Urban Fragmentation
in Winnipeg

A practicum submitted to the Faculty of Graduate Studies
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By Yoshihiro Yabe

Department of Landscape Architecture
University of Manitoba

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Abstract

Winnipeg is a spatially, culturally, psychologically and visually fragmented city, particularly due to the vehicular-oriented growth which has engendered segmented land-use, dismantled walkable networks and provoked disconnection between culture and nature as well as within nature itself. In particular, the displacement of daily life from the complex web of interrelationships in ecosystems, which are essentially the mechanisms supporting our existence, should be the primary concern of urban design. In order to resolve this critical issue, this practicum will isolate and examine a problematic site while deconstructing fragmentation into specific causes, namely pollution, habitat degradation, placelessness and lack of urban ecological education. Concluding that this condition is ultimately created by our own fragmented thinking, the production of pragmatic solutions which continually evoke further fragmentation, I present a series of solutions to these challenges in the form of a landscape architectural design proposal for the City of Winnipeg.
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All photographs, diagrams, drawings and tables are the work of the author unless otherwise stated.
Introduction
Introduction

Part of a long journey to develop sustainable landscape design...

“Preserving stability is a constant fight, it’s hell. Nature teaches us the idea of flux” (Clément, 2005, p. 134).

It has been nearly ten years since I started thinking about the consequences of sustainability in landscape design. These initial thoughts formed the basis of my previous thesis project, entitled The guide for sustainable rural landscape design in a mountain region, a case study in the Nakanosawa village, Nishi-Aizu town, Fukushima-prefecture, Japan (Yabe, 2003). In this research, the primary intention was to discover how the traditional Japanese village called satoyama established the permaculture lifestyle, which has been lost in contemporary society due to the process of industrialization. This project was executed through historical research from an ecological perspective on the case study of the village. The most significant discovery was that the land use system in the satoyama bound together the life cycle of the humans with the mountain ecosystems to sustain an equilibrium between the amount of energy that people consume and the amount of energy that nature produces. Moreover, this coexistence is also manifested on a spiritual level through the many mysterious stories, taboos, festivals and sacred places, such as shrines and graves, which were developed with the sense of the beauty inherent in life. The Aizu-Nousho, a text written in 1684 which pertains to the instruction of agriculture in the Aizu region, described rules and the necessary philosophy to accept the fluctuations of nature, introducing several stories of success and failure derived from history. These instructions included criteria for choosing a site for the construction of a house, deciding on building layout, and planting the most suitable species of trees in the front yard. These teachings were set to music to form a song which assisted the wider dissemination of this information to the public, thereby promoting the precise manner of sustainable thinking as a more common ethic in this region. All of the effort to develop and distribute this knowledge was intended to ensure the survival of the humans in this region, enabling them to adjust with the flux of nature, and ultimately to sustain a state of coexistence. Since there were no machines to overtake nature at this time, people had to acknowledge that they must respect and properly associate with nature in order to reap its benefits. In this manner, spirituality, or folk culture was not superstition; rather, it was ancestral wisdom intended to allow people to negotiate the harshness of nature. This cultural maturity is necessary in order to achieve sustainable landscape design. While many great examples such as the satoyama can be found all over the world, the sheer scale and complexity of contemporary
populations and economic systems make the application of these traditional systems impossible to apply in today’s world. As a result, we need to modify, adjust, and invent new methods derived from past knowledge to fit the demands our current society into the future. As history has proven, it would require more experimentation to discover the successes as well as the failures, and culture must mature to reach this stage of coexistence. Therefore, I hope this practicum, about imagining sustainable urban design development, will provide an inspiring contribution to this long journey.

**Sustainable urban design solution for Winnipeg: compact, walkable city**

“Today’s North American cities seem to have been built to make walking difficult. This may be having drastic effects on our health, just as the concomitant reliance on petroleum-fueled transport is having disastrous effects on our planet.” (Soderstrom, 2008, p. 27)

“Workplaces are isolated in office or industrial parks, so that workers must drive to run errands or to go out to lunch. Stores are separated from neighbourhoods and from each other, so that shoppers cannot complete errands on foot, but must instead drive from one store to the next. People are isolated in residential neighbourhoods, in which their homes are increasingly likely to offer the amenities and entertainment options that used to be available only in public spaces.” (Schmitz & Scully, 2007, pp. 2-3)

Future urban design must sustain our cities economically, culturally, and ecologically. The city has to develop a more compact efficient form in order to conserve energy. Urban sprawl which has emerged from the vehicle-oriented design of the 20th century has provoked numerous urban issues since the early 1900s. The concentration of poverty, the successive disparity in wealth, an increase in crime rates, the deterioration of urban ecology and the invasion of habitat, the heat island effect, the contamination of air, soil and water, several common health problems such as asthma and diabetes, and the decline of small businesses, are common symptoms of vehicle-oriented cities, and none of these factors are good ingredients for future urban development. Unfortunately, many of these issues are prominent in Winnipeg which is the location for the site of this practicum. Since moving to this city from Tokyo nearly four years ago, I have observed Winnipeg from three perspectives: as an outsider, as a citizen, and as a landscape architect. Living in the extreme climate without owning a vehicle has been a great opportunity for me to gain awareness of a fundamental function of the urban infrastructure: the essential value of the walkable city. In Winnipeg, there is a disparity between drivers and pedestrians where situations in which paths crossed were usually resolved to benefit the vehicular traffic. Although such issues have long been discussed in the discipline of urban planning, the reality is
that the majority of people rely heavily on cars, trucks and vans to move around the city. This is simply because the urban infrastructure was made specifically for vehicles, so that driving has many more benefits over walking and taking public transportation. According to the Statistics Canada Census of 2006, 68% of the population in Winnipeg drove a vehicle to commute to the workplace, with an additional 9% riding as passengers in private vehicles, thereby producing a total of 77% of people who use vehicles as transportation for commuting to their jobs (City of Winnipeg, 2006). To change this unhealthy reliance on private vehicles, the City of Winnipeg has recently released a 25-year vision for the future of the city entitled “Our Winnipeg” (City of Winnipeg, 2011), which was approved by City Council in 2011. This document is composed of a strategic plan involving transportation strategies, mixed-used communities, a sustainable water and waste plan, which is intended to harmonize the economical, social, environmental sustainability through new urban development. It states: “We will provide the option of ‘aging in place’ by providing complete, walkable communities with multiple housing options, communities where people can be close to various employment opportunities and remain as connected and independent as possible” (City of Winnipeg, 2011, p. 18). Although this vision aims to evoke a bright and hopeful future, landscape architects must really think carefully about how design might actually be employed to help to achieve this target. The predominant issue that I can see rising from this scenario is based on the difference between the ideology of the written vision and the actual quality of the constructed work due to the abstract or pragmatic nature of design itself. To avoid this problem, it is important to establish a method of self-critique administered by the designer to evaluate the proposal, since there is a natural tendency between practitioners to rationalize and embellish our work. Therefore, Urban Fragmentation, is meant not only to address urban design issues in Winnipeg, but it also is seen as a way of validating the process of sustainable urban development.

**Fragmentation as a key aspect for validating the process of urban design**

The title of this practicum, Urban Fragmentation, represents major concerns manifested in the selected project site as well as the fundamental concept used to validate this approach to urban design. The meaning of fragmentation in this practicum project varies. The general definition of this word is “the process or state of breaking or being broken into fragments” (Oxford Dictionaries, 2011). Vroom (2006) introduced a compilation of interpretations of the term fragmentation from several controversial perspectives in landscape architecture:

Landscape fragmentation on a regional scale is a different matter. Expanding linear settlements, new roads, railways and expanding airport runways are
increasingly cutting into the existing fabric, thereby fragmenting space (Yap Hong Sen 2000). From an economic point of view, this means damage to properties; from an ecological point of view it means the destruction of habitats. The remnants of land left behind are smaller, as are local plant and animal populations, while ecological patches become more thinly spread. The variation in quality of habitats decreases (Opdam 1993). Whenever it is impossible to stop the fragmentation caused by activities such as road construction, Dutch planning rules call for ‘defragmentation’ of the landscape, which is achieved through so-called compensatory measures which are financed out of the road construction budget. Such measures involve the acquisition of land near a new road and the on-the-spot transformation of agricultural land into ‘new nature’. These measures may or may not improve ecological conditions or stop defragmentation, but they apparently satisfy many people. Landscape fragmentation is also a problem in the visual sense. Open spaces become smaller, and variations in scale diminish. Landscape architects attempt to counter this effect by using design tools such as perspective views and contrasting elements (Kerstra 1990). (Vroom, 2006, pp. 127-128)

This understanding of fragmentation seems to describe the issue of the urban landscape in Winnipeg. Urban design in Winnipeg is structurally, culturally, psychologically and visually fragmented, particularly due to the vehicle-oriented growth which has led to segmented land use. In turn, this has disconnected walkable networks and provoked the disconnection between culture and nature as well as the interconnection within nature itself. The project site discovered through the explorations of the city was a prominent example of fragmentation. This practicum explores the following topics to describe the reasons why urban fragmentation is one of the essential issues in Winnipeg’s urban design, and to explain the significance of developing a critical perspective on urban fragmentation for the design process: Chapter 1 introduces the chosen site and its status quo, and discusses its potential future development. Chapter 2 describes the history of urban fragmentation in Winnipeg through the review of historical analyses. Chapter 3 discusses the reasons why we must be sensitive about urban ecological issues from the perspectives of ecological education, and explains the importance of revealing more opportunities for ecological education within urban setting. Chapter 4 explores an effective resolution strategy through a study of city parks and their strong potential in targeting these issues, and discusses the difficulty in moving toward sustainable and walkable urban development in Winnipeg, from historical and statistical analysis as well as my former experience with a central city invigoration activity in Japan. Chapter 5 begins by presenting a preliminary sketch design which applied to a self-critique from multiple perspectives. It clearly extracts the site issues for consideration: fragmented visual connection, fragmented nature (the urban desert issue), and fragmented memory (the
issue of placelessness). Chapter 6 reviews the design language, which have developed through my education at the University of Manitoba, and explores the development of a vocabulary for the site design. Chapter 7 shows the design process for a specific site within the master plan, describing the way in which the previous considerations were accommodated. In the final section, Chapter 8, the conceived designs are introduced graphically along with the intention for each portion of the site and validated by the criteria developed over the course of this practicum. In conclusion, it will review the benefits of using Urban Fragmentation as key aspect to validate urban design, and the danger of solely pragmatic design and its propensity to continuously evoke urban fragmentation, emphasizing the importance of carefully-considered design resolutions for future urban development within Winnipeg’s urban fabric.
Chapter 1. Site Exploration
Site Exploration

*Encountering urban fragmentation*

Exploring different pathways for biking or walking has been my favorite weekend activity in Winnipeg, and became the method to discover the site for the practicum project. The exploration began with taking the cycling map (City of Winnipeg, 2009), which the City of Winnipeg has been promoting as part of an active transportation network since 2009, and drawing several lines between the Forks and other popular and significant destinations in the city. Preference was given to routes where vehicular traffic was less heavy and paths that provided better potential for a river view. To form an idea of popular and/or important scenery in Winnipeg, I consulted the book Winnipeg Walks (Prairie Pathfinders, 2004) published by an organization which provides walking tours through the city. The realization after this investigation was that many parts of these pathways are in direct contact with the vehicular roadway, and that there are not many locations for the public to stop and observe the most iconic view of the city: the downtown skyline from across the Red River.

During a bike ride one day, I sought to discover a spot from which to view the river on my way to The Forks as I tried to find the pathway on the west side of the Red River which was marked on the City’s cycling map. I eventually found this path after getting lost and continually consulting the map, the entrance was not only difficult to locate and the pathway itself was dark and scary since it was largely cast in shadows by the massive concrete structure of a high raised railway and the riparian forest. I slowly moved along the trail, paying full attention to my surroundings since I felt worried about being robbed or attacked. The reason for this anxiety was due to the fact that I knew the only another access to this path was around 5,000 feet away from the point I had just entered. However, after I began to move through the forest, my feelings were totally changed due to the uncultivated atmosphere of this path. Hidden and isolated, this trail constitutes a completely different world from its surroundings (Figure 1.1 to 1.9). Slightly undulating topography creates an interesting sequence of views on the path; simultaneously, trees and shrubs rhythmically conceal and reveal the Red River. Alongside the railway, between the river and the mound built to elevate the tracks, this secret path is concealed from the surrounding areas. The sounds and views of the city are blocked by the railway dyke, which enhances the otherworldly atmosphere of this unique site. The diversity and riparian texture of the scenery along this pathway are very attractive. Several smaller paths branch off from the main trail, and as I explored these subsidiaries I noticed that my focus began to narrow as the taller bushes framed the pathway more tightly and narrowed my perspective. While encompassed by this vegetation, my attention was centered on the detailed texture of the plants. From my line of sight, I could see only sky and shrubs, and the sounds of
vehicles and trains seemed very distant. I felt the flow of time passing slowly, which reminded me of experiences from my childhood.

After visiting this path again later, I observed that the lower part of the riverbank had become flooded. Ducks were exploring the brand new spaces created by the water flowing between the trees. The lapping waves were quite tranquil, and I was amazed to discover through my research later on that these calm movements belie the strong energy of the river to flood vast areas, and to carve the land and fell huge trees through its erosive action. The diverse expression of this place completely attracted me, and I became interested in the spatial relationship between this site and its surroundings. Opening the aerial photo of the site, I was surprised to discover that part of this pathway is located immediately adjacent to Osborne Junction, a location I had always been interested in as a potential site for re-design. The Junction is the largest bus transfer station for all of my activities in the city, and I would consider it to be one of the most highly-travelled nodes for many people within Winnipeg. While waiting for the bus there, I knew that the river was located nearby and I really wanted to find it, especially to observe this view during a beautiful sunset. Unfortunately, I was not able to find a way to the river until my aforementioned exploration of the city bike path system which seemed ironically appropriate in the Osborne Junction area which has long been nicknamed Confusion Corner. Access to the river from Osborne Junction comprised a very unpleasant and confusing route: Figure 1.10 shows my intuitive feeling towards the location of the Red River while I awaited a bus at the Osborne Junction. The map in Figure 1.11 indicates the direction of the view in Figure 1.10. To see the river, since there is no direct connection, people must circumvent obstacles in the following route (Figure 1.17):

1. Pass below the rail line (Figure 1.12),
2. Turn at the corner of this building, which offers no signs of the river (Figure 1.13),
3. Pass thorough an open space (the river can only be seen from this space after the trees have dropped their leaves) (Figure 1.14),
4. Enter the gravel path (Figure 1.15),
5. And finally access the spot with the expansive river view (Figure 1.16).

