecture & Behaviour Journal*, 10(1), 95–109.
- Lindsay, S., Morales, E., Yantzi, N., Vincent, C., Howell, L., & Edwards, G. (2015). The experiences of participating in winter among youths with a physical disability compared with their typically developing peers. *Child: Care, Health and Development*, 41(5), 980–988. <https://doi.org/10.1111/cch.12220>
- Low, K. (2015). The sensuous city: Sensory methodologies in urban ethnographic research. *Ethnography*, 16(3), 295–312. <https://doi.org/10.1177/1466138114552938>
- Low, S., & Low, S. (2018). *Edmonton's Neighbourhood evolution: Evolving infill*. Edmonton, AB. Retrieved from <https://www.cityofedmontoninfill.ca/public/download/documents/46666>
- Lynch, K. (1962). *Site Planning*. Cambridge, MA: MIT Press.
- Madanipour, A. (2004). Marginal public spaces in European cities. *Journal of Urban Design*, 9(3), 267–286. <https://doi.org/10.1080/1357480042000283869>
- Madanipour, A. (2006). Roles and challenges of urban design. *Journal of Urban Design*, 11(2), 173–193. <https://doi.org/10.1080/13574800600644035>
- Manty, J., & Pressman, N. (1988). *Cities designed for winter*. (J. Manty & N. Pressman, Eds.). Helsinki: Building Book Ltd.
- Marcus, A. (2011). Place with No Dawn: A Town Evolution and Erskine's Arctic Utopia. In R. W. Liscombe (Ed.), *Architecture and the Canadian fabric* (pp. 283–310). Vancouver: UBC Press.
- Maxwell, G., Edwarth, J. & Salole, A. (2005). *Inclusive Cities: Community voices, perspectives and priorities*. Burlington, ON.
- Mehta, V. (2009). Look closely and you will see, listen carefully and you will hear: Urban design and social interaction on streets. *Journal of Urban Design*, 14(1), 29–64. <https://doi.org/10.1080/13574800802452658>
- Mehta, V. (2014). Evaluating Public Space. *Journal of Urban Design*, 19(1), 53–88. doi.org/10.1080/13574809.2013.854698
- Merrett, K. C. (2001). *A History of the Edmonton City Market, 1900-2000: Urban values and urban culture*. Saskatoon: Houghton Boston.
- Milligan, W. J. (2013). *Social Perceptions of winter--Thesis Paper*. Colorado State

University.

Montgomery, J. (1998). Making a city: urbanity, vitality and urban design. *Journal of Urban Design*, 3(1), 93-116. <https://doi.org/10.1080/13574809808724418>

Nash, J. E. (1981). Relations in frozen places: Observations on winter public order. *Qualitative Sociology*, 4(3), 229–243. <https://doi.org/10.1007/BF00988379>

National Research Council Canada. (2018). Sunrise/Sunset Calculator: Edmonton, AB. Retrieved December 18, 2018, from <http://app.hia-ihc.nrc-cnrc.gc.ca/cgi-bin/sun-soleil.pl>

Nikolopoulou, M., & Steemers, K. (2003). Thermal comfort and psychological adaptation as a guide for designing urban spaces. *Energy and Building*, 35(1), 95–101. [https://doi.org/10.1016/S0378-7788\(02\)00084-1](https://doi.org/10.1016/S0378-7788(02)00084-1)

Pietila, R. (1988). Foreward. In J. Manty & N. Pressman (Eds.), *Cities designed for winter* (pp. 13–19). Helsinki: Buidling Book Ltd.

Pihlak, M. (1994). Outdoor Comfort : Hot Desert and Cold Winter Cities. *Architecture & Behaviour*, 10(1), 73–94.

Pink, S. (2008). An urban tour : The sensory sociality of ethnographic place-making. *Ethnography*, 9(2), 175–196.

Pink, S. (2011). Multimodality, multisensoriality and ethnographic knowing: Social semiotics and the phenomenology of perception. *Qualitative Research*, 11(3), 261–276. <https://doi.org/10.1177/1468794111399835>

Pitter, J., & Lorinc, J. (2016). *Subdivided: City-building in an age of hyper-diversity*. Toronto: Coach House.

Pressman, N. (1985a). Developing Livable Winter Cities. In N. Pressman (Ed.), *Reshaping Winter Cities: Concepts, strategies and trends* (pp. 27–47). Waterloo: Livable Winter Cities Association.

