

Asphalt Deserts:
Rethinking the Design of Surface Parking Lots in Downtown Winnipeg

by

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Rethinking the Design of Surface Parking Lots
in Downtown Winnipeg



Thesis By: Nahid Ahmadi

“The car is an instrument of freedom that has enslaved us.”

Walkable City ,75



ABSTRACT :
WHY SURFACE PARKING ?

Abstract

Surface Parking lots as deserted asphalt lands spread gradually but consistently over the urban fabric of our cities. In some U.S. cities, parking lots cover more than a third of the land area, becoming the single most salient feature of the built environment.¹ The extensive natural landscape of Canadian cities arguably make it easier for municipalities to dedicate vast lands to surface parking lots.

These asphalt desserts, as utilitarian spaces with solitary land use sweep through non-spaces in the urban context, surfacing the social and cultural fabric of the city as one of placelessness. The issue of surface parking becomes more dominant as they begin to spread over the dense urban environments such as our downtown cores. The city of Winnipeg is an example of this issue with surface parking lots occupying around 40 % of the land in the downtown.² This thesis seeks to redefine these spaces as places of social and cultural interactions, where public activities occur and parking space becomes more than just a resting land. Improving walkability and livability in downtown Winnipeg is one of the main goals of the proposal.

Secondary to the design vision of the new inner city, the project uses participatory urbanism in the form of a board game to engage the community in the current issues of the city and the solutions that could be provided for it.

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1

INTRODUCTION : SURFACE PARKING LOTS

Why surface parking ?

What went wrong ?

- Permanency of land use
- Livable, walkable city

How to fix it ?

- Thesis Goal
- Atmosphere Symposium
- Participatory Urbanism

Introduction

WHY Surface Parking ?

Since the invention of the automobile, North American cities have been challenged to provide new typologies of spaces to accommodate this new mean of transportation. But besides the implemented roads and expressways, cities also had to provide a new type of space for the immobility of the car: the parking lot.

The excessive dependency of the modern community on transportation with private vehicles has changed our ways of designing cities. These changes become more prominent when cars are in an immobile state for 95 percent of the time.³

To accommodate this, cities have to provide sufficient parking space to store the cars. As a result, today surface parking lots have become deserted asphalt lands, impacting the growth of suburbs away from the city core. The inessential growth of city boundaries also impacts the economic conditions of the downtown core . On the contrary, The expansion of surface parking lots within central downtown becomes a threat once they begin to spread towards the healthy city core.

Although there are several ways one could store their vehicles, most cities with available land still choose surface parking as the solution to the problem. This of course is common in North American cities with vast boundaries. Surface parking lots are cheap and simple to build and in comparison to other forms of parking there is hardly maintenance required.

Construction of surface parking lots in the suburbs results in an unnecessary sprawl that lowers the intensification of population in the city core. However, the construction of these lots within the downtown area become more problematic as they result in ⁴ :

- The demolition of viable lively neighborhood and historical landscapes;
- Disruption of social and public spaces;
- Rapid decline of pedestrian and cyclist friendly neighborhood and streets;
- Environmental issues, such as storm runoffs and heat island effect.
- Safety issues when left empty

Parking Lots Starting to Take over Cities AND Buildings !

In many post-industrial cities, accommodating the community centered on the vehicle became a design principle. The city of Detroit is a symbolic example of a region that experienced success and decay as a result of the development of its car industry. In the city of Detroit, as the pioneer post-industrial city in the automobile industry, many sites are left empty within downtowns and used as surface parking by the residents. Among those is the Michigan theatre (figure 1), which once was a performing arts center but is now used as a surface parking lot.

Automobiles are not only taking valuable land away from the city but they are also taking over their buildings.



Figure 1 - Michigan Theatre, Detroit

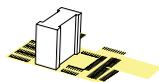
“From an inventor’s workshop to a movie palace and backdrop for music videos, the beautifully ornamented Michigan theatre is currently used as a parking garage.”⁵

What went wrong ?

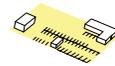
The Zoning Issue

The minimum amount of required parking space implemented in the cities' zoning bylaws is one of the main reasons causing the issue of excessive surface parking lots. These bylaws result in large amount of valuable land around each property dedicated to surface parking lots. (Figure 2) Minimum parking requirements at shopping malls, for example, often lead to sprawling developments surrounded by large, underused parking lots.⁶ Parking spaces for workplaces may be well-used during the day, but remain unoccupied in the evening. The lack of use is due to a legacy of single-use zoning and an automobile-first approach to planning.⁷ These void spaces create one of the most wasteful elements of transportation and land use systems: unoccupied parking space.⁸

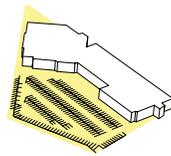
In most cases by laws require parking lots to be at the front of the building, pushing back the development from the street and making the neighborhood unfriendly. This has a negative impact on the livability of a neighborhood and therefore reduces the social value of the city.



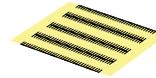
RESIDENTIAL COMPLEX



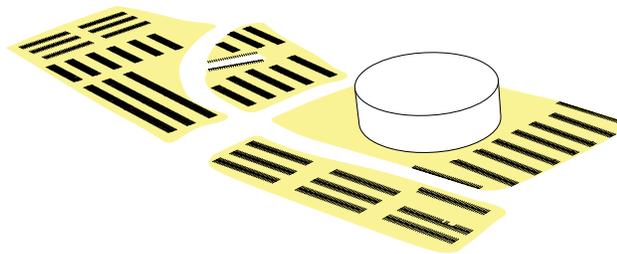
**COMMERCIAL
SMALL, PRIVATE BUSSINESSES**



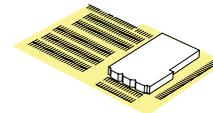
**COMMERCIAL
STRIP MALLS**



CITY BLOCK



RECREATIONS



**COMMERCIAL
BIG BOX STORES**

Figure 2
Overall Surface Parking Layout Types based on land use ⁹

Ghosted Walkability

Walkability is an essential need in any urban environment, it encourages social communication and a healthy neighborhood. Redundant amounts of surface lots in the downtown core can endanger this quality. If they are placed in close distances they could also discourage walkability and become harmful in downtowns where city blocks are closer and smaller. Walk-ability is an important elements in the design of downtowns, however a walk must satisfy four main conditions: it must be useful, safe, comfortable and interesting.¹⁰The combination of these four elements together creates a pleasant experience for the pedestrian.

Useful = most aspects of daily life are located nearby

Safe = the street is designed for the pedestrians & the pedestrians feel safe walking through that street

Comfortable = The buildings and landscape shape the urban streets into “outdoor Living rooms”

Interesting = Side walks are lined by unique buildings with friendly faces and signs of humanity abound.

Participatory Urbanism

Permanency of land use in these space caused by its utilitarian program is one of the problematic aspects of surface parking lots. Parking lots are an integral part of the social and urban context within the cities however permanency of land use isolates them as void spaces from any community engagement. For example, the lots provided for office spaces are used until 5 pm and then left empty turning them into empty voids within the city fabric, increasing issues such as lack of safety. Imagine a downtown where you don't feel safe after 9 pm, the city core is dead and quiet, business is down and the economy suffers.

“Parking lots, with their intended and unintended usages, are a found place. They are the unplanned urban rooms that fill physical and mental gaps in our designed environment. Places where counter-interactions and social occurrences are happening on a daily basis.”

Re-thinking a lot , 39

How to fix it ?

Thesis Goal

“ Despite their prevailing dullness and mundane design , parking lots are an integral part of our culture and social way of life. They should be treated not as a residual space of our built world, but as an integral part of it.¹¹ ”

This thesis argues for the necessity to redefine these voids as an integral part of our urban environment, not by promoting their demolition, but rather by exploring their role in our everyday lives and their possible potential for the future of our cities.

Focusing on the city of Winnipeg with 40 % of its downtown dedicated to surface parking lots, this thesis seeks to provide a vision that reveals a foresight of how these vacant asphalt spaces could be transformed into new spaces. Also named as the vision for a “Temporary Inner City”, this insight encourages looser and more flexible planning strategies. The proposal focuses on a fluid urbanism rather than a solid one, while promoting temporary design as a strategy to provide new public spaces.

Taking advantage of the existing city fabric, the proposal integrates these asphalt deserts with spaces that invite walkability and livability within a neighborhood. The framework also aims to introduce a variety of people oriented activities that is vital to the economic success of the city downtown.¹² The ultimate goal of the project is to provide an opportunity for the citizens to visually understand the changes that could be brought to their downtown if surface parking lots are replaced with public spaces.

Participatory Urbanism:

The Board Game

Many people living in Winnipeg tend to believe that there is not enough parking in its downtown area. The Winnipeg downtown includes a total of seventy-five surface parking spaces (in different sizes and forms) in its multi-purpose sector, in a 20 minute walking distance radius. To make this transformation possible it is important to engage the community and raise their awareness on the existing facts and issues within their urban context.

As a secondary method this proposal aims to design a board game based on Winnipeg's parking story. The board game becomes a supportive tool to engage people in the complicated process of city planning.

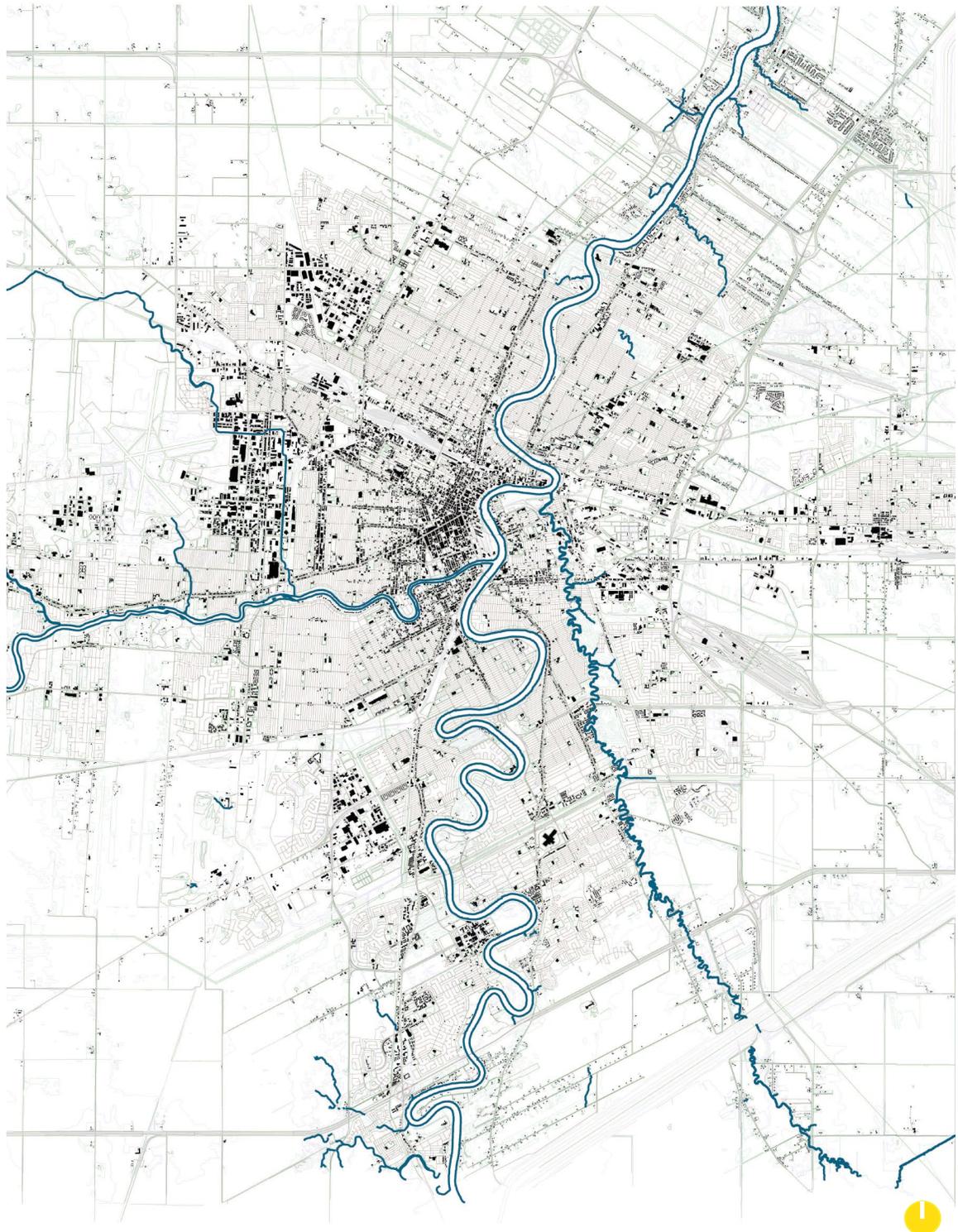
Atmosphere Symposium:**Site Visit**

Site visits are an important part of any design project to become familiar with the site conditions and its urban environment. While planning a visit to Winnipeg to document and expand my knowledge of the chosen urban context, I had the opportunity to take part in the annual architecture symposium held by the University of Manitoba called, The Atmosphere Symposium organized by Prof. Lisa Landrum. Participating in the Atmosphere Symposium under the theme of Fabrications in SITU, gave me the ability to present and discuss my design framework and future vision before beginning the design stage. This was an opportunity for me engage with the community and the conference participants. The conference provided me a chance to talk to a variety of people from professional architects to ordinary citizens, city authorities, faculty, students and urban planners. The feedback taken from this event, the presentation and the engagement with the participants had a major impact on my design proposals, and should be considered as part of the methodological process of developing the thesis argument.