Unless people live in this area and are familiar with its geography, most of the public would not be able to reach the river from Osborne Junction, because of a lack of awareness about the location of the river or unwillingness to cross the many obstacles blocking the path. As a result, I began to consider the possibility of introducing a link between these two sites: if there was a smooth connection between Osborne Junction and the river pathway, it would potentially bring activity to the river and create an attraction to stimulate the development of a walkable city. This notion could capitalize on existing features: the path I discovered is also introduced in the book Winnipeg Walks as part of the Churchill Parkway which is nearly 8 kilometers in length, and already connects significant sites along the Red River from the Elm
Park Foot Bridge to the Forks. However, the atmosphere of Osborne Junction and the character of the Churchill Parkway are in direct conflict with one another: while the former is chaotic, a high-traffic concrete desert in an urban setting, the latter is an attractive scenic environment, albeit hidden and isolated from its surroundings. The riverside parkway retained its naturalistic atmosphere due to the concealing effect of the railway embankment, qualities that I noticed from my experiences of this site and that I appreciate and enjoy. In terms of nature preservation, this hidden condition might retain riparian habitat; on the other hand, this parkway offers great potential as a public space for urban recreation and ecological education. Even if people experience it for just a few minutes while waiting for a bus, this parkway provides the opportunity to see the impressive river view. While I was pondering these inquiries by myself, I found an inspirational photograph on the City of Winnipeg’s website (Figure 1.18). As of 2009, the City is in the process of constructing a rapid transit thoroughfare alongside the rail corridor which runs beside the Churchill Parkway. This photo, which was taken for the purpose of documenting the construction of this site, captured the fragmentation between the two different parts of this landscape: the hidden forest of the river path is divided from the brutal asphalt and concrete strip of roadside retail and its associated parking lots by the railway, the six-lane roadway, and the newest development of the rapid transit way, elements which are intended to create a transportation connection yet ironically sever connectivity in this area. At this moment, my emerging awareness of this condition resulted in the selection of Urban Fragmentation as the title for this practicum project.

The fragmented urban landscape represents our society’s fragmented way of thinking about ecology. Why is our existence so separate from nature? Why is it that we conceive of the relationship between culture and nature as a duality, rather than a nested structure in which culture operates within the realm of nature? Why is the definition of “human being” discrete from the word “animal”? From re-visiting my former thesis project, which was mentioned briefly in the Introduction, I began to reconsider the lives of people in pre-industrial situations whose thinking drew them into a relationship whereby they were part of nature. To them, the relationship between culture and nature was not parallel; culture was embedded within nature. I think that urban landscape design, which we unconsciously see, touch, smell, hear, experience, and remember through daily life, engenders our common sense of fragmented thinking. I strongly believe that we need to re-establish this connection once again. Therefore, to explore and discuss these controversial inquiries in detail, I decided to select this site for my practicum project. The careful observation of the design process and repetitive validation of the conceived design would generate more detailed questions to challenge this dichotomy in urban design, and would contribute towards guiding the future role of landscape architects. In this chapter, I began by examining the potential activities if Osborne Junction and the Churchill Parkway were smoothly connected.
Site potential

As previously mentioned, Osborne Junction is commonly referred to as Confusion Corner. This is due to the fact that a number of major routes converge at this point and it is often difficult and confusing for users of the site to navigate their way through it (Figure 1.20). The Junction is also a primary hub for public bus transportation. The addition of the new rapid transit station will undoubtedly intensify the congestion of this site (Figure 1.21). In contrast, the Churchill Parkway, which is hidden by the railway, possesses a quiet atmosphere. Since this pathway is part of a regional riparian corridor (Figure 1.22), it comprises a significant urban ecological habitat for conservation; in turn, it is also a great urban recreational opportunity (Figure 1.23). The Parkway is also considered an important connection for pedestrians and cyclists linking Kingston Crescent and the River View community to the Forks and downtown. The site also holds tremendous potential for urban ecological education where people could witness the unique nature of Winnipeg, including the observation of flooding in the summer, the frozen river in the winter and ice break-up in the spring. The entire accessible area of the Parkway fluctuates within a 10 to 20 meter span depending on the water level of the river. There are several locations where the river is clearly visible.
Figure 1.19 Regional context: Site location

Figure 1.20 Major streets

Figure 1.21 Rapid transit

Figure 1.22 Riparian corridor

Figure 1.23 Regional recreation
Figure 1.24

Osborne Junction
New Connection
Forks
Isolated Pathway
5000 ft = 1.5 km
Railway
Rapid Transit Way
Rapid Transit Station
The main issue at hand is that there are not many connections to the Parkway. As previously mentioned, there are currently only two access points for this site located at both extremities of the pathway in between Osborne Junction and The Forks. This isolated condition along the nearly 1.5 km of Parkway evokes an uninviting and inhospitable atmosphere. To improve the atmosphere of this path and make it a desirable place to be, it is of considerable importance to create a new connection at the midpoint of the Parkway (Figure 1.24).
The parkway can be a great connection for pedestrians and cyclists linking Osborne Junction to the Forks and downtown, if the Node A and B are smoothly connected with its surroundings.

Creating these two new connections would contribute to the development of new park network within the neighbourhood.

This new circulation would enhance the pedestrian oriented culture.
This linkage would enable people to access the river, while providing additional eyes on the pathway to increase its safety. This new connection would also contribute to the development of a new park network within the neighbourhood of River-Osborne. In their Strategic Business Plan 2007-2009, the Center Venture Development Cooperation\(^1\) planned to create a new pedestrian bridge across the Assiniboine River linking McFadyen Playground with Fort Rouge Park (Center Venture Development Cooperation, 2007, p. 38). If this proposal is executed, it will generate new pedestrian circulation in this neighborhood, thereby breaking the physical and psychological barrier between the River-Osborne neighbourhood and the community of South Broadway Assiniboine. With this bridge, the new midpoint access on Churchill Parkway put forward in this practicum would eventually extend the park network all the way from the Red River to the Assiniboine River (Figure 1.25 to 1.27). This new circulation network would potentially increase the number of biking or walking commuters and recreationists, who comprise the key components of the sustainable urban development which the City aspires to create. Thinking at a slightly larger scale, this circulation could connect several significant city attractions such as the shopping district in Osborne Village, the Legislative building, Upper Fort Gary and The Forks, which are major tourist sites in Winnipeg (Figure 1.28).

\(^1\)The Centre Venture Development Corporation was created in May 1999 by Winnipeg’s City Council to spearhead the revitalization of downtown Winnipeg.
The riverside open space adjacent to Osborne Junction, the former location of a brewery (Figure 1.29), has potential to become a sub-core of the Red River recreation system (Figure 1.30). This open space, located south of The Forks (which serves as a primary node), is separated from this central core by a distance equivalent to the span which exists between The Forks and the next riverside recreational sub-core to the north: the Alexander Docks. Additional sub-cores including the Elm Park Bridge and the Bridge Drive Inn, a popular summer attraction, would draw activity towards the river, and provoke a vibrant regeneration of the city similar to the historical glory of this corridor described in *Winnipeg Walks*:

Until the second World War, most of the Riverview area was taken up with the River Park carnival and exhibition grounds. For Winnipeggers this was the just the place of a day’s outing. The privately owned River Park has a great assortment of attractions including a zoo with lions and tigers, a miniature train, and a roller coaster. Going back even earlier to the 1890s, you read about pleasure seekers riding a ferry across the Red River to the Elm Park fair grounds or Kingston Crescent as it is now called. Here the many amusements included a hike through an enchanted forest. It was obviously an enlightened age because by all reports the walk through towering elms was every bit as popular as any other carnival attraction. (Prairie Pathfinders, 2004, p. 59)
Figure 1.30 Red River recreation core
Osborne junction as cultural node

The new rapid transit station at Osborne Junction (Figure 1.31, 1.32) offers an immense opportunity for the development of a pedestrian culture in Winnipeg. According to the Statistics Canada census of 2006, 32% of the population in the River-Osborne neighborhood uses public transportation, 21% walk, and 3% bike to commute to the workplace, thereby producing a total 56% of the population who are non-vehicle-oriented (City of Winnipeg, 2006). Compared to the statistics for the entire city mentioned previously, which showed a total 77% of the population who are vehicle-oriented, the River-Osborne neighborhood definitely has a much stronger pedestrian-oriented culture. This community’s tendency towards pedestrian transportation should be considered a prime example for future city development and urban culture. The River-Osborne neighborhood consists of a higher percentage of apartment residents. From a total of 2980 dwellings in this area, 2875 are apartments; thereby 96.4% of people in this community do not own a backyard (City of Winnipeg, 2006). This statistic is demonstrative of the tremendous potential demand for public parks,
as well as the strong potential to instill park culture within this neighborhood. With this in mind, the most interesting scenario to create in this area would be to develop a large park on the current site of Osborne Junction. In this strategy, the proposed connection between the Junction and the Churchill Parkway would invite the Riverbottom forest into the park as a primary naturalistic feature. This park should function as a smooth transfer point for each of the different types of flows involved: public transportation, private vehicles, bikes, and pedestrians, in a manner similar to a railway turntable, a feature which previously existed on the site. In this way, Osborne Junction could become a new pedestrian core for the surrounding attractions: Corydon Street, Osborne Street South, and the plans of the new Fort Gary residential development (Figure 1.33). The real challenge for this concept is how to design a park which includes complex transportation nodes. This discussion will continue in Chapter 4.
Figure 1.34 Current access to the Churchill Parkway
Current access to the Churchill Parkway

This section introduces the current conditions of the site. The target area is a long strip of river corridor, from the T intersection of Brandon Avenue and Hay Street on the south side, to the T intersection of Main Street and Stradbrook Avenue at the north. Osborne Junction is included in this area, as if it is attached, or spilled over from the narrow project site of the pathway (Figure 1.34 to 1.40).
Site A
Site A consists of four sections: Site A-1, Osborne Junction; Site A-2, the railway; Site A-3, the riverside open space at the former brewery site; and Site A-4, the riparian forest (Figure 1.41).

Site A-1
The bus stops within Site A-1 are dispersed and poorly connected for pedestrians (Figure 1.42 to 1.46). The shelters of these bus stops are not comfortable to occupy for long periods in the wintertime due to the cold temperatures. The location of these bus stops also causes traffic jams as the bus must stop in the street rather than pull over into a dedicated bus loop, and moreover, transferring passengers can create dangerous situations when they rush across vehicular traffic to catch the next bus. Since there are six major streets which meet at the Junction, it is very difficult for pedestrians to cross over to their destination points. Formerly, a school was located on the central triangular island of Osborne Junction, before it was modified to become a major transit hub. The fact that a neighbourhood educational institution previously occupied this site tends to support the feasibility of creating a recreational core for the surrounding neighborhood in the same location.
Site A-2
Site A-2 serves as a barrier which creates fragmentation between Site A-1 and Site A-3. While fragmentation is not necessarily a desirable condition, this site provides the opportunity for the public to watch the movement of trains and become engaged in the transportation heritage of this site (Figure 1.47 to 1.49).
Figure 1.47 Rapid transit construction photo from http://winnipegtransit.com/en/rapid-transit/current-construction-activities/2010-construction-activities. © The City of Winnipeg. Adopted with permission, December 2, 2011

Figure 1.48

Figure 1.49
Site A-3
Site A-3 comprises two large buildings that are currently in use. These structures were formerly used for industrial purposes (Figure 1.50). At present, the south side of the larger building is employed as office space for several organizations. The ground floor of this building is occupied by the Mulvey Flea Market which attracts many visitors on the weekend when it is open for business. The north side of the building is used by a storage company as well as a pet care company. The larger open space, where the former brewery was located, is currently left as an open space. No remains from this former use were observed during my investigation of the site (Figure 1.51 to 1.54).
Figure 1.54 Plan of the site A-3 in 1957, based on the “Insurance plan of the City of Winnipeg volume 4, plan dated November 1957” by Underwriter’s Survey Bureau, Ltd. (Cartographer), 1957, from Archives of Manitoba (H7. 614.41), Winnipeg, MB.
**Site A-4**

Site A-4 is the Riverbottom Forest (Figure 1.55 to 1.57). According to the City of Winnipeg Naturalist Services (2003), “This Riverbottom forest has many signs of disturbance and has been slightly degraded but is still in reasonably good condition”. The riparian plants observed on this site are listed in the Table 1. Although a few small footpaths to the riverfront could be observed (Figure 1.58, 1.59), only a few extreme mountain bike riders were seen on this pathway during my analysis of the site.