Pressman, N. (1985b). *Reshaping Winter cities: Concepts, strategies, and trends*. Waterloo, ON: Livable Winter Cities Association.

Pressman, N. (1988). *Images of the North: Cultural interpretations of winter*. Winnipeg, MN.

Pressman, N. (1989a). Harsh living conditions: A research agenda. *Habitat International*, 13(2), 13–22.

- Pressman, N. (1989b). The search for northern settlement form. Dilemmas and directions. *Habitat International*, 13(2), 127–137.
[https://doi.org/10.1016/0197-3975\(89\)90077-5](https://doi.org/10.1016/0197-3975(89)90077-5)
- Pressman, N. (1991). Human health and social factors in winter climates. *Energy and Buildings*, 16(1–2), 765–773. [https://doi.org/10.1016/0378-7788\(91\)90049-9](https://doi.org/10.1016/0378-7788(91)90049-9)
- Pressman, N. (1995). *Northern Cityscape: Linking design to climate* (1st ed.). Yellowknife, NT: Winter Cities Association.
- Pressman, N. (1996). Sustainable winter cities: future directions for planning, policy and design. *Atmospheric Environment*, 30(3), 521–529.
- Pressman, N., & Tennyson, J. (1983). Dilemmas facing social scientists and designers. *Association of Collegiate Schools of Architecture, Ltd.*, 36(4), 16–21.
- Prown, J. D. (1982). Mind in Matter: An Introduction to Material Culture Theory and Method. *Source: Winterthur Portfolio*, 17(1), 1–19. Retrieved from <http://www.jstor.org/stable/1180761>
- Ricketts Hein, J., Evans, J., & Jones, P. (2008). Mobile methodologies: Theory, technology and practice. *Geography Compass*, 2(5), 1266–1285.
<https://doi.org/10.1111/j.1749-8198.2008.00139.x>
- Rimmer, J. H., Riley, B., Wang, E., Rauworth, A., & Jurkowski, J. (2004). Physical activity participation among persons with disabilities: Barriers and facilitators. *American Journal of Preventive Medicine*, 26(5), 419–425.
<https://doi.org/10.1016/j.amepre.2004.02.002>
- Ripat, J., Brown, C. L., & Ethans, K. D. (2015). Barriers to wheelchair use in the winter. *Archives of Physical Medicine and Rehabilitation*, 96, 1117–1122.
<https://doi.org/10.1016/j.apmr.2015.01.020>
- Robb, T. (2018). At least there are no mosquitoes: Edmonton has had 167 days at or below zero degrees. *Edmonton Journal*. Retrieved from <https://edmontonjournal.com/news/local-news/at-least-there-are-no-mosquitoes-edmonton-has-had-167-days-at-or-below-zero-degrees>
- Royle, J. (1985). The Challenge of Being Northern. In N. Pressman (Ed.), *Reshaping Winter Cities: Concepts, strategies and trends* (pp. 19–27). Waterloo: Livable Winter Cities Association.
- Sallis, J. F., Cervero, R. B., Ascher, W., Henderson, K. A., Kraft, M. K., & Kerr, J. (2006).

- An ecological approach to creating active living communities. *Annu. Rev. Public Health*, 27, 297–322.
<https://doi.org/10.1146/annurev.publhealth.27.021405.102100>
- Sanborn, E. (2017). Integrating Climate Sensitive Design Principles in Municipal Processes: A Case Study of Edmonton’s Winter Patios. Retrieved from <https://itu.diva-portal.org/smash/get/diva2:1150414/FULLTEXT01.pdf>
- Sandercock, L. (1998). *Making the Invisible Visible: a multicultural planning history*. (L. Sandercock, Ed.). Oakland, CA: University of California Press.
- Sanoff, H. (2000). *Community participation methods in design and planning*. New York: John Wiley & Sons, Inc.
- Sauter, D., & Huettenmoser, M. (2008). Liveable streets and social inclusion. *Urban Design International*, 13(2), 67–79. <https://doi.org/10.1057/udi.2008.15>
- Short, D. (n.d.). Edmonton suffers through coldest February in 40 years. *Edmonton Journal*. Retrieved from <https://edmontonjournal.com/news/local-news/febraury-temperatures-nine-degrees-colder-than-annual-average-coldest-in-40-years>
- Steiner, F. (2002). *Human Ecology: Following Nature’s Lead*. Washington, DC.: Island Press.
- Stout, M., Collins, D., Stadler, S. L., Soans, R., Sanborn, E., & Summers, R. J. (2018). “Celebrated, not just endured:” Rethinking Winter Cities. *Geography Compass*, 12(8), e12379. <https://doi.org/10.1111/gec3.12379>
- Strickfaden, M., Stafiniak, L., & Terzin, T. (2015). Inspired and Inspiring Textile Designers: Understanding Creativity Through Influence and Inspiration. *Clothing and Textiles Research Journal*, 33(3), 213–228.
<https://doi.org/10.1177/0887302X15578263>
- Urban Systems. (2000). Fort St. John: Winter city design guidelines. Retrieved from <http://www.wintercities.com/Resources/Fort%20St.John%20Winter%20Cities%20guidelines.pdf>
- Van Assche, K. (2007). Planning As/and/in Context: Towards a New Analysis of Context in Interactive Planning. *METU Journal of Faculty of Architecture*, 42(2), 105–117.
- Van Assche, K., Beunen, R., & Duineveld, M. (2014). *Evolutionary Governance*

