



Law, Culture, and Landscape Architecture:
Defining the Sidewalk Landscape in Downtown Winnipeg

by Melanie Johnson Kwan ©

Graduate Practicum for
The Department of Landscape Architecture
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**“Law, Culture, and Landscape Architecture:
Defining the Sidewalk Landscape in Downtown Winnipeg”**

BY

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**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of
Manitoba in partial fulfillment of the requirement of the degree
Of
MASTER OF LANDSCAPE ARCHITECTURE**

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Learning also requires gathering and interpreting documented information, and for their help with this process I would like to thank the staff past and present of the City of Winnipeg including the Policy, Planning, Forestry, Legal and Public Works Departments, the Provincial Archives of Manitoba, the City of Winnipeg Archives, and the University of Manitoba Law Library. Without understanding the development and concerns of Winnipeg's past and present, I could not have envisioned a new approach to sidewalks for the future.

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*"The important thing is not to stop questioning. Curiosity has its own reason for existing."
- Albert Einstein*

Melanie Johnson Kwan
April 17, 2005
Winnipeg, Manitoba

Abstract

This research examines the space currently protected for the movement of pedestrians within the downtown of Winnipeg as a *sidewalk landscape*. This complex landscape contains both cultural and ecological systems which need to be considered holistically in order to maintain a healthy sidewalk landscape. As an application of the United Nations' 'Healthy City' principles, a healthy sidewalk landscape includes healthy vegetation, ecologically responsible design and maintenance, and a safe, economically sustainable, and contextual experience for pedestrians.

The sidewalk landscape of downtown Winnipeg is well used as a functional corridor, but its systemic health is suffering. The growing requirements for urban vegetation, the climatic and experiential effects upon pedestrians, and the lack of an ethical approach toward groundwater and wind are examined by looking at this landscape as a right of way, a private and public sector investment, a public space, and as an ecological network. These perceptions of the sidewalk space are a translation of cultural values into the planning and regulatory legal documents written for this landscape.

In order to understand this landscape, this research examines the sidewalk as a product of cultural values serving many cultural purposes, and an evolving landscape affected by emerging civic goals and priorities expressed in provincial legislation, and municipal by-laws and planning policy. Two goals of this research were to educate landscape architects about the sidewalk as a cultural and outdoor landscape, and to prepare a framework for sidewalk design as a form of applied landscape theory. Landscape architects as teachers and designers can provide leadership toward a review of the practices and legal documents shaping the sidewalk landscape.

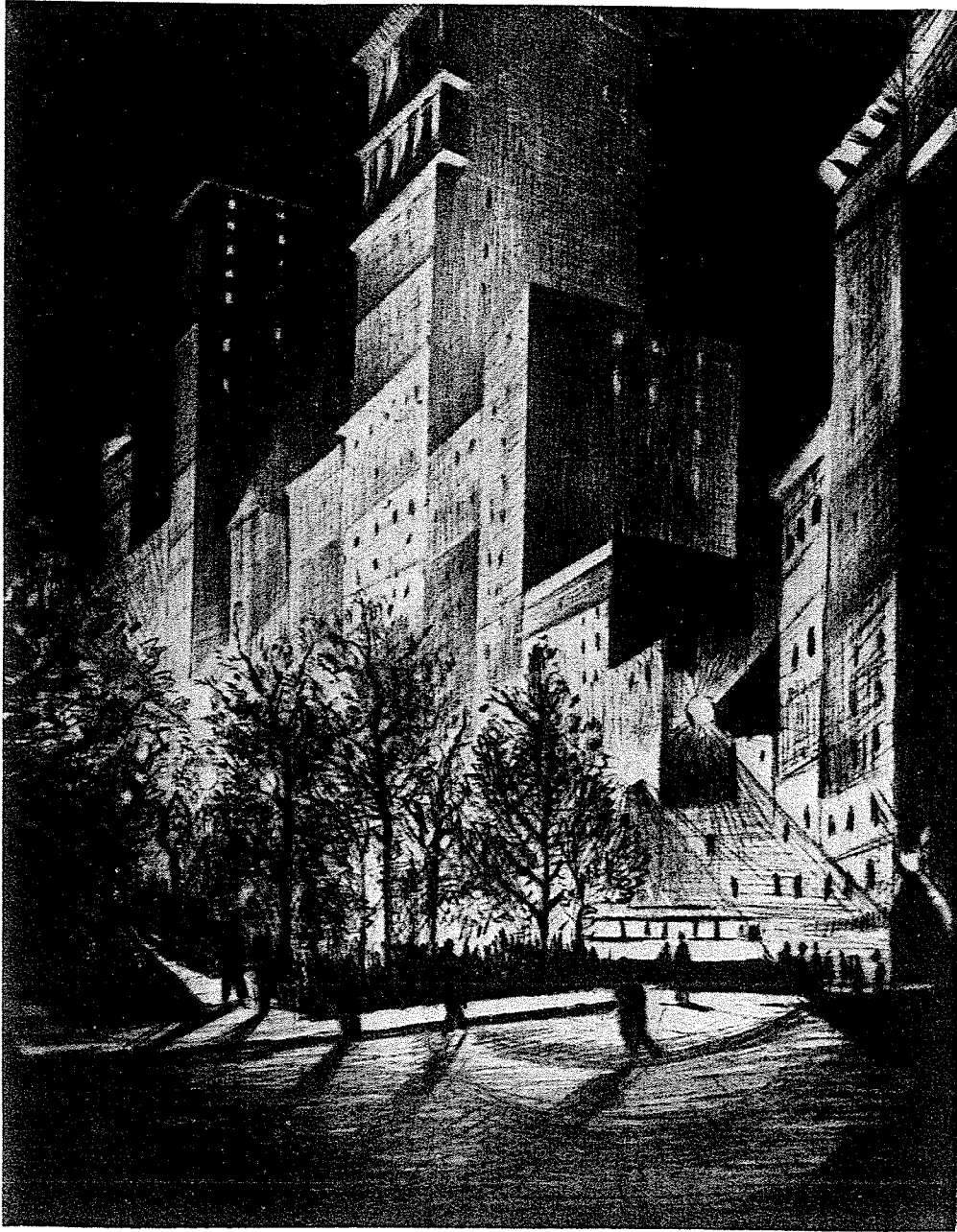


Fig. 1 *Metropolis, 1920-1922*
Christopher R.W. Nevinson, London, Victoria and Albert Museum (Clair, 425)

Preface

For some time, I have been exploring the relationship between landscape architecture and the culture in which it exists. Often, when designing, a landscape architect will draw upon cultural conditions from the past, or the present day, or look forward into the future to inform his or her design expression. Similarly, the values and standards of behaviour within a landscape architectural association's code of ethical conduct are drawn from contemporary cultural ethics, but I wondered how the profession of landscape architecture is realized in the culture within which it practices and from which it draws inspiration.

The influence of landscape architecture should be realized in the milieu of the profession - the outdoor spaces and places which culture creates, modifies, and maintains for its use. These are the *landscapes we use everyday*. As the product of cultural activity and often developed for public use, landscapes are created, regulated, and modified by enduring and evolving cultural goals and values that are expressed within the legal documents of government. If the disciplines of landscape architecture and law are both concerned with the creation, modification, and maintenance of landscapes are they acting in a coordinated approach to create landscapes, considering both their cultural benefit and long-term health ?¹

¹ A 'healthy landscape' shares similar principles to the United Nations definition of a 'healthy city' The health of landscapes is determined by a number of indicators which measure aspects of sustainability, positive cultural activity, and health of users and objects within the landscape. One indicator of a healthy landscape is healthy trees, while an indicator of poor landscape health is neglected vandalism.



Fig. 2 Street Tree, Carleton Street, Winnipeg (author)

Street trees, as one living element of urban landscapes, became the focus of my early investigation into the relationship between law, culture, and landscape architecture. As an introduced living species, the street tree is a product of cultural activity serving a variety of cultural purposes. I felt that a study of street trees would reveal the application of landscape ecology and design theory within a legally-controlled landscape; however, an analysis of legislation and by-laws relating to street trees revealed two concerns. First, that while legal documents were defining and shaping urban landscapes, they contained little or no mention of landscape architectural principles, and second that the ecological needs and cultural benefits of trees are overshadowed by the labelling of trees as a legal 'nuisance'. If the provision of street trees is a cultural goal supported by municipal financing, why are these trees becoming a nuisance ?

This question led me to a shift in my research. Perhaps it was not the tree itself that was the source of 'nuisance', but the municipal government approach toward the landscape where the street tree has been planted. The street tree becomes a nuisance when it must compete with multiple uses and users without a clear understanding of the many activities and conditions which contribute to a healthy urban landscape, and without a comprehensive approach to conflict resolution within and adjacent to this landscape.

The *sidewalk landscape* where street trees are planted is arguably one of the most culturally significant landscapes within a city as it negotiates the effects of cultural and ecological activity, various uses and users, and the interaction between the urban built

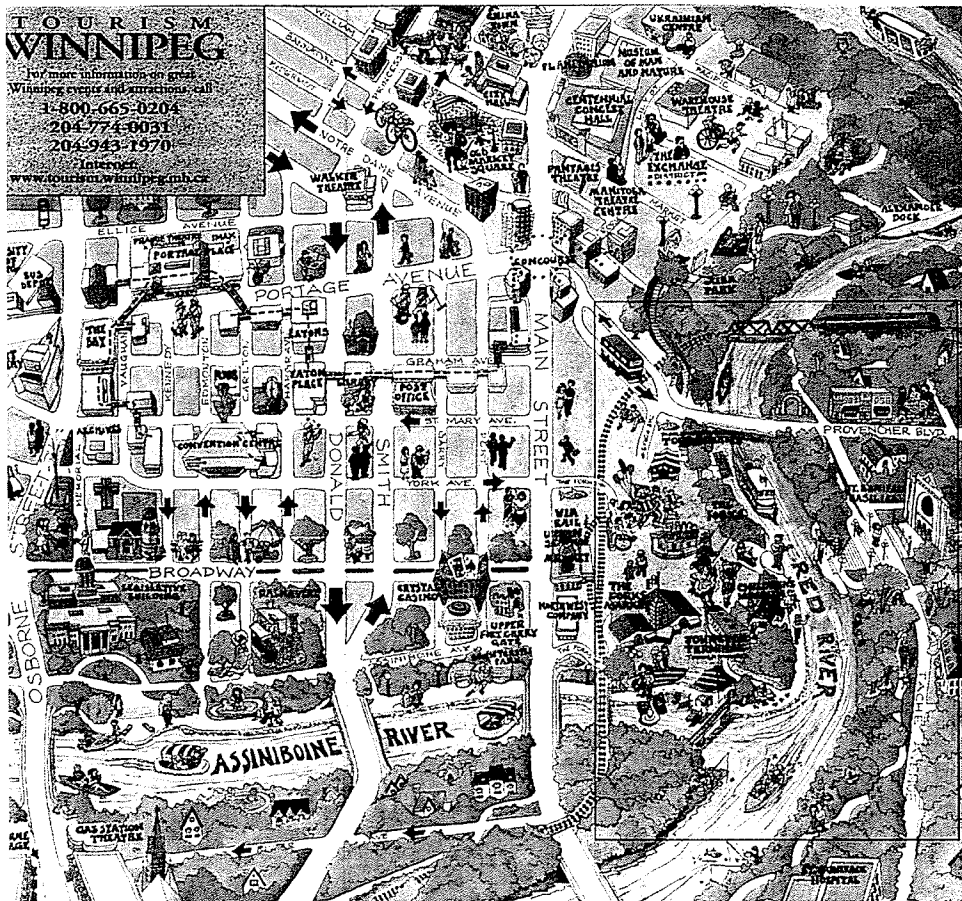


Fig. 3 Map of Downtown (Tourism Winnipeg brochure)

form and the roadway. It is within the sidewalk landscape of downtown Winnipeg that I will explore the relationship amongst landscape architecture, law and culture, and the role which landscape architects can play in both negotiating a healthy balance between uses and users, and directing the preparation and revision of the policies, by-laws and guidelines which regulate this landscape.



Fig. 4 *Amongst the Nerves of the World*
Christopher R.W. Nevinson, Museum of London (Clair, 416)

Introduction

This research is an exploration of one of the most culturally and functionally complex public spaces in the downtown of Winnipeg: the sidewalk landscape. This landscape was chosen for study because, while its complexity provides a rich opportunity for exploration and expression, the lack of a holistic understanding of this complexity has created conflicts between the elements, users and uses which can contribute toward a healthy sidewalk landscape.

My study coincides with current development issues facing Winnipeg's downtown: encouraging urban renewal while discouraging urban sprawl. In response to these issues, the city is investigating new development opportunities for its downtown which embrace development diversity, downtown living, sustainability and innovation. Part of this initiative has involved updating the legislation and by-laws which regulate and direct development within and adjacent to the sidewalk landscape. For the profession of landscape architecture, this initiative can provide an opportunity to re-examine the legal documents, development processes, and design practice which shape the sidewalk as a cultural and ecological landscape.

This outdoor space within the city is defined as a *landscape* because it meets two definitions of a landscape: it is land developed through cultural values for cultural activity (Meinig), and it is an outdoor systemic environment which supports the health of the city's three living entities: humans, animals and plants (Forman and Hough). The



Fig. 5 Sidewalk landscape Albert Street, Winnipeg (author)

sidewalk landscape can be also spatially defined as the property, air space and soil volume which lie between the roadway curb and the property line or abutting building facade on all downtown streets.

The sidewalk landscape is also distinguished by the social amenities that it provides for visual appeal, and safe, convenient and healthy outdoor public activity within the downtown including a solid and consistent surface for safe pedestrian movement, post boxes, newspaper boxes, garbage receptacles, public telephones, bus shelters, orientation and promotional signage, and trees and other plant material which contribute to the city's ecosystem. The design of the sidewalk and the inclusion of amenities demonstrate the government's legally declared goals of providing convenience, and suppressing nuisance. The visual impression of the sidewalk landscape contributes to the image of the city, while its physical structure as an interconnected network of public space facilitates the circulation, recreation, social and economic needs of Winnipeg's citizens.

