PLAYFINDING

Child-Friendly Wayfinding as a Tool for Children's Independent Mobility in the Exchange District of Winnipeg, Manitoba

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ABSTRACT

As children's independent mobility in urban environments continues to decrease, children become further removed from all realms of city life. There is a need for children to practice and demonstrate their autonomy in public, and a properly planned and designed environment can support such skill building in urban settings. This practicum envisions wayfinding as a pivotal intervention in the urban environment to enable children's independent mobility and environmental familiarity. The research focuses on the planning of a wayfinding strategy for Canadian school-age children (ages 8-10) as a way to encourage independent mobility in an urban context. This research is based on a review of children's wayfinding psychology and planning strategies, inspiring design precedents, a detailed site audit and hands-on mental mapping exercises with children. The result is a set of research, consultation, planning, policy, and design recommendations to develop a child-friendly wayfinding strategy in the Exchange District neighbourhood of Downtown Winnipeg, Manitoba.

I have been looking forward to writing this page since the day I started school – warning: it is long! I would like to thank all the people who helped me navigate through the past two years. Your inspiration, guidance, and support have made this an entirely joyful experience.

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CHAPTER 1 INTRODUCTION

HOW DID I GET HERE?

I grew up in the suburbs of Winnipeg, but spent a lot of time at a family business on the corner of Main and Logan on the edges of Downtown. Between visits to the store, and treks through the Downtown skywalk system, I got to experience the city differently than my peers. I 'discovered' The Exchange District as a teenager – feeling that it was a place that no one else my age knew about. Furniture stores, Fringe Festival plays, the cobblestone. It felt cosmopolitan, and secretive. But despite a keen sense of direction, I did not always know where I was going. Nonetheless, I have always been comfortable in downtown urban spaces, but realize this is not the same experience other Winnipeg children, or even some adults, have had.

This practicum journey started with a reflection on being a child in Downtown Winnipeg, and thinking about how other children could have that same experience. It is about the awnings, the secret tunnels, the rough sidewalks, and the little clues that shape experience. It is about taking a little slice of these experiences and discovering how they can be enhanced, embraced and shared. It also about navigating – about finding the way in an unfamiliar place and giving children the chance to discover where they are going. This in itself is a journey – not a conclusive task, but an exploration about what it is to be a child downtown. To be a visitor, a discoverer, an explorer. It is about how our personal experience shapes our perceptions of place, and how fresh experiences can teach tired eyes to think differently.

In the end, there will be some planning recommendations, but the hope is that the path taken to get there will be fun!

1.1 PURPOSE

This practicum explores how a child-friendly wayfinding strategy can help build welcoming urban environments which encourage children to participate, learn, and embrace the city centre. A key theme in many studies of children and cities is there is little autonomy, and little ability to move within, and be connected to urban centers, due to hostile built environments (Ward, 1978). Lennard and Crowhurst Lennard (1992) discuss the notion of "de facto amputation" (p. 95), the (intentional and unintentional) process of removing children from all realms of city life. This can result in a commonly shared perception of children as virtual outsiders in many public spaces. Often, children can be pushed out of experiencing the urban centre in any playful, fun and meaningful way.

Addressing children's independent mobility is important to the re-imagining of urban public space for children. There is a need for children to practice and actually demonstrate their autonomy in public, and a properly planned and designed environment can surely support these skills. The level of freedom to move, without the dependence of vehicles in particular, "is an indicator of the success and resilience of a city" (Freeman & Tranter, 2011, p. 182). Broad strategies for improving children's independent mobility include large-scale changes, such as improvements to transportation options, traffic calming, locations of schools, and changes in social values and parenting styles (Freeman & Tranter, 2011, p. 182). This practicum envisions wayfinding as a smaller-scale intervention to support children's independent mobility. Although there is much research on how to design environments for children, there is little evidence of child-friendly wayfinding planning and design outside of institutional or controlled interior environments.

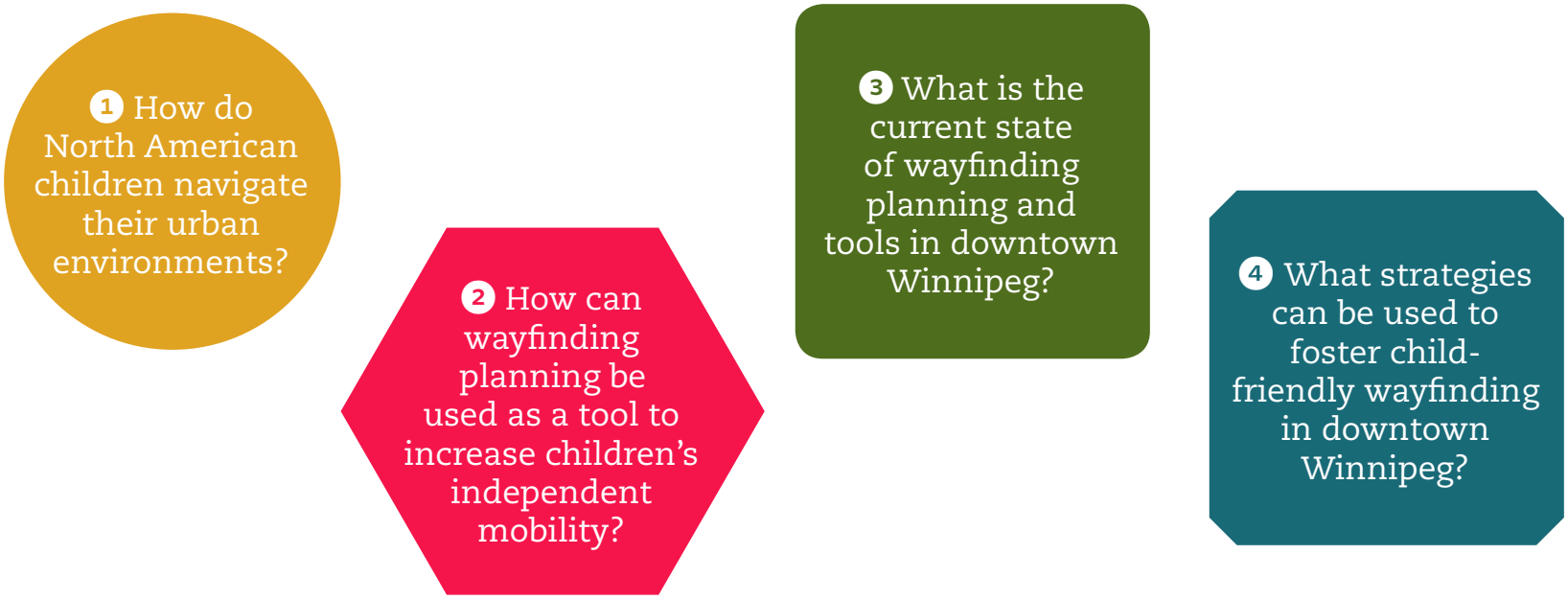
I have investigated this problem in a micro context – the Exchange District of Downtown Winnipeg, Manitoba, Canada. Through a review children's wayfinding psychology and design strategies, as well as inspiring precedents from Canada and beyond, I charted methods of wayfinding planning for children. In this document, I aim to distill what research there is on the topic of children and wayfinding, in order to develop a set of recommendations for wayfinding planning for this age cohort. I also employed mental mapping exercises with school age children and a comprehensive site audit to study the current state of and potential for child-friendly wayfinding in the study area.

Envisioning the downtown as a *built textbook*, this practicum explores how planners can use wayfinding to guide learning about the urban environment and promote children's independent mobility by inserting fun and spontaneity into the everyday practice of navigating the city. Further, it investigates the intersection between play and wayfinding.

and the opportunities for navigational play to be used as a 'universal language' to provide children equal rights to the street and city?

1.2 RESEARCH QUESTIONS

Throughout this practicum I endeavour to answer the following questions:



1.3 BRIEF OVERVIEW OF RESEARCH METHODS

This practicum incorporates primary qualitative research and analysis to answer the research questions. A **literature review** is used to answer 1 How do North American children navigate their urban environments? and 2 How can wayfinding planning be used as a tool to increase children's independent mobility? A **site audit** addresses 3 What is the current state of wayfinding planning and tools in downtown Winnipeg? A **precedent review** informs 4 What strategies can be used to foster child-friendly wayfinding in downtown Winnipeg? **Mental mapping** exercises inform the site audit and explore the questions directly through children's own lenses. A greater discussion of each method is provided in its respective chapter.

The data from all four research approaches are synthesized into the final set recommendations. In particular, the site audit and mental mapping form the basis for both site-specific interventions and broader child-friendly wayfinding recommendations, and the children's mental maps are compared with the site audit to uncover a richer understanding of the study area.

1.4 THEORETICAL FRAMEWORK

Both constructivist and objectivist strategies frame this research. Constructivism is an interpretative strategy that uses classification strategies to sort, analyze and evaluate data (Deming & Swaffield, 2011, p. 85). Inductive classification strategies, "shaped and limited by types, properties, and scales of data," (p. 127) are used throughout the research to organize and compare mental map features, site audit data, and precedent typologies. Because "classification strategies will not be discovered or used in isolation" (p. 149), they are constantly evolving as new data becomes available (p. 127).

Objectivism is instrumental and predictive, and asks what, where and how (p. 85). This type of descriptive strategy is "well suited for exploratory research into phenomena about which little is known" (p. 85) and to develop an understanding of characteristics and values "to provide evidence in support of proposed design principles or local policy initiatives" (p. 85). This strategy is beneficial in filling in the identified gap in research on wayfinding for children and making specific recommendations for the study area.

1.5 IMPORTANCE OF STUDY

Much of the wayfinding planning and design literature is directed towards or generated by graphic designers and architects. While childhood cognitive wayfinding research discusses implications at the residential neighbourhood level, most of the work being conducted in the arena of children's wayfinding involves interior spaces (e.g., schools, hospitals and museums). Specialized urban wayfinding research certainly addresses issues related to seniors' needs, universal accessibility, and mental health, but current planning and design research appears to neglect children's wayfinding. Ultimately, there is a dearth of precedents for urban wayfinding tools for children. This practicum seeks to address this gap.

The proposed research also presents the opportunity to explore how typically regimented cognitive research can be juxtaposed with and influenced by emerging forms of more experiential and interactive wayfinding – re-imagining wayfinding as small interventions in everyday life that can be practical, yet fun and whimsical.

Planners possess a unique set of multidisciplinary skills combining the fields of strategic planning, mapping, regulatory analysis, social activism, and community consultation. This research contributes to understanding how planners can use their unique knowledge and expertise to further the field of wayfinding. By advocating for viewing the city through a child-friendly lens, it also suggests how planners can re imagine urban environments in alternate ways.

1.6 STRUCTURE OF DOCUMENT

In Chapter 1, I introduced the topic of research, the purpose and problem statement. The four research questions were posed and the methods in which they will be answered were outlined.

In Chapter 2, I first review the academic literature on child-friendly cities, with a focus on children's independent mobility and children's understanding of urban environments. This is followed by a review of the literature on wayfinding, in which I explore three facets – cognitive wayfinding, wayfinding interventions and design, and the planning of wayfinding systems.

Chapter 3 introduces the research context, including historical, demographic and spatial information about the study area, and the importance of child friendly planning considerations for the neighbourhood.

The following three chapters discuss the research conducted and findings arising from each method. Each chapter also includes

theoretical background on the benefits and limitations of the respective method.

Chapter 4 focuses on a mental mapping exercise I conducted with a group of students.

Chapter 5 discusses my comprehensive wayfinding, signage and intervention audit of the study area.

Chapter 6 explores a series of inspiring design precedents from around the world.

Chapters 2 through 6 each conclude with Key Considerations for Final Recommendations which inform the concluding section.

Chapter 7 synthesizes and summarizes the findings, and provides a series of strategies and recommendations for planning and designing child-friendly wayfinding, to increase children's independent mobility in the Exchange District of Winnipeg.

Chapter 8 summarizes the document and provides final discussion, including implications of the research for planning practice, limitations, assumptions and directions for further study.

A NOTE ON THE TERM PLAYFINDING

I developed the term "playfinding" for this practicum as a concept to merge the unique needs of children and child-friendly cities at-large with wayfinding planning. Other wayfinding designers have also used this term recently. Leslie Wolke's blog, playfinding.com, did not exist at the inception of this practicum, but it is likely the author developed the idea concurrently. Clearly, this is an emerging topic, with hopefully more academic and practitioner research to materialize!

CHAPTER 2 LITERATURE REVIEW

This chapter reviews the academic literature on several topics relevant to the practicum, with an emphasis on planning and environmental psychology research. It begins by generally highlighting the planning research on child-friendly cities, and continues with a more specific discussion of children's independent mobility and children's understanding of urban environments. The second part of the chapter features review of the literature on wayfinding. It includes a summary of children's cognitive wayfinding literature and a review of the research on wayfinding tools and interventions for children. To support the planning framework of this practicum, the final part of the chapter discusses the conventional processes for planning wayfinding systems.

A literature review is an important first step for practicum research. Broadly, a literature review "must be connected to literature or concepts that support the need for the study, be related to the study's purpose statement, and situate the study in terms of previous work" (Rocco & Plakhotnik, 2009, p. 121). Through distilling the existing body of literature, the review provides the fundamental research basis for the practicum, and also provides a theoretical framework for conducting the bulk of the research and making final recommendations. Furthermore, the review begins to expose gaps in the body of research on children and wayfinding planning. The review takes on two forms discussed by Creswell (2014, p. 28): it integrates what other have said and done and builds bridges between related topics.

2.1 CHILD-FRIENDLY CITIES IN CANADA

This research is framed by a concern with how urban planning policy and design can better consider and actively incorporate children's needs. Beginning with Colin Ward's *The Child in the City* (1979) and Roger Hart's *Children's Experience of Place* (1979), the body of research on child-friendly cities has grown steadily in the last few decades (Bridgman, 2004, p. 181). Much of the research has taken place in European, Australian and South American cities and primarily in highly urbanized contexts. Despite a continued research interest in child-friendly cities, planning and policy in Canada has been slow, if not stagnant, in incorporating child friendly concerns into formal and specific documents. Edmonton, Alberta, the City of North Vancouver, British Columbia, and Abbotsford, British Columbia appear to be the only major Canadian cities to have adopted a municipal child-friendly strategy. This does not suggest that other cities are not considering needs of children and families through other policies and regulations, such as housing and facilities considerations, but these have not been part of a broader child-friendly-specific initiative.

Since the early 20th century, children have not only been removed physically from urban centres and cities, but also disregarded in planning documents and policies. Gillespie (2012) states that the removal of children from cities has historic roots in rational studies in the early 20th century that suggested a child's early presence on the streets was linked to criminality (Marten, 2005; Nasaw, 1985; Trattner, 1970 in Gillespie, 2012, p. 73). In many instances, high degrees of adult supervision and segregation of children from daily city life became the intended norms in planning practice and policy (Gillespie, 2012, p. 73). Many researchers and practitioners have begun to grapple with how to write children back into planning theory and practice. Gillespie (2012) suggests an "examination of the dominant norms and values our society holds with respect to children's 'being' and 'becoming' as well as the role of planning in structuring and regulating these" (p. 77).

According to the UNICEF (2004) criteria for child friendly cities, a city is deemed to be child-friendly if children and youth are able to:

- influence decisions about their city
- express their opinion on the city they want
- participate in family, community and social life
- receive basic services such as health care and education
- drink safe water and have access to proper sanitation
- be protected from exploitation, violence and abuse
- walk safely in the streets on their own
- meet friends and play
- have green spaces for plants and animals

» live in an unpolluted environment
» participate in cultural and social events
» be an equal citizen of their city with access to every service, regardless of ethnic origin, religion, income, gender or disability.

Within the Winnipeg practicum context, the Child Friendly Winnipeg project (2013) poses several questions to ask a public space, and guides discussion on planning and design issues in a Canadian and Winnipeg context in particular:

1. Are there places for all children to play?
2. Do children have clean air to breathe?
3. Are there drinking fountains and public toilets for children to use?
4. Do children enjoy touching buildings' materials, textures and finishes? (Have traces been left by their touch?)
5. Can you hear special sounds in the space (wind rustling through leaves, bird song, children's calls, human laughter)?
6. Does this place help children understand the change of the seasons?
» Is there shelter from hot sun, rain, the north wind's chill?
7. Are there safe routes if children want to walk or bicycle or take a bus? Are children safe from traffic?
8. If children need help or someone is trying to hurt them, will people run to help?
9. How are children's ideas for designing and improving public spaces heard and incorporated into decision-making?

With established frameworks like the UNICEF model, and local initiatives such as Child Friendly Winnipeg, there is a growing interest in Gillespie's notion of "writing children into planning theory" (2012, p. 77). According to the Gillespie, what is required to accomplish this is an analysis of how children are connected to the common issues that planning practitioners tackle, including "issues of urban prosperity, diversity, and social, ecological, and economic sustainability" (p. 77). The author suggests that "writing children into planning theory requires looking at its utopian visions and asking 'how are children present (or absent) within this vision?'" (p. 77).

2.2 CHILDREN'S INDEPENDENT MOBILITY

This practicum explores the seemingly utopian concept of children's independent mobility, which is tied to the goals of play, participation and safety addressed in both the UNICEF and Child Friendly Winnipeg criteria. Freeman and Tranter (2011) note, "as cities spread out, children confined to the suburbs can become isolated from public life." Yet, "if the city is to work for children, it needs to be available and welcoming to all children regardless of where they live" (p. 95). According to Freeman and Tranter (2011), "public space is where children experience the diverse social and cultural life of the city" and "see how the world works" (p. 97). In particular, "children more

familiar with the city-centre environment learned how to relate to it, exhibiting higher levels of 'street literacy'" (p. 101).

Kyatta (2004) suggests "the degree of independent mobility can be considered a significant indicator in the assessment of child-friendly environments" (p. 179). O'Brien et al. (2000) note that "children enter into the public realm through a complex interaction of constraint and choice" (p. 257). The authors argue that the "basic principle of a 'just' city for children is that it enables the free movement of children through it" (p. 258) and "a 'successful' modern urban child might be expected to be an active navigator through the multiple settings of modern cities" (p. 258). Data collected in this study showed that children's independence has decreased significantly since the 1970s. Other research links children's independent mobility to quality of life. Prezza et al. (2001) explored children's experiences in Rome, Italy, and found children afforded more opportunities to be independent also played more with their peers. Furthermore, another Italian study by Pacilli et al. (2013) found "lower independent mobility predicted greater feelings of loneliness" for children due to less sense of community and safety. Lynch's study of children in Argentina, Australia, Mexico and Poland (1977) revealed significant barriers to movement included "personal fear, dangerous traffic, [and] a lack of spatial knowledge" (p. 23).

More specifically, Gearin's (2008) child-friendly planning research notes "wayfinding studies illuminate opportunities to improve community planning" and "represent a much bigger problem" – "the neighborhood range of children and youth has been decreasing with each generation" (p. 36). The author suggests "today's children have a much more geographically limited knowledge of their community" due to parental concerns and planning practices" (p. 36).

Playful interventions can act as a motivator to increased comfort and familiarity in urban spaces and subsequently, more independent mobility. Donoff (2014) explores how ludic interventions use play to motivate pedestrian activity. Through the development of a "typology of ludic ways to increase pedestrian activity," based on international precedents and academic literature, the research suggests playful interventions "can reduce actual or perceived travel distance" (p. 147). Furthermore, when users are able to choose their own route, they gain a sense of environmental mastery, and subsequently ownership (p. 147).

2.3 UNDERSTANDING URBAN ENVIRONMENTS

Matthews' (1992) research explores children's relationship with and within urban spaces. It is important to look at different stages of development in relation to environmental understanding, as they directly influence wayfinding performance (as seen later in this chapter). Matthews categorizes three different spheres children understand throughout their development:

- **Autosphere**: This sphere is the "child's first environment" and "begins and centres on one's own body" where "play is simple, repetitious and sensual" (p. 53);
- **Microsphere**: What the author describes as a "small world of manageable toys" (p. 53); and
- **Macrosphere**: This sphere is the "world shared with others" when "children begin to encounter spaces beyond the immediate settings of the home" (p. 53).

The move from autosphere to macrosphere expands a "children's map of the world," as children begin to incorporate familiar objects and persons, "depending on the comfort and refuge these provide" (p. 53). Ultimately, a "children's understanding of macrospace environments depends a great deal upon environmental experience" (p. 54), suggesting development is strongly linked to practice and familiarity. Erikson's (1977) research confirms "environmental mastery comes about through a continuing relationship between the child and [these] successive scales of environmental contact" (in Matthews, 1992, p. 53).

According to Matthews (1992), spatial information derives from direct experience, particularly sensory (sight, sound, smell, movement), and direct experience, including interpersonal communication, and mass communication (p. 65). Children begin to develop spatial ranges that are similar to the sphere concept – understanding linked to physical movement. Matthews (1992) identifies three ranges:

- **Habitual range**: "Space which extends around the home" (p. 53);
- **Frequented range**: "Less accessible extensions of habitual range and is bounded by physical constraints, particularly busy roads, and parental prohibitions" (p. 53); and
- **Occasional range**: "Highly variable extensions of frequented range, made on foot, by bicycle or public transport" (p. 53). This occasional range is "dependent on the child's personality, the degree of freedom and training offered by parents, the availability of traveling companions and the presence of attractive destinations" (p. 53).

This research illustrates the links among understanding, familiarity, comfort and physical independence – influenced as much by

personality as interventions – both in the form of adult guidance and the design of the built environment.

Such environmental mastery is clearly influenced by the available physical spaces and places to achieve spatial comfort and understanding. In looking at the importance of play space, Halseth and Doddridge (2000) suggest, "spaces children may strongly identify with as a focal point for play build into Lynch's general argument that people need to make space 'legible' and meaningful" (p. 580). Such spaces "capture an adventurous imagination" (p. 580) and are often nodes of social interaction. Ward (1990) argues that children need social spaces that provide opportunity both to interact with other children, and find privacy. Michelson et al (1979) expand on this notion of private spaces with the concept that "children often identify with 'hidden environments', ones which adults do not readily recognize" (in Halseth and Doddridge, 2000, p. 580). These authors demonstrate that a mix of social interaction, adventure, play and secrecy are essential to creating uniquely child-friendly places – legible, comfortable and desirable spaces. Clearly, children identify with environments that address their needs, but that do not remove children from everyday life.

2.4 WAYFINDING

Wayfinding represents both a cognitive skill and the name for the environmental interventions that facilitate and aid in travel. Both types of wayfinding are discussed here, with an emphasis on the link between design strategies and mental processes.

As a system of strategically placed visual prompts, wayfinding systems find "order in chaos without destroying character" and let people know "how to reach their destination, where they are, what is happening there, and how to exit" (Gibson, 2009, p. 13). Lynch (1960) coined the term *wayfinding* to refer to the "consistent use and organization of definite sensory cues from the external environment" (p. 3). Considering it a fundamental skill for efficiency and mobility in the built environment, Lynch noted that "in the process of way-finding, the strategic link is the environmental image, the generalized mental picture of the exterior physical world that is held by an individual" (Lynch, 1960, p. 4). Wayfinding skills are enhanced by environmental interventions to provide a "unifying language" and "public narrative of how people witness, read, and experience a space" (Gibson, 2009, p. 46). These interventions create a structure linking different people together "by guiding all of them through the same space with a single system of communication" (Gibson, 2009, p. 46). Ultimately, this structure supplements and enhances inherent and learned cognitive

skills. While wayfinding skills are somewhat instinctual (as evidenced in the later discussion on cognitive wayfinding), there is a need to address "purposeful circulation of people and their ability to mentally situate themselves in a setting" (Passini, 1996). In complex built environments, disorientation can result in "anxiety and even terror," which reveals how closely orientation is linked to a "sense of balance and well-being" (Lynch, 1960, p. 4).

Much of the wayfinding research points to fundamental concepts developed by Lynch. Broadly, three key concepts can be used for evaluating wayfinding systems and behaviour:

- **Navigability**: evaluates the degree to which people can find their way in an urban space;
- **Imageability**: evaluates how well people can form a coherent mental image or map of the urban place; and
- **Legibility**: evaluates the ability of people to read and understand the city structure and navigational system (Pepple, 2015).

2.4.1 COGNITIVE WAYFINDING

According to Fenner et al. (2000), "planners of the built environment are starved for behavioural data about the propensities and needs of human users of the physical environment." Fundamentally,

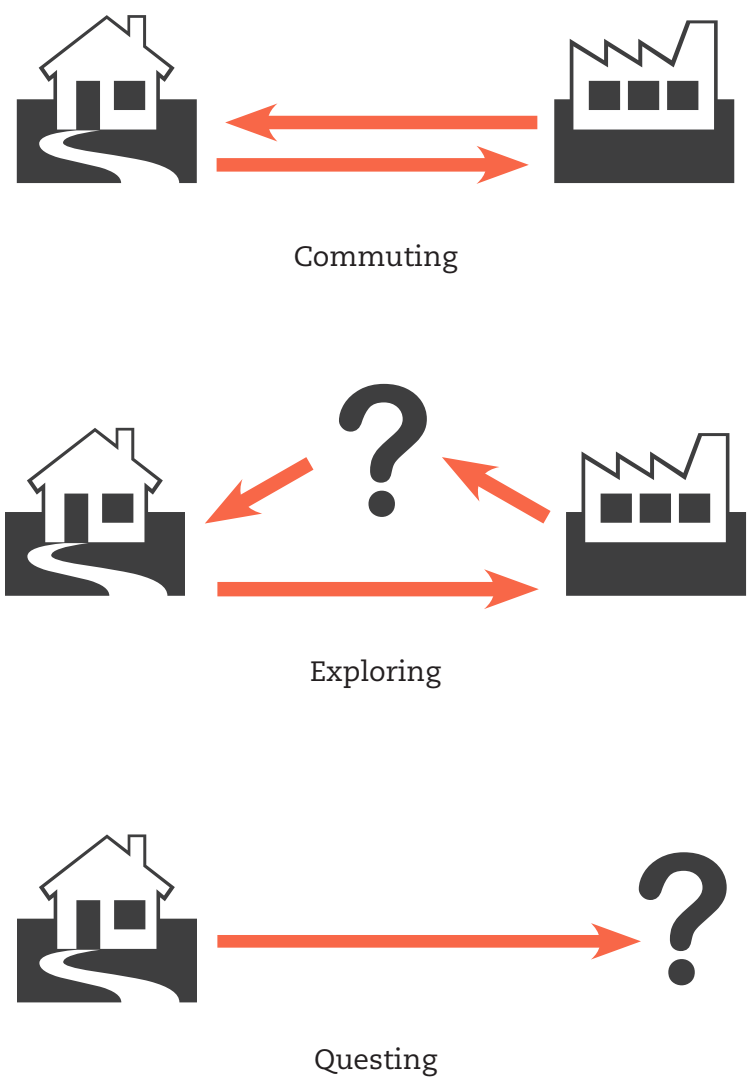


FIGURE 1: Types of Wayfinding Travel

wayfinding involves a three-step process involving decision-making and action planning, decision execution, and information processing (Passini, 1996). Allen (1999) identifies three types of wayfinding travel supported by cognitive wayfinding processes, and several ways in which travel is accomplished (Figure 1).

In *commuting*, travel between destinations is repeated frequently, and becomes very familiar. Characterized by a low level of uncertainty, success is determined by efficiency and speed of travel. With repetition, this type of movement becomes highly routinized and automatic. In *exploring*, travel is made into unfamiliar territory as a way of learning about and experiencing new environments. While travel usually starts and finishes at the same location, new places are linked together with familiar places, to join the routes together cognitively (Allen, 1999, p. 554). Success is based on the number of new routes and places the traveler is oriented to. Travel is made to an unfamiliar destination in *questing*, where "the only way in which a previously unknown place becomes a wayfinding destination is for knowledge of that place to be conveyed symbolically" (Allen, 1999, p. 555). This is done through maps and verbal directions, and confidence is built by relating the destination to the origin overtime.

Wayfinding travel is accomplished in a variety of ways (Allen, 1999)

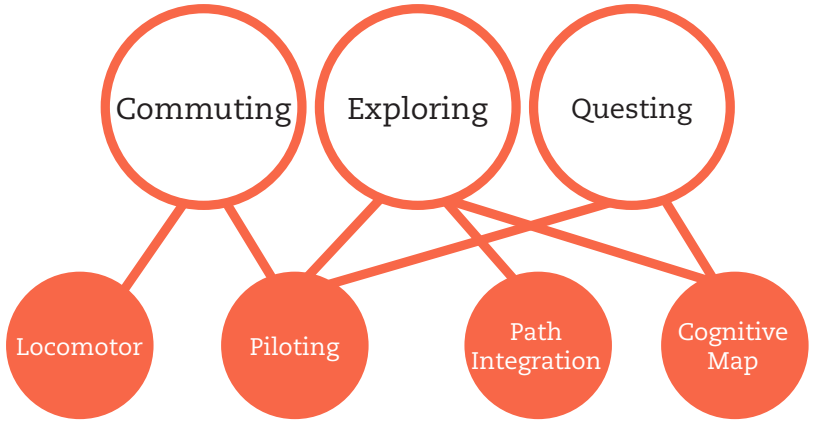


FIGURE 2: Wayfinding Travel (adapted from Allen, 1999)

(Figure 2 and 3). For *piloting*, "progress is measured in terms of where the traveler is in the temporo-spatial sequence of landmarks that intervene between the point of origin and the final destination" (p. 556). This progression from landmark to landmark supports all three types of wayfinding travel. *Locomotor pattern* repetition occurs when subsequent trips to an already visited destination repeat the pattern learned in *piloting*. As the route is repeated, success is measured through precision, and makes commuting more efficient. *Path integration* involves "the process of updating one's current location with reference to a point of origin, relying on information about movement away from that point" (p. 556). This process supports the return to destination

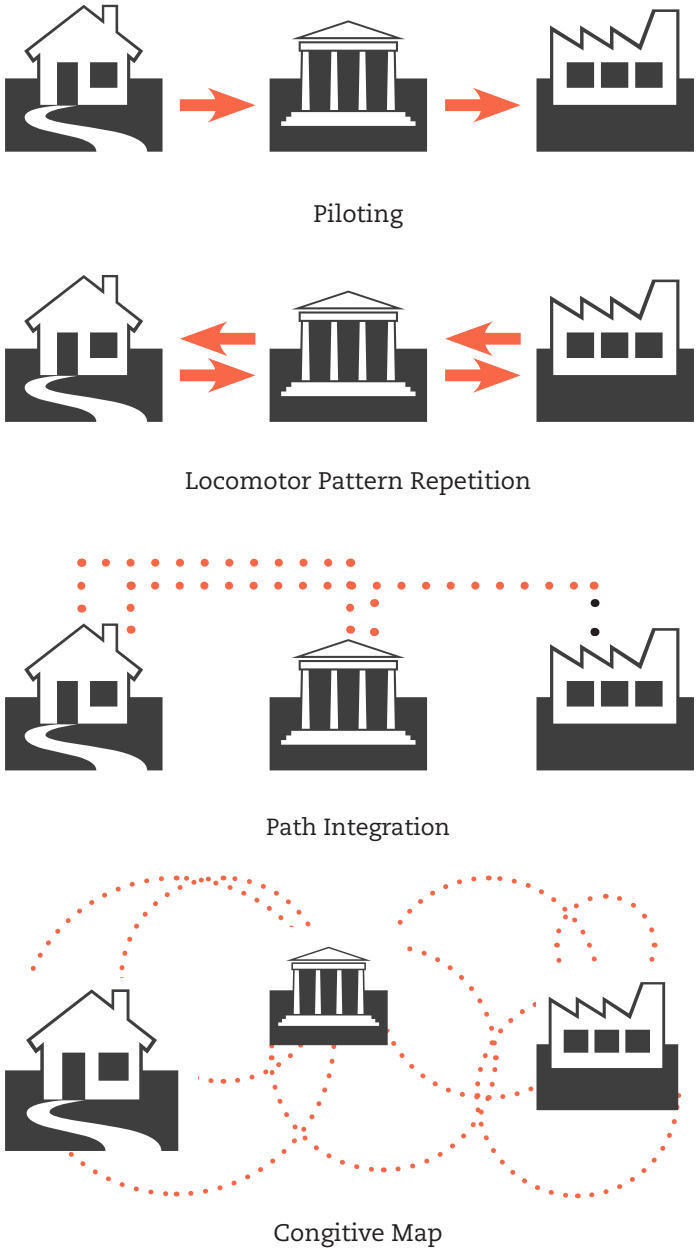


FIGURE 3: Wayfinding Travel Processes

during *exploring*, in particular. For *navigation by cognitive map*, "the traveler refers to an internal representation of a set of systematically related place in planning and navigating a route" (p. 557). This is the most sophisticated and flexible means of wayfinding, developed over repeated encounters with an environment.

2.4.2 CHILDREN AND WAYFINDING

According to Matthews (1992), wayfinding decisions "require environmental information, some of which may be perceived directly in the setting, some retrieved from previous experience, and some inferred from previous experience." Children's cognitive wayfinding skills are inherently less advanced than adults. With age and practice, however, children can improve their skills. By age twelve, children's wayfinding typically resembles that of adults (Leuder & Rice, 2010). As with adults, there are varying "spatial abilities" (Fenner et al., 2000; Leuder & Rice, 2010), but in general, "children are explorers by nature" (Leuder & Rice, 2010, p. 861). Children want to travel and explore, but at a young age are limited to knowledge of a 'home range' (Cornell et al., 2001). As they get older, this range and experience increases. For example, older children produce much more detailed descriptions of landmarks and objects in the built environment and are better able to distinguish between similar buildings (Fenner et al, 2000, Allen and Ondracek, 1995). As children's freedom of movement is essential to

cognitive development, good wayfinding skills are important for the "acquisition, proceduralization and structuring of environmental knowledge" (Rissotto & Tonnuci, 2002, p. 75).

Leuder & Rice (2010) note four particular wayfinding abilities for children. *Inborn search tendencies* (Heth and Cornell, 1985) are instinctual and unconscious behaviours patterns in search of a destination, such as a child repeatedly circling about, and reversing the pattern. In *path integration*, children recall and reenact their movements as a means of remembering where they started. This works better in smaller areas of space because "path integration tends to become less and less precise as distance increases" (Leuder & Rice, 2010, p. 863). *Route following* (Allen et al, 1979) is a fundamental method used for *commuting* and *questing*. In *route following*, children's action is in response to cues in the environment including visual, oral and tactile cues. *Cognitive maps* (Leuder & Rice, 2010; Anooshian and Kromer, 1986) occur when children cognitively infer how to get to destinations, based on the set of spatial relations they have developed. While cognitive mapping skills emerge at a young age, children learn to use more distant landmarks as they get older. While children have inherent wayfinding skills, "performance can be improved by enhancing the individual's capabilities or by altering the task environment" (Leuder & Rice, 2010, p. 865) through both cognitive and environmental interventions.

2.5 WAYFINDING INTERVENTION

2.5.1 COGNITIVE INTERVENTIONS

Cognitive interventions typically involve a form of training or skill teaching. Older children and adults can teach less experienced children skills to improve their wayfinding (Leuder & Rice, 2010). Skill-building techniques can develop a child's wayfinding abilities. *Route rehearsal* involves the same route being rehearsed until the child remembers it. In this type of intervention, *landmark recognition* is often incorporated to assist in the route learning (Cornell et al., 1994). For *look back strategies* (Cornell et al., 1992), children are instructed to look back throughout their route learning to see how the path looks from the opposite direction.

Landmark evaluation is the cognitive process involved in understanding the built environment. Wayfinding skills vary based on familiarity with the physical environment (Xia et al, 2007) and landmarks serve as important reference points in wayfinding. The main characteristic of a landmark is singularity or salience – a distinct quality in contrast to the background (Xia et al., 2007, Lynch, 1960). While "the ability to use environmental landmarks as cues for distance information developmentally precedes the ability to assess this potential information value" (Allen et al., 1979), with more experience, children are able to

distinguish the usefulness of a landmark and eventually develop an understanding of how to select good landmarks on their own (Allen et al., 1979; Cornell et al., 1989). Typically "adults and children do not spontaneously select the same environmental features as reference points" and "children are less capable than adults in judging the value of potential landmarks as distance cues" (Allen et al, 1979).

In a study of six-to-ten year-olds, Lingwood et al. (2014) found six-to-eight year-olds are much poorer at learning routes without landmarks present – suggesting landmarks are crucial for children's route learning and route learning based on directions does not develop until the age of ten (Lingwood et al., 2014, p.79). Nonetheless, the study also found that all children's wayfinding performance improved when landmarks were labeled (Lingwood et al., 2014, p. 80).

For *path integration intervention*, children are instructed to try different paths between the same origin and destination to find shortcuts and alternate routes. This practice skill is best taught around age eight (Leuder & Rice, 2010). *Cognitive mapping* "teaches children to conceptualize relationships between objects in the environment" (Leuder & Rice, 2010, p. 868). More advanced skill building occurs in comprehending maps where children "explain or use maps while adults provide feedback as to the accuracy of the child's interpretation" (p. 869). Further, when *comprehending verbal directions*, directions are provided verbally and children are instructed to find their way using the instructions. Building on this skill, *written instructions* add a new layer of thinking with text that must be simultaneously read and understood along with the directions themselves when comprehending written directions (Leuder & Rice, 2010; Ondracek and Allen, 2000). The ultimate cognitive intervention is *frames of reference*, where children are taught to understand location and direction in relation to themselves, known areas (neighbourhoods, for example) and concepts (east, west, north, south) (Leuder & Rice, 2010)

2.5.2 ENVIRONMENTAL INTERVENTIONS

Wayfinding strategies employ several intervention techniques to assist children through the built environment, and develop better skills and autonomy. *Paths* (such as sidewalks) assist in wayfinding, while *barriers* (gates, fences, for example) create obstacles to travel. Both facilitate wayfinding for children by guiding and constraining routes, and supporting route following skills (Leuder & Rice, 2010). Shorter paths with less turns, and equal distance between turns, make wayfinding easier. As an enhancement to paths, *marked routes* are designated routes or trails are marked along the way with symbols or other consistent interventions to guide wayfinding and assist in route following. As landmarks are considered an essential element of wayfinding, distant

landmarks, or prominent landmarks, which can be seen from a distance, create visible points of reference to aid in wayfinding. Landmarks are important interventions for route following, path integration and cognitive mapping. Designers should consider using cues that indicate the "spatial relationships between salient landmarks" (Fenner et al., 2000).

To make wayfinding in an environment more manageable, an area can be visually split into smaller sections or regions known as *subdivisions*. Akin to a *district model* (Gibson, 2009), subdividing spaces also make it easier "to learn the spatial relations among different environmental regions" and create cognitive maps (Leuder & Rice, 2010).

Signs are the standard design intervention, and effective signs for children "tend to be colourful, easily visible at a child's height, and easily understood" (Leuder & Rice, 2010, p. 875) to enhance route following skills. There are several types of exterior signs: *identification*, *directional*, *orientation* and *regulatory*. In a conventional wayfinding design process, sign locations "are determined by analyzing circulation routes and decision points with the project environment" (Calori, 2007, p. 76). It is important to consider "the pathways that people move along, and where along those pathways must people decide whether to take a turn or proceed straight ahead" (Calori, 2007, p. 76). Signs should be located perpendicular to a viewer's line of movement and sight, at significant decision points, and at destinations points where people have been directed, "to confirm their arrival at the destination they've been seeking." (Calori, 2007, p. 78-79). While coloured design elements can benefit wayfinding in contrast to neutral-coloured elements, there is little connection between memorability and different hues of colour (Helvacioglu and Olgunturk, 2009). Colour can influence wayfinding performance, but apparently does not affect "the acquisition of spatial knowledge" (Jansen-Osmann & Wiedenbauer, 2009).

2.6 WAYFINDING PLANNING PROCESS

The general wayfinding sequence consists of: how to approach, how to enter, how to find, and how to exit (Gibson, 2009). Wayfinding decisions are usually based on available, and readily visible information. Four predominant wayfinding design strategies include: districts, street, connector and landmark systems. *District* systems divide a place into "meaningful zones" where "specific destinations are clustered within those districts". In a *street*-based strategy, "recognizable corridors and pathways form a comprehensible network across a space." *Connector* systems "are simple bold pathways that connect all of the destinations within one location." *Landmark* strategies "direct people to major nodes" (p. 37). These are essentially four different types of mental

maps – "diagrammatic views of complex places that people grasp and understand quickly and easily" (Gibson, 2009).

Wayfinding planning typically begins with a site investigation using observation and documentation, walking the streets and corridors, looking at landmarks, pathways and gathering points (Mollerup, 2005; Passini, 1984; Calori, 2007; Arthur, 1991). Important and useful information to document includes circulation patterns: parallels, overlaps, contradictions between the different user pathways, and vehicular versus pedestrian movement. The goal is to uncover the hidden logic – "the pattern of movement or spatial organization that characterizes a place and serves as a framework for the wayfinding system" (Gibson, 2009).

Despite the goals of creating systematic, hierarchal and often scientifically-based wayfinding, Perkins (2012) identified several assumptions that wayfinding planners and designers make. Firstly, is the assumption that people move from point A to point B. In this case conventional wayfinding planning "assumes that everyone knows what their final destination is to be" and that those with a final destination in mind "want to arrive using the most direct, concise, and obvious path" Perkins (2012).

Furthermore, Perkins suggests that wayfinding systems typically assume "nothing within that location will be available to provide navigational information in a "worst-case" situation" and that "everyone who encounters the installed wayfinding solution will understand its meaning, using it as designed". In essence, planning highly legible, universal and direct wayfinding discounts the value of wandering.