- Theory*. Heidelberg, New York, Dordrecht, London: Springer. Retrieved from:
<https://doi.org/10.1007/978-3-319-00984-1>
- Van Assche, K., Beunen, R., Duineveld, M., & de Jong, H. (2012). Co-evolution of planning and design: Risks and benefits of design perspectives in planning systems. *Planning Theory*, 12(2), 177–198. <https://doi.org/10.1177/1473095212456771>
- Van Assche, K., Deacon, L., Gruezmacher, M., Summers, R. J., Lavoie, S., Jones, K., ... Parkins, J. (2016). *Boom and Bust: A guide*. Edmonton, AB: University of Alberta, Faculty of Extension.
- Van Assche, K., Duineveld, M., De, H., Aart, J. &, & Zoest, V. (2012). What Place is this Time? Semiotics and the Analysis of Historical Reference in Landscape Architecture. *Journal of Urban Design*, 17(2), 233–254.
<https://doi.org/10.1080/13574809.2012.666207>
- Wennberg, H. (2009). *Walking in old age: A year-round perspective on accessibility in the outdoor environment and effects of measures taken*. Lund University.
- Westerberg, U. (1993). Climatic Planning- Physics or Symbolism? *Architecture & Behaviour*, 10(1), 49–71.
- Winter City Edmonton. (2018). *Keep the Snowball Rolling: WinterCity Strategy evaluation and report*.
- Wonders, W. C. (1959). Repercussions of war and oil on Edmonton, Alberta. *Cahiers de Géographie Du Québec*, 3(6), 343–351. <https://doi.org/10.7202/020190ar>
- World Bank. (2015). Inclusive Cities: Overview. *World Bank*, 1–6. Retrieved from <http://www.worldbank.org/en/topic/urbandevelopment/brief/inclusive-cities>
- Yin, R. (2003). *Case Study Research: Design and methods*, (2nd Ed.). Thousand Oaks: Sage
- Zabinski, M. (2014). *Generating an Oasis : Architecture of Climatic Engagement for a Northern City*. Dalhousie University.
- Zrudlo, L. (1988). The design of climate adapted arctic settlements. In J. Manty & N. Pressman (Eds.), *Cities designed for winter* (pp. 85–110). Helsinki: Building Book Ltd.

Appendices

Appendix A: Observation Sheets

Location:

Date:

Time:

Number of people sitting/stopped within the site					
Number of people passing through the site					

Notes:

Are people alone or in groups (list #)?

Length of time people stay:

Approximate ages:

Potential behaviours of navigating the spaces

Where people enter/exit?

Avoiding certain areas/objects:

Holding Phones:

Pushing carts, strollers, etc.:

Unique Behaviours:

Visibly quicker/slower walking paces in particular areas of the site:

Appendix B: Sample Guide for Go-Along Interviews

This guide was intended as reference rather than a procedure. Because the interviews were participant-led, I wanted to encourage a more natural tour rather than probing with questions. Thus, this guide would provide reminders to me if participants were finding it difficult to talk about the spaces or were uncomfortable with the unique interview format.

3 research areas: Churchill square to 96st, the community of Riverdale, End of Steel Park/Light Horse Park/McIntyre Park (area between 82ave to Saskatchewan Drive and 103street to 104 street)

After introducing myself, we will go through the information sheet together and sign the consent form. I will also ask about recording devices and taking photography.