The experiential quality of this landscape as a three-dimensional space is determined in part by the objects and activities adjacent to it. Typically creating one edge of the sidewalk landscape in downtown Winnipeg are the building facades which can contribute to a positive pedestrian experience by providing window and door openings that connect the pedestrian with the activity and/or goods and services within the building. Facades that contain awnings also provide pedestrians with shelter from wind and precipitation. When facades which border the sidewalk landscape do not contain window or door openings, or have these openings boarded up, or when down draught



Fig. 6 *Roadway edge, Portage Avenue, Winnipeg (author)*

wind rushes down the facade creating ground-level turbulence, the desirability of this landscape as a destination or circulation corridor is reduced.

Also impacting upon the experiential quality and desirability of the sidewalk landscape for the urban pedestrian is the activity occurring upon the roadway adjacent to the curb. Providing parking opportunities adjacent to the sidewalk landscape increases pedestrian activity within this landscape, and provides a buffer zone which protects pedestrians from adverse effects created by moving vehicular traffic. The greatest risk to pedestrians occurs within the pedestrian zone of travel located within the roadway. Providing improvements to this portion of the sidewalk landscape can contribute to the visibility and safety of pedestrians, and the overall appeal of this circulation network.

Apart from being a public space which is designed to be safe and convenient, the sidewalk is also an outdoor landscape which is part of an ecological network of created and naturally occurring landscapes within and beyond the city. The sidewalk can reflect the ecology and climate of the place in which it is situated by mediating unwanted climatic effects such as high albedo values, and down draught wind, and demonstrating aspects of the native ecosystem, seasonal change, and healthy ecological cycles. The government can use its powers of eminent domain to regulate and initiate objects and activities which impact upon the ecological health of the sidewalk landscape.

In 1986, the United Nations introduced the International Healthy Cities movement to address long-term urban health and development. A 'healthy city' was identified as "a



Fig. 7 Sidewalk landscape Portage Avenue, Winnipeg (author)

clean, safe physical environment” that promotes and celebrates historical and cultural heritage, and contains “a sustainable ecosystem” (www.who.int). As one of the most visible, well used and extensive public spaces in a city, and as a physical, social and economic environment, the sidewalk landscape should contribute to and demonstrate the principles of a healthy city in its physical appearance, systemic health, and use.

My understanding of the sidewalk landscape initially involved walking this open network within downtown Winnipeg and noting physical indicators of good landscape health or poor landscape health. Some of the indicators of good sidewalk landscape health included people eating lunch within this landscape, sub-district banners, window displays, well-maintained healthy plants, and transit information. Indicators of poor sidewalk landscape health included damaged or dead trees, boarded up storefronts, and unattended vandalism or general maintenance. While these indicators helped identify concerns and conflicts affecting the health of this landscape, the circumstances contributing to these problems remained unclear until one day when I witnessed a dead tree being removed from a downtown sidewalk landscape planter and the open hole filled with a healthy tree.

The mechanical nature of this act led me to question the expectations society places upon this landscape, the cultural values underpinning these expectations, the ethical context of the procedures involved in developing and maintaining this landscape, and the activity anticipated from use of this landscape. The sidewalk landscape is a creation of cultural activity developed and maintained to serve a variety of social, and economic cultural purposes. To understand this landscape I examined both the history

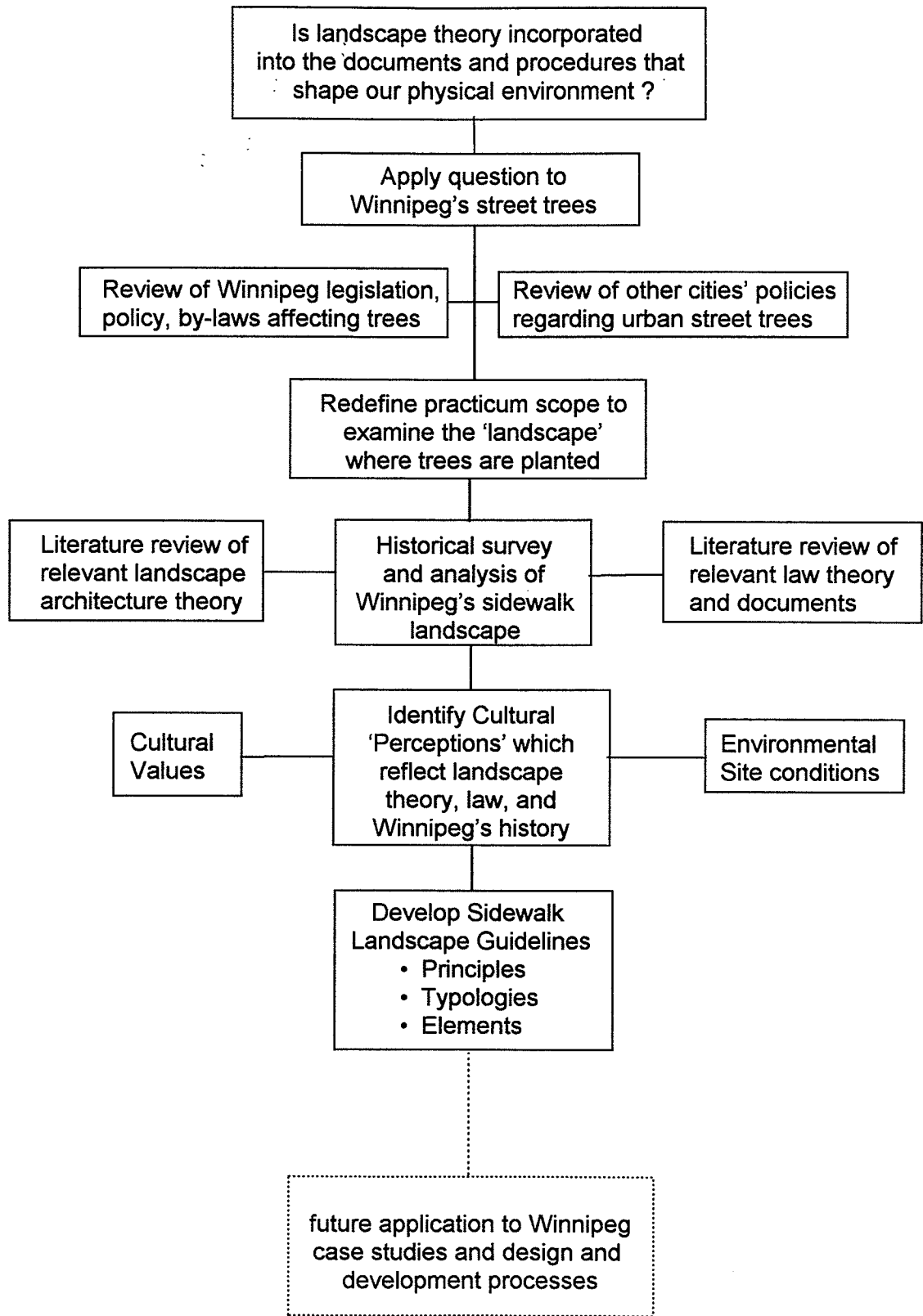


Fig. 8 *Practicum Methodology Flow Chart*

of Winnipeg's sidewalks, and the broader body of theoretical and technical research and documentation written for and about sidewalks.

Methodology

Over time, cultural activity has changed the sidewalk landscape of Winnipeg, creating new priorities, and abandoning those that appear obsolete or impede upon the city's vision for the future. A historical survey of Winnipeg's sidewalk landscape was undertaken in order to understand the anecdotal information, and cultural activity which led to the creation and later modifications of this landscape. This historical survey revealed two significant factors shaping this publically and commercially important civic network: public input, and the written documents, language, and purposes of municipal law.

The translation of cultural values into documents of law became an interpretive study of the impact of legal concepts and powers upon the systemic health of the sidewalk landscape. Concepts such as nuisance, convenience, and the concern for safety, are addressed through police and eminent domain powers which define and control activity and objects wanted and unwanted within or adjacent to this landscape. While these documents contain some of the original goals for the sidewalk landscape, they are also subject to evolving cultural values and civic goals creating new opportunities for further developing and maintaining a healthy sidewalk landscape by addressing the cultural, ecological and functional systems within this landscape.

The cultural identity of the sidewalk landscape was also studied by examining written



Fig. 9 *Cultural, economic, functional and ecological systems Portage Avenue, Winnipeg (author)*

material that presents cultural observations, questions, and controls all of which contribute directly or indirectly toward shaping this network of public space. The literary, and theoretical documents researched provide a cultural expression of societal values, goals and expectations anticipated or realized within the sidewalk landscape. Individually, these written documents act as a measure of broader concepts including citizenship, democracy, and civic-ness. When studied concurrently, however, recurring themes emerged which led to the formation of cultural perceptions of this landscape.

The perceptions developed through this process of inductive reasoning represent a synthesis of enduring and emerging societal values and goals as expressed within the written documents from the disciplines of literature, law and landscape architecture. As a summary of the local contextual historical survey and the broader theoretical research, the perceptions collectively introduce the social, ecological and functional systems active within and impacting upon the sidewalk landscape.

The perceptions also demonstrate the complexity of use, users, activity and expectation of the sidewalk as a landscape. Using Forman's landscape ecology theory, the perceptions were then considered as a series of systems active within and impacting upon this landscape. These systems are cultural systems including dialogue and social interaction, economic systems including the relationship between consumer and business, functional systems including the movement of people, and ecological systems including the nutrient, wind, sun, and water cycles.

Again, the issue of apparently disparate issues arose, as it had previously when trying



Fig. 10 *Winnipeg Wall Mural Higgins Avenue at Main Street - C. Johnston, artist (author)*

to reconcile my study of law, with my study of landscape architecture theory which was resolved with the development of 'Perceptions'. The issue that I found to be common to all these systems was their 'health'. This led me back to some research I had done for course work looking at the Healthy City initiative from the United Nations. Looking at the social, economic, cultural, functional and ecological *health* of the sidewalk landscape has allowed me to synthesize the law, landscape architecture, ethics, and ecology within one goal which already has its groundwork set within government law and City of Winnipeg policy.

Review of document chapters

The sustained health of the sidewalk landscape is dependent upon its sub-systems operating in a mutually beneficial relationship. When the balance between these systems is compromised, the health of one component or activity within this landscape can also be at risk. To understand the factors contributing to this imbalance, this research examines the sidewalk landscape as a cultural and ecological landscape which is shaped by and continually responds to social, political, and climatic influences.

The first two chapters examine the sidewalk landscape as a social and cultural landscape by looking at the theoretical and contextual 'public practices' that have formed and continue to inform the role of the sidewalk within the larger context of the city. In the first chapter the relationship between sidewalk and city is examined through literature about and language associated with the street to reveal the cultural dialogue, aspirations and realities of this public realm. In the second chapter this cultural analysis becomes a historical narrative of the evolving relationship between the City of Winnipeg



Fig. 11 *Main Street looking north a few days before Bloody Saturday, 1919.* (Currie, 79)

and its sidewalks. This story has been developed from the City of Winnipeg and Province of Manitoba archival material that led to the creation of the City of Winnipeg by-laws.

The Origin and Evolution of Winnipeg's Sidewalk Landscape chronicles the development of local trails into sidewalks. The early sidewalks were created under a public-private partnership, and reflected civic pride. Civic pride and the demonstration of civic prosperity led to the evolution of sidewalks from extensions of businesses into local improvements paid for through taxation. The visual and functional 'beautification' of the city under the early era of local improvement would include the planting of trees, the provision of lighting, and the on-going development of the sidewalks. As a source of pride and modern convenience, the sidewalks quickly became the popular public space of downtown. Urban 'performances' including parades, demonstrations, challenges, and the display of new inventions and products occurred upon or were observed from the city sidewalks. Not all these public events were welcome additions to the life of the city, and the *Streets By-Law* would be revised to increasingly restrict pedestrian behaviour in order to maintain the government's vision of the sidewalk landscape as the urban threshold to the economy of the city.

The third chapter *Law as Inscription of Cultural Purpose upon the Sidewalk Landscape* looks at the specific implications of the language and objectives within the current legislation and by-laws in force within the City of Winnipeg. The language, and purposes behind these documents present a unique cultural portrait of the sidewalk landscape. This chapter further examines the impact of government legislation and

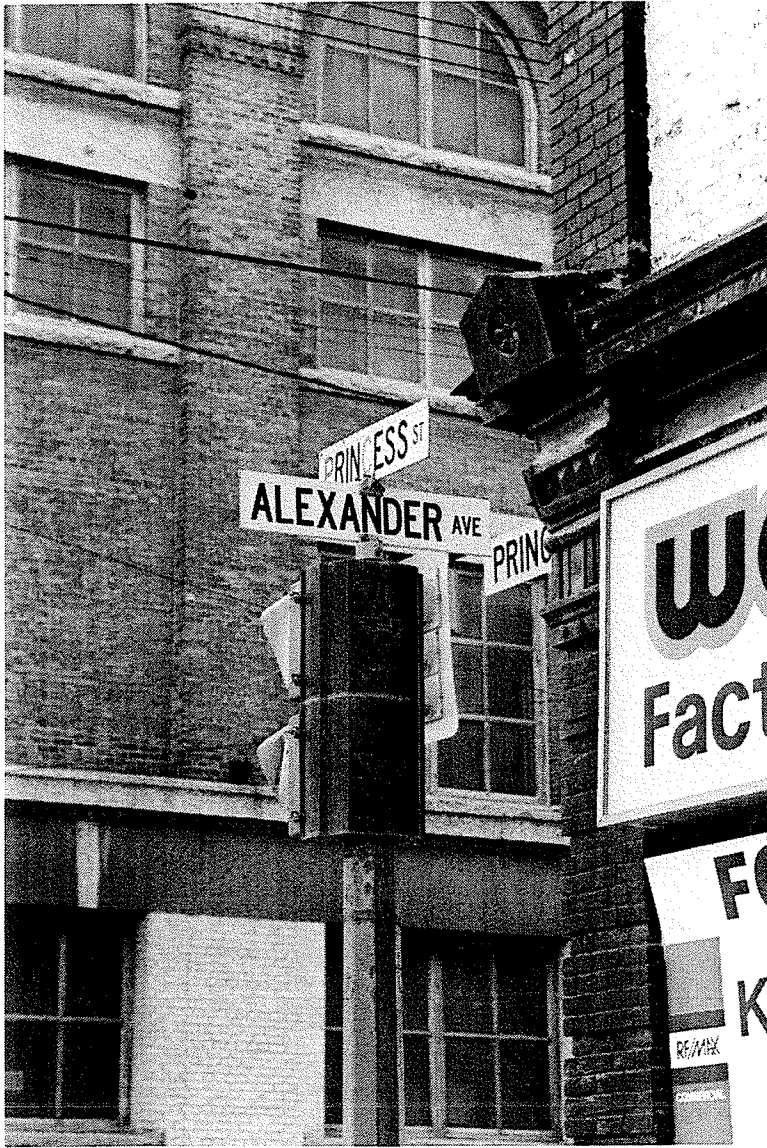


Fig. 12 *Downtown Winnipeg Street Sign* (author)

by-laws upon both the behaviour of pedestrians and the evolution of the sidewalk landscape. The legal concepts and terminology found in legislation and by-laws reveal the cultural values, and civic priorities influencing the sidewalk landscape. The most influential legal concepts and terminology affecting the sidewalk landscape are *nuisance, convenience, amenity, and traffic*. Within this chapter each of these terms and concepts is introduced and examined for its impact upon the form and use of this landscape. As law tries to interpret cultural values for different users and uses, and different systems active within the sidewalk landscape, the resulting complexity makes this public space the most highly negotiated and regulated zone within the city.