2

WINNIPEG: A CITY SCALE SITE ANALYSIS

Brief History
The Story of Winnipeg Downtown
Downtown Analysis



Winnipeg

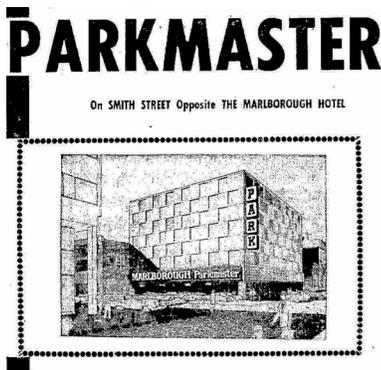
Brief History of Parking

Similar to many north American cities Winnipeg was faced with parking issue after the WWII. The root of the problem was the required transportation to work for people who lived in the suburbs, but worked and shopped downtown.¹³ In order to accommodate this issue the city had to provide parking structures for people to park their cars while they did their every day activities. Wilbur Smith, the traffic engineer who was hired by the city to study the parking problem in Winnipeg, pointed out that between 1946 and 1956 the number of cars registered in the greater Winnipeg area had almost tripled.¹⁴Winnipeg's first parkade was constructed by the Hudson's Bay Company(HBC) behind its downtown store in 1954.(Figure 12)

In the mid-20th century, parking requirements were added to address surface street congestion caused by patrons driving in search of parking. Planners didn't foresee that minimum parking requirements would favor private vehicle travel, lower overall density, and increase traffic .¹⁵



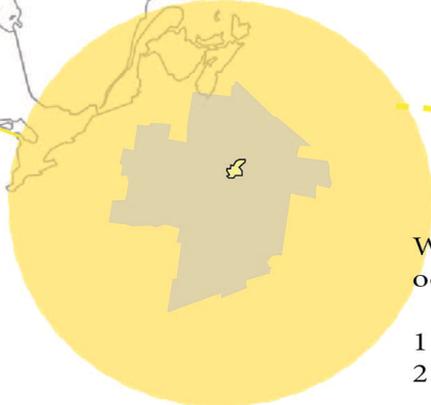
▲ Figure 9 - Winnipeg Tribune
Eaton's parkade, the city's second parking structure in 1956



▲ Figure 10 - The initial HBC parkade was a 'double decker' with a capacity of 450 cars, but was designed so additional storeys could be added.

▲ Figure 11 - 1957, The city's third parkade, the automated Parkmaster across from the Marlborough Hotel, proved to be impractical. The \$1 million structure was demolished after just a decade.

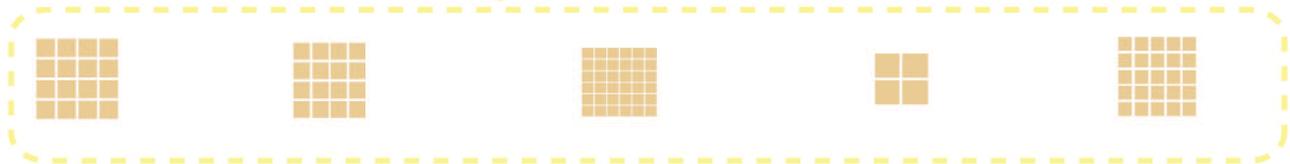
WINNIPEG Downtown



Winnipeg downtown occupies:

1 % of the total land area
2 % of the total population

Quick comparison of the size of downtown blocks in each city



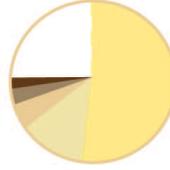
1% OF TOTAL LAND AREA
2% OF TOTAL POPULATION
77% OF TOTAL OFFICE SPACE

WINNIPEG



0.1% OF TOTAL LAND AREA
1% OF TOTAL POPULATION
40% OF TOTAL OFFICE SPACE
9% CONSTRUCTION VALUE DOWNTOWN
18% OF TOTAL TAX REVENUE

OTTAWA



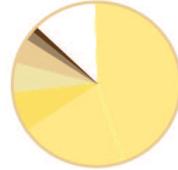
3% OF TOTAL LAND AREA
7% OF TOTAL POPULATION
53% OF TOTAL OFFICE SPACE
17% CONSTRUCTION VALUE DOWNTOWN
25% OF TOTAL TAX REVENUE

HALIFAX



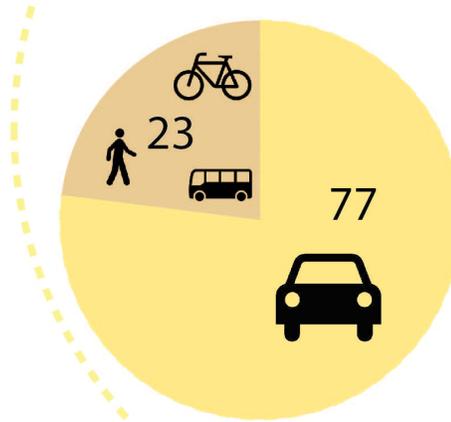
1% OF TOTAL LAND AREA
1% OF TOTAL POPULATION
65% OF TOTAL OFFICE SPACE
7% OF TOTAL TAX REVENUE

EDMONTON



1% OF TOTAL LAND AREA
4.6% OF TOTAL POPULATION
73% OF TOTAL OFFICE SPACE
13% CONSTRUCTION VALUE DOWNTOWN
19% OF TOTAL TAX REVENUE

VANCOUVER



With 77 percent dependency on the car as the mode of transportation, Winnipeg is among the cities which has dedicated a huge amount of property to surface parking lots in its downtown.

The Story of Winnipeg Downtown

There are some defining conditions for a downtown's boundary. Firstly, the downtown boundary has to include the City's financial core. ¹⁶Secondly, the downtown area should include diverse urban elements such as the City's main "high street," a concentration of commercial and mixed use buildings, major civic buildings such as the City's Town Hall, major public spaces, such as a city square or plaza, religious or ceremonial spaces and residential land uses. ¹⁷ Lastly, a hard edged boundary such as major streets or train tracks, or a natural feature such as a body of water could be regarded as the defining boundaries of the city downtown. ¹⁸

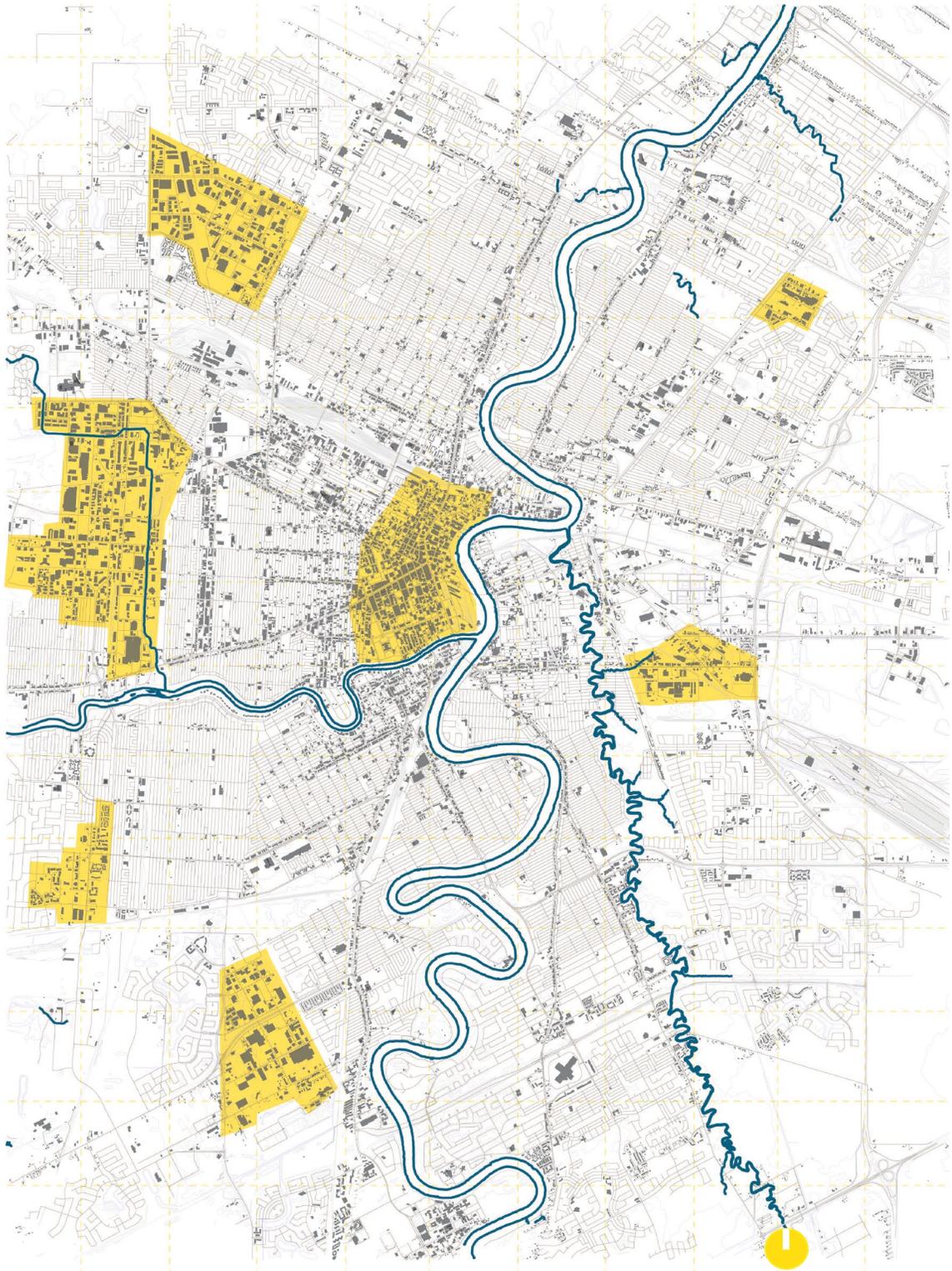
Downtown Winnipeg, as shown in the diagrams on the left, occupies 1% of the total land area of the city. Despite the small percentage, the downtown blocks are quite comparable with other cities shown on the diagram in left. This is also a factor that becomes problematic when a whole block is dedicated to surface parking lots.

Downtown Analysis

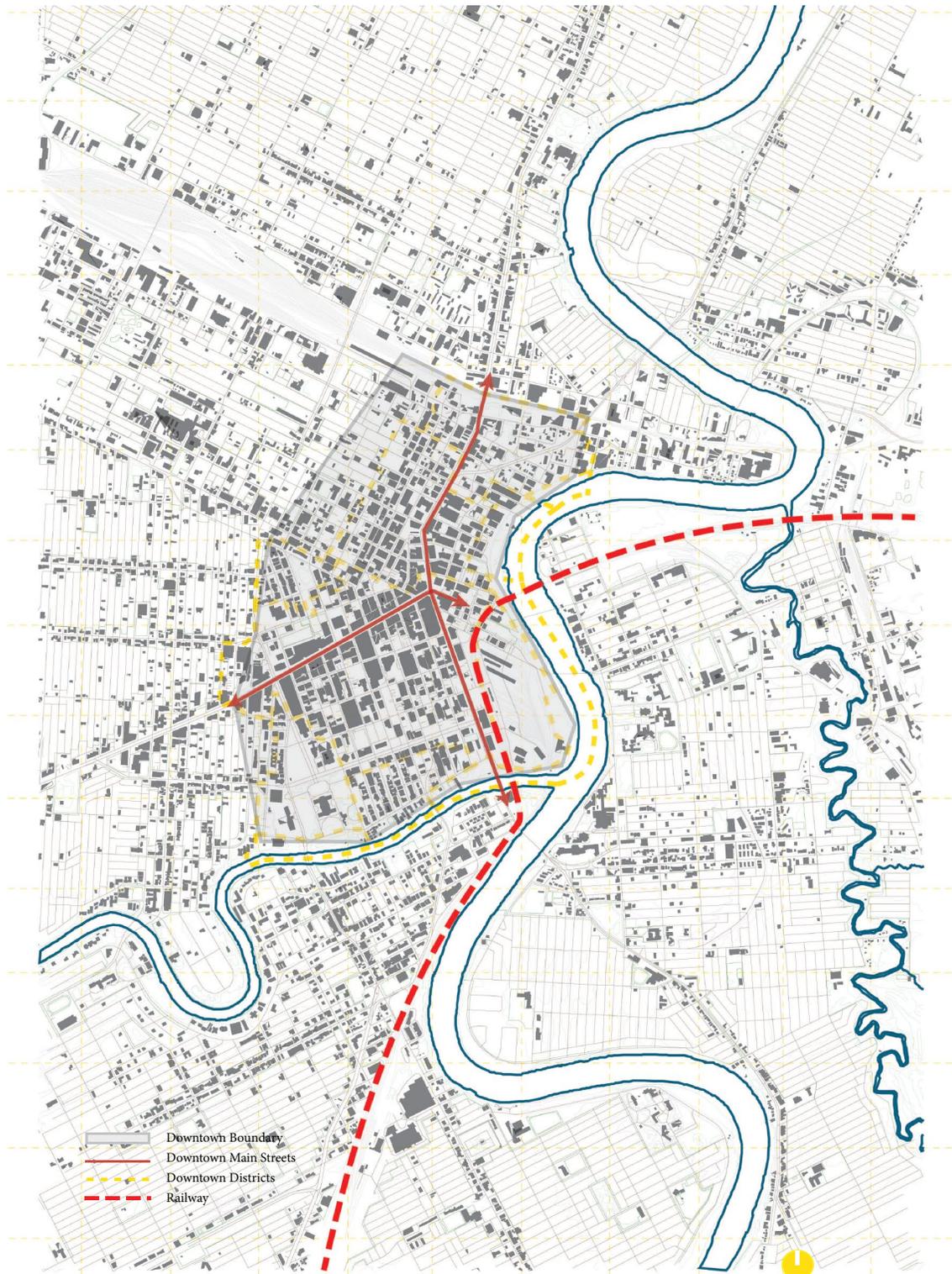
Asphalt Deserts: Macro Scale

To analyze the asphalt deserts within the city at a macro scale, this drawing shows the distribution of land in the city of Winnipeg. The highlighted areas indicate the spaces with the highest percentage of asphalt. While most of these areas indicate commercial outlet spaces with big box stores, which naturally require a lot of parking space, it is shocking to see that the central space represents the downtown area.