I will begin the interview by asking about participants past experiences with the site and how they came to the site that day:

Have you been here before? Do you come regularly? If you do come here, why do you come here rather than other areas of the city?

How did you get here (ie: bus, walking, car, alone, etc.)? How did you feel about meeting here?

As we walk around, think about how you feel as we move around and what the places or general space means to you. What are you thinking about? What memories are you having?

Guiding questions may include:

How do you feel about Edmonton during the winter?

Is there anything in particular that prevents you from being outside in the winter?

Do you have any past experiences with the areas, are they related to specific landmarks?

What do you like or not like about the area?

Is there a particular element of the site that reminds you of somewhere else? Do you like or dislike this other place?

What are you smelling, hearing, tasting, seeing, or touching? – getting to the sensory experience

Do you think the experience in winter very different from the summer? How so?

What do you think you could do here in the winter (or summer) based on what you see?

What sort of things would you bring or do differently here depending on the season/time of year? – relationship to material culture

Wrap up questions:

Do you have any questions for me regarding the study?

Do you feel like you have had time to tell everything you can think of about your experience here?

Can I follow up with you if I have any questions or would like to go into more detail after listening to the transcript?

Can I ask you to check sections of the transcript that I may use to make sure it is accurate?

Would you like a copy of the entire transcript?

Appendix C: Visioning Workshop Agenda

OVERVIEW & PURPOSE

To facilitate conversation, listen to personal stories and exchange ideas around creating inclusive winter cities.

Inclusive communities can be many things and this workshop is more about sharing perspectives, rather than coming up with one definition or solution.

- Benefits of this over interviewing: participants are brainstorming together.

OBJECTIVES

1. Defining inclusive cities - what are the words, phrases or concepts related to inclusive cities. Then (using a different coloured marker), people will be asked to suggest how winter might impact these features.
2. Is Edmonton an inclusive winter city? Why or why not?
3. What is the impact of decision making processes on our everyday experiences?

Potentially a starting topic? - to make it more about personal situations.

4. Why do you go outside, what keeps you outside?
5. What are the issues for/in Edmonton?
 - a. Design, physical issues
 - b. Social, cultural issues
 - c. Housing
 - i. How can design thinking/solutions influence these issues
 - ii. What design changes can be made in Edmonton to improve these

situations.

MATERIALS NEEDED

1. Recorder from Pachy
2. Normal sheets of paper/notebooks
3. Large sheets of paper (10?)

4. Many colours of felt pens (buy a multi pack)
 5. Order books from library: winter cities books, inclusive cities books
- AGENDA
1. Preparation: name tags, put papers at each seat, have timer ready.

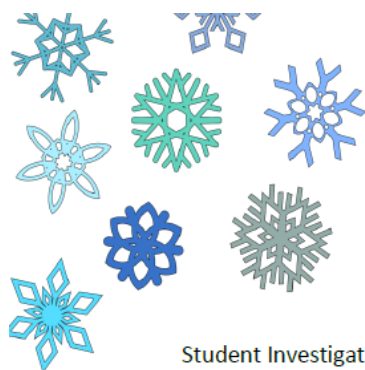
ACTIVITIES

1. Welcome (information sheets) and consent forms
2. Renga Poems:
 - a. You'll have 30 seconds to write a line or phrase responding to the statement: Winter in Edmonton is...
 - b. At the end of 30 seconds, fold the paper with your writing to the back and pass it to the person next to you. When you receive a new paper, either continue your thought that you were writing before or start with something new.
3. 5 minutes: Writing and passing the renga poems
4. 5 minutes: Collect and read out a few lines Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Time	Activity	Time Required
4:00 - 4:15	Welcome/introduction to the research and consent forms	15 minutes
4:15 - 4:30	Renga poems	10 minute explanation 5 minutes Writing 5 minutes collecting and reading a few lines
4:30 - 5:00	Inclusive cities are... As a larger group	Talk and write about what factors/features contribute to inclusive cities If you've focused on the physical features, you can start to also consider

		the intangible factors that might limit inclusion, such as policies, procedures, engagement, etc.
5:00 - 5:30	<p>Add the winter issue</p> <p>In two groups of 4</p> <ul style="list-style-type: none"> • Feel free to include any inclusion issues that may have been missed. 	<p>How might winter conditions influence these factors?</p> <p>Social isolation, mental health, basic accessibility, cultural understandings of winter; etc.</p> <p>- each person now to go around and decide which are their top three issues/priorities for inclusive winter cities</p>
5:45- 6:00	<p>Thinking about winter spaces</p> <p>- more specifically</p>	<p>What are specific design features that might be inclusive or rather exclusive?</p>
6:00	<p>Wrap up and thank you</p>	<p>These ideas will inspire the next workshop which will focus on the design considerations. It will likely happen in a daytime session in January and you will all be invited to contribute to this as well.</p>