Two goals underpinning the research approach of this work were first, to provide some direction toward defining this landscape within the City of Winnipeg legislation and by-laws, and second, to provide a framework for sidewalk landscape design guidelines. The fourth chapter begins this process by summarizing the perceptions of this landscape that have been expressed in written work, and through cultural activity.

The perceptions of the sidewalk landscape which originated in the history of the city, and are still evident today are studied in detail in the next chapter *Cultural Perceptions of the Sidewalk Landscape*. The sidewalk landscape was and still is perceived as: a right-of-way, an investment, a public space, and an ecological network. This chapter looks at the origins of these perceptions, the continuing influence they have upon legislation, by-laws, policies, landscape theory and/or guidelines today, and how they collectively contribute to the plurality of the sidewalk landscape. These perceptions reflect different aspects of landscape architecture theory including behavioural studies,

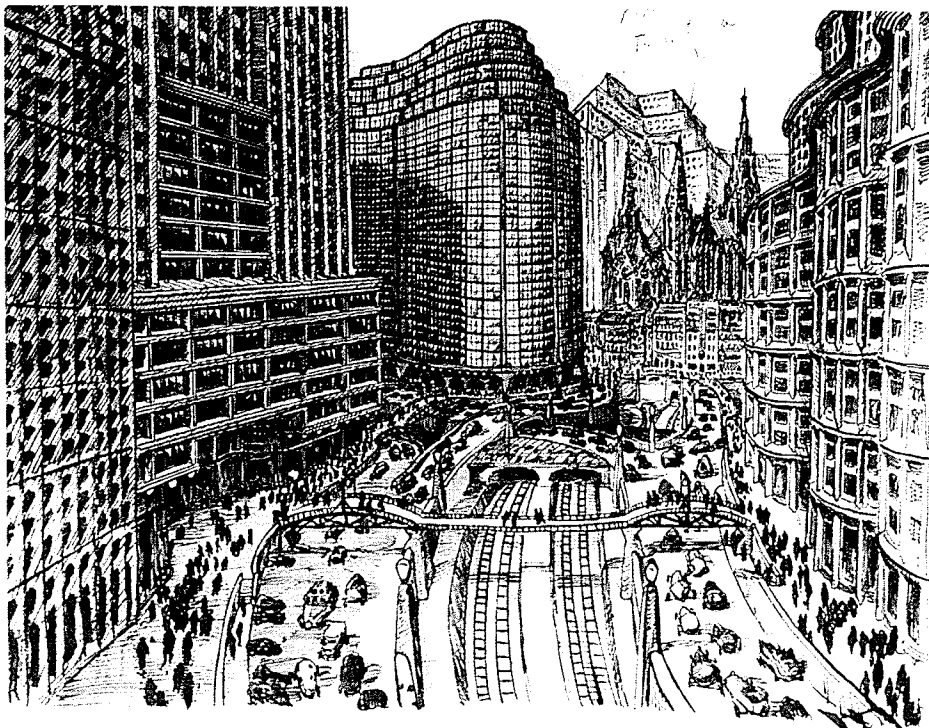


Fig. 13 *Set Design for "Metropolis", first version, 1925* by Erich Kettlehut
Berlin, Stiftung Deutsche Kinemathek (Clair, 68)

cultural geography, landscape design, and urban ecology. As these perceptions were revealed through an examination of local history, have been explored in landscape architecture theory, and are still evident in legislation and by-laws, they can act as a 'measure' of the realized and anticipated cultural value of Winnipeg's sidewalk landscape.

While these three perceptions are contributing valuable insight and direction toward the ongoing development of the sidewalk landscape, they also reflect its complexity created by the expectations and realizations of different users and uses of this landscape. Landscape architects address complexity by looking at systems interacting within a landscape.

Complexity is a naturally occurring phenomena resulting when many systems are simultaneously active within a landscape. The first step to understanding this complexity is to identify the structure of the landscape itself. With its many systems interacting, and its connections to other parts of the city, the sidewalk functions as a network. While an individual object within the sidewalk landscape may be inanimate, this *ecological network* becomes animated with the movement of people and vehicles, the cycling of stormwater, the changing seasons, and changing weather and micro-climate conditions. While this fourth perception has origins in ecology, sustainable design theory, and urban forestry, it is rarely found in design guidelines for pedestrians and their sidewalk landscape.

This complexity requires a comprehensive negotiation process to prevent the realized



Fig. 14 *Cracks in the Sidewalk System* photo by Donald Weber for The Globe and Mail, Toronto.

application of one perception from overwhelming one or more of the others. Looking at this landscape, and negotiating users and uses of this landscape holistically can help prevent negative impact conflicts between the expectations and realized expression of the perceptions. Spatial negotiation is required to prevent a sidewalk café as an expression of *investment* from becoming an unwanted encroachment within the *right-of-way*; negotiation of materials, lighting, and placement of objects is required to prevent *public space* from contributing toward loitering and vandalism to *investments*, and dialogue between departments is required to negotiate the needs of maintenance crews with the installation and longevity of pedestrian amenity *investments* within and adjacent to this landscape.

The fifth chapter looks in detail at the considerations required to write or update by-laws and guidelines. The way in which the sidewalk landscape is defined contributes in part to its value, and the consideration it receives by civic departments. This issue emerged after writing the law and perception chapters, and will become an important concern when proceeding with any changes to the wording or intent of current legislation and by-laws or the preparation of new by-laws or guidelines.

Following this chapter is *A Framework for Sidewalk Design Guidelines for Downtown Winnipeg*. One objective of the Framework is to re-establish the historic role of Winnipeg's downtown sidewalk landscape as a distinct 'place' which attracts, accommodates and engages pedestrians. Unlike other pedestrian guidelines, Winnipeg's Framework will also consider ecological issues within the sidewalk landscape including stormwater management, wind amelioration, urban heat island



Fig. 15 *Splice Garden* by Martha Schwartz (Potteiger and Purinton, 38)

effect, and perhaps most importantly a comprehensive approach to urban vegetation that understands disturbance ecology and prevents future nuisance. The Framework also has been prepared to encourage, facilitate and reward pedestrian activity within the downtown using the landscape principles of connectivity, complexity, and *genus locii*.

Currently the sidewalk landscape of downtown Winnipeg is controlled by three levels of government - two federal acts, no less than four pieces of provincial legislation, and no less than eight city by-laws involving three city departments. The new Framework begins the process of creating one document which addresses all of the requirements of these documents while respecting the integrity of the sidewalk space as a unique landscape with social and economic value.

Broader implications

This research looks at the past, present, and future direction of Winnipeg's downtown sidewalk landscape through the cultural inscription of government legislation and by-laws which continue to create, define, and protect this urban public landscape. For landscape architecture this study is a means of identifying and measuring this inscription, learning from the consequences of this inscription (written law and regulated landscapes), and applying landscape theory to negotiate the complexity of the urban sidewalk landscape in Winnipeg.

Landscape architects need to understand both the regulatory and non-regulatory legislation and by-laws which influence the form and use of the sidewalk landscape in

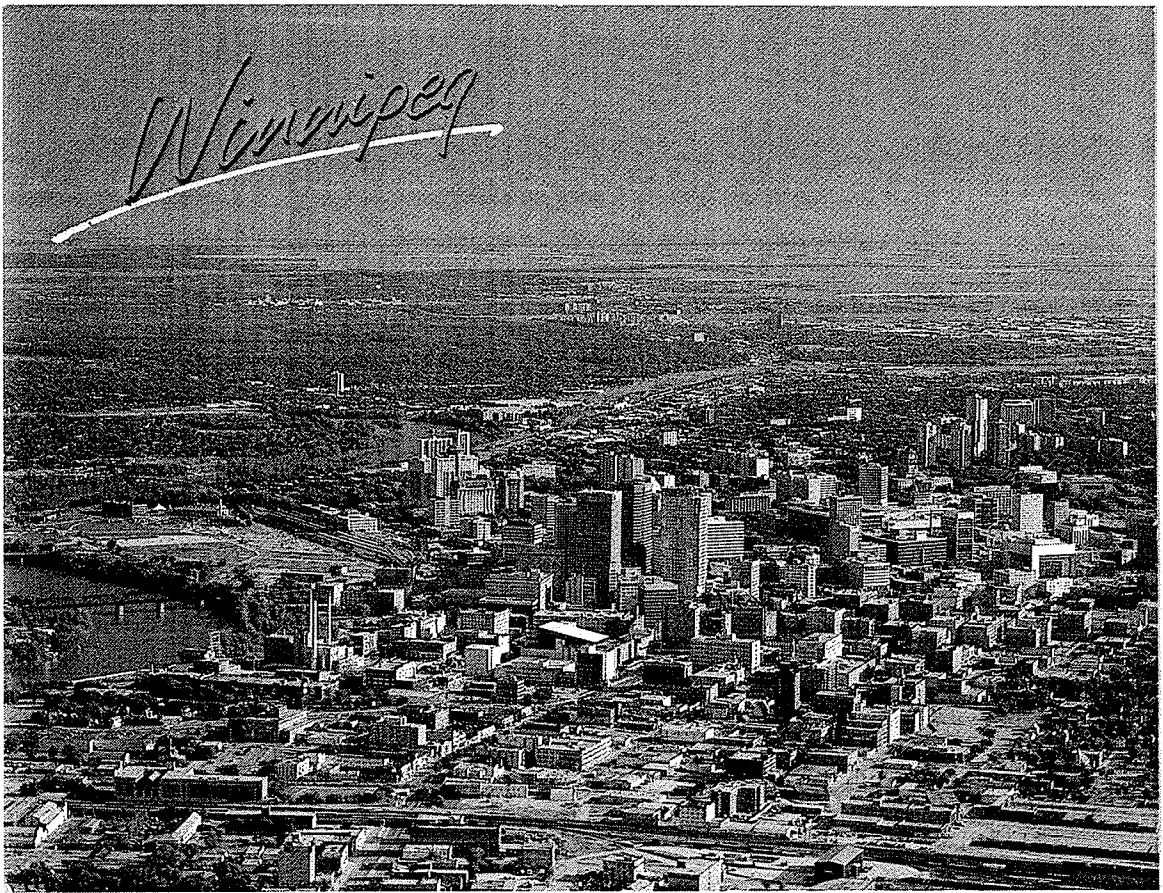


Fig. 16 *Aerial View of Winnipeg Manitoba* by R. Garnett for The Postcard Factory

order to become pro-active participants in ethically shaping this landscape through written law and through their realized designs. Understanding the intentions behind legislation and by-laws can also help a designer explore innovative ways to help the city achieve its goals while respecting its legal responsibilities. An awareness of the government's powers and jurisdiction, in particular the power of eminent domain, will help landscape architects explore unrealized opportunities for new forms of landscape architectural expression in the sidewalk landscape. The power of eminent domain and the province's power to protect ecosystems have the potential for further expression in the sidewalk landscape where urban ecology, and the natural resources of wind and sunshine are currently only mentioned for their potential as a nuisance.

Like law, landscape architectural theory and practice address the complexity of the sidewalk landscape, and seek ethically-responsible solutions which balance present uses and future potential of this outdoor public landscape. Creating a written and practical partnership between landscape architectural research and practitioners, and government can initiate new social, ecological and economic possibilities for the city's sidewalk landscape.

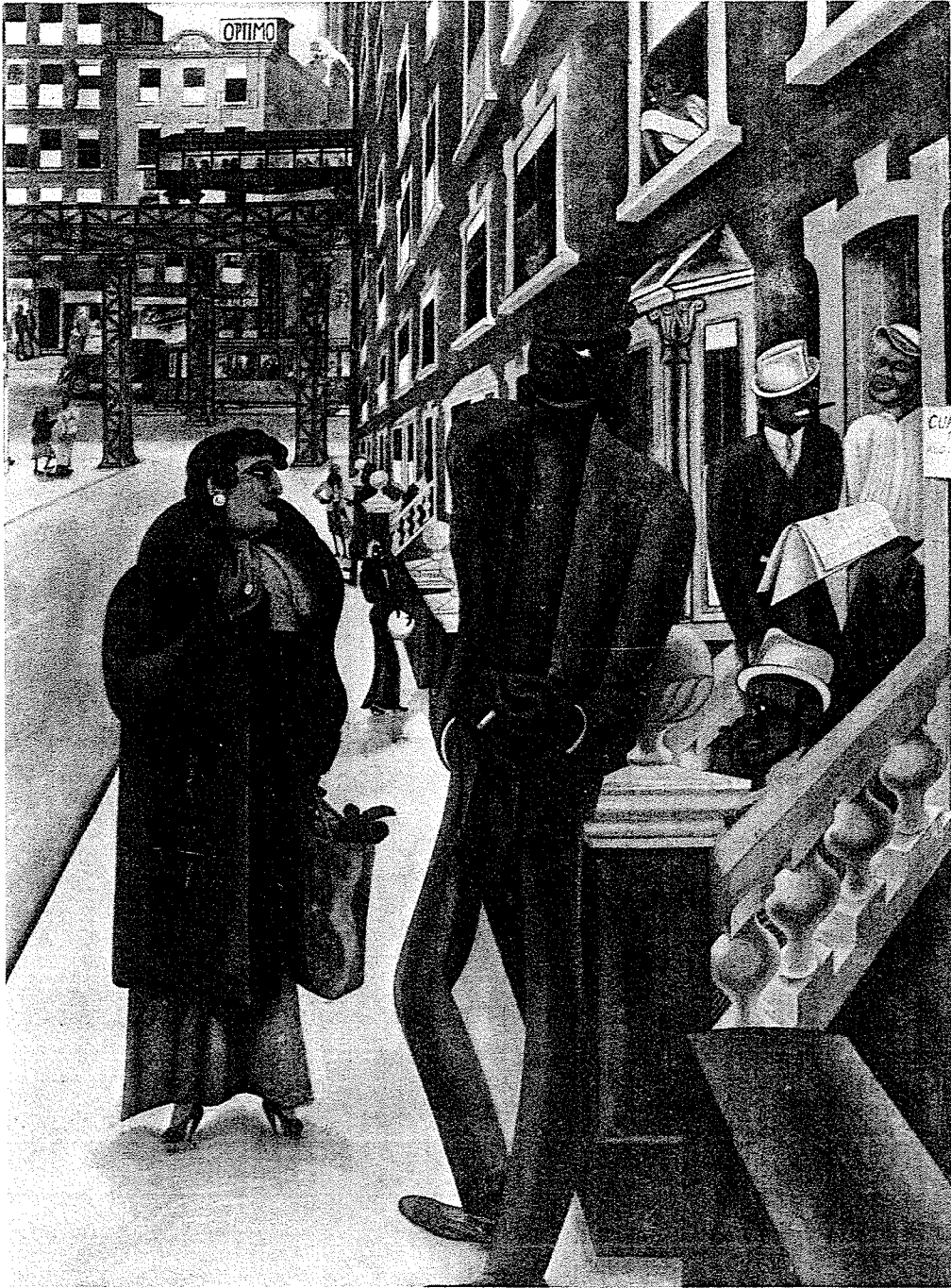


Fig. 17 *Harlem 1934* by Edward Burra. London Tate Gallery
(Clair, 428)

Chapter One

The City and Its Sidewalk Landscape

“sidewalk” means a foot path, whether or not paved or improved, that is intended primarily for the use of pedestrians and that...forms part of that portion of a highway that lies between the kerb line...and the adjacent property lines...”