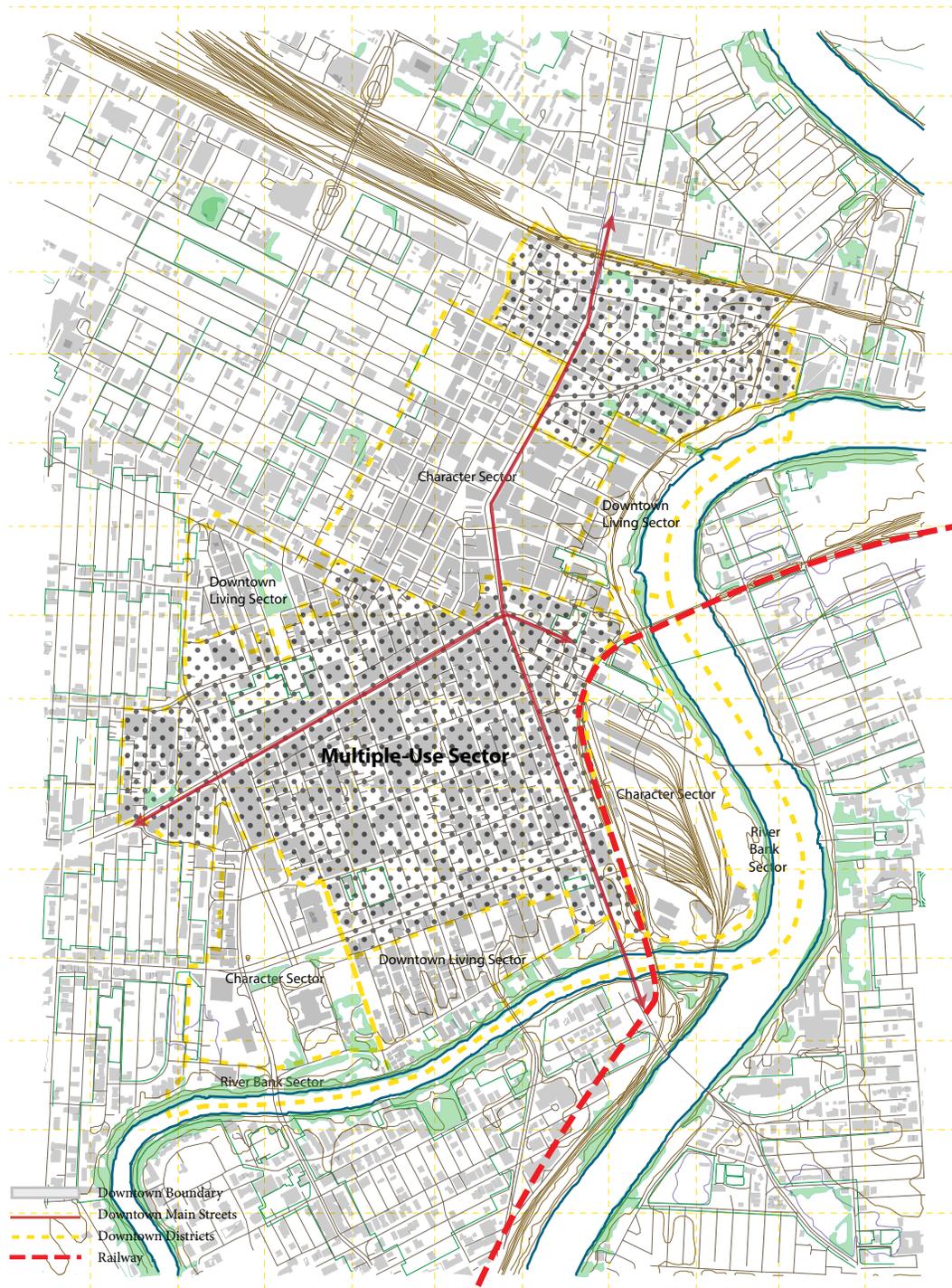
It is shocking to witness that the city core's amount of asphalt is comparable with the commercial spaces located further from the city.



Taking a closer look at downtown Winnipeg, this drawing shows a mapping of the important natural and man-made elements. The existing conditions of the inner core of the city has a great potential for further development. Some of the important elements are the water front condition and the railway line passing through the downtown.



Focusing on the multiple-use sector of Winnipeg downtown, this map shows the proximity of this sector to other neighborhoods. The Winnipeg downtown neighborhoods offer a broad range of unique arts, entertainment and cultural opportunities, as well as the city's most significant heritage amenities. Furthermore, it is emerging as an important high-density, mixed-use residential community with both long-standing and emerging neighborhoods.¹⁹ It also shows the city core as the focal point of a variety of the major routes and transportation networks.



Anyone driving in Downtown Winnipeg would be impressed by the number of large surface parking lots and parking structures.²⁰ The negative spaces shown in dark gray represent the asphalt areas within downtown Winnipeg. These urban voids break the cohesion of the urban fabric, fracturing public, commercial and social life.





Surface Parking Lots

Surface Parking Lot's distribution within downtown districts



Concentration of Surface lots in comparison to existing urban fabric

Connection of Winnipeg skywalks to other urban facilities

3

FRAMEWORK:

Development Strategy:
A Temporary Inner City
Urban frame work

Development Strategy:

A Temporary Inner City

Downtown Winnipeg, like many Canadian Western cities, has very few public and social urban spaces. With its public image as a crime-ridden and poverty stricken downtown as oppose to a vibrant social and public space the city is always looking for ways to change the current condition.²¹

The vision of the temporary inner city aims to mix current programs within the multiple-use sector with more public spaces. To be more specific this vision looks specifically at alternative activities, which could replace the surface parking lots in downtown.

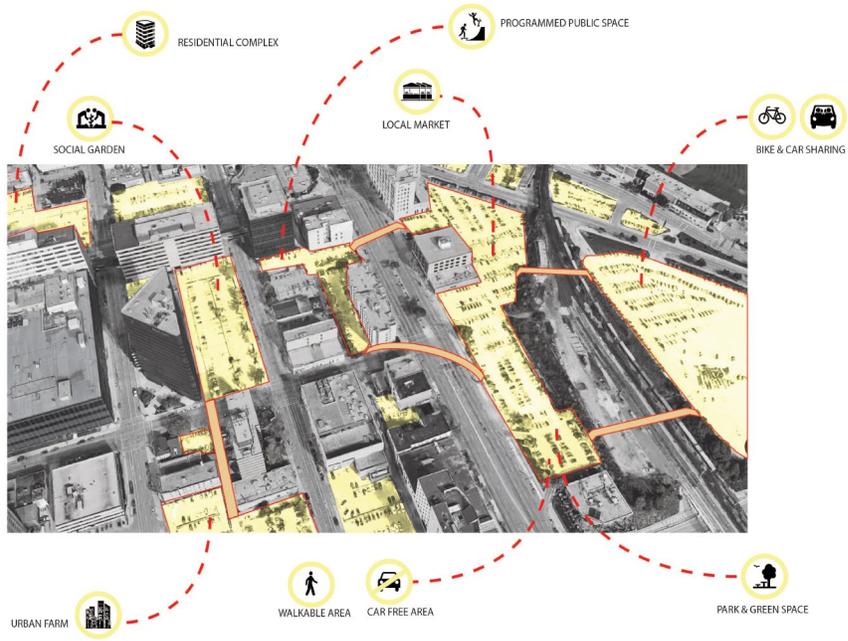
Deriving from Jeff Speck's *Walkable City*, this vision focuses on four major characteristics to create a livable community. These are to provide conditions for a safe, useful, interesting and comfortable urbanism.²² To achieve these goals the proposal is designed for a fluid urbanism rather than a solid one, a fluid urbanism urges for a looser planning strategy, rather than the idealized end states of the typically developed mega project. These interventions are not only much cheaper to create, but also much less time consuming. Taking a step away from permanency in land use the temporary inner city promotes short term urban conditions within the existing urban context. This is to improve diversity of land use and activities occurring in the downtown core and adding a new dimension to the mostly office concentrated building use in the city core.

The **SAFE** Urbanism

The **USEFUL** Urbanism

The **INTERESTING** Urbanism

The **COMFORTABLE** Urbanism



Why Temporary ?

With the rapid pace of changing possibilities and the economic uncertainty some municipalities are starting to realize that their plans for the cities need to be more flexible.²³ Strategic planning processes are increasingly unsuited to the pace of modern urban change. In many cases development plans are outdated before they are even published. Meanwhile on a day-to-day basis the control of development perpetuates categories of use that are inflexible and unsuited to times of continuous change. The polish sociologist Zygmunt Bauman argues that in the last 40, or 50 years we have moved from a phase of what he terms 'solid modernity' to a 'liquid phase'.²⁴ A liquid phase is a phase that, similar to a liquid, can not keep its shape for too long. Bauman further explains that a state of perfection will no longer ever be achieved: change is here to stay , 'as a permanent condition of human life'.²⁵

Temporary activities within an urban context have different characteristics some are planned and formal; some are informal, accidental, spontaneous, or even illegal. Some uses last for a night, or weekend, some are seasonal, while others may last five years, or more.²⁶ Some temporary structures such as the London eye and the Eiffel tower, have turned into permanent landmarks , attracting millions of tourists annually.

**Temporary Inner City:
Urban Framework**

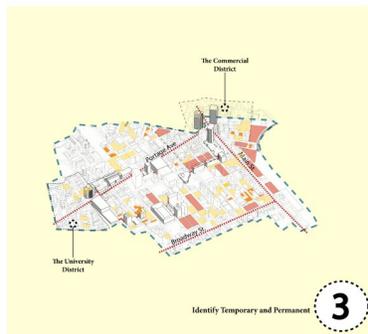
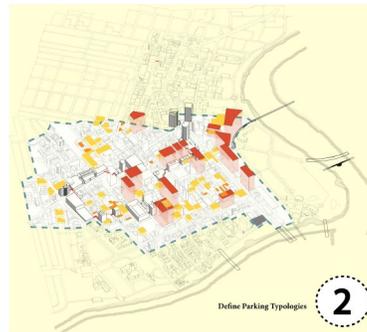
The City of Winnipeg's Complete Communities define the downtown as a transformative area. Transformative areas are those spaces in the city that provide the best opportunity for growth and change. City authorities state reduction of surface parking lots as a method to improve the current condition of downtown.

There urban framework for the development of the temporary inner city includes four steps on how these spaces should be given back to the public:

- 1) To Identify the Surface Parking Lots;
- 2) To Categorize the Lots: Identifying Parking Typologies;
- 3) To Identify Temporary and Permanent Activities ;
- 4) To Develop Walkability and Livability : Skywalk Extension.

In general the main goal of this framework is to change the utilitarian land use of the parking lot into a diverse and multi character condition.

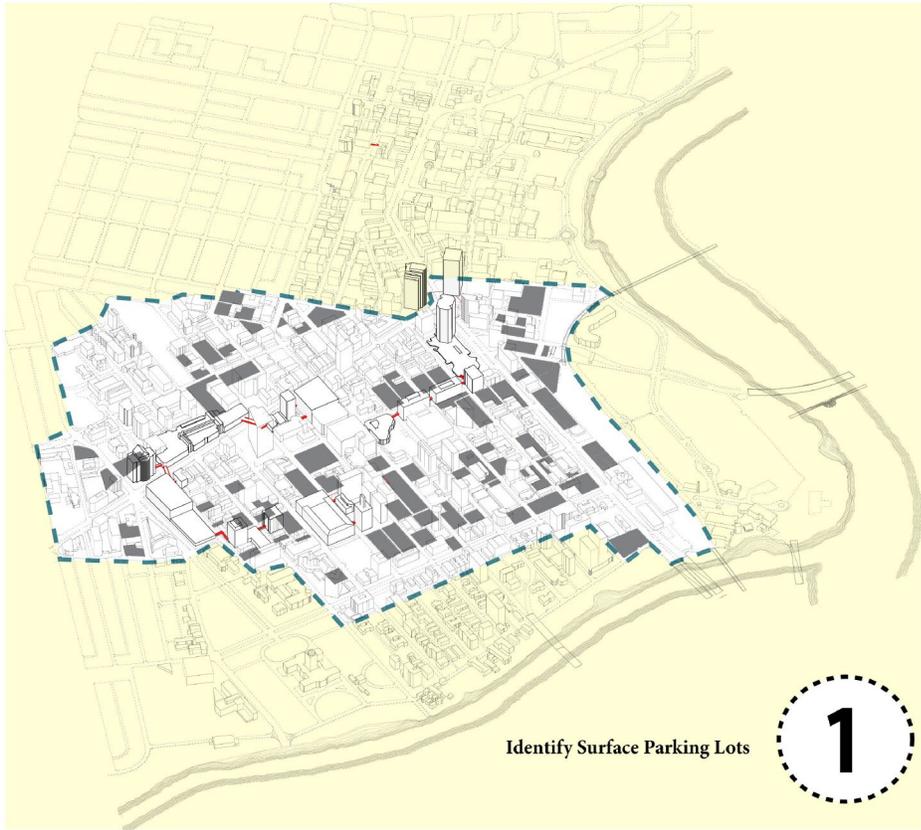
The proposed urban framework for the temporary inner city also seeks to establish nodes and corridors that complement downtown's destinations and clusters.



1. Identify Surface Parking Lots

The multipurpose sector (shown in the diagram) occupies the highest percentage of surface of parking lots in downtown . In comparison to the larger defined boundary of Winnipeg downtown, almost 41% of the land within the multipurpose sector is surface parking. (X) While downtown Winnipeg encompasses a wide area, it is truly a horizontal land development as oppose to vertical. This sector is mostly occupied by buildings of five stories or less.