Appendix D: Recruitment Posters



Exploring the Patterns of Inclusion and Exclusion in Winter Public Spaces

Student Investigator:

Vanessa Zembal

Master's Student

Department of Human Ecology

zembal@ualberta.ca

780-238-9961

Research Supervisors:

Kristof van Assche

Professor

Planning Program

vanassch@ualberta.ca

780-492-2825

Megan Strickfaden

Associate Professor

Department of Human Ecology

megan.strickfaden@ualberta.ca

780-492-3012

We are seeking participants with varying levels of ability and comfort in winter public spaces to talk about how winter affects you and your experience in public spaces.

Participants are needed for moving interviews in public spaces within the City of Edmonton

- ❖ Interviews will take place at one of three pre-determined locations and last between 45 minutes to 1.5 hours.

What will you participate in?

- ❖ One go-along interview (talking and moving) in 1 of 3 public spaces within the City of Edmonton.
- ❖ Participants will be asked to provide their own transportation to the research sites (all sites are accessible by public transit and are close to downtown Edmonton).

Who is able to participate?

- ❖ People living in Edmonton over the age of 18.

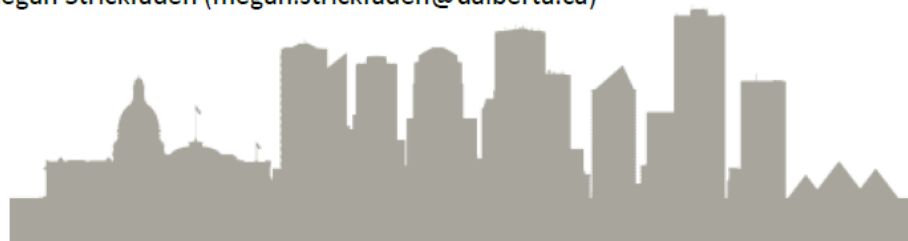
In appreciation for your time, you will receive a \$15 gift card to a local café.

If you or anyone you know is interested in this study, please contact:

Vanessa Zembal (zembal@ualberta.ca)

Kristof van Assche (vanassch@ualberta.ca)

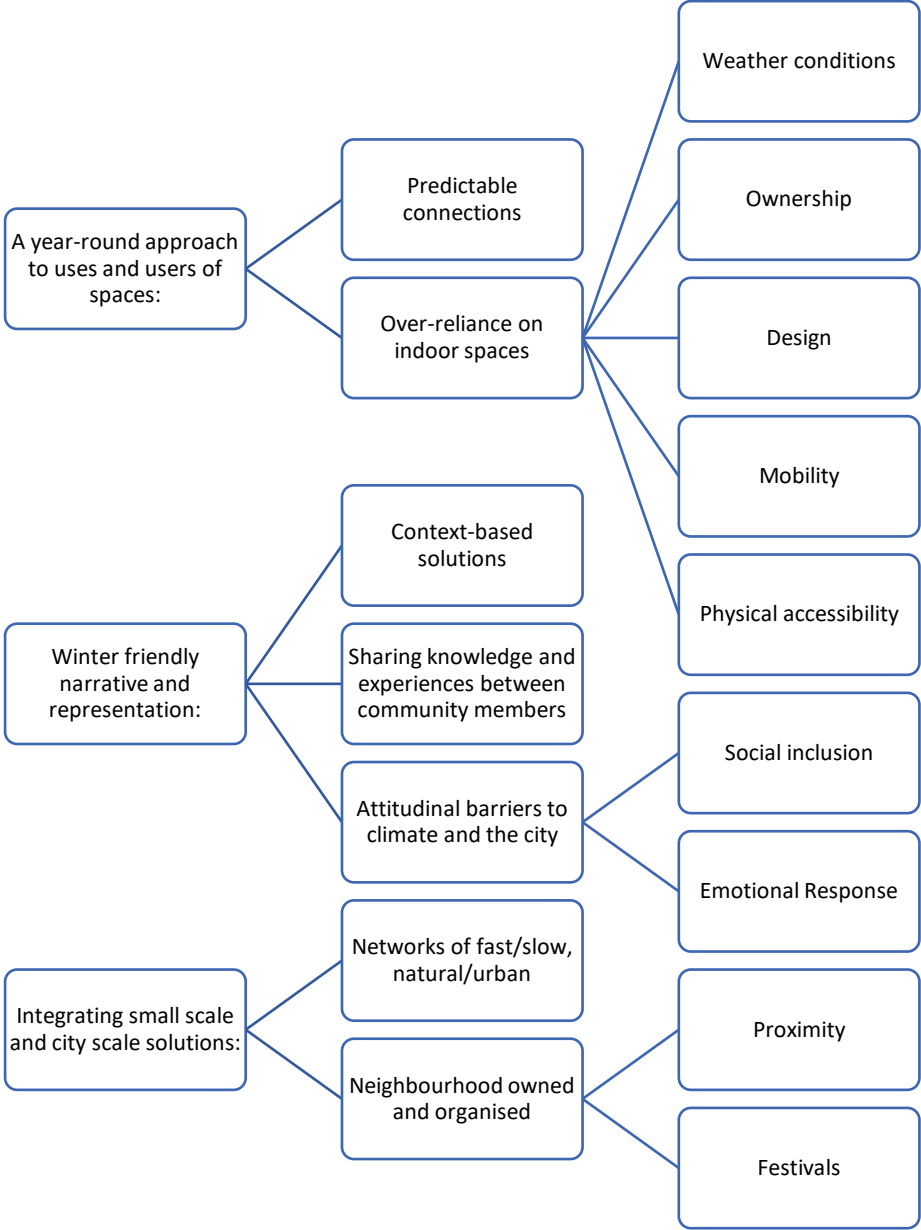
Megan Strickfaden (megan.strickfaden@ualberta.ca)



Appendix E: Sample of the colour coded data analysis spreadsheet

	Light blue	Design	Public/Private relationships	Pink	Transportation	Nature (or Not)	Green	Physical accessibility
Riverdale	icy sidewalks are a big concern. But look we finally found some snow. I saw a bunch of ice in the winter might prevent me from going, but	I've never been down these, these are nice. The hockey rink looks like even if you don't use the stairs the summer, it's beautiful	The hockey rink looks like even if you don't use the stairs the summer, it's beautiful	As a child, I would take my A lot of bikes on the snow c People do the stairs, but I d	As a child, I would take my A lot of bikes on the snow c People do the stairs, but I d	Trees are bad for drainage an it just feels like more nature. I love trees when they crisscro	Trees are bad for drainage an it just feels like more nature. I love trees when they crisscro	There are a lot of stairs to get do these stairs are really steep, and L
End of Steel	in the last half hour , the r They have cross country	I find it kind of funny that you don't get th Look at Edmonton, there's something on its a wide open space, you've got trees This space has lots of potential, but there's a lot more secluded than the park closer	Obviously the park has to the other side of the river. that in the summer months s nothing to draw people ser to Whyte Ave so people	So I'm going to be for sure I wouldn't want to be around of There is no real connection from H the parkades are a great w be nice and full and provide in, so it's only active as a cul the path is probably better for the grass right now. Because it's a	So I'm going to be for sure I wouldn't want to be around of There is no real connection from H the parkades are a great w be nice and full and provide in, so it's only active as a cul the path is probably better for the grass right now. Because it's a	I wouldn't want to be around of We probably shouldn't walk on the grass right now [late winter, ea the path is probably better for the grass right now. Because it's a	I wouldn't want to be around of We probably shouldn't walk on the grass right now [late winter, ea the path is probably better for the grass right now. Because it's a	There is no real connection from H the parkades are a great w be nice and full and provide in, so it's only active as a cul the path is probably better for the grass right now. Because it's a
Downtown	In winter, it's really nice b Roger's Place is a bight s My motivation to use it in t With no podium, the wind Churchill square and the city hall plaza work very differently in the Churchill is also slippery ii You can program a space Heated stair case - I think Shadows - Other winter ci One of the nice things her So here again you got not just stairs but we've also got about a 3-foot higher. With no indication of the edge no color no texture and when it's snowing I they want to redo the lanc	yeah it's pretty and I do value aesthetic, one of the good things about these seats Where they do congregate is under this little arcade and gives them I very much feel like you're on the prairies and very very exposed f What's nice about the spaces that you can always find sun or shade And one of the things we will frequent look at as a diversity of architecture. If you look around h One of the things I like it lots of trash cans and makes her cleaner we just walked into it is all the reflection here the sun is coming from one side of bouncing of the Belltower bouncing across and I don't know which one is the old way the Sun never shines under there good feels like a cave feel similar to the tunnel that goes underneath the legislature	I just think an accessible a As homeowners, we get o little arcade and gives them there's a lot of pedestrian tr and tends to get the wind, the or shelter notice how mucl The trees in hthe Plaza are de Mobility and balance issues are no	I walk the same route all year the lights are not timed well If I'm walking and need to adjust my bag or get something, here's a little space which look Accessibility is one argument for Y	Having trees in the middle of th the city seems to find no problem T So here's what I find about wal walking here is nice in the winter if I'm walking and need to adjust my bag or get something, Stairs is no visual edging, no tac I here's a little space which look Accessibility is one argument for Y	Having trees in the middle of th the city seems to find no problem T So here's what I find about wal walking here is nice in the winter if I'm walking and need to adjust my bag or get something, Stairs is no visual edging, no tac I here's a little space which look Accessibility is one argument for Y	Having trees in the middle of th the city seems to find no problem T So here's what I find about wal walking here is nice in the winter if I'm walking and need to adjust my bag or get something, Stairs is no visual edging, no tac I here's a little space which look Accessibility is one argument for Y	Having trees in the middle of th the city seems to find no problem T So here's what I find about wal walking here is nice in the winter if I'm walking and need to adjust my bag or get something, Stairs is no visual edging, no tac I here's a little space which look Accessibility is one argument for Y
	attitude - happy/vibrant/uncon orange	social inclusion purple	distance --> connection royal blue	Family history/personal connector Dark green	Dogs Brown	Festivals Gray		
	o when people see kids they get h r another thing that makes a community more vibrant to me is the store d Look at all the people walking on	I like areas like this but deper it is close and far from down We have a high homeless population in Edmonton, so pretty much all of downtown is a little bit dir	My Dad and grandpa are immigrants, For me, I haven't seen an off leash dog what do you think about the winter cit We used to ski through the river valley from Riverdale We go to the Mill creek during winter too. But his feet get cold and he doesn					
	n It's neat because it's already rea cl It's neat because it's already rea s all wet, so walking on it will kill it. ant to hit a bunny	Down here I'm surprised I cai it's a weird balancing act, bec walking on it will kill it.	You have the train, for End o It's not connected to any area where there is enough people to keep it lively. Even if there was an unbroken connection to whyte ave to draw pe					
	n This (96st) is an interesting new r it's aptly named as ice district an c I find public space interesting ho c Yeah I'm very comfortable here hat they blocked off the street. It is now an issue. The less even it is r he City Hall of being open to the p old Sutton Place and now right now re but it really feels oppressive and more disguised and I said there's and cut through the corridor and	Roger's Place is open to ever there's nothing to give them a So the next spot is Hope mentioned and depending on the day they get a whole lineup of people along this side waiting patiently to get in and as we're standing here it's okay I There's a daycare in this building and they sometimes bring kids here but not often beacuse it's not very comfortable. Leaving the grass in really helps, but they put a huge fe In this space (west of the RAM) is accessible, there is no fence and nothing is hidden. T There are also bike racks, which is nice to see. They aren't covered so exposed to the Anyone can use [the plaza], it's physically accessible, the bathrooms are on the ground level and have push buttons, there is indoor-outdoor interaction with the change room But you see diversity see people being social being friendly right in the middle of the city and I really like to show rural kids that cities can be nice places too. This is a part of town with very mixed socio economic status, you've got people who are really struggling here and certainly people who are self medicating and living on the st we don't have a lot of these interesting nooks and crannies certain places to discover but where we do have it they tend to be taken over by people who are trying to hide there you feel really exposed as well so you feel vulnerable as an individual human standing under there a few railings to look and pull themselves up or down and it's nice that it's in front of the door because then it provides the wayfinding way far away it's all been blocked off for security so if you don't have to be in the building you can't be go through	I rarely com here during non festival times, because the river valley I rarely come here during non festival I use it a lot I come to all the festivals because when we come down here fo Now that we've got a really strong east west connection through this block and as we're standing here it's okay I					

Appendix F: The overarching themes



Appendix G: Mapping some of the relationships