- sidewalk definition contained within the “Province of Manitoba Highway Traffic Act” 1985-86

With shopping opportunities available in suburban malls, and inner city circulation moving inside to overhead walkways, and underground concourses, and onto the downtown shuttle transit service, the sidewalks of downtown Winnipeg may appear obsolete to the needs and movement of Winnipeg’s citizens. Often with a plain concrete surface and interrupted by vehicular traffic, the sidewalk landscape can be an unappealing environment for urban pedestrians. Challenges facing the urban pedestrian can include impatient drivers not wanting to wait for pedestrians to clear the roadway, or watching only vehicular traffic, not pedestrian activity. Turbulent winds reflected off building surfaces can also hinder the movement of the pedestrian, or the enjoyment of walking in this public space. In the summer, the sidewalk micro-climate can be uncomfortably hot, and in the winter, it can be difficult to traverse due to snow hoarding. Visual cues such as boarded up storefronts, graffiti, drunkards, and beggars leave an impression that the sidewalk landscape is a ‘territory’ that is unsafe. Despite the fact that the sidewalk is legally defined in legislation, protected by all levels of government, maintained by tax revenues, and the inspiration and setting for movies, novels and poetry, the sidewalk landscape often ‘struggles’ with its own complexity and a negative social image. Within the English language are numerous derogatory words and expressions associated with urban sidewalks.

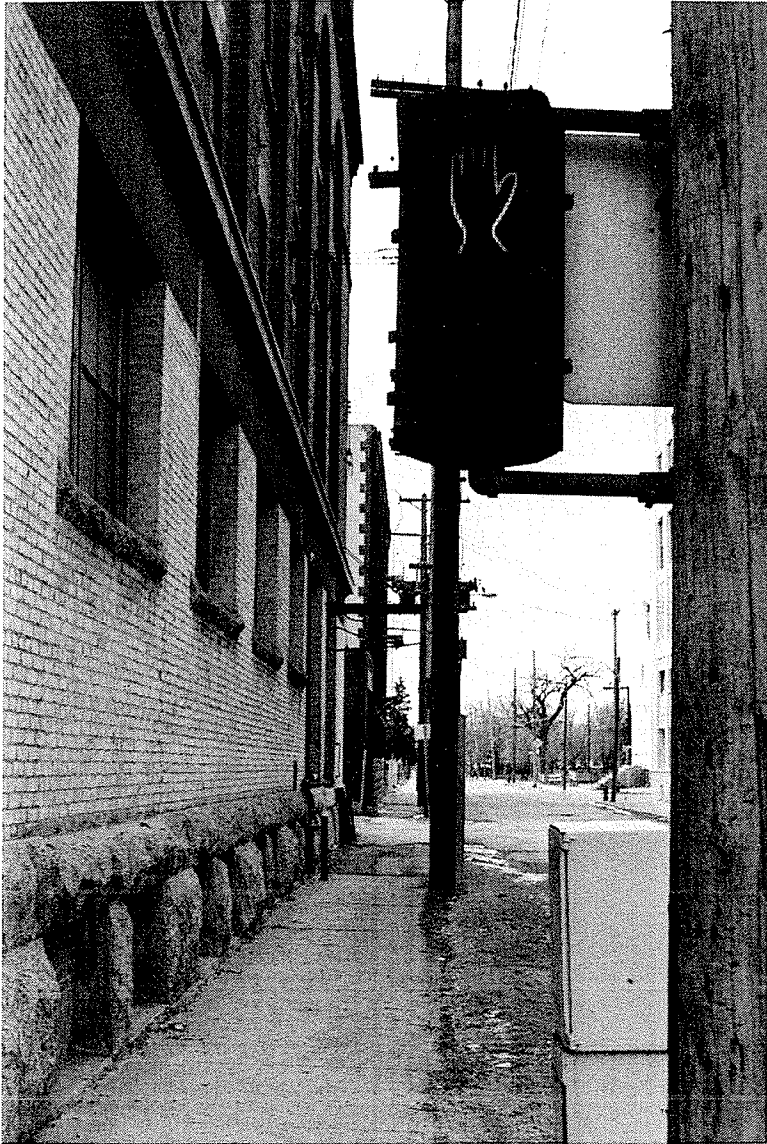


Fig. 18 *Alexander Avenue, Winnipeg* (author)

As a citizen of a city, a sense of territory, ownership, and pride develops. Why then is walking within one's own territory frowned upon and considered socially regressive? Rebecca Solnit who traced the history of walking from its anthropological origins to its literary expression notes: "urban walking has always been a shadier business, easily turning into soliciting, cruising, promenading, shopping, rioting, protesting, skulking, [and] loitering" (173). Despite the reverence for walking expressed by writers and poets such as William Wordsworth, Henry David Thoreau, Charles Dickens, Virginia Woolf, and Frank O'Hara, Solnit questions why urban theorists, who called for the provision and protection of urban space for people, seldom talk about *walking*¹?

Two words associated with urban walking, 'street' and 'pedestrian', have similarly developed disparaging meanings. Expressions such as 'street walker', 'street urchin', 'street person', 'street smart', and 'going to the street' (a revolutionary cry) are all associated with anticipated, if not realized, social digression (Solnit). While the term 'pedestrian' was adopted from Latin to refer to a person moving on foot, by the eighteenth century it became used as an adjective to refer to things or people that were common or dull (etymonline.com).

Language and sidewalk activity, however, originate and evolve in the same culture over the same history leading one theorist, Michel de Certeau, to see them as indistinguishable from each other; "walkers are practitioners of the city, for the city is made to be walked...a city is a language, a repository of possibilities, and walking is the

¹ The term 'walking' is used here to provide parity with Rebecca Solnit's research. The issues she has raised, however, can apply to any form of urban pedestrian movement.



Fig. 19 *Girl in Fulton Street, New York 1929* by Walker Evans New York Museum of Modern Art (Clair, 39)

act of speaking that language, of selecting from those possibilities;" without walking, the colloquial language of the city falls silent, and "the social and imaginative function of cities" is lost (Solnit, 213).

A loss of people using the city sidewalks can also result in a loss of social interaction which is one of the means by which cultural information is disseminated. Culture can be defined as: "the totality of socially transmitted behaviour patterns, arts, beliefs, institutions, and all other products of human work and thought" (psych.uic.edu). Since pedestrian presence and movement has this cultural purpose, then perhaps the derogatory meanings of terms associated with urban movement are not a reflection of the *action* of pedestrians, but reflect the *decline* of urban pedestrians, and the subsequent impact of this decline upon social behaviour;

"When public spaces are eliminated, so ultimately is the public; the individual has ceased to be a citizen capable of experiencing and acting in common with fellow citizens. Citizenship is predicated on the sense of having something in common with strangers, just as democracy is built upon trust in strangers" (Solnit, 218).

Without expressions of citizenship and public interaction, the sidewalks can become a landscape of self-interest and intolerance, and our degree of interaction with the downtown can be reduced to temporary personal space when we only require a minimal unit of space for minimal contact with other people and the sidewalks of the city. This occurs when the sidewalk becomes simply the place where we wait for a bus, move into or out of a building, or pick up a hot dog from a vendor. As we continue to accommodate our social interaction needs away from this landscape we can become increasingly intolerant of both other people using the sidewalk, and the sidewalk landscape micro-climate. Without involvement in the sidewalk landscape, we also

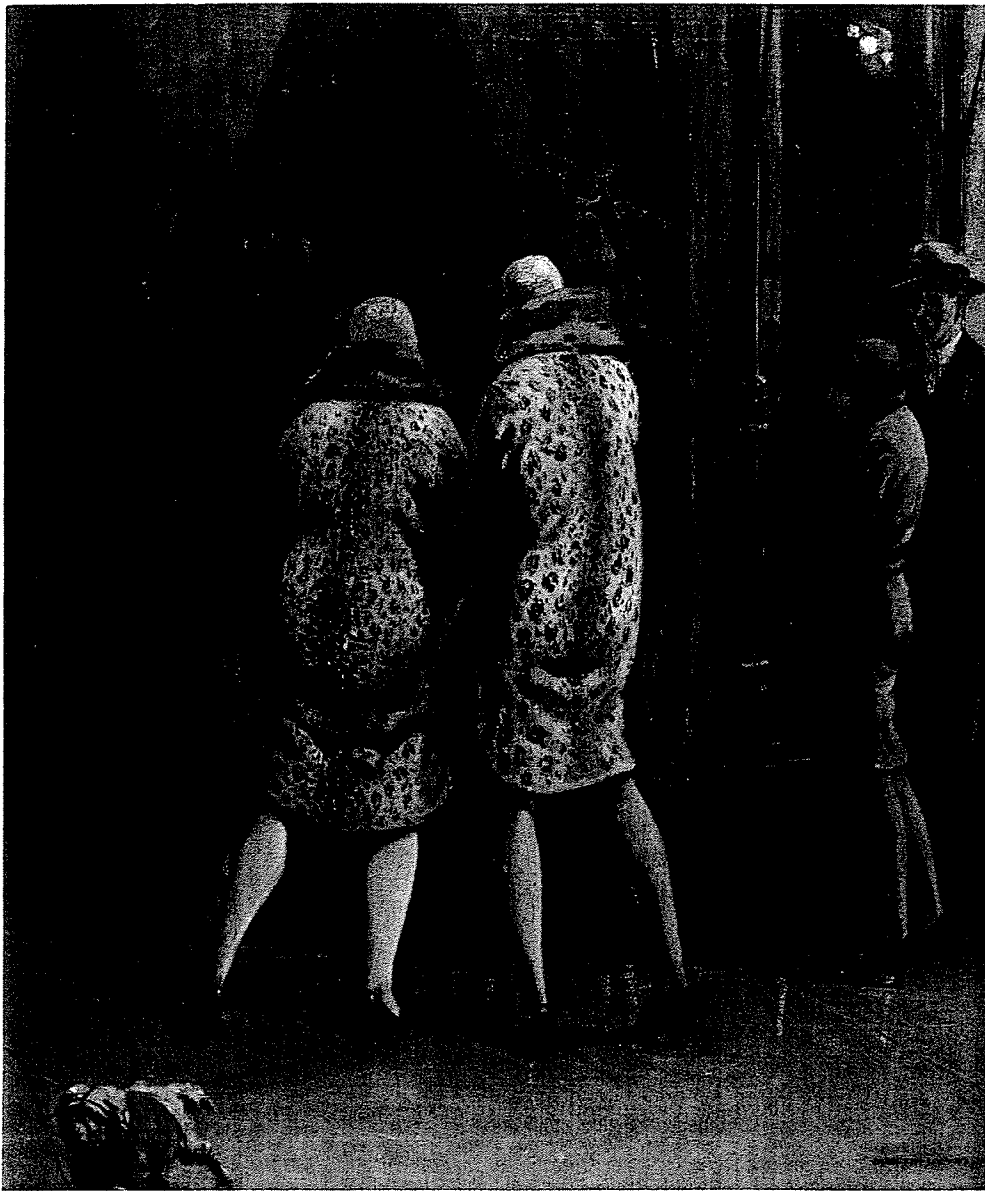


Fig. 20 *Leopard's Skins about 1930* by Martin Lewis. Boston, John P. Axelrod (Clair, 172)

become indifferent to its decline. The decline of the sidewalk landscape as the site of cultural exchange then becomes synonymous with the decline of the city. The landscape of sidewalks, however, holds tremendous potential as a network of exploration, innovation, and interaction all of which can contribute to a dynamic and positive city image.

As one of the largest land mass of public space in the downtown of Winnipeg, the sidewalk landscape gives form to the cultural values of 'freedom of movement' and 'community'. The movement of people within this landscape animates, and blurs the hard surfaces and edges of the built form of the streets and buildings. As open space among buildings, the sidewalk landscape mediates between the exhaust, congestion and noise of the road, and privately-held land and buildings by acting as a space to explore, a space to gather, or a space to engage the economy of the city. When moving through the city, our cognitive skills engage us with the city creating a sense of familiarity, and safety. If we do not explore and begin to know the sidewalks, streets and buildings of the city we live in, we will likely never feel safe there.

The public life of a city can be witnessed in the human activity taking place within the network of corridors, destinations and intersections which constitute the landscape of sidewalks. Within this landscape the social interactions of walking, gathering, waiting, and talking occur and repeat in ever-changing patterns throughout the day and evening. These patterns of behaviour mix with the economy of the city as pedestrians move under the signage and street lights into businesses, onto buses, or sit for lunch provided by sidewalk vendors or local shops.