- There are 35,526 off-street spaces, of which about two-thirds (or 23,568 spaces) are available to the public to park in.²⁷
- An estimated 20% of Downtown (all sectors) real estate is devoted to surface parking, comprised of over 150 parking lots. The municipal, provincial or federal governments own about 20% of the surface lots in Downtown.²⁸

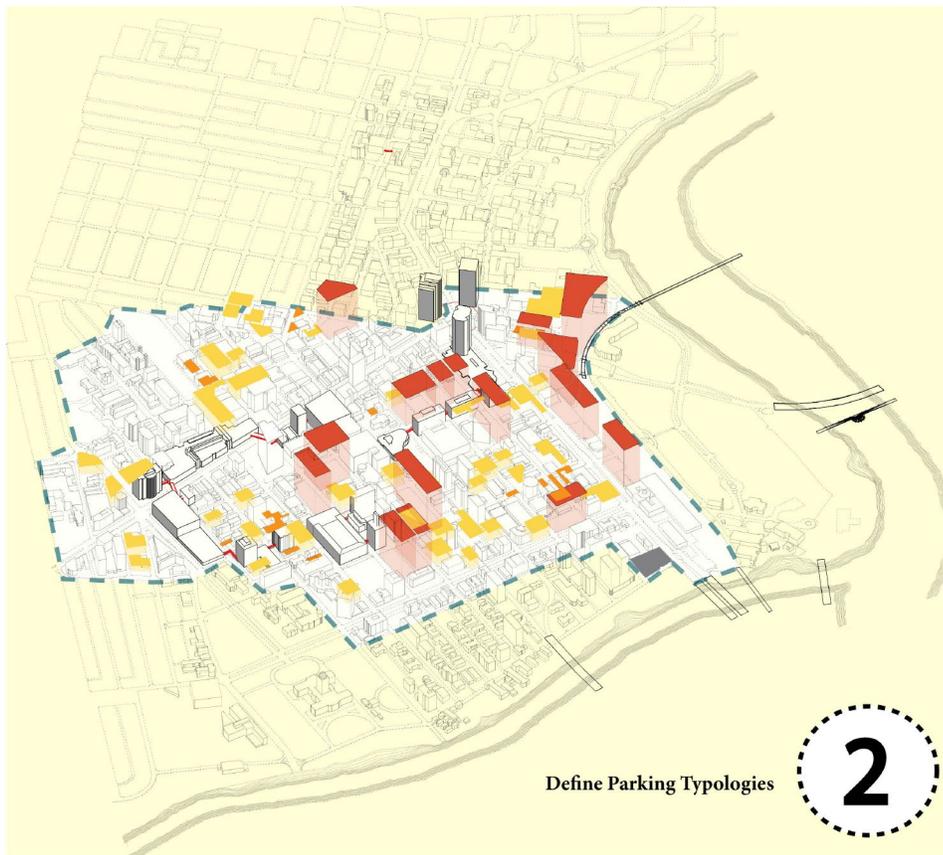


Identify Surface Parking Lots

1

2. Define Parking Typologies

To help better identify the issues related to these lots and the variety of temporary solutions which could be applied to them, this vision defines three typologies of surface parking lots. Each typology is defined based on its character and site conditions.



Define Parking Typologies

2

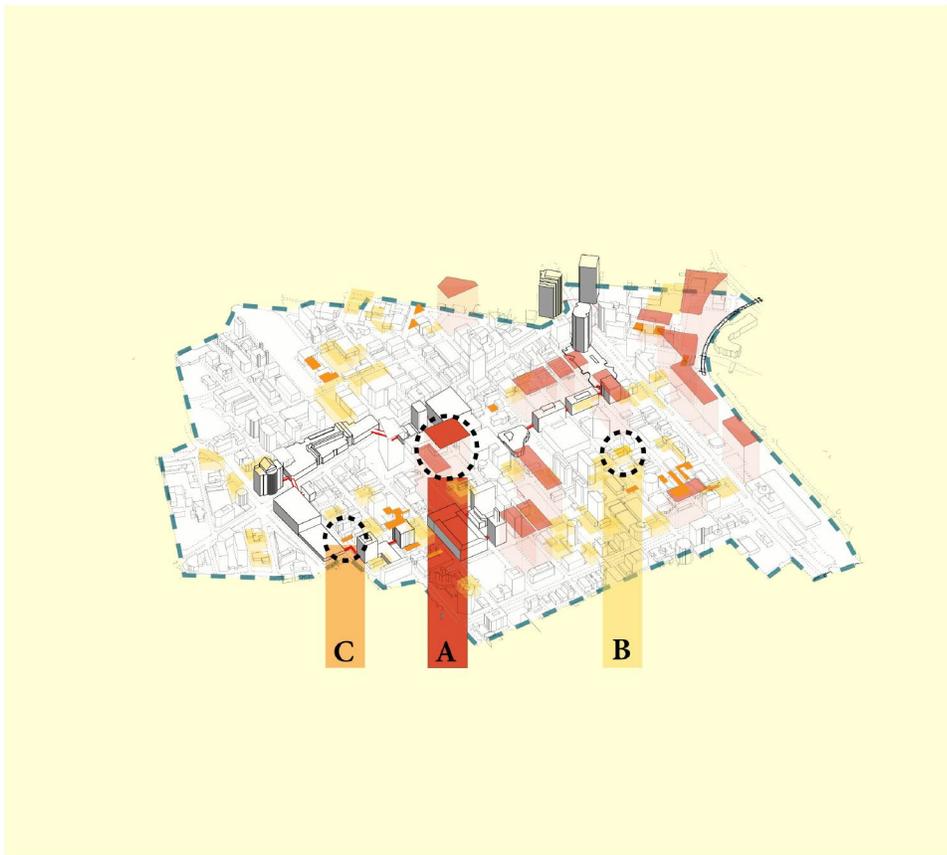
Parking Categories

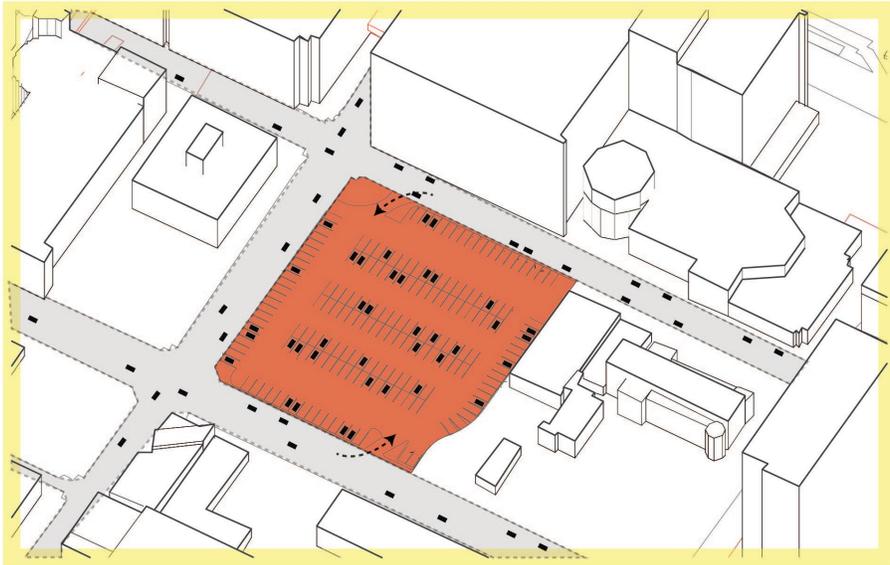
Defined parking categories are: the block lot, the parkyard and the pocket lot. They each obtain different characteristics based on their locations and the space they acquire. The multipurpose sector manages a total of 75 surface parking lots, which are divided as explained below :

(A) The Block Lot : 15

(B) Parkyard Lot : 44

(C) Pocket Lots : 17

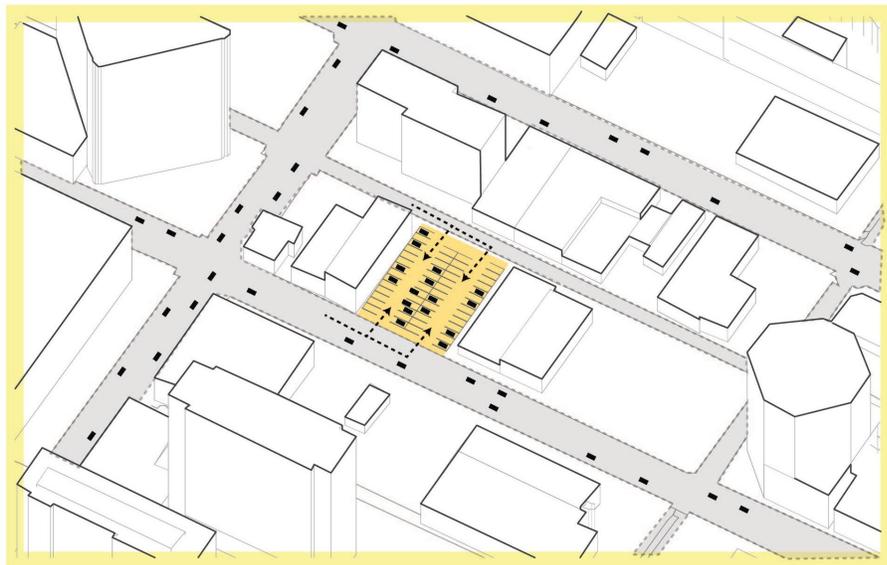




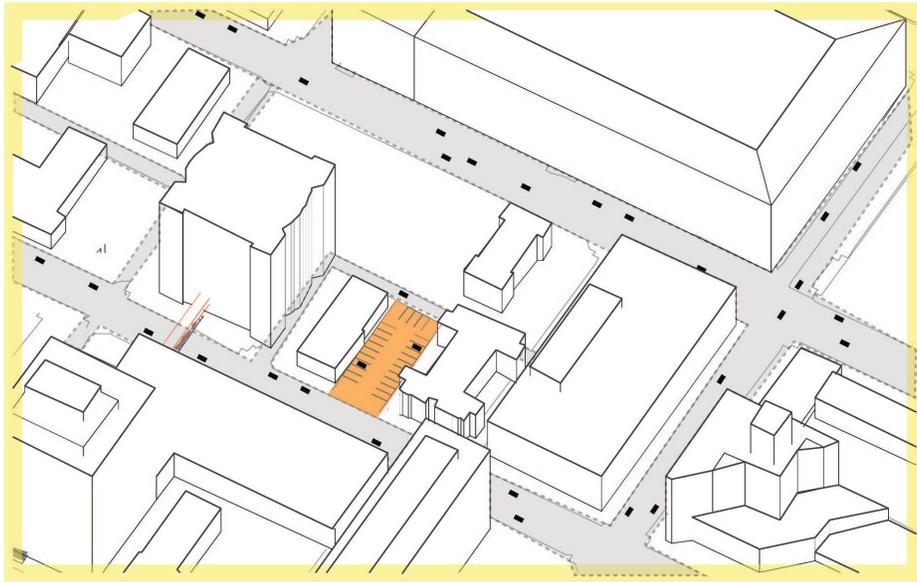
The Block Lot

- Whole city block is used as surface parking lot
- One city block is dedicated for surface parking lot.
- Usually surrounded by main roads and arterial roads

A



- B** **Parkyard Lots**
- Parking lots in the form of courtyards
 - Areas of 30 m² or more
 - Surrounded by other buildings
 - Formal Space: created specifically for the buildings



Pocket Lots

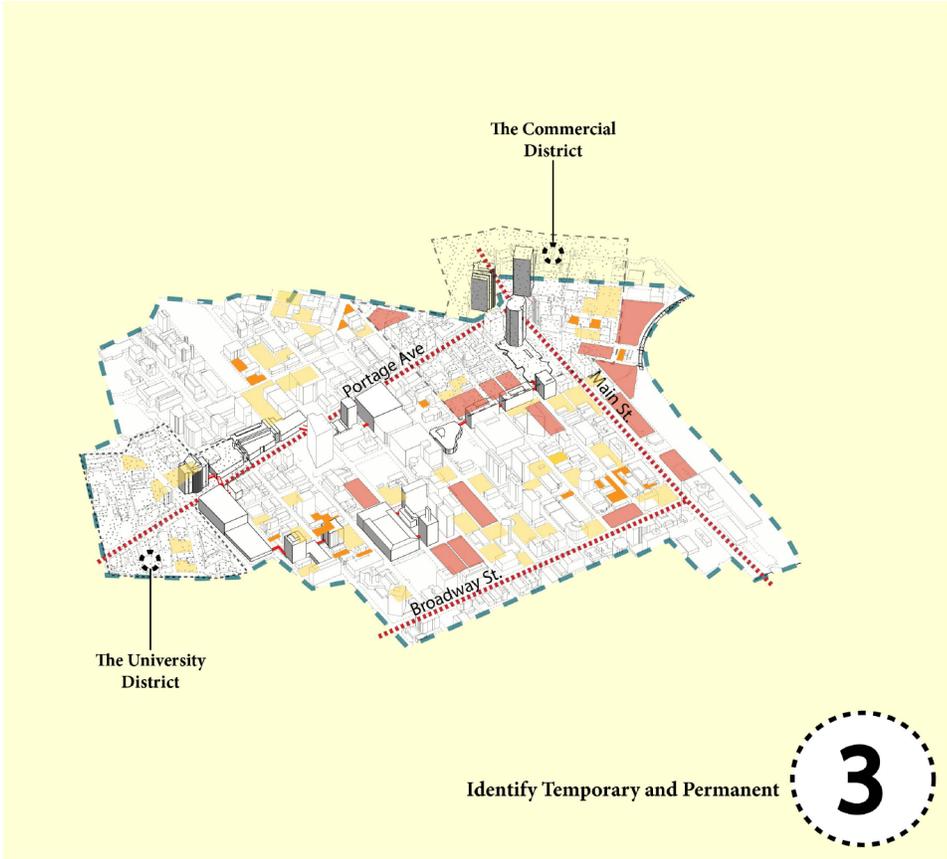
- Pocket spaces Less than 30 m²
- sandwiched in between surrounding buildings
- could possibly be informal spaces: being used as parking but not necessarily parking

C

3. Identify Temporary & Permanent

To clarify the concept of the temporary inner city, the third step, after categorizing the parking lots is to identify temporary and permanence within this urban context. There are three definitions of the concept of temporary architecture:

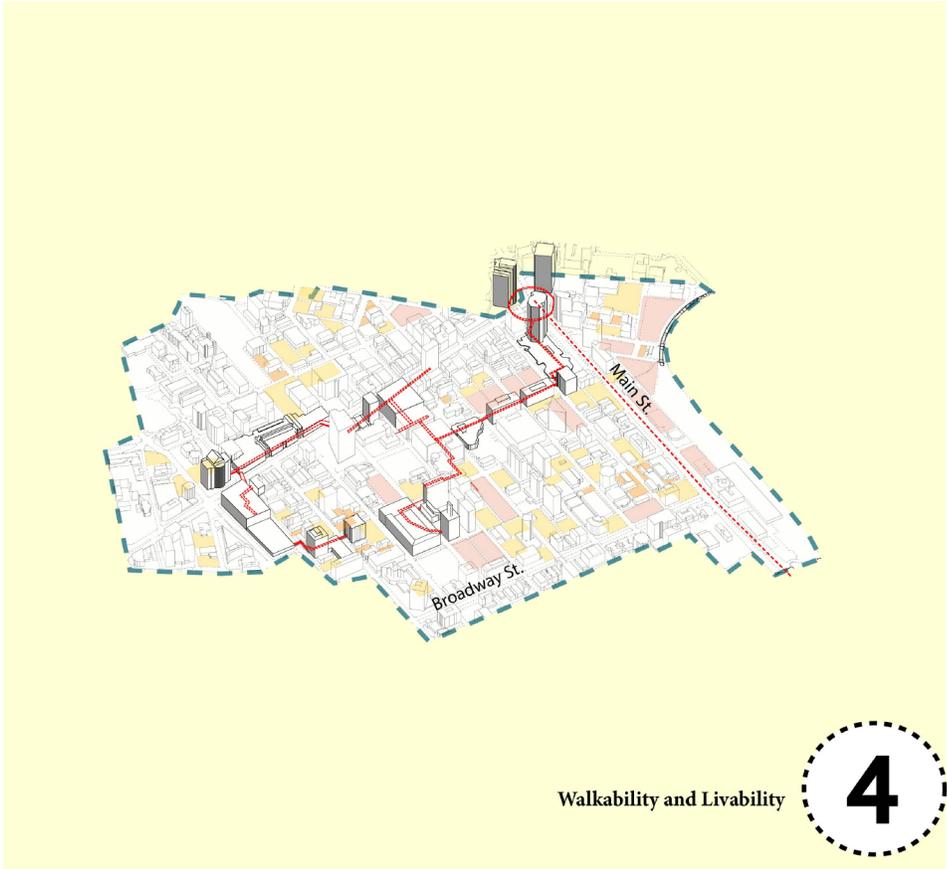
- 1- Surface parking permanently transformed into a public space: the public activity applied to these spaces could be loose, or formally designed ;
- 2- Surface parking temporarily changed into a public activity space;
- 3- Surface parking lot permanently changed into a different type of parking construction: in this case the parking structure has a public aspect within it.