<table>
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<th>common name</th>
<th>species name</th>
<th>common name</th>
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<td>Medicago sativa</td>
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<td>Mustard</td>
<td>Rosa spp. Rose</td>
<td>Curled dock</td>
</tr>
<tr>
<td>Bromus inermis</td>
<td>Smooth brome</td>
<td>Rumex crispus</td>
<td>Peach-leaved willow</td>
</tr>
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<td>Campanula rapunculoides</td>
<td>Creeping bluebell</td>
<td>Salix amygaloideis</td>
<td>Sandbar willow</td>
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<tr>
<td>Caragana arborescens</td>
<td>Common caragana</td>
<td>Salix exigua</td>
<td>Compass plant</td>
</tr>
<tr>
<td>Carex spp. Sedge</td>
<td></td>
<td>Salix spp. Willow</td>
<td>Bittersweet</td>
</tr>
<tr>
<td>Chenopodium album</td>
<td>Lambs-quarters</td>
<td>Silphium lacinatum</td>
<td>Canada goldenrod</td>
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<td>Cirsiurn arvense</td>
<td>Canada thistle</td>
<td>Solanum dulcamara</td>
<td>Perennial sow-thistle</td>
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<td>Hedge bindweed</td>
<td>Solidago canadensis</td>
<td>Western snowberry</td>
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<tr>
<td>Cornus stolonifera</td>
<td>Red osier dogwood</td>
<td>Sonchus arvensis</td>
<td>Dandelion</td>
</tr>
<tr>
<td>Echinocystis lobata</td>
<td>Wild cucumber</td>
<td>Symphoricarpus occidentalis</td>
<td>Tall meadow-rue</td>
</tr>
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<td>Wild rye</td>
<td>Taraxacum officinale</td>
<td>Veiny meadow-rue</td>
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<td>Common horsetail</td>
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<td>Fraxinus pennsylvanica</td>
<td>Green ash</td>
<td>Thalictrum venulosum</td>
<td>Yellow goats-beard</td>
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<tr>
<td>Glechoma hederacea</td>
<td>Gill-over-the-ground</td>
<td>Tilia americana</td>
<td>American elm</td>
</tr>
<tr>
<td>Hesperis matronalis</td>
<td>Dame’s rocket, Dame’s-violet</td>
<td>Tragopogon dubius</td>
<td>Siberian elm</td>
</tr>
<tr>
<td>Hordeum jubatum</td>
<td>Foxtail barley</td>
<td>Ulmus americana</td>
<td>Stinging nettle</td>
</tr>
<tr>
<td>Laportea canadensis</td>
<td>Wood nettle</td>
<td>Ulmus pumila</td>
<td>Tufted vetch</td>
</tr>
<tr>
<td>Lappula echinata</td>
<td>Bluebur</td>
<td>Urtica dioica</td>
<td></td>
</tr>
<tr>
<td>Leonurus cardiaca</td>
<td>Common motherwort</td>
<td>Vicia cracca</td>
<td></td>
</tr>
<tr>
<td>Lonicera tatarica</td>
<td>Tartarian honesuckle</td>
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<td></td>
</tr>
<tr>
<td>Matricaria maritima</td>
<td>Scentless chamomile</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 Plant species observed in Site A-4.
From “Report for habitat site: Churchill Park 9”
by The City of Winnipeg Naturalist Services, 2011,

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2Riverbottom forests grow along the edges of rivers and streams. They depend on spring floods to deposit silt and replenish the soil with nutrients. In return, their roots stabilize the banks of these watercourses to help reduce erosion. Riverbottom forests are very diverse with a large number and great variety of plants. This creates attractive habitat for many different species of wildlife through the provision of food and shelter, as well as a proximity to water. Habitat located alongside waterways is also called riparian habitat, while riverbottom forest constitutes one type of this riparian habitat. (City of Winnipeg Naturalist Services, 2005)
Site B
Site B is the location for the proposed midpoint connection between the Parkway and its surrounding context, as mentioned previously in the strategy for this project. This site was selected due to the adjacent location of the future rapid transit station, Harkness Station, as well as the nearby apartment complex (Figure 1.60 to 1.62). The riparian forest on this site (Figure 1.63, 1.64) has “few trees and is mostly herbaceous vegetation with some shrubs. Many invasive species are found in this area.” (City of Winnipeg Naturalist Services, 2003). The riparian plants observed on this site are listed in the Table 2.

<table>
<thead>
<tr>
<th>species name</th>
<th>common name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer negundo</td>
<td>Manitoba maple</td>
</tr>
<tr>
<td>Agropyron repens</td>
<td>Quack- grass, Couch-grass</td>
</tr>
<tr>
<td>Amorpha fruticosa</td>
<td>False indigo</td>
</tr>
<tr>
<td>Arctium spp.</td>
<td>Burdock</td>
</tr>
<tr>
<td>Artemisia spp.</td>
<td>Sage</td>
</tr>
<tr>
<td>Asclepias speciosa</td>
<td>Showy milkweed</td>
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<tr>
<td>Aster spp.</td>
<td>Aster</td>
</tr>
<tr>
<td>Brassica spp.</td>
<td>Mustard</td>
</tr>
<tr>
<td>Bromus inermis</td>
<td>Smooth brome</td>
</tr>
<tr>
<td>Chenopodium album</td>
<td>Lambs-quarters</td>
</tr>
<tr>
<td>Cirsium arvense</td>
<td>Canada thistle</td>
</tr>
<tr>
<td>Erigeron spp.</td>
<td>Seabane</td>
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<tr>
<td>Erysimum spp.</td>
<td>Rocket</td>
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<td>Galeopsis tetrahit</td>
<td>Common hemp-nettle</td>
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<td>Grindelia squarrosa</td>
<td>Gumweed</td>
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<tr>
<td>Hordeum jubatum</td>
<td>Foxtail barley</td>
</tr>
<tr>
<td>Lonicera tatarica</td>
<td>Tartarian honesuckle</td>
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<tr>
<td>Medicago sativa</td>
<td>Alfalfa</td>
</tr>
<tr>
<td>Mellilotus alba</td>
<td>White sweet-clover</td>
</tr>
<tr>
<td>Mellilotus officinalis</td>
<td>Yellow sweet-clover</td>
</tr>
<tr>
<td>Oenothera biennis</td>
<td>Yellow evening-primrose</td>
</tr>
<tr>
<td>Poa pratensis</td>
<td>Kentucky blue grass</td>
</tr>
<tr>
<td>Ribes spp.</td>
<td>Currant</td>
</tr>
<tr>
<td>Rumex crispus</td>
<td>Curled dock</td>
</tr>
<tr>
<td>Salix exigua</td>
<td>Sandbar willow</td>
</tr>
<tr>
<td>Silphium lacinatum</td>
<td>Compass plant</td>
</tr>
<tr>
<td>Solidago canadensis</td>
<td>Canada goldenrod</td>
</tr>
<tr>
<td>Sonchus arvensis</td>
<td>Perennial sow-thistle</td>
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<tr>
<td>Spartina pectinata</td>
<td>Prairie cord grass</td>
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<tr>
<td>Symphoricarpos occidentalis</td>
<td>Western snowberry</td>
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<tr>
<td>Thlaspi arvensse</td>
<td>Stinkweed, Field pennycress</td>
</tr>
<tr>
<td>Tragopogon dubius</td>
<td>Yellow goats-beard</td>
</tr>
<tr>
<td>Ulmus americana</td>
<td>American elm</td>
</tr>
<tr>
<td>Urtica dioica</td>
<td>Stinging nettle</td>
</tr>
<tr>
<td>Vicia cracca</td>
<td>Tufted vetch</td>
</tr>
</tbody>
</table>

Table 2 Plant species observed in Site B.
Figure 1.60

Harkness Bus Station

Figure 1.61 Background photo: Rapid transit construction photo from http://winnipegtransit.com/en/rapid-transit/current-construction-activities/2010-construction-activities. © The City of Winnipeg. Adopted with permission, December 2, 2011

Figure 1.62

Figure 1.63

Figure 1.64
Site C
Site C is located adjacent to the T intersection between Main Street and Stradbrook Avenue (Figure 1.65). Although this site is the north entrance of the Churchill Parkway, the existing design evokes an uninviting atmosphere. It is even difficult to locate the entrance of this path due to the massive raised structure of the railway: the small walls beside the entrance to the path block views to the Parkway and the river, while the concrete mass casts dark shadows onto the site itself (Figure 1.66, 1.67). While there is another route to enter the Parkway, an access point underneath the Norwood Bridge, this path is prone to flooding (Figure 1.68). When water levels reach peak heights, the lowest part of the Parkway immediately adjacent to this entrance is inundated (Figure 1.69), and for a period of time each spring this portion of parkway is completely isolated with its single access point at the Site A.
Site D

Site D is a strip of Riverbottom forest which is bounded by the T intersection of Brandon Avenue and Hay Street along the south edge, and Togo Avenue on the north side (Figure 1.70). The south entrance seems inhospitable and unfriendly: in fact it is even difficult to recognize as a public access point to this pathway (Figure 1.71). In this area, the Parkway has a less stable condition, that is to say that this part is quite naturalistic (Figure 1.72 to 1.76). Through careful observation, I could recognize three main paths although they were not very distinguishable. Two of these pathways are flood-prone in their lowest areas. According to the City of Winnipeg, only a portion of the riverbank stabilization in this site has been completed (City of Winnipeg, 2000). Erosion was observed at the north entrance of this site, at the end of Togo Avenue, where stabilization has not been completed. (Figure 1.77) This eroded place is actually one of the best view points along the river path where people could observe the most iconic view of the city: the downtown skyline from across the Red River (Figure 1.78)

Since this site contains riparian vegetation in relatively good condition, modification of the riverbank structure which would entail the removal of these plants would not be appropriate at this point in time. The quality of this riparian forest is the same as Site A: “this riverbottom forest has many signs of disturbance and has been slightly degraded but is still in reasonably good condition” (City of Winnipeg Naturalist Services, 2003). The riparian plants observed on this site are listed in the Table 3.
<table>
<thead>
<tr>
<th>species name</th>
<th>common name</th>
<th>species name</th>
<th>common name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer negundo</td>
<td>Manitoba maple</td>
<td>Medicago sativa</td>
<td>Alfalfa</td>
</tr>
<tr>
<td>Agropyron repens</td>
<td>Quack-grass, Couch-grass</td>
<td>Melilotus alba</td>
<td>White sweet-clover</td>
</tr>
<tr>
<td>Ambrosia spp.</td>
<td>Ragweed</td>
<td>Melilotus officinalis</td>
<td>Yellow sweet-clover</td>
</tr>
<tr>
<td>Ambrosia trifida</td>
<td>Great ragweed</td>
<td>Oxalis stricta</td>
<td>Yellow wood-sorrel</td>
</tr>
<tr>
<td>Amorpha fruticosa</td>
<td>indigo</td>
<td>Parthenocissus quinquefolia</td>
<td>Virginia creeper</td>
</tr>
<tr>
<td>Amphilcarpa bracteata</td>
<td>Hog-peanut</td>
<td>Phalaris arundinacea</td>
<td>Reed canary grass</td>
</tr>
<tr>
<td>Apocynum cannabinum</td>
<td>Indian-hemp</td>
<td>Plantago major</td>
<td>Common plantain</td>
</tr>
<tr>
<td>Arctium spp.</td>
<td>Burdock</td>
<td>Poa pratensis</td>
<td>Kentucky blue grass</td>
</tr>
<tr>
<td>Arnica cordifolia</td>
<td>Heart-leaf arnica</td>
<td>Polygonum spp.</td>
<td>Smartweed</td>
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<td>Asclepias speciosa</td>
<td>Showy milkweed</td>
<td>Populus deltoides</td>
<td>Cottonwood</td>
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<td>Aster simplex</td>
<td>Small blue aster</td>
<td>Potentilla anserina</td>
<td>Silverweed</td>
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<td>Aster spp. Aster</td>
<td>Common beggar-ticks</td>
<td>Quercus macrocarpa</td>
<td>Bur oak</td>
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<td>Bidens frondosa</td>
<td>Mustard</td>
<td>Rhamnus cathartica</td>
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<td>Brassica spp.</td>
<td>Smooth brome</td>
<td>Ribes spp. Currant</td>
<td>Curled dock</td>
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<tr>
<td>Bromus inermis</td>
<td>Creeping bluebell</td>
<td>Silix amygdaloides</td>
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<td>Carex spp. Sedge</td>
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<td>Cirsiurn arvense</td>
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<td>Solarum dulcamara</td>
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<td>Cornus stolonifera</td>
<td>Wild cucumber</td>
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<td>Elymus spp.</td>
<td>Common horsetail</td>
<td>Taraxacum officinale</td>
<td>Tall meadow-rue</td>
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<td>Equisetum arvense</td>
<td>Green ash</td>
<td>Thalictrum dascarpum</td>
<td>Veiny meadow-rue</td>
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<td>Fraxinus pennsylvanica</td>
<td>Gill-over-the-ground</td>
<td>Thalictrum venulosum</td>
<td>Basswood</td>
</tr>
<tr>
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<tr>
<td>Matricaria maritima</td>
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</table>

Chapter 2. The History of Urban Fragmentation in Winnipeg
Traders Outpost (Future Site of The Forks)
Assiniboine River
Early Settlement
Approximate Future Site of Osborne Junction
Winds interspersed with small Prairies extending several miles

Figure 2.1 Plan of the settlement in 1816, based on the “Plan of the settlement on Red River, as it was in June 1816,” as cited in Artibise & Dahl, E.H., 1975. Winnipeg in Maps 1816 – 1972, Ottawa: National Map Collection Public Archives of Canada, Ottawa, p. 6.
The History of Urban Fragmentation in Winnipeg

In this chapter, I would like to review the history of urban fragmentation in Winnipeg by reviewing Artibise and Dahl’s (1975) historical analysis of urban design in Winnipeg. These authors describe how the primitive landscape has changed over time into the present configuration of the city while explaining how different issues arose from these developments and the offering a critique of the current form of Winnipeg.

Prior to the 1800, the land which would eventually become the future city of Winnipeg was quite isolated from the initial colonies established by early settlers on the east coast of North America. In the early 19th century, fur traders began to set up outposts in these areas, first settling the lands at the junction between the Red and Assiniboine rivers, the location of The Forks in the present day. This location constituted a crucial site for these trappers who depended largely upon this interconnected system of watercourses to navigate this vast, uncharted continent and to deliver their pelts back to the east coast for export to Europe. The map of 1816 (Figure 2.1) shows the very beginning of the settlement pattern of the future city of Winnipeg. It also shows the original coverage of the riverbottom forest along the Red and Assiniboine rivers, a primary element of Winnipeg’s primitive landscape.

By 1849 there was no unified town, much less a city, and the earliest settlers of this area relied upon subsistence activities, such as agriculture and buffalo hunting, to feed and clothe themselves. The largest change occurred in 1859 when the Hudson’s Bay Company arrived in Upper Fort Garry and began their business in general trade. The resulting population growth and prediction of future development attracted several businesses based upon merchandise and services. Henry McKenny, who ran the Royal Hotel, founded a general store at a crucial intersection between the two main trails of the settlement, which eventually became the corner of Portage Avenue and Main Street and the location of the business center of the present city.

Although the number of residents numbered only 100 by 1870 and the outpost was not yet incorporated as a single municipality, the first population boom occurred soon after “as a consequence of the publicity the area received during the Riel Rebellion and the entry of Manitoba into Confederation” (p. 4). By November of 1873, the City of Winnipeg was finally incorporated and the population swelled to 3,700 by 1874. The new part of the city merged into the old settlement community to produce one larger city with its centre located at the key intersection of Portage and Main.

One of the primary factors in the growth of Winnipeg was the establishment of the

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railroad. After the arrival of rail transportation in 1884, the city’s population nearly tripled to 17,000 inhabitants. Winnipeg became a major railway hub at this time, and industries began to be established within the city: this was emphasized by the addition of several bridges. The essential fragmentation in the city, which is inherent in its condition as an intersection point between the two rivers that bisect the landscape, was supposed to be resolved through the construction of the bridges.

The early 20th century marked the beginning of the development of wealthy suburban areas. Richer people began moving out from the city center, craving larger plots of land with their own beautiful nature. In the meantime, however, the North End became an overcrowded residential area dominated by the working class and foreign immigrants. Among these areas was Point Douglas, once the richest residential neighborhood in Winnipeg, which was quickly overtaken by factories and warehouses with the arrival of industry, and would become a case study for the drastic change that the railway can effect on the city structure, conditions which persist into the present day. In contrast, the South End became a residential area for members of the middle and upper classes of primarily Anglo-Saxon decent who owned larger plots of land in this more spacious and comfortable setting. The West End was dominated by a majority of the population with British lineage, and rich middle class people inhabited the land along the Assiniboine River. By this time, it was possible for the first Anglo-Saxon city planning authorities to distinguish different neighbourhoods based on the ethnicity and social class of their inhabitants, a pattern which is still reflected in much of the present urban structure of Winnipeg.