Fig. 21 *Negotiating along Broadway Avenue, Winnipeg (author)*

There are few greater delights than to walk up and down them in the evening alone with thousands of other people, up and down, relishing the lights coming through the trees or shining from the facades, listening to the sounds of music and foreign voices and traffic, enjoying the smell of flowers and good food and the air from the nearby sea. The sidewalks are lined with small shops, bars, stalls, dance halls, movies, booths lighted by acetylene lamps, and everywhere are strange faces, strange costumes, strange and delightful impressions. To walk up such a street into the quieter, more formal part of town, is to be part of a procession, part of a ceaseless ceremony of being initiated into the city and rededicating the city itself."

- J.B. Jackson - "The Stranger's Path" (Solnit, 171-177)

While the experience of walking on an urban sidewalk delighted J.B. Jackson, conflicts arise when this landscape struggles to meet the many expectations of the culture who created it and pay taxes toward its improvement and maintenance. The public expects this landscape to be clean, beautiful, safe, and accessible. The owners of adjacent property expect to have use of this space to promote their business. The politicians use this part of the city to promote civic vitality and prosperity. Finally, the people who maintain this landscape expect this space to be accessible to their equipment, and convenient to maintain. Due to these expectations, the sidewalk landscape becomes a highly negotiated space in the city.

Simple negotiations occur everyday within the sidewalk landscape: crossing the street, locating a bus or address, or encountering other groups or individuals while moving along the sidewalk; simultaneously, the structure, regulation and use of this landscape is being negotiated in the paperwork of the policy and planning departments of the city government. On paper and in reality a complex landscape results, where cultural purpose meets individual need, and spatial experience meets structure and regulation.



Fig. 22 Alley graffiti, Winnipeg (author)

It is a landscape of strangers and acquaintances, customers and employees, street people, citizens and tourists. The rhythm of this landscape keeps time with the routines of garbage collection and deliveries, rush-hour traffic and signal light intervals. The flow of people onto its sidewalks and streets surges and wanes throughout the day. The sun glares off buildings and warms the chill of the concrete. It is a landscape of contrasts, anonymity, variety and conjunction. One tree is dead and the next is picture perfect. Windows are filled with every variety of goods for sale or boarded up with notices posted over. The shadow of a construction crane plays hide and seek over the historic facades. Painted metal barricades roads and sidewalks. Diligent buses lurch along their routes burdened by their own bulk. Stained concrete meets shiny historic plaque as two studies in urban history. Posted dialogue. Time and Place. Notices for the ballet join in an urban dialogue with graffiti, event performances and help lines. Vines creep from planters like the outstretched hands looking for change. Conversations unfold over lunch. Urban walkers too slow when crossing the road are left stranded on the median while cyclists weave through the sidewalk crowd. A landscape of information, signage and schedules. Men with hands in pockets walking en masse. Insistent flashing hand finally concedes to the welcome white of the anonymous walker. Crowds of strangers. Urban artifacts denote occupancy wanted and unwanted. Commuter with new running shoes and worn paperback. Bus stop conversations floating in and out of reach. The dance of litter from reflected winds. Instinct becomes heightened along with amusement and anxiety. When the rhythm begins to recede, coloured lights turn the emptiness into a marketplace of possibility. Slowly the economy of the night emerges with food, drink and pleasure. The air throbs with the pulse of music, and the discord of conversations straining to be heard. Looking, but not looking. Buildings with names. Streets with names. Graffiti with names. This is a territory under ownership - public ownership. This is the landscape of Winnipeg's downtown sidewalks.

- "Landscape postcard" (author)

This view of Winnipeg's downtown sidewalk landscape demonstrates what Michel de Certeau referred to as the *public practice* of the city: the collective experiences of many people engaging in their individual activity within the city. This experiential behaviour of many people causes the plurality of use, values, character, and scale of experience found in cities. Past, present and future intentions of public practice create a city which is the product of memory, present awareness, and foresight. To design or plan for this *plurality of practice* requires "thinking, articulating, and 'doing' or effecting...a civic identity" (Mattern, 8).

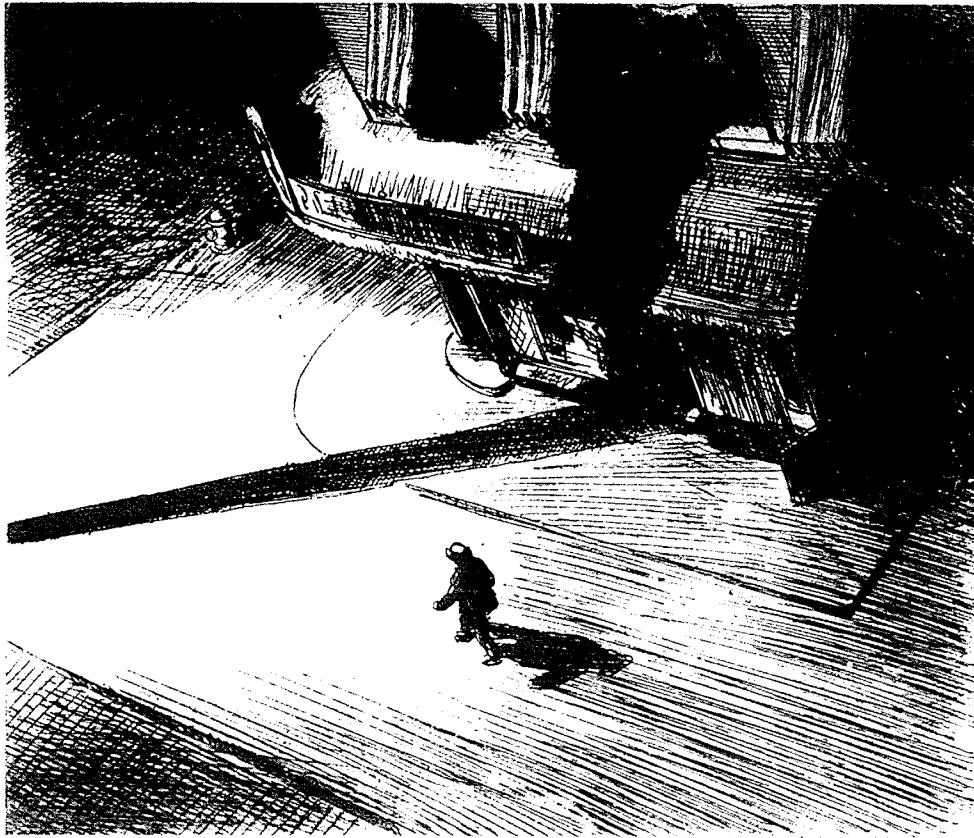


Fig. 23 *Night Shadows* 1921 by Edward Hopper New York, Museum of Modern Art (Clair, 470)

Writers like Ray Bradbury have connected the social condition of the sidewalk landscape with the greater social problems of social advancement. In *The Pedestrian*, Bradbury follows a solitary pedestrian out for a walk in his neighbourhood of indoor citizens in the year 2053.

"To enter into that silence that was the city at eight o'clock on a misty evening in November, to put your feet upon that buckling concrete walk, to step over grassy seams and make your way,...that was what Mr. Leonard Mead most dearly loved to do...He stumbled over a particularly uneven section of sidewalk. The cement was vanishing under the flowers and grass. In ten years of walking by night or day, for thousands of miles, he had never met another person walking, not once in all that time."

After being questioned by an unmanned police car, and explaining that he was "walking...just walking...for air, and to see, and just to walk" the title character is asked to step into the police car, and is silently removed for psychiatric assessment.

Bradbury's writing looks into the future based upon the human condition and behaviour of the present. His work, like so many other writers suggests that for the sidewalk landscape to remain a socially and culturally important space, it must remain valued by people as a critical component of society's public practices.

Place, unlike a consumer product, has an organic component, a history, an ecosystem, and a social body that inevitably shapes its form and social character" (Mattern, 3).

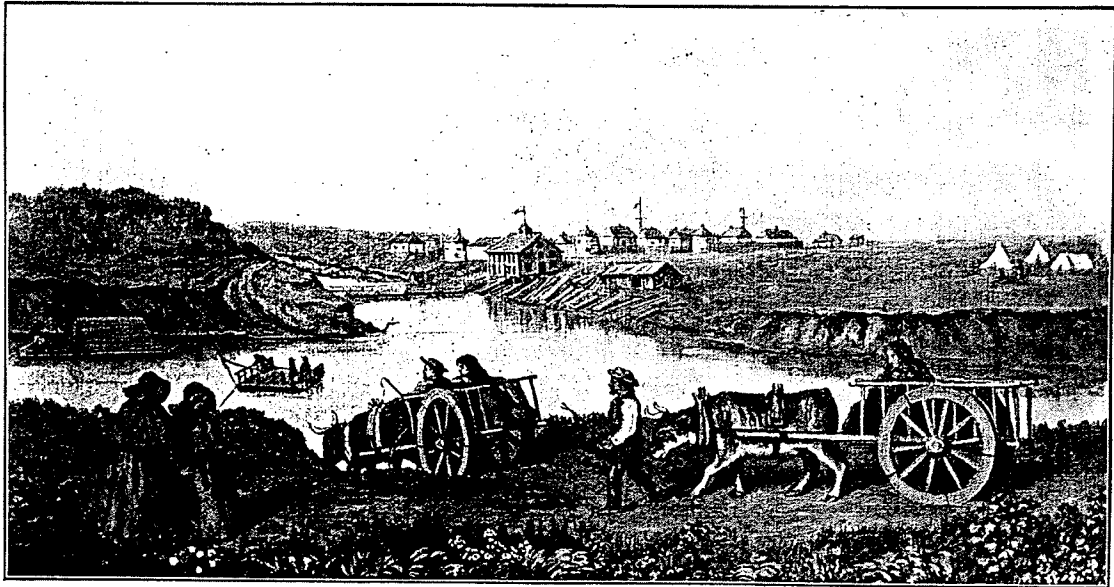
As a culture we bear responsibility toward this landscape which we have created, and as a profession, landscape architects need to address the challenges and opportunities of this complex outdoor public landscape created through urban development and cultural values. Contributing toward this complexity is how this landscape is designed, made, and culturally valued. James Corner identifies this type of study whereby forgotten landscapes are renewed through the profession of landscape architecture as



Fig. 24 *Sidewalk landscape* The Ramblas, Barcelona (www.sprachcaffe-spanien.com)

the process of “recovering a landscape” (1).

While the sidewalk landscape can exert some independence as a unique place within the city, it is also inherently connected to the city’s cultural and environmental systems. Movement of goods, people, rain and wind all connect the sidewalk landscape with the city. Because this connection has economic, and cultural value development within and adjacent to this landscape can connect the sidewalk with the city through the use of place-making amenities such as orientation signage directing pedestrians within this network, and plant material which is native to Winnipeg, and/or displays seasonal interest. Finally, the sidewalk can be linked to the city through policy, law, and procedures which demonstrate value through their ethical decisions, and commitment to maintenance.



The Sisters

The Ferry
Pontoon Bridge

The Forks

Fort Garry
French Half-breeds with Ox-carts

Site of Fort Gibraltar

RED AND ASSINIBOINE RIVERS

FORT GARRY

Fig. 25 Fort Garry (Bryce, 197)

Chapter Two

The Origin and Evolution of Winnipeg's Sidewalk Landscape

According to Christian Norberg-Schultz, “the structure of a place is not a fixed, eternal state. As a rule, places change, sometimes rapidly. This does not mean, however, that the genius loci (spirit of place) necessarily changes or gets lost” (18). This history of Winnipeg’s pedestrians and sidewalks examines the changing relationship between a landscape and the people moving through it. Initially the physical features and climatic conditions of the landscape dictated the location and speed of, and opportunity for pedestrian movement. Once the landscape became defined through written legislation, the enforcement of this legislation began to control the movement of pedestrians, and began changing the landscape to maintain this control. Control of the landscape was achieved through the application of legal concepts including nuisance, convenience, safety, and amenity.

This history of the land at the junction of the Red and Assiniboine Rivers (‘the Forks’) examines why people moved over this landscape; how they first created then later ‘beautified’ their routes of travel, and why the routes of travel were so important¹. It is also the history of how a settlement developed into a city through increased civic prosperity, and shifting civic priorities. This landscape where Winnipeg now stands has been witness to generations of human movement creating inscriptions upon the land in the form of trails and cart tracks, roads and highways, and streets and sidewalks.

¹ Beautification of the sidewalks involved adding improvements such as street trees, lamp posts, and other amenities deemed to provide comfort, convenience and interest for pedestrians.



Fig. 26 *The Main Street Murals, Scene One ca. 1790* by Jill Sellers (Manitoba Hydro brochure)

Beyond the physical routes of travel, this history also examines the experience of being a pedestrian on this landscape of prairie and city. The purpose behind human movement has changed very little through the years of occupation of the Winnipeg landscape, yet the means by which movement occurred, and the degree of freedom or restriction of movement has changed dramatically. The freedom of movement prior to European colonization would become increasingly restricted as governing bodies introduced written regulations first to control movement and later to suppress nuisance, and provide safety and convenience.

This history examines both the routes of travel that were created, and the legislation, bylaws, and civic records which were written first for and later by the people using these travel corridors on Winnipeg's prairie and rivers'-edge landscape. The legislation and bylaws serve as a record of the goals, conflicts, and shifts in priority arising from travel over this landscape as the use of the land changed from a native meeting place, to the site of a fort and trading centre, and then to a city.

Land of Opportunity - Trails, Settlers, and the Hudson's Bay Company

Before the arrival of Europeans, the land of present day Winnipeg at 'the Forks' of the Red and Assiniboine rivers was both a destination and a part of a migratory route for native people (*Anishinabe*). Tribes of native people walked freely along trails they had created to connect their needs for food and water, gathering, and summer residence. The trails, some of which were located adjacent to the Red and Assiniboine rivers, were routes of clear passage over an open prairie interspersed with stands of oak trees and marshes. The location of the trails, and the ease by which they could be traversed

PLAN
of the SETTLEMENT on
RED RIVER,
as it was in June 1816.



30. From a little below Frog Plain to the Forks, & thence to Catfish Creek, as also part of the lands between Red River & the Little River, has been for the most part surveyed with Chain & Compass. The rest of the Plan is laid down from Eye draught.