4. Walkability & Livability

Downtowns are great places to encourage walkability. The last step in the creation of this vision is to improve walkability in the downtown core. Among the city's future plans for its downtown is to establish nodes and corridors that complement the downtown's district, its destinations, and its clusters by serving as key gateways and meeting places and focusing on pedestrian oriented, active uses.²⁹ The physical transformation of the existing built form (buildings, streets, spaces, amenities) will further define and enhance these districts, destinations and clusters.³⁰ The city of Winnipeg has an existing urban walkway/ skywalk at +15 m, connecting different buildings in the multipurpose sector. However there are several issues related to the existing condition of the skywalk:

- 1) It Connects mostly office buildings and not many public spaces;
- 2) All the skywalks have similar shapes and forms in their design;
- 3) There is no hierarchy of movement felt when walking through the skywalk;
- 4) Not accessible after certain hours (no access is allowed).

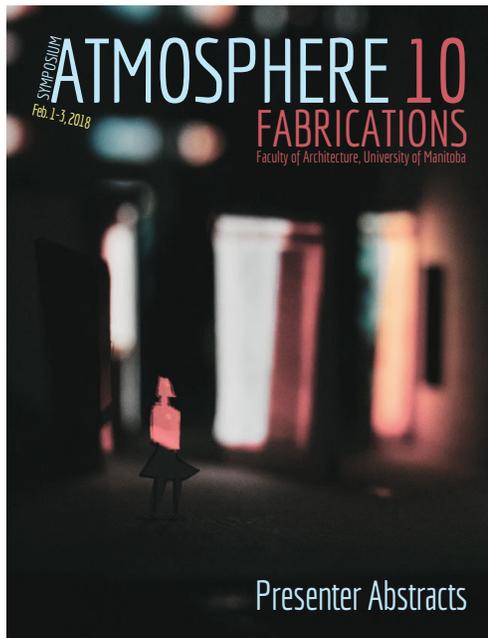


Walkability and Livability



4

ATMOSPHERE SYMPOSIUM



FABRICATIONS

ATMOSPHERE 10 explores *Fabrications*. Fabrications implicate diverse artifacts and modes of making, together with the places, practices, contingencies and intentions that enable and contextualize making. In other words, this symposium will examine not simply what, how and why we make, but sites and situations of making. The aim is to explore how cultural and environmental circumstances become meaningful catalysts of design, building, teaching and research. This theme encompasses manifold concerns beyond the digital: complexities of urban and social fabrics; intricacies of environmental skins; potentials of building sites and workshops; as well as the stories and arguments through which we craft shared understandings of our fabricated world.

Social Fabrics

Society has long been conceptualized as a great tangle of human affairs in need of careful unraveling and fine re-stitching. Aristophanes and Plato employed this metaphor of weaving social cohesion at a time when the experiment of democracy was becoming dangerously frayed. More recently, the *topos* describes a city's dense and fibrous web of interweaving events. This session seeks inquiries into material configurations of social interaction and exchange. Topics may cover the intertwining of modern and historic fabrics, patchworks of development; and the interlacing of shifting global cultures with indigenous ways of life.

Mediating Fabrics

Wall assemblies and finishes are increasingly conceived as scintillating surfaces and performatively enhanced skins. This session probes the substantive thickness and interspatial depth of enclosures, which mediate the differences, overlaps and interactions of inner and outer worlds. Papers may push this envelope by unfolding reciprocities of tectonic assemblies and social practices, by revealing how industrially-produced artifacts are adjusted to specificities of place and program; and by exploring expressive attributes of wall assemblies, or the so-called 'fiction of function' in modern architecture.

Fabricating In situ

This session invites examination of inhabitable sites and situations of making. The aim is to study how particular places and cultural circumstances serve as meaningful catalysts for fabrication, while cultivating a collective sense of place in the world. Papers may explore various scales and terrains: desktops, workshops, building sites, and regional topographies. Topics may include: the agency of context; the reciprocity between sites of production and sites of realization; and design-build projects enacted as collaborations of makers, materials, and milieu.

Fabricating Truth

As with any art, poetic fiction does not oppose reality, but augments and transforms it. Narrative fabrications, however fabled and fabulous, can make profound aspects of the human condition more intelligible, palpable and interpretable. This session pursues truth as a synthetic construct beyond mere facticity. Papers may explore the interdependent arts of storytelling and building; the productive agencies of language and metaphor; epistemological fabrications bearing on how we construe and construct the human world; as well as ways in which built environments participate in (re)making symbolic order.

Conference Summary:

On Feb 2nd 2018, i presented my thesis proposal at the annual Atmosphere symposium held by University of Manitoba. The Atmosphere symposium is an annual event that gathers researchers, designers and distinguished keynote speakers from around the world. The three-day symposium is a great opportunity to meet other professionals researching on similar topics. There are also numerous casual opportunities for information exchange.

Each year the symposium is based on a specific yet open-ended theme. This year's conference was focused on the topic of Fabrications with four sub-themes of Social Fabrics, Mediating Fabrics, Fabricating in Situ and Fabricating Truth. During the conference the attendees shared opinions, thoughts and suggestion for further consideration.

Social Fabrics :

This session seeks inquiries into material configurations of social interaction and exchange. Topics may cover the intertwining of modern and historic fabrics; patchworks of development; and the interlacing of shifting global cultures with indigenous ways of life.

Mediating Fabrics:

This session probes the substantive thickness and interstitial depth of enclosures, which mediate the differences, overlaps and interactions of inner and outer worlds.

Fabricating in Situ:

Fabricating Truth:

This session pursues truth as a synthetic construct beyond mere facticity.

Fabricating in SITU:

This session invites examination of inhabitable sites and situations of making. The aim is to study how particular places and cultural circumstances serve as meaningful catalysts for fabrication, while cultivating a collective sense of place in the world.

Asphalt Deserts: Rethinking the Architecture of Surface Parking Lots

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Since the invention of the automobile, North American cities have been challenged to provide new typologies of spaces to accommodate the automobile. Besides the implemented roads and expressways, cities now had to provide a new space for the immobility of the car: the parking lot. These asphalt landscapes spread gradually but consistently over the urban fabric of our cities. In "Rethinking a Lot," a study of parking lots by Eran Ben-Joseph, the head of urban planning at M.I.T., he explains that "in some U.S. cities, parking lots cover more than a third of the land area, becoming the single most salient landscape feature of our built environment."

Canadian cities with their boundless prairies are not immune from this issue. The extensive natural landscape arguably makes it easier for people to dedicate vast lands to surface parking lots. Surface parking lots as utilitarian lands with their single and solitary land use sweep through non-spaces in the cities, surfacing the social and cultural fabric of the city as one of placelessness. The issue of these surfaces becomes dominant as they begin to spread over the dense urban environments such as our downtown cores. Winnipeg is an existing example of this issue with surface parking lots occupying around 40 % of the land in downtown. This thesis seeks to redefine these spaces as spaces of social and cultural opportunities by changing their conditions of permanency to a temporary state of land use. It argues for the necessity to redefine these voids as an integral part of our environment not by promoting their demolition, but rather by exploring their role on our everyday lives and their possible potential for future of our cities.

Feedbacks Recieved from The Conference:

The conference created a great opportunity to receive comments, suggestions and feedback from the community. Some of those are as explained below:

-**Winter:** While this vision aims for building a community (people) oriented neighborhood, many of the participants mentioned the snow as a limiting element.

- **Electricity & Power:** I was informed that many of the surface parking lots in town are powered with free electricity, to keep the car engine warm.

- **Financing:** Surface parking lots a great source of income for those who own these lands. As a result many developers are not willing to give up on surface parking.

- **Source of Income for other cities:** As mentioned parking lots are a great source of income for their owners, however it is important to know that most of these lands are owned by private parking management companies based on other cities. So the income gained from these lands goes outside the city to cities such as Calgary, Toronto and Vancouver.

Positive Impacts on the Research:

The feedback received from the symposium became a major part of the designed vision. The diversity of suggestions received from different groups of people expressed the complicated process of city design. It clarified the greatness of design possibilities as well as the limiting conditions of the city. More than anything it was clear that many people do not have enough information about the current condition of their city core and their opinions are rarely brought up in community planning.

This research seeks to find a way to involve the community in the planning process in a fun and informative manner.

The proposed temporary properties also reflect on the received information and provide examples that satisfies different conditions within the city.





5

DESIGN:

Tactical Interventions
Participatory Urbanism
The board game

Tactical interventions

To make the temporary city a possibility, design solutions and interventions need to be provided for different types of parking spaces. Based on the identified types of temporary and permanent spaces defined in step 3 of the framework, these tactical designs introduce important factors such as diversity of land-use as well as intensification of population. They answer questions such as: Could surface parking lots be more aesthetically pleasing, more environmentally and architecturally responsible. Shown in the form of q-cards each property (design) introduces specific elements and aims towards specific goals needed in the downtown core. The interventions also consider the feedback received from the symposium in order to create a vision that satisfies different conditions.

Program Title

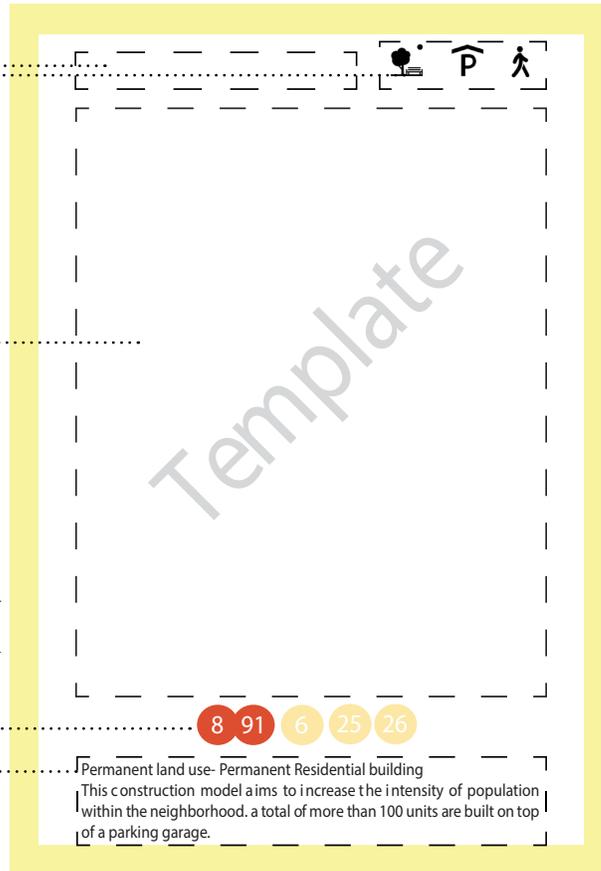
Associated Characteristics

Design Proposal

Applicable Surface Parking Lots :
-Each number is associated with a parking lot
- Different colors are associated with different parking categories

- Type of landuse
Temporary/ Permanent

- Explanation of the projects aim



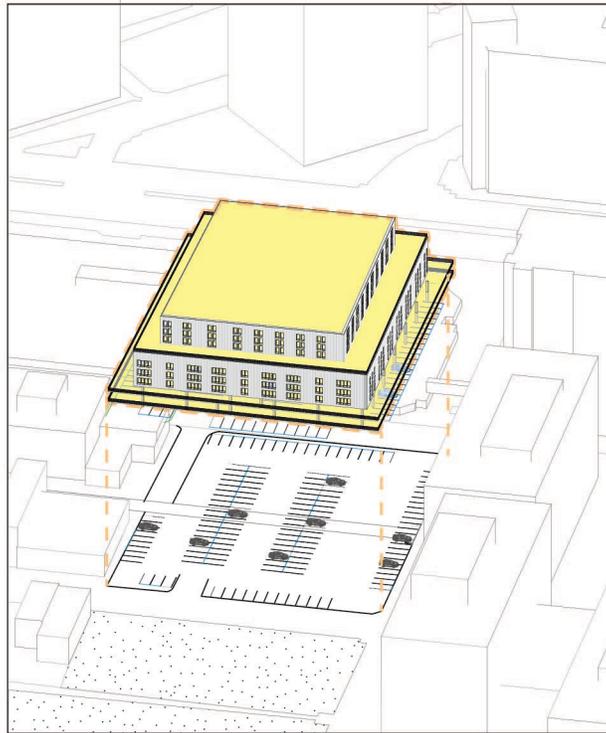
Residential Parking :

The proposal shaped upon a discussion at the atmosphere symposium with an urban planner.