By 1914, the city had expanded to an area more than seven times greater than in 1873, and the gains consisted mainly of residential and commercial areas. Industrialization in Winnipeg dramatically changed peoples’ lives and the structure of the city at that time, while contributing to the beginning of urban fragmentation and the un-walkable city:

Winnipeg was, in 1914, very much a city divided. It was divided into areas of work and residence, rich and poor, Anglo Saxon and “foreigner”. By this time too, the familiar problems of urban life were beginning to emerge: the sudden withdrawals of whole segments of neighborhoods’ populations; the rapid decay of entire sections of the city; the spread of the metropolis beyond its political boundaries, and above all, the fragmentation of the population into specialized occupational categories, home environments and community relationships. As a result, Winnipeg developed distinctive and mutually exclusive neighborhoods, marked by unequal social services and amenities. It is true each district had its own church groups, clubs, and specialized societies, but the city lacked any effective agency that could deal with the problems of Winnipeg as a whole. (Artibise & Dahi, 1975, pp. 14-15)
Figure 2.2. Historical Growth of the City of Winnipeg, based on the “Winnipeg Historical Growth Pattern [map], plate 4, 1:72,600, The Metropolitan Development Plan,” Winnipeg by The Metropolitan Corporation of Greater Winnipeg, 1966, as cited in Manitoba Historical Map, 2008, Retrieved from http://www.flickr.com/photos/manitobamaps/2175798383/in/set-72157622681947364
From the early 20th century to mid 20th century, the city gradually extended outwards with the development of suburban areas. The growing pattern of Greater Winnipeg was largely affected by the location of the railway, and its associated warehouses and yards, which directed the spread of goods throughout the city. “Their unplanned entry to and exit from the urban area segmented Greater Winnipeg into isolated cells causing severe hindrances to orderly and efficient development” (Artibise & Dahi, 1975, p. 65). The location of the rivers, annual flooding and drainage problems also strongly affected the development of Winnipeg. Compared to the development extending northward from the city center, progress in the south and east areas happened much more slowly due to the two major barriers, namely the Red and Assiniboine rivers, and expansion towards the southwest was particularly difficult due to extensive flooding and drainage issues. Although the east side of the Red River had superior drainage in contrast with the west side, the Seine River acted a barrier towards development stretching eastward. Although the 1950 flood severely damaged the city and interrupted its development, population growth was undeterred. After the streetcar system was closed in 1955, people gradually came to depend largely upon personal vehicles to get around the city.

Now, it is evident that the city infrastructure is vehicle-oriented, as the majority of citizens use their own personal means of transportation at nearly each stage in their lives. Some people never have the opportunity to become involved with the city, and their lives became extremely private as they moved between their home and their destination by means of a discrete, impenetrable compartment. In this manner, the fragmented condition of Winnipeg established in the early 20th century has not yet been resolved. This fragmentation was initially created by the physical boundary of the natural topography (the rivers) and the urban infrastructure: primarily the railway. Typical fragmentation was occurred between districts, which was divided based on the early river lot system, through roads with heavy traffic. This resulted in creating a grid pattern fragmentation over all the city. Moreover, the views propagated by the early Anglo-Saxon city planners emphasized the psychological barrier between wealthy and low-income neighbourhoods. As a result of these outdated attitudes, there are many contemporary boundaries within the city that must be broken. This current condition is problematic and requires extensive change. Although it may take longer to resolve, we must initiate this transformation from an urban design approach in which landscape architects should assume a vital role.
Figure 2.3 Fragmented Winnipeg: The red color shows the fragmentation factor generated by urban infrastructure: wider traffic lanes, railway tracks, large parking lots, and the airport, based on aerial photo from © 2011 Google © 2011 TerraMetrics Retrieved from http://maps.google.ca/
Chapter 3. Fragmented Thinking
Fragmented Thinking

Objectified nature

The people of Winnipeg represent a population with the immense potential to nurture an environmentally conscious culture due to the strong seasonal contrasts of the region which they inhabit. This seasonality engenders a sensitivity to climatic conditions and the expression of nature, as conversations always seem to begin with remarks about the weather. However, this observation of nature tends to occur from alternative worlds: from behind the windows of a house or vehicle, or from distant locales “at the lake” while spending time at the cottage or camping. In this manner, nature enhances this sense of pleasure that people experience during their leisure time; however, nature is not quite interconnected with their daily lives unless they are farmers or gardeners. Occasionally, this connection with nature seems convenient for human beings since often times we need to refresh ourselves from the stresses of society, “using” nature as a relaxation device. Does this point of view engender sustainable thinking? Morton (2010) discusses this issue quite concisely:

One of the things that modern society has damaged, along with ecosystems and species and the global climate, is thinking. Like a dam, Nature contained thinking for a while, but in the current historical situation thinking is about to spill over the edge. Ecological thinking might be quite different from our assumptions about it. It isn’t just to do with the sciences of ecology. Ecological thinking is to do with art, philosophy, literature, music, and culture. Ecological thinking has as much to do with the humanities wing of modern universities as with the sciences, and it also has to do with factories, transportation, architecture, and economics. Ecology includes all the ways we imagine how we live together. Ecology is profoundly about coexistence. Existence is always coexistence. No man is an island. Human beings need each other as much as they need an environment. Human beings are each other’s environment. Thinking ecologically isn’t simply about nonhuman things. Ecology has to do with you and me. (pp. 3-4).

With the harsh winters in Winnipeg, there seem to be fewer opportunities for people to interact with nature than in other cities since most of the population ride around in cars almost exclusively when temperatures hit bitter lows. In response, we should consider the enjoyable and unique aspects of the winter season. Never before have I seen such crisp and perfectly formed snow crystals. When the trees are covered in hoar frost, it is the most beautiful winter scenery imaginable, even considering the fact that I grew up in a snowy, cold climate region. Skating on the river is a once-in-a-lifetime experience, particularly when the sunset paints the sky a beautiful mixture of
purples and oranges. When people from Winnipeg negatively criticize the winters in this city, I feel that they are perhaps shy or modest in relation to revealing their true feelings for this season, by just expressing a love-hate relationship. However, from my four years of observation while living in this city, particularly in areas that were specifically designed for vehicles and thereby represent the attitudes of the majority towards the environment, the current design of Winnipeg engenders an appreciation for nature. Ideas of ecology, or perspectives toward nature, are not connected with experiences due to the pervasive vehicle-oriented lifestyle, which in turn causes people to ignore, forget or otherwise devalue the significance of ecological experience in their lives.

How to care for the neighbor, the strange stranger, and the hyper object, are the long-term problems posed by the ecological thought. The ecological thought hugely expands our ideas of space and time. It forces us to invent ways of being together that don’t depend on self-interest. ---The ecological thought can be highly unpleasant. But once you have started to think it, you can’t unthink it. We have started to think it. In the future, we will all be thinking the ecological thought. It’s irresistible, like true love (Morton, 2010, p. 135).

**Fragmented landscape enhances fragmented thinking**

The site chosen for this practicum project is a prominent example of fragmented thinking. There should be a design to connect Winnipeg’s beautiful nature with people’s daily lives, to serve as a device to enhance the beauty of nature. In other words, we need more opportunities to connect with nature within urban settings. The environment in which children grow up provides a crucial contribution to teaching them a sense of ecology, to respect nature and the “other”. People must be provided with sufficient opportunities to become aware of this complex web of life in their daily experiences. Unfortunately, vehicle oriented urban design and lifestyle does not offer many occasions to learn these lessons, as many opportunities have been lost over the course of its development. Emerging from a system with a technology-reliant socioeconomic point of view, I was educated with an ideological conscience as part of my personal ethic, I had previously experienced a strong conflict between this idealistic perspective and my essential preference for nature. Even though I had abundant opportunities to explore the forest and the river as a child, I did not like to touch bugs or to deal very much with nature at all. Therefore, when I learned about ecological thinking during my earlier university education in Japan, I had to force myself to become immersed in environments where I had to engage with nature on a daily basis, and as a result I found myself in close contact with wild monkeys, horseflies, and snakes, as I experienced the interior of my house become chilly
when the temperatures outside dropped, picking mushrooms, furrowing the soil, the traditional custom of praying for the mountain, and so on. It took me a while to understand, or to start understanding nature (an account of these events and the accumulation of this knowledge comprise my former thesis that I introduced in the Introduction to this document). For the generation prior to mine, including my father’s, these experiences were avoided, which in turn served to undermine the notion of the primitive landscape and precluded its inclusion into the city. Without having the experience that forms the basis of an ecological understanding, how can we accommodate our culture within nature? Since we are the generation who has realized this loss, it is ultimately our task to initiate the recovery of this relationship.

Although books provide children with plenty of fact-based information, and zoos and aquariums offer unique, close-proximity encounters with wild creatures, these experiences are not tied to daily life and education seems to be limited to these discrete places rather than in public spaces. I believe that children need to see, touch, and play with nature while walking from home to school, and vice-versa. Public places should contain more opportunities for people to connect with nature, which are safe and secure in terms of crime. An example which immediately comes to mind is the planting bed of tall-grass prairie vegetation in front of the Russell Building on the University of Manitoba campus, which convinced me to believe that even such a small patch of a native flower garden is able to provide a significant amount of information and a sense of ecology to people walking by (Figure 3.1, in p. 56). Since I pass this garden nearly every day, even just a quick glance provides me with a significant experience of the primitive landscape in Manitoba throughout each of the four seasons. After the winter, the tall grasses gradually grow up and change the view of the path. In the summertime, bees and butterflies are attracted to the flowers in this plot, showing how this small rectangular patch of garden is interconnected within a larger web of life. After the colourful blossoms have finishing blooming, and the temperatures become colder and colder, the garden takes on a brown, dried-out appearance until the gardener arrives to cut the plants right down to the ground, prior to the emergence of the new leaves. This process contributes to the healthy cycle of soil creation which sustains life in this small microcosms with a little help from outsiders, namely the bees and the butterflies. This garden also reminded me of the Garden in Movement, a theoretical practice of Gilles Clement which is described in The Planetary Garden (2005). In this garden, Clement did not want to fight nature, but rather to accept the changes which occurred in this landscape. Opposed to the ordinary concept of a garden in which elements are imposed onto nature, Clement refused to take an approach that “subtracts, eliminates, and presents simple forms and convenient geometries” (p. 127). Instead of restricting the garden to a pre-determined form, he observed it carefully: “A lizard chasing a fly creates a predacious connection, but the fly is itself connected to the plant, its larva eats vegetables, and
Figure 3.1 Tallgrass Prairie Garden in front of the John A. Russell Building
then a bird comes and eats it – and, very quickly everything becomes extremely complicated” (p. 127). The small planetary garden in front of the John A. Russell Building where I study every day evoked within me an imagination of the primitive landscape of this region, an ancient time when all of those plants dominated the vast prairie which stretches in all directions towards the horizon. Although textbooks of plants and historical resources clarified what I imagined from this small garden, I am sure that it could not represent a realistic sense of the ecology of this region if I had not experienced it on a daily basis. As Clement described his garden, this design was intended to represent “an index of the planet’s distant elements, reunited here through planetary mixing” (p. 127). For this reason, I strongly believe that there is value in recalling the old world through the incorporation of certain aspects of the primitive landscape into the urban fabric. I must note that this does not mean that we need to recreate habitat to instigate a return of all of the former wildlife, but to adapt and integrate this nature back into culture to teach and to inspire. Sanderson (2009), a researcher studying the natural history of New York City, describes this concept quite succinctly in book *Mannahatta*:

> We need not only parks that are safe but more parks where nature is the first priority....Black bears, wolves, and timber rattlesnakes are not coming back to Manhattan, nor would we want them to - they would be unhappy, and so would we....We need to be close to nature in order to be inspired by it. So if people are going to live in cities, then nature had better come to the party too....We don’t need all of nature, just the nature that we can accommodate by making good and imaginative choices. (pp. 235-237)

**Summary of fragmented thinking**

Fragmented urban design has entailed the separation of our daily life from the complex interconnection of ecosystems, which are essentially the mechanisms of our life. The fundamental question for designers therefore becomes: how can landscape architecture contribute to the mediation of this problem? How can we integrate this interconnection with nature into urban design and contemporary lifestyles? In order to generate a solution to these questions, I created a series of diagrams (Figure 3.2 to 3.18, in p. 58 to p. 65) to summarize the concepts developed in the previous chapters.
Figure 3.2
Through the exploration of the site, the riverside path, a neglected opportunity for urban ecological experience, was discovered.

Figure 3.3
The simulation of a potential pedestrian/cyclist network strategy demonstrated the potential of future development of this site.

Figure 3.4
Through the site analysis, the concept of urban fragmentation determined that the existing conditions of the site represented a rift between nature and culture.

Figure 3.5
The potential strategy suggested mediation between these two entities, a connection to resolve this fragmentation. However, this evoked a question: Does this proposal really reconcile the gap between nature and culture?
This question arose from the previous research executed in Japan. These former investigations were undertaken to discover how the traditional Japanese village referred to as *satoyama* established a permaculture lifestyle based on sustainable landscape development.

Figure 3.6

A case study site for this previous research was the Nakanosawa Village, Nishi-Aizu Town, Fukushima-prefecture, Japan.

Figure 3.7

A case study site for this previous research was the Nakanosawa Village, Nishi-Aizu Town, Fukushima-prefecture, Japan.
Figure 3.8
This settlement first chose the primitive lands to reclaim.

Figure 3.9
The inhabitants developed an ecological land-use system through long-term experience.
This experience was derived from the methods of maintaining the ecological land-use system, shared between different generations as spiritual custom and folklore. This ancestral wisdom allowed people the knowledge to negotiate the harshness of nature. In this ancient culture, the relationship between nature and culture was not parallel, but rather a nested structure in which culture was embedded in nature.

After industrialization, pragmatic thinking and modern infrastructure destroyed this relationship between nature and culture.
Learning from this historical experience, we need to create a new layer comprising environmental culture with the appropriate infrastructure to fit the demands of today’s society, as a strategy for future development.

The former design studio works in the Master of Landscape Architecture program at the University of Manitoba were intended to design a platform to nurture environmental culture.
The most significant observation through these former design experiments was that there are few opportunities to interact with primitive nature, a concept which could provide a fundamental education in ecology.

Education, in turn, would aid in the recovery of the nested relationship between nature and culture. In order to instigate this process, we need to create an urban design project which embeds nature within cultural activity.
Developing the compact, walkable form of urban development is an appropriate strategy for re-establishing this relationship.

Park or garden design is a primary historical example of these concepts.
Figure 3.18
In this concept, reviewing the history of park design could guide the resolution of the urban fragmentation on the project site.

This visualization of my thinking process summarised the previous discussions and indicated the next agenda to figure out appropriate design solution. The next chapter reviews my former report from the course: *History of City Park* at the University of Manitoba, entitled *Future Role and Design of City Parks*, in order to clarify how landscape design is able to contribute to resolve urban fragmentation issue on the target site.
Chapter 4. Solve it by Park Design
Solve it by Park Design

Potential of the city park to resolve fragmentation in urban design

Throughout the history of urban design, city parks have always taken a lead role in resolving complex urban issues. In an earlier coursework at the University of Manitoba, I researched city parks throughout history in both Europe and North America, to discern the future role and design of parks in developing sustainable, walkable urban environment. In this section, I would like to explore the effectiveness of the proposed urban design solution for the project site, by reviewing my previous research. In this report, I summarized the role of city parks into 13 topics, thoroughly reviewing historical examples which have contributed largely to the activation and incubation of culture in the cities in which each of the parks are located. These topics are:

1. Public recreation as ultimate democratic form,
2. Urban oasis,
3. Communication media
4. Scenic path and efficient transportation
5. After Dreamland (park development occurring after an event)
6. Leisure complex
7. Economic incentive
8. Canvas of art
9. Memory stage
10. Post-industrial revitalization
11. Water management system
12. Educational field
13. Habitat

The key to city parks achieving these potential roles is largely dependent upon their cultural, economical, and ecological context. The connection between parks, particularly park network systems, comprises the important strategic framework to realize a design concept on an urban scale, of which the Minneapolis city park system is a prominent example. Thorough my personal experience, the park network system, which is a network of public space, used to be a common feature of the urban environment in pre-industrialized cities. For example, Kitakata city in Japan where I grew up included this quality of interconnected public spaces, which I referred as the “City as a Maze”:

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Yabe, Y. (2010). Future role and design of city parks. Unpublished manuscript, Department of Landscape Architecture, University of Manitoba, Winnipeg, Canada.
The entire city seemed like a maze due to the numerous small capillary-like paths all over the city. Everyday walking was an extremely mysterious exploration, sometimes connected to the backyard of a craft manufacture factory, soya sauce factory, or sake brewer. I strongly remember the different smells of each. When I was around five years old, my favorite play spot was a cemetery which was near my house. Surrounded by a number of small houses, this cemetery was located in the center of a residential area. A number of small paths, thin gaps between the small houses, allowed access to this cemetery, which was actually the back grounds of a small temple, and connected by a narrow vegetated path. This temple also faced a small park featuring cherry blossom trees and a small pond with a few ducks. When I travelled in the opposite direction from the cemetery, a narrow strip of path connected to the river beyond several patches of bushes and rice fields. When I became lost, the path led me to an electric factory, and I did not realize that I had crossed the site's border until I reached the middle of the factory. When I grew to about ten years old, my field of activity expanded. I could go upstream of the river, travelling north by bicycle. It was a long trip, but the exciting destination activities, waterfall jumping and fish capturing, definitely made it worthwhile. All of these experiences are connected by a sequence of scenes, beyond the scale of time. (Yabe, 2010, p. 8) (see Figure 4.1)
This was not a purposefully designed environment, but rather the result of the gradual evolution of the vernacular city over a long period of time. It would be nearly impossible to expect this type of urban development to occur in the future due to changes in the economical context since “real estate values were not considerably high in the developing city, many vernacular features remained. For this reason, the ownership of numerous common lands could not be clearly identified, creating peculiarly-shaped private properties with gaps in between them forming interesting paths, connected all over the city” (p. 14). In the current economic context, the “control of development through a master plan, including an urban park network systems, to direct the city towards a compact and efficient form” (p. 14) that becomes crucial in recovering this concept of “City as a Maze”. The loss of this quality in our environment marks a missed opportunity, similar to the park network of my childhood which was also modified into a more pragmatic form later on. This public space network must be recovered in our future city.

The potential pedestrian/cyclist circulation of the park network strategy suggested in Chapter 1 emerged from this research. To achieve the target urban condition, a park network should be the primary objective to establish within the area. In the report, I introduced a practical example of a city park located in one the most interesting and popular neighborhood in Tokyo, namely:

Kichijōji, where one urban park played a central role in the peoples’ lives. Inokashira Park is located between downtown and the residential area of Kichijōji, and is covered by a massive forest and a large pond famous for its spring water. Almost 3.8 hectare in size, and a distorted V-shape, this park has many small paths connecting with adjacent neighborhoods. Many small retailers, street markets and cafés take full advantage of their proximity to the park edge, since this park is also a significant route from the residential area to the main train station. The massive forest and pond not only provide fresh air and relaxation to the people, but also play the role of sound barrier between the busy downtown and the quiet residential area. Simultaneously, the public space provides a means of bonding residential and commercial communities. Due to the features of this park, the Kichijōji neighborhood is quite popular with people of all generations and backgrounds: a number of amateur artists and musicians come to the park on weekends to work and to play. Due to its shape, the park had an interesting relationship with the surrounding neighborhood. Its welcoming edge condition naturally blends park paths with residential paths, and sometimes I could not figure out where the border was and became lost. I continually explored new paths and interesting landscapes, re-discovering the maze-like feeling that I had when I was growing up.” (p. 10) (see Figure 4.2)

The location of Osborne Junction has a similar potential to incubate this type of park culture due to the complexity of its surroundings and through the incorporation of the new rapid transit station. The biggest difference between Inokashira Park and Osborne Junction is the complex transportation system which surrounds the Junction. Although a city park implemented at this location could potentially nurture this new culture, it is this same site which is encompassed by lanes and lanes of vehicular traffic which present the difficult challenge of creating such a park within such congested urban conditions (Figure 4.3 to 4.6).
Figure 4.2 Contextual map: Inokashira Park, Kichijoji, Tokyo, Japan
Typical fragmentation occurs between districts through roads with heavy traffic which acts as a disturbance for pedestrians.

Establishing a park network system is an effective solution to this issue of fragmentation.

When the park network system is connected to a regional natural resource, the opportunities for recreation and ecological education are exponentially increased. We can see this relationship clearly between the neighbourhood of Osborne Village and the Assiniboine River, adjacent to the project site.
However, the project site is more complicated.

Multiple fragmentations can be observed upon the site.

The railway tracks and the new rapid transit way barricade the connection to the Red River.
The large concrete and asphalt plot of roadside retail development and its associated parking areas also disturb the pedestrian experience as well as numerous urban habitats.

Multiple disturbance results in widespread fragmentation.

However, due to the inclusion of the new rapid transit station, we can envision new opportunities for this site.

The new transit system would bring more people to this site.

Figure 4.5
Creating a smooth connection between Osborne Junction and the river would also bring new circulation to the site, which would potentially activate a large pedestrian-oriented subculture within the city center (as discussed in Chapter 1).

The project site, although problematic in terms of its current circulation, has great potential to alter the existing situation.

Osborne Junction should be considered as a primary node where pedestrian culture meets suburban culture, to generate substantial economic opportunities. The new rapid transit station would raise the value of the surrounding property. Frequent use would also significantly influence the daily lives of visitors to this site. What if this site were to become...

...a park?

Figure 4.6
The difficulty of mediating the fragmented city

Within low-density populations and car-oriented sprawling cities such as Winnipeg, urban parks have more difficulty satisfying their original functions since the majority of upper-middle-class people already own the most comfortable oases within their back yards. In this situation, these people only need unique incentives and different destinations once in a while, creating public spaces made from leftover land, a place for money, or a place for parking. It is therefore extremely difficult, or nearly impossible, to redevelop this type of city into a densely-populated, compact city. However, if no one attempts to change the status quo, then there will be no sustainable future for these cities. As the Minneapolis Parks System has proven, creating a strong park connection could be one of the breakthroughs. If the connection of public spaces could provide interesting path systems, starting with only a few groups of people, this could dramatically change the recreational life of the city. (Yabe, 2010, p. 12).

If the strategies mentioned in the previous chapters as well as earlier in this section comprise the ideology of sustainable urban development, then there are numerous constraints for this future. I would like to proceed by summarizing these limitations into three main topics which pose a direct challenge to the urban strategy which I proposed in Chapter 1. The first potential constraint is the thinking engendered by capitalism. As a landscape architect, I have been opposed to urban sprawl for nearly 10 years. As a result, I have been fortunate to become involved in several opportunities to support city center re-invigoration in Japan from the perspective of a designer. From this experience, I have learnt firsthand the difficulties of motivating property owners and citizens of the city center to realize the necessity of sustainable thinking. This is due to the fact that people are quite skeptical about the sustainability of a sustainable development plan. Their capitalist thinking, which emerged from and dominated development in the 20th century, is deeply engrained and therefore very difficult to change. To these people, urban development is primarily a business opportunity and their focus is to obtain maximum profits in the short term, which unfortunately tends to produce an unsustainable urban environment. Consequently, city planning controls are quite important, however, strong restrictions do not necessarily lead to active urban development. Therefore, sustainable development must increase economic opportunities as well, which is a difficult undertaking for landscape architects to deal with on their own. While this endeavor should be resolved in multi-disciplinary collaboration, successful examples have rarely emerged since this achievement tends to depend upon huge coordination and cooperation efforts between the different municipal development departments of the city...no easy task.
The second constraint to sustainable urban design, which would also be difficult to overcome, is the current emphasis on suburban culture. According to the Statistics Canada census of 2006, a total 66% of the population of the entire city lives in single family detached or row houses, and a total 33% of the population lives in apartments, which implies that for the majority people do not make large demands on public space due to their recreational opportunities in their backyards and adjacent residential forests. As I previously mentioned, more than 70% of the population has access to remote urban recreational facility due to their reliance on vehicular transportation (City of Winnipeg, 2006). This statistic shows that current parks and recreational facilities within the city provide ample opportunities for people who are able to access them by car. For example, Assiniboine Park is a popular attraction due to its diverse features which include: several extensive gardens, a children’s park, a wide-open meadow, an outdoor theater, the zoo, and an atrium of exotic plants set within the riparian forest of the Assiniboine River. In addition, Winnipeg’s suburban areas are less dense and primarily residential, therefore providing their citizens with a fresher air quality year-round, which enhances people’s satisfaction with their current living environments and makes change much more difficult to instigate.

The last significant limitation towards the application of a sustainable urban design strategy is the complex function and the segmented spatial features of urban landscape such as the site chosen for this practicum project. Summarizing its opportunities and constraints, this site is subjected to multiple fragmentations. Considering this notion of walkable environments, fragmentation occurs between districts and within districts divided by the major traffic routes. In the target site, multiple dividing lines converge at one particular location. The railway runs between the already fragmented districts and the river, segregating the former from the latter so that the development of a regional recreational source is nearly impossible. Moreover, the wide concrete roadways and expansive asphalt parking lots for the roadside retail development evoke the desolate atmosphere of an urban desert. While the accumulated issues and the potential opportunities of this site create an extremely complex condition, it is very difficult even just to determine exactly where to begin this design.

For this reason, I decided that within one day that I would generate a quick sketch design based on my initial impression, then start to validate this response from the perspective of urban fragmentation, a framework which follows from ideas in Chapter 3. The following chapter will describe the process of the preliminary sketch design as well as its subsequent evaluation.
Chapter 5. Dissecting Fragmentation
Figure 5.1 Preliminary sketch design

- Corydon Ave.
- Pembina Hwy.
- Osborne St.
- Osborne Junction
- Rapid Transit Osborne Station
- roof garden/pedestrian bridge
- wood deck
- pier
- riverbottom forest
- wetland garden
- railway
- Red River
Dissecting Fragmentation

The accumulated issues and the potential opportunities of the target site create an extremely complex condition, thus it was very difficult to even determine just exactly where to begin this design. The process of landscape design is the intuitive, spatial, functional, and spiritual visualization of logical thinking. In order for the accumulated logic of the site to become a visual site plan, the left brain must transfer this knowledge to the creative right brain. In order to initiate this process, it is important to start drawing, even if the proposed design does not resolve the issues at hand. It is better to create a problematic solution since it enables the issues to be visualized, and eventually resolved through alternative designs. Therefore, this chapter begins with the introduction of a preliminary sketch design based on this fundamental notion. Subsequently, this solution is validated from the perspective of urban fragmentation, a framework emerging from the ideas developed in Chapter 3.

The preliminarily sketch design

Figure 5.1 shows the preliminary sketch design solution. The primary consideration of this design was to create a pedestrian deck, which bridges over the railway to create a connection with the riverside. This structure is built atop existing buildings with a number of trees planted on the platform, providing a rooftop garden. The riverside open plaza consists of a wood deck plaza with a bistro, and a café facility to form a recreational core. This node also includes a wetland garden to exhibit riparian plants. This design conserves the existing forest for the most part, though a pier has been added to allow both visual and physical access to the river.
The preliminary sketch design was created with the aim of providing a connection overtop of the railway. However, when the design is evaluated from the perspective of fragmented thinking, it is clear that the structure itself forms a wall even though the intention was to create a linkage. This barricade blocks the view of the sky, as well as the canopy of the riverbottom forest, which indicates the proximity of the river to the people in Osborne Junction. In this manner, the preliminary design creates visual fragmentation within the site (Figure 5.2).

Considering this solution in section (Figure 5.3), the design also generates fragmentation upon the ground itself. Our urban infrastructure can be considered as the creation of a new geological layer, a supplementary skin of the earth. However, this design does not connect with the previous terrestrial strata, and instead blocks the metabolism of this skin, including the processes of soil creation and water penetration. This problem is also evident on the plan (Figure 5.4, in p. 85). The open parking lots of the roadside retailers and wide roadways are the dominant conditions of this site: although typical of urban environments throughout the world, these types of materials engender a desert condition which precipitates issues of road kill, pollutes the water and degrades habitats. Even though the preliminarily design intended to visually connect the riparian forest with the residential forest and a tree canopy of roof garden, fragmentation is still inherent in this solution since natural life cycles are not incorporated: the platform structure is not attached to the ground.

Although public landscape design is an opportunity to express the history of a site, this preliminary design does not incorporate any memory or former meanings as mentioned in Chapter 3, the primitive aspect of landscape is a significant element to embed in the urban landscape for ecological education. While the riverside open space is a postindustrial site, the preliminary design contains no historical information, neither literal nor abstract. The public landscape is one of the most inspirational sources of historical education: memory should be incorporated into the site in order to promote the uniqueness of a particular place, as well as inspiration for the future through a considerate review of the past.

This validation from the perspective of fragmentation concluded that this proposed solution essentially dissected the site. The subsequent section discusses the particular ways in which this division occurred in order to understand this shortcomings of this concept in detail, and to generate the conditions for the emergence of potential solutions.
Figure 5.2

Figure 5.3 Geological layer, based on “Hydrogeological Cross Section of the Red River Valley Through Winnipeg” by Baracos, A., 1983, Geological engineering report for urban development of Winnipeg, Winnipeg: Cantext Publications.
Urban desert: road kill

An aerial view of Winnipeg shows that fragmentation in the city structure occurs between communities, and that this segmentation is mostly generated by major traffic ways and roadside retailers with expansive parking lots (Figure 5.4), a condition previously described as an urban desert. Although these vehicular-oriented developments are ironically the major components of connectivity within the city, this condition not only neglects pedestrians but also creates numerous problems for natural environments. This car-friendly attitude creates broad areas which are stripped of vegetation and paved in asphalt. On the project site, the former riverbottom forest has become an area of urban desert. It is rather simple to assume that these segmented lands are not suitable for residential development since the majority of people prefer not to live adjacent to a roadway with heavy traffic. Since these areas are conveniently accessible for drivers, they are extremely practical for roadside retail. However, Forman et al. (2003) indicate:

The end result of highly connected road systems is a decreased birth and survivorship rates. The end result of a highly connected road systems is a decrease in both the number and the abundance of the species that once inhabited the landscape. (p. 137)

These negative impacts occur simply as a result of the urban desert phenomenon whereby the landscape cannot retain the fundamental elements necessary for a diverse and healthy condition, namely soil, water, and air.

The materials of the roadway and parking lots, comprised mostly of asphalt and concrete, are referred to as impervious surfaces. Due to their impermeable characteristics, surface runoff flows much more quickly into open water bodies than it is able to permeate into the earth and recharge aquifers. This excessively efficient drainage not only causes flooding, but also erosion and sedimentation when runoff enters open water bodies, often damaging aquatic habitats. These impervious surfaces also raise the temperature of the runoff, reduce the dissolved oxygen content of the water and degrade the habitats of certain plants and fish. Runoff carrying sediments such as trace amounts of heavy metals, pesticides and petroleum hydrocarbons, cause the contamination of open water bodies. In addition to polluting the water, these chemicals often provide excessive nutrients which can create an imbalance within alluvial ecosystems: this is particularly the case with surplus nitrogen which increases the formation of algae, which in turn decreases the dissolved oxygen content in the water body and degrades aquatic habitats. Roadside environments are also severely damaged by these expansive paved areas. Heavy metals from vehicles, namely zinc, cadmium, nickel and lead, and chemicals from roadway maintenance,
such as herbicides and salt, lead to the destruction of native plants and promote the encroachment of invasive species which are tolerant of harsh environments. As previously mentioned, the flow of runoff which contains these contaminants into open water bodies causes severe damage to aquatic habitats (White & Ernst, 2003, pp. 7-8). For these reason, the urban desert is not ideal for the sustainable future of urban development. Urban ecological fragmentation is a crucial issue to resolve while developing a walkable environment upon this site.
**Forgotten primitive landscapes**

The urban desert condition results in the removal of the primitive landscape, and causes fragmented thinking within society. This is not simply a spatial structural problem but it is also about our personal disconnection from nature, therefore, recalling the primitive landscape in future urban landscape becomes an important issue.

**Tallgrass prairie**

The description of native plant species in Winnipeg is one method of evoking this primitive landscape within the urban environment. The present city of Winnipeg is located in an ecosystem classified as Tallgrass Prairie in the Prairie Ecozone. The features of this prairie ecosystem include tall grasses such as Big Bluestem, which grow between 1.5m and 2m high, and which are sustained by deep fertile soil (For a broad description of tallgrass prairie species, go to http://www.livingprairie.ca). Beside this landscape dominated by grasses and other herbaceous plants, other ecosystems in this area include the aspen forest, the oak forest and the riverbottom forest. Animal species which formerly populated these lands included bison, antelope, mule deer, grizzly bears and wolves (City of Winnipeg Naturalist Service, 2005). These complex ecosystems were significantly altered upon the arrival of European settlers: due to the fertility of the soil and its potential for growing grain, nearly 99% of native tallgrass prairie has been destroyed in order to develop agricultural lands (Manitoba Conservation, 2011).

**Riverbottom forest and flood landscapes**

Similarly, prior to the development of the city, the project site was covered by riverbottom forest. The ecosystem is included within a group of riparian environments considered as crucial habitat due to its many advantages. Since the riverbottom forest is frequently flooded in spring, its soil accumulates silt as well as nutrients to support the growth of diverse communities of vegetation, and becomes the home to a variety of wildlife (City of Winnipeg Naturalist Services, 2005). Besides biodiversity, this ecosystem also provides numerous benefits to our society. While the roots of the forest stabilize the soil to prevent erosion, this vegetation also stores excess water and thereby contributes to flood prevention and the filtration of contaminants while shading the river to provide habitat for fish as well as a corridor allowing for the migration of diverse wildlife. (City of Winnipeg, 2005, p. 21). Due to their critical importance, riparian zones (including the Churchill Parkway at the south end of the
site) are protected under City bylaws.

Riverbottom forest can be subdivided into three sections from the edge of the water to the interior land: the riverbank, the floodplain, and the terrace. Although it is difficult to determine the boundaries between these subdivisions, each area possesses unique characteristics. The riverbank, on the edge of the water body, is a moderately slanted slope. Due to annual disturbances, namely flooding and ice breakup, few shrubs can grow in this area: while Willow and Cottonwood are dominant species, grasses and annual wildflowers are also prevalent. The floodplain is a relatively flat portion of the bank, and the highest diversity of plant species is usually observed in this area. Green Ash, Basswood, American Elm, and Manitoba Maple are the common tree species, while flood-tolerant shrubs including American Hazelnut, Beaked Hazelnut, Downy Arrowwood, and Chokecherry also dominate this area. Many different varieties of wildflowers, grasses, and vines, both woody and herbaceous, are also often observed in this area. The terrace is more elevated than the floodplain, and therefore this area is rarely inundated. Since this area is drier, it attracts different species such as Bur Oak, yet it also possesses certain plant species in common with the floodplain. It must be noted that Dutch Elm Disease has caused a change in the dominant tree species, from American Elm to Green Ash (City of Winnipeg, 2005). Due to the importance of the riverbottom forest, it is vital to consider the recreational uses of the site and the impact it holds for the quality of these riparian zones. According to Manning et al. (as cited in Fabbri, 2003):

Recreational use can cause adverse physical and biological impacts on riparian areas. The impacts of outdoor recreation at the Assiniboine Park riparian forest include trampling and loss of vegetative cover, tree damage, soil erosion, introduction of exotic vegetation, soil compaction, trail-pitting, litter, and pollution of water resources. In addition, recreation can impact the quality of visitor experience including visitor crowding, conflicts between different user groups, a reduction in visitor learning, and visitor displacement. (p. 3)

This should not mean automatically prohibiting recreational access to riparian areas in order to resolve these issues. According to the City of Winnipeg Planning, Property & Development Department, “Of the 240km of water front property within city limits, the City of Winnipeg owns about 45% (108km). Of that, only 35% (85km) are publicly accessible” (as cited in Fabbri, 2003, p. 3). Therefore it is a crucial issue to consider how design might provide people with a rich experience of nature without damaging these important riparian zones.

Through this review, the history of urban development can also be considered the history of fighting floods. Prior to European settlement, water was free to move
dynamically across the landscape: the flood activity of both the Red and Assiniboine rivers created an expansive wetland condition. Prior to the construction of the Floodway, the floods of 1950 and 1966 were the largest recorded inundations:

The 1966 flood represents a high flood year and flooding of channel bank areas, with no significant flooding of the overbank areas at least within the urban areas of the city; 1950 was a year of substantial floodplain flooding, particularly upstream of the Norwood Bridge area with large areas flooded in St. Vital, as well as Riverview and portions of Fort Garry including Wildwood. (Harding, Mohr, and Remi, 2004, p. 2-23)

In 1997, a massive flooding event dubbed the “Flood of the Century” occurred. Although the Floodway, constructed in 1968, protected the urban areas of Winnipeg, it may have exacerbated flooding in certain areas south of the city. The contamination of drinking water within particular suburbs has also been recognized as an essential issue since the depths of the excavation for the Floodway reached below the water table, contaminating numerous lakes. According to Stewart et al. (2000):

The flood of 1997 resulted in the largest known mass transport of these nutrients in a single event out of the Red River valley to the south basin of Lake Winnipeg, at least for the period of time when water quality data are available. This was due mainly to the large volume of floodwater in 1997” (p. iii).

The large areas of industrial agriculture and the efficient drainage system in Manitoba increase the incidence of flooding as well as the contamination of the water. Watson & Adams (2011) explain the manner in which our society has altered the natural landscape without understanding the complex workings of nature itself. In a natural landscape, vegetation filters and purifies storm water along a meandering path “at both the small scale (natural swales and depressions) and the large scale (stream meanders and floodplains), storing and slowing water along the way” (p. 95). The natural landscape is capable of absorbing most rainfall events. Of course, with excessive precipitation, both natural and urban landscapes generate runoff, although the natural landscape will absorb the water from the beginning of the rainfall while providing meandering drainage paths to slow down the overland flow and allow additional time for this water to percolate into the soil and recharge aquifers. For this reason, recent development is regulated to reduce the flow of storm water. However, the popular solution within a majority of projects is to create large detention ponds, which do not resolve the fundamental issue of treating this water before releasing it back into the environment. According to Watson & Adams (2011):

The flow rate or detention approach to flooding also disregards the value of
the rainfall as a resource. Allowing small, frequent rainfall events to discharge rapidly downstream via a conveyance system disregards the need to replenish soil moisture and provide groundwater recharge. Healthy vegetation can no longer sustain itself. Storm water management that focuses on controlling flow rates while increasing the volume of runoff sent downstream continues to foster the belief that storm water is nuisance to be managed and disposed of rather than recognizing the benefits of the rainfall. (p. 99)

Similar to the problems associated with flooding, storm water treatment often results in water contamination which must be resolved within the design of individual sites. The vital concept derived from this review is that the collective entity of project scale design ought to contribute to resolving regional scale issues. Therefore, the design intervention proposed for the project site must contain a logical response to the complex issues discussed in this chapter.
Chapter 6. Abstracted Nature
Abstracted Nature

The infinite depth of nature evokes diverse perceptions. It recalls mysterious worlds detached from our daily lives. Consciousness reminds us that we are not merely living organisms; we are designed to imagine. This philosophy enriches my life and makes it more meaningful. Thus, site analysis is one of the most exciting parts of the design process: it is easy to become captivated with a place, sensing its flows, feeling its energy. Understanding the context: the history, geology, ecology, land use, spatial structure, and flows of movement and energy, render the site an attractive entity to consider, a place of amazing complexity. While composing a landscape design from those materials is very exhilarating, at the same time it can also be very nerve-wracking as I question my proposed solution: does my design retain the depth and complexity of the existing site? Would it amaze future landscape architects? Is it possible to conceive of this site as an incubator, a platform of culture originally present in its primitive landscape? These inquiries represent an important moment in the creation of the design, a time to expand the imagination. The greater the frustrations which emerge through this process, the higher the complexity which will be absorbed into the design. This chapter reviews the consequence of this frustration, examines the design language which I developed through my education at the University of Manitoba, and explores the generation of a vocabulary for the site design. As previously mentioned in the Introduction and Chapter 3, my ultimate goal in landscape design is to create a platform from which to nurture environmental culture. Since my previous coursework at the University of Manitoba was executed with this motivation, reviewing the design process of these projects would be a useful exercise to inform the design of this practicum site. For each of these earlier works, two different approaches were considered to produce the final design: 1. The land art approach of an abstract expression to recall primitive landscape or historic elements, and 2. The landscape planning approach of formulating a strategic plan or program to activate local culture or to recover natural habitat in the site context. The latter is most similar to the strategy discussed in this practicum for the project site. Therefore, this chapter focuses primarily on the first method, the land art approach towards developing design vocabularies.

The metaphorical expression of site characteristics

There are three courses focused on design, commonly referred to as studios, in the Master of Landscape Architecture program at the University Manitoba. All of the sites for these design exercises are within Canada: the townscape themed design in Winnipeg Beach, Manitoba; the post-industrial design speculation in Thunder Bay, Ontario; and the urban design strategy for a historic district in Québec City, Québec.
Winnipeg Beach Studio

For the Winnipeg Beach studio, the main theme of my design intervention was to create a land art promenade as part of a park network system, which was also intended to open a discussion relating to the town structure and its reconstruction for future development. The recreational path was based on two types of linear landscapes: the significant wildlife corridor and the boundary of different soil conditions (Figure 6.1). Since this dividing line between these discrete soils indicates distinct qualities, namely stability and permeability of the ground surface, the proposed series of land art projects expressed this border between the town and property unsuitable for development due to inefficient drainage, in terms of the primitive sense of selecting land to establish a colony. The most important feature of this network is the series of land art projects and the artist community. Since the activities of local artists are prominent within the town, this framework enhances the unique culture of this community. These attractions increase visitors to the lake country, and promote interaction which encourages the socio-economic sustainability of the town.
Within this studio, one particular land art project in the series was chosen for further development. The main concepts behind the land art conceived in this proposal are as follows:

1. Art can represent the memory of the land
2. Art can reflect the beauty of the nature within the town
3. Art can bring creative motivation into the town

Entitled *Glacial Variation*, this land art (Figure 6.2 to 6.6) expresses the soil movement resulting from the activity of glaciers. The terraced landform is supported by Corten steel, which also expresses the memory of railway development, infrastructure initially developed to bring visitors into the town during summer holidays, and essentially the origin of this settlement. This Corten steel is also meant to serve as the walls of an open-air art gallery, a feature which is intended to attract more artists and visitors to the town. Since this land art is located at the edge of the lake, it invites visitors to experience the phenomenal expression of nature, such as reflection in the water of the lake, the sound of the waves and the exceptionally beautiful sunrises and sunsets.
Figure 6.5 Site plan

Figure 6.6 Bird’s eye view perspective
In the Thunder Bay studio, my design intervention was produced after the group established a regional green network to rehabilitate the contaminated postindustrial sites located along Lake Superior. In this collective analysis, undertaken by Justin Neufeld, YiHong Liao and myself, we began by analyzing the GIS data for this region. Subsequently, we proposed the application of a green network strategy for the entire city and selected appropriate sites to develop individual design interventions. The site I chose was along the central spine of the green network, adjacent to the wide area occupied by the rail yard. Since these train tracks act as both a physical and psychological barrier that divides the city centre from the lake, it was necessary for the site to become a connection for both humans and wildlife. As a result, I suggested the incorporation of a large landform serving as park on top of this rail yard, focusing on a program of wildlife rehabilitation and decontamination of the postindustrial lands (Figure 6.7 to 6.11). While the “ultimate purpose of this design intervention was to conceive an ideal connection between the site’s surroundings and create an identity for the city centre of Thunder Bay” (Yabe, 2009), this landform fulfilled the role of a symbolic platform, whose form was inspired by the Sleeping Giant peninsula, a local landmark, and a place of aboriginal spiritual significance. The designed landform connects both of the initial colonies, Fort William and Port Arthur, while enabling people to enjoy the scenic views while walking between these two settlements:

[This design] also allows people access to industrial and post-industrial areas from the Intercity. From certain vantage points on the landform, people can see both industrial areas and the Great Lake, previously hidden from view. In this way, lakefront recreation, such as marinas, and other amenities will be evoked. Furthermore, the landform has several intentional voids to show the industrial motion of the train. This design aims for a dynamic appeal featuring the memory of the industrial city, capturing the land in poetic landscape scenery. (Yabe, 2009)
Québec City Studio

For the Québec City studio, the key to successfully developing a new design in the historic part of the city, a popular tourist attraction, was to determine the overall issues for this entire city. Through this regional analysis, urban sprawl in this city was considered to be the largest point of contention:

Since a number of job opportunities are increasing in suburban areas, this has entailed the growth of suburban population. This indicates the functional center of the city is slowly moving outside of the historic city center. In this regard, a decline of central Québec City is anticipated with a possible isolation of Vieux Québec through tourism, which tends to physically and psychologically separate its living infrastructure and functions from actual city life. To prevent the progression of urban sprawl, it is therefore significant to emphasize the physical connection between suburban areas and the historic city center. Particularly, for the purpose of activating the city center, it is effective to develop a regional bike/pedestrian network because pedestrian-oriented design is integral towards emphasizing the function of the city center. (Yabe, 2009)

Thus, the main motivation behind this design was not to let the old city, the main tourist attraction, become an isolated theme park. The site I chose for this intervention was the international port in this old city, Vieux Québec.

Since the project site, le Vieux Port, is as a node situated along several major paths, this project fulfills the role of a significant hub station within the regional cyclist/pedestrian network. Furthermore, since many luxury liners from all over the world dock at le Vieux Port, the site represents the first impression of the region and the nation to many passengers. Therefore, to create an attractive entrance, the overall design was generated as a metaphorical expression of the citadel, the biggest and most unique tourist attraction of the city (Figure 6.12 to 6.16). Elements on the site feature the use of vernacular materials such as Thuja plicata (Western Red Cedar), Acer rubrum (Red Maple), and light gray, flame finished granite paving which gestures towards the nearby Musée de la Civilization. (Yabe, 2009)

Through the use of these particular materials, this design intervention captures a sense of Québec City’s distinct history while providing a major recreational attraction in the heart of the city for tourists and locals.
Figure 6.14 Site plan

Figure 6.15 Perspective view

Figure 6.16 Section
Complexity and symbolism

The primary design vocabulary element extracted from the review of these projects is the repeated intention to create a viewing platform for the iconic features of the Canadian landscape: the vast skies, the horizon, and the texture of the ground surface. Simultaneously, each of these landforms expresses the environmental or historic features of the site in an abstract manner. At this point, a question arises: Why are these abstract, metaphorical expressions so important? This is due to the fact that the urban landscape, which we experience on a daily basis, influences our values, our common sense, and our perspectives towards others. In this manner, fragmented landscapes, the topic of this practicum project, ruin people’s imaginations and capacity to understand the interconnected relationships of complex ecosystems, and essentially the mechanisms of our existence. Although there are conceivably many design approaches for resolving this problem, the proposed metaphors conveying the message of the land can offer the opportunity for people to re-think the meaning of these places and to become aware of the environments in which they spend their lives. While Geertz states that: “Symbols are intimately linked with our spiritual, inner world and with religion. They can assume any imaginable form, including pictures, metaphors, sounds, gestures, colours, myths, and personifications” (as cited in Vroom, 2006, p. 312), Vroom (2006) adds that “Even if we are not conscious of it, symbolism is present in all the phenomena around us” (p. 312). My understanding of symbolism in relation to landscape architecture, developed in theory coursework at the University of Manitoba, describes the influence of these signs in affecting people’s perceptions of the world. “When we start thinking about our living environment, landscape as a symbol which represents the relationship of human and nature, we begin to realize that it subliminally fosters an awareness of the meaning of our existence” (Yabe, 2010). However, in current society, the value of symbolism seems to be disregarded. Corner (1990) remarks that: “Symbolic and poetic intentions are too often trivialized or rendered naïve in a prosaic world where pragmatic values of efficiency and usefulness are predominant.” (p. 77). Treib (2001) describes the importance of merging both the artistic and the pragmatic approach towards design:

Planners and designers who stress ecological factors as the sole basis of landscape architecture have often disregarded the idea of landscape architecture as form, space, and cultural practice. Those who favour social use have often rejected landscape design as an art. And those who have designed from aesthetic concerns alone, have often produced landscapes of stillborn human involvement or neglectful of basic site conditions. (p. 133)

The former studio projects introduced throughout this chapter are experiments of the integrated strategy advocated by Treib (2001), the controversial approach which
attempts to unite both the artistic and the pragmatic/planning-based thinking. This thinking is subsequently extended into this practicum to develop a design vocabulary, a symbolism which evokes the imagination of primitive landscapes upon the site.
Chapter 7. Preparations
Figure 7.1 Design process diagram
Design process

Figure 7.1 shows the structure of the decision making process for the design of Site A, which is produced from the review of former coursework discussed in Chapter 6. The layered structure of the diagram shows the landscape planning approach towards the site, in which each stratum shows the different components of site analysis (see Figure 7.2 to 7.9, in p. 106-107, site analysis), while the artistic approach is developed through inspirational design vocabularies collected during the site analysis (see Figure 7.10, in p. 108, design vocabulary swatch).
Figure 7.2 Building use
Figure 7.3 Open parking lot
Figure 7.4 Vegetative patch
Figure 7.5 Urban forest
Figure 7.6 Site view structure

Figure 7.7 Future bus circulation

Figure 7.8 Vehicular circulation

Figure 7.9 Pedestrian circulation
Figure 7.10 Collected design vocabulary
These discrete approaches, developed separately, produced two different visions for the site. With the artistic approach, the collected design vocabularies are collaged together to generate the abstract design image for the site (see Figure 7.11, in p. 110-111, recalling primitive landscape). From the planning approach, the potential infrastructure and land use program are explored (see p. 112-113, mixed use community strategy). These two individual approaches are merged together in the drawing and modeling stage (see p. 114-115, drawing and modeling process). As mentioned previously, this repetitive visualization of logical and intuitive personal discourse is critically important yet the most frustrating stage of the entire design process. The modeling medium, used in the volume and form study, is white Plasticine, which is intended to represent the winter landscape due to its texture, colour and sculptural shadows. The design generated thorough these processes is then validated from the perspective of fragmented thinking executed in Chapter 5. Subsequently, the drawing and modeling stage is repeated until the design satisfies the requirement set in the validation stage.

**Design vocabulary**

These inspirational images (Figure 7.10) were collected throughout the entire site analysis process. Their features, namely form, meaning, texture, motion, colour and reflection are metaphorically embedded within the functional components of design as elements of a vocabulary. The sky, the horizon, and the texture of the ground comprise the main components for this borrowed landscape as mentioned in the previous chapter.
Figure 7.11  Recalling primitive landscape: This photo collage was generated from my own image of primitive landscape which was evoked from the entire analysis. This graphic was created to represent a vision for the final design.
Mixed use community strategy

The new rapid transit station on the project site is a great opportunity to encourage the development of a pedestrian culture, which could support the emergence of a new economic system (Chapter 2). Although creating a park on this site has great potential for urban ecological education (Chapters 3 and 4), the potential for new economic opportunities must not be diminished through the design of this park. The proposal for this site must maximize economic prospects as well as the urban recreational and ecological opportunities. Learning from the precedent in Japan, of Inokashira Park (Chapter 4), spatial proximity to destinations such as businesses, commercial areas and the transit hub is a crucial condition for successful park design where the constant flow of people sustains an active urban environment. This mixed-use community concept, the strategy of combining multiple urban functions into one community or site design, is coincidentally the main thrust of the Complete Community strategy envisioned by the City of Winnipeg:

Complete Communities provide options for accessing services, amenities and community resources by ensuring that most of the daily necessities of life...services, facilities, and amenities...are readily accessible. Complete Communities provide options for mobility by facilitating a range of transportation options. In many instances, modes of transportation will differ from one part of the city to another based on the area’s context. Alternative modes of transportation should be encouraged where they can provide convenient and realistic travel choices. Complete Communities celebrate diversity and provide housing options that accommodate a range of incomes and household types for all stages of life. Complete Communities provide options for local employment, recognizing that not everyone will live near their place of employment. While Downtown, airport lands and designated employment zones will continue to be the centers of employment in the City of Winnipeg, a complete community should entail a mix of uses that will provide the option of employment close to home. Communities are living, dynamic and unique entities that evolve and change over time. The concept of complete communities is directly applicable to every part of the city, but recognizes the unique aspects that differentiate one community from another. Reflecting on the level of completeness of communities is a key step to developing, exploring, and comparing ideas for improving them. (City of Winnipeg, p. 4)

While the concept for the project site (Site A) is to develop the design for a new park that achieves the goals established by the Complete Community strategy, the significant difference between both approaches is that this project includes a focus on urban ecology (Chapter 3), considering the potentials and constraints of urban infrastructure, as well as spatial and cultural factors on the site (Chapter 4). The design process, which is discussed in the beginning of this chapter, resolves these complex issues. Figures 7.12 to 7.16 show the potential application of a mixed land use strategy for Site A.
Figure 7.12
Building use: Surrounding site

Figure 7.13
Land use on-site

Figure 7.14
Combining business and commercial buildings

Figure 7.15
Combining parking lots

Figure 7.16
Potential strategy: Roof top park design
**Drawing and modeling**

Drawing is the tool to analyze the site, visualize issues, imagine the site in time, conceive forms, create programs, and communicate with one’s own instinct. This is an individual’s dialog resulting in a way to share my own idea that inform my design. These drawings tend to show the “flow” of abstract connectivity of diverse actors on the site. This flow consists of many participants and the narratives of their life, which includes elders, business people, school kids, dating couples, birds, squirrels, bees, butterflies, micro-organisms, water, soil, and air. Although this is completely the imaginary world, this imagination is about different personal realities, the platforms of their daily life. This imaginary world is the place where the landscape architects have to dive in, explore, enhance, expand, and visualize. Modeling is thus the next step to visualize this world because it contains more information than the drawings, since it is the three dimensional medium which is the extruded result of the two dimensional intellect. Therefore the modeling has to be more precise than the drawings, which visualize spatial relationships of the site and the sequences of narratives for different actors. Repetitive exploration of the combination of these two methods is the way to integrate all the discussion as one design. Figure 7.17 shows the process of the development of the drawing and modeling.

In order to resolve the issue of fragmented thinking discussed throughout the preceding chapters, the method and the preparation of design for Site A were integrated into one design through the drawing and modeling process. The consequence of this design exploration is discussed in the next Chapter. While this practicum focuses on the design of the Site A, since the discussion began with potential of the pedestrian/bike path network strategy, the design intervention includes the conceptual design of Sites B to D, which are important nodes for realization of the fuller park network.
Figure 7.17 Drawing and modeling process
Chapter 8. Design Intervention
Figure 8.1 Master plan
The master plan consists of four sites: Site A through Site D (Figure 8.1). While the design for each site is developed to the point of realizing the pedestrian/cyclist network strategy discussed in Chapter 1, Site A is the main focus of this practicum, which comprises the conception of a new urban core, Osborne Junction, and its connection to the river.

Master plan

Site C

Site B

Site A: Osborne Junction

Site A: Riverside Plaza

Site D
Figure 8.2 Circulation diagram
The proposed pedestrian/cyclist circulation for the overall site is integrated with the existing circulation system and provides access to the river path (Figure 8.2).

Within this network, several landmarks are included to draw the attention of visitors towards the river, simultaneously creating a variety of views while providing a destination spot for recreational users. The taller structures, namely the viewing tower and the peaked architecture of the buildings on Site A become larger scale landmarks, forming a skyline view which designates the location of this new urban core (Figure 8.3).
Figure 8.4 Site A master plan
Design: Site A
This bird’s eye view perspective (Figure 8.5) represents the general configuration of the design, a slanted form which directs people’s view toward the sky. It also metaphorically represents the geological layer of sediment in the ground below the structure, which itself is composed of several layers and programs.
From the top, the landscape program provides several small gardens to diversify the recreational activity and urban ecological education on this site (see Figure 8.7 & Figure 8.8, in p. 128). Beneath these landscape programs, there are several interior functions, namely business, commercial and institutional uses, which set up a mixed-use community within the architecture of the site (Figure 8.9, in p. 128). Although the main design concept is to nurture a pedestrian culture, several parking lots are also provided (Figure 8.10, in p. 129): while it is difficult to establish any successful office or commercial businesses without providing any parking, due to the current reliance on automobile use in Winnipeg, this strategy accommodates a portion of the existing demand while gradually encouraging a pedestrian lifestyle through cycling and walking. The new transit circulation including the proposed bus lane (Figure 8.11, in p. 129) helps to create a safer and more efficient intersection. In this configuration, buses do not have to travel through the triangular traffic island of the congested intersection, thus causing confusing circulation upon this site. In the design, bus stops are instead located as the part of the plaza so that transit users can engage with the activities in this public space while they are waiting for the bus. Shelters are built into the architecture in order to protect people from the harsh winter climate.
pedestrian/cyclist circulation

circulation loop

landscape program

interior functions

vehicle circulation & parking

bus circulation

Figure 8.7 Site program
Figure 8.10 Interior functions

Figure 8.11 Transit circulation & bus station
Pedestrian/cyclist circulation

The circulation design of the site is developed from three main considerations: movement between different destinations, connection with the river and transitions for bus users. The primary feature of this circulation system is a raised bridge loop, which is accessed from existing footpaths surrounding the site via new pathways integrated into the moderate slopes of the landform. Through the introduction of this overhead circuit, pedestrians and cyclists can bypass the congested traffic intersection quickly and safely. This feature also connects Osborne Junction with the riverside plaza, as well as every destination on the site and in the adjacent areas (Figure 8.12 to 8.14).
The most crucial feature of the circulation design is that this system aids the flow of people from each bus stop and promotes their interaction with the landscape programs. In order to reach any destination point in the site or the surrounding area, visitors are channeled through plazas where street vendors and artists are encouraged to work, thereby activating street life and initiating a pedestrian-oriented sub-culture (Figure 8.15 to 8.18).
Figure 8.19 Perspective view of the Tallgrass Prairie garden from the urban plaza
Displaying primitive landscape

Since the key concept behind the circulation system is to immerse people into nature while they engage in their daily activities, this design incorporates elements from the primitive landscape, discussed in chapter 3, alongside the pathways. As such, the slanted landform is configured to prominently display native plants of the Tallgrass Prairie. For this specific roof garden application, particular native species were selected according to their ability to tolerate shallow soil conditions (see Table 4, on p. 140-141). Since the native Tallgrass Prairie plants generally require deeper soils, the portion of this site devoted to these grasses had to be integrated with building piles underneath. As such, one third of this slanted structure comprises a Tallgrass Prairie garden atop reinforced areas of the building dedicated solely to infrastructure to support this landscape. While the tilted landform serves as the focal point of this design, people are directly faced with the views of the native plantings throughout the changing seasons. This encounter could become a great opportunity for visitors to learn the mechanism of nature in Winnipeg, particularly children, through the explorations of these gardens. The exposed nature of this landform, elevated into the sky, also enhances a sense of safety for the public during this interaction with the native landscape.
Figure 8.23 Material image

prairie plants

wetland plants

shrubs

hardscape
<table>
<thead>
<tr>
<th>Native plants garden: Shallow Soil</th>
<th>Tallgrass Prairie garden: Deep Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander</td>
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<td>American Hazelnut</td>
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<td>Indian hemp-dogbane</td>
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<td>Little Bluestem</td>
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<tr>
<td>Ox-Eye Daisy</td>
<td>Lilac-flowered Beard-</td>
</tr>
<tr>
<td>Penstemon</td>
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<td>Long-headed Coneflower</td>
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<td>Many Flowered Asterr</td>
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<td>Purple Milkvetch</td>
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<td>Purple Prairie-clover</td>
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<td>Pussy-Toes</td>
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<td>Rough False Sunflower</td>
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<td>Slender wheatgrass</td>
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<td>Small Yellow Lady's Slipper</td>
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<td>Yellow star grass</td>
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<td>Yarrow</td>
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<tr>
<td>Wetland garden</td>
<td>Shrub</td>
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<td>Arum-leaved Arrowhead</td>
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<td>Beaked Willow</td>
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<td>Chokecherry</td>
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<td>Jewel weed</td>
<td>False Indigo</td>
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<tr>
<td>Joe-pye weed</td>
<td>Mountain Maple</td>
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<td>Marsh Marigold</td>
<td>Nannyberry</td>
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<td>Pussy Willow</td>
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<td>Ostrich Fern</td>
<td>Sandbar Willow</td>
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<td>Riverbank Grape</td>
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<td>Turtlehead</td>
<td>River Birch</td>
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<tr>
<td>Virginia creeper</td>
<td>Yellow willow</td>
</tr>
<tr>
<td>Wild Columbine</td>
<td></td>
</tr>
</tbody>
</table>
Figure 8.24 Terrace Garden site plan

- Prairie wetland garden
- Mounded lawn
- Pyramid lawn
- Wetland plants cascade
- Wood deck
- Wetland garden
- Hanging garden
- Shrub garden
- Open café/restaurant
- Urban plaza
- Retention pond
- A
- A'

N 0 5 10 m
**Terrace Garden**

The terrace comprises a series of rooftop gardens which provide a place for relaxation while shopping or working. Each layer of the terrace garden has its own access into the building interior. Since the surrounding neighbourhoods consist of many apartments without dedicated exterior spaces, this garden is also meant to serve as a shared backyard. People can enjoy a variety of views towards the river and the horizon from the different elevation of each plateau. The form of the terrace garden and the detailing such as the paving pattern metaphorically express the riverbank landscape, specifically eroded banks and cracked soil of the river bed, elements of the design vocabulary which were collected during explorations of the site. (Figure 8.24 to 8.26).
Storm water treatment

The terrace garden also acts as a storm water treatment facility. This function is integrated to provide usable irrigation water, and as such utilizes native plant species in order to treat the water (see Table 4, on p. 140-141). The moderately slanted wetland structure grants enough time for the removal of the pollutants from the water, through the use of prairie wetland species. During excessive rain events, water is directed into an underground reservoir. This storm water is gradually released into the surrounding soil through a permeable drainpipe laid underneath the building structure (Figure 8.28 & 8.29).
Geological metaphor

The architectural façade metaphorically represents the motion of sediment layers below the surface of the ground. As if extruded from the earth, the form of the building is designed to recall soil movement in the underlying structure of the land. For these walls, the vernacular limestone, Tyndall Stone, is chosen (Figure 8.30 to 8.32). This material was also chosen for the pavement to demonstrate the unity and simplicity of entire landscape design, and to enhance the color contrast with vegetation, water and sky. The pavement pattern metaphorically expresses the soil crack of river side landscape, which generates diverse texture on the simply designed ground surface. (Figure 8.19 on p. 134 to 135, and Figure 8.27 on p. 144 to 145).
Street trees planted in the design create an urban forest, transforming the site into an oasis within the existing concrete desert. The circulation loop structure links the segmented land uses together as an integrated park. Approaching the site from Donald Street at the north, the two angular forms of the architecture act as a large gate structure (Figure 8.33). Viewed from Osborne Street on the northwest, the boulevard trees maintain the linearity of the street, strong lines which direct the view towards the rapid transit station while simultaneously filling the large void of the intersection with a human scale atmosphere (figure 8.34). These trees also function as a soft boundary separating the gardens from the heavy traffic of the street (figure 8.36 to 8.38).
Figure 8.39 Riverside plaza site plan
Riverside plaza

The riverside plaza consists of a viewing tower, a wood-deck plaza, a bistro and cafe, a pier structure, and a garden of riparian plants. The viewing tower is located on exactly the same spot as a similar structure formerly erected by the brewery (Figure 8.39 to 8.42).
The tower is designed to evoke a post-industrial atmosphere while concurrently serving as a vital landmark to draw attention to activities alongside the river. This structure is the key feature of the visual sequence leading from Osborne Junction to this plaza. This meandering, moderately sloped path incorporates diverse scenes which evoke multiple narratives. The viewing tower first catches the attention of visitors, and then people begin to notice the dramatic river view. After this expansive scene, the meandering path continues on towards the riparian garden and gradually merges into the existing Riverbottom forest (Figure 8.43 & 8.44). The pier structure draws people through the trees to the water, allowing ample opportunities for interaction with the forest and river without substantially disturbing the habitats within this site.

The wood-deck plaza, the bistro and the café are located adjacent to the viewing tower. The plan of these structures also traces the general footprint of the former brewery buildings. The raised wood deck and rooftop meadow are intended for use as an open-air café or restaurant, and for relaxation with peaceful views towards river. The existing office complex is integrated into this plaza, these spaces provide a direct benefit to the employees in this building as exterior gathering and break spaces. The terraced wood deck can also be used as an outdoor stage and auditorium for small events or concerts throughout the year (Figure 8.45). The features of this plaza would also work as a major station along the regional recreational path.
The riparian garden: Grey water treatment system

The most significant feature of the riparian garden is its ability to treat grey water on site rather than relying upon municipal systems. A combination of plants for bio-filtration with a treatment wetland, featuring native riparian vegetation, would enable the recycling of gray water from the offices, the bistro, and the café. For this system, one of the existing buildings on the site is modified into an equipment facility. Through the incorporation of this gray water treatment, the amount of serious pollutants flowing into the river is reduced and contamination is minimized (Figure 8.46 & 8.47).
Figure 8.47 Gray water treatment system: Section
Design: Site B
The slope and bridge structure designed for Site B are intended to create a new connection between the local community and the river path, which contributes to the establishment of the proposed park network system within this neighborhood as well as increasing the security of the river path (as per the strategy mentioned in Chapter 1). The meandering form of this structure is a reference to the Red River. A portion of the bridge is connected to the roof garden of an adjacent residential building, which invites the residents of this building to come out and explore the riverside. The sloped design of the structure on the urban side of the railway track is combined with the rapid transit bus station. On the side of the river, there are two approaches to this bridge: one comprises a moderately sloped ramp which efficiently carries people up to the overpass, while the other meanders through immature riparian forest and the riverfront to provide people with a more relaxed opportunity to explore the beauty of this site (Figure 8.48 to 8.54).
Figure 8.52 Riparian forest and meandering slope structure

Figure 8.53 River view from the structure
PRECAST CONCRETE
HE-M240
HE-B 500 x 300

FLAT BAR: STAINLESS STEEL 60 x 30
FLAT BAR: STAINLESS STEEL 100 x 60
FLAT BAR: STAINLESS STEEL 100 x 30

CONCRETE $t=150$

Figure 8.54 Structural detail
Design: Site C
Figure 8.56 Site C master plan

- rain garden
- crosswalk paving
- terraced lawn
- alternative path

N 0 5 10 20m
Site C, the north entrance to the river path, is the most important connection node to the Forks. The problem with the existing design is primarily the short walls which block the view towards the river as well as the path entrance (Figure 8.57). These walls were designed to create a plaza condition at this location by encompassing and framing the space, the intention is not successfully reflected in the actual atmosphere of the space. Due to its layout and location, it is difficult to think that this wall was built to prevent flooding. In the proposed design, these walls are removed to reveal an expansive view of the Red River as well as the walkway itself (Figure 8.58). The paving pattern is continuous between the existing plaza and the path itself to draw the eye towards the river as well as to intensify the connection between this trail and the pedestrian crosswalk. The terraced lawn on the riverbank provides seating which allows people to relax near the water and to observe recreational activities on the river such as kayaking or canoeing. Under the concrete footing of the railways, where access is currently blocked by the problematic wall design, another path is proposed as an alternative route during seasonal floods, thereby providing a new connection point which resolves the earlier issue of complete isolation along this river path due to inundations (Figure 8.56).
Figure 8.59 Site D master plan

- Viewing deck
- Path structure
- South entrance
Site D comprises the design of two nodes and the connection between them. The first node, the south entrance of the path, is designed to mark the entrance of the path through the construction of a slanted triangular planting bed, a similar design vocabulary to the architecture in Site A which recalls past soil movement as well as spring ice break along the river (Figure 8.61). In a similar type of metaphorical expression, a second node is designed to provide a viewing platform: the form of this wood deck structure follows the topography lines of the riverbank while providing terraced seating (Figure 8.60).

Since the path in between these two nodes is prone to flooding, and this site consists of Riverbottom forest in a relatively untouched condition, extensive modifications of this trail would not be appropriate. If changes were proposed, riverbank erosion would also need to be taken into consideration. After reviewing the flooded condition of this pathway and some potential designs (Figure 8.62), I selected a system with a pile structure, similar to the type used in Site B (Figure 8.63), since this configuration resists erosion and minimizes impact on existing habitat.
CONCRETE PATH
- easier construction
- prone to collapse with bank movement

ELEVATED PATH
- flood tolerant
- erosion tolerant??
- potentially damaging to riparian forest

HANGING PATH
- innovative
- heavy cantilever structure
- requires additional study

FLOATING PATH
- fun and exciting!
- heavy piles
- ice break tolerant??

PIER TYPE PATH
- ice break tolerant
- heavy piles
- blocks river view

ELEVATED PATH
- erosion tolerant??

CONCRETE PATH
- easier construction
- prone to collapse with bank movement

HANGING PATH
- innovative
- heavy cantilever structure
- requires additional study

FLOATING PATH
- fun and exciting!
- heavy piles
- ice break tolerant??

PIER TYPE PATH
- ice break tolerant
- heavy piles
- blocks river view

Figure 8.62 Potential design study

Figure 8.63 Detail of the path structure
Conclusion
Urban fragmentation is a prominent spatial, cultural, and ecological issue in modern cities. While our thinking has already been influenced by fragmented landscapes, it becomes very difficult to determine the exact nature of contemporary urban design issues. The experiment introduced in Chapter 5 proved that the careless consideration of the environment characterized by 20th century pragmatic urban design would perpetually generate new fragmentation, physical and psychological boundaries which create serious, long-term difficulties. Thus, the underlying problem is rooted in our fragmented ways of thinking which, rather than resolving issues, tends to continuously produce obstacles which impede our future growth. Although we tend to refer to urban issues as complex, the reality is that our society’s mode of perception renders these problems much more complicated than they are in actuality. As a result, a consideration of urban fragmentation is key to dissecting the problems currently faced by cities, as well as our own flawed thinking.

However, it was quite difficult to resolve all the different aspects of fragmentation which were discovered. For example, in the design of Site A, since most of the landscape programs are rooftop gardens, it is difficult to sustain soil creation to form the next layer of the earth. The proposed water treatment systems also require upkeep. In order to implement such new technological solutions, maintenance systems must also be considered along with local economic cycles, including plant nurseries. In addition, the scale of this project is quite large in terms of the expenditure of energy and construction materials, which must also be reviewed in terms of global cycles. These concerns represent a deeper level of resolution beyond the scope of this practicum, yet comprise the next set of challenges which would be addressed in a similar type of urban design intervention.

The most important thread running through this design process is that the elements presented in the master plan are intended as an entrance and viewing structure into nature. Each of these features is designed to enhance the existing beauty and mystery of the landscape. From this perspective, the main actor is not the design itself but rather the entire environment surrounding the intervention. Regardless of whether or not it is conscious, the urban landscape carries a message from its designers to the public. Although this meaning is often concealed, it is an issue we must seriously consider. These landscapes are neither politicians, nor activists: “They sit silently existing beside our lives, and ironically impose no demands on our current lifestyles while containing the most powerful and necessary part of human beings: nature” (Yabe, 2010). It is through this medium that I have endeavoured to covertly shape this interaction, the engagement of people with nature, and offer a potential solution to this fragmentation endemic in popular attitudes and public landscapes of Winnipeg.
Acknowledgments
To Professor Richard Perron: Thank you for your crucial advice and support throughout the process of this practicum.

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References


Yabe, Y. (2010). *Future role and design of city parks*. Unpublished manuscript, Department of Landscape Architecture, University of Manitoba, Winnipeg, Canada.