Wayfinding is not typically seen as a key element of the planning field and usually falls under the umbrella of experiential graphic design (or environmental graphic design). The primary activity of this type of work is "the development of systematic, informational-cohesive, and visually unified graphic communication system" (Calori, 2007, p. 4). Hunt suggests there are three "overlapping arenas" of experiential graphic design: Signage and wayfinding "which orients people to a site and helps them navigate it"; Interpretation "which tells a story about a site"; and Placemaking "which creates a distinctive image of a site" (in Calori, 2007, p. 4). This research focuses on signage and wayfinding, but considers the overlaps with the other areas of research and practice.

According to Calori (2007), "a key objective in wayfinding is to enable each person to form a mental map of a site or environment" (p. 4). It is necessary for planners and designers of wayfinding "to pay

attention to how people perceive and understand the environment, how they situate themselves in space, and how they use information in the decision-making and decision-executing process" (Arthur & Passini, 1991, p. 5).

Wayfinding signage systems can be implemented using two different strategies of design intervention. *Harmony* strategies are where "the visual characteristics of a sign program can reflect and reinforce the visual characteristics of a site's design or architecture to create a seamless, totally integrated identity". This strategy is ideal in environments with a consistent identity – typically a new development or complete renovation of a space (Calori, 2007, p. 11).

Imposition strategies are where "signage can create or impose a unique, singular identity on a site – an identity that's completely independent of the site's visual characteristics". This strategy is best in existing sites with contrasting visual elements "that can be linked together by the metabranding of the signage program" (Calori, 2007, p. 11).

It is important to place this research within a real-world design process context, which Calori (2007, p. 16) proposes features thee main phases: the pre-design phase, consisting of data collection and analysis; the design phase, consisting of schematic design, design development, and documentation; and the post-design phase, consisting of bidding, fabrication, installation observation and evaluation (Figure X)

This practicum primarily falls into the *data collection and analysis* segment of the process or "the discovery or learning phase" which can be characterized like "a sponge, absorbing and assimilating as much about the project as possible then filtering that information into a plan of action" (Calori, 2007, p. 18). This collection and analysis includes considerations such as time and budget constraints, image and branding goals, formal and thematic context of the site, user profiles, physical characteristics of the site itself, circulation pathways and decision points, applicable codes affecting signage and decision making and client contact protocols" (Calori, 2007, p. 19).

2.7 SUMMARY

This chapter outlined the academic literature on several topics relevant to the practicum: planning child-friendly cities in a Canadian context, children's independent mobility, children's understanding of urban environments, the origins wayfinding, children's cognitive wayfinding, wayfinding tools and interventions, and planning and design of wayfinding systems.

CHAPTER 2 KEY CONSIDERATIONS FOR FINAL RECOMMENDATIONS

» Neighbourhood range and independence have been constrained due to parental concerns and planning practice

» Edmonton, Alberta, City of North Vancouver, B.C., and Abbotsford, B.C. are the only Canadian cities with adopted municipal child-friendly strategies

» Children need to be 'written back' into planning theory, be included in decisions about their city, walk safely in their streets on their own, meet friends and play

» Occasional range is space frequented by foot, bicycle or public transport, and is dependent on personality, freedom, and attractive destinations

» Play space is a focal point, which renders a space legible and meaningful

» Children need social spaces that provide opportunity for interaction and privacy, sometimes seemingly 'hidden' from adults

» In exploring, travel is made into unfamiliar territory and success if based on the number of new routes and places a traveler is oriented to

» Environmental information is perceived, retrieved from previous experience and inferred from previous experience

» In route following, children act in response to cues in the environment

» Look back strategies encourage children to see how the path looks from the opposite direction

» Adults and children do not always select the same meaningful landmarks

» Landmarks are crucial for route learning as children do not learn based on direction until the age of ten

» Children's wayfinding performance improves when landmarks are labeled

- Path integration intervention instructs children to try different paths between the same origin and destination to find shortcuts and alternate routes
- Paths, barriers, marked routes, and landmarks are key wayfinding interventions for children
- Cues that indicate the spatial relationship between salient landmarks are important
- Signs should be colourful, easily visible at child's height, easily understood, placed at decision points, and confirm arrival at destinations
- Wayfinding design models include districts, streets, connectors and landmarks
- Imposition strategies impose a singular wayfinding identity and work best in sites with contrasting visual elements

CHAPTER 3 RESEARCH SITE

This chapter introduces the research context – the Exchange District in Downtown Winnipeg, Manitoba, Canada. It includes a rationale for the choice of site, an overview of the study area, relevant demographic trends, land use, transportation, circulation and traffic patterns, landmarks and linkages. This is followed by a review of the planning context, outlining relevant documents, regulations and stakeholders.

As both a developing urban residential neighborhood and historic centre, exploring wayfinding possibilities in the Exchange District is important for both residents and visitors. Placing children's needs at the centre of this investigation is important if the neighbourhood is to become a welcoming residential area for families, and be a place where children can demonstrate a degree of independence as visitors and explorers in this important part of Winnipeg's urban core. Conducting research in this site provides the opportunity to answer the question: Are there opportunities to intervene in the urban environment in Winnipeg to provide children with the autonomy to explore, engage, and feel safe and welcome?

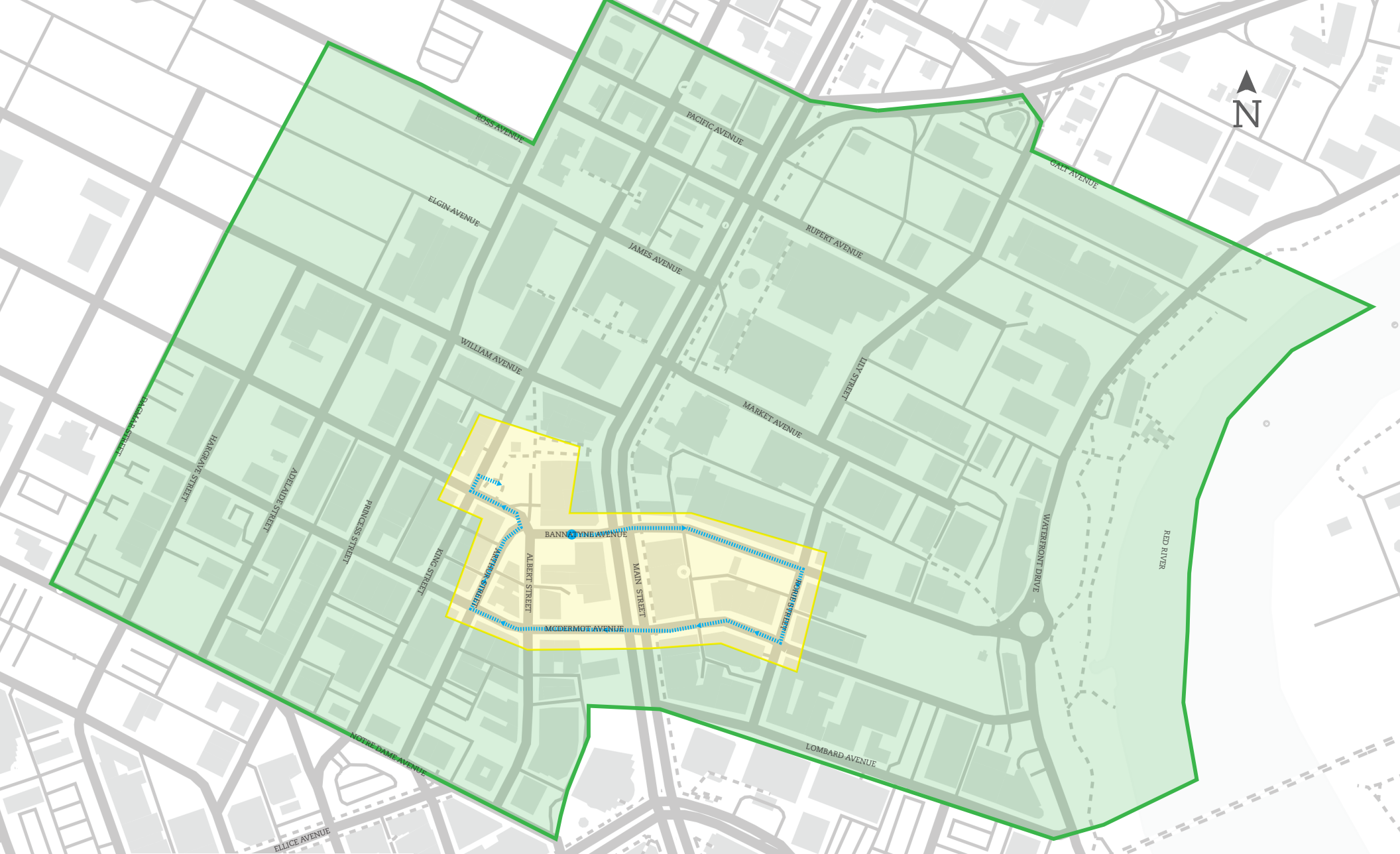


FIGURE 4: Study Area

3.1 STUDY AREA

The chosen site for the research comprises parts of both the East and West Exchange District (Figure 4) of Winnipeg, Manitoba (Figure 5). For the purposes of this research, a route and site were chosen to control the boundaries of the investigation in order to have a more specific and detailed analysis which can then represent the larger neighbourhood. The route and study area included portions of Bannatyne Avenue, Rorie Street, McDermot Avenue, Arthur Street and Old Market Square. The route was used for both the children's mental mapping exercise (Chapter 4) and site audit (Chapter 5).

While all of the zoning sectors of the *Downtown Zoning By-Law 100/2004* are found in the Exchange District at-large, the By-law mostly defines the Exchange District as a Character Sector (City of Winnipeg, 2006). Located in the northeast portion of Downtown Winnipeg, the Exchange District is bounded by Lombard Avenue and Notre Dame Avenue in the south, Hargrave Street in the west, Rupert Avenue and Galt Avenue in the north, and the Red River in the east. The study area for this research is found within the heart of the Warehouse District, and is entirely located within the Character Sector of the Zoning By-law.

3.3 DEMOGRAPHICS

According to 2011 census data, 35,925 children between the ages of 5 to 9 reside in the City of Winnipeg (Statistics Canada, 2011). This accounts for approximately 5.4 percent of the population.

The population of the Exchange District continues to experience gradual growth. Since 1986, the neighbourhood has averaged 42 percent growth every five years. Between 2001 and 2006, the neighbourhood grew by 75 residents – a 22 percent increase. Between 2006 and 2011, the neighbourhood grew by 25 residents – a 6 percent



FIGURE 5: City of Winnipeg and Study Area

	Exchange District			Census Tract 6020024.00			Census Tract 6020025.00			Dissemination Area 46110667		
	2006	2011	Change	2006	2011	Change	2006	2011	Change	2006	2011	Change
0 to 4	25	15	-40%	10	-	-	210	290	38%	-	70	-
5 to 9	0	10	100%	10	-	-	270	235	-13%	-	60	-
10 to 14	0	0	0%	5	-	-	270	280	4%	-	60	-
15 to 19	0	5	100%	15	-	-	225	250	11%	-	45	-
20 to 24	0	10	100%	40	-	-	170	205	21%	-	25	-
25 to 29	40	65	63%	55	-	-	175	230	31%	-	65	-
30 to 34	50	55	10%	60	-	-	195	210	8%	-	60	-
35 to 39	70	55	-21%	115	-	-	215	205	-5%	-	50	-
40 to 44	35	35	0%	80	-	-	285	215	-25%	-	35	-
45 to 49	35	45	29%	95	-	-	210	275	31%	-	40	-
50 to 54	50	30	-40%	75	-	-	180	200	11%	-	20	-
55 to 59	40	45	13%	85	-	-	185	195	5%	-	25	-
60 to 64	40	40	0%	40	-	-	135	130	-4%	-	15	-
65 to 69	20	5	-75%	25	-	-	125	100	-20%	-	0	-
70 to 74	0	15	100%	15	-	-	100	90	-10%	-	15	-
75 to 79	10	5	-50%	15	-	-	75	55	-27%	-	0	-
80 to 84	0	0	0%	5	-	-	55	50	-9%	-	5	-
85+	0	5	100%	5	-	-	50	40	-20%	-	5	-
Total	**415**	**440**	**6%**	**760**	**1163**	**53%**	**3130**	**3255**	**4%**	**-**	**595**	**-**

FIGURE 6: Neighbourhood Demographics (Statistics Canada)

increase (Figure 6). Using a more modest 15 percent growth average, it can be estimated that the population of the Exchange District will be approximately 506 by 2016, and 580 by 2020.

In 2006, 25 children ages 0 to 4 lived in the neighbourhood, and there were no children ages 5 to 9. In 2011, 15 children ages 0 to 4 and ten children ages 5 to 9 lived in the Exchange District – an overall growth of ten children 0 to 9 years old. Children in this age group make up approximately 5 percent of the neighbourhood population. However, there are no children between the ages of 10 to 14. This gap may suggest that families choose other neighbourhoods to live in as their children get older and require nearby schools, community centres and the private amenities offered by a single-family home area.

The Exchange District sits within census tracts 6020024.00 and 602025.00. As of 2011, the combined population for these tracts was 4,408 (National Household Survey, 2011). However, many of these tracts include more residential neighbourhoods west of the Exchange District. While detailed demographic data was not available for census tract 6040024.00 (east of Main Street), dissemination area 46110667 indicated approximately 60 children between 5 and 9, resided in the area – of which only about one-quarter of this tract is the Exchange District.

This data plainly demonstrates there is a very small population of children ages 5 to 9 in the Exchange District area. While these statistics have likely seen a small shift due to increased interest and investment in residential development in the neighbourhood, it is likely that planning in the area rarely considers the needs of children, simply because there are so few children residing here. However, the broader census tract data indicates that there is a large population in the geographic areas surrounding the Exchange District, including over 800 children 0 to 14 years old. Planning for the neighbourhood, should consider the surrounding residential context as there are many children nearby.

One obvious question is why plan for children and improve wayfinding if so few children live here? I propose two basic arguments for child-friendly wayfinding in this area: a) Planning is a long-term process. If the population continues to grow and diversify, as the demographic data has begun to indicate, it seems logical to begin the process of planning child-friendly wayfinding for future residents early. b) Many children are likely visitors to this central historic and cultural hub. Children's navigational needs should be considered if the Exchange District is to be an attraction for family activity. This research proposes planning an urban space where children can feel comfortable, and have some sense of autonomy, whether resident or visitor.



FIGURE 7: Study Area Land Use

3.4 LAND USE

Land use in the Exchange District features a mix of commercial, entertainment, office, and residential uses (Figure 7). Generally, there is commercial at grade, and residential or offices above. There is a concentration of public buildings to the north – including arts and cultural venues, many of which were part of major urban renewal efforts in the 1960s and 1970s. Recently, many of the historic warehouse buildings have been converted into loft-style apartment and condominium residences, and new luxury condominiums have been developed along Waterfront Drive. A few industrial uses still remain, but the area is no longer the heavy industrial and manufacturing centre it once was. While there are a few vacant buildings, many have recently been converted to commercial and residential uses. The area also has several surface parking lots and some park and plaza spaces – most notably Old Market Square.

This land use mix indicates the Exchange District is a diverse, mixed-use neighbourhood, capable of supporting a multitude of purposes. The re-purposing of industrial buildings into residential dwellings suggests an emerging population, which potentially includes families. However, many neighbourhood facilities, like grocery stores, are missing, which may hinder more residential development and growth. This may result in many residents relying on automobiles to access all their needs. While there is a concentration of arts and cultural destinations and civic buildings, there are no other public indoor spaces that children may informally gather, especially in the winter. As there are no schools or community centres in the area, in particular, children are likely still being transported in vehicles as a primary means of transportation to services and amenities outside of neighbourhood.

Neighbourhood precincts can be defined by current land use, and can also influence the land use and circulation patterns of the study area. The study area cannot be looked at in isolation, as it is important to think about where people are coming from and going to. In particular, it is important to think about why children would be in the Exchange District. Places such as museums, schools, playgrounds and community facilities are important for children, and can help create familiar understandings of the neighbourhood. A *2008 Downtown North Pre-Plan Assessment* identifies several 'precincts' within and surrounding the Exchange District (Figure 8):

The **Exchange District National Historic Site** is a mixed-use commercial, cultural and recreational area featuring a multitude of arts and culture, creative industries, education, restaurants, cafes, bars, clubs, boutique shopping in historic, heritage buildings. As previously noted, there is a continued interest in residential loft conversions

throughout. Old Market Square can be considered the 'heart' of the neighbourhood – and is home to the Cube stage. This public space also the Winnipeg Jazz Festival and Fringe Festival, and other mostly summer events.

The **Waterfront Drive Residential Area** is a relatively newer street, running from the Forks to Higgins Avenue, and bordering the Red River, that has added new commercial and residential real estate, mostly in the form of multi-family luxury condominiums, restaurants and a boutique hotel.

The **Cultural District** includes the Centennial Centre on Main Street – including the Centennial Concert Hall, the Planetarium, Science Gallery and the Manitoba Museum, as well as the Pantages Theatre, Manitoba Theatre Centre, Warehouse Theatre. This precinct borders the National Historic Site.

The **Civic Centre** is the area north of Old Market Square and includes the City Hall and the Administration Building, Public Safety Building and Civic Parkade.

The **Educational Precinct** features Red River College, which utilized several old facades on Princess Street in the development of their downtown campus, as well as the recent renovation of the Royal Bank Building into a new centre for culinary arts and hospitality studies. This redevelopment also includes Bijou Square – the plaza connecting Main Street to Old Market Square. The University of Winnipeg and University of Manitoba also have some Continuing Education programs in the nearby Massey Building.

Chinatown includes the Chinese Cultural Centre (Dynasty Building), and a collection of Chinese commercial establishments and residential towers going north beyond the study area.

These precincts each have a distinct design identity. The National Historic Site and Education Centre is comprised mostly of dense blocks of redeveloped heritage warehouse buildings; the Civic Centre and Cultural District are large-footprint Modern and Brutalist buildings; Waterfront Drive is mostly contemporary mid-rise condominiums; and Chinatown has some buildings that pay homage to classic Chinese architecture.

With differing design, scale and use, the precincts are small neighbourhoods in of themselves. This effects the cohesiveness of the Exchange District as a whole, but also divides the neighbourhood into more easily to defined spaces.



FIGURE 8: Exchange District Precincts (adapted from Downtown North Pre-Plan Assessment , 2008)

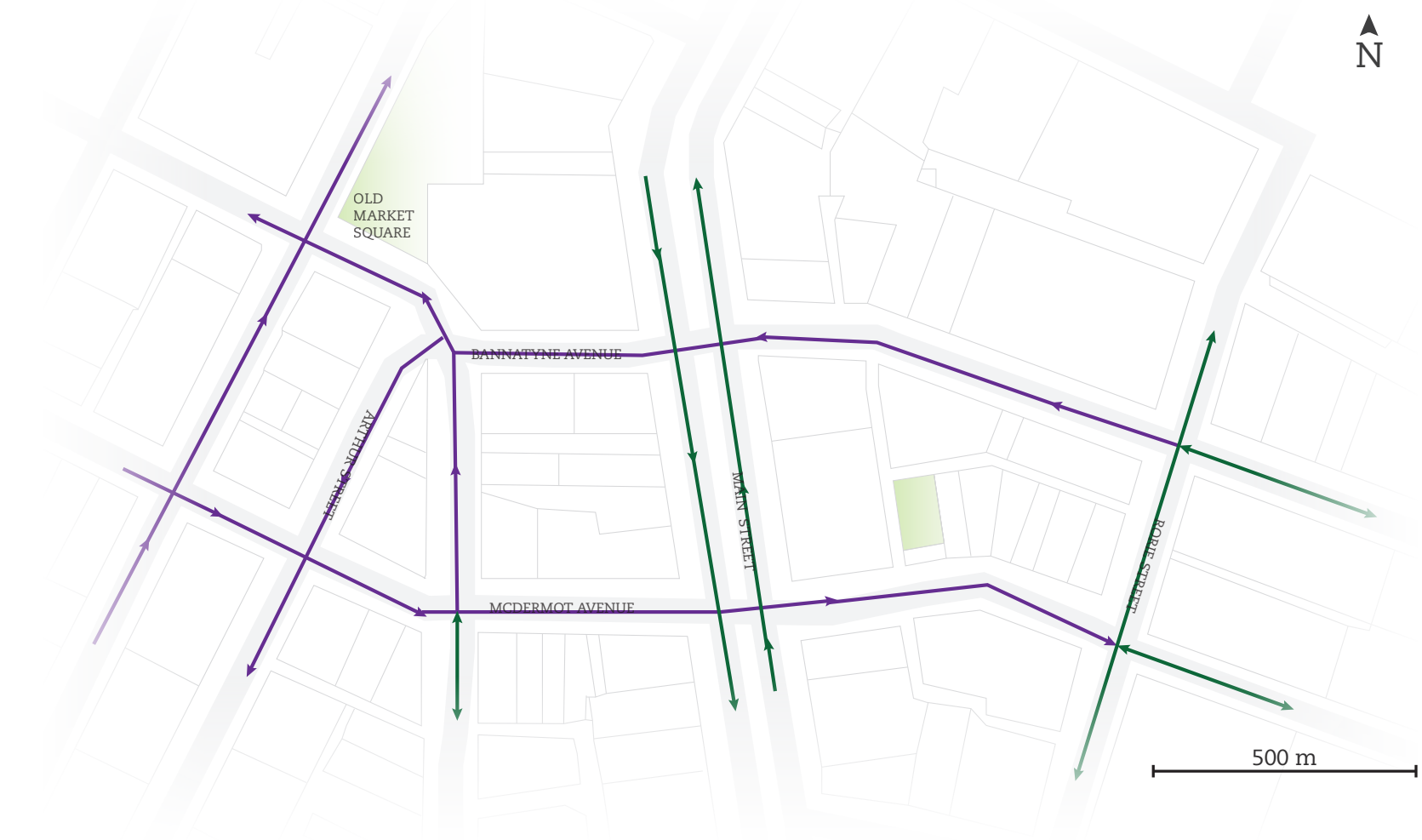


FIGURE 9: Study Area Road Network

3.5 TRANSPORTATION AND CIRCULATION

It is important to understand the circulation patterns of both vehicles and pedestrians, in order to inform the wayfinding study. These patterns influence where people go, and how they get there.

The study area encompasses both arterial and collector roads and divided by Main Street – an eight lane, two-way arterial running north to south, with on-street parking in some portions. Main Street has a large impact on the Exchange as it effectively splits the neighbourhood into eastern and western portions.

The majority of the Exchange District is composed of one-way collector roads, typically two to three lanes wide with on-street parking. Both Bannatyne Avenue and McDermot Avenue connect to Waterfront Drive, and serve as the two most important and used collectors within the Exchange District (Figure 9).

This physical divide created by Main Street also socially and cognitively separates the neighbourhood – making it challenging to connect both sides through design and wayfinding interventions. Alternately, it may also establish a 'spine' to the neighbourhood – allowing collector roads to branch off of Main Street, creating gateways to the neighbourhood at each intersection. More importantly, however, it creates safety concerns, as crossing a wide, traffic-heavy street can be more dangerous for children.

The narrower, lower speed collector roads are safer for children to cross, and generally follow a more neighbourhood scale. However, as designated one-way streets, the intention is to move traffic through the area. While there are opportunities to share the street with active transportation infrastructure, seating and patios, for example, motor vehicles currently have priority.

There are on-street painted cycling lanes on portions of Bannatyne Avenue, McDermot Avenue and King Street. These are not continuous and end between Main Street and Albert Street. Like the arterials, these cycling lanes are one-way traffic – west on Bannatyne, east on McDermot and North on King (Figure 10). Within the study area, the sidewalk network is complete with sidewalks on both sides of the street (Figure 10). Heading east towards Waterfront Drive, portions of the sidewalk on McDermot Avenue and Bannatyne Avenue are incomplete. There is no dedicated active transportation infrastructure, which makes it challenging for children to use bicycles and scooters. This may also result in cyclists using the sidewalk, making the sidewalk more dangerous for pedestrians.



FIGURE 10: Study Area Active Transportation Network

Main Street is also a major transit route, connecting many areas of the city to the Downtown. In addition, Bannatyne Avenue and McDermot Avenue are used for the free Downtown Spirit shuttle (Figure 11). The Exchange District is well connected by transit to and from Downtown and other parts of the city, especially further residential neighbourhoods. Children may be arriving to the area by transit, and/or using the Exchange District as a transfer point to other routes. Transit stops can serve as familiar landmarks or meeting points within the area. The free shuttle also allows residents and visitors to connect to nearby attractions such as The Forks – reinforcing the link the Exchange District has to other nearby destinations.



FIGURE 11: Study Area Transit Network

3.6 LANDMARKS AND CONNECTIONS

While the following chapters will illustrate differing perceptions of the Exchange District, the most common landmarks in the area are Old Market Square, Red River College Campus, City Hall, the Chinese Cultural Centre, the Centennial Centre, Pantages Theatre and Manitoba Theatre Centre. In addition, there are 37 designated heritage buildings within the study area (Figures 12 and 13). Surrounding landmarks include the intersection of Portage and Main, the Canadian Museum for Human Rights and the Forks. It is helpful to think about how these points of interest are connected or linked throughout the Exchange District, and the impacts on land use, and pedestrian and vehicle activity.

167	Bannatyne	Ashdown's Warehouse
168	Bannatyne	Chatfield Distributors (Franklin Press Building)
181	Bannatyne	Kilgour Block
185	Bannatyne	McClary Building
211	Bannatyne	Former Ashdown Store Building
283	Bannatyne	Travellers Building
70	Albert	Telegram Building
86	Albert	Albert Block (227-237 McDermot Ave.)
90	Albert	Western Building
91	Albert	Imperial Dry Goods Block
395	Main	Bank of Hamilton
436	Main	Bank of British North America (Newmac Bldg.)
441	Main	Imperial Bank of Canada
456	Main	Bank of Toronto
460	Main	Royal Bank of Canada Building
466	Main	Woodbine Hotel
468	Main	Birt's Saddlery (Baker Block)
492	Main	Former Macdonald Shoe Store
500	Main	Union Bank Building Annex
504	Main	Union Bank Building
165	McDermot	Galpern (Porter) Building
171	McDermot	Dawson Richardson Building
173	McDermot	Grange Building
175	McDermot	Toronto Type Foundry Building
177	McDermot	T.W. Taylor Building
179	McDermot	W.F. Alloway Building
212	McDermot	212 Lake of the Woods Building
214	McDermot	Criterion Hotel
221	McDermot	Bate Building
245	McDermot	Stovel Block (Kay Building)
246	McDermot	Sures Building
250	McDermot	Merchants Building
65	Rorie	Northern Electric Building
70	Arthur	R.J. Whitla and Company Building
88	Arthur	Anne (Blue Ribbon) Building
92	Arthur	Gault Annex
100	Arthur	Gault Building

FIGURE 12: Study Area Heritage Buildings by Address



FIGURE 13: Study Area Heritage Buildings

The *Downtown North Pre-Plan Assessment* (2008) notes a few connections in particular (Figure 14): Albert Street provides a connection between Old Market Square and Portage Avenue; Rorie Street links the underground walkway to the Cultural Precinct; Waterfront Drive and trails within Stephen Juba Park connect the Exchange District to the Forks; and Bannatyne Avenue and McDermot Avenue connect the east and west sides of the Exchange District. These connections form the basis for a network that links notable landmarks and precincts together. The gateways into the Exchange District follow the major intersections surrounding the neighbourhood. Vehicle traffic accesses the area via two arterials – Main Street and the Disraeli Freeway, Downtown connections at King Street and Princess Street and Waterfront Drive and a gateway to Chinatown on north King Street. These identified gateways could be used to strengthen the entrances to the Exchange District through design interventions.

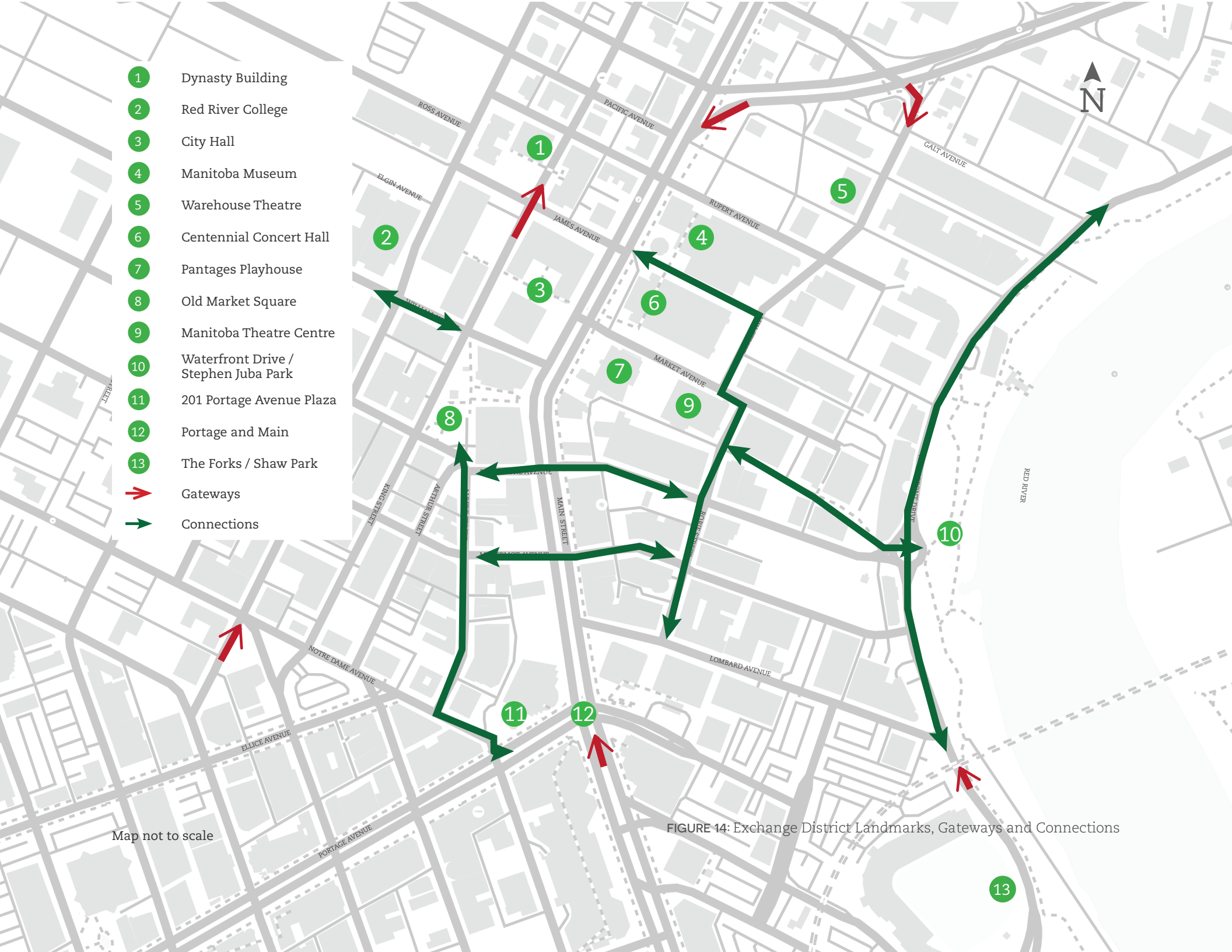


FIGURE 14: Exchange District Landmarks, Gateways and Connections

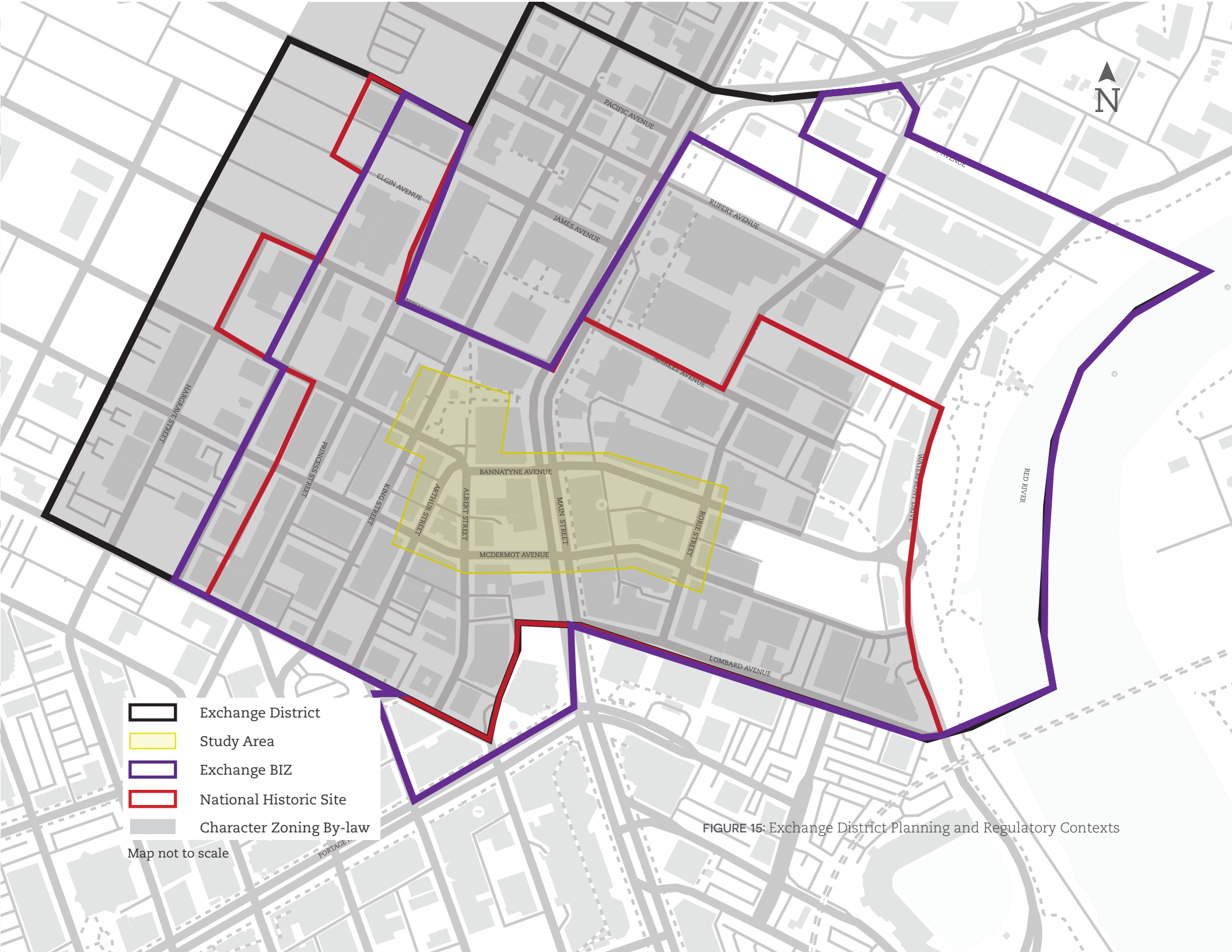


FIGURE 15: Exchange District Planning and Regulatory Contexts

3.7 PLANNING CONTEXT

The character, land use and circulation in the area are influenced by a myriad of planning documents and tools – and also inform future wayfinding plans and recommendations. These planning contexts influence the child-friendly nature of the neighbourhood as well.

Figure 15 shows the overlapping physical, administrative, planning and business boundaries. The Exchange District National Historic Site was declared a National Historic Site in 1997. This designation "does not come with federal protection or funding" but instead enhances the status of the site to "facilitate protection measures and funding potential from other jurisdictions while providing the bases for marketing and promotion which can assist the area economically" (Parks Canada, 2010, p. 10). In essence, rather than an administrative boundary, the Historic Site "encompasses a heritage zone from an architectural perspective" (Parks Canada, 2010, p. 10). The Exchange District Business Improvement Zone was established by City by-law in 1989. The Exchange District BIZ supports neighbourhood businesses with programs, promotion and initiatives funded by businesses within the zone with automatic tax contributions. In terms of municipal planning regulation, The Character Zoning Area is the sub-area as identified in the Downtown Winnipeg Zoning By-Law – discussed further in this chapter.

Much of the Exchange District is recognized as an urban heritage district – where "land use, buildings, streets and topography often define or influence spatial organization" and "buildings' siting, the open spaces between them and the circulation corridors, are often identified as character-defining elements" (Parks Canada, 2010, p. 63). Parks Canada defines historic conservation as "all actions or processes that are aimed at safeguarding the character-defining elements of a historic place so as to retain its heritage value and extend its physical life (p. 17). Much of the planning in the Exchange has focused on rehabilitation: "the action or process of making possible a continuing or compatible contemporary use of an historic place, or an individual component, while protecting its heritage value" (Parks Canada, 2010, p. 17).

In heritage areas, public consultation is important as it provides "a better understanding of what people identify as their important cultural environments" and "can contribute to a redefinition of cultural heritage and enable people to feel that they have a role to play in the protection of valued environments" (Swensen et al., 2012, p. 215). Heritage areas are not only important to elected officials, planners and conservationists. As Olsson (2008) notes, "a specific built environment can have a meaning for a much larger group of people than those who are normally invited or actually participate in the

planning" (p. 387). Generating meaningful input from multiple voices and perspectives "contributes to greater awareness of and debates on cultural heritage" (Swensen et al., 2012, p. 224).

Various studies have been conducted and planning documents created for the Exchange District. Most focus on the built form of the neighbourhood, addressing concerns for heritage preservation and commemoration amidst changing land uses in the area. While the National Historic Site designation lays a framework for heritage-sensitive planning and development in the area, many attempts to create a larger plan for the Exchange have not been successful. The development of a secondary plan began in 2008, but only a draft of that document from 2011 can be found publicly (accessible from Arts and Cultural Industries Manitoba). A recent engineering study for the north east parts of the Exchange addresses infrastructure and landscape architecture improvements in light of increased demand on older city services. However, a comprehensive plan for the Exchange has never been approved and a secondary plan is listed as "In progress" by the City of Winnipeg. A list of all relevant studies is below:

- Design Guidelines: Historic Winnipeg Restoration Area, 1986
- The Exchange District: An Illustrated Guide to Winnipeg's Historic Commercial District, 1989
- Exchange District Commemorative Integrity Statement, 2001
- The Exchange District Strategic Action Plan, 1996
- The Exchange District: A National Historic Site - Heritage Interpretation Strategy, 1999
- Exchange District National Historic Site Streetscape Inventory, 2009
- Downtown North Pre-Plan Assessment, 2008
- Commemorative Integrity Evaluation, 2009
- Warehouse District Plan, Unpublished Draft, 2011
- North East Exchange District Engineering Study, 2015

3.8 REGULATORY CONTEXT

3.8.1 ZONING

The Exchange District is considered a Character Sector within the *Downtown Zoning By-law No. 100/2004*. The intention of the Character Sector is "to encourage a compatible, fine-grained mix of uses, rather than a separation of uses in these diverse areas". In the Exchange (or Warehouse) District, "built form is key" and the objective is to "reinforce the valued current built forms" (City of Winnipeg, 2006). As the goal is for a mix of uses, land use is not as highly regulated as other neighbourhoods in Winnipeg. The categories and uses in the Character Sector are shown in Appendix A. Of note, residential uses are primarily permitted above grade and not abutting Main

Street, while commercial uses are permitted with some square footage conditions.

In keeping with the scale of the neighbourhood, building height minimums are 25 feet for Warehouse properties, and 35 feet on Main Street. A set-back maximum of 5 feet is permitted, which encourages a pedestrian oriented massing. In general, by putting little restriction on use, the regulations strive to enforce an urban form that is in keeping with the existing neighbourhood.

3.8.2 SIGN REGULATIONS

Sign regulations are of particular interest to this wayfinding study, and are shown in Appendix A. While size and height maximums are enforced, unsurprisingly, there are no specific regulations for legible communication or reference to the Universal Accessibility Guidelines. There are also no mentions of sign minimums that could require better communication through signage. Wayfinding is not addressed in any sort of regulatory manner within the zoning by-law.

3.9 STAKEHOLDERS

Several organizations and government bodies play a key role in the development and regulation of the Exchange District. It is important to consider these groups as key decision makers, who may be invested in this research. They include two business improvement zones, the Exchange District BIZ and the Downtown Winnipeg BIZ, the City of Winnipeg and two of its arms-length agencies, the Winnipeg Arts Council and CentreVenture, as well as R:ED – Residents of the Exchange District.

3.10 SUMMARY

This chapter introduced the research study area and surrounding context. The site was chosen for its historic significance, unique design identity, and urban location. Through an overview of demographic data, it is clear the Exchange District is a growing residential area, and future planning and development will have to consider the needs of children if young families choose to reside here. At the same time, children who visit the neighbourhood must be supported too. This research must consider planning for both user groups. A study of land use, landmarks, traffic, transportation and circulation further highlight the diversity and potentially conflicting functions of the area. A review of the planning context and regulatory documents indicates a variety of key stakeholders, and limited investment and regulation of wayfinding, signage and child-friendly concerns.