“ Many developers do not want to give up on the money they earn from the surface parking facilities they own in down town”

The residential parking proposes building residential units on top of the parking surface. This will both benefit the developer and the community.

RESIDENTIAL PARKING



8 9 16 25 26

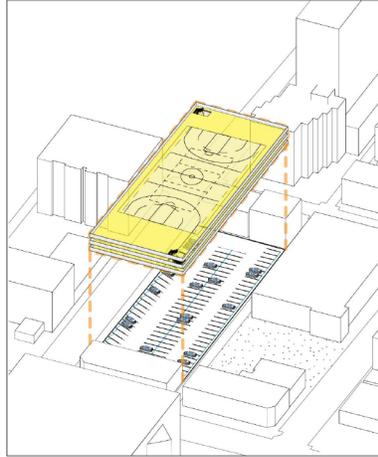
Permanent land use- Permanent Residential building

This construction model aims to increase the intensity of population within the neighborhood. a total of more than 100 units are built on top of a parking garage.

Roof Garden & Roof Court:

Sudden destruction of all parking lots in downtown will lead into disruption of services in the city core. Instead, these two proposals provide parking opportunities as well as semi-public spaces on top for people who park their cars in the garage.

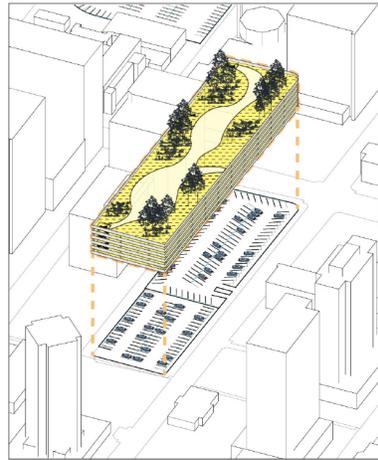
ROOF COURT



2 17 41 46 50

Permanent parking- Temporary public space
The roof court will provide a chance for the developer to gain profit from the provided parking. It will also provide a chance for the vehicle owners to use the court when they buy the parking ticket.

ROOF GARDEN



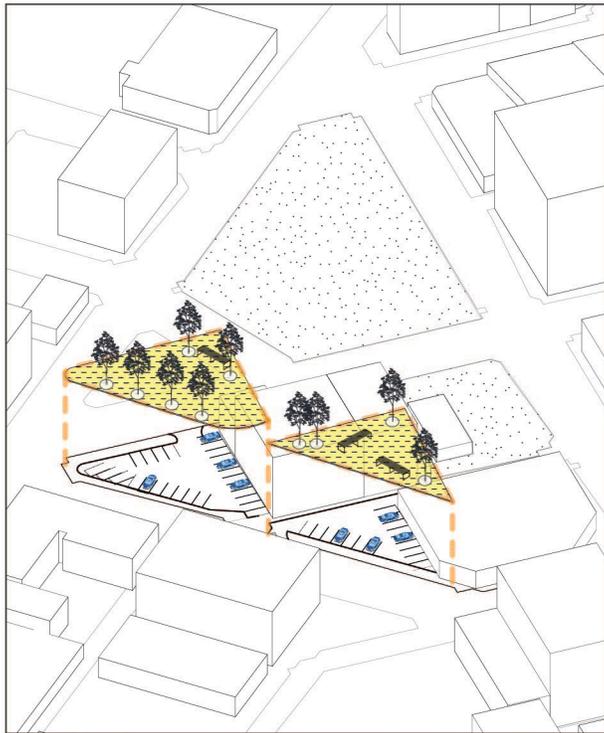
2 13 17 41 46 49 50

Permanent land use- Temporary public activities
The roof garden parking garage is a way to maintain a combination of parking strategy as well as public space.

Paved Spaces:

This proposal suggests a simple yet classic way of transforming the asphalt surface of parking to a public paved space. Providing the basic elements of public spaces changes the character of these lots from a left out empty space to an urban environment.

PAVED SPACE



14 18 34 35 42 46 73 74

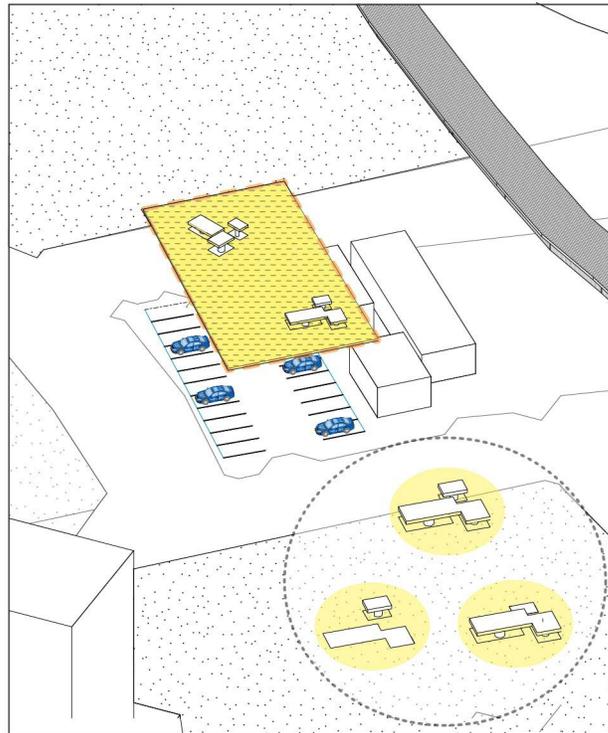
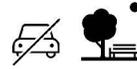
Permanent Public Space - Temporary Activities

Changing the materiality of the parkings to paving and providing basic elements of public space changes the social behaviour of the community and changes these left out pockets into a desirable hangout space.

Pop-Up Furniture:

Pop-up interventions are great solutions for temporary and flexible planning. This intervention lets the user choose how they want to use the space.

POP-UP FURNITURE



61 64 67 74 75

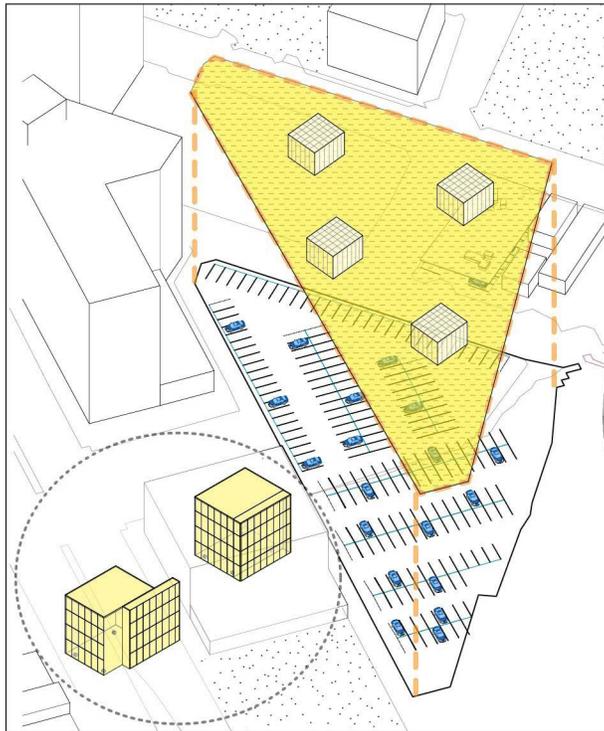
Permanent public space- Temporary Furniture

These temporary furniture give the option to the people to choose how they want to arrange them. A hydraulic kit is installed at the space with the key to control the heights of these pieces.

Pop-Up Retail :

Modular pop-up retail spaces are great seasonal solutions. Ideally these modules will transform a space into a permanent retail space, but they could also share the space with an existing parking space. They provide a temporary public activity for the hours the parking is not in use.

POP-UP RETAIL



3 4 5 6 19 23 44

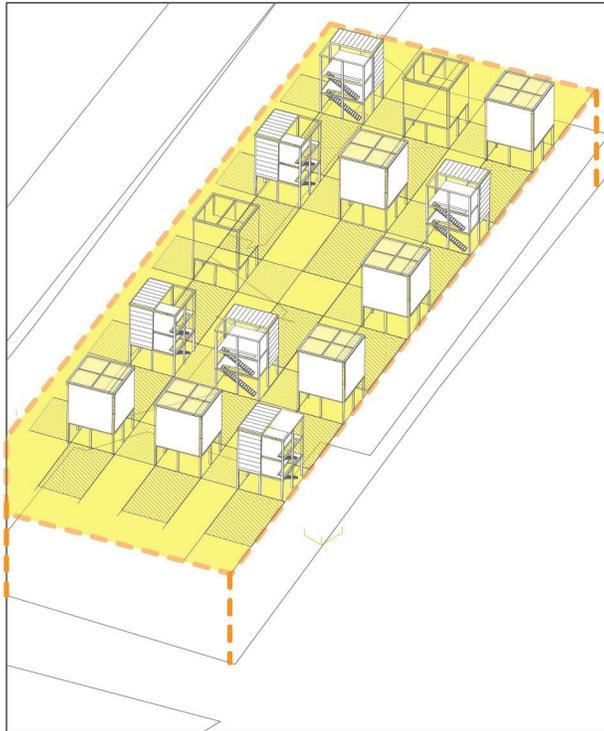
Permanent Public Space- Temporary pop-up shops

Modular temporary pop-up shops provide an opportunity for new business to try out their plans.

Pop-up Shops/ Structube :

The structube is a more permanent version of the pop-up shops. The assembled structure could be mounted in any location and removed as wished. The program of these structures benefits both the land owner and the retailers. Each structure is rented for a low monthly price from 6 to max 12 months. The retailer has an opportunity to try their business while the owner earns the rent money and the community enjoy shopping in the neighborhood.

POP-UP SHOPS/ STRUCTUBE



14 15 39 46 47

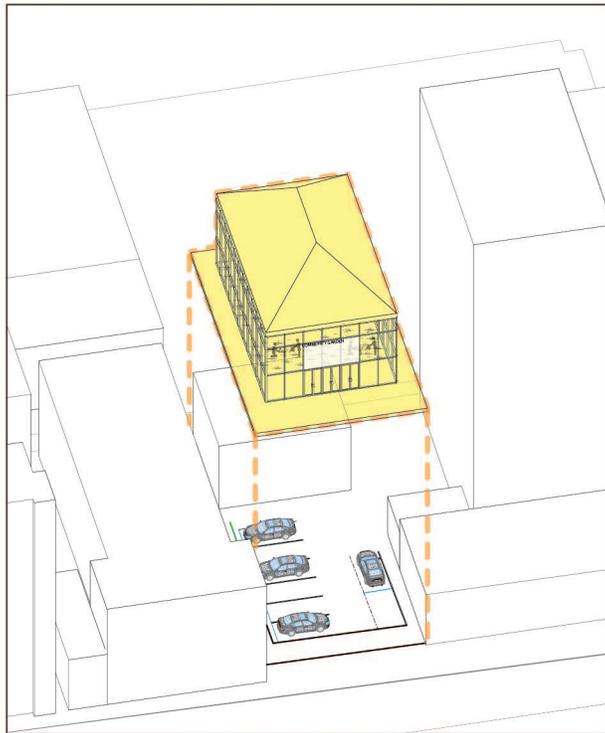
Permanent public space- Portable structure

The proposed temporary pop-up shops can be easily built on any site. the portable structure aims to improve the economy of downtown by providing an opportunity for new talents of the city.

Community Garden:

The community garden aims to provide a permanent public space that is temporarily located in different areas. People from the community can rent the gardens and produce their own products. This will be an opportunity for intensifying the downtown population.

COMMUNITY GARDEN



33 51 70 66 65 60

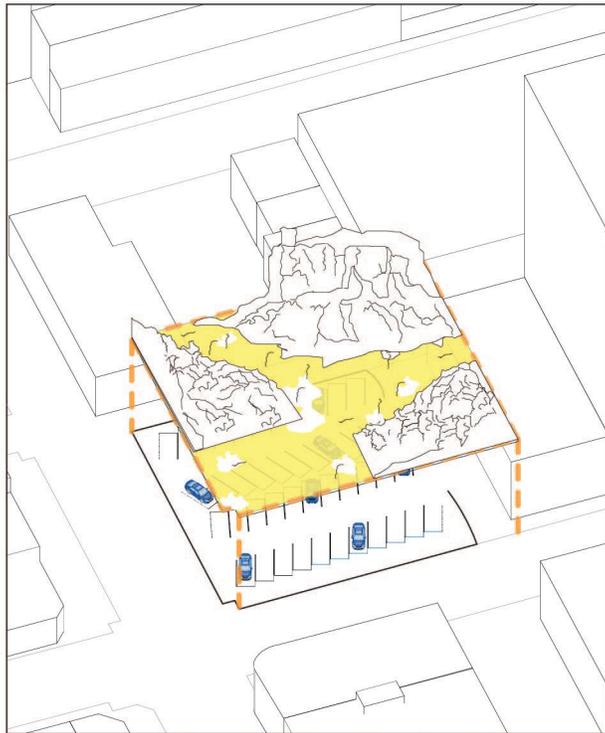
Permanent land use- Permanent Public Space

These community gardens give the citizens a chance to get involved in more community programs. those who pay rent for their garden will keep downtown busy even over the weekends.

Snow Pile Playground:

Downtown Winnipeg is struggling with the issue of dirty snow being thrown at the riverside. This is polluting the water and killing the vegetation around the river. This simple solution proposes the creation of a playground for children in each parking lot. This automatically transforms the negative aspect of the piled up snow and creates a free public space that is used by people in different ages.