Plains, Prairies or Grassy Downs extending 30 or 40 Miles northward and westward, without any interruption of extensive Woods or Swamps, but occasionally varied by small Lakes, Hills, and tufts of Wood.

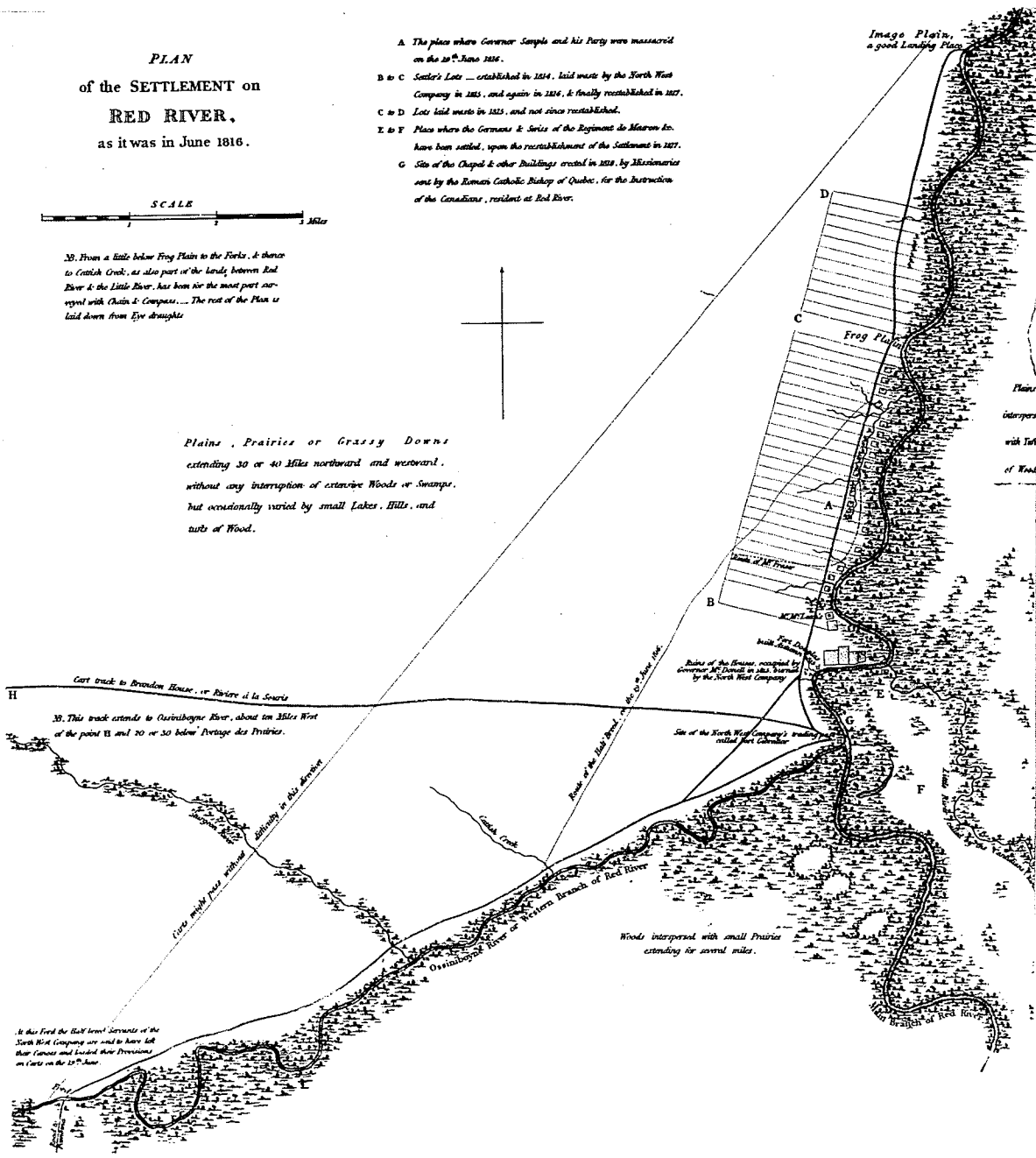
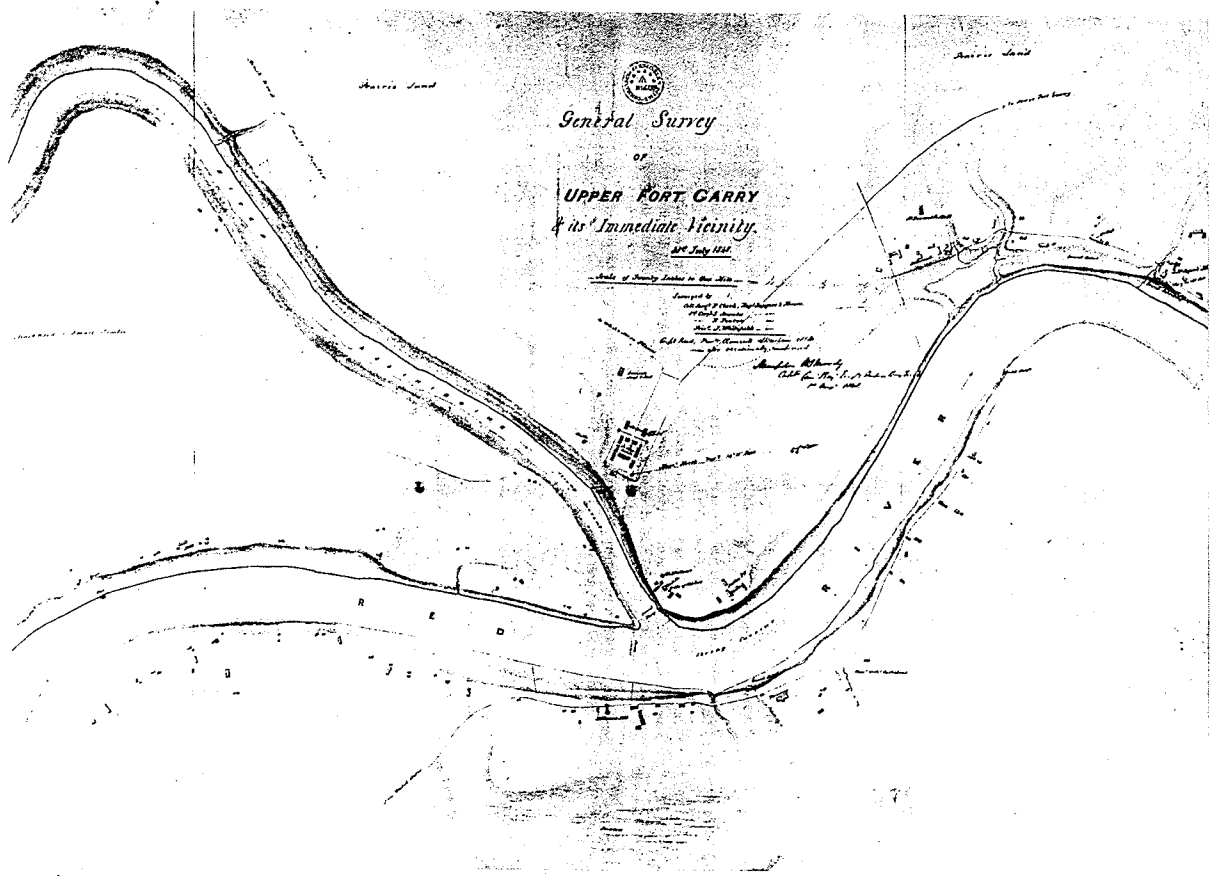


Fig. 27 Trails and vegetation at the 'Forks' of the Red and Assiniboine Rivers, 1816 (Warkentin, 189)

were restricted only when the physical condition of the landscape deteriorated due to the impact of precipitation or seasonal events like flooding. Due to poorly-draining clay soil, the trails became difficult to traverse when the soil was water-logged after a heavy rain, or when the rivers over-flowed their banks and flooded the prairie in the spring.

When Charles II of England granted a charter to the Hudson's Bay Company in 1670, the land, and the movement and activity of people upon the land south of Hudson's Bay came under the jurisdiction of the Charter and the agents of the Company who administered it. The Company established its fur trading business along the trails of the native people, and built a fort at 'the Forks' to encourage settlement. The trails soon became the route of travel for company agents, land surveyors, and settlers.

During the early 1800's when settlers under the direction of Lord Selkirk began arriving at 'the Forks', tension was increasing over competition for the fur trade between the Northwest Company and the Hudson's Bay Company. Fearing unrest and harm to his family and the other settlers, one famous pedestrian set out on foot to alert Lord Selkirk who had since returned to Montreal. Jean-Baptiste Lagimodiere walked a distance of fifteen hundred miles from 'the Forks' to Montreal in 1815, and returned with Lord Selkirk and Des Meuron soldiers. While Lagimodiere was away, one of the trails of the area gained infamy as the site of the Seven Oaks Massacre - a bloody battle between Northwest Company fur traders, and Selkirk settlers and Hudson's Bay Company employees. In an effort to explain the tactical circumstances of the massacre, and to lay blame, two maps of the trails in the area surrounding the "the Forks" were drawn. One of the maps resulting from the Seven Oaks Massacre notes three predominant



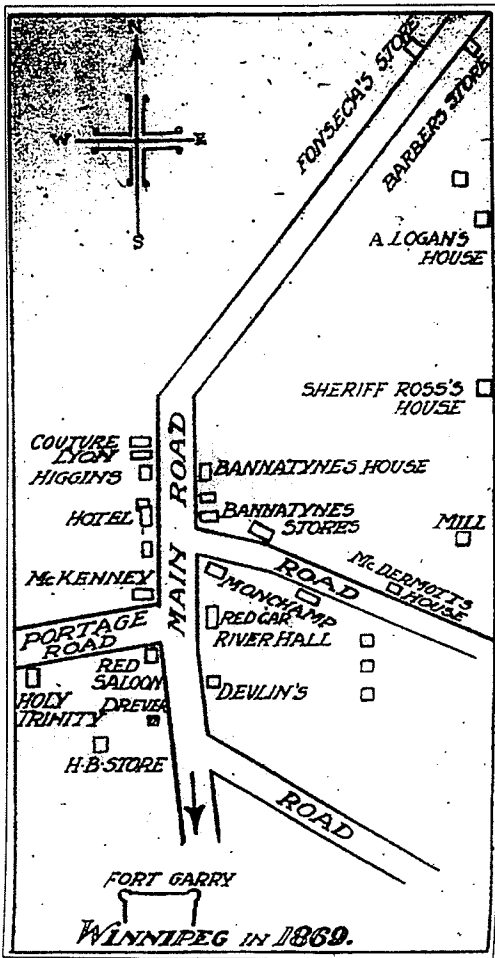
MAP OF RED RIVER SETTLEMENT DRAWN BY BRITISH SOLDIERS IN 1848

Fig. 28 General Survey of Upper Fort Garry and its immediate vicinity July 1848. (Warkentin, 193)

trails in the area of 'the Forks': a trail along the north bank of the Assiniboine River heading southwest from 'the Forks', a trail heading northward on the west side of the Red River, and a 'cart track' to Brandon House headed due west from 'the Forks'.

As the trails represented vital links in a growing mercantile economy, they continued to be identified and noted within maps that were created by surveyors, fur trade company employees, and military personnel. After the merger of the Northwest Company and the Hudson's Bay Company in 1821, the Hudson's Bay Company began establishing new trails to connect their trade beyond Winnipeg. Two important trails at that time met at 'the Forks'. The Pembina Trail connected the settlement at 'the Forks' with the Pembina settlement to the south, and the Carleton Trail provided a route for mail delivery between Winnipeg and Portage la Prairie. By 1835 the land at the 'the Forks' had been re-named Fort Garry, and some of the more important trails were named as 'roads' on a map of the settlement. A map of 'the Forks' from 1848 shows routes northward to lower Fort Garry, west to Portage la Prairie, west to White Horse Plains, and a ferry crossing the Red River to connect a trail headed south on the east bank of the Red River.

The Hudson's Bay Company established trade agreements and settled disputes through their administrative body 'The Council of Assiniboia', the area's first non-native government. The Council also dealt with matters relating to the settlement of land including, on June 8, 1840, setting the width of main highway at two chains (one hundred and thirty-two feet) with a sidewalk allowance of one rod which measures sixteen and one half feet (Douglas, 3). Movement over land was permitted as a right-



MAP OF WINNIPEG, CA 1870. THOMAS BURNS COLLECTION (584)

Fig. 29 Map of Winnipeg ca. 1870 Thomas Burns Collection 534 (PAM)

of-way on the established trading and travelling routes within the Hudson's Bay Company lands.

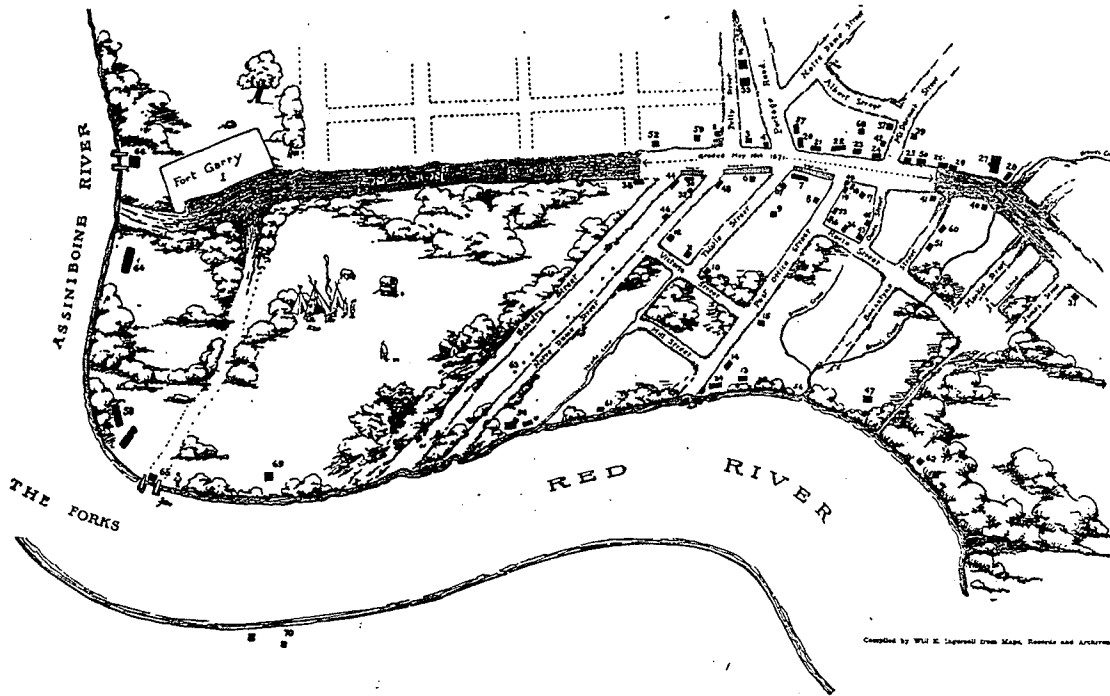
When the Hudson's Bay Company lands became the Province of Manitoba in 1870, one of the first pieces of legislation of the new public government was *The Traveller's Act* of 1871. In this legislation travel on the former trails and now public 'highways' of the province became further regulated, and rules of the road were established. Since the legislation in Canada at this time was derived from British legislation, many terms of British origin were adopted into Canadian legislation and culture. The term 'highway' originated in "early England when the main-travelled public roads were the only ones raised above the natural level of the countryside, and people referred to them as *heighweyes* [highways]" (World Book, 2795).