CHAPTER 3 KEY CONSIDERATIONS FOR FINAL RECOMMENDATIONS

- Planning in the Exchange District rarely considers the needs of children, simply because there are so few children residing in the neighbourhood. If the population continues to grow and diversify it seems logical to begin the process of planning child-friendly wayfinding for future residents early
- The land use mix indicates a diverse, mixed-use neighbourhood, capable of handling a multitude of purposes, especially on undeveloped surface parking lots
- The re-purposing of industrial buildings into residential dwellings suggests an emerging population, which potentially includes families
- While there is a concentration of arts and cultural destinations and civic buildings, there are no other particular public indoor spaces that children may informally gather, especially in the winter. As there are no schools or community centres in the area, in particular, children are likely still being transported in vehicles as a primary means of transportation to services and amenities outside of neighbourhood
- Main Street effectively splits the neighbourhood into eastern and western portions creating a physical and cognitive divide. The width and traffic on Main Street also poses safety issues
- The majority of the Exchange District is composed of one-way collector roads, typically two to three lanes wide with on-street parking meant to move traffic through the area quickly, despite it's narrower widths. This suggests vehicles take precedent over pedestrians and active transportation
- There are on-street painted cycling lanes in portions of the area but there is no complete cycling network. Alternative transportation is important for children who may want to cycle or scooter on the streets, and not have to share sidewalks with cyclists
- Main Street is a major transit route, connecting many areas of the city to the Downtown. Children may be using transit to arrive to or depart the area, and transit stops can become important landmarks
- Landmarks include; Old Market Square, Red River College Campus, City Hall, the Chinese Cultural Centre, the Centennial Centre, Pantages Theatre and Manitoba Theatre Centre. Surrounding landmarks include the intersection of Portage and Main, the Canadian Museum for Human Rights and the Forks
- Identified gateways could be used to strengthen the entrances to the Exchange District through design interventions

- Albert Street provides a connection between Old Market Square and Portage Avenue; Rorie Street links the underground walkway to the Cultural Precinct; Waterfront Drive and trails within Stephen Juba Park connect the Exchange to the Forks; and Bannatyne Avenue and McDermot Avenue connect the east and west sides of the Exchange District. These connections form the basis for a network that links notable landmarks and precincts together
- There are overlapping regulatory and administrative boundaries: the National Historic Site, the Exchange District Business Improvement Zone was established by City by-law in 1989. The Exchange District BIZ and the Character Zoning Area
- Public consultation is especially important in heritage areas
- A comprehensive plan for the Exchange has never been approved and a secondary plan is listed as "In progress" by the City of Winnipeg
- The intention of the Character Sector is to encourage a fine-grain, mixed-use where enforcing built form is of the highest concern
- Wayfinding is not addressed in any sort of regulatory manner within the zoning by-law
- Stakeholders include the Exchange District BIZ and the Downtown Winnipeg BIZ, the City of Winnipeg, Winnipeg Arts Council, CentreVenture and R:ED – Residents of the Exchange District

CHAPTER 4 MENTAL MAPS

This chapter details the first method of research – a comprehensive mental mapping exercise conducted with students in the study area. It begins with an overview of the research activity, supported by academic research on mental mapping methods. The chapter then discusses how the activity was conducted, who participated and my experience conducting the research. Most importantly, the results of the exercise are reviewed and analyzed to synthesize common themes for further discussion in the final chapters.

A mental mapping exercise was held on the afternoon of November 4, 2014. Arranged in conjunction with an elementary school in Winnipeg, the activity was conducted with 24 grades four and five students. Students were taken on an accompanied walk through the study area and returned to a nearby studio space to draw maps of their experience. The exercise was not intended to analyze children's wayfinding performance, but rather their perceptions of the site, their experience moving through the site and how they represented their experience through visual communication. The objective was to gain an understanding of how children imagined, envisioned and perceived the site, including what landmarks and assets were immediately familiar or recognizable. Ultimately, I have endeavored to uncover a primary understanding of how the children experienced the space, not how accurately they could draw their experience.

4.1 MENTAL MAPPING

Freeman and Vass (2010) note, "participation can be a way for planners to understand children's lives better, so that they are able to meet their needs more effectively" (p. 66). Planners who want to engage with children need "appropriate spatially based methodologies" to address the challenge of "ascertaining children's views and developing a better understanding of their environmental relationships" (p. 66). Halseth and Doddridge (2000) reinforce that exploring what children find important can lead to innovations in planning and design (p. 579).

Sketch maps offer an effective and relatively simple and quick way of gathering children's cognitive maps and "provide more than just factual information about the location of places" (Blades, 1997, p. 113). Traditional map drawing exercises are "a key methodological tool for both children and planners as a means of representing and conveying environmental cognition and spatial information" (Freeman & Vass, 2010, p. 67). Maps help environment related professionals gain a strong understanding of children's space (Freeman & Vass, 2010, p. 66) and "the range of analysis techniques available means that they can be effectively used in planning and policy contexts" (Halseth and Doddridge, 2000, p. 580).

Cognitive mapping exercises provide planners and designers with "a way of learning from children about what is meaningful in their 'landscape'" (Halseth and Doddridge, 2000, p. 580). Rather than being realistic depictions, "children's drawings emphasize the overall qualities of things" and are often supplemented by verbal descriptions when visual skills are limited (Gearin, 2008, p. 32). As a tool of engaging in wayfinding planning, in particular, "children's artistic expression suggests improved methods for public communication and signage" (Gearin, 2008, p. 32). Especially since "children's simplification of importance in graphical or pictorial representation conveys meaning in a way that may transcend cultural, linguistic or gender barriers" (Gearin, 2008, p. 32).

While children's mapping exercises are an effective research tool, there are some limitations to these activities and the subsequent analysis of results. Children do not plan ahead for the space they need and are forced to condense their drawings into a small area of paper (Blades, 1997). Available materials may restrict children's ability to fully express their ideas, especially when colour and texture are important. When drawing in a group or classroom setting especially, it is important to consider the influence of peers as "some students may not be drawing their own cognitive maps but trying to reproduce one from a neighbouring student which impresses them" (Halseth and Doddridge, 2000, p. 579).

Matthews (1992) suggests there are often significant variations among children's maps due to "differences in spatial competence" (p. 99), and unfamiliarity with mapping conventions result in difficult to analyze images that do not resemble adult maps. Not all maps will have a consistent scale, making them challenging to compare and contrast in order to uncover spatial understandings. Familiarity with a particular environment can influence the degree of detail children are able to express in their drawings (Halseth and Doddridge, 2000, p. 579).

Furthermore, Freeman & Vass (2010) caution against linking children's spatial awareness with their freedom and mobility. A study where children's maps were compared with personal interviews revealed a "general lack of correlation between the quality of maps produced by children and the richness of children's lives" (Freeman & Vass, 2010, p. 85). Therefore, it is imperative not to use mapping exercises to evaluate "spatial accuracy or representational skills evidenced on the map" but instead "to penetrate the social and environmental information the map is portraying" (Freeman & Vass, 2010, p. 85).

4.2 EXERCISE

The mental mapping exercise was developed around one simple instruction: "**Draw a map of your walk"**

In a letter sent in advance, the students were informed we would spend an afternoon together walking around Downtown Winnipeg, followed by drawing maps and pictures of the experience at a nearby studio. I explained we would do things city planners and architects do when they work on projects. I asked the students to create a 'top-secret urban explorer' name to use for the day in their notebooks and on their maps. This helped them adopt a new adventurous persona for the day.

4.2.1 PARTICIPANTS

This exercise was conducted with grades four and five students from a suburban Winnipeg public school. I was familiar with the class teacher, making it easy to organize the exercise prior to the day and during the activity. Using this personal connection made it easy to coordinate the research and find a willing group of participants. There may be more of a challenge when seeking a larger research sample, as a more diverse group of students and experiences could potentially shape and enrich the results. 24 students were invited and agreed to participate. The class teacher led the activity, with assistance from a student colleague and me. Parent/guardian volunteers, arranged by the teacher, provided additional supervision, but no one was paid as part of the research.

4.2.2 WALKING TOUR

The activity began at the Folk Exchange studio in the Crocus Building, located on the corner of Main Street and Bannatyne Avenue in the study area. As the students were from a French immersion school, the teacher provided the instructions in French, based on our conversations in advance, as well as written English instructions. Students were provided with their own 'Urban Explorer Notebook' and markers, and were asked to write their top-secret urban explorer names in the notebook. They were encouraged to write and draw their observations throughout their tour of the study area.

The teacher and volunteer adult supervisors were provided with a map of the route in advance and the walks were led by these adults to ensure I had no influence over what the children observed. The students were divided into groups and taken on the accompanied walk through the research site. As the walk progressed, the separate groups started to merge as the children wanted to interact with each other while touring. By the end, they had become one large tour group led by the teacher. This socialization may have influenced the final maps and drawings, as the students may have discussed features of the area with one another during the walk. Thus, the maps may not always be entirely individual, but rather represent the collective experience.

The site walk took approximately 30 minutes. During the walk, my colleague and I prepared hot chocolate for the students' arrival, and distributed additional drawing materials for the exercise. We met up with the group towards the end of the route to observe their participation in the exercise. The walk concluded in Old Market Square, where it was clear that the students needed a few minutes of free playtime before going back to the studio to complete the drawing exercise.

The route was pre-designated with the intention of getting the children to both the East and West sides of the Exchange District. A limitation to this pre-determined route was that it controlled where the students were going to explore – in essence going against the idea of complete independent mobility. However, the route was treated like a laboratory or test site – a way to collect responses in a controlled space as to provide a sample of the larger neighbourhood.

4.2.3 MAP DRAWING

Upon returning to the studio, the students were provided with an 11x17 sheet of paper, and various coloured markers and crayons. Tables were set up for groups of four to six students. Students were given one hour to draw their maps. They were encouraged to document their experience, and any objects and landmarks they remembered.

There was limited guidance from the adult supervisors and teachers, aside from encouragement to draw as much as they could. To ensure a clear understanding of what the children were trying to convey in their images, my colleague, the teacher and I circulated informally to talk with the students about their drawings.

Some students completed their drawings in 10-15 minutes, while others were unable to finish in the allotted time. Many of the children interacted with each other throughout the activity, while some preferred to work quietly and independently. For the most part, they were well behaved, but some children got bored quickly and spent most of the activity time walking around and talking with their peers. Towards the end of the one-hour, it was quite clear that many of the children were restless, and the group was given 30 minutes of playtime in Old Market Square before their school bus arrived.

With their permission, the children's drawings and notebooks were scanned and returned to them via their teacher. Any identifying names or information that could compromise the children's identity were removed.

4.2.4 RESEARCH ETHICS

Ethics approval was required to conduct the mental mapping exercises. In addition to an assent form completed by the students, written consent from parents/guardians was sought. All participants were informed they could decline to participate or withdraw from the study at any time. The children had the opportunity themselves to decline participating in the proposed drawing exercises and the teacher ensured an alternate activity was available.

As part of the ethics protocol, the following documents were created: a) Permission form for Parents/Guardians, b) Letter to school administration, and c) Letter to students (Appendix D). Researcher, supervisor and Ethics contact information were included in the permission form if parents/guardians, participants or administration had any questions about the research before signing the letter. At no time was information about the project or its purpose withheld from participants. The letter was sent home with all students to communicate with parents/guardians, who were given the opportunity to ask questions about the research and to decline to have their child participate.

No photographs of the children or adults were taken, and none of the insights gathered compromised anonymity, confidentiality and/or individual identities. Any identifying names or information that could compromise a child's identity were removed from the digital scans of

the drawings. I did not ask for student's real names at any point during the research activity. No compensation was provided except for hot chocolate and some playtime at the end of both the walk and drawing exercise.

4.3 MAP ANALYSIS

Children's maps often have different styles, including pictures of environmental features such as houses, trees, and cars drawn in side view; aerial perspective with some cartographic conventions; and pictures and plan elements. 24 varying maps were drawn for this mental mapping exercise (Appendix A). Wiegand (2002) identifies three ways to analyze children's maps: The content of the maps, including paths, edges, districts, nodes, landmarks (Lych, 1960); the way the information is structured-egocentric (limited to features of personal significance) fixed or clustered (clusters of content around a certain landmark or particular route), or coordinated (systematic, hierarchal integrated); and the symbology used in the representation. This section summarizes the key themes, symbols, and elements found in the drawings, followed by an analysis using the Lynch map criteria.

Of the 24 maps, eight can be considered structured-egocentric, 14 fixed or clustered, and two coordinated. Matthews (1992) provides a grade of mapping abilities: Grade I – pictorial and pictorial-verbal;

Spatial
• Edge
• Path
• Landmark
• Node
'Stuff'
• Furniture
• People
• Nature
• Vehicle
Traces
• By-Product of Use
• Displays of Self
• Public Messages

FIGURE 16: Mental Map Analysis Categories



FIGURE 17: Signs Composite

Grade II – pictorial-plan and pictorial-plan-verbal; and Grade III – plan and plan-verbal. Of the drawings from the exercise, seven maps could be considered Grade I, 16 Grade II, and one Grade III. Using a matrix (Appendix B), elements of the maps were quantified and sorted into categories (Figure 16).

4.4 MENTAL MAP FINDINGS

I SAW THE SIGN

Signs were a commonly occurring feature in many of the maps (Figure 17). These included street name signs, parking signs, vehicle directions, store signs, windows and awnings, and billboard signs. In many cases, recognizable advertisements and logos appeared in the drawings, particularly ones of brands and national corporations. Companies such as RBC, MTS, and Apple iPhone were illustrated numerous times. This is likely because recognizable logos and branding are much more familiar and easy to recall, and these signs are in more prominent (and likely more expensive) locations, such as billboards, or repeated more often throughout the area. Some less familiar signs were also misinterpreted as more common brands – for example, the banners for Fox and Fiddle pub appeared as Fox TV several times – suggesting the children were making connections to familiar corporate names.

While it is easy to view the Exchange District as a more trendy urban heritage site, corporate influences do still exist. It is important to consider the role of branding, especially familiar logos, on children's perception of urban space. Even though the area has a large stock of heritage signs and local advertising, these were not the ones the students tended to draw. Instead, they were able to recognize and subsequently re-create images they may already have known.

That being said, several local business establishments also recurred in the drawings, including Red River College, Opera nightclub, Hermanos restaurant and Imagine Games shop. While it is not entirely obvious why these ones in particular were popular, it could be that they were located in prominent locations (Opera on the corner of Main Street and Bannatyne Avenue, Red River College visible from Old Market Square), on a more three-dimensional sign surface (Hermanos on a bright red awning), or featured an interesting design (the griffin illustration in the Imagine Games logo and the large stop sign and handprint of District Stop nightclub).

In terms of the connection between frequency and geography, the amount of sign drawings also dwindled towards the latter part of McDermot Avenue. This may be due to the students reaching an observation saturation point just over mid-way through the walking tour.

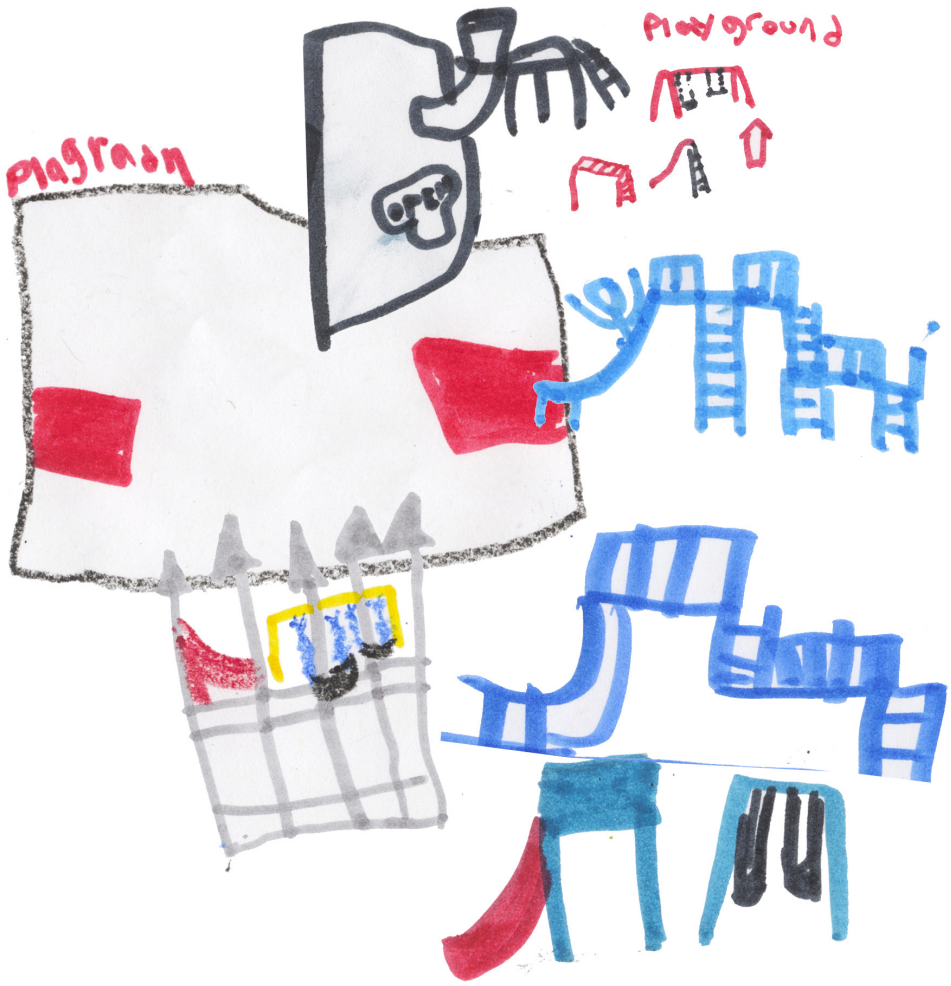


FIGURE 18: Playground Composite



FIGURE 19: Green Space Composite

PLACES FOR PLAY

Parks and playgrounds were popular in many, if not most, of the maps (Figure 18). The gated Bumper Crop Daycare playground, located on McDermot Avenue behind the former Canadian Wheat Board office building, appeared several times. In addition, several maps noted Old Market Square as a place of play. While there are no formal play elements in this park, students did have the opportunity to unwind and run around for a few minutes in between the tour and the drawing exercise. The students clearly connected to spaces where they could play, even ones that were fenced off to them and/or not designed for play purposes, suggesting play structures are familiar and comfortable elements.

GREEN SPACES AND NATURE

Nature and green space was also a common theme, with many students drawing trees, grass and park space (Figure 19). This is especially notable considering that brick and concrete warehouse buildings, and industrial materials and surfaces typically characterize the image of the Exchange District. Despite being an urban setting, students seem to have been drawn to elements of familiarity – natural settings, park space, and the connection of nature to playgrounds and play.

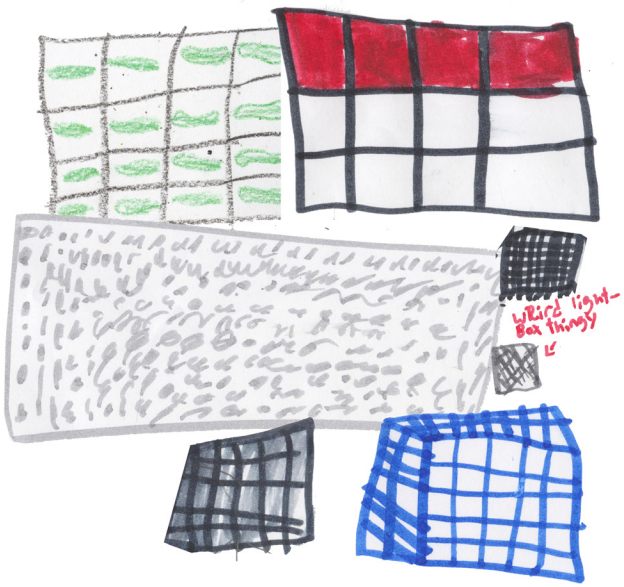


FIGURE 20: The Cube"Composite

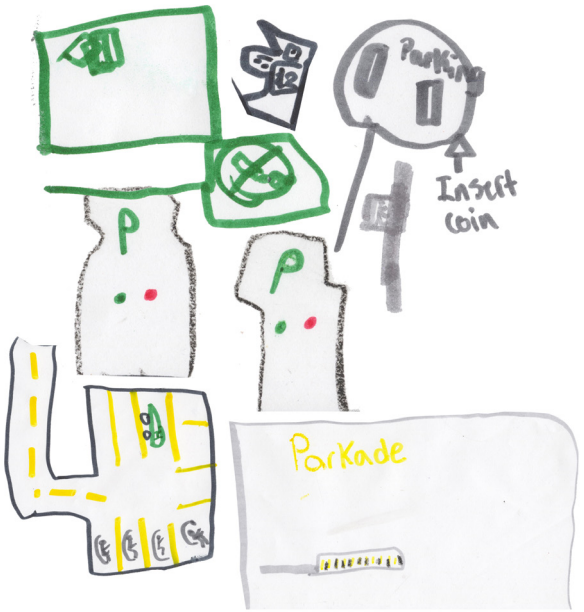


FIGURE 21: Parking Composite

"THAT WEIRD LIGHT BOX THINGY"

The stage in Old Market Square – known as The Cube – was found in many of the maps (Figure 20). The structure's contemporary design amidst the heritage backdrop stood out for many of the students. One student referred to the structure as "the weird light box thingy" – noting that the metal curtains light up at night. While the structure was not lit up during the daytime exercise, it is likely the student had seen the stage at nighttime in the past. The simple form made of a metal material, was a memorable object and a prevalent landmark in several of the drawings, suggesting design atypical of the neighbourhood stood out.

PARKING SPACES

Many students drew parking lots, parkades and parking meters (Figure 21). Even though they were on foot, their understanding of cars and parking was seemingly quite strong. That is, their ability to easily re-create these vehicular spaces could perhaps be linked to the frequency in which young children are driven to destinations, especially outside of their neighbourhood, and they are aware and familiar with the conventions of parking and paying for parking. The parkades could also be an exciting structure, with the multi-level buildings certainly more prevalent in an urban context – several students drew the entrance machinery and large signs marking these buildings. The City

of Winnipeg parking meters also appeared in several drawings – with one student noting that the machine looked like an alien. In this case, the form of the object and its multiple buttons and solar panel top clearly caught several students' imaginations.

LOOK UP!

The Richardson and RBC signs appeared in many of the drawings of tall buildings. The signs, which are located on the towers at 1 Lombard Place and 201 Portage, respectively, are not only located high up, but are only visible from limited viewpoints within the study area (Figure 22). This suggests the students were looking up for landmarks and clues. Although the height of buildings and signage in the study area is relatively low, the students seemed to be quite interested in the height of the towers that are quite unique in Downtown Winnipeg, and were also looking up to find familiar landmarks and markings.

POSTERS, POSTERS, POSTERS

Posters and advertisements found throughout the study area appeared frequently. Students were drawn to a few provocative posters, including one featuring a nude woman – which became one of the main conversation topics of the afternoon. In addition, one student captured a poster for an event called "Harsh Tokes" that featured

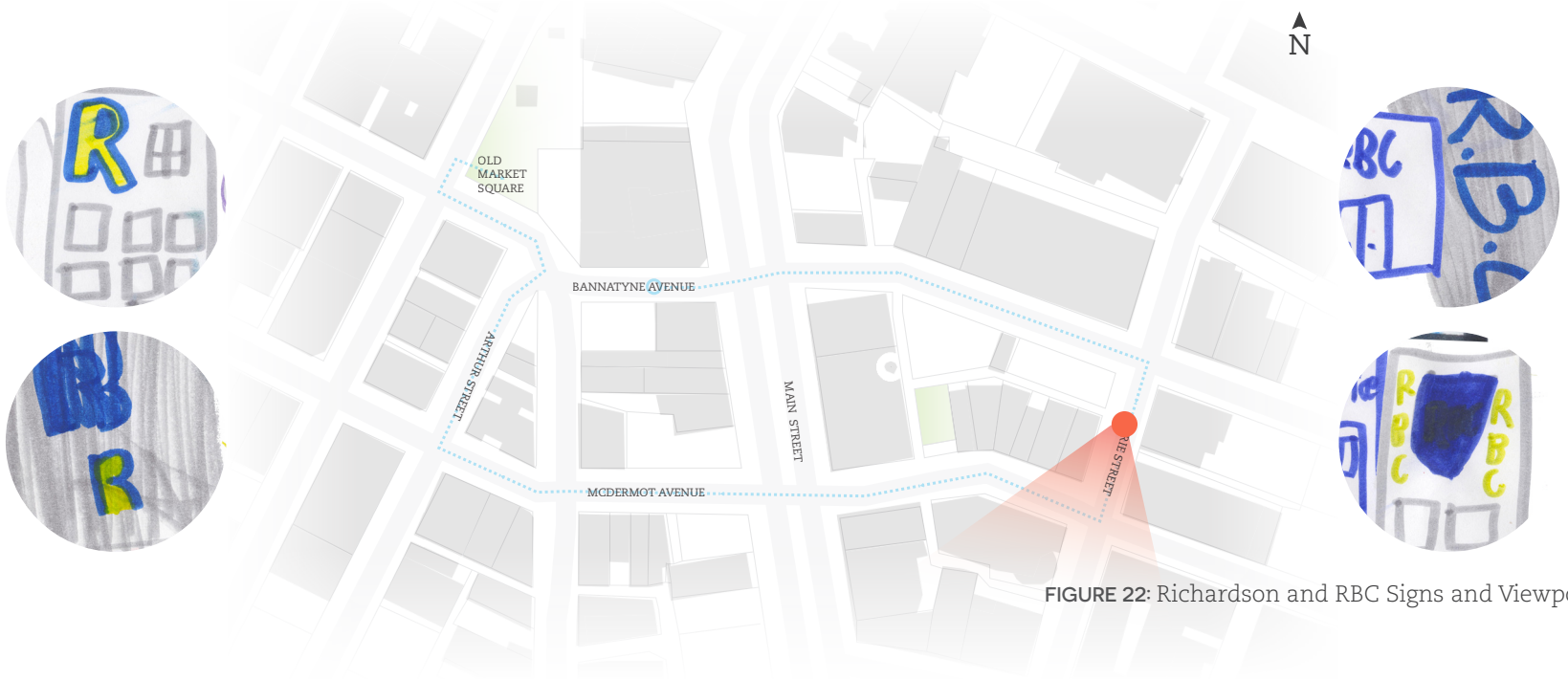


FIGURE 22: Richardson and RBC Signs and Viewpoint

a familiar children's television character with bloodshot eyes. In the instance where specific posters were drawn, they were usually of more 'adult' material. In an urban environment, it is difficult to completely control messaging and what children will remember or be attracted to – as evidenced by these two examples.

VEHICLES

Cars and buses were drawn in many of the maps and it is clear the students were attuned to the activity on both the street and the sidewalk (Figure 23). They were looking beyond their immediate sidewalk experience, noting and recalling the roads and vehicles throughout the study area. Unique vehicles, such as an ambulance and a yellow corvette, for example, were highlighted in several of the drawings.

LANDMARKS

Buildings were the most commonly drawn landmarks, with 107 individual buildings appearing in the 24 maps. Most of these buildings were drawn as basic structures – rectangles with windows and limited details. Some students captured materials and colours such as red brick and other stone, but the drawings were generally missing architectural detail. The heritage vernacular was mostly missing from the mental maps. In some instances, the warehouse-style buildings and surrounding towers were drawn as rudimentary

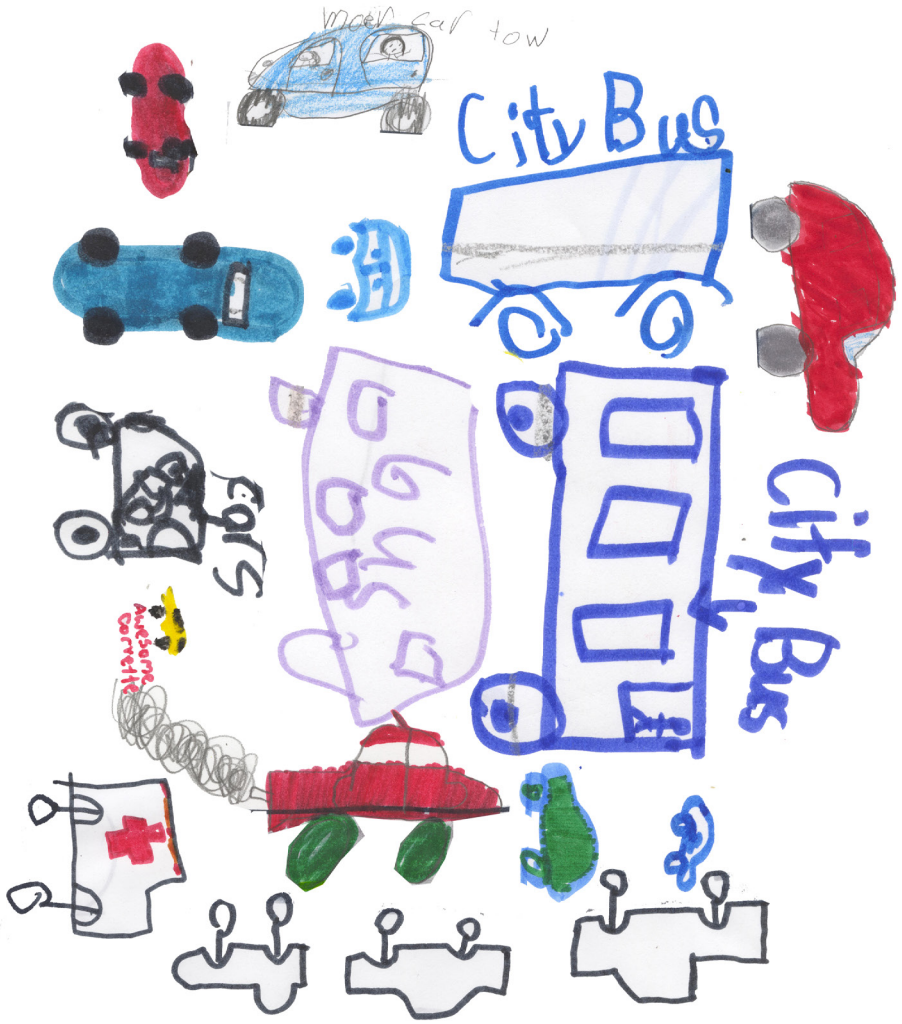


FIGURE 23: Vehicle Composite

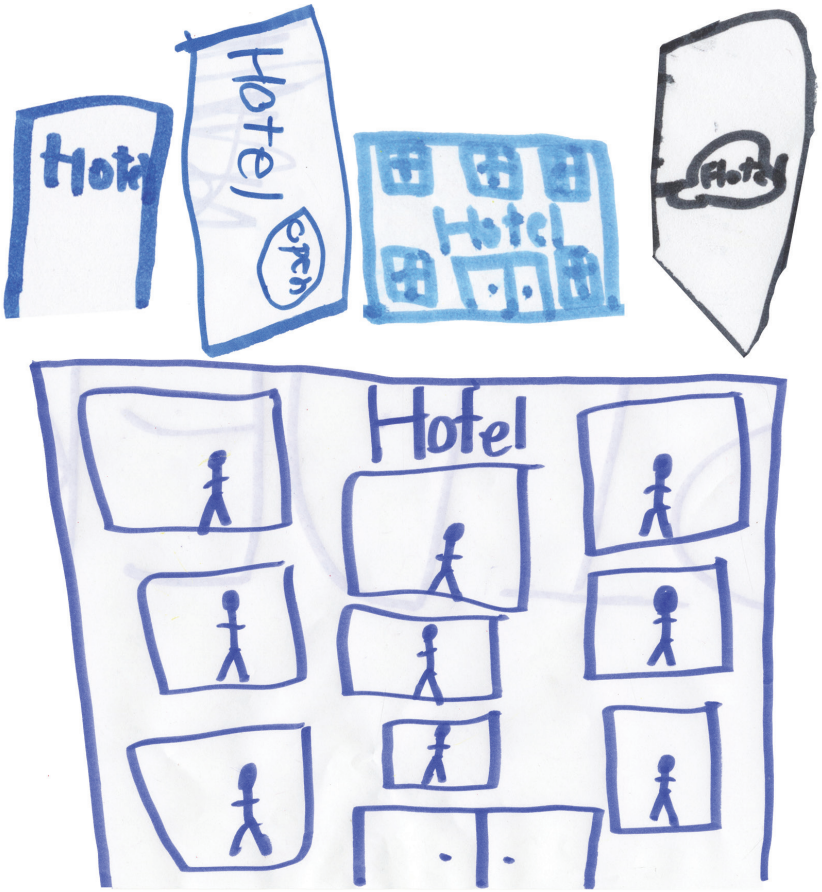


FIGURE 24: Hotel Composite

houses – the classic square with triangle roof. This does not necessarily suggest these buildings were not memorable or unique landmarks, but instead it could speak to the difficulties of capturing specific detail and design, and the challenges for children to draw unfamiliar buildings. Nonetheless, buildings in general were the most notable landmarks, and the students certainly did notice them and consider them an important element to their maps, and the study area.

As discussed earlier, playgrounds and space for play appeared in one-third of the maps, as landmarks that were in stark contrast to streetscape stood out for the children. The students likely noticed both a space that was different to the rest of the neighbourhood and a structure that was highly familiar and designed for their age group. Although the Bumper Crop Daycare playground is a fenced-in, private space, many children recognized it was a place they could be a part of and interact with, despite the physical barrier to access. Many of the maps also captured "The Cube" stage in Old Market Square, again reinforcing a notion that structures contrasting with their surroundings – both in design and use – were memorable.

A hotel, most likely the Woodbine Hotel on Main Street, appeared in several of the drawings (Figure 24). Like many of the buildings in the maps, the structure was often rudimentary in form and detail, but the

word "hotel" was typically affixed to the building. "Hotel" likely being a familiar word to many, some students drew buildings with people in the windows – this was not necessarily the hotel they saw, but they made a connection between the term and what it should look like. The word also stood out – perhaps because it is one of the few protruding signs along this street. The familiarity with the word and concept of a hotel, and the design of the sign, formulated a memorable landmark for the students.

Similarly, parkades appeared in several maps, reinforcing the idea that recognizable words and concepts may have resulted in students drawing landmarks they might not necessarily have remembered, but that are familiar. Although the students arrived by bus, they may be used to parking areas or structures as the starting point of an experience. That is, if they are driven often, they may consider parking to be a landmark – the indication of the beginning and end of an activity.

Interestingly, the Forks, and a train bridge crossing the Red River were drawn in a handful of maps. Both of these landmarks are not visible from study area, but it appears some children were making connections between places they knew were nearby – suggesting that those who knew surrounding landmarks were able to spatially contextualize themselves in the study area using prior experiences.

NODES

The students recalled and captured several spatial and social nodes within the study area. For example, they understood intersections – illustrating where and how the streets intersected, and indicating they had a good sense of the spatial relationship between the sidewalk and the street. Some drew the grid-like street pattern, or at a more rudimentary understanding, they drew the loop of walking tour path, showing how larger road and vehicles interrupted their route. In particular, they were able to identify the places they crossed streets along the path. These junctions of sidewalk and street, pedestrian and vehicle became spatial nodes – place where movement and people intersected, but are separated physically. At these nodes, a place to pause and place themselves within the space likely provided an opportunity to look more intensely at their surroundings.

Old Market Square was drawn as a play space and gathering spot. This node was not just the ending point of their walking tour, but also the intersection of several streets and sidewalks – a physical and metaphorical culmination of their journey. Many students captured elements of the public square such as benches, trees and greenery. It is likely some students perceived an open space as a social gathering

space. Unfortunately it is hard to know for certain whether Old Market Square was spatially understood as a node or if it was simply the landmarks and play space that was memorable.

Surface parking lots – traditional gathering spots for vehicles that can be found in multiple environments in the city and suburbs – can also be considered nodes. As previously mentioned, many children recognized and noted places for vehicles likely because they are both large in scale, filled with familiar objects and plastered with signage marking their purpose. These spaces are also 'adult' in nature, as their primary use is for a grown-up function. It could be this is an environment they desire – not unlikely considering how often vehicles were drawn in the maps.

EDGES/PATHS

In addition to landmarks and nodes that establish memorable places, it is also interesting to consider the edges and paths that control pedestrian movement, and how the children perceived and captured the barriers and guides within the study area. In almost all the maps, the students drew their route in some form – usually capturing both the road and the sidewalk (Figure 25). Sidewalks are naturally surfaces they are accustomed to walking on, and roads are understood to be places for vehicles – something they are familiar with but know are dangerous spaces for walking. The roads serve as edges as they are not a place to play or for kids to walk on, unless they are crossing them. These are unfriendly adult spaces, but children know and understand roads, and it is clear they noticed them. They drew the street patterns, and the conventions of streets – painted lines and lanes etc. The permissions of each space are usually quite understood, and thus the separation of path space. In some cases, the students also left a separation between the road and sidewalk – an empty or undetermined space, a threshold between the safety of the sidewalk and danger of the road.

The route that was taken during the walking tour was easily memorable as evidenced by its frequent appearance in the drawings. This could indicate the circulation pattern was memorable and understandable. The route was purposefully designed to ensure different elements of the neighbourhood were experienced in a manageable time frame, but speaks to the memorability of certain paths, especially those that start and end in the same place.

A few drawings also noted the alley and dray ways in the study area. These in-between spaces are both secret portals to other places and dark, scary spaces. They can be paths into new, hidden places, or form edges or holes darkness – uncomfortable, unfamiliar, and uninviting.

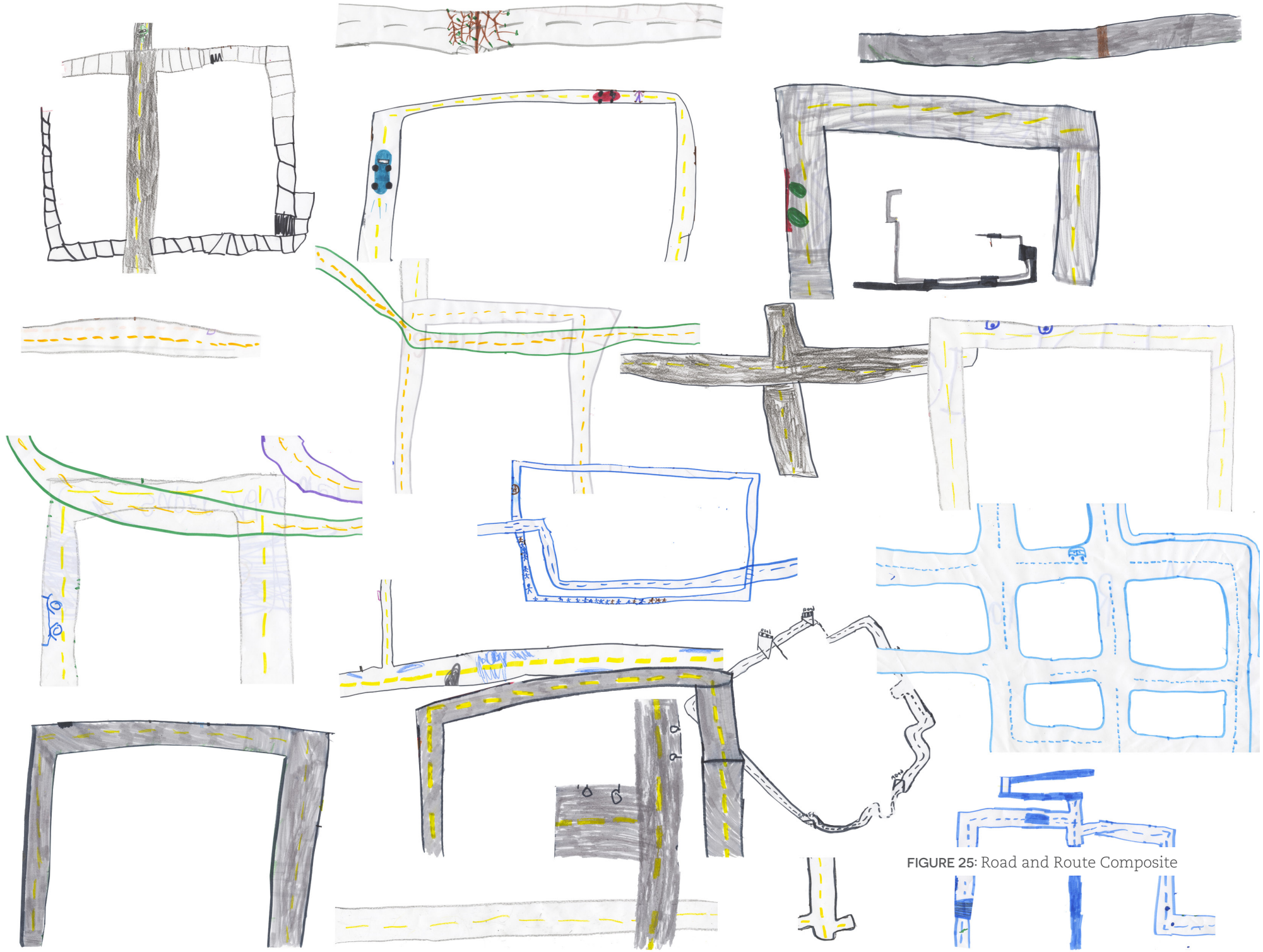


FIGURE 25: Road and Route Composite

Fences throughout the study area became edges in many of the maps. In particular, the fence that surrounded the Bumper Crop Daycare playground appeared in several drawings, and far more often than the low wooden fences elsewhere in the study area. This may be due to the height and more decorative design. More likely though, it is because it surrounded a place that was familiar – simultaneously shrouding it in mystery, protecting it, and drawing attention to itself. The students often drew the things beyond the fence, perhaps because they familiar with fences from school, other playgrounds and home in general – there is a sense of safety, enclosure, and protection, but also restriction and permission.

START/END

Several students also noted the place where they began and ended the journey. A sense of a home-base was important to them, and this was frequently captured in a landmark or a node that signified to them where they spatially started. Although this location was not always 'accurately' mapped – it was clear they were thinking about the route having a beginning and an end. Some, however, did link it to a familiar landmark, suggesting their understanding of place and location was tied to physical attributes that were memorable. One map noted the beginning as 'home', further reinforcing the idea of a specific location being the start and end of a route – a familiar landing place that signified a successful journey.

PEOPLE/ME

Some of the students drew themselves, and their classmates, in their maps, signifying that the experience was personal and they understood their relationship with the space, the environment, the buildings, and the route. In these instances, the drawings were not just about what they remembered, but also indicates they saw themselves as active participants within the exercise.



FIGURE 26: Urban Explorer Notebooks

4.5 NOTEBOOK FINDINGS

The notebooks the students used throughout the walking tour were a primary documentation of their experience. While the mental maps were a recall and reflect exercise, the notebooks captured first impressions – things that stood out for one reason or another. Often times, these notes found their way into the drawings, and sometimes the sketches were recreated. Other times, the notebooks acted as a stream of consciousness diary of their experience. Reviewing the notebooks is especially interesting in times when drawings and maps cannot capture certain experiences – smells and sounds, for example. A few students wrote in long sentences, like journal entries, but most just wrote words of things as they saw them. The text from the notebooks was transcribed and recurring words and ideas were counted and grouped in themes. While this may not be the only way to examine the notes, it is a helpful way to quantify what might be the most prevalent themes and experiences that the children had during the walk. Returning to these notebooks after studying the drawings first makes it easy to compare the written themes to the ones that appear in the mental maps. In one sense, it shows how the children were able to capture their experiences visually – did the text transfer to a different documented form? In another, the gaps and disconnects are just as fascinating – did the students remember something else after the walk? Was their visual memory more important/exciting than their written notes? And, of course, were there mental maps influenced by their peers? In some instances, students did not use their notebooks at all. Where were they drawing their final inspirations from and what does that say about the legibility of the urban environment?

FAMILIAR WORDS

The most common words written in the notebooks were familiar terms (Figure 27). As discussed previously in this chapter, signage was prevalent, especially signs with words that were recognizable and understood. The following words were the most recurring:

- "Street" – noting the many street names and signs, it is likely the students oriented themselves during the walk by observing the street signs – a common intervention in many environments, and one they likely learn about in school. The street signs are by no means child-friendly, but they are familiar and reliable objects of understanding where you are, and in many cases the names in the area are interesting and fun to transcribe.
- "Lounge" – appearing on the signs for several restaurants in the area.
- "Hotel" – likely referring to the Woodbine Hotel.
- "Opera" – a night club sign in a prominent location, with white background and black text.



FIGURE 27: Notebook Word Cloud

- » "MTS" – the familiar local brand name is in the public often. In this instance, the MTS logo appears on the phone booths in the neighbourhood.
- » "Stop" – although a familiar road sign, there are not many in the area as traffic lights are more common. The students may have noticed the District Stop bar sign that features the classic hexagon shape. Regardless, the word and shape is a familiar alert.
- » "Mailbox" – the Canada Post mailbox is a familiar object in both urban and suburban settings.
- » "Winnipeg" – the city name appears in many historic and regulatory signs in the area.
- » "Fox" – a large banner for the Fox and Fiddle pub (not many noted the "fiddle"), it is a familiar word linked both to a common animal and to the television channel Fox, and Fox TV also appeared in a few drawings.
- » "Open" – the classic business sign with its familiar shape and neon lettering.

BATHROOM HUMOR

Several students recorded "port-a-pottie" and "poop" in their notebooks. A temporary washroom set up at a construction site on McDermot Avenue caught the attention of many of the children. In a sense, it became a landmark for them – a recognizable place or object amidst unfamiliar settings – however, it did not translate to any of the final drawings. At some point during their walking tour, the children encountered some dog poop on the sidewalk. This trace left a lasting impression, with the students talking about it during the walk and throughout the drawing exercise. It is compelling to think about these 'icky' and humourous elements being so memorable.

THE USUAL SUSPECTS

Parking – Once again, vehicles, parking lots, and parking signs were recurring in the notebooks. These elements are both familiar but also often larger-scale than the children. Perhaps their size, and their adultness made them exciting, especially Downtown where heavier traffic patterns exist. The children were also able to see this traffic from a different perspective at the pedestrian scale, instead of being within the vehicle.

Building – As discussed throughout, the Exchange District is comprised of historic buildings, and the students were attuned to that – although, there was rarely mention of specific buildings within the study area.

Trees and Parks – Familiar natural elements seen in the drawings were also recurring in the notebooks.

4.6 ADDITIONAL REFLECTIONS

As a whole, the maps did not capture much on McDermot Avenue or Arthur Street. For example, a large installation on Arthur Street that features over-sized boxing gloves punching through a wall did not appear in any of the drawings. As this street was the one of the last of the route, the children were likely tired, overwhelmed, or over stimulated. This suggests there may simply be too much visual stimulation to process. It may be important to think about how many visual cues already exist, and the wayfinding opportunities and challenges posed by these multiple layers. Would an additional layer of a wayfinding enhance or hinder the legibility of the neighbourhood?

Parking lots, playground, and park spaces were some of the most frequently drawn spaces. In terms of scale, these are less tall, less dense, and further set back from the sidewalk. This more suburban form may be most recognizable to children who do not spend much time Downtown, and thus more comfortable.

Also surprising was the absence of heritage signs in the drawings. It could be that sketching heritage signs was difficult for the students, but the notebooks also did not feature mention of the historic advertisements either. However, many current billboards and logos were drawn, suggesting familiar branding is much more memorable for children. At the same time, the children did not just record brand name words, but also familiar terms and concepts. Clearly, their drawings indicate they were reading and comprehending words and not just looking at logos. While the misspelling and misinterpretation of words were cute to observe, they also speak to the way in which the children transformed what they saw into things they knew – often times brand names. Obviously, this age cohort does not only recognize words, they also know what many of them mean. It may be important to think about common signs that frequently appear in public space, such as stop signs, parking signs, open signs, and other vehicle directional signage. These are messages that are so common that adults might miss them when thinking about wayfinding, but that the children clearly detected.

Again, the data from this exercise is also limited by the structure of the activity and the children's familiarity with one another. Opportunities for socialization throughout the walking tour and drawing exercise could have influenced what was drawn and there is no exact tool to distinguish between individual cognitive maps and what was compiled collectively.

Finally, while the results of the exercise come from a small sample of 24 students, they nonetheless provide a bounty of information about how children may experience the Exchange District. However, it would be wrong to not acknowledge that the students were given instructions before the walking tour. They were told to be active participants and to record their experience in preparation for the drawing exercise. Children's perceptions of the neighbourhood, or spaces in general, may be different if they are just following their parents or passively walking through a space. The influence of the formalized activity should be considered when looking at any of the findings presented.

4.7 SUMMARY

This chapter detailed the mental mapping exercise, maps analysis and notebooks review, including an overview of the research activity, the results of the exercise and the common themes arising from the activity. These will later be compared to the results of the site audit and precedent research to form the final recommendations in Chapter 7.

CHAPTER 4 KEY CONSIDERATIONS FOR FINAL RECOMMENDATIONS

- Exploring what children find important can lead to innovative ideas
- Children's artistic expression can suggest improved methods of communication and signage
- Sketch maps are a effective way of gathering children's environmental cognition
- Materials, format and exercise instructions may restrict or bias mental mapping results
- Maps do not necessarily imply a link between spatial awareness and freedom and mobility, but can help gather social and environmental information
- Children become quite restless after the 30 minute walk, and one hour drawing exercise
- Recognizable logos and branding from larger corporations appeared more frequently and heritage signs and local advertisements less so
- Signs that were in prominent locations, on protruding or three-dimensional surfaces and featured interesting logos were drawn more frequently
- Spaces for play, green spaces, and natural environments were drawn frequently
- Structures that were not in keeping with the heritage design of the neighbourhood such as the Cube were drawn often
- Parking lots, parkades and parking meters may be familiar because children are used to being driven, and understand the conventions of parking
- Tall buildings and the signs on top, only visible from select locations, were popular images – suggesting the students were looking up for environmental clues

- While buildings were the most commonly drawn landmarks, they were often missing the unique design details that characterize the study area
- Other common landmarks included – playgrounds, hotels, and parkades – likely familiar structures and concepts
- Some landmarks not in the study area were drawn, suggesting some students were able to spatially contextualize themselves within the surrounding area
- Commonly drawn nodes included: intersections, Old Market Square, and surface parking lots
- Sidewalks, roads, alleys, dray ways and fences were common edges and paths – children seemed in tune with sense of safety, enclosure, protection, restriction and permission
- The walking tour route was often noted, especially the place where the journey began and ended
- Maps cannot capture experiences such as smells and sounds
- Frequently recorded words included: street, lounge, hotel, opera, MTS, stop, mailbox, Winnipeg, fox, open, port-a-pottie and poop
- Students may have been overwhelmed and tired by the mid-point of the tour
- Additional layers of wayfinding could either enhance or hinder legibility based on over-stimulation
- Students were instructed to be active participants, which may have influenced the level of detail in their maps and notebooks

CHAPTER 5 SITE AUDIT

This chapter discusses a site audit conducted in the study area. It provides an overview of the literature on the method and details the steps taken to collect and analyze data. This is followed by a discussion of the results of the site audit and an analysis of themes and observations resulting from the exercise.

An audit is an important observational research activity that according to Zeisel (2006) is "equal in analytic weight and importance to other, more traditional quantitative methods like questionnaires" (p. 179). For any planning strategy to be successful, it is important to consider the site as an "ongoing set of very active [socio-spatial] networks that are intertwined in complex relationships" (White, 1983, p. 6). Information, which records the spatial characteristics and the general use of a space, ranges from soft data, 'relevant site conditions that can be changed or do not have to be addressed', to hard data, 'less changeable or alterable elements of the space' (White, 1983, p. 6). Using this data as a base layer, additional observations can be layered on top throughout the research process.

A signage and landmark inventory is frequently used to document existing wayfinding conditions. Typically, such inventory will assign an identification number, categorical code, and record sign type, messaging, and location and in a table with a corresponding image (Gibson, 2009). Much of the audit concentrates on iconography – "active interpretation of meanings embedded in phenomena" (Deming & Swaffield, 2011, p. 164).

Trace analysis looks at "physical surroundings to find reflections of previous activity that was not produced in order to be measured by researchers" (Zeisel, 2006, p. 158). While signage and landmark audits document formal interventions, looking at physical traces reflects on the informal, unconscious or conscious changes that have been made by users of the space (p. 159). It documents the by-products of use (erosions, leftovers, missing traces), adaptations for use (props, separations, connections), displays of self (personalization, identification, group membership), and, most importantly for this research, public messages (official, unofficial, illegitimate) (Zeisel, 2006).

Inventory categorization strategies "produce new knowledge by sorting and structuring data into a system of organization, using typical properties, patterns, behaviors or themes" (Deming & Swaffield, 2011, p. 126). A "fundamental and elastic" research activity, classification reveals hidden patterns and themes within collected data (p. 127). Classification strategies, which cannot be discovered or used in isolation (p. 149), "collect, organize and understand descriptive data about the phenomena being investigated" (p. 127). This research uses a taxonomic scheme of categorization, which is "typically structured as a hierarchy, beginning with a broad inclusive ranks or categories (most general) and ending with the narrowest (most specialized)" (p. 136). The taxonomic hierarchy uses supertypes and subtypes where "the subordinate group must always include the basic traits of the supertype, together with enough additional, predictable distinguishing features to constitute a distinct subtype" (p. 137).

The intention of a comprehensive site audit for this research is to generate an intimate and deep knowledge of the site before the 'work' begins (White, 1983) and to uncover such detail through unobtrusive means (Zeisel, 2006). Ultimately, this provides a rich and robust understanding of the research site, and informs the opportunities, challenges, and implications of new interventions in a given location.

5.1 METHOD

I collected site audit data by photographing the study area. To ensure consistency and comparability, during each audit I walked the same route as the children did for the mental mapping exercise. I walked this route five times to collect as much data as possible using an iPhone camera enabled with GPS tracking for recording.

I treated the site audit as experiential – recording everything I experienced, rather than necessarily collecting every relevant item in the study area. That is, if I did indeed miss a relevant item throughout my walks through the site, I considered it not important to the study.

I documented signage, advertisements, art, text, street furniture and objects, and fences. Essentially, I wanted to amass a visual collection of all 'things' that enforced, aided or constrained navigation.

My approach was both informed and biased by my previous research and familiarity with the study area. I documented several signs and objects that were predominant in the children's drawings even though I would not necessarily have noticed them myself had I done the site audit before the mental mapping activity. Being familiar with the area helped me focus on smaller details that may have otherwise been missed if I needed to spend more time figuring out where I was going. There could be a certain primitiveness missing to my research, as I was more focused on creating a robust collection of data, rather than data constrained by newness and discovery of the space.

Conducting my personal audit, I was aware I would not be able to capture every relevant item in the study area, and instead focused on creating a collection of my experience. In a further study, a photovoice or similar exercise could be undertaken to capture multiple viewpoints – but even professionals would not necessarily be able to capture everything as they are looking subjectively at space through the lens of professional knowledge and experience, or sometimes as newcomers as well. There is not a truly objective way to perform a site audit that ensures everything is uncovered. Nonetheless, over 450 images were captured through multiple circulations of the route. The data collection process was influenced by a route that had no specific destination. Instead of looking for clues to get me to other places, I was mostly collecting anything that struck me as a visual cue in the study area.

Once the data was collected, the images were transferred into Adobe Bridge software to be sorted. Firstly, the categorization was geographic – each image was tagged by general street location: Bannatyne North, Bannatyne South, Rorie East, Rorie West, McDermot North, McDermot South, Main East, Main West, Arthur East, Arthur West, Old Market Square, and Other.

The next step of categorization adopted several super and sub types nested within (Figure 28). The first layer of categorization separated the data between *signage* and *intervention*. Intervention coding was established from recurring data patterns, which were categorized as: *art, communication, fence, furniture, parking* and *play*. The signage categorization was adapted from Gibson's (2009) sign-type model: *identification, interpretive, directional, regulatory, promotional* and *orientation*. Identification was further categorized into *historical*, *private*, and *public*. Regulatory subsets were determined to be *pedestrian*, *private*, *safety*, and

vehicle. In some cases the data had more than one tag. In the many instances where multiple photographs were taken, the photograph with the best light and clarity was chosen. The data was imported into an Excel spreadsheet and each category was turned into a two letter abbreviations and each photograph assigned a corresponding numerical code. In addition, GPS data was extracted from each image, and imported into the spreadsheet. Finally, the text was transcribed from each corresponding sign. Using the data merge function in Adobe InDesign, the visual site audit database was created – containing 278 images with corresponding codes, geographic location and transcription (Appendix C). The data was also imported into Google Earth Pro for easy access to the data based on map location.

There are three parts to these findings: a quantification, categorization and review of the types of interventions and signage found during site audit, an analysis of the text and language, and a discussion on traces in the study area.



FIGURE 28: Site Audit and Signage Categories

5.2 INTERVENTIONS

For the purposes of the site audit, interventions refer to objects within the study area that have purposefully been placed for functional purposes, as a design enhancement, or in some case both. These interventions are important to consider as an aspect of the how users may navigate their surroundings in the area, often time using these interventions as points of interest, anchors or landmarks. In some cases, they inform a node and their function may encourage people to gather or use a space in a specific way. The site audit identifies several types of interventions: art, communication, fences, parking, and street furniture.

Art takes on a two forms in the data set: public art, and architectural detail and embellishment. The most common pieces of public art are three Winnipeg Arts Council-funded poster boards, featuring different laser cut designs – some referencing the architecture and people of the area (Figure 29). Other notable art interventions include a sculpture of a horse, located outside Mayberry Art Gallery (Figure 29), and a pair of boxing gloves punching through a building (Figure 29). For a neighbourhood known for its arts and cultural community, there is a surprising lack of public art. This may be caused by the model in which public art is funded in the City of Winnipeg, or by restrictions placed on the area due to heritage conservation and planning policy.

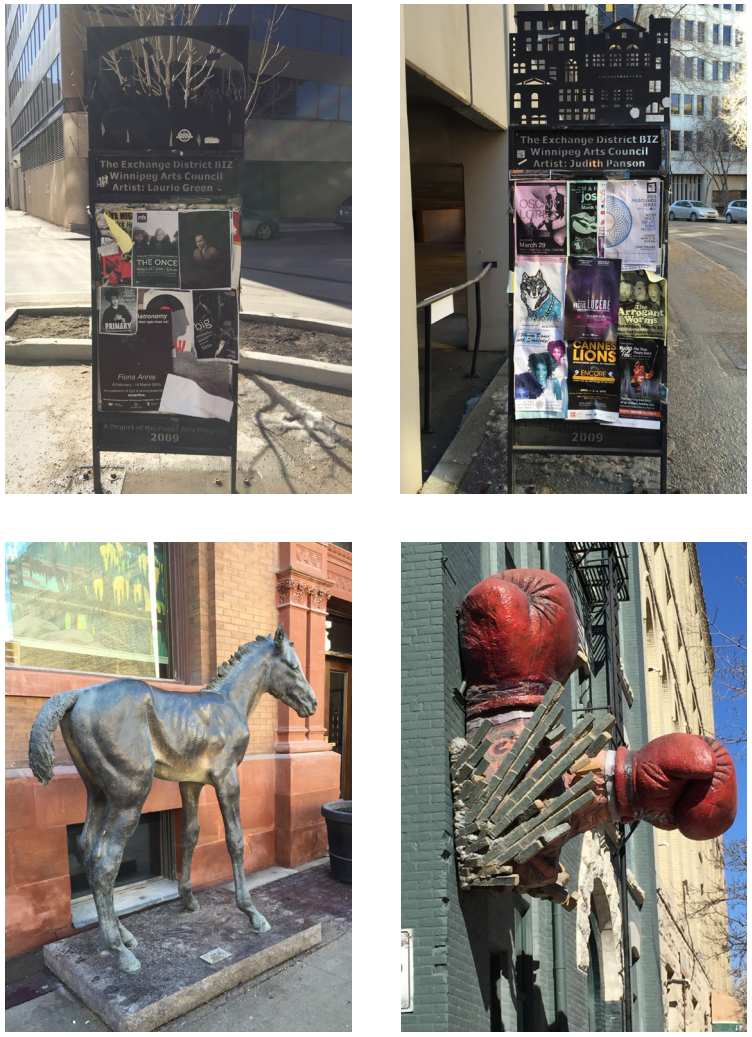


FIGURE 29: Public Art

Although artists have designed the message boards, for example, they are hardly the large-scale public art pieces that may typify other urban centres. Some spaces also feature re-purposed pieces of architectural detailing likely from former buildings. Some of these are added to other buildings (to add detail to staircases and ramps, for example), while others form seating spaces.

Communication interventions refer to objects in the study area intended to disseminate information in some way. (Figure 30). I identified eight objects such as message boards, newspaper boxes, pay phone booths, and mailboxes in this data set. Many of these interventions could be considered 'older' forms of communication, as they are predominately not digital or outdated technology (such as phone booths). It is interesting to consider the function of these interventions considering the majority of communication and information is now shared digitally and through social media. I personally did not notice the phone booths during my initial walk through the study area, until I thought back to the recurring MTS logos that appeared in the mental maps. Message boards and newspaper boxes still disseminate paper information, but are they too not the best means of communication. Essentially, many of these interventions still serve a purpose, but it may be a decreasingly popular means of dissemination. This may provide opportunities to re-imagined or re-interpret these already existing objects as a form of wayfinding information. Furthermore, it is also important to reflect on what place digital communication has in a more historic area such as the Exchange District. The implications of new technologies on the built environment, and the regulations and planning principles that govern their use, should be considered.



FIGURE 30: Communication Interventions

Six fences found throughout the study area form physical edges, indicate property boundaries, and create a sense of regulation, privacy, security, and protection. The fences recorded all enclose spaces that could otherwise be public or semi-public: a patio, a playground, and an alcove, for instance. These physical boundaries may guide movement, directing users where they should go, and may also generate a sense of mystery, secrecy and interest in what they are protecting. In retrospect, some shorter fences throughout the area were not documented. These are mostly ones surrounding large surface parking lots. On further reflection, the fences that documented are ones that were memorable and noticeable, and not ones that just seemed to be part of the everyday streetscape. These mundane wooden fences are so prevalent and so expected, that they were not even noticed as interventions. Fences and alley ways are indicated in Figure 31.

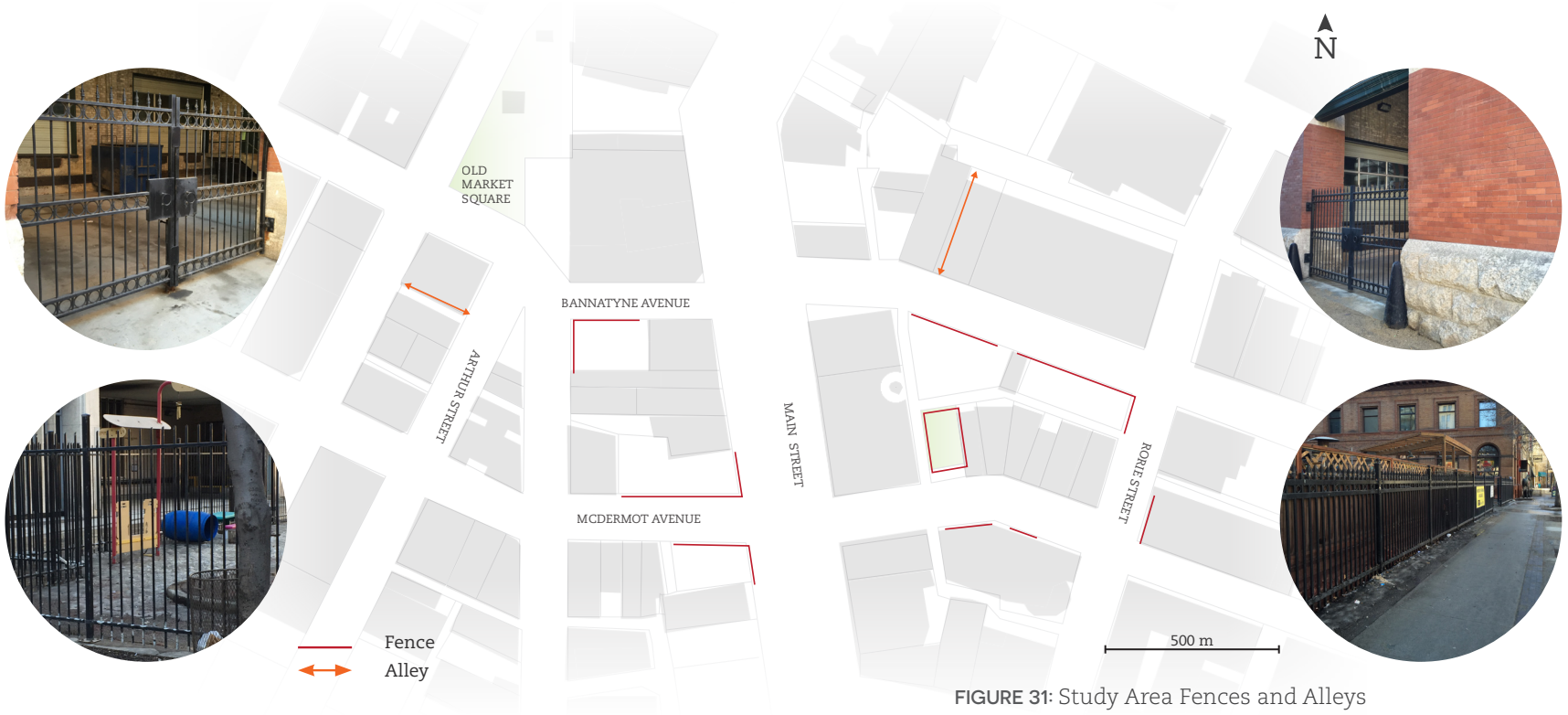


FIGURE 31: Study Area Fences and Alleys

Nine parking meters were recorded (Figure 32). Considering their repetition, size and presence, these objects serve a single function – to permit vehicles to park on the street. They are commercial interventions that collect money and control and regulate the use of the street through a direct interaction with user. They are typically located on the utility strips of the sidewalk in the threshold space between pedestrian and vehicles, but are clearly for drivers and no one else. Figure 33 shows all of the parking meters located in the study area.



FIGURE 32: Parking Interventions

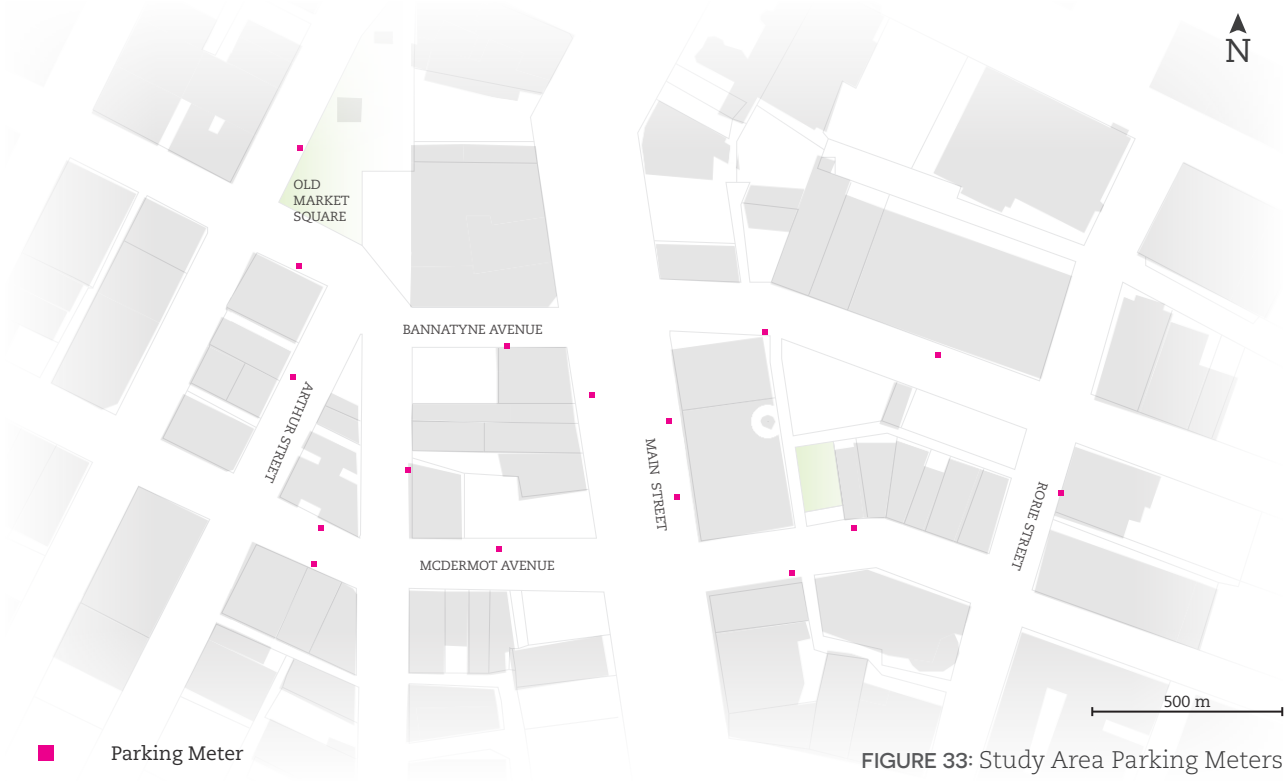


FIGURE 33: Study Area Parking Meters



FIGURE 34: Study Area Street Furniture

Street furniture includes benches, street lighting, bike racks, garbage and recycling bins. Aside from bus stops on Main Street, a minimal amount of public seating was documented on the sidewalks. This could be potentially be inferred as a result of pedestrian activity, where more people may be walking somewhere than enjoying the street itself. At the same time, since there are not many places to stop and relax, any sort of leisurely strolling may be restricted. The lack of benches may be an indication of the type of interaction that occurs in the study area. This is especially true on the east part of the site, where there are no large park spaces like Old Market Square for people to gather. There is one collection of benches near the gated Bumper Crop Daycare playground site, but it is unclear who these are for: people watching the playground or pedestrians looking for a place to sit? The minimal amount of benches may also speak to concerns about safety and loitering, as there were few distinct interventions to serve those purposes. Figure 34 shows all of the street furniture within the study area.

There are two levels of lighting in the area: typical road streetlights and pedestrian-scaled lamps. The site analysis honed in on the pedestrian lamps designed to be in character with neighbourhood. While I observed a few throughout data collection process, when I went back to map street lamps using Google Earth, I was surprised at how many street lamps there are in the study area alone. Figure 35 indicates the location of all pedestrian lamps in the study area. Like the communication interventions, these interventions that already exist at key points throughout the study area may present opportunities for wayfinding and there are possibilities to find ways to use existing interventions for multiple purposes without adding more interventions that disrupt, overwhelm and destroy character.



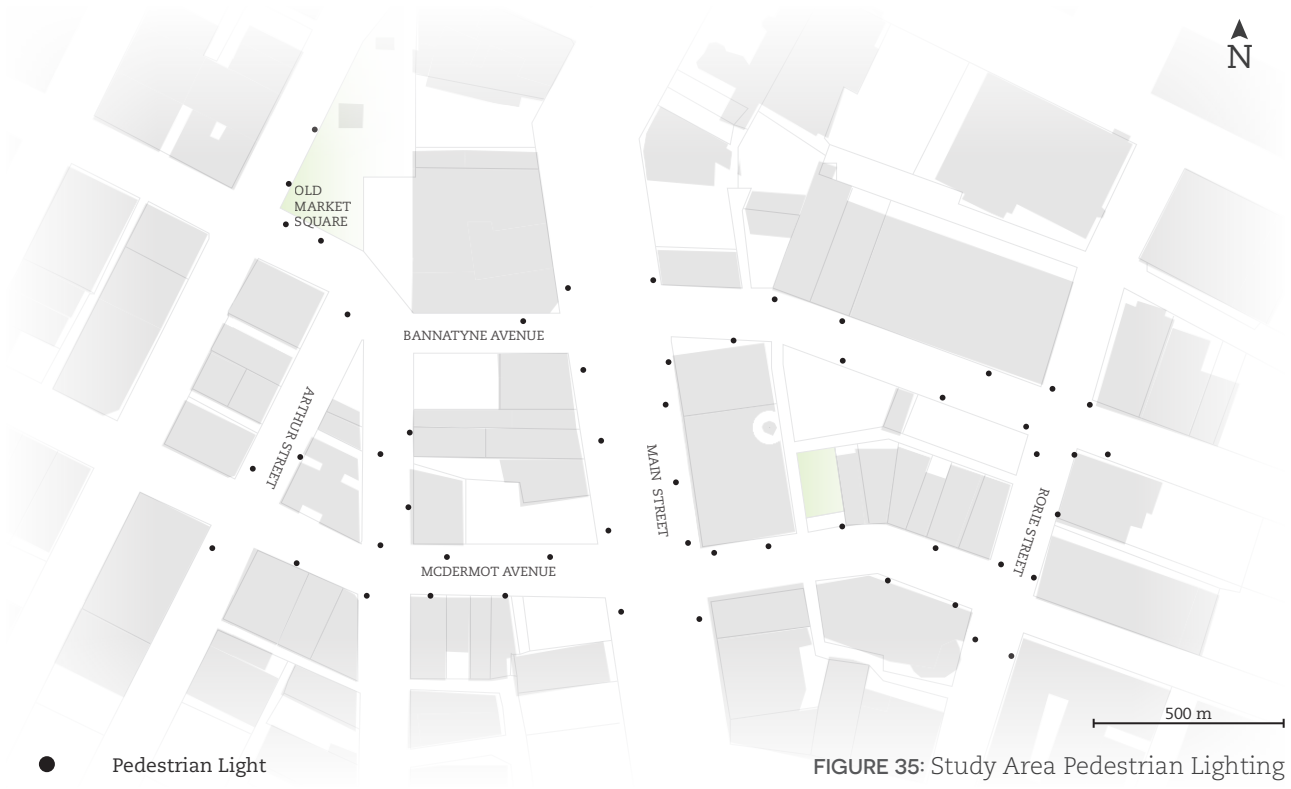


FIGURE 35: Study Area Pedestrian Lighting

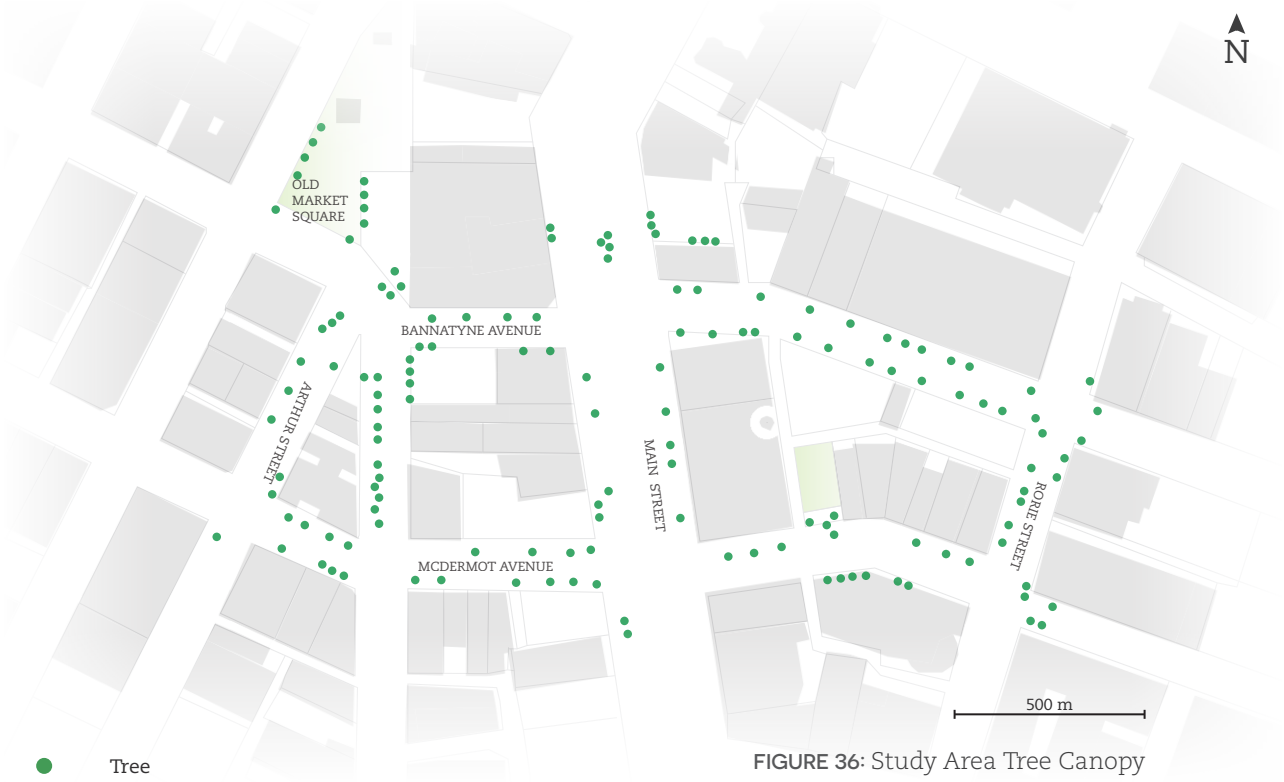


FIGURE 36: Study Area Tree Canopy



FIGURE 37: Playgrounds and Signage

Other interventions (such as bike racks, and garbage and recycling bins) had little effect or intervention on the pedestrian realm and tended to be integrated into the built environment (although the branding and design on the garbage and recycling bins is not necessarily in keeping with the area). Trees were not documented during the site study, but were recorded later based on Google Earth data. There is a well-established tree canopy in the Exchange District, as seen in Figure 36.

Of particular interest to this research, play areas in the study area were documented (Figure 37). As mentioned previously, Bumper Crop Daycare Playground and Old Market Square are the only two play spaces in the site – one is private and one is not entirely intended to be a play area. While Old Market Square is an open space that could and does function as play space, there is no formal or informal play structures or sense of any designated playful use.



FIGURE 38: Study Area Signage Palette

5.3 SIGNAGE

IDENTIFICATION - PRIVATE

Much of this signage is for private businesses and features logos, and other graphic designed imagery. In most cases, signs that are affixed to buildings either have a light source such neon tube or fluorescent back-lighting, or are vinyl stickers on windows. Other forms include banners, billboards, and sandwich boards. This data set also includes signage that identifies addresses, entrances and exits to private businesses, and generally features large lettering. While some shapes of signs are in keeping with the historic vernacular of the area – awnings and protruding signs, for example – most are flat faced, featuring more modern fonts and designs. Aside from the Richardson and RBC signs located atop of the nearby towers, these signs are located at a pedestrian-scaled height, typically above an entrance.

IDENTIFICATION - HISTORIC

Historic signs mostly include ghost signs – old hand painted advertisements and building identification, many of which have heritage designation. Often times they are several stories in height and located higher up on buildings, likely to be visible to passing vehicles, and grand in scale to pedestrians. Despite being revered for their heritage qualities, not many of these signs have been fully restored.

IDENTIFICATION - PUBLIC

This category is mostly street signs – a mix of standard white rectangles with black type, and branded Exchange District designs. Affixed to poles, crosswalk lights or traffic lights, the primary function is to indicate the street. The majority of the signs on collector roads are smaller scaled and at a lower height, while street signs on Main Street are scaled for vehicle visibility. Winnipeg Transit bus stop signs are also included in this category.

IDENTIFICATION - PROMOTIONAL

As this is a commercial area, with many small businesses located at grade, promotional signage is quite prevalent, including real estate signs for vacant space, parking rates and promotions, large vinyl banners with nightclub promotions, and a plethora of sandwich boards with sales, directions and food specials listed.

IDENTIFICATION - INTERPRETIVE

As part of the heritage district, several buildings have historic plaques marking their importance and notable events in the surrounding area. These heritage-style signs are usually made of sturdy materials, and affixed directly on to buildings. In addition, one building features a series of window panels with poems and quotes by local authors. While

some buildings are marked, as a whole there is no clear interpretive system or strategy within the study area.

REGULATORY - PEDESTRIAN

These signs attempt to control or protect pedestrian movement and activity. Some signs mark crosswalks and other paths, while others restrict skateboarding and tell pedestrians to "watch for vehicles". Many of these are placed in areas where vehicle and pedestrian infrastructure intersect, while skateboarding restrictions are on sidewalks and in public space like Old Market Square.

REGULATORY PRIVATE

Private regulatory signage is typically placed in privately-owned thoroughfares and parking lots. Typically meant to control access and provide security, signage is mostly in place to restrict parking. This type of signage typically marks property, promotes privacy and enforces unauthorized use of space.

REGULATORY - SAFETY

Some signage is affixed to mechanical elements of buildings, indicating safety and emergency features and procedures.

REGULATORY VEHICLE

The predominant signage documented guides and controls vehicle traffic and parking. This includes traffic direction (one-way) signs, stopping and parking regulations, designated unauthorized parking areas, location of parking lots and parking meters, traffic speeds and turning regulations.

DIRECTION

Limited directional signage is available to guide pedestrians and vehicles to points of interest within the study area. Rather, the signs mostly instruct vehicles where to access parking facilities. A few businesses have instructions for pedestrians directing them to building entrances, and a few cycling route signs are documented. Most of this signage is located in the east Exchange District, and most of it is regulatory in nature, instead of to inform experience and enjoyment of the neighbourhood or point to notable landmarks and spaces.

ORIENTATION

There is no signage in the study area to tell users where they are in relation to neighbourhood or street.

5.5.1 TEXT ANALYSIS

The transcribed text from all documented signs was analyzed, to find the most common recurring words. Figure 39 shows a composite of commonly used words in signage in the area. Eight of the most predominant words were grouped into three themes.

Place – Naturally, "Winnipeg", "Exchange", and "District" are regularly occurring words reflecting the location, branding and sometimes the regulatory bodies governing the neighbourhood.

Vehicles – "Parking" and "Impark" signify the emphasis of parking lots, parkades and street parking – a common land use in the area, as well as the major corporate owner and administrator of private parking.

Permission – "Unauthorized", "Prohibited", and "Private", reflect the nature and purpose of signage in the area to control space and use, and place restrictions on activities and functions in the Exchange District.



FIGURE 39: Signage Text Word Cloud

5.4 TRACES AND PERSONALIZATION, USE AND MISUSE

All of these interventions and signage merge with other materials and elements of personalization to create a diverse multi-layered palette in the area. Materials significant to the area include brick and stone, in both buildings and interlocking sidewalk surfaces. These sturdy materials speak to the history and function of the area as a former warehouse district. New sidewalks, however, have been constructed with concrete, with brick acting as a decorative element rather, sometimes designed to guide pedestrian movement and correspond with building entrances. The surfacing of sidewalks is not consistent, but the separation of old and new is quite apparent. This inconsistency speaks to the impacts of refurbishment, and there are certainly implications to both destroying and trying to recreate historic elements.

Some graffiti and street artwork exists, but for the most part, artwork is regulated, or as Bookman (2014) notes, "'wilder' forms are tamed and controlled, such as postering, which is restricted to artist-designed poster boards" (Bookman, 2014, p. 331). Much of the creativity and diversity is left to private business windows and building facades, with little place or freedom for artistic expression elsewhere. This lack of misuse suggests a regulated neighbourhood, perhaps struggling to balance creative desires of its residents with the preservation of an historic centre.

The interventions and signage throughout the site, and to some degree the elements of personalization, symbolize the multiple users and functions within the neighbourhood and the difficulties of balancing the needs of a diverse range of people. At the same time, it is clear there has been no successful effort to implement an interpretive or navigational strategy to make neighbourhood legible, understandable and navigable. While many of the elements documented in the site study can be seen as organic wayfinding, there is no formalized system for users at any age. But there is also a danger in adding any more elements into the existing built environment. The site audit illustrates the difficulties in achieving balance, protecting character, providing guidance and encouraging discovery and independence.

5.5 SUMMARY

This chapter detailed the results of the site audit and an analysis of themes and observations resulting from the exercise. The site audit looked at interventions, signage, traces and personalization within the study area. The results are also collected in a visual audit document found in Appendix C.

KEY CONSIDERATIONS FOR FINAL RECOMMENDATIONS

- A signage and landmark inventory is frequently used to document existing wayfinding conditions and to unobtrusively generate an intimate and deep knowledge of the site
- There is a surprising lack of public art which may be due to the model in which public art is funded in the City of Winnipeg, or by restrictions placed on the area due to heritage conservation and planning policy
- There are opportunities to be re-imagine or re-interpret older communication interventions into new form of wayfinding communication
- It is important to consider the implications of new technologies on the design and form of the area
- Fences enclose spaces in the study area that could otherwise be public or semi-public, such patios, playgrounds, and alcoves
- Typical parking lot wooden fences were so prevalent that they were not even noticed as interventions
- Parking meters serve a singular function
- A minimal amount of public seating was documented on the sidewalks, which may speak to day-to-day users of the space and concerns about safety and loitering
- Street lamps already exist at key points throughout the study area may present opportunities for wayfinding and there are possibilities to find ways to use existing interventions for multiple purposes without adding more interventions that disrupt, overwhelm and destroy character.
- There are no formal or informal public play spaces in the area
- Identification signs came in many forms: neon, fluorescent back-lit, vinyl sticker, banners, billboards, sandwich boards, and were placed at a pedestrian height and scale
- Most signs utilized more modern fonts and designs, rather than heritage-style
- Large historic, or ghost signs have not been fully restored or preserved
- Public signage is typically standard street names, with a few branded Exchange District BIZ signs throughout the route
- Promotional signage is quite prevalent, including real estate advertisements, parking advertisements, restaurant and retail promotions
- Some historic buildings are marked with plaques, but there is no overall interpretive system within the area
- Regulatory signage was mostly designed for vehicles, marking parking, private property, and directions

- Directional signage is mostly for vehicles and not pedestrians
- There is no orientational signage in the study area
- Signage text has three predominant themes: place, vehicles and permission
- Materials significant to the area include brick and stone, in both buildings and interlocking sidewalk surfaces
- Material inconsistency speaks to the impacts of refurbishment, and there are certainly implications of both destroying and trying to recreate historic elements
- In general, artwork and postering is regulated to designated spaces
- There has been no successful effort to implement an interpretive or navigational strategy to make neighbourhood legible, understandable and navigable
- Wayfinding in the area must consider multiple users, functions and the needs of a diverse range of people, businesses and organizations

CHAPTER 6 PRECEDENTS

This chapter explores a series of inspiring design precedents from around the world. It begins with a brief overview of precedent research and my method of data collection and analysis. Examples of child-friendly, intentional and North American, wayfinding strategies were examined in order to address: What strategies can be used to foster child-friendly wayfinding in downtown Winnipeg? An extensive search of published wayfinding and experiential graphic design projects was distilled to sixteen designs from around the world. A description and analysis of each precedent is included, followed by a summary of common themes and ideas for child-friendly wayfinding planning and design. For this research, extremely scaled down case studies, or precedent analyses, were conducted. The main goal of precedent analysis is "learning from earlier experiences by means of an explicit analysis" (van den Toorn & Guney, 2011, p. 1). For the purposes of this research and due to the available materials, the analysis focuses much more on reported design outcomes than a detailed analysis of process and context. Nonetheless, the goal is to generate a collection of key considerations for planning and designing child-friendly wayfinding derived from available best practices.

The precedent research resembles case study research, which is "an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin, 1994, p. 13). The research is descriptive – providing a description of the phenomenon (child-friendly wayfinding) in various geographic contexts.

6.1 METHOD

I sought wayfinding precedents that showed best practices and creative solutions in typography, colour, design, hierarchy, placement, and interactive features. Examples were found in published books on wayfinding, signage and environmental/experiential graphic design, projects from the Society of Experiential Graphic Design annual awards, with additional support from designer's websites and publications. In most examples, the emphasis is on final outcomes, and not the planning process, as it was challenging to find relevant planning precedents.

Inspired by Lefaivre's suggestion that play spaces function as the "physical margin that enable movement" (2007, p. 28), I looked for public interventions that encourage interaction, exploration and fun, but also serve as distinct wayfinding landmarks. These play spaces did not necessarily need to incorporate child-oriented play equipment (Freeman & Tranter, 2011), but served as encouraging examples of the interactive interventions that intend to facilitate both play and wayfinding.

The precedents have been categorized into several types: educational, hospital, recreational, museum, and urban. As there are limited examples of urban wayfinding for children, the examples from interior and institutional projects have elements that could potentially be applied in an urban wayfinding scheme. For each precedent, the location and designer are noted, followed by a brief description and keywords to inform the research.

6.2 DESIGN PRECEDENTS

PRIMARY SCHOOL GAMPRIN

Location: Gamprin, Liechtenstein

Designer: Screenlounge

Type: Educational

The signage system for this primary school and kindergarten was imagined to recreate children's chalk art. The simple doodles and words are positioned at children's eye level, and do not conform to a particular hierarchy or design grid. The design integrates basic functional wayfinding using familiar and whimsical illustrative style that does not rely on other structural support materials (Figure 40) (Viction:ary, 2013, p. 96).

Keywords: Simple; Eye Level; Functional; Illustration; Whimsical



FIGURE 40: Primary School Gamprin (image source: Screenlounge)



FIGURE 41: Achievement First School (image source: segd.org/content/achievement-first-endeavor-middle-school photographer: Peter Mauss/Esto)

ACHIEVEMENT FIRST SCHOOL

Location: New York, NY

Designer: Paula Scher, Pentagram

Type: Educational

Environmental graphics in this middle school interior were inspired by motivational slogans developed by the school's teachers. The text enables the building to be a "participant in the learning process". Using only paint, this low-impact approach adds vibrant detail that defines each space and encourages learning (Figure 41) (SEGD, 2011).

Keywords: Motivation; Text; Paint; Low-Impact; Colour; Bold

SCALES

Location: Tokyo, Japan

Designer: Nosigner

Type: Educational

Designed for a school for reclusive students who are less comfortable going to school, a scale motif is applied throughout the building to help navigate between floors and rooms. The scale markings represent distance, and encourage students to measure progress – physically and emotionally. The design also teaches basic measurement and number skills, incorporating rulers with various measurement units and lockers with numbered grids (Figure 42) (Viction:ary, 2013, p. 32).



FIGURE 42: Scales (image source: NOSIGNER)



FIGURE 43: Royal Children's Hospital (image source: Büro North)

ROYAL CHILDREN'S HOSPITAL

Location: Melbourne, Australia

Designer: Büro North, ID/LAB

Type: Hospital

To develop the wayfinding system, over 500 children were engaged to help develop themes and naming for the hospital. The system integrates the chosen names of destinations with visible and legible landmarks. The hospital demographics included many families with limited English proficiency, and the strategy was designed to allow children to act as interpreter and navigator. Many clinical and technical terms typically used to describe destinations and functions in the hospital, were replaced by related characters and themes. Illustrations were incorporated throughout the floors to re-create a journey from underground to sky, using animals to distinguish zones on each floor. For example, 'Koala Ward' can be found on the 'Tree Tops' floor. The designers' goal was to describe all destinations with no more than three steps – using "highly legible and simple journeys" (Figure 43) (Büro North, 2012).

Keywords: Consultation; Landmarks; Destinations; Characters; Themes; Journey; Zones; Animals; Legibility; Simple; Nature; Three Steps



FIGURE 44: Palmetto Health Children's Hopsital (image source: segd.org/content/palmetto-health-children's-hospital photographer: Jim Roof Creative)

PALMETTO HEALTH CHILDREN'S HOSPITAL

Location: Columbia, SC

Designer: Stanley Beaman & Sears

Type: Hospital

This children's hospital wayfinding was intended to create an easily navigable environment to reduce anxiety for children and parents. Based on research on the effectiveness of nature-themes imagery, each floor is designed as a separate district, inspired by a different biome: aquatic, rain forest, grasslands, polar, temperate, and desert. Each floor is separated into four quadrants or neighbourhoods – using native animal icons and patterns to aid in wayfinding (Figure 45) (SEGD, 2011).

Keywords: Nature, Districts, Biome, Animals; Icons

RANDALL CHILDREN'S HOSPITAL

Location: Portland, Oregon

Designer: Mayer Reed

Type: Hospital

This children's hospital campus was designed to incorporate "a sense of unexpected discovery and thoughtful distractions" with art and environmental graphics that created recognizable destinations within the building. The design was based on research into children's strong affinity for the nature, with colour palettes and images representing the local geographic region. The wayfinding system uses animal pictograms that repeat in different materials and unexpected places, including toddler eye level. Directional arrows were incorporated into a brightly coloured bouncing ball motif. Tactile, large-scale topography and iconography is incorporated into the wayfinding as well as interactive art work (Figure 44) (SEGD, 2013).

Keywords: Discovery; Distraction; Destinations; Nature; Colour; Geographic Context; Animals; Pictograms; Eye-Level; Recurring motif; Tactile; Scale; Interactive



FIGURE 45: Palmetto Health Children's Hopsital (image source: segd.org/content/palmetto-health-children's-hospital | photographer, Bruce Forster)







FIGURE 46: Children's Museum of Pittsburg (image source: segd.org/content/childrens-museum-pittsburgh | photographer: Peter Mauss/Esto)

CHILDREN'S MUSEUM OF PITTSBURG

Location: Pittsburgh, PA

Designer: Paula Scher, Pentagram

Type: Museum

The signage program for the museum was designed around the goal of providing basic, readable navigation by applying simple materials in unique ways – "to nurture creativity and joy". The design plays with colour, scale and playful language. Walls are covered in large vinyl lettering – "Go to the bathroom" with a large arrow, or "Dry Off" above a wall of hand dryers. The design provides functional wayfinding guidance with humour and fun (Figure 46) (SEGD, 2005).

Keywords: Simple, Readable, Colour, Scale, Playful Language, Text, Humor, Fun

BATTERY POINT SCULPTURE TRAIL

Location: Hobart, Australia

Designer: Futago in collaboration with Judith Abell & Chris Viney

Type: Recreational

Nine interpretive sculptures along the historic waterfront trail use oversized three-dimensional numbers to tell stories related to each location. Interpretive text is embedded within or placed beside each piece. Some pieces also incorporate amenities such as benches. The design intention was not to clutter the site with too much signage, instead creating more significant landmarks. Small, bright orange wayfinding markers link each piece together using the next sculpture number and an arrow. The wayfinding system provides two-step directions to the next sculpture. While sculptural materials are unique, the consistent orange markers and wayfinding directions create a common system. An accompanying map transforms the experience into a treasure trail, where visitors try to find each sculpture along the way (Figure 47) (SEGD, 2012).

Keywords: Sculpture; Scale; Storytelling; Interpretive; Landmarks; Two Steps; Consistent



FIGURE 47: Battery Point Sculpture Trail (image source: Futago | photographer: Jonathan Wherrett)

PLANTING POETRY

Location: London, UK

Designer: Burgess Studio

Type: Recreational

This project is an example of environmental designers incorporating children's creative work into a signage and placemaking scheme. The designers worked with an organization that teaches creative writing to young people. During a week long workshop, children created mesostic poems with the assistance of professional writers. The poems feature one word running vertically, with the poem intersecting on each line. The poems, were turned into colourful, whimsical signs that played with the uneven shape of the poems. The intention was to create a garden signs that both expressed elements of the garden, and did not conjure up the shape of negative, regulatory signage (Figure 48) (Viction:ary, 2013, p. 122).

Keywords: Participation; Poetry; Language; Colour; Whimsical; Uneven Shape

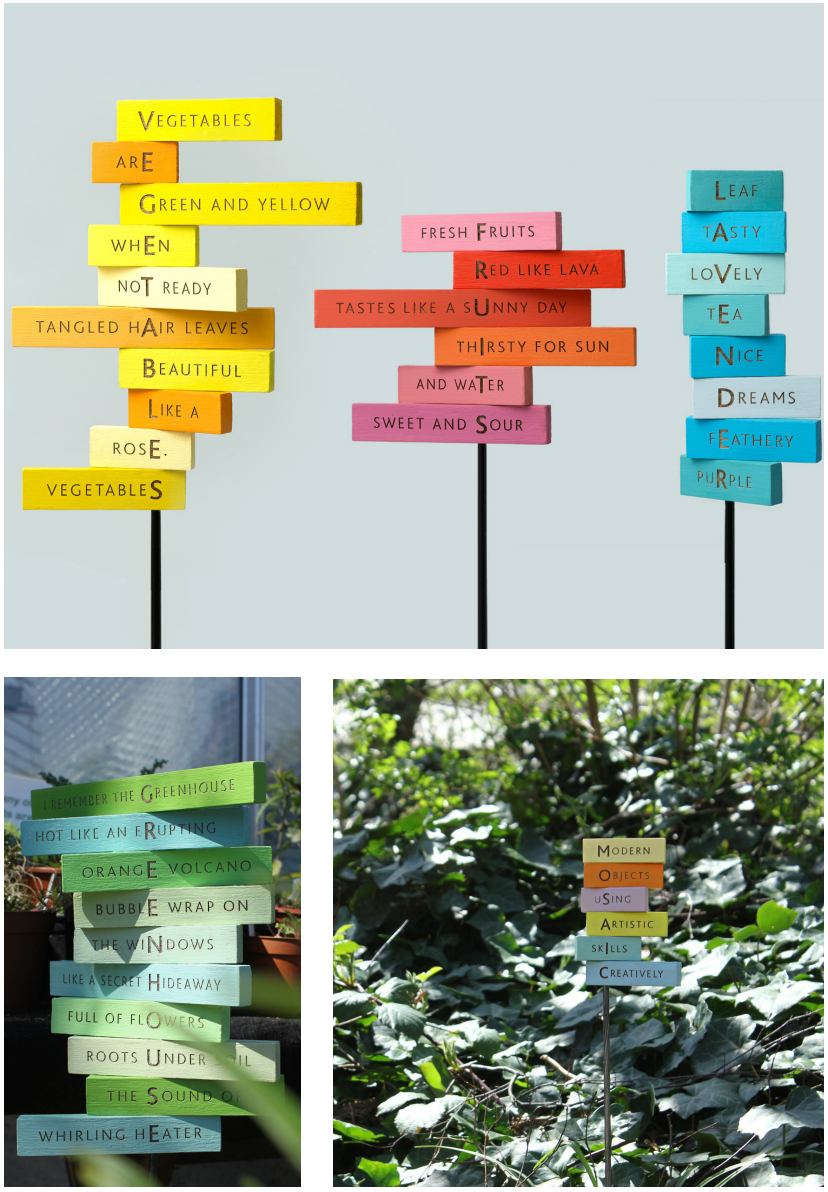


FIGURE 48: Planting Poetry (image source: Burgess Studio)

ZOLLVEREIN PARK ESSEN

Location: Essen, Germany

Designer: F1RST DESIGN

Type: Recreational

Choosing not to use conventional sign posts, this heritage industrial site, which is now houses culture and design office, uses a variety of cast-iron miniature models, maps, ground markings, lighted panels and other print media. Tenant panels at the periphery of the site tenants and locations, and pavilions at each entrance house scale models of the entire site. Ground markings provide guidance to more detailed, tactile miniature models throughout (Figure 49) (SEGD, 2008).

Keywords: Miniature; Models; Scale; Ground Markings; Tactile



FIGURE 49: Zollverein Park Essen (image source: segd.org/content/zeche-zollverein-wayfinding)

INGELSTA SHOPPING

Location: Norrköping, Sweden

Designer: BVD

Type: Retail

The wayfinding and branding scheme for this shopping mall uses simple, colourful shapes and illustrations and large serif texts. The recurring use of a character provides a recognizable figure throughout. The system was designed in duplicate to communicate on eye-level to both adults and children (Figure 50) (BVD, 2008).

Keywords: Colour; Shapes; Simple; Illustration; Character; Eye-Level



FIGURE 50: Ingelsta Shopping (image source: bvd.se/ingelsta-shopping/)

PARC BLANDAN WAYFINDING AND PLACEMAKING

Location: Lyon, France

Designer: Nicolas Vrignaud and Analia Garcia-Ramirez

Type: Recreational

The former military barracks, turned urban park, uses sculptural signage elements in varying sizes and locations. The red circle motif, inspired by a historic military marking system, is rendered as a bold intervention against stone walls, gravel pathways and park space. The five sign sizes accommodate various functions – from directional wayfinding to interpretive information. The design adds a whimsical, fun and interactive element to the historic setting (Figure 51) (SEGD, 2014).

Keywords: Motif; Bold; One Colour; Size variety; Sculptural; Whimsical



FIGURE 51: Parc Blandan Wayfinding and Placemaking (image source: segd.org/tags/parc-blandan)





URBAN TALES SHADOW TYPOGRAPHY, WAITANGI PARK

Location: Wellington, New Zealand

Designer: Katie Bevin

Type: Recreational

This conceptual typographic installation in an urban park plays with natural shadows over a 10-hour period. Partial letterforms on the ground came to life as shadows cast from bollards moved throughout the day (Figure 52) (SEGD, 2011).

Keywords: Typography; Shadows; Light; Temporary

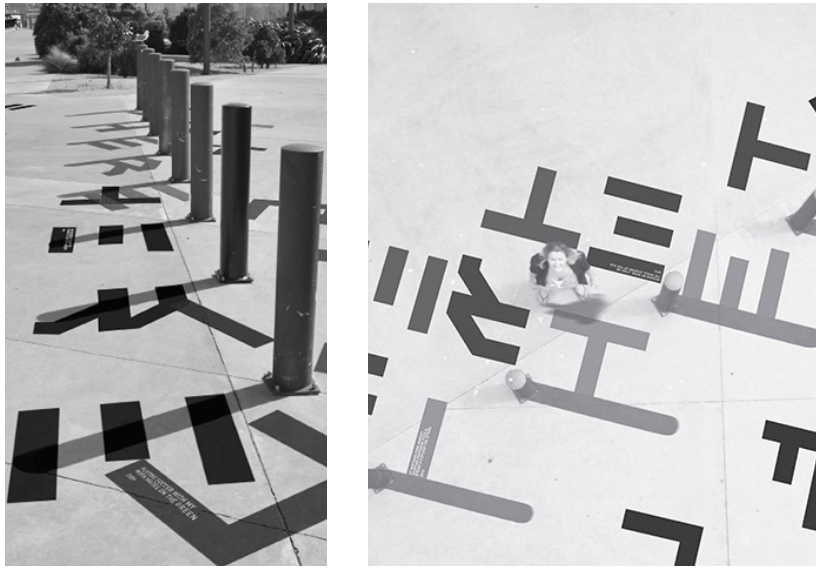


FIGURE 52: Urban Tales Shadow Typography
(image source: segd.org/content/urban-tales-shadow-typography)



FIGURE 53: Lisbon Bikeway (image source: segd.org/content/bikeway-belém | photographer: João Silveira Ramos)

LISBON BIKEWAY

Location: Lisbon, Portugal

Designer: P-06 Atelier (p-06-atelier.pt

Type: Urban / Transportation

Wayfinding for this bike route painted bold white wayfinding words and symbols directly on to the lanes. The graphics indicate distances and directions. Inventive graphic and narrative interventions are used throughout. Onomatopoeic phrases that reflect the sounds of the bridge and surrounding area, while poetry about the landscape is written in bold white letters along a pier. The entire scheme provides both navigational function, and storytelling and placemaking in a simple, fun and engaging way (Figure 53 and 54) (SEGD, 2010).

Keywords: Text, Bold; Paint; White; Distance; Graphic; Onomatopoeia; Poetry; Storytelling; Simple; Fun



FIGURE 54: Lisbon Bikeway (image source: segd.org/content/bikeway-belém photographer: João Silveira Ramos)

PLAYGROUND ALPHABET SIGNAGE

Location: Sydney, Australia

Designer: Frost*

Type: Recreational

To design the alphabet signage system for a children's playground, community groups chose their favourite words for each letter of the alphabet for the designers to represent throughout the playground. The design consists of sculptural objects and large-scale graphics. For example, 'A for asleep' is a series of concrete-shaped pillows, and 'Z for Zoom-off' is written down the side of the slide. A sign with Braille and multiple symbols and languages to make the universally accessible for all park users accompanies each letter (Figure 55) (Frost*collective, 2009)

Keywords: Alphabet; Sculptural; Scale; Braille; Languages



FIGURE 55: Playground Alphabet Signage
(image source: frostcollective.com.au/easy-as-abc/)

OAK STREET PARKING GARAGE

Location: Kansas

Designer: El Dorado, Willoughby

Type: Urban/Transportation

Realizing that users had a difficult time finding their cars and navigating this double-helix parkade, the designers implemented a wayfinding system that used a variety of variable patterns for users. In addition to the conventional floor number, a colour code, face and corresponding name was added to each level. The south side of the structure uses female faces, and the north side male. As the levels get higher, the faces progress from youngest to oldest – an unconventional way of showing progression through space (Figure 56) (Willoughby, 2012).

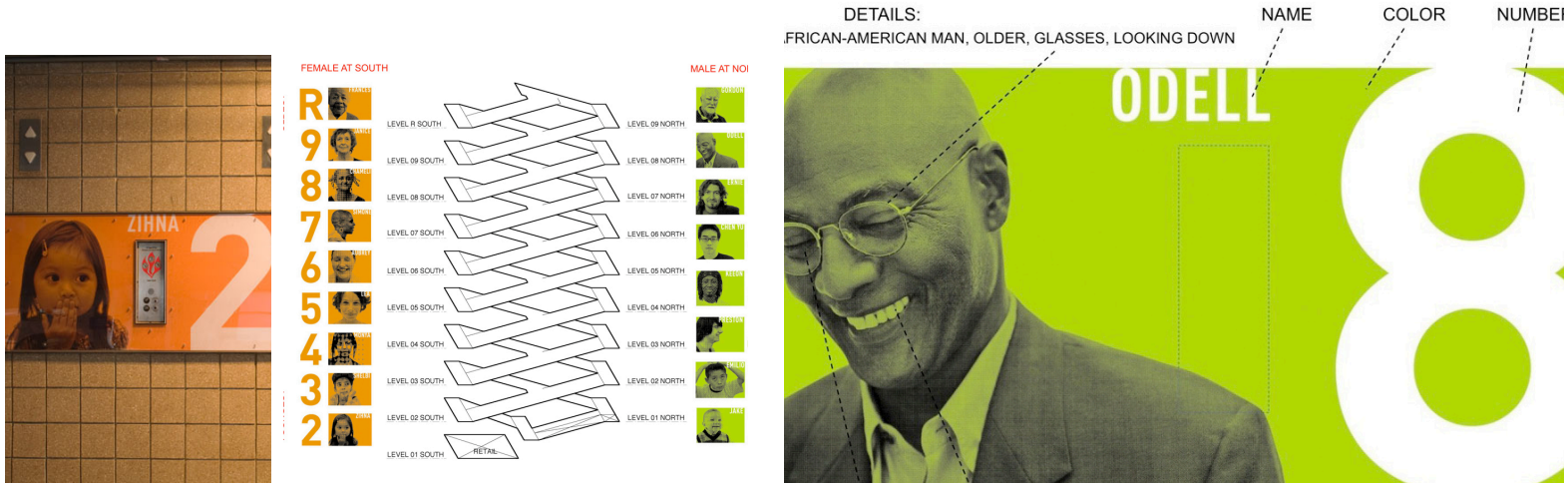


FIGURE 56: Oak Street Parking Garage (image source: behance.net/gallery/3931237/Oak-Street-Parking-Garage)

6.3 FINDINGS

Many of the designs incorporate whimsical and humorous elements through illustrations and graphics aimed to capture children's imagination, and encourage exploration, fun and play. Funny words and images are rendered oversized to draw attention to specific landmarks or destinations, and to poke fun at the seriousness of conventional wayfinding and official text. Words are simple and in plain language that children will understand. In some cases navigational directions are very literal, and this directness becomes much less serious when transformed into large, bold typographic elements. Scale and size feature heavily in many of the precedents, playing with traditional forms by making them larger-than-life. Text is frequently repeated to creates graphic patterns – a wayfinding wallpaper covering a variety of surfaces. 3D extrusions and sculptural words can be found in many of the precedents. Covering normal furniture such as benches and lights with playful text was a recurring design choice. The use of poetry and onomatopoeia as a form of storytelling is also a frequently used tactic.

Oversized sculptural interventions are visible from a distance, and often incorporate familiar shapes and words, punctuated by bright colours and tactile materials. Sculptures and art also function as interpretive signage and interactive play features. Wayfinding elements, sculptures and art in particular, are tactile and children are allowed to touch and interact with these pieces. In outdoor settings, playing with natural light and shadows creates unique opportunities for everyday objects, such as bollards, to become memorable wayfinding features. Simple shapes such as circles become easily recognizable motifs, especially when repeated in a variety of sizes and colours throughout. Elements that reference familiar shapes such and items such toys are often used. Signage in multiple languages allows for universal access. Since certain words and phrases are often too sophisticated, pairing text with pictograms helps children learn names and connect visuals to accompanying words.

Illustrated characters or mascots repeat throughout as a way of branding a space through a friendly figure. Many of the designs are based on research that suggests that children have a strong connection with the natural environment. This is captured in environmental imagery that recreates different geographic locations and features, especially animal pictograms. Using children's lettering and drawing styles brings an additional element of familiarity. When signage and graphics feel less grown-up, and more hand-made children are able to connect with them.

Materials are often simple – bright, bold paint and vinyl lettering – and sometimes familiar materials are used in unconventional ways. Frequently these materials are child-friendly – tactile, soft and durable to encourage interaction.

Numbers and markers that indicate scale, movement and physical progressions are important. Indicators of success, in terms of wayfinding and physical movement, and phrases of encouragement throughout a space build comfort in large-scale environments. To bring a more intimate scale to large spaces, many schemes separate into zones or district using colour, themes and pictograms to indicate these separate places. Landmarks are distinct and salient with the links between destinations and signs very clear. Many of the schemes promote the notion that no direction should be more than three steps. Using landmarks and numerical and alphabetical markers helps to guide this navigation in many examples.

6.4 SUMMARY

This chapter reviewed a series of precedents from around the world, either designed for children or with child-friendly qualities. Most of the examples were from institutional settings, with a few urban precedents also shown. While this is a small sample of wayfinding precedents, many common themes have been generated, suggesting that other examples would likely verify these conclusions, rather than add to them. Unfortunately, no specific examples of child-friendly wayfinding planning or policy were found through this research. This reinforces that there is a lack have specific child-friendly considerations when planning and design of urban wayfinding, and these precedents serve as inspiration for what could be done.

KEY CONSIDERATIONS FOR FINAL RECOMMENDATIONS

- Whimsical and humorous elements incorporated through illustrations and graphics and Use of children's' drawing and writing style to make it seem as if words were written by kids themselves
- Words and images are rendered oversized to draw attention to landmarks and destinations, and are in simple, plain language, incorporating literal directions and instructions that children will understand
- Frequent repetition of text and graphic patterns
- Use of poetry and onomatopoeia
- Oversized sculptural interventions using tactile materials and bright colours
- Use of natural light and shadows to highlight and re-imagine spaces
- Familiar, simple shapes such as circles repeated in various sizes and colours to create a unified scheme
- Pictograms in conjunction with words – establish a link between the image and the concept
- Illustrated characters and mascots – many connected with animals and other elements of the natural environment
- Imagery based around geographic locations and natural features
- Simple materials such as paint and vinyl lettering and conventional materials used unconventionally
- Physical progression through space is linked to achievement and success – awarding arrival at destinations and discovery of places, often indicated by numerical or alphabetical markers
- Larger areas separated in zones or districts using distinct but related colours, numbers and pictograms
- No written direction should include more than three steps

CHAPTER 7 RECOMMENDATIONS

This chapter is rooted in the initial proposition of the practicum: to make recommendations for planning child-friendly wayfinding as a tool for independent mobility in the Exchange District. The previous chapters identified gaps and opportunities in the research and the study area itself, and this chapter intends to address them. A series of recommendations have been developed based on the multi-faceted research conducted. The chapter is separated into three main categories: **Consultation and Research** makes recommendations for initiating, studying and analyzing child-friendly wayfinding in the Exchange District, and how to best design and conduct mental mapping exercises as an engagement tool for this type of study. **Planning and Policy** recommends new planning tools and documents, ways for existing regulations and policies to be amended and utilized, and outlines key stakeholders and functions. **Strategy and Design** recommends general design and system considerations for child-friendly wayfinding, as well as specific interventions, enhancements and strategies for the study area, the Exchange District and Downtown Winnipeg at-large.

These recommendation categories intersect – consultation and research informs planning decision-making and establishes a process that delivers meaningful research results. Planning and policy tools promote and regulate consultation and research processes, and strategy and design outcomes. Strategy and design is the result of consultation, research, planning and policy, but can also influence further research opportunities and stimulate better regulation and planning processes. Admittedly, some of these recommendations are meant to be visionary and unrealistic, and at times they are not entirely specific. However the intention is to leap from my detailed study of the area to a set of ideas inspired by the results.

7.1 CONSULTATION AND RESEARCH

The Exchange District is a challenging study area because of its competing systems, identity, and users, including residents, workers, tourists, and modes of transportation. Because of its complexities, the opportunity arises to consider the area as a framework or test site where recommendations could be applied to other locations. To accomplish any engagement or consultation for a child-friendly wayfinding strategy in the neighbourhood, a variety of stakeholders need to be engaged and several research methods should be employed.

ENGAGING CHILDREN IN THE PLANNING PROCESS

While conventional wayfinding planning processes involve a designer to client relationship, there is little reference to consultation and engagement within the wayfinding literature. It is clear from the research conducted that a child-friendly wayfinding strategy cannot be accomplished in isolation. It is essential to engage children of various ages in any wayfinding design process as a planner or designer's observations (and knowledge of best practices) cannot be the only information that informs a plan.

BACKGROUND RESEARCH

In order to make a better case for the need for child-friendly planning and a comprehensive wayfinding strategy, more research is needed, including, but not limited to: Determine how many children actually currently live in the Exchange District, and how many children visit the area, using attendance figures from local attractions and organizations as a starting point; Complete a neighbourhood census to determine up-to-date populations in the area; Design a wayfinding survey to obtain general feedback on the navigability of the Exchange District, and distribute this during festivals and other large events; Measure home ranges by surveying children and parents throughout Winnipeg to see the degree of independence Winnipeg children have.

MENTAL MAPPING

Chapter 4 briefly reflected on the successes and limitations of mental mapping exercises. This type of study provides a wealth of information on experience and perception of space, but it is limited by its design, and could be improved with some adjustments. When conducting a mental mapping exercise, have various sizes of paper, and different drawing materials to ensure that the drawings are not limited by available supplies; Encourage children to create a legend or write words to describe what is in their drawings; Throughout the exercise, have students switch to different spots so that their drawings are not being influenced by the same peers the whole time; Children get tired quickly and need time to play – incorporate more opportunities for breaks and fun throughout the exercise. When analyzing results, it

is imperative to acknowledge the inherent biases of the method. For example, students will naturally be influenced by any directions or instructions provided – all results must be viewed through the lens that the students were actively engaged in looking around the study area. Naturally, a predetermined study area limits the potential results and degree of independence during the walking tours. It is recommended the process should be expanded to a larger study area to develop an even greater sense of children's perspectives of the Exchange District.

SITE AUDIT

The site audit conducted for this research was limited to one researcher and a very condensed time-frame. However, this would be a similar situation in many professional instances as well. Simply, more time and research is needed for a comprehensive site audit. More importantly, children's involvement would greatly enhance the study. Landmark evaluation, for example, differs greatly between children and adults. It is recommended to have children conduct site audits, so an alternate experience can be captured that is different form the notebook and drawing recall exercise. After they have done their site audit, have children give their own tours of the Exchange District to adults and researchers.

PRECEDENT RESEARCH

Similarly, children should be involved in precedent research as well. It is recommended to engage children in the concepts of wayfinding, signage, and planning by having them write small research reports on signs and other wayfinding elements. The examples they come up with could be illustrated and made into a handbook of exciting precedents.

7.2 PLANNING AND POLICY

These recommendations stem from the discussion in Chapter 2 about writing children into planning theory and practice. In essence, all planning should consider children's needs as distinct stakeholder group. These recommendations are both general to the City of Winnipeg and specific to children's wayfinding in the Exchange District as all scales of policy and planning intervention need to be considered.

CHILD-FRIENDLY WINNIPEG

The City of Winnipeg should develop a city-wide child-friendly strategy. This could be a separate guiding document, or be a component of a future *Plan Winnipeg* development plan. This document would lay out the social and spatial needs for children, with guidance from a steering committee or stakeholder group that includes children.

SECONDARY PLAN

Any planning or design strategy for the area should incorporate children's needs. In order to establish a need for a child-friendly wayfinding strategy, there needs to be demand for improved amenities for children in the area. Nonetheless, it is clear from this research that a wayfinding strategy is also non-existent in the Exchange District. This recommendation stems from the large number of existing, but under-utilized planning documents for the Exchange District, in particular the mostly recent incomplete secondary plan process.

The City of Winnipeg should revive a secondary plan process for the Exchange District that includes a children's committee, and conducts consultation with resident and non-resident children. Secondary or master planning for the Exchange District should designate a child-friendly zone in the neighbourhood – initially to concentrate child-friendly initiatives, organizations and land uses, and in the future to promote the area as an urban centre for children's activity. It should consider the need for public recreational space, public art and other specific land uses that children use, such as recreation centres and a future school site. Alley ways and other "secret" short cuts should be seen as public spaces with the potential to be animated year-round.

The secondary plan should also formalize precincts or zones within the Exchange District to cluster character and form within the neighbourhood, and to inform future wayfinding. These precincts, however, should not regulate use or function. While Main Street acts as a physical divide, precincts should cross over this large arterial, to establish the dominance of the east-west collector roads, and the character of these streets.

HERITAGE PLANNING

Heritage planning in the area should not nessecarily treat the neighbourhood as a living museum. Although the historic buildings compose the unique identity of the neighbourhood, they are not the most salient landmarks for children own their own. The respectful intervention of opposing materials and design should be considered.

WAYFINDING STRATEGY

A wayfinding and interpretive strategy is needed for the Exchange District, and the City of Winnipeg should create a wayfinding steering committee to begin the conversation with staff and elected officials. The Exchange District BIZ should have a vested interest in wayfinding to ensure visitors can enjoy the area, and local businesses reap the benefits as well. This strategy should be part of a larger wayfinding plan for Downtown Winnipeg, and eventually the whole

city. Wayfinding in the Exchange District should not be an isolated initiative, but a component of a larger plan and system. Children should be included as a key stakeholder in any strategy.

REGULATORY

Signage regulations should by flexible and encourage the creation of a multi-layered palette – do not regulate or limit flexible signage such as sandwich boards, or pop-up banners and signs. Continue to reinforce form requirements for existing and new development, without treating the neighbourhood like a preserved space – rather an ever-changing, vibrant, active neighbourhood. As long as the areas form and design is protected, do not restrict advertising, logos and branding from a variety of corporations and organizations. Children have strong connections with familiar imagery, and completely restricting any sense of this familiarity could have implications for comfort, understanding and independence in the area.

PUBLIC ART MODEL

Increase public art funding to encourage the creation and maintenance of memorable installations that can function as both placemaking and wayfinding interventions. If development demand increases in the area, consider a new model that requires public art dedication or other forms of bonuses (e.g. height and density) and incentives.

7.3 STRATEGY AND DESIGN

The intention of these recommendations is to support a wayfinding strategy that establishes a heightened sense of place that helps children build attachment and comfort within the Exchange District. Drawing on the literature of wayfinding travel, cognitive interventions and cognitive development, in particular, these recommendations focus on key landmarks as evidenced in the site audit and mental mapping, and a strategy to enhance existing qualities, inspired by precedents from earlier chapters.

LANDMARKS AND SIGNAGE

Key landmarks should be labeled with identification signage to underpin their importance, and function as decision-making points and reinforce navigational success. Within the context of this research, this includes, Old Market Square, Bijou Square (Red River College), the Crocus Building, Opera nightclub, Ashdown Warehouse, District Stop nightclub, the Richardson/RBC viewshed, Bumper Crop Daycare playground, Fox and Fiddle and Woodbine hotel (Figure 57). As many of these landmarks stood out because of their signage, this may be challenging if changing business operations, and consequently signage, will change the familiarity of these key points.

All designated heritage buildings should be recognized with a consistent, interpretive plaque or commemoration sign and an accompanying heritage map of the neighbourhood. A less subtle, but visually effective approach would be to use sculptural interventions to further blend public art, wayfinding and interpretation.

Children may be looking up for navigational clues attached to taller buildings. Consider the viewsheds within the study area, and find ways not only to mark them with signage, but to encourage children to look up, and orient themselves to the surrounding context.

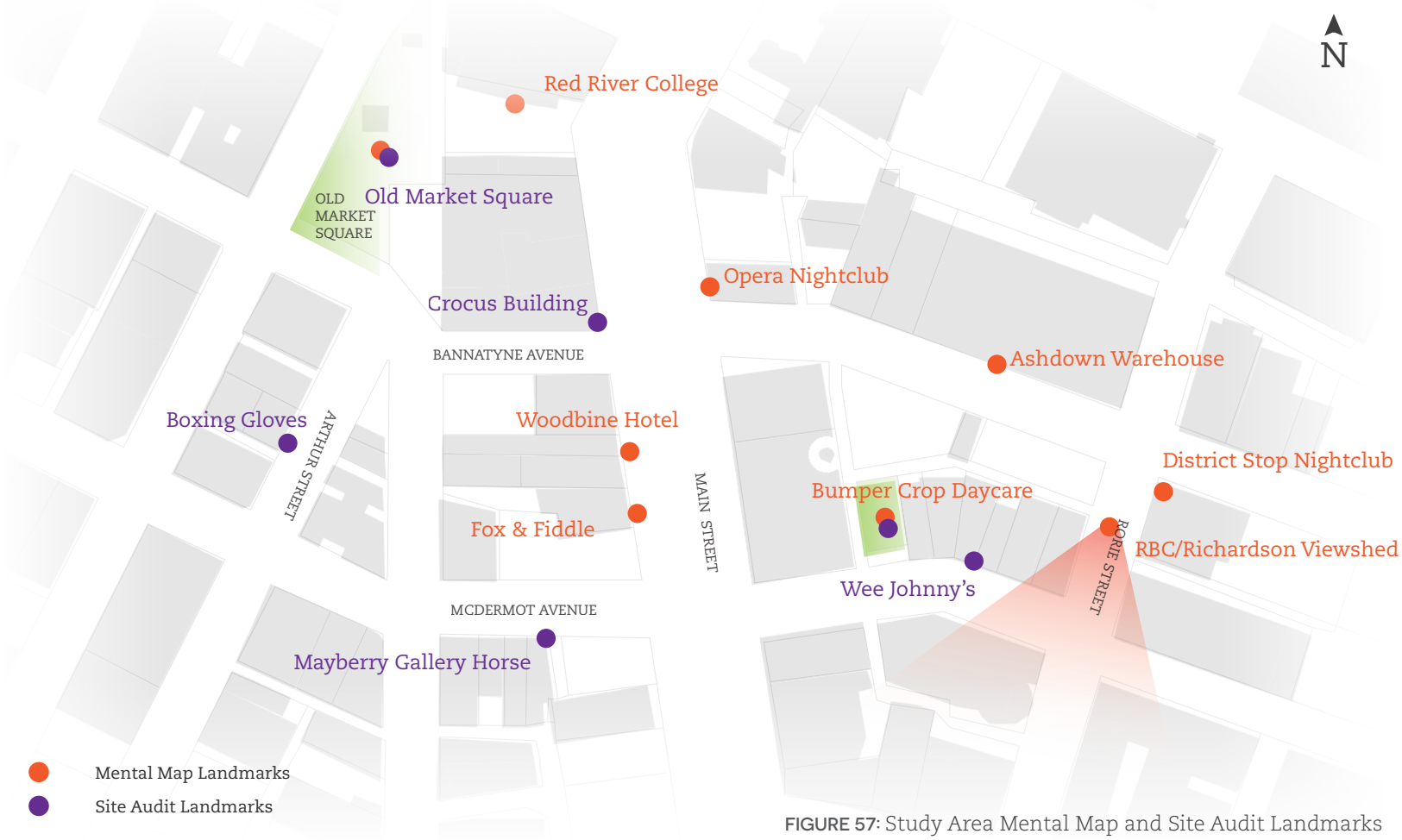


FIGURE 57: Study Area Mental Map and Site Audit Landmarks

DESIGN STRATEGY

Add an overarching visual element to the neighbourhood to make the space cohesive without compromising existing assets (an *imposition* strategy as opposed to a *harmony* strategy). In general, signage should be simple, tactile, and at a child's height. It is recommended that a simple shape and colour be consistent throughout. It can be rendered in different sizes and materials for different purposes – getting larger in size as a destination becomes closer, for example. Consider a graphic device of indicating movement and progression towards destinations such as numbering or scale. Do not assume that one graphic element will work for all users. Think beyond the standard text and numbers, and incorporate an image such as a face or historic figure as well.

Incorporate a design element that looks like it could have been a trace left by a child such as a simple line drawing, words in children's handwriting. Use familiar materials, and objects out of context to create a memorable, playful intervention. A child-friendly wayfinding strategy should ultimately be whimsical and clever, but not patronizing.

SYSTEM

As discussed earlier, the system should be a component of a larger Downtown wayfinding scheme, and be based on precincts or district system. While this study only allowed for an investigation within the National Historic Site, these zones can all be connected by Main Street. While the design should put an emphasis on the east-west circulation of collector streets such as Bannatyne Avenue and McDermot Avenue, Main Street could act as the major connecting spine.

Linkages between key hubs of activity (museums, attractions parks, and other facilities) should be reinforced through directional signage. Orientation signage that places the user within the space is also required. Instead of conventional "you are here" maps, this could take the form of a three-dimensional, tactile model at key interpretive spots within the Historic Site, for example.

While the system should be for a variety of users, scale and height of signage should be different for pedestrians and vehicles. Pedestrian directional and orientational signage should indicate distance to landmarks in not just in distance, but also time (e.g. 1 minute walk to City Hall).

RE-IMAGINING INTERVENTIONS

Using existing interventions and street furniture, such as phone booths, parking meters, tree grates, lamp posts and mailboxes, and enhance, re-imagine, and transform these objects beyond their original functions.

HOME AND NODES

Determine a series of 'home-bases' and label them as 'home' to provide a safe stopping or meeting point. Children overwhelmed by names of streets and buildings may be able to easily find simple, familiar terms. These spaces should be reinforced as social nodes through the use of street furniture. These 'living rooms' could provide resting spots and observation areas – a place to take in the street activity without being fully involved. Large, sculptural wayfinding elements could also function as seating spaces. Having this 'home' space could allow children to increase their home range in an urban setting. Surface parking lots and parkades too function as collecting spaces. If they are to exist within the neighbourhood, they should be enhanced as meeting places.

LANGUAGE AND HUMOUR

Language in the study area should be less about permission, control, authorization, and protection, and instead be more welcoming, inclusive and direct. Consider blunt directions and familiar terms rather than official building names and navigational terms, and incorporate humour through large fonts, symbols and arrows. At decision points, use signage that encourages children to look back and reflect on where they have spatially come from during their adventure. Incorporate path integration intervention by encouraging multiple routes at key decision points. This helps develop cognitive maps, rather than piloting back and forth the same between destinations. Always make sure that every direction is no more than three steps of instruction, and always confirm arrival at key points.

PLAYFINDING

Negate the wayfinding system by encouraging wandering. Incorporate poetry and onomatopoeia, and other visual, tactile and audible means of expressing experience. Drawing on the connections between play, childhood and nostalgia, children should be able to draw on previous experience, as they develop their wayfinding skills. There should be spaces for children to leave their mark – sign their name, put their age and height, and continue to return to these interventions year to year, or month to month, to connect their physical growth with their wayfinding success and comfort in urban places.

If, as this research indicates, play space is a focal point that makes a space legible and meaningful and a motivator for pedestrian activity, then making play spaces more prominent, public, accessible, and meaningful in the Exchange District is essential. Not only should existing spaces, such as Old Market Square and Bumper Crop Daycare playground, be enhanced, but parking lots, alleys, and sidewalks should be activated with playful interventions. A network of play spaces not only provides children with a place to go, but also adds key points along routes. These spaces should be a combination of public play space and 'secret' places that promote the idea of discovery within the playfinding network.

KEY CHILD-FRIENDLY WAYFINDING RECOMMENDATIONS



CHAPTER 8 CONCLUSION

Throughout this document, I have endeavored to answer my research questions, address gaps in the literature on children and wayfinding, reflect on my research process and findings, and make some pragmatic and a few provocative recommendations.

To recap, Chapter 2 answered 1 How do North American children navigate their urban environments? and 2 How can wayfinding planning be used as a tool to increase children's independent mobility? Chapters 3 and 5 addressed 3 What is the current state of wayfinding planning and tools in downtown Winnipeg? Chapter 6 informed 4 What strategies can be used to foster child-friendly wayfinding in downtown Winnipeg? Chapter 4 informed the site audit and explored the questions directly through the lenses of children. Ideally, the key considerations outlined at the conclusion of each of these chapters summarize the answers to these questions (the full list can be found in Appendix D).

In this chapter I want to take a step back and acknowledges some of the limitations to the research and final recommendations. I also reflect on the implications for planners and the planning profession, and ideas on how this research can be continued and enhanced going forward.

8.1 LIMITATIONS AND ASSUMPTIONS

First and foremost, this practicum has made the assumption that wayfinding is the solution for issues of independent mobility and familiarity in urban environments. While the research has shown this connection and made wayfinding recommendations, there are likely other solutions that go beyond the planning and design strategies proposed in this document.

Throughout this research it has become increasingly clear how complex urban environments are for wayfinding planning. The multiple layers of buildings, street networks, users, uses, needs, transportation modes, and governing bodies, could never be fully addressed within the scope of this project. Because of its specificity, this research does not fully consider the myriad of effects when intervening in public space. A child-friendly wayfinding strategy could be too specific for other users, causing frustration and challenging legibility, imageability, and navigability of the space.

The choice to focus the research on a specific site within a larger neighbourhood limits the range in which specific issues can be explored. The intention has been to conduct a very in-depth study within a sample site in order to make broader recommendations for the area and child-friendly wayfinding at-large. Nonetheless, it must be acknowledged that the predetermined route influenced all results, and the site-specific recommendations may not always apply to a broader context.

Throughout much of the analysis, I have assumed that children are familiar with certain logos, brands and words. While the evidence of certain words and images were more prominent than others for the research group is certainly strong, I have inferred the reason for it. Within the scope of this study I have not had the opportunity to confirm these results back to the children who partook in the exercise.

The sample only provides the results of one group. Recommendations made based on the research conducted may not necessarily reflect all children's experiences in the Exchange District. I must recognize the limitations of inferring too many general assumptions from one specific sample.

The mental mapping and site audit research were both conducted in fall and spring. This was due to school restrictions on outdoor activities, as well as my personal research timeline. Naturally, any study of Winnipeg should consider the winter season and the effects of climate on street and sidewalk conditions. Results, such as the trace analysis, are lacking findings on convenience paths and other markings that can be found in the snow. Further, the limitations winter poses on

pedestrian activity is not discussed in this practicum. The study has not fully considered time of day as an element of measuring sidewalk activity, perceptions of space and traffic. Rush hours, noontime, and nighttime all have different implications, especially since children's outdoor activities are often limited to daytime.

Safety has been disregarded as a primary concern within this study and final recommendations. The key for me throughout this document has been to think beyond the limitations posed by perceptions on safety and security for children. While some of the literature review does acknowledge safety concerns as a reason for limited ranges of activity and independence, it is stimulating to think in utopic terms about children and wayfinding and what can be accomplished if fears of safety, security, privacy do not exist. Further, any sort of intervention or assistance regarding safety could also be seen as an attempt to create a bubble place – an unrealistic notion of what the urban centre is.

8.2 DIRECTIONS FOR FURTHER STUDY

With the acknowledgment of the limitations and boundaries of this practicum, I would like to offer several directions for how this research could be expanded and enhanced:

EXPANDING THE RESEARCH

Continue the study of the Exchange District in order to make more detailed recommendations for the area. This could include expanding the mental mapping exercise to more groups of children of different ages. The mapping could also be linked to personal narratives, and having children explain their maps and their experiences may further illuminate the results. The study area should also be expanded to the entire Exchange District, in order to develop a strategy that encompasses the entire neighbourhood. The research should also be conducted at different times of day and year. The implications of climate, light, and traffic will certainly influence the results of the mental mapping exercises in particular.

ADVANCES IN WAYFINDING

Investigate technological advances and the implications technology may have on child-friendly wayfinding. Several of the comments I have received about this research are in regards to smart phones and the evolution of maps and navigational instructions. While this practicum has focused on physical interventions in the built environment, it is important to think about how interactive systems, existing and future, can influence how people find their way. An investigation into how LED screens and interactive surfaces could be used successfully would also enhance this research.

Further, I was unable to explore elements of smell and sound in wayfinding. While some children noted odors and sounds in their notebooks, a study of both how to document these experiences and use them within a wayfinding strategy, is recommended for further study. The Society for Experiential Graphic Design, holds an annual conference on emerging technology and tools. This could be linked to other advances for a more robust study of the developing field of experiential wayfinding and technology.

IMPLEMENTATION

The final recommendations in Chapter 7, are broad suggestions for how policy and regulatory frameworks could be adapted, but there is little discussion of actual implementation. A next step to this study would be to explore the frameworks in which a child-friendly wayfindng strategy would be situated in, and to investigate the policy and planning implications in more detail. As implementation is one of the greatest challenges or barriers to any planning process, this research would be greatly enhanced by a deeper discussion of these practicalities.

8.3 IMPLICATIONS FOR PLANNING PRACTICE

I began this practicum by suggesting planners are well-equipped to be involved wayfinding practice, and I want to conclude with a reflection on how this research can contribute to planning study and practice.

INTERDISCIPLINARY PRACTICE

Reviewing the literature on child-friendly cities and wayfinding planning reveals that both fields benefit from interdisciplinary practice. A successful strategy requires a collaboration of planning, graphic design, communication, urban design, and landscape architecture, to name a few professions. Planners are well situated to be involved in wayfinding practice, especially amidst increasing regulation and planning pressures, and an increasing role within urban design practice. I believe planners can be involved and lead multidisciplinary work of this nature, and navigate the complexities of this multi-stakeholder environment.

THINK OF THE CHILDREN!

As illustrated in the literature review, child-friendly planning is a growing field of research and practice, and hopefully this research reinforces or reiterates the call to the profession to advocate for child-friendly cities. Children should not be considered in isolation, but be fully integrated into planning theory and practice. Their needs must

be an integral component of any planning exercise. More importantly, planners needs to rethink spaces for children beyond more suburban concepts of safety, school playgrounds, and green space. Ideally, this practicum gently nudges towards considering children in downtown urban space, especially in a Canadian context.

Furthermore, the research conducted with children brought the study area to life in ways I never imagined. Children's perceptions of space, of cities and of planning should be fundamental to planning research, consultation, and engagement. While there is a strong body of research to support this notion, it has not been fully realized within planning documents and processes.

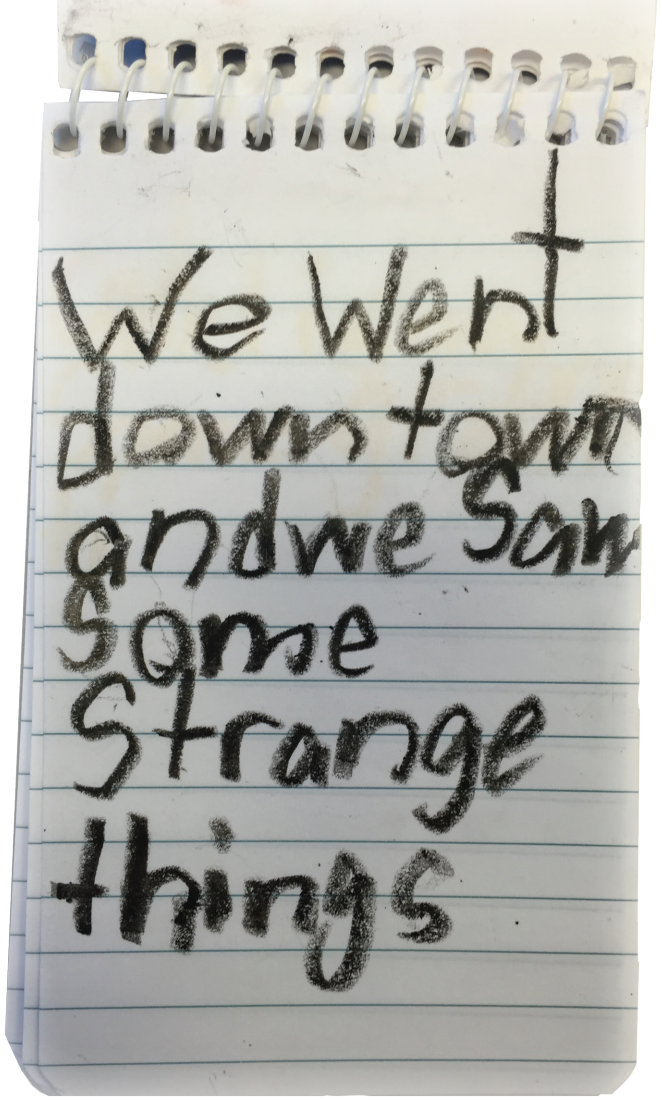
VISUAL COMMUNICATION – THE NEW FRONTIER

As the tools and technology for planners continues to evolve, planners should increasingly consider their role as communicators, disseminators of information and storytellers. With the prevalence and popularity of infographics, and other instantaneous and visual methods of communication, I propose that it will be increasingly important for planners to integrate graphic communication into their day-to-day practice. I hope that this research has illuminated the importance of visual communication, engagement and research.

FUN AND FLEXIBILITY

Many of the precedents studied highlighted low-cost, temporary, and imaginative solutions to wayfinding problems. Planning does not have to always propose permanent solutions and concepts, especially as user's needs and preferences continue to change. Planners should consider the potential merits of temporality over permanence, and be at the forefront of advocating for flexibility in policy, regulation and planning.

Finally, if I accomplish anything aspirational with this research, it is to advocate for the rethinking of serious, rigid, systematic and rational planning. Through this study of children's experience and perceptions of the Exchange District, I have strived to re-think my own perceptions of space and place. Hopefully, this study has illuminated the importance of infusing whimsy, fun, creativity, imagination, mystery and wonder into planning practice and our day-to-day experience in urban settings.



8.4 THE END?

This practicum has investigated a very particular and emerging planning topic – child-friendly wayfinding – within a very specific context – the Exchange District in Downtown Winnipeg. From the outset, my goal was to infuse an element of fun into my research, and to acknowledge that this is both a personal and academic process. This chapter has reiterated the initial research questions, reflected on the limitations, directions for future study and implications for planning practice. Appropriately, the journey is not complete. As the concept of child-friendly cities, and the practice of wayfinding planning and *playfinding* continue to evolve, so should this research. Through a review of relevant literature, a mental mapping exercise, an in-depth site study and precedent research, I have intended to promote and provoke a discussion about child-friendly wayfinding. In the end, I believe this practicum is just as much about the route taken as it is about the final destination. Thank you for navigating it with me!

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APPENDIX A
EXCHANGE DISTRICT ZONING

Part 4: Character Sector

Intent

400 This section is intended to encourage a compatible, fine-grained mix of uses-rather than a separation of uses in these diverse areas. The built form is key in this sector, ranging from the compact massing of the Exchange District, to the monumental Tyndall stone buildings near the Legislative Buildings, to the engaging variety of buildings and structures at The Forks. Urban design review in the Character Sector is intended to reinforce the valued current built forms in the Exchange District (identified in the *National Historic Site Commemorative Integrity Statement)* and near the Legislative Buildings, as well as the values expressed in *The Forks North Portage Partnership Concept Plan,* including enhanced pedestrian comfort.

amended 34/2014

Land Use

410(1) The following Land Use regulations are specific to the Character Sector. No new use or expansion of an existing use may be established except in compliance with the following regulations and with the Land Use portion (section 200) of the General Provisions.

410(2) Use Categories:

"P" - permitted use
"C" - conditional use
"A" - accessory use
"-" - not permitted use

USE CATEGORIES AND USES

RESIDENTAL & RESIDENTIAL-RELATED Dwelling	P*
Care Home	P*
Neighbourhood care home	P*
Dormitory	P*
Single-room occupancy	C
Bed & Breakfast	C
Live-work unit	P**
* - conditional if located at-grade, abutting Main Street ** - conditional if not directly accessible from public sidewalk of if exceeding 3000 square feet of floor area	

amended 34/2014

COMMERCIAL SALES & SERVICE	
Retail Sales	P*
Wholesale Sales	P*
Personal Service	P*
Business support service	P*
Medical/dental/optical/counseling clinic	P*
Veterinary not including kennel	P*
Bank/financial service	P*
Private club, not licensed	P*
Hostel	P
Hotel	P
Restaurant	P***
Drinking Establishment	P**
Studio for artists/dancer/designers; musicians/photographers, including production from finished materials	P*
Billiard Hall, primarily participant	P**
* - conditional if not directly accessible from public sidewalk or if exceeding 3000 square feet of floor area ** - conditional if not directly accessible from the public sidewalk or if exceeding 3000 square feet of floor area or 100 patrons *** - conditional if not directly accessible from public sidewalk or if exceeding 10,000 square feet of floor area	

amended 206/2005; 34/2014

OFFICE	
Office	P
Call centre	P*
* - conditional if located at-grade, or if adjacent to any public road	

amended 206/2005

PRIVATE MOTOR VEHICLE -RELATED	
Auto/light truck/motorcycle rental & sales, entirely within enclosed building	C
Auto/light truck/motorcycle repair & service, entirely within enclosed building	C
Fuel Sales	-
Drive-in, Drive-through	-
Parking, non-accessory offstreet at grade	C
Parking, non-accessory offstreet above/below grade	P

TRANSPORTATION, UTILITY, & COMMUNICATIONS	
Power station, electrical/heating/cooling/Communications distribution facility	P
Bus Depot	C
Train station	C
Commercial Marina	C
Radio/television broadcast tower	C
repealed 49/2010	
Loading, non-accessory	C

PUBLIC & INSTITUTIONAL	
Church/religious institution	P
School	P
Daycare	P
Community/recreation centre, primarily participant	P
Courthouse	P
Jail/detention centre	P
Neighbourhood rehabilitation home	C
Emergency residential shelter	C
Library	P
Hospital, including overnight accommodations	C
Protection and emergency services	C
Research institution	C

amended 206/2005

CULTURAL & ENTERTAINMENT	
Auditorium/concert hall/theatre/cinema	P
Convention centre/exhibition hall	C
Amusement establishment, indoor	P
Casino	C
Cultural centre	P
Gallery, primarily spectator	P
Museum	P
Sports & entertainment arena/stadium, primarily spectator	C
Studio, radio/TV/motion picture broadcast & production	P
Dance hall	P*
Banquet hall	P*
* - conditional if not directly accessible from public sidewalk or if exceeding 3000 square feet of floor area or 100 patrons	

amended 206/2005

PARK & PARK RELATED	
Park/plaza/square/playground, public access	P
Trail/walkway, public access	P
Boat dock, public access	P

LIGHT INDUSTRIAL	
Manufacture/assembly/repair/packaging of products from prepared materials, entirely within enclosed building	P
Warehouse, entirely within enclosed building	P
Printing/publishing	P
Commercial laundry/dry-cleaning plant	C
Brewery/distillery/winery	C
Commercial bakery	C
Recylcing Centre	C

RESTRICTED	
Adult entertainment	C
X-rated store	C
Dating & escort service	C
Body rub parlour	C
Pawnshop	-

ACCESSORY	
Parking offstreet at-grade*, to all uses	A
Parking off street above/below grade, to all uses	A
Loading, to all uses not exceeding 20 feet wide x 30 feet long, unless entirely within Building	A
Refuse storage, to all uses	A
Sign, to all uses	A
Home occupation, to Dwelling	A
Parish hall, to Church	A
Micro-brewery/winery/distillery, to Restaurant	A
Outdoor drinking and dining, to Drinking Establishment	A**
Bakery, to Restaurant and Grocery	A
Amusement Devices, maximum 4 devices	A
* - conditional if abutting Main Street, or if exceeding 10% of lot area, when visible from the street ** - conditional if exceeding 1000 square feet in area	

amended 206/2005; 34/2014

Bulk

420(1) The following Bulk regulations and guidelines are specific to the Character Sector. No new building or structure, or expansion of an existing structure, may be developed or enlarged within this sector that does not comply with the following regulations and the Bulk portion (section 210) of the General Provisions, Subsection 420(2) provides for basic Bulk regulations for this sector and exceptions for properties within the Warehouse district and those abutting Main Street, Lombard Avenue, and Water Avenue.

420(2) Bulk regulations:

CHARACTER SECTOR	GENERAL	WAREHOUSE PROPERTIES	MAIN STREET LOMBARD AVE. PROPERTIES	WATER AVENUE PROPERTIES
Building Height Minimum‡	25 feet	25 feet	35 feet	25 feet
Building Height Maximum****	100 feet	100 feet	150 feet	Not applicable
Floor Area Ratio Maximum	n/a	n/a	n/a	12
Front, Side, Corner Side Yards‡	Not applicable	5 foot front and corner side maximum***	5 foot front and corner side maximum***	Not applicable
Residential Uses Interior Side Yards Minimum*‡	10-50 feet in height: 10 feet	10-50 feet in height: 10 feet	10-50 feet in height: 10 feet	10-50 feet in height: 10 feet
	above 50 feet in height: 20 feet	above 50 feet in height: 20 feet	above 50 feet in height: 20 feet	above 50 feet in height: 20 feet
Residential Uses Rear Yards Minimum‡**	20 feet	20 feet	20 feet	20 feet

*	- no interior side yard is required when no doors, windows, or other openings are provided in the wall facing the adjacent property and in the adjacent property wall (see section 210)
**	- for up to 50 feet in building height, 20 foot minimum rear yard may be calculated from the building wall to the mid-point of an existing public road or lane (see section 210)
***	- applies to minimum 50% of building wall length
****	- building heights may be limited by 'Building Height Control Area: Legislative Core - Winnipeg' Public Works Act restrictions [see subsection 210(13)]
‡	- not applicable to all or part of an existing structure converting to a residential use

amended 206/2005; 34/2014

420(3) Bulk Guidelines

Signs

430(1) The following Sign regulations are specific to the Character Sector. No new sign or sign structure and no alteration to an existing sign or sign structure may be established or erected except in accordance with the following regulations and the Signs portion (section 220) of the General Provisions. Subsection 430(2) provides Sign regulations for this sector, including distinctions for the Warehouse district, the Legislature precinct, and at The Forks.

430(2) Sign Regulations:

(a)

USE IDENTIFICATION TYPE		WAREHOUSE	LEGISLATURE	THE FORKS
Total Sign Volume		3 square feet per frontage foot	3 square feet per frontage foot	3 square feet per frontage foot*
Sign Form	Attached	All, except digital signs	All, except digital signs	All, except digital signs
	Free-standing	Not applicable	Podium, ground-oriented, except digital signs	Podium, ground-oriented, except digital signs
Sign Size Maximum		Not applicable	Not applicable	Not applicable
Sign Structure Height Maximum, Free-standing		Not applicable	4 feet	4 feet
Sign Location, Attached		Below 25 feet in height	Below 25 feet in height	Below 25 feet in height
* - where property does not have frontage on a public road, 300 square foot total per building				

amended 206/2005; 34/2014

(b)

BUILDING IDENTIFICATION TYPE		WAREHOUSE	LEGISLATURE	THE FORKS
Total Sign Volume		2% of building wall*	2% of building wall*	2% of building wall*
Sign Form	Attached	All	All	All
	Free-standing	Roof, except digital signs	Podium, ground-oriented, except digital signs	Podium, ground-oriented, except digital signs
Sign Size Maximum		Not applicable	Not applicable	Not applicable
Sign Structure Height Maximum, Free-standing		10 feet above parapet	4 feet	4 feet
Sign Location	Attached	1 sign per building wall maximum**	1 sign per building wall maximum**	1 sign per building wall maximum**
	Free-standing	1 sign per public road frontage maximum	1 sign per public road frontage maximum	1 sign per public road frontage maximum***

* - 48 square foot maximum sign size, when 2% of building wall calculation results in less than 48 square feet

** - does not apply to those signs located below 25 feet in height

*** - where property does not have frontage on public road, 2 signs per building maximum

amended 206/2005; 34/2014

(c)

EVENT TYPE*		WAREHOUSE	LEGISLATURE	THE FORKS
Total Sign Volume		Not applicable	Not applicable	Not applicable
Sign Form	**Attached**	Fascia, projecting, marquee, projection	Fascia, projecting, marquee, projection	Fascia, projecting, marquee, projection
	Free-standing	Podium, ground-oriented	Podium, ground-oriented	Podium, ground-oriented
Sign Size Maximum		64 square feet	64 square feet	96 square feet
Sign Structure Height Maximum Free-standing		4 feet	4 feet	4 feet
Sign Location	**Attached**	Below 25 feet in height	Below 25 feet in height	Below 25 feet in height
	Free-Standing	1 sign per public road frontage maximum	1 sign per public road frontage maximum	1 sign per public road frontage maximum**
* - can only be established in conjunction with "Cultural & Entertainment" uses ** - where property does not have frontage on a public road, 2 signs per building maximum				

amended 34/2014

(d)

DIRECTIONAL TYPE		BASIC	WATER AVENUE AND PIONEER AVENUE PROPERTIES
Total Sign Volume		Not applicable	Not applicable
Sign Form	**Attached**	All	All
	Free-standing	All	All
Sign Size Maximum		4 square feet per sign	6 square feet per sign
Sign Structure Height Maximum, Free-standing		10 feet	10 feet
Sign Location	**Attached**	Below 25 feet in height	Below 25 feet in height
	Free Standing	Not Applicable	Not Applicable

amended 34/2014

(e)

PARKING INSTRUCTIONS TYPE		BASIC
Total Sign Volume		Not Applicable
Sign Form	Attached	All
	Free-standing	All
Sign Size Maximum		24 square feet per sign
Sign Structure Height Maximum, Free-standing		10 feet
Sign Location	Attached	Below 25 feet in height
	Free-standing	Not Applicable

amended 34/2014

Parking

440(1) See Parking portion (section 230) of the General Provisions. In addition, refer to section 410 regarding Parking as a Land use in the Character Sector.

Loading

450(1) See Loading portion (section 240) of the General Provisions. In addition refer to section 410 regarding Loading as a Land Use in the Character Sector.

Urban Design

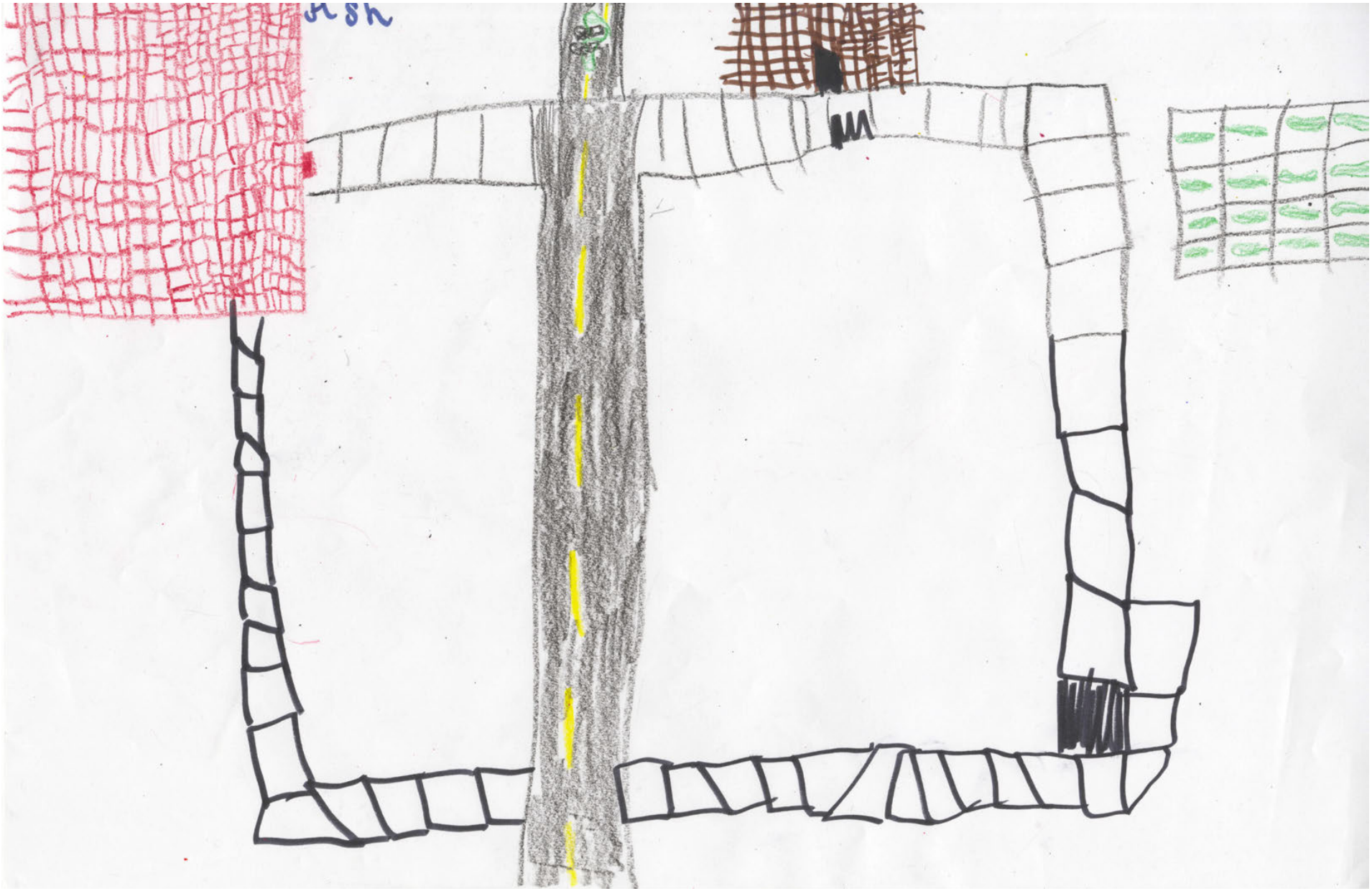
460(1) See the Urban Design portion (section 250) of the General Provisions. In addition, refer to *Exchange District National Historic Site* and *The Forks North Portage Partnership Concept Plan* maps in Appendices.

APPENDIX B
MENTAL MAPS

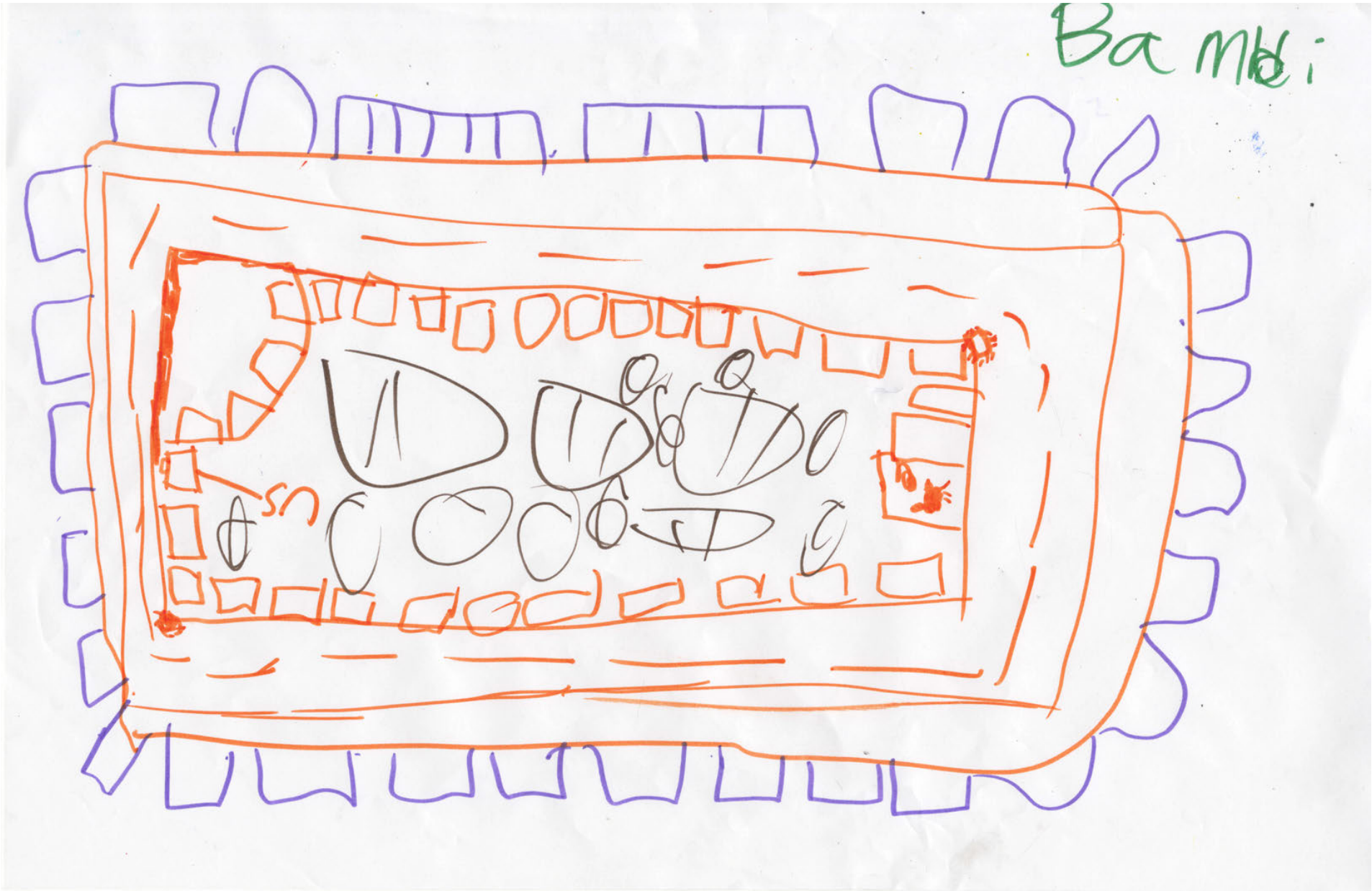
			Ash	Awsome Kangor	Bambi	(Owen)	The Bouncing Boy	Captain Planet	Captin Staticz	Dog	E-102 Gamma	Evey Emerald Kitty	Kango Dango	Motal Storm	Mr. Butter Nubs	Mr. Carrot	Mr. Cheddar Cheese	Mr. Red Orange	No Name	Puppy	Quick Zipper	Sidekick	Super Adventurer	Super Cat	The Purple Gem	Zac	Count
Car(s)	Object	Vehicle		x			x		x							x				x	x			x	x	x	**9**
Bus	Object	Vehicle				x												x				x	x				**4**
Fire Escape	Object	Vehicle					x										x											**2**
Ambulance	Object	Vehicle																						x			**1**
Corvette (awesome corvette)	Object	Vehicle																			x						**1**
RBC	Trace	Public Messages						x	x					x								x	x			x	**6**
Red River College	Trace	Public Messages					x	x			x								x								**4**
MTS	Trace	Public Messages										x	x					x								x	**4**
Hand print (District bar?)	Trace	Public Messages									x								x							x	**3**
Hermanos	Trace	Public Messages						x														x	x				**3**
McDermot Avenue	Trace	Public Messages						x											x			x					**3**
Open (sign)	Trace	Public Messages				x					x												x				**3**
Opera	Trace	Public Messages					x	x											x								**3**
Bannatyne Ave	Trace	Public Messages						x														x					**2**
Fox TV	Trace	Public Messages				x																x					**2**
Griffin - Imagine Games	Trace	Public Messages									x															x	**2**
iPhone 6 billboard	Trace	Public Messages									x															x	**2**
Lounge	Trace	Public Messages				x																x					**2**
Main Street	Trace	Public Messages				x		x																			**2**
Poutine	Trace	Public Messages									x															x	**2**
Richardson	Trace	Public Messages						x	x																		**2**
Rorie St	Trace	Public Messages						x														x					**2**
221	Trace	Public Messages				x																					**1**
"Harsh Toker"	Trace	Public Messages									x																**1**
"No cash"	Trace	Public Messages					x																				**1**
"No house"	Trace	Public Messages					x																				**1**
ATM	Trace	Public Messages				x																					**1**
Auto service	Trace	Public Messages																				x					**1**
Bannatyne	Trace	Public Messages																	x								**1**
Crocus	Trace	Public Messages																			x						**1**
Do not walk hand	Trace	Public Messages											x														**1**
Fox and the Fiddle	Trace	Public Messages					x																				**1**

			Ash	Awsome Kangor	Bambi	(Owen)	The Bouncing Boy	Captain Planet	Captin Staticz	Dog	E-102 Gamma	Evey Emerald Kitty	Kango Dango	Motal Storm	Mr. Butter Nubs	Mr. Carrot	Mr. Cheddar Cheese	Mr. Red Orange	No Name	Puppy	Quick Zipper	Sidekick	Super Adventurer	Super Cat	The Purple Gem	Zac	Count
Car(s)	Object	Vehicle		x			x		x							x				x	x			x	x	x	**9**
Bus	Object	Vehicle				x												x				x	x				**4**
Fire Escape	Object	Vehicle					x										x											**2**
Ambulance	Object	Vehicle																						x			**1**
Corvette (awesome corvette)	Object	Vehicle																			x						**1**
RBC	Trace	Public Messages						x	x					x								x	x			x	**6**
Red River College	Trace	Public Messages					x	x			x								x								**4**
MTS	Trace	Public Messages										x	x					x								x	**4**
Hand print (District bar?)	Trace	Public Messages									x								x							x	**3**
Hermanos	Trace	Public Messages						x														x	x				**3**
McDermot Avenue	Trace	Public Messages						x											x			x					**3**
Open (sign)	Trace	Public Messages				x					x												x				**3**
Opera	Trace	Public Messages					x	x											x								**3**
Bannatyne Ave	Trace	Public Messages						x														x					**2**
Fox TV	Trace	Public Messages				x																x					**2**
Griffin - Imagine Games	Trace	Public Messages									x															x	**2**
iPhone 6 billboard	Trace	Public Messages									x															x	**2**
Lounge	Trace	Public Messages				x																x					**2**
Main Street	Trace	Public Messages				x		x																			**2**
Poutine	Trace	Public Messages									x															x	**2**
Richardson	Trace	Public Messages						x	x																		**2**
Rorie St	Trace	Public Messages						x														x					**2**
221	Trace	Public Messages				x																					**1**
"Harsh Toker"	Trace	Public Messages									x																**1**
"No cash"	Trace	Public Messages					x																				**1**
"No house"	Trace	Public Messages					x																				**1**
ATM	Trace	Public Messages				x																					**1**
Auto service	Trace	Public Messages																				x					**1**
Bannatyne	Trace	Public Messages																	x								**1**
Crocus	Trace	Public Messages																			x						**1**
Do not walk hand	Trace	Public Messages											x														**1**
Fox and the Fiddle	Trace	Public Messages					x																				**1**

			Ash	Awsome Kangor	Bambi	(Owen)	The Bouncing Boy	Captain Planet	Captin Staticz	Dog	E-102 Gamma	Evey Emerald Kitty	Kango Dango	Motal Storm	Mr. Butter Nubs	Mr. Carrot	Mr. Cheddar Cheese	Mr. Red Orange	No Name	Puppy	Quick Zipper	Sidekick	Super Adventurer	Super Cat	The Purple Gem	Zac	Count
Fox CBC	Trace	Public Messages																	x				x				**1**
Hisotircal Winnipeg 1921 sign	Trace	Public Messages																	x								**1**
King St	Trace	Public Messages																	x								**1**
Music Store	Trace	Public Messages																	x								**1**
Newspaper	Trace	Public Messages																				x					**1**
No smkoing sign	Trace	Public Messages																					x				**1**
Nude woman poster	Trace	Public Messages															x										**1**
Parkade and sign	Trace	Public Messages									x																**1**
Parking Sign	Trace	Public Messages										x															**1**
Pita	Trace	Public Messages																								x	**1**
Red Bull	Trace	Public Messages				x																					**1**
Suitcases	Trace	Public Messages																							x		**1**
The R&B	Trace	Public Messages																		x							**1**
Tim Hortons	Trace	Public Messages																x									**1**
Wee Johnnys	Trace	Public Messages						x																			**1**
Whisky Dix	Trace	Public Messages									x																**1**
Posters	Trace	Public Messages															x										**1**
Provencher Blvd	Trace	Public Messages						x																			**1**
Restaurant	Trace	Public Messages																								x	**1**
Road	Spatial	Path	x	x	x	x		x	x	x		x			x			x	x		x	x	x	x	x	x	**17**
Loop	Spatial	Path	x	x	x			x			x					x				x		x	x			x	**10**
Sidewalk	Spatial	Path	x		x																x				x		x	**5**
Intersection	Spatial	Node	x					x		x		x												x	x		x	**7**
Cross walk	Spatial	Node									x					x					x							**3**
Old Market Square	Spatial	Node									x										x						x	**3**
Start	Spatial	Node									x																x	**2**
Home	Spatial	Node																			x							**1**
Parking lot	Spatial	Node											x															**1**
Tree	Object	Natural		x		x			x		x		x		x			x		x						x	x	**10**
Building	Spatial	Landmark	2	2	x	4	3	6	2	1	18	3	3	10	0	6	0	7	5	3	3	6	5	0	5	13	**107**
The Cube (Weird Light Box Thingy)	Spatial	Landmark	x	x						x	x									x	x					x	**7**
Play Structure	Spatial	Landmark		x						x	x	x				x		x			x						**7**




F1




Lounge
TV
fox
Open
main
St
tree

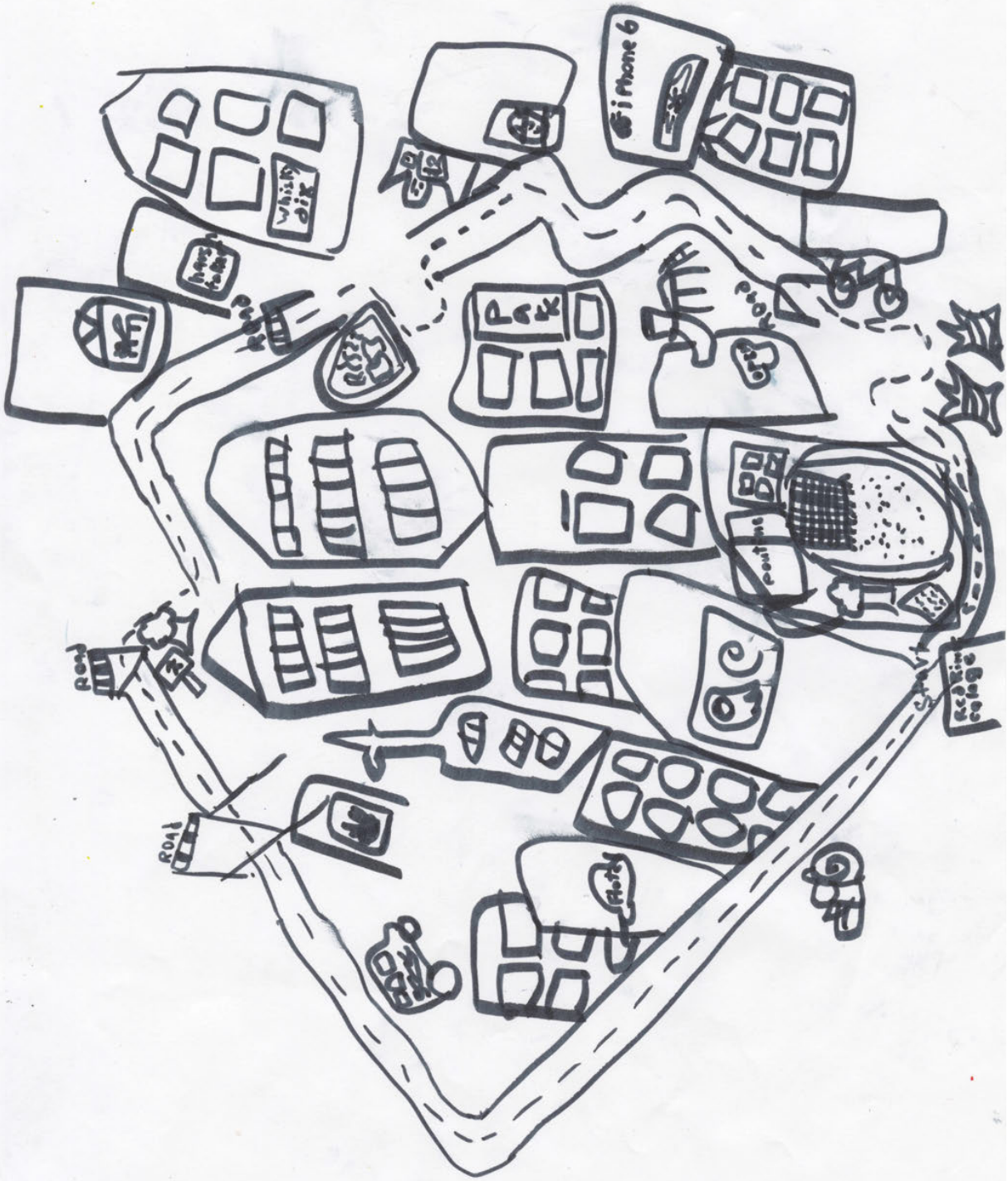

River college
Fox and the Fiddle
opera
Person
Person
Person

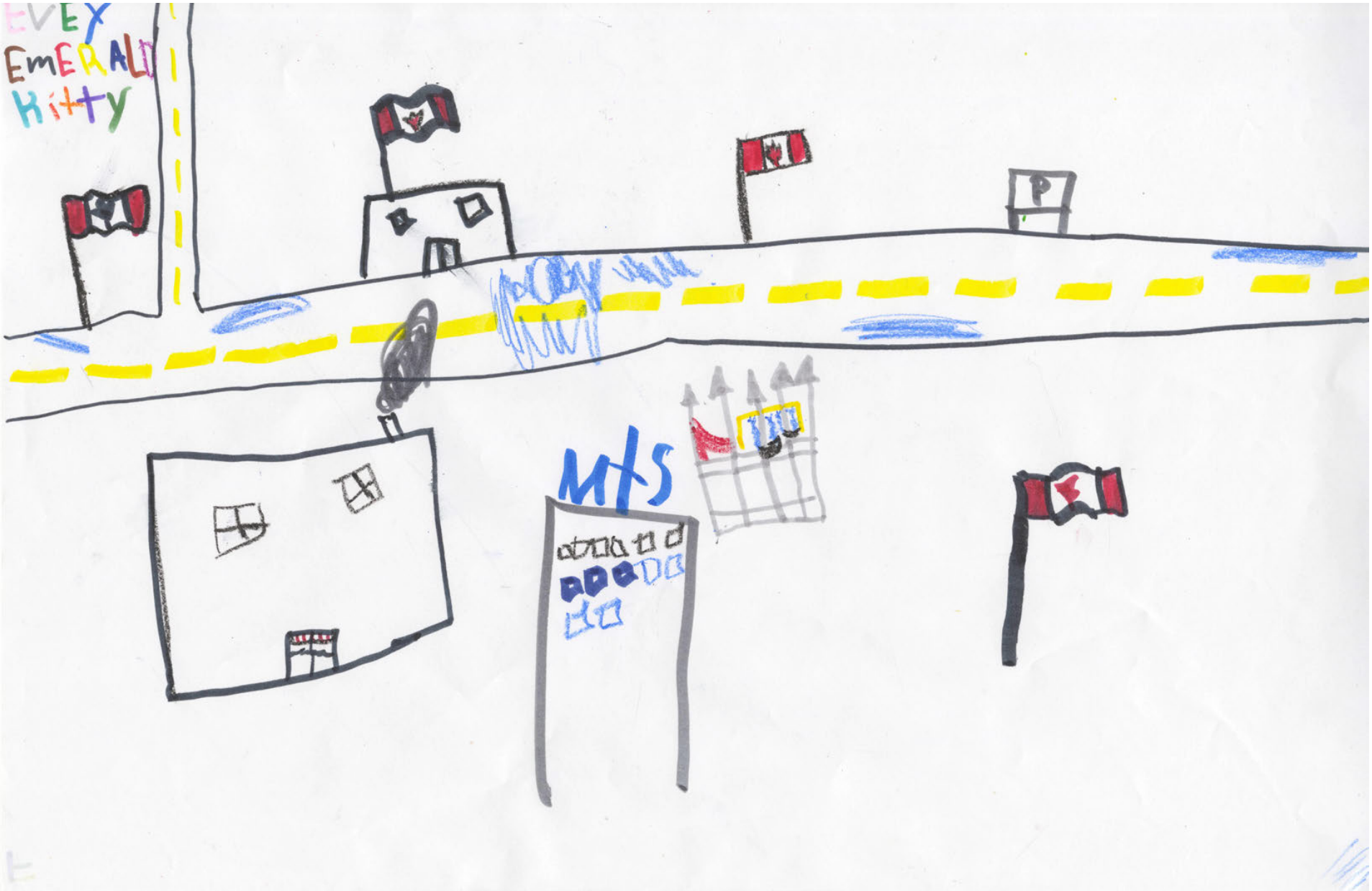

Train Bridge
RORIE ST
Red River
Provencher Blvd
The Forks
Main St
Wee Johnny's
McDermot Ave
Bannatyne Ave


R.B.C.


DOG
Playroom

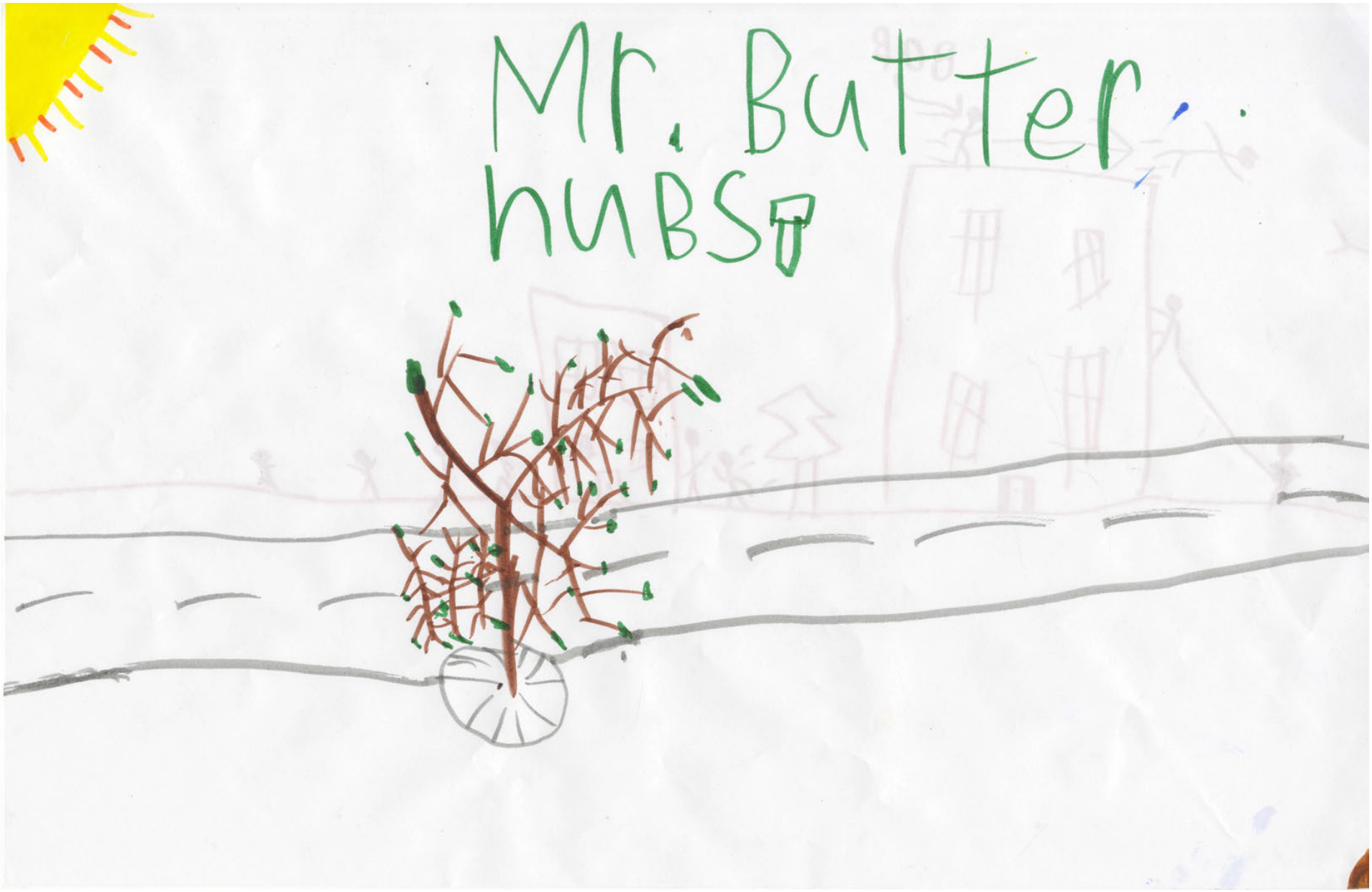
E-102
GAMMA 2




EVEY
EMERALD
Kitty
MTS

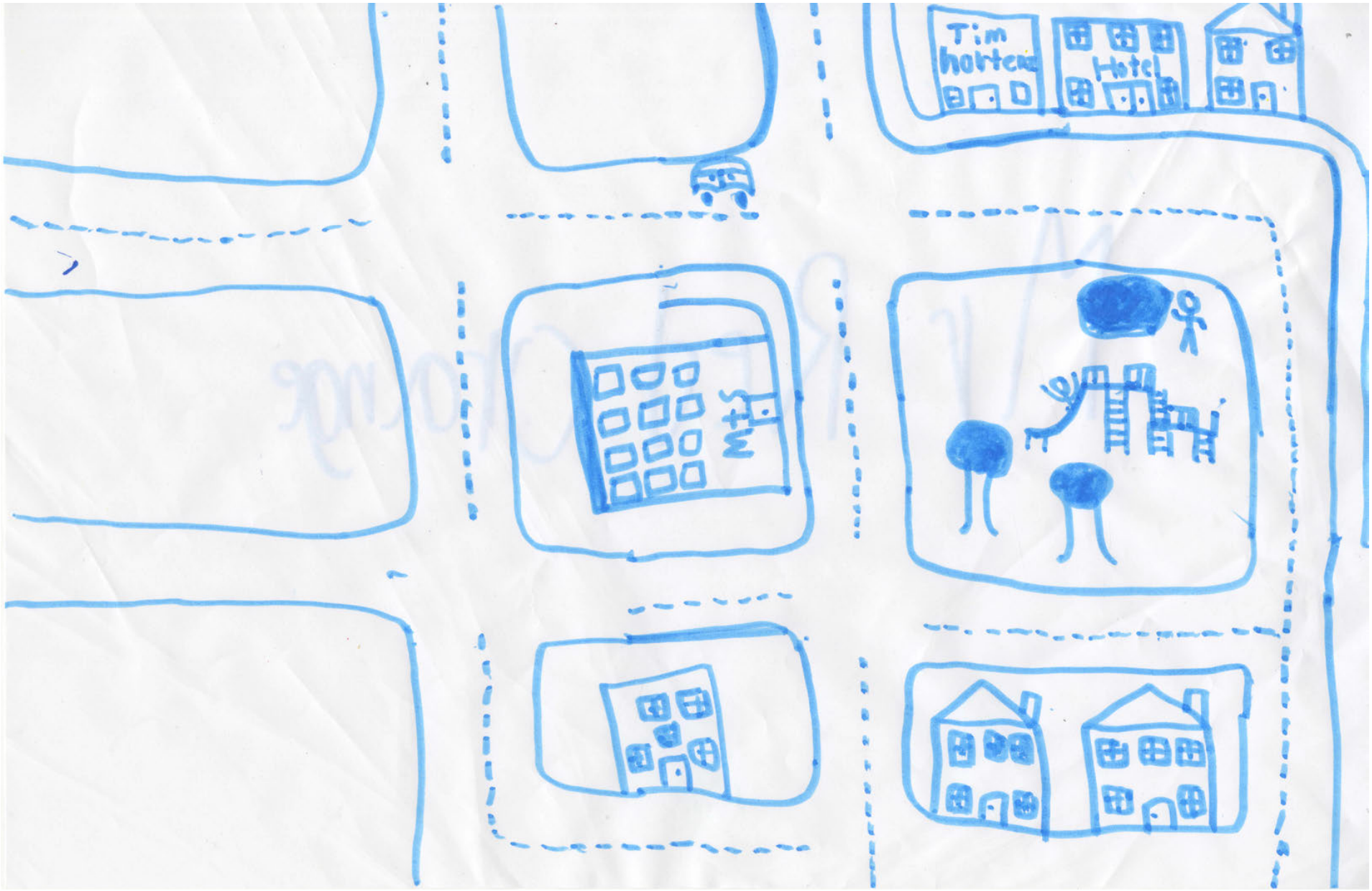

Kango
MTS dango
Parking
Insert coin
Kangodango
N
W
E
S


City


Mr. Butter.
hubs


Mr. Carrot!


Parkade


Tim hortons
Hotel
Mtn


Music store
Bannatyne
Red River college
king st.
opera
McDermot
Histor
YC
winn
PPG
1921


the
Rip
Mom car tow
puppy
Puppy

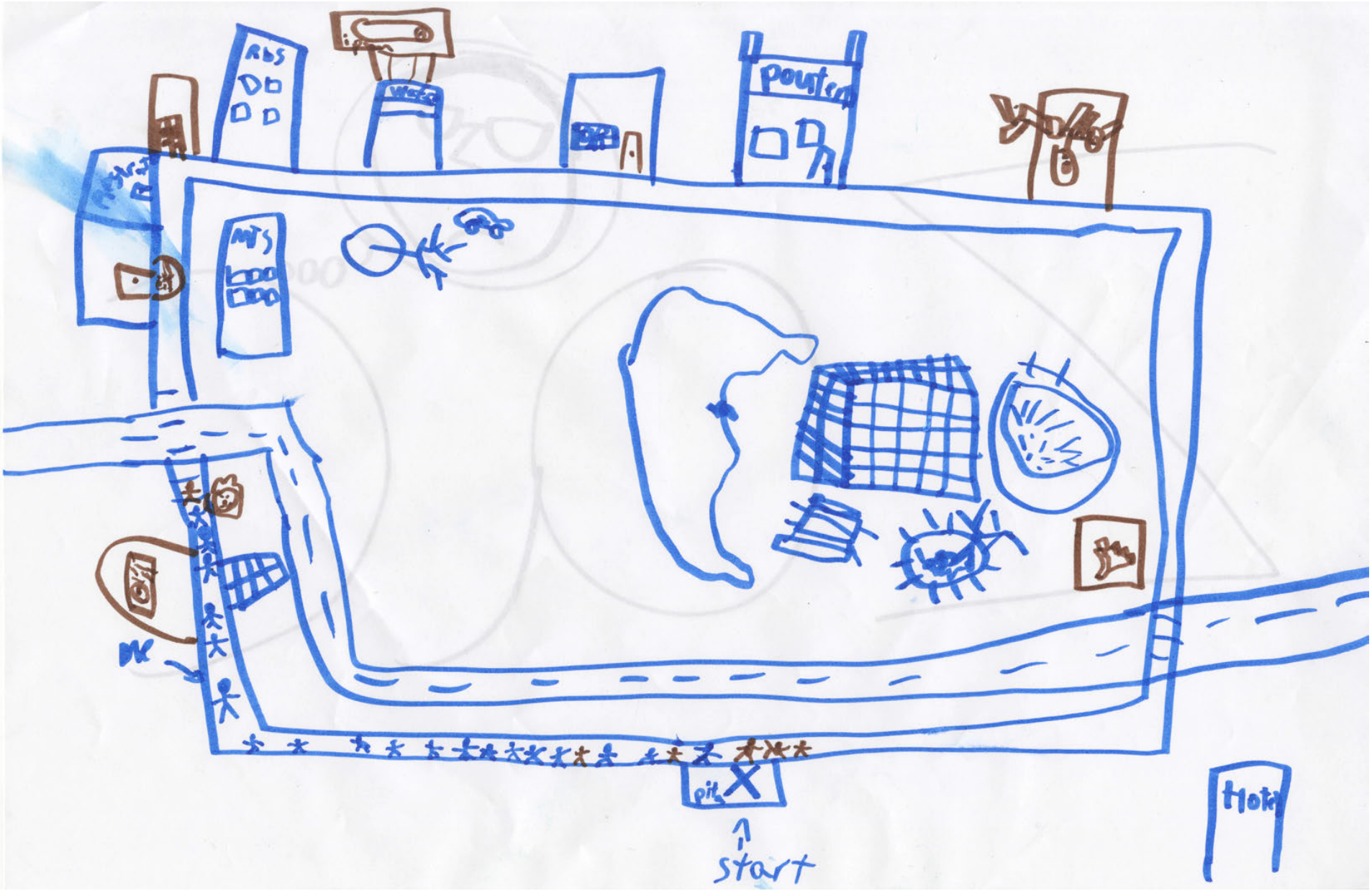

Quick Zipper
Legend
road crossing
car
sidewalk
Weird light-Box thingy
Awesome Corvette
Home
Playground
scary alley
Badly graffitied building


Fox Tv
City Bus
ROSIE St
train Bridge
Auto servic
NEWS PAPER
Mail Box
Mc Dermot AVE
Hotel
Bannatyne AVE
RBC
HerMons


Fox
Cbe
RBC
City Bus
Hermonos
Hotel
Open




Shirtcases


pit
start

APPENDIX C
SITE AUDIT DATA



IN-CM-01

INTERVENTION
COMMUNICATION

49 DEG 53' 52.82", 97 DEG 8' 18.20"

THE EXCHANGE DISTRICT BIZ
WINNIPEG ARTS COUNCIL ARTIST:
LAURIE GREEN



IN-CM-02

INTERVENTION
COMMUNICATION

49 DEG 53' 49.98", 97 DEG 8' 14.47"

THE EXCHANGE DISTRICT BIZ
WINNIPEG ARTS COUNCIL ARTIST:
JUDITH PANSON



IN-CM-03

INTERVENTION
COMMUNICATION

49 DEG 53' 51.77", 97 DEG 8' 19.80"

FREE DAILY METRO



IN-CM-04

INTERVENTION
COMMUNICATION

49 DEG 53' 51.61", 97 DEG 8' 13.12"

MTS



IN-CM-05

INTERVENTION
COMMUNICATION

49 DEG 53' 49.43", 97 DEG 8' 18.70"

CANADA POST



IN-CM-06

INTERVENTION
COMMUNICATION

49 DEG 53' 49.64", 97 DEG 8' 20.84"

THE EXCHANGE DISTRICT BIZ
WINNIPEG ARTS COUNCIL ARTIST:
LAURIE GREEN



IN-CM-07

INTERVENTION
COMMUNICATION

49 DEG 53' 52.92", 97 DEG 8' 26.17"

MTS



IN-FC-01

INTERVENTION
FENCE

49 DEG 53' 50.02", 97 DEG 8' 12.54"

-



IN-FC-02

INTERVENTION
FENCE

49 DEG 53' 49.97", 97 DEG 8' 12.96"

UNAUTHORIZED PARKING PROHIBITED; PRIVATE PROPERTY; TURN YOUR ENGINE OFF

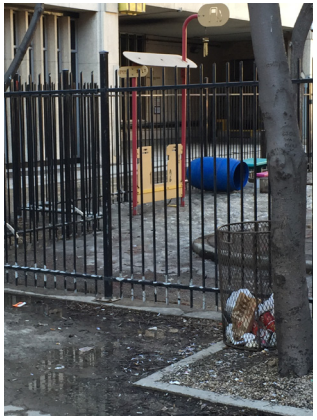


IN-FC-03

INTERVENTION
FENCE

49 DEG 53' 49.32", 97 DEG 8' 14.14"

-



IN-FC-04

INTERVENTION
FENCE

49 DEG 53' 49.21", 97 DEG 8' 16.75"

-



IN-FC-05

INTERVENTION
FENCE

49 DEG 53' 51.33", 97 DEG 8' 12.00"

-



IN-FC-06

INTERVENTION
FENCE

49 DEG 53' 49.62", 97 DEG 8' 21.06"

-



IN-FR-01

INTERVENTION
FURNITURE

49 DEG 53' 51.57", 97 DEG 8' 13.86"

-



IN-FR-02

INTERVENTION
FURNITURE

49 DEG 53' 51.57", 97 DEG 8' 13.86"

-



IN-FR-03

INTERVENTION
FURNITURE

49 DEG 53' 50.78", 97 DEG 8' 11.83"

-



IN-FR-04

INTERVENTION
FURNITURE

49 DEG 53' 50.78", 97 DEG 8' 11.83"

BANNATYNE AVE



IN-FR-05

INTERVENTION
FURNITURE

49 DEG 53' 48.74", 97 DEG 8' 12.93"

-



IN-FR-06

INTERVENTION
FURNITURE

49 DEG 53' 49.53", 97 DEG 8' 13.73"

BEVERAGE CONTAINERS ONLY



IN-FR-07

INTERVENTION
FURNITURE

49 DEG 53' 52.42", 97 DEG 8' 19.16"

BEVERAGE CONTAINERS ONLY



IN-FR-08

INTERVENTION
FURNITURE

49 DEG 53' 52.32", 97 DEG 8' 17.21"

-



IN-FR-09

INTERVENTION
FURNITURE

49 DEG 53' 52.03", 97 DEG 8' 14.60"

-



IN-FR-10

INTERVENTION
FURNITURE

49 DEG 53' 51.61", 97 DEG 8' 13.12"

MTS



IN-FR-11

INTERVENTION
FURNITURE

49 DEG 53' 49.32", 97 DEG 8' 14.14"

-



IN-FR-12

INTERVENTION
FURNITURE

49 DEG 53' 49.28", 97 DEG 8' 14.27"

-



IN-FR-13

INTERVENTION
FURNITURE

49 DEG 53' 49.21", 97 DEG 8' 16.69"

-



IN-FR-14

INTERVENTION
FURNITURE

49 DEG 53' 49.16", 97 DEG 8' 18.09"

-



IN-FR-15

INTERVENTION
FURNITURE

49 DEG 53' 50.64", 97 DEG 8' 13.97"

-



IN-FR-16

INTERVENTION
FURNITURE

49 DEG 53' 51.07", 97 DEG 8' 11.58"

-



IN-FR-17

INTERVENTION
FURNITURE

49 DEG 53' 49.50", 97 DEG 8' 22.10"

-



IN-FR-18

INTERVENTION
FURNITURE

49 DEG 53' 52.67", 97 DEG 8' 26.36"

NO SMOKING



IN-FR-19

INTERVENTION
FURNITURE

49 DEG 53' 52.67", 97 DEG 8' 26.36"

-



IN-FR-20

INTERVENTION
FURNITURE

49 DEG 53' 53.55", 97 DEG 8' 27.51"

FREE DAILY METRO



IN-FR-21

INTERVENTION
FURNITURE

49 DEG 53' 53.96", 97 DEG 8' 27.10"

GARBAGE BEVERAGE CONTAINERS ONLY



IN-FR-22

INTERVENTION
FURNITURE

49 DEG 53' 53.80", 97 DEG 8' 26.85"

-



IN-PK-01

INTERVENTION
PARKING

49 DEG 53' 51.57", 97 DEG 8' 14.96"

-



IN-PK-02

INTERVENTION
PARKING

49 DEG 53' 50.54", 97 DEG 8' 11.69"

-



IN-PK-03

INTERVENTION
PARKING

49 DEG 53' 50.32", 97 DEG 8' 19.00"

-



IN-PK-04

INTERVENTION
PARKING

49 DEG 53' 52.58", 97 DEG 8' 18.15"

-



IN-PK-05

INTERVENTION
PARKING

49 DEG 53' 52.00", 97 DEG 8' 15.13"

-



IN-PK-06

INTERVENTION
PARKING

49 DEG 53' 49.42", 97 DEG 8' 16.36"

-



IN-PK-07

INTERVENTION
PARKING

49 DEG 53' 51.96", 97 DEG 8' 27.10"

-



IN-PK-08

INTERVENTION
PARKING

49 DEG 53' 53.85", 97 DEG 8' 24.96"

METERS IN EFFECT 24 HOURS

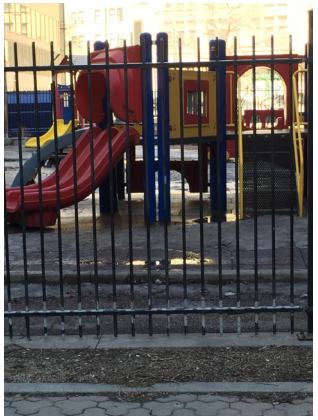


IN-PK-09

INTERVENTION
PARKING

49 DEG 53' 50.19", 97 DEG 8' 22.16"

-

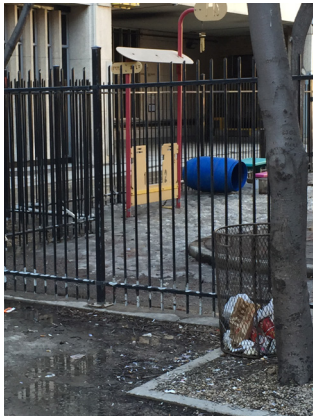


IN-PL-01

INTERVENTION
PLAY

49 DEG 53' 49.21", 97 DEG 8' 16.75"

-



IN-PL-02

INTERVENTION
PLAY

49 DEG 53' 49.21", 97 DEG 8' 16.75"

-



IN-PL-03

INTERVENTION
PLAY

49 DEG 53' 49.44", 97 DEG 8' 16.61"

-



S-DR-01

SIGNAGE
DIRECTIONAL

49 DEG 53' 49.39", 97 DEG 8' 18.78"

P>; ONE WAY



S-DR-02

SIGNAGE
DIRECTIONAL

49 DEG 53' 50.93", 97 DEG 8' 19.22"

PASSPORT OFFICE NEXT BUILDING



S-DR-03

SIGNAGE
DIRECTIONAL

49 DEG 53' 49.14", 97 DEG 8' 13.26"

CYCLE ROUTE



S-ID-H-01

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 53.07", 97 DEG 8' 18.92"

J.W. MCDONALD AUTO SERVICE 189 BANNATYNE



S-ID-H-02

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 51.93", 97 DEG 8' 16.88"

THE J.H. ASHDOWN HARDWARE COMPANY LIMITED

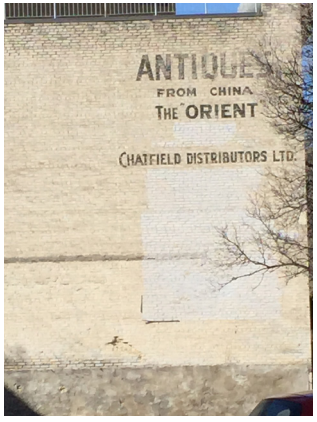


S-ID-H-03

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 51.99", 97 DEG 8' 15.92"

CHATFIELD DISTRIBUTORS LTD "THE ORIENT" ANTIQUES



S-ID-H-04

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 51.11", 97 DEG 8' 12.63"

ANTIQUES FROM CHINA THE ORIENT CHATFIELD DISTRIBUTORS LTD.



S-ID-H-05

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 49.24", 97 DEG 8' 14.17"

TEMPORARY



S-ID-H-06

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 50.28", 97 DEG 8' 26.85"

GRAND CENTRAL HOT TUB EXPERIENCE



S-ID-H-07

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 51.38", 97 DEG 8' 27.46"

KAYS WHOLESALE DRY GOODS



S-ID-H-08

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 55.30", 97 DEG 8' 25.04"

ROYAL BANK OF CANADA PATERSON GLOBAL FOODS INSTITUTE



S-ID-H-09

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 55.14", 97 DEG 8' 24.49"

-



S-ID-H-10

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 50.08", 97 DEG 8' 20.34"

CONFEDERATION BUILDING



S-ID-H-11

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 49.79", 97 DEG 8' 25.18"

-



S-ID-H-12

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 52.41", 97 DEG 8' 25.73"

THE J.H. ASHDOWN HARDWARE COMPANY LIMITED



S-ID-H-13

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 52.36", 97 DEG 8' 23.20"

THE BIRT SADDLERY CO LTD. LUGGAGE SADDLERY WESTERN CLOTHING HARDWARE PRIVATE 16 FT LANE NO PARKING



S-ID-H-14

SIGNAGE
IDENTIFICATION HISTORICAL

49 DEG 53' 51.97", 97 DEG 8' 22.93"

TAVERN



S-ID-PR-01

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.24", 97 DEG 8' 21.00"

OPERA ULTRALOUNGE



S-ID-PR-02

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.07", 97 DEG 8' 18.92"

J.W. MCDONALD AUTO SERVICE 189 BANNATYNE



S-ID-PR-03

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.97", 97 DEG 8' 18.89"

IGNITION & CARBURETION SPECIALIST J.W. MCDONALD LTD.



S-ID-PR-04

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.97", 97 DEG 8' 18.89"

J.W. MCDONALD AUTO SERVICE



S-ID-PR-05

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.27", 97 DEG 8' 16.86"

MODATINI HAIR DESIGNERS



S-ID-PR-06

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.93", 97 DEG 8' 16.75"

HAVE A MASSAGE MODATINI HAIR



S-ID-PR-07

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.71", 97 DEG 8' 16.75"

BLUFISH



S-ID-PR-08

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.70", 97 DEG 8' 16.22"

LOUNGE



S-ID-PR-09

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.70", 97 DEG 8' 15.81"

HERMANOS RESTAURANT



S-ID-PR-10

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.34", 97 DEG 8' 13.04"

AVEDA ACADEMY SALON



S-ID-PR-100

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.23", 97 DEG 8' 20.32"

FOX & FIDDLE



S-ID-PR-101

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.93", 97 DEG 8' 23.20"

IMPARK HOURLY MONTHLY EVENING PARKING AVAILABLE



S-ID-PR-102

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.02", 97 DEG 8' 23.31"

TINY FEAST STATIONARY AND SUPPLY



S-ID-PR-103

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.87", 97 DEG 8' 23.50"

BATE BLDG. 221



S-ID-PR-104

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.95", 97 DEG 8' 23.86"

RHYMES WITH ORANGE VINTAGE CLOTHING ACCESSORIES & HOUSEWARES



S-ID-PR-105

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.76", 97 DEG 8' 25.12"

THE DUKE OF KENT BRANCH #119 ROYAL CANADIAN LEGION



S-ID-PR-106

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.13", 97 DEG 8' 25.37"

MARIAGGI'S THEME SUITE HOTEL & SPA 231



S-ID-PR-107

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.19", 97 DEG 8' 25.89"

THE ROYAL CANADIAN LEGION DUKE OF KENT (MEMORIAL) BRANCH #119



S-ID-PR-108

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.89", 97 DEG 8' 27.10"

CAKE-OLOGY



S-ID-PR-109

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.97", 97 DEG 8' 27.16"

WINNIPEG FREE PRESS NEWS CAFÉ FOOD / DRINK / DEBATE



S-ID-PR-11

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.96", 97 DEG 8' 11.58"

-



S-ID-PR-110

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 55.10", 97 DEG 8' 25.73"

ARTSPACE



S-ID-PR-12

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.61", 97 DEG 8' 11.86"

-



S-ID-PR-13

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.24", 97 DEG 8' 11.80"

RICHARDSON; RBC



S-ID-PR-14

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.17", 97 DEG 8' 12.05"

RBC



S-ID-PR-15

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.99", 97 DEG 8' 12.87"

GOVERNMENT OF CANADA PARKS CANADA



S-ID-PR-16

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.71", 97 DEG 8' 13.86"

EXIT ONLY



S-ID-PR-17

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.88", 97 DEG 8' 14.22"

COYOTE CAFÉ



S-ID-PR-18

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.93", 97 DEG 8' 14.25"

PARKING ENTRANCE



S-ID-PR-19

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.27", 97 DEG 8' 14.60"

THE MITCHELL BLOCK



S-ID-PR-20

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.10", 97 DEG 8' 14.80"

PARK



S-ID-PR-21

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.10", 97 DEG 8' 14.80"

U.N. LUGGAGE



S-ID-PR-22

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.87", 97 DEG 8' 18.94"

PREMIER EN GRAIN



S-ID-PR-23

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.46", 97 DEG 8' 19.66"

OLD DUTCH, HAAGEN DAZS



S-ID-PR-24

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.72", 97 DEG 8' 19.82"

ROBERTSON COLLEGE, 433 MAIN



S-ID-PR-25

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.82", 97 DEG 8' 16.55"

IMPARK EVENINGS 6 PM - 6 AM $6.00 FLAT RATE EACH DAY SATURDAY, SUNDAY AND HOLIDAYS (6AM-6PM) $6.00 FLAT RATE RESERVED MONTHLY PARKING ONLY MONDAY-FRIDAY 6 AM - 6 PM PLEASE READ THIS CAREFULLY... THIS IS PRIVATE PROPERTY



S-ID-PR-26

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.99", 97 DEG 8' 15.92"

CARGO EAST ON BANNATYNE



S-ID-PR-27

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.07", 97 DEG 8' 15.51"

168



S-ID-PR-28

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.00", 97 DEG 8' 15.35"

CARGO EAST ON BANNATYNE



S-ID-PR-29

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.97", 97 DEG 8' 14.44"

U.N. LUGGAGE

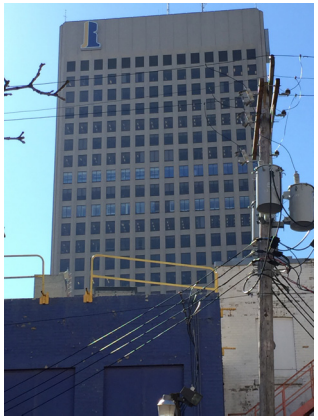


S-ID-PR-30

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.89", 97 DEG 8' 14.00"

IMPARK PUBLIC PARKING



S-ID-PR-31

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.75", 97 DEG 8' 13.95"

RICHARDSON



S-ID-PR-32

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.61", 97 DEG 8' 13.12"

MTS



S-ID-PR-33

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.36", 97 DEG 8' 12.65"

PHAT DADDY'S VIP DOOR



S-ID-PR-34

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.21", 97 DEG 8' 15.57"

JOHNNY G'S RESTAURANT & BAR,
WEE JOHNNY'S PUB



S-ID-PR-35

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.21", 97 DEG 8' 15.79"

WEE JOHNNY'S



S-ID-PR-36

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.29", 97 DEG 8' 15.92"

ENTRANCE



S-ID-PR-37

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.34", 97 DEG 8' 16.03"

SPACE2WORK.COM



S-ID-PR-38

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.93", 97 DEG 8' 19.22"

PASSPORT OFFICE NEXT BUILDING



S-ID-PR-39

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.04", 97 DEG 8' 19.27"

423 MAIN



S-ID-PR-40

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.21", 97 DEG 8' 15.62"

WHEELCHAIR ACCESS NORTHEND OF BLDG. OFF THEATRE WAY



S-ID-PR-41

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.60", 97 DEG 8' 12.65"

SCHOOL, AVEDA



S-ID-PR-42

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.07", 97 DEG 8' 11.58"

-



S-ID-PR-43

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.57", 97 DEG 8' 21.77"

MONTHLY PARKING AVAILABLE $185 +GST CALL 944-7539



S-ID-PR-44

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.58", 97 DEG 8' 21.77"

WHISKEY DIX



S-ID-PR-45

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.58", 97 DEG 8' 22.87"

THE LAKE OF THE WOODS CO. LTD. MAYBERRY FINE ART



S-ID-PR-46

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.58", 97 DEG 8' 22.87"

MAYBERRY FINE ART



S-ID-PR-47

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.69", 97 DEG 8' 22.98"

1-214 MCDERMOT



S-ID-PR-48

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.69", 97 DEG 8' 22.98"

PAPERDOLL CLOTHING



S-ID-PR-49

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.57", 97 DEG 8' 23.20"

MMP 214 MCDERMOT AVE

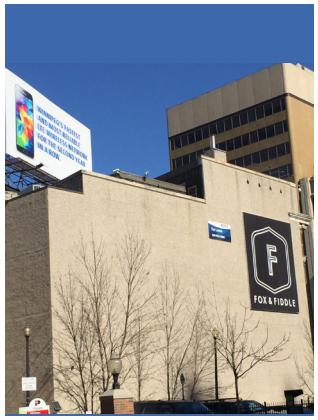


S-ID-PR-50

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.61", 97 DEG 8' 23.20"

RAGPICKERS ANTI-FASHION EMPORIUM

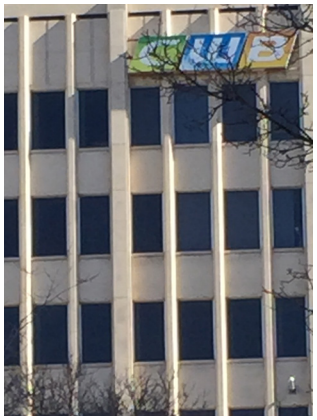


S-ID-PR-51

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.65", 97 DEG 8' 23.17"

WINNIPEG'S FASTEST AND MOST RELIABLE LTE WIRELESS NETWORK FOR THE SECOND YEAR IN A ROW, FOX & FIDDLE



S-ID-PR-52

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.66", 97 DEG 8' 23.12"

CWB



S-ID-PR-53

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.82", 97 DEG 8' 23.67"

GALLERY

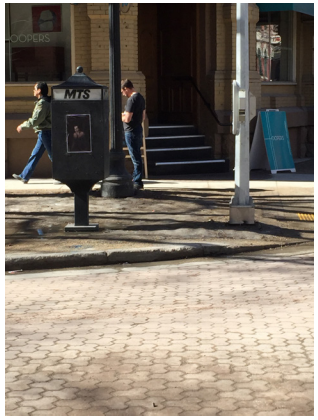


S-ID-PR-54

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.82", 97 DEG 8' 24.19"

WAREHOUSE ARTWORKS



S-ID-PR-55

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.38", 97 DEG 8' 24.93"

MTS



S-ID-PR-56

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.55", 97 DEG 8' 25.51"

HOOPERS



S-ID-PR-57

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.55", 97 DEG 8' 25.51"

THE TELEGRAM BUILDING 70 ALBERT ST.



S-ID-PR-58

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.73", 97 DEG 8' 26.09"

OPEN TARA DAVIS STUDIO BOUTIQUE



S-ID-PR-59

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.73", 97 DEG 8' 26.17"

IMAGINE IGH GAMES & HOBBIES



S-ID-PR-60

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 49.83", 97 DEG 8' 26.22"

IMAGINE



S-ID-PR-61

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.13", 97 DEG 8' 26.61"

250 MERCHANT'S BUILDING



S-ID-PR-62

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.34", 97 DEG 8' 27.29"

WINNIPEG FREE PRESS NEWS CAFÉ
FOOD / DRINK / DEBATE



S-ID-PR-63

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.20", 97 DEG 8' 27.57"

HILARY DRUXMAN



S-ID-PR-64

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.52", 97 DEG 8' 28.42"

WINNIPEG FREE PRESS NEWS CAFÉ

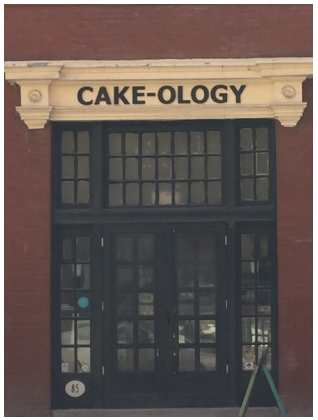


S-ID-PR-65

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 50.58", 97 DEG 8' 28.01"

245 MCDERMOT PAN AM BOXING



S-ID-PR-66

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.39", 97 DEG 8' 27.18"

CAKE-OLOGY



S-ID-PR-67

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.97", 97 DEG 8' 27.02"

92 ARTHUR STREET



S-ID-PR-68

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.47", 97 DEG 8' 26.66"

JAZZ WINNIPEG



S-ID-PR-69

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.49", 97 DEG 8' 26.47"

JAZZ WINNIPEG



S-ID-PR-70

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.81", 97 DEG 8' 26.25"

ARTSPACE



S-ID-PR-71

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.81", 97 DEG 8' 26.25"

ON SCREEN MANITOBA



S-ID-PR-72

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.86", 97 DEG 8' 26.17"

100 ARTHUR



S-ID-PR-73

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.41", 97 DEG 8' 27.16"

ARTSPACE



S-ID-PR-74

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.66", 97 DEG 8' 27.65"

REISS



S-ID-PR-75

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.63", 97 DEG 8' 27.65"

PARK



S-ID-PR-76

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.63", 97 DEG 8' 27.65"

P



S-ID-PR-77

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 54.17", 97 DEG 8' 27.35"

PEASANT COOKERY



S-ID-PR-78

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.67", 97 DEG 8' 25.40"

WCD THE RACHEL BROWNE THEATRE



S-ID-PR-79

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 55.19", 97 DEG 8' 24.60"

EXCHANGE DISTRICT BIZ 133 ALBERT ST.



S-ID-PR-80

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 55.14", 97 DEG 8' 24.49"

RED RIVER COLLEGE



S-ID-PR-81

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 54.79", 97 DEG 8' 24.82"

131



S-ID-PR-82

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.35", 97 DEG 8' 24.71"

ATM OPEN HEALTHY EATING



S-ID-PR-83

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.19", 97 DEG 8' 24.68"

OPEN LATE THE PITA PIT WE DELIVER



S-ID-PR-84

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.14", 97 DEG 8' 24.57"

SUPPORT INDEPENDENT MUSIC



S-ID-PR-85

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.97", 97 DEG 8' 24.52"

WINNIPEG FOLK FESTIVAL MUSIC STORE OPEN



S-ID-PR-86

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.00", 97 DEG 8' 24.60"

WINNIPEG FOLK FESTIVAL MUSIC STORE



S-ID-PR-87

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.74", 97 DEG 8' 24.71"

WINNIPEG FOLK FESTIVAL



S-ID-PR-88

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.33", 97 DEG 8' 23.34"

211



S-ID-PR-89

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 53.14", 97 DEG 8' 22.05"

CROCUS



S-ID-PR-90

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.88", 97 DEG 8' 21.58"

ANTIQUES & FUNK, DRINK COCA-COLA



S-ID-PR-91

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.95", 97 DEG 8' 21.58"

THE PITA PIT, ROUTE



S-ID-PR-92

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.88", 97 DEG 8' 21.42"

BERNS & BLACK 468 MAIN STREET



S-ID-PR-93

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.34", 97 DEG 8' 20.15"

WOODBINE HOTEL



S-ID-PR-94

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 52.04", 97 DEG 8' 19.91"

DIRECT CASH ATM



S-ID-PR-95

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.78", 97 DEG 8' 19.96"

FOUR SIXTY MAIN



S-ID-PR-96

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.75", 97 DEG 8' 19.96"

TEPLEY LAW OFFICE



S-ID-PR-97

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.61", 97 DEG 8' 19.88"

989-0704 WWW.TEDDANCESTUDIO.
COM CERTIFIED INSTRUCTION
INTERNATIONAL BALLROOM, LATIN-
AMERICAN & NIGHT CLUB DANCING
NO CONTRACTS DROP IN CLASSES
NO PARTNER NEDDED



S-ID-PR-98

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.45", 97 DEG 8' 19.85"

TED MOTYKA DANCE STUDIO



S-ID-PR-99

SIGNAGE
IDENTIFICATION PRIVATE

49 DEG 53' 51.45", 97 DEG 8' 19.85"

FOX & FIDDLE



S-ID-PU-01

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 52.62", 97 DEG 8' 17.60"

MAIN WESTBOUND 11009#



S-ID-PU-02

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 51.49", 97 DEG 8' 12.76"

THE EXCHANGE DISTRICT
BANNATYNE AVENUE



S-ID-PU-03

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 51.33", 97 DEG 8' 11.78"

RORIE ST



S-ID-PU-04

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 50.78", 97 DEG 8' 11.83"

BANNATYNE AVE



S-ID-PU-05

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 48.91", 97 DEG 8' 12.93"

RORIE ST



S-ID-PU-06

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 48.74", 97 DEG 8' 12.93"

THE EXCHANGE DISTRICT
MCDERMOT AVENUE



S-ID-PU-07

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 50.01", 97 DEG 8' 14.44"

RORIE EASTBOUND 11001#



S-ID-PU-08

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 52.18", 97 DEG 8' 19.74"

BANNATYNE AVE



S-ID-PU-09

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 49.50", 97 DEG 8' 12.79"

THE EXCHANGE DISTRICT RORIE
STREET



S-ID-PU-10

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 52.63", 97 DEG 8' 19.77"

BANNATYNE AVE



S-ID-PU-11

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 49.35", 97 DEG 8' 19.05"

MCDERMOT NORTHBOUND 10628#

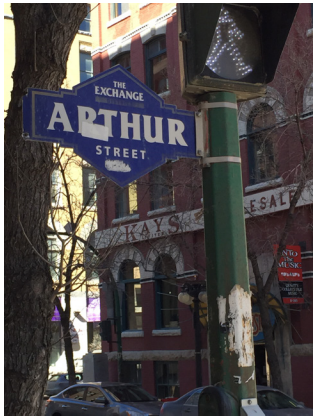


S-ID-PU-12

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 49.60", 97 DEG 8' 21.17"

MAIN EASTBOUND 10623#



S-ID-PU-13

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 50.39", 97 DEG 8' 28.67"

THE EXCHANGE DISTRICT ARTHUR STREET



S-ID-PU-14

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 50.52", 97 DEG 8' 28.42"

THE EXCHANGE MCDERMOT AVENUE



S-ID-PU-15

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 50.39", 97 DEG 8' 20.34"

THE EXCHANGE DISTRICT MAIN STREET



S-ID-PU-16

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 50.08", 97 DEG 8' 20.34"

THE EXCHANGE MCDERMOT AVENUE



S-ID-PU-17

SIGNAGE
IDENTIFICATION PUBLIC

49 DEG 53' 49.99", 97 DEG 8' 24.14"

THE EXCHANGE DISTRICT ALBERT STREET



S-IN-01

SIGNAGE
INTERPERATIVE

49 DEG 53' 53.36", 97 DEG 8' 20.78"

HISTORIC WINNIPEG IMPERIAL BANK OF CANADA 1906

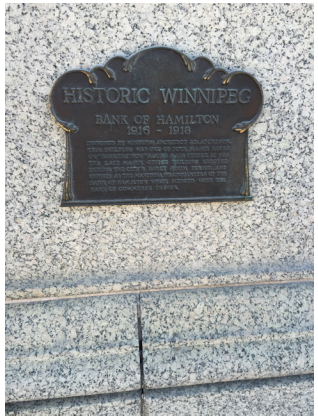


S-IN-02

SIGNAGE
INTERPERATIVE

49 DEG 53' 53.30", 97 DEG 8' 19.93"

HISTORIC WINNIPEG ROWAND BLOCK/CANADA LIFE BUILDING (1886-1974)



S-IN-03

SIGNAGE
INTERPERATIVE

49 DEG 53' 49.39", 97 DEG 8' 18.89"

HISTORIC WINNIPEG BANK OF HAMILTON 1916-1918

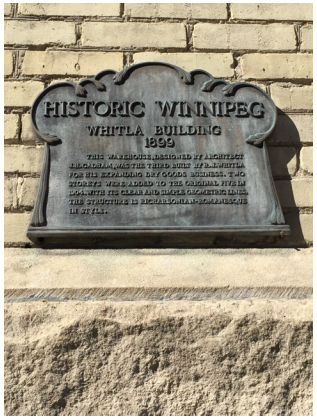


S-IN-04

SIGNAGE
INTERPERATIVE

49 DEG 53' 49.01", 97 DEG 8' 13.37"

CUSTOMS EXAMINING WAREHOUSE-1911

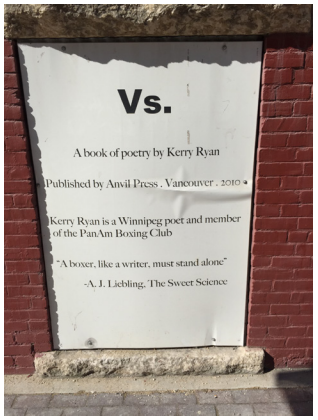


S-IN-05

SIGNAGE
INTERPERATIVE

49 DEG 53' 50.28", 97 DEG 8' 28.61"

HISTORIC WINNIPEG WHITLA BUILDING 1899



S-IN-06

SIGNAGE
INTERPERATIVE

49 DEG 53' 50.91", 97 DEG 8' 28.04"

VS.



S-IN-07

SIGNAGE
INTERPERATIVE

49 DEG 53' 50.85", 97 DEG 8' 28.09"

HOOK



S-IN-08

SIGNAGE
INTERPERATIVE

49 DEG 53' 50.68", 97 DEG 8' 19.91"

EARLY SKYSCRAPERS IN WINNIPEG



S-PR-01

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.72", 97 DEG 8' 18.48"

FIRST CLASS FINISHED OFFICE SPACE FOR LEASE 204 943 1600



S-PR-02

SIGNAGE
PROMOTIONAL

49 DEG 53' 51.46", 97 DEG 8' 19.66"

OLD DUTCH, HAAGEN DAZS



S-PR-03

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.34", 97 DEG 8' 15.24"

THE MITCHELL BLOCK DELICIOUS PASTA MADE FRESH DAILY



S-PR-04

SIGNAGE
PROMOTIONAL

49 DEG 53' 51.93", 97 DEG 8' 20.26"

AVAILABLE 204.947.2242



S-PR-05

SIGNAGE
PROMOTIONAL

49 DEG 53' 51.46", 97 DEG 8' 11.75"

BOON BURGER CAFÉ



S-PR-06

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.62", 97 DEG 8' 20.73"

INSTANT ENTRY 30+ IF YOU'RE OVER THIRTY, IT'S NO LINES... EVER!



S-PR-07

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.77", 97 DEG 8' 20.87"

WHISKEY DIX $3.50 HAPPY HOUR BEFORE 11 PM EVERY FRIDAY AND SATURDAY

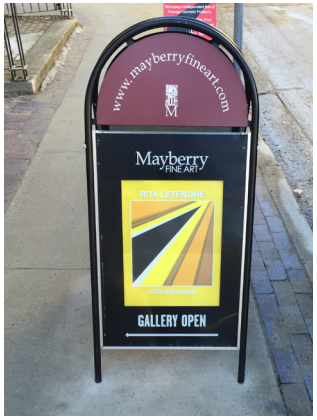


S-PR-08

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.57", 97 DEG 8' 21.77"

MONTHLY PARKING AVAILABLE $185 +GST CALL 944-7539



S-PR-09

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.57", 97 DEG 8' 22.87"

MAYBERRY FINE ART GALLERY OPEN

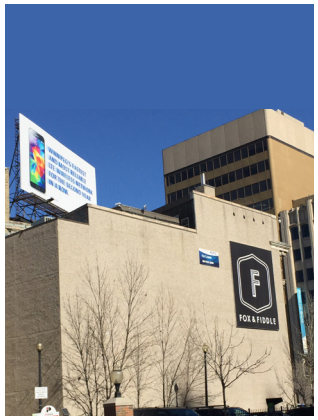


S-PR-10

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.76", 97 DEG 8' 22.98"

PROVICI COSMETICS WINNIPEG'S INDEPENDENT LINE OF PRESTIGE COSMETIC PRODUCTS MAKEUP ARTISTRY FOR FILM, PRINT, KNOWLEDGE, SPECIAL EVENTS, AND PAINTING THE TOWN FABULOUS!

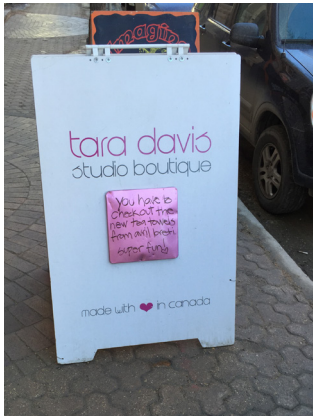


S-PR-11

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.65", 97 DEG 8' 23.17"

WINNIPEG'S FASTEST AND MOST RELIABLE LTE WIRELESS NETWORK FOR THE SECOND YEAR IN A ROW, FOX & FIDDLE



S-PR-12

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.72", 97 DEG 8' 26.06"

TARA DAVID STUDIO BOUTIQUE, YOU HAVE TO CHECK OUT THE NEW TEA TOWELS FROM AVRIL BRETI SUPER FUN! MADE WITH LOVE IN CANADA



S-PR-13

SIGNAGE
PROMOTIONAL

49 DEG 53' 52.81", 97 DEG 8' 26.25"

CINEMATHEQUE



S-PR-14

SIGNAGE
PROMOTIONAL

49 DEG 53' 53.55", 97 DEG 8' 27.51"

-



S-PR-15

SIGNAGE
PROMOTIONAL

49 DEG 53' 54.91", 97 DEG 8' 24.82"

SMOKE'S POUNTERIE NEW CHICKEN BACON RANCH POUTINE



S-PR-16

SIGNAGE
PROMOTIONAL

49 DEG 53' 53.35", 97 DEG 8' 24.74"

THE PITA PIT GET IN HERE FOR A SMOOTHIE



S-PR-17

SIGNAGE
PROMOTIONAL

49 DEG 53' 53.10", 97 DEG 8' 21.88"

COMMERCIAL CONDO UNITES 301-10,003 SQ FT FOR SALE



S-PR-18

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.93", 97 DEG 8' 23.20"

IMPARK HOURLY MONTHLY EVENING PARKING AVAILABLE



S-PR-19

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.97", 97 DEG 8' 23.31"

TINY FEAST MODERN GOODS FOR THE WORKSPACE AND HOME



S-PR-20

SIGNAGE
PROMOTIONAL

49 DEG 53' 49.94", 97 DEG 8' 25.32"

EVERY THURSDAY AND FRIDAY SANDWICHEZ AVAILABLE



S-PR-21

SIGNAGE
PROMOTIONAL

49 DEG 53' 50.12", 97 DEG 8' 26.28"

OPEN ORDNRY THE WKND HAIR SALON WALKINS WELCOME



S-PR-22

SIGNAGE
PROMOTIONAL

49 DEG 53' 51.24", 97 DEG 8' 27.02"

CAKE SLICE SIZES



S-PR-23

SIGNAGE
PROMOTIONAL

49 DEG 53' 51.68", 97 DEG 8' 26.69"

NOW PRESENTING DINNER & A MOVIE, BODEGOES



S-RG-PD-01

SIGNAGE
REGULATORY PEDESTRIAN

49 DEG 53' 51.70", 97 DEG 8' 16.33"

PEDESTRIANS WATCH FOR VEHICLES EXITING THE PARKADE



S-RG-PD-02

SIGNAGE
REGULATORY PEDESTRIAN

49 DEG 53' 49.68", 97 DEG 8' 12.49"

-



S-RG-PD-03

SIGNAGE
REGULATORY PEDESTRIAN

49 DEG 53' 53.00", 97 DEG 8' 20.23"

NO SKATEBOARDING



S-RG-PD-04

SIGNAGE
REGULATORY PEDESTRIAN

49 DEG 53' 51.49", 97 DEG 8' 11.86"

-



S-RG-PD-05

SIGNAGE
REGULATORY PEDESTRIAN

49 DEG 53' 54.43", 97 DEG 8' 25.10"

NO SKATEBOARDING



S-RG-PR-01

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 52.97", 97 DEG 8' 18.89"

IMPARK EVENINGS 6 PM - 6 AM $4.00 & ALL DAY SATURDAYS SUNDAYS & HOLIDAYS



S-RG-PR-02

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 52.40", 97 DEG 8' 17.38"

DO NOT ENTER ENQUIRE OFFICES



S-RG-PR-03

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 51.70", 97 DEG 8' 16.33"

PEDESTRIANS WATCH FOR VEHICLES EXITING THE PARKADE



S-RG-PR-04

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 49.97", 97 DEG 8' 12.96"

UNAUTHORIZED PARKING PROHIBITED; PRIVATE PROPERTY; TURN YOUR ENGINE OFF



S-RG-PR-05

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 51.82", 97 DEG 8' 16.55"

IMPARK EVENINGS 6 PM - 6 AM $6.00 FLAT RATE EACH DAY SATURDAY, SUNDAY AND HOLIDAYS (6AM-6PM) $6.00 FLAT RATE RESERVED MONTHLY PARKING ONLY MONDAY-FRIDAY 6 AM - 6 PM PLEASE READ THIS CAREFULLY... THIS IS PRIVATE PROPERTY



S-RG-PR-06

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 51.97", 97 DEG 8' 16.42"

NO THOROUGHFARE



S-RG-PR-07

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 51.04", 97 DEG 8' 12.63"

IMPARK



S-RG-PR-08

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 51.12", 97 DEG 8' 19.19"

HIGH WINDS! PLEASE CLOSE THE DOOR BEHIND YOU. THANKS!



S-RG-PR-09

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 52.53", 97 DEG 8' 17.27"

NO SMOKING



S-RG-PR-10

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 50.10", 97 DEG 8' 16.80"

ENTER ONLY, UNAUTHORIZED PARKING PROHIBITED, EXIT ONLY



S-RG-PR-11

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 49.72", 97 DEG 8' 14.30"

UNAUTHORIZED PARKING PROHIBITED



S-RG-PR-12

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 49.71", 97 DEG 8' 14.25"

RATES



S-RG-PR-13

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 49.88", 97 DEG 8' 14.36"

METER OUT OF ORDER PLEASE USE OTHER



S-RG-PR-14

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 49.50", 97 DEG 8' 16.75"

FOR ACCESS TO STAIRWELL



S-RG-PR-15

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 49.98", 97 DEG 8' 17.32"

DELIVERY VEHICLES PLEASE
SHUT OFF YOUR ENGINES WHILE
UNLOADING



S-RG-PR-16

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 49.47", 97 DEG 8' 21.88"

WHISKEY DIX PRIVATE PROPERTY
NO PARKING YOUR VEHICLE WILL
BOOTED AND FINED $50.00



S-RG-PR-17

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 49.58", 97 DEG 8' 22.87"

LOOK UP AND SMILE, YOU ARE ON
VIDEO



S-RG-PR-18

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 51.27", 97 DEG 8' 27.60"

UNAUTHORIZED PARKING
PROHIBITED



S-RG-PR-19

SIGNAGE
REGULATORY PRIVATE

49 DEG 53' 53.87", 97 DEG 8' 24.88"

METERS IN EFFECT 24 HOURS
PATROLLED BY IMPARK VIOLATORS
WILL BE TICKETED AND OR TOWED



S-RG-SF-01

SIGNAGE
REGULATORY SAFETY

49 DEG 53' 51.48", 97 DEG 8' 14.08"

FIRE DEPARTMENT CONNECTION
SUPPLIES SPRINKLERS AND
STANDPIPE SYSTEM FROM 167 TO 179
BANNATYNE AVENUE



S-RG-SF-02

SIGNAGE
REGULATORY SAFETY

49 DEG 53' 49.25", 97 DEG 8' 15.57"

FIRE DEPARTMENT CONNECTION
AUTO SPRINKLER



S-RG-SF-03

SIGNAGE
REGULATORY SAFETY

49 DEG 53' 49.16", 97 DEG 8' 18.04"

THIS FIRE DEPT. CONNECTION DOES NOT FEED A DRY STANDPIPE IT FEEDS A COMBINED AUTO SPRINKLER/ STANDPIPE



S-RG-SF-04

SIGNAGE
REGULATORY SAFETY

49 DEG 53' 51.23", 97 DEG 8' 19.19"

FIRE DEPARTMENT CONNECTION AUTO SPRINKLER STANDPIPE



S-RG-VE-01

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 52.56", 97 DEG 8' 17.68"

SNOW ROUTE; ONE WAY



S-RG-VE-02

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.97", 97 DEG 8' 12.96"

UNAUTHORIZED PARKING PROHIBITED; PRIVATE PROPERTY; TURN YOUR ENGINE OFF



S-RG-VE-03

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.82", 97 DEG 8' 16.06"

2 H 08:00-17:30 MON-SAT; PERMIT REQUIRED



S-RG-VE-04

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.39", 97 DEG 8' 18.78"

P>; ONE WAY



S-RG-VE-05

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 51.46", 97 DEG 8' 19.63"

40 KM/H



S-RG-VE-06

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 51.82", 97 DEG 8' 16.55"

IMPARK EVENINGS 6 PM - 6 AM $6.00 FLAT RATE EACH DAY SATURDAY, SUNDAY AND HOLIDAYS (6AM-6PM) $6.00 FLAT RATE RESERVED MONTHLY PARKING ONLY MONDAY-FRIDAY 6 AM - 6 PM PLEASE READ THIS CAREFULLY... THIS IS PRIVATE PROPERTY



S-RG-VE-07

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 51.97", 97 DEG 8' 16.42"

NO THOROUGHFARE



S-RG-VE-08

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 51.04", 97 DEG 8' 12.63"

IMPARK



S-RG-VE-09

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.50", 97 DEG 8' 12.79"

-



S-RG-VE-10

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.36", 97 DEG 8' 14.14"

2 H 08:00-17:30 MON-SAT



S-RG-VE-11

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 50.10", 97 DEG 8' 16.80"

ENTER ONLY, UNAUTHORIZED
PARKING PROHIBITED, EXIT ONLY



S-RG-VE-12

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.14", 97 DEG 8' 13.26"

CYCLE ROUTE



S-RG-VE-13

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.72", 97 DEG 8' 14.30"

UNAUTHORIZED PARKING
PROHIBITED



S-RG-VE-14

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.71", 97 DEG 8' 14.25"

RATES



S-RG-VE-15

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.88", 97 DEG 8' 14.36"

METER OUT OF ORDER PLEASE USE OTHER



S-RG-VE-16

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.98", 97 DEG 8' 17.32"

DELIVERY VEHICLES PLEASE SHUT OFF YOUR ENGINES WHILE UNLOADING



S-RG-VE-17

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.35", 97 DEG 8' 19.05"

MCDERMOT NORTHBOUND 10628#



S-RG-VE-18

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 49.47", 97 DEG 8' 21.88"

WHISKEY DIX PRIVATE PROPERTY NO PARKING YOUR VEHICLE WILL BOOTED AND FINED $50.00



S-RG-VE-19

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 51.27", 97 DEG 8' 27.60"

UNAUTHORIZED PARKING PROHIBITED



S-RG-VE-20

SIGNAGE
REGULATORY VEHICLE

49 DEG 53' 53.87", 97 DEG 8' 24.88"

METERS IN EFFECT 24 HOURS PATROLLED BY IMPARK VIOLATORS WILL BE TICKETED AND OR TOWED



IN-AR-01

INTERVENTION
ART

49 DEG 53' 52.82", 97 DEG 8' 18.20"

THE EXCHANGE DISTRICT BIZ
WINNIPEG ARTS COUNCIL ARTIST:
LAURIE GREEN



IN-AR-02

INTERVENTION
ART

49 DEG 53' 49.98", 97 DEG 8' 14.47"

THE EXCHANGE DISTRICT BIZ
WINNIPEG ARTS COUNCIL ARTIST:
JUDITH PANSON



IN-AR-03

INTERVENTION
ART

49 DEG 53' 49.29", 97 DEG 8' 14.82"

-



IN-AR-04

INTERVENTION
ART

49 DEG 53' 50.47", 97 DEG 8' 19.08"

CITY OF WINNIPEG



IN-AR-05

INTERVENTION
ART

49 DEG 53' 52.78", 97 DEG 8' 19.16"

-



IN-AR-06

INTERVENTION
ART

49 DEG 53' 49.64", 97 DEG 8' 20.84"

THE EXCHANGE DISTRICT BIZ
WINNIPEG ARTS COUNCIL ARTIST:
LAURIE GREEN



IN-AR-07

INTERVENTION
ART

49 DEG 53' 49.65", 97 DEG 8' 22.49"

-



IN-AR-08

INTERVENTION
ART

49 DEG 53' 51.12", 97 DEG 8' 27.79"

-

APPENDIX D
KEY CONSIDERATIONS

	Consultation and Research	Planning and Policy	Strategy and Design	Playfinding
Neighbourhood range and independence have been constrained due to parental concerns and planning practice		x		
Edmonton is the only major Canadian city with an adopted child-friendly strategy		x		
Children need to be written back into planning theory, be included in decisions about their city, walk safely in their streets on their own, meet friends and play		x		
Occasional range is space frequented by foot, bicycle or public transport, and is dependent on personality, freedom, and attractive destinations		x		
Play space is a focal point that makes a space legible and meaningful				x
Children need social spaces that provide opportunity for interaction and privacy, sometimes seemingly ‘hidden’ from adults			x	x
In exploring, travel is made into unfamiliar territory and success if based on the number of new routes and places a traveler is oriented to			x	
Environmental information is perceived, retrieved from previous experience and inferred from previous experience			x	
In route following, children’s action is in response to cues in the environment			x	
Look back strategies encourage children to see how the path looks from the opposite direction			x	
Adults and children do not always select the same meaningful landmarks		x	x	

	Consultation and Research	Planning and Policy	Strategy and Design	Playfinding
Landmarks are crucial for route learning as children do not learn based on direction until the age of ten		x	x	
Children's wayfinding performance improves when landmarks are labeled		x	x	
Path integration intervention instructs children to try different paths between the same origin and destination to find shortcuts and alternate routes			x	
Paths, barriers, marked routes, and landmarks are key wayfinding interventions for children		x	x	
Cues that indiciate the spatial relationship between salient landmarks are important			x	
Signs should be colourful, easily visible at child's height, easily understood, placed at decision points, and confirm arrival at destinations		x	x	
Wayfinding design models include districts, streets, connectors and landmarks		x	x	
Imposition strategies impose a singular wayfinding identity and work best in sites with contrasting visual elements			x	
A comprehensive plan for the Exchange has never been approved and a secondary plan is listed as "In progress" by the City of Winnipeg	x	x		
The land use mix indicates a diverse, mixed-use neighbourhood, capable of handling a multitude of purposes, especially on undeveloped surface parking lots		x		
Repurposed industrial buildings into residential dwellings suggests an emerging population, which potentially includes families		x		

	Consultation and Research	Planning and Policy	Strategy and Design	Playfinding
It is important to think about why children would be in the Exchange District as places such as museums, schools, playgrounds and community facilities are important for children, and can help create familiar understandings of the neighbourhood		x		
There are no schools or community centres in the area		x		
Main Street effectively splits the neighbourhood into eastern and western portions		x	x	
The majority of the Exchange District is composed of one-way collector roads, typically two to three lanes wide with on-street parking		x	x	
There are on-street painted cycling lanes in portions of the area but there is no complete cycling network		x	x	
Main Street is a major transit route, connecting many areas of the city to the Downtown			x	
Landmarks include; Old Market Square, Red River College Campus, City Hall, the Chinese Cultural Centre, the Centennial Centre, Pantages Theatre and Manitoba Theatre Centre			x	
Surrounding landmarks include the intersection of Portage and Main, the Canadian Museum for Human Rights and the Forks			x	
There are 37 designated heritage buildings within the study area		x	x	
Albert Street provides a connection between Old Market Square and Portage Avenue; Rorie Street links the underground walkway to the Cultural Precinct; Waterfront Drive and trails within Stephen Juba Park connect the Exchange to the Forks; and Bannatyne Avenue and McDermot Avenue connect the east and west sides of the Exchange District			x	
There are overlapping regulatory and administrative boundaries: the National Historic Site, the Exchange District Business Improvement Zone was established by City by-law in 1989. The Exchange District BIZ and the Character Zoning Area		x	x	

	Consultation and Research	Planning and Policy	Strategy and Design	Playfinding
Materials, format and exercise instructions may restrict or bias mental mapping results	x			
Children become quite restless after the 30 minute walk, and one hour drawing exercise	x			
The intention of the Character Sector is to encourage a fine-grain, mixed-use where enforcing built form is of the highest concern			x	
Wayfinding is not addressed in any sort of regulatory manner within the zoning by-law		x		
Maps cannot capture experiences such as smells and sounds	x		x	x
Students may have been overwhelmed and tired by the mid-point of the tour	x			
Students were instructed to be active participants, which may have influenced the level of detail in their maps and notebooks	x			
Public consultation is especially important in heritage areas	x			
Stakeholders include the Exchange District BIZ and the Downtown Winnipeg BIZ, the City of Winnipeg, Winnipeg Arts Council, CentreVenture and R:ED – Residents of the Exchange District	x	x		
Exploring what children find important can lead to innovative ideas	x	x		
Children's artistic expression can suggest improved methods of communication and signage	x	x		

	Consultation and Research	Planning and Policy	Strategy and Design	Playfinding
Recognizable logos and branding from larger corporations appeared more frequently and heritage signs and local advertisements less so			x	
Signs that were in prominent locations, on protruding or three-dimensional surfaces and featured interesting logos were drawn more frequently			x	
Spaces for play, green spaces, and natural environments were drawn frequently		x	x	x
Structures that were not in keeping with the heritage design of the neighbourhood such as the Cube were drawn often		x	x	
Parking lots, parkades and parking meters may be familiar because children are used to being driven, and understand the conventions of parking			x	
Tall buildings and the signs on top, only visible from select locations, were popular images — suggesting that the students were looking up for environmental clues			x	
While buildings were the most commonly drawn landmarks, they were often missing the unique design details that characterize the study area			x	
Other common landmarks included — playgrounds, hotels, and parkades — likely familiar structures and concepts			x	
Some landmarks not in the study area were drawn, suggesting that some students were able to spatially contextualize themselves within the surrounding area			x	
Commonly drawn nodes included: intersections, Old Market Square, and surface parking lots		x	x	
Sidewalks, roads, alleys, dray ways and fences were common edges and paths — children seemed in tune with sense of safety, enclosure, protection, restriction and permission		x	x	

	Consultation and Research	Planning and Policy	Strategy and Design	Playfinding
The walking tour route was often noted, especially the place where the journey began and ended			x	
Sketch maps are a effective way of gathering children's environmental cognition	x			
Frequently recorded words included: street, lounge, hotel, opera, MTS, stop, mailbox, Winnipeg, fox, open, port-a-pottie and poop			x	
Maps do not necessarily imply a link between spatial awareness and freedom and mobility, but can help gather social and environmental information	x			
Additional layers of wayfinding could either enhance or hinder legibility based on over-stimulation			x	
A signage and landmark inventory is frequently used to document existing wayfinding conditions and to unobtrusively generate an intimate and deep knowledge of the site	x			
Whimsical and humorous elements incorporated through illustrations and graphics and Use of children's' drawing and writing style to make it seem as if words were written by kids themselves	x		x	x
There was a surprising lack of public art which may be due to the model in which public art is funded in the City of Winnipeg, or by restrictions placed on the area due to heritage conservation and planning policy		x	x	
There may provide opportunities to be re-imagine or re-interpret older communication interventions into new form of wayfinding communication			x	x
It is important to consider the implications of new technologies on the design and form of the area			x	
Fences all enclosed spaces that could otherwise be public or semi-public such patios, a playgrounds, and alcoves		x	x	

	Consultation and Research	Planning and Policy	Strategy and Design	Playfinding
Typical parking lot wooden fences were so prevalent that they weren't even noticed as interventions			x	
Parking meters serve a singlular function			x	x
A minimal amount of public seating was documented on the sidewalks, which may speak to day-to-day users of the space and concerns about safety and loitering		x		
Street lamps already exist at key points throughout the study area may present opportunities for wayfinding and there are possibilities to find ways to use existing interventions for multiple purposes without adding more interventions that disrupt, overwhelm and destroy character.			x	x
There is are no formal or informal public play spaces in the area		x	x	x
Identification signs came in many forms: neon, flourescent backlit, vinyl sticker, banners, billboards, sandwich boards, and were placed at a pedestrian height and scale			x	
Most signs utilized more modern fonts and designs, rather than heritage-style			x	
Large historic, or ghost signs have not been fully restored or preserved		x		
Public signage was typically standard street names, with a few branded Exchange District BIZ signs throughout the route		x	x	
Promotional signage was quite prevalent, including real estate advertisements, parking advertisements, restaurant and retail promotions			x	
Some historic buildings were marked with plaques, but there was no overall interpretive system within the area		x	x	

	Consultation and Research	Planning and Policy	Strategy and Design	Playfinding
Regulatory signage was mostly designed for vehicles, marking parking, private property, and directions		x	x	
Directional signage was mostly for vehicles and not pedestrians		x	x	
There was no orientational signage in the study area		x	x	
Signage text was in three predominant themes: place, vehicles and permission			x	
Materials significant to the area include brick and stone, in both buildings and interlocking sidewalk surfaces			x	
This inconsistency speaks to the impacts of refurbishment, and there are certainly implications of both destroying and trying to recreate historic elements		x	x	
In general, artwork and postering is regulated to designated spaces		x		
There has been no successful effort to implement an interpretive or navigational strategy to make neighbourhood legible, understandable and navigable		x		
Wayfinding in the area must consider multiple users, functions and the needs of a diverse range of people, businesses and organizations	x	x	x	
Most demographic data shows little to no children residing in the Exchange District	x	x		
Words and images are rendered oversized to draw attention to landmarks and destinations, and are in simple, plain language, incorporating literal directions and instructions that children will understand			x	x

	Consultation and Research	Planning and Policy	Strategy and Design	Playfinding
Frequent repetition of text and graphic patterns			x	
Use of poetry and onomatopoeia			x	x
Oversized sculptural interventions using tactile materials and bright colours			x	x
Use of natural light and shadows to highlight and re-imagine spaces			x	x
Familiar, simple shapes such as circles repeated in various sizes and colours to create a unified scheme			x	
Pictograms in conjunction with words — establish a link between the image and the concept			x	
Illustrated characters and mascots — many connected with animals and other elements of the natural environment			x	
Imagery based around geographic locations and natural features			x	
Simple materials such as paint and vinyl lettering and conventional materials used unconventionally			x	x
Physical progression through space is linked to achievement and success — awarding arrival at destinations and discovery of places, often indicated by numerical or alphabetical markers			x	x
Larger areas separated in zones or districts using distinct but related colours, numbers and pictograms		x	x	

APPENDIX E
ETHICS AND CONSENT

UNIVERSITY OF MANITOBA | Research Ethics and Compliance
Office of the Vice-President (Research and International)

Human Ethics
208-194 Dafoe Road
Winnipeg, MB
Canada R3T 2N2
Phone +204-474-7122
Fax +204-269-7173

APPROVAL CERTIFICATE

October 23, 2014

TO: **Ryan Segal** (Advisor R. Bridgman)
Principal Investigator

FROM: **Susan Frohlick, Chair** [redacted]
Joint-Faculty Research Ethics Board (JFREB)

Re: **Protocol #J2014:144**
"Playfinding: Child-Friendly Wayfinding as a Tool for Children's Independent Mobility in Downtown Winnipeg"

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Please be advised that your above-referenced protocol has received human ethics approval by the **Joint-Faculty Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement (2). **This approval is valid for one year only**.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- **If you have funds pending human ethics approval, please mail/e-mail/fax (261-0325) a copy of this Approval (identifying the related UM Project Number) to the Research Grants Officer in ORS in order to initiate fund setup. (How to find your UM Project Number: http://umanitoba.ca/research/ors/mrt-faq.html#pr0)**

- **if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.**

The Research Quality Management Office may request to review research documentation from this project to demonstrate compliance with this approved protocol and the University of Manitoba *Ethics of Research Involving Humans.*

The Research Ethics Board requests a final report for your study (available at: http://umanitoba.ca/research/orec/ethics/human_ethics_REB_forms_guidelines.html) **in order to be in compliance with Tri-Council Guidelines.**

UNIVERSITY OF MANITOBA | Faculty of Architecture

Department of City Planning
201 Russell Building
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 474-9458
Fax (204) 474-7532

October 28, 2014

Dear student,

My name is Ryan and I am a student at the University of Manitoba in City Planning. I have been thinking about how kids find their way around places that they have never been to and would appreciate your help with my research.

I would like to hold a fun field trip and workshop with your class where you will get to become a top-secret urban explorer for the day. This workshop will not be extra school work. We will spend an afternoon together walking around Downtown Winnipeg, creating top-secret explorer names and then drawing maps and pictures of our experience at a downtown studio. We will do things that city planners and architects do when they are working on projects.

Why are we doing this workshop?
My school work at University is about how kids navigate cities and how signs, buildings and art can help them do it on their own. If you are interested in working together with me, your work will become part of my thesis research. I will scan your drawings and give them back to you to keep and display at school.

What is a thesis?
It is a book that I will write about this project. Part of the book will use the maps and drawings you make. Instead of your real name, you will get to use your new top-secret name on your drawings.

You do not have to participate. If you would prefer not to participate, you teacher will provide you with other assignments. This is your choice. You can decide not to participate at any time during the project and you can ask you teacher or me questions at any time about this research.

If you want to participate, please sign your name below. Your signature indicates that:
1) you have read this letter or had it read to you 2) you understand the information.

Please check one or more of the following points if you AGREE with them:
☐ Ryan can show images of my work
☐ I agree to participate
☐ I understand I can stop participating at any time, and that's okay!

_____ _____

Please print your name Date

Thank you very much for helping with my project!
Ryan Segal

UNIVERSITY OF MANITOBA | Faculty of Architecture

Department of City Planning
201 Russell Building
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 474-9458
Fax (204) 474-7532

October 28, 2014

Dear Parent or Guardian,

My name is Ryan Segal and I am a graduate student in the Department of City Planning at the University of Manitoba. I am conducting thesis research on wayfinding for children. My research is interested in how children navigate urban environments and how city planners and designers can design wayfinding signage and landmarks for children. This work is being supervised by Dr. Rae Bridgman [redacted]. A portion of this research involves a mental mapping exercise with children. I have designed a half-day workshop to work with students in the Exchange District on November 4, 2014. Students will get a guided tour of the area, and then return to a local studio to draw maps and illustrations of their experience.

I would appreciate your permission for your child to participate in this workshop that will be supervised by [redacted]. The costs of the field trip will be covered by the researcher. [redacted] will provide a permission form with further details about schedule, transportation and safety measures for the field trip.

The results of this research will contribute to a final published thesis project that will include the students' hand drawn-maps. Students will be asked to create a 'top-secret urban explorer name' to ensure confidentiality as the names of students and the school will not be included anywhere in the document.

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You are in no way obligated to provide permission for you child to participate. Your child will not be penalized in any way for opting out of the workshop and will be provided other work by their teacher if he/she does not participate. Students will be given the option to participate and withdraw in the exercise at any time. In addition, students can choose to not have their drawings published in the final document at any time, including after the completion of the activity. This can be communicated to [redacted] or by contacting me by phone or email prior to the anticipated Master's practicum completion of April 1, 2015.

I have included a copy of the form that student's will fill out in class. Student's will not be asked to participate or have their drawings published without their assent. If you have any questions about this project, please contact Ryan Segal, the principal researcher, at [redacted] or e-mail umsegalr@myumanitoba.ca.

For more information about the evaluation of this research by the Joint Faculty Research Ethics Board of the University of Manitoba, please contact Margaret Bowman, Human Ethics Coordinator, at 208 - 194 Dafoe Road (CTC Building), or by e-mail to Margaret.Bowman@umanitoba.ca or by fax to 269-7173.

Thank you for considering my request for your child's participation in this field trip and workshop. Please sign this form and return it to [redacted].

Sincerely,
Ryan Segal, Master of City Planning (Candidate), University of Manitoba

Name of parent/guardian _____ Signature _____

Date _____

PANEL ON
RESEARCH ETHICS

Navigating the ethics of human research

TCPS 2: CORE

Certificate of Completion

This document certifies that

Ryan Segal

has completed the Tri-Council Policy Statement:
Ethical Conduct for Research Involving Humans
Course on Research Ethics (TCPS 2: CORE)

Date of Issue: **7 April, 2014**

APPENDIX F
COPYRIGHT PERMISSION

SAMPLE LETTER

SUBJECT LINE: Copyright permission request for image

Attention: Permissions Manager

I am requesting permission to include in my graduate practicum the following:

AUTHORS OR CREATORS OF THE ARTICLE/CHAPTER/EXCERPT/IMAGE (YEAR OF THE WORK). TITLE OF THE ARTICLE/CHAPTER/EXCERPT/IMAGE. *JOURNAL OR BOOK OR WEB SITE THE WORK APPEARS IN*. ISBN/ISSN. PUBLISHER. JOURNAL VOLUME, ISSUE, PAGE NUMBERS. URL OF THE WORK.

My thesis, entitled *Playfinding: Child-Friendly Wayfinding as a Tool for Children's Independent Mobility in the Exchange District of Winnipeg*, is part of the requirements needed to graduate from the Faculty of Graduate Studies at the University of Manitoba.

My thesis will be posted electronically and will be accessible for free to a worldwide audience from the University of Manitoba's digital repository called MSpace located at http://mspace.lib.umanitoba.ca/index.jsp and from Library and Archives Canada's Theses Portal located at http://www.collectionscanada.gc.ca/thesescanada/index-e.html. I do not expect any commercial profits from my thesis.

Please reply to confirm if you are the copyright owner of the work and if permission is granted to include it in my practicum. A citation and permission statement will appear with the work.

If you do not control the copyright on the above-mentioned work, I would appreciate any contact information you can provide regarding the proper rights holder.

Thank you for your consideration. If you require further information, please don't hesitate to contact me.

Ryan Segal, Master of City Planning (Candidate)
Department of City Planning, Faculty of Architecture, University of Manitoba