SNOW PILE PLAYGROUND



32 40 43 57 58 59 72

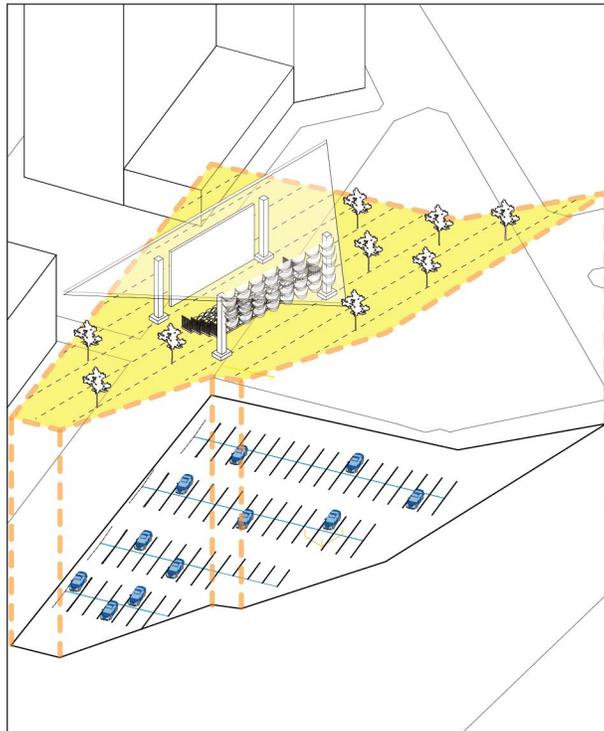
Temporary Land Use - Temporary Public Space

Taking advantage of the piled up snow on the parking lots this strategy turns the surface lot into a playground. No dirty snow will be stored by the river and so no vegetation would be ruined.

Cineroleum :

The cineroleum is a solution adapted from a case study done in London, UK. The design uses the free electricity provided on the site to provide a public space with a specific activity for the community.

CINEROLEUM



1 3 40 38 25

Permanent public space- Temporary Furniture

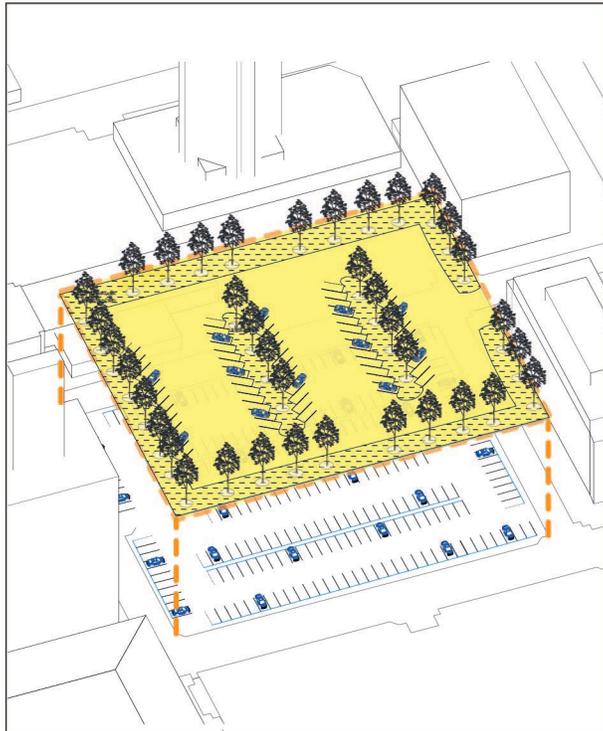
Taking advantage of the electricity provided on site, the cineroleum is a temporary cinema built by the public and powered by free power provided on winnipeg surface lots.

Parking Design:

This proposal asks for a better parking design in spaces that need to keep their surface parking. A well defined design could promote vegetation and better spacing in layout. Make the design environmental friendly and pedestrian friendly.

PARKING DESIGN

P



12 13 30 47 48

Permanent land use - Permanent Surface Parking

Improving the design of surface parking lots provides great benefits such as: giving back pedestrian space to the urban context, providing more green space .

participatory Urbanism:

Urbanism and city design is heavily influenced by city authorities and the holders of power. To highlight the importance of citizens in the vision for the temporary inner city, this thesis uses participatory urbanism as a strategy to achieve a proactive city design.

“Participatory urbanism promotes new styles and methods for individual citizens to become proactive in their involvement with their city, neighborhood, and urban self-reflexivity.³¹”

The temporary inner city project gives them the flexibility to apply variety of activities to the existing surface parking lots. The possibilities of the final design of this vision in endless and that's what makes the proposal fun and playful.

To achieve the goal of a participatory urbanism I have designed a board game based on urban context of downtown Winnipeg. Board games as a classic necessity for fun gatherings will not only make the project fun and playful for the players but also it will give them a chance to look at things from a different view.

The Board Game

Using the board game as a tool to engage the community has numerous positive impacts

-It is a tool to partially engage the citizens in the design process of the public spaces. People who are not involved in the design process are usually not well aware of the thinking process of the planners and the complicated decision making involved in them.

-It is also a great way to collect data about the community's needs and desires.

-As they start to play the game they have the opportunity to witness changes that could be brought to their city.

- It gives them a chance to visually see the existing urban conditions and the implication of new proposals on different aspects of the city.

- The game provides a level of awareness about the current context of the city. It also allows them to see what could be brought to the city in place of the excessive surface parking lots in downtown.

- Each player, with the character that is assigned to them, has the chance to see influence of certain people in the process of city design.
- The players also have a chance to oversee the advantages and disadvantages of different proposals on different roles. The player can therefore understand the level of complexity of each decision related to the urban space and the different needs related to different functions.

As oppose to typical urban solution to existing issues this tool gives a higher level of flexibility to the designers.

On the other hand, each player, with the character that is assigned to them, has the chance to see influence of certain people in the process of city design.

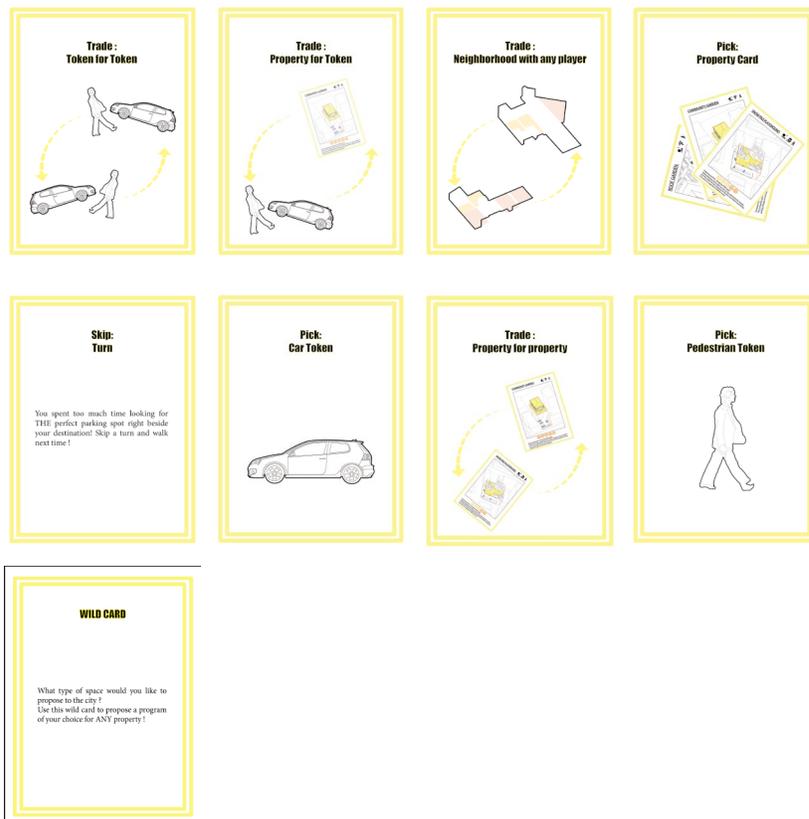
They also have a chance to oversee the advantages and disadvantages of different proposals on different roles. The player can therefore understand the level of complexity of each decision related to the urban space and the different needs related to different functions.





Action Cards

The action cards will be placed facing down on the board game. These cards run the game and the actions taken towards achieving the goal of the game.



Property Cards

Property cards include the variety of urban interventions proposed to replace the surface parking lots. These designs are part of the main thesis project besides its implementation in the board game.



Characters

There are a total of 5 characters in this game. Each has a set of goals to achieve and neighborhood to build by obtaining the proper property cards belonging to each neighborhood.

Developer

Developers and parking management companies are looking for ways to earn profit from the parking situation.

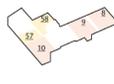
Mission: Neighborhood 4
Properties: 11, 12, 13, 23, 32, 33, 34



Citizen

The perfect citizen is the one who speaks out and expresses their needs and desires of the urban context.

Mission: Neighborhood 2
Properties: 5, 6, 9, 10, 21, 50



Community Leader

As a representative of the needs and desires of the community.

Mission: Neighborhood 3
Properties: 40, 49, 50, 51, 71, 72



Urban Planner

The urban planner looks for the perfect combination of variety of spaces to create a complete community.

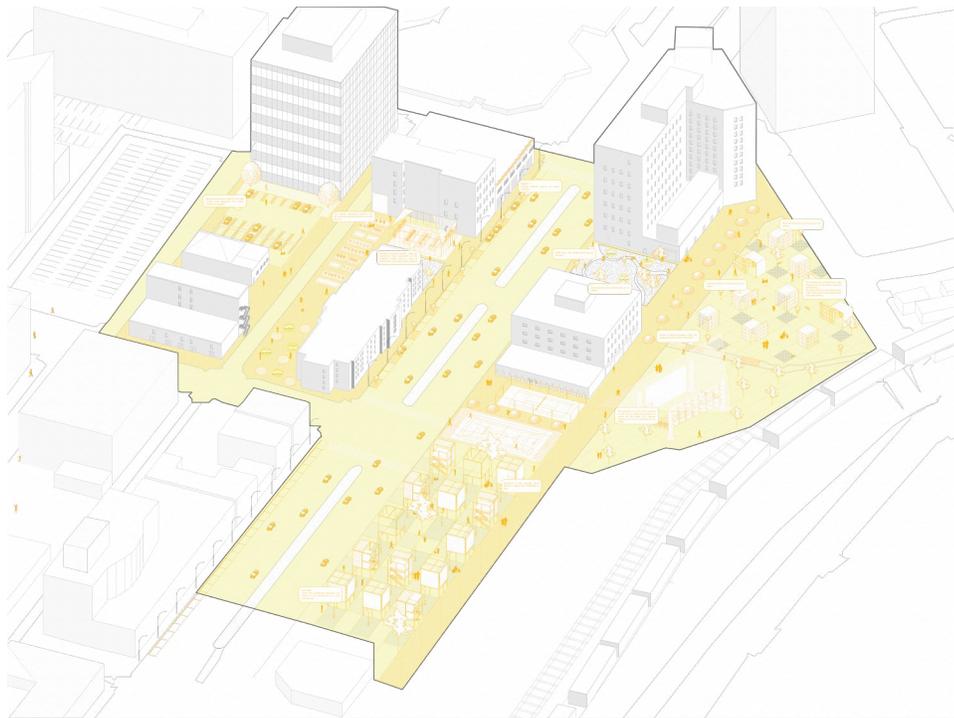
Mission: Neighborhood 1
Properties: 3, 4, 16, 21, 22