One of the important highways bringing people and goods to Winnipeg was the Dawson Road. The Dawson Road, opened in 1871, was the first overland route within Canada to connect the town of Winnipeg with the rest of the Dominion of Canada to the east. It was also in this year that regular steamboat service and stagecoach service brought mail and foot passengers to the city. The physical condition and appearance of the town of Winnipeg, however, were not up to the standards of those arriving, so the prominent citizens of the day organized and initiated the first town improvements for their valuable customers, visitors, military personnel, and potential settlers.

Private money for the public good

The settlement of a town site at 'the Forks' had begun during the period of

LOCATION AND IDENTITY OF BUILDINGS IN VILLAGE OF WINNIPEG, 1872



Compiled by W.H. S. Ingham from Maps, Records and Archives

The above show the location of the buildings, public and private, in the village of Winnipeg proper (the limits of which were then, as it is now, the corner of Main and Fortina roads) in 1872. The noted buildings, including the village, to the north-west end in the village and across to the west end should be mentioned here. There were Main Street and the first Winnipeg public school, which stood on the corner of the present site of the C.P.R. building. The buildings shown have been carefully checked and their positions verified by old-time residents of Winnipeg. They are: 1, Port Cherry; 2, Dominion Lands office; 3, Wm. Dewar's building; 4, Bill Nelson; 5, Holy Trinity church; 6, Miss Davis's residence; 7, Red River

land office; 8, as it was sometimes called, McCreary's Bar; 9, C. G. Macdonald's house; 10, Central Hotel; 11, James Macdonald; 12, Charles Macdonald; 13, James Macdonald; 14, James Macdonald; 15, James Macdonald; 16, James Macdonald; 17, James Macdonald; 18, James Macdonald; 19, James Macdonald; 20, James Macdonald; 21, James Macdonald; 22, James Macdonald; 23, James Macdonald; 24, James Macdonald; 25, James Macdonald; 26, James Macdonald; 27, James Macdonald; 28, James Macdonald; 29, James Macdonald; 30, James Macdonald; 31, James Macdonald; 32, James Macdonald; 33, James Macdonald; 34, James Macdonald; 35, James Macdonald; 36, James Macdonald; 37, James Macdonald; 38, James Macdonald; 39, James Macdonald; 40, James Macdonald; 41, James Macdonald; 42, James Macdonald; 43, James Macdonald; 44, James Macdonald; 45, James Macdonald; 46, James Macdonald; 47, James Macdonald; 48, James Macdonald; 49, James Macdonald; 50, James Macdonald; 51, James Macdonald; 52, James Macdonald; 53, James Macdonald; 54, James Macdonald; 55, James Macdonald; 56, James Macdonald; 57, James Macdonald; 58, James Macdonald; 59, James Macdonald; 60, James Macdonald; 61, James Macdonald; 62, James Macdonald; 63, James Macdonald; 64, James Macdonald; 65, James Macdonald; 66, James Macdonald; 67, James Macdonald; 68, James Macdonald; 69, James Macdonald; 70, James Macdonald; 71, James Macdonald; 72, James Macdonald; 73, James Macdonald; 74, James Macdonald; 75, James Macdonald; 76, James Macdonald; 77, James Macdonald; 78, James Macdonald; 79, James Macdonald; 80, James Macdonald; 81, James Macdonald; 82, James Macdonald; 83, James Macdonald; 84, James Macdonald; 85, James Macdonald; 86, James Macdonald; 87, James Macdonald; 88, James Macdonald; 89, James Macdonald; 90, James Macdonald; 91, James Macdonald; 92, James Macdonald; 93, James Macdonald; 94, James Macdonald; 95, James Macdonald; 96, James Macdonald; 97, James Macdonald; 98, James Macdonald; 99, James Macdonald; 100, James Macdonald.

Fig. 30 Early businesses and sidewalks in Winnipeg (Artibise, 22) sidewalks identified on east side of Main Street from Schultz Street to Post Office Street

administration under the Council of Assiniboia, as settlers acquired land, built their homes or businesses, and prepared routes of travel from their land to the established trails and roads. The name 'Winnipeg' was adopted for this settlement in 1866. Even when the main road was graded to a width of thirty-two feet with a sidewalk allowance of sixteen and a half feet on either side in 1871, the quasi-public and private roads within the town were dirt tracks which became thick muddy quagmires during the spring thaw, or periods of rain.

For the comfort and safety of their customers, early business owners began constructing wooden platform extensions on their buildings as elevated, mud-free landing areas for travellers and customers, and as a display spaces for their wares. These first 'side-of-the-road' walks (later shortened to sidewalks) were privately paid for, and constructed by business owners and citizens. An early map of Winnipeg notes the first sidewalk to be built in Winnipeg on the east side of Main Street between Schultz Street, and Post Office Street connecting Dr. O'Donnell, W. Palmer Clarke's General Store and H.S. Donaldson's Jewellers. An early photograph of Main Street also shows evidence of plank crosswalks across the main road for the safety and convenience of pedestrians.

On Main Street and one or two other streets substantial sidewalks composed of pine planking have been laid down...crossings, composed of oak, are also laid across the streets at important points...the admirable planking always affords a dry and clean footing."

- Winnipeg As It Was, 16.

Business owners and citizens were also responsible for another first amenity for their customers, neighbours and visitors. On March 6, 1873 the Davis Hotel lit Winnipeg's



Fig. 31 (above) Upper Fort Garry 1873 the Steamship Dakota. (Artibise, 10) - town dock area denuded of trees.
Fig. 32 (below) Woodsleds in Winter by L.B. Foote (Hamilton, 63)

first public street lamp in front of their business on Main Street (Begg, 79). Shortly thereafter, a second lamp was erected at the Red Saloon on the southwest corner of Portage and Main. The platform walks, crosswalks and lamps, however, were scattered leaving the town poorly lit and disconnected by its muddy roads.

Concerned citizens and business people who saw the lack of continuous, clean, and safe places to walk as an obstacle to the economic prosperity of Winnipeg petitioned the provincial government to incorporate Winnipeg as a city. Incorporation was heavily debated as financing the improvements to the city that formed the petition to the government would require citizens of Winnipeg to begin paying taxes. In 1873 while parliament was debating the city's incorporation, a new act was passed to address another concern facing Winnipeg's development which involved Winnipeg's pedestrians and their tax dollars.

The arrival of settlers and their need for lumber for both building and fuel resulted in the clearing of the riverbank forest which once covered the land at 'the Forks' of the Red and Assiniboine rivers, and along the riverbanks of both rivers (Dafoe, 10 and Elliott, 16). As a result, the city was developing on barren land which provided no wind or shade protection for citizens and visitors. When a visitor's account of arriving at the town dock and looking upon 'a barren landscape' was published in the local newspaper, the response of the citizens and business leaders was the preparation and passing of *The Tree Planting Act* in March 1873. This act, introduced by H.J. Clarke, allowed the province to initiate and provide funds for what was to become the first urban forestry programme in western Canada.

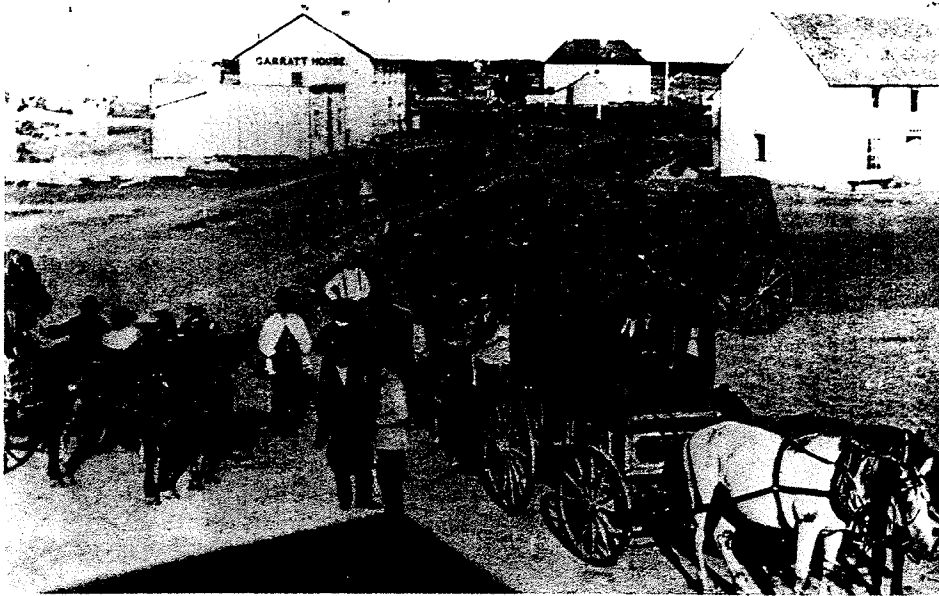


Fig. 33 (above) Portage and Main 1872 (PAM Winnipeg Streets Collection N5794)

Fig. 34 (below) Wooden sidewalks along Main Street looking north, 1870 (Winnipeg Images, 163)

When the city was incorporated in November of 1873, the newly formed Board of Works began to plan for and construct sewers, bridges, streets, and sidewalks, and to oversee the planting of trees within the boundaries which defined the new City of Winnipeg.

"Owing to the growth of Winnipeg, both in population and commerce, it is highly important for the interests of the town, that it should be incorporated "

*-petition to the provincial government by Bernard R. Ross,
Curtis J. Bird, M.D., Alexander Logan and forty-six others.*

Building a City - Winnipeg's Board of Work builds Sidewalks

To provide for the safety and well-being of its citizens, the City began preparing by-laws to regulate the land and activities within the city. In its sixth by-law, the City hired Thomas Parr, a land surveyor to act as the first city engineer. Parr reported to the Board of Works which was created not only to oversee the design and construction of sidewalks, but also to recommend to council sidewalk regulations for public safety, welfare, and the convenience of citizens. The Board was also responsible for hearing and responding to complaints against "defective sidewalks," and for protecting these "public thoroughfares against encroachment" (By-law 9).

The monies to pay for the Board of Works' improvements were raised through the first *Debentures By-law* (By-law 24). Of the total amount of the By-law (two hundred and fifty thousand dollars) twenty-five thousand dollars was designated for the construction of sidewalks and bridges. The money was to be re-paid through a sinking fund which taxed each property within the city "an annual special rate of three quarters of a cent in the dollar upon the assessed value of all rateable property...over and above all other rates and taxes...levied and collected annually" from 1875 to 1894 inclusive. As the



Fig. 35 *Main Street sewer construction, 1875* (Winnipeg 100, 4)

sidewalks were being constructed using public money, citizens requesting a sidewalk be built adjacent to their property were required to prepare a petition to the Board of Works that included the signatures of adjacent property owners.

During 1874 the Board recorded twelve petitions for sidewalks, and constructed 4,316 yards of sidewalk along the following streets: Main Street, Garry Street, Fort Street, Logan Avenue, and Victoria Street (Artibise, 53). Two years later the number of sidewalk petitions had more than doubled to twenty-seven, and the sidewalk network was expanding into the following streets and roads: James, Annie, Main, Notre Dame, Scott, Thistle, Sinclair, Post Office, Portage, McDermot, Rupert, Arthur, George, Lily, and at the Market Building.

The early sidewalks were built from spruce planks purchased from Dick & Banning, and the oak planks for the crosswalks were supplied by Walker Laidlaw. The popularity of the plank sidewalks and crosswalks overwhelmed the under-funded and short-staffed Board of Works. When the number of petitions received was greater than the funds available, the Board also granted permission for sidewalks to be built by private citizens at their own expense. Three of the earliest sidewalks built privately under authority of the Board were located at the property of Mr. A. W. Burrows from Blackburn House to Burrows Avenue, in front of the Free Press Building on Garry Street, and for Rev. George Young on Garry Street from Schultz Street to Broadway Avenue. This practice would continue well into the 1880's and became symbolic of social and economic status.

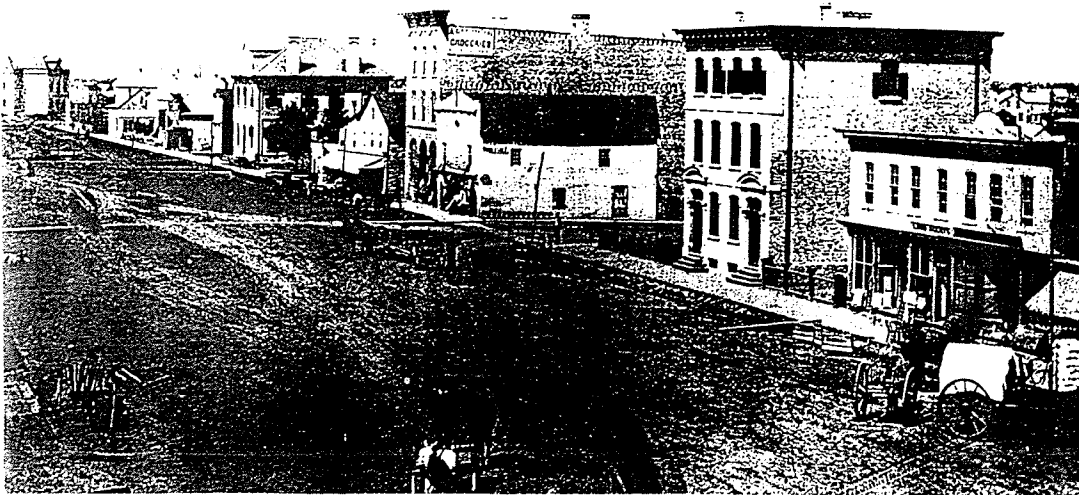


Fig. 36 *East side of Portage Avenue to William, 1876 (PAM N21077 21078)*

The citizens of Winnipeg embraced the sidewalk construction boom as an advancement of the city's prosperity, and as a symbol of their individual or business prosperity. The sidewalk construction statistics also became 'civic bragging rights' and were frequently published in newspaper and journal articles. In 1876 the Board of Works set the widths of Winnipeg's sidewalks at ten feet, six feet, five foot five inches, and 'three planks' (a plank was sixteen inches wide), and the crosswalk widths at six feet, four feet, or two foot six inches in width; however, in the same year Mr. Lyons received permission to construct a sixteen foot wide sidewalk, and Higgins & Young were permitted to widen their sidewalk. Sidewalk widths were also a reflection of the prominence of a street or a portion of a street. While the sidewalk constructed in 1882 on Main Street from the City Hall to the Bank of Montreal was an impressive eighteen feet wide, the sidewalk built in the same year at the south end of Main Street from Broadway to Assiniboine Ave. was only half as wide at eight feet.

The high demand for sidewalks coupled with the city's building boom created construction sites all over the city. As a result pedestrians were left to find their way between the traffic on the roadways, and the construction materials adjacent to the buildings. In 1880 the situation came to the attention of City Hall when a woman was injured on an incomplete sidewalk at the corner of Broadway Ave. and Donald Street. The injured woman was subsequently paid twenty dollars of her request for eighty-six dollars in damages, and the City of Winnipeg recorded its first sidewalk liability claim.

Sidewalk construction would change dramatically in the 1890's due to damage to the plank sidewalks, a dwindling supply of lumber, and the availability of new materials.



Fig. 37 *Cement tile sidewalk Donald Street looking north, 1895 (Winnipeg Images)*

The boom in Winnipeg also resulted in an increased amount of traffic on the streets, and entering and leaving businesses which necessitated crossing the wooden sidewalks. The weight of the loaded carts and carriages crossing over the sidewalks caused considerable sidewalk damage and the Board of Works received complaints in 1881 that the sidewalks at Market Square and along Main Street were sinking. About the same time, the Board was also faced with a local lumber shortage, so the City's engineer was sent to Emerson to purchase oak, and the search for other potential sidewalk surface materials began.

Thomas Sharpe was a contractor who introduced cement sidewalks to Winnipeg in 1892 (Bumsted). Cement was marketed as a wonder material for sidewalks. It could be constructed with ease; it provided a structurally stronger surface than wood, and the cost to build a cement sidewalk would be a fraction of the cost of a similar wood sidewalk. The first cement sidewalks installed in 1894 on Donald and Kennedy Streets, and Broadway Avenue were paid for with a frontage levy of between thirty-one and thirty-nine cents per foot. Early cement sidewalks, however, suffered from the same problem which had plagued the first plank sidewalks: poor workmanship. As the early onset of winter in Winnipeg also shortened the cement sidewalk construction season, the City continued to install plank sidewalks while beginning to experiment with other local materials.

Stone sidewalks made from limestone were first installed on Winnipeg's flagship street, Main Street from John Street to Graham Avenue in 1895. The use of stone demonstrates the private and public sector value of this important commercial street as



Fig. 38 *Wooden sidewalk as local improvement, Winnipeg (PAM N9724) (Hamilton, 14)*

the construction of this sidewalk was paid for through an annual frontage assessment levy of one dollar and forty-six cents per lineal foot. The expensive stone sidewalks, a remarkable example of civic pride and boosterism, continued to be installed on Market Street, Main Street (Market -Elgin-James), James Street, and Assiniboine Avenue. For the look of stone at almost half the cost, the City later introduced granolithic sidewalks in 1897 on five streets in the commercial heart of the city: Pacific, Princess, Alexander, King, and Main (from Bannatyne St. to Water St.). The other sidewalk surface introduced before the turn of the century was cement tile which was first installed on Graham Avenue, and York and Donald Streets at an annual frontage levy of thirty-three cents per lineal foot. The costs incurred from sidewalk construction would plague the City council and cause many changes to the City's charter of incorporation.

Sidewalks and politics

The early sidewalks were both a necessity and a source of pride when they were introduced into the prairie landscape; however, when city-wide construction of sidewalks was initiated, this local improvement had political and economic implications. While the sidewalks were considered beneficial to the economy of Winnipeg, their construction came at a cost that would be considered a prudent investment by some citizens, and an unwanted financial burden by others.

The construction of amenities and services for the city required two components: immediate capital and public approval. From the time of incorporation the City had been granted powers to raise capital money through debentures, but only after two stages of public approval. The first stage involved council receiving a petition (signed

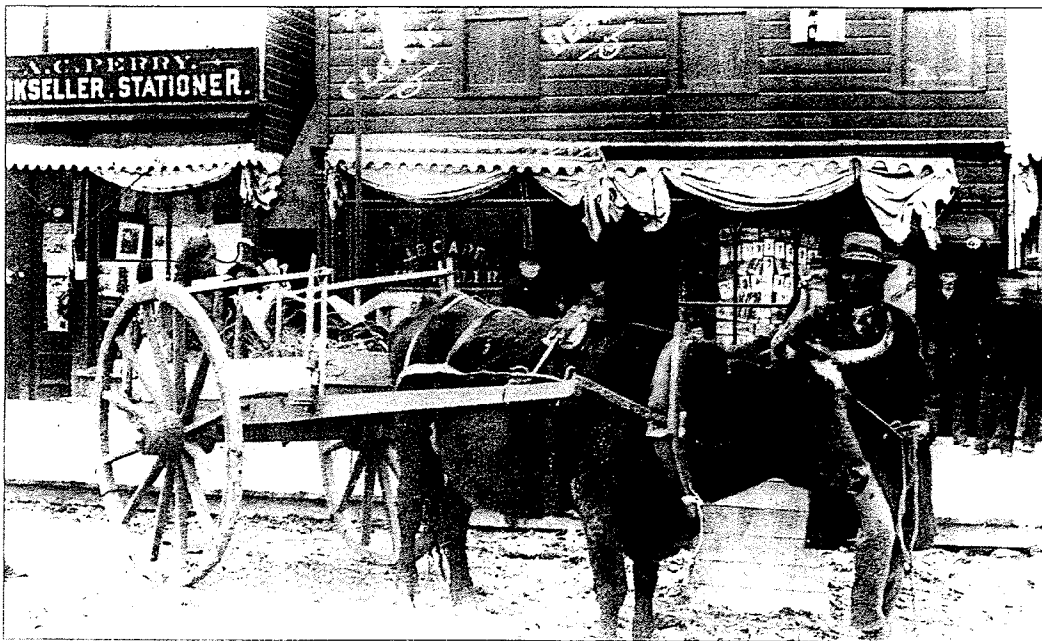


Fig. 39 *Main Street 1883* (PAM Transportation Collection N1424)

request) from a property owner or owners to have an improvement adjacent to their property. When a number of requests was received, council would then prepare a debentures by-law declaring the amount of debt the City would incur on the public's behalf to complete the improvements, and would call for a vote on the by-law. In 1875 any occupant of a house was permitted to vote on by-laws.

Debentures are a loan between a bank and a city corporation. The debenture amount received from the bank would be repaid incrementally over a long period of time with money collected from city property taxes and held in a sinking fund. While the initial construction of sidewalks was paid for by citizens or through a debenture by-law, subsequent local improvement debenture by-laws of 1877 were abandoned or defeated at the polls. Taxpayers complained that collecting money based upon the assessed property value alone was not a fair repayment of the cost to build sidewalks which were constructed at a cost per lineal foot.

In order to continue with their local improvements, the City revised its Charter in 1882 to allow for improvements to proceed with the approval of half the council (as long as there was no petition against such action by at least half of the property owners affected). This change represented a reversal of the origins of sidewalk building as a public initiative. Sidewalk construction now would proceed throughout the city unless a complaint against such construction was registered. The second change was the repayment of the local improvement debenture as a property tax assessed on the frontage receiving the improvement, rather than a bulk tax on the property's assessed value. The frontage taxes were an annual cost per lineal foot of property that fronted



Fig. 40 Jewish Shops in Winnipeg's north end (Artibise, 65)

on a public street in the City of Winnipeg. Frontage assessments were first introduced in 1877 to pay for the cost of watering and sweeping the streets. In 1902 the City's Charter was amended again to allow property owners who built or improved sidewalks with council approval to be exempt from taxes for improvements. While the City struggled to have its debentures by-laws proceed, an even more influential by-law was shaping the future of Winnipeg's sidewalks.

Winnipeg's Streets By-law

"A By-law for the regulation of the streets, sidewalks and thoroughfares of the City of Winnipeg, and for the preservation of order and suppression of nuisances therein."
-introduction to the 'Streets By-law' (By-law No. 25)

The economic and social importance of sidewalks required by-law powers to protect both the space and surfaces of the sidewalk, and the pedestrians using it. The *Streets By-law* was "necessary to make provision for the care and protection of the streets, sidewalks and thoroughfares....and to enact rules and regulations to facilitate travel; for the maintenance of order, and for the suppression of nuisances therein." This legal document also provided direction for the planting and protection of trees², and the policing and maintenance of the streets and sidewalks. It also identified prohibited behaviour and activities, dealt with matters relating to signage, and provided for the protection of City property.

Persons using the sidewalk, referred to as 'foot passengers,' were protected from the 'discomfort' of disturbance and jostling, obstructions, loud noises, and harm from

² This by-law is the first one to mention the City's street trees.

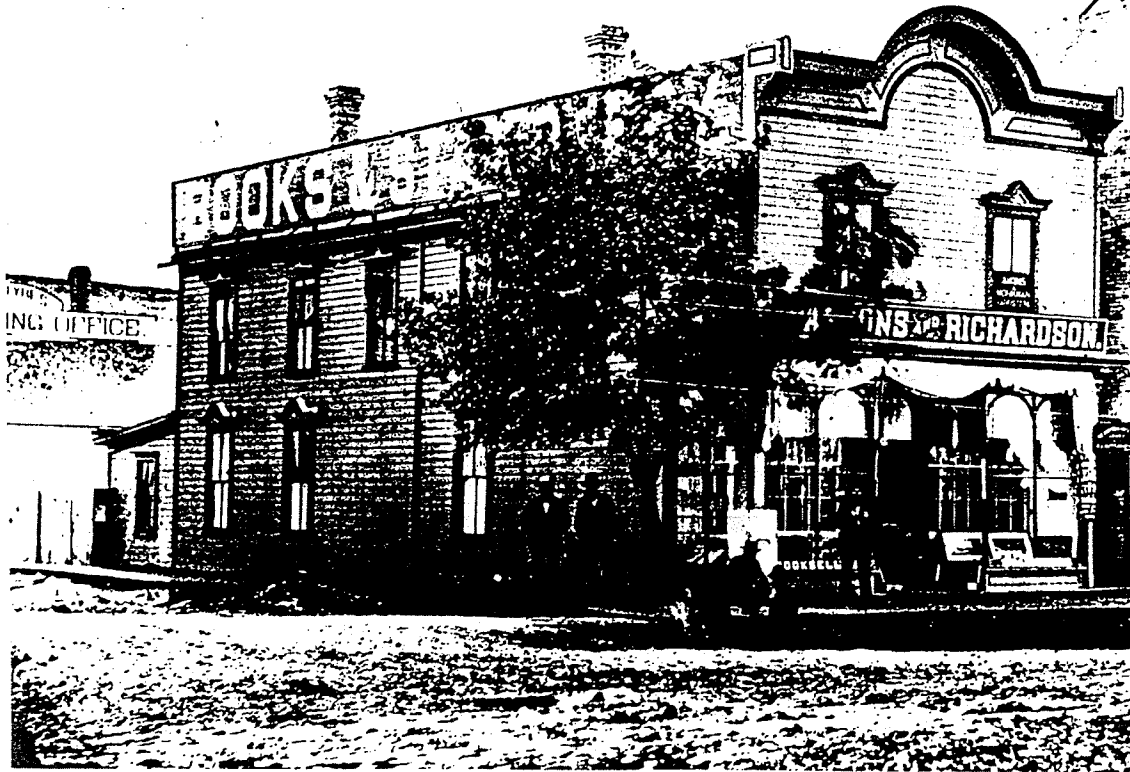
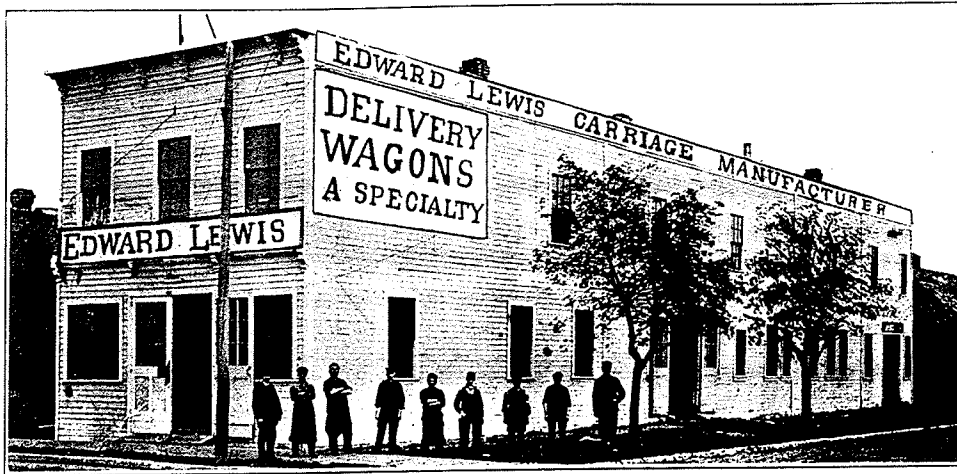


Fig. 41 (above) *Early Street Trees* (Hamilton, 145)
Fig. 42 (below) *Street Tree at Main and Rupert 1882* (PAM