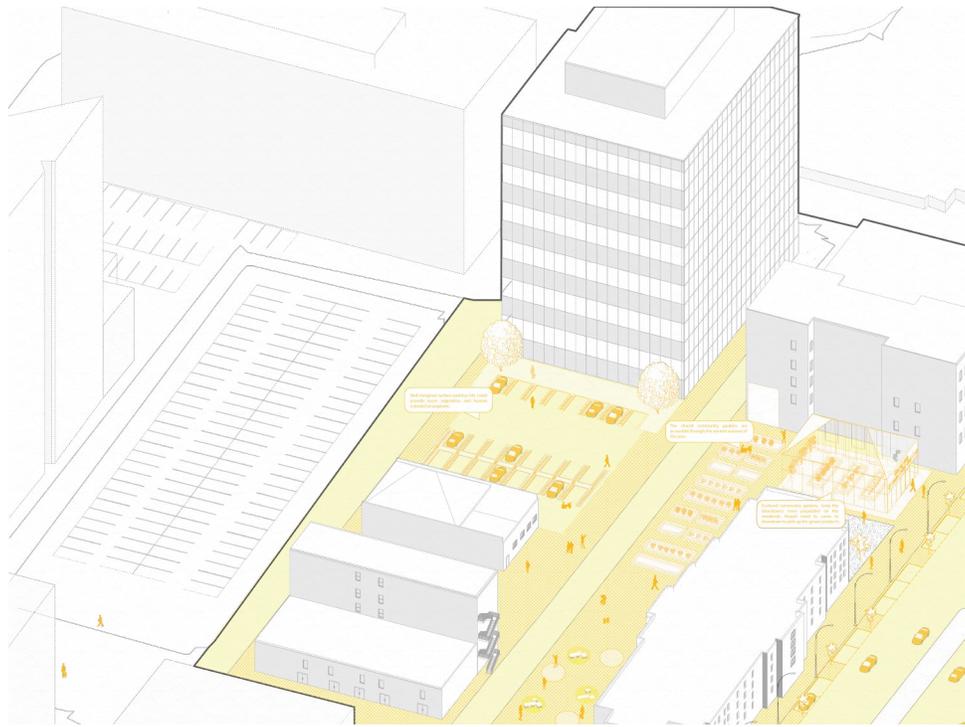


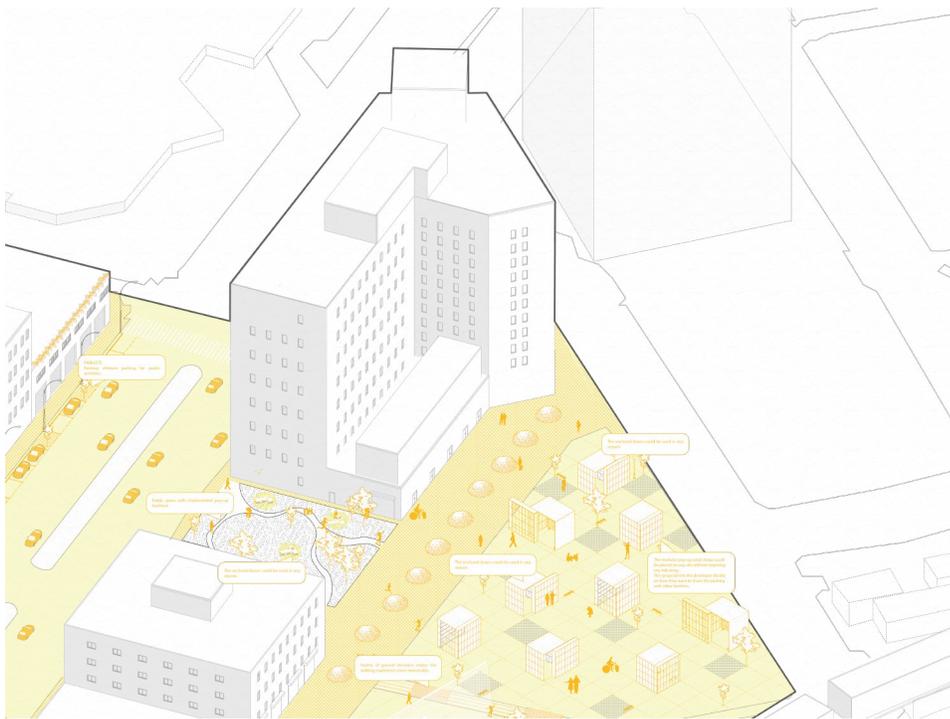


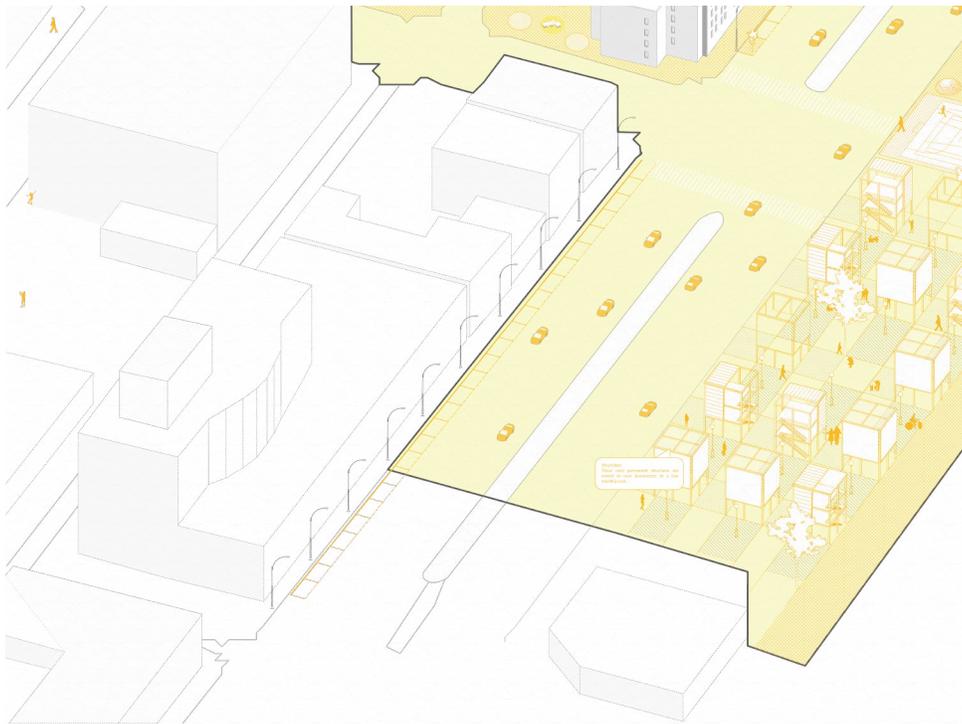
5 CONCLUSION:
TEMPORARY CITY

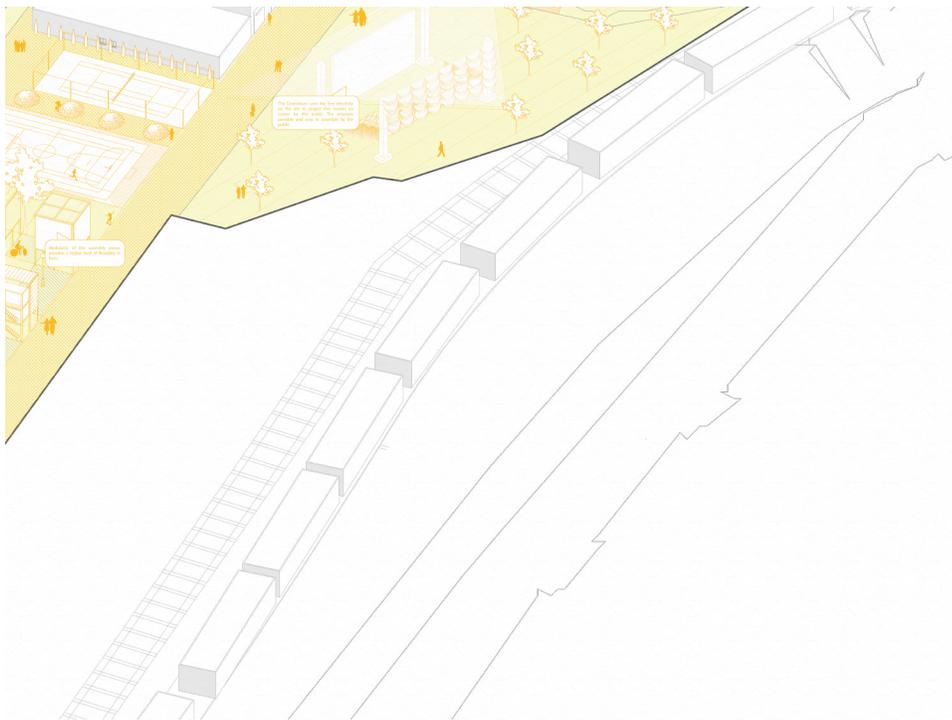
The temporary city doesn't have a single permanent solution for a perfect downtown, but rather it provides different options for variety of uses. These have different forms in design and will have different results towards the aims of the city. The following set of drawings show one possible implementation of the urban interventions in downtown. Using one of the missionary neighborhoods in the board game, the drawings show the potential of each land in providing pedestrian and community oriented public spaces. Areas where city core is used by the crowd and is occupied by the people.

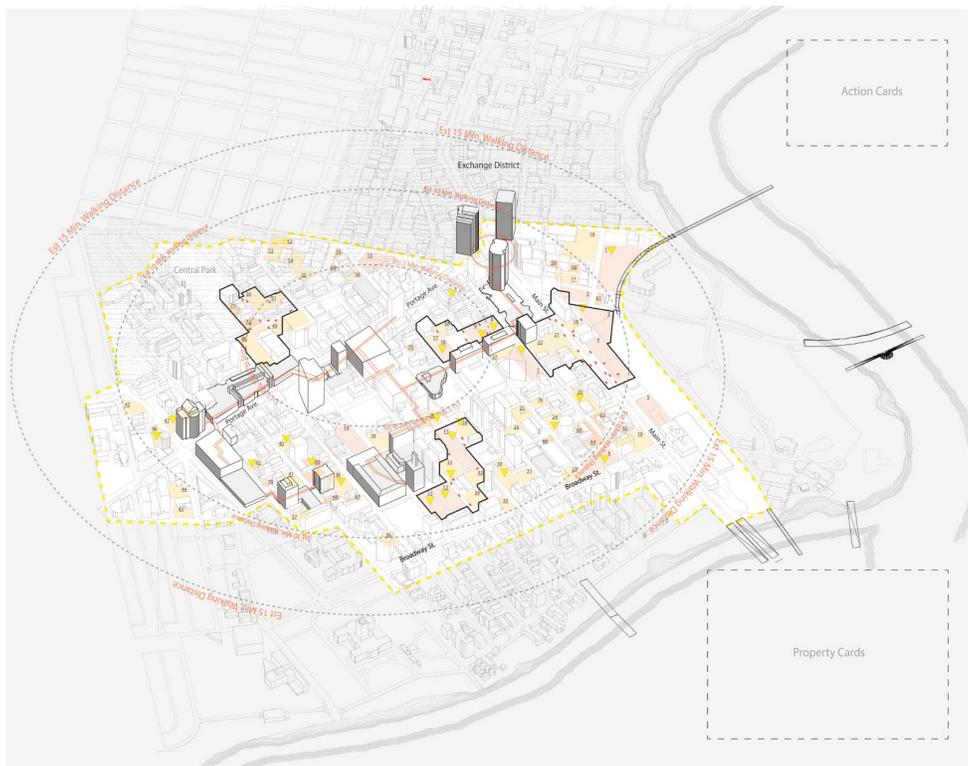












POST-SCRIPT AUTONOMOS CAR AND HOW THEY IMPACT PARKING SPACES IN AN URBAN CONTEXT

“New U of T Engineering research shows that adoption of self-driving cars -- also known as autonomous vehicles (AVs) -- could significantly reduce the amount of valuable urban space dedicated to parking.”³²

Researchers have found that use of driverless cars will result in drastic shrinkage in the size of surface parking lots. Using an autonomous car means no one needs to worry about parking, the car picks you up and drives you to the desired destination. Driverless cars as the future mode of transport support the concept of replacing surface parking lots with public spaces. Surface parking lots are the first urban spaces that are subject to change.

Further development of the driverless car supports the vision for the temporary city. Use of these vehicles eliminates from the need of surface parking in cities. Cars drop you off at the destination and pick you up at the desired time. This naturally changes the desire for the surface parking into other category of spaces. In busy downtown areas they will be replaced by programs that benefit the city and the community. This is along the same goal of this thesis, where parking lots are replaced with community oriented and pedestrian friendly social fabrics .

Appendix A

CASE STUDIES

PARK (ing)

Re-bar, San Francisco

Rebar is a San Francisco based design firm where artists and designers, undertake projects that aim to create social opportunities between people.³³ The PARK(ing) project was an investigation into re-purposing a metered parking unit. The project aimed to transform a parking spot into a PARK(ing) space by leasing the space for public recreational activity. The goal was to temporarily expand the public realm and improve the quality of urban human habitat, at least until the meter ran out.³⁴

The simple rethinking of parking space has turned into an international event called Park(ing) day where people transform a parking spot into a public space. The project questions the amount of public land dedicated to the parking of private vehicles, and it demonstrates that even a single parking spot can have other desirable uses.



Figure 3 & 4
There we installed a small, temporary public park that provided nature, seating, and shade.

Walkable Super Blocks Barcelona, Spain

The City of Barcelona, recently decided to imply a gridded system in its downtown to stop the issue of traffic and congestion within the city.³⁵Based on this plan in some areas a group of nine city blocks are grouped together as a car free zone. Car, scooter, lorry and bus traffic will then be restricted to just the roads in the super block perimeters, and they will only be allowed in the streets in between if they are residents, or providing local businesses, and at a greatly reduced speed of 10km/h (typically the speed limit across the city is 50km/h, and 30km/h in specific areas).³⁶ Giving back the rights of the city to its people, the super block is a pedestrian zone .



SUPERBLOCKS MODEL

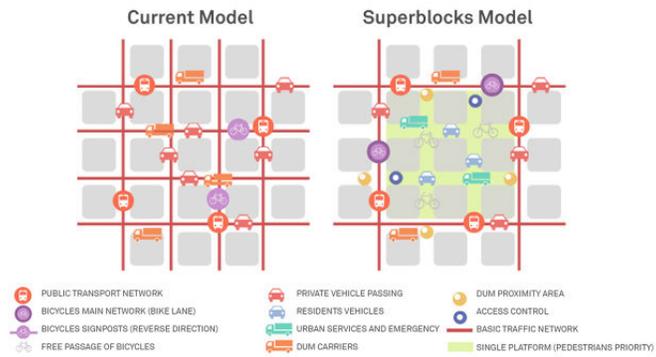


Figure 5 & 6

**Cineroleum
London, UK**

In 2010 a petrol station in Clerkenwell, London, was transformed into a hand built cinema . The project was an experiment in the the potential for the wider re-use of the UK's 4,000 empty petrol stations.³⁷ Similar to the condition of surface parking lots, the designers used the existing conditions in order to create new public spaces . Classic elements of the cinema were re-created for the roadside setting using cheap industrial, reclaimed, or donated materials. Flip-up seats were made from scaffolding boards, the foyer was furnished with formica-clad school chairs and tables, and the auditorium was enclosed by a curtain, created by hand-sewing about three kilometres of seam in roofing membrane.³⁸



Figure 7 & 8

Appendix B

ENDNOTES

Endnotes

1. Eran Ben-Joseph, *ReThinking a lot: the design and culture of parking* (Cambridge, MA: MIT Press, 2015), XII.
2. Marc Vachon, Parking issues and aesthetics in downtown Winnipeg, *Prairie Perspectives: Geographical Essays*, Vol 15 ,25-37
3. Eran Ben-Joseph, *ReThinking a lot: the design and culture of parking* (Cambridge, MA: MIT Press, 2015), XI.
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5. Kate Abbey-Lambertz, “What America’s Strangest Parking Garage Means For The Future Of Detroit,” *HuffPost Canada*, December 06, 2017, , accessed January 08, 2018, http://www.huffingtonpost.ca/entry/michigan-theatre-detroit-parking-garage_n_5641301.
6. Nadav Levy, “Parking Reform Made Easy,” *Transport Reviews* 34, no. 2 (2014): 29, doi:10.1080/01441647.2014.890257.
7. *Ibid*, 32
8. *Ibid*, 29
9. Eran Ben-Joseph, *ReThinking a lot: the design and culture of parking* (Cambridge, MA: MIT Press, 2015), XI.

10. Jeff Speck, *Walkable city: how downtown can save America, one step at a time* (New York: North Point Press, a division of Farrar, Straus and Giroux, 2012), 11.
11. Canadian Urban Institute. *Rethinking Surface Parking for Pedestrian Friendly Office Development*. PDF. Toronto.11
12. City of Winnipeg,*Complete Communities*. PDF. Winnipeg. 16
13. This Was Manitoba By: Christian Cassidy Posted: 06/11/2017 3:00 AM | Comments:, "Driven to great heights," *Winnipeg Free Press*, June 11, 2017, , accessed January 08, 2018, <https://www.winnipegfreepress.com/local/driven-to-great-heights-427718613.html>.
14. Ibid
15. Nadav Levy, "Parking Reform Made Easy," *Transport Reviews* 34, no. 2 (2014): , doi :10.1080/01441647.2014.890257.
16. Canadian Urban Institute, *The Value of Investing in Canadian Downtowns*, PDF, Toronto, May 2012.6-7
17. Ibid
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19. City of Winnipeg,*Complete Communities*. PDF. Winnipeg. 15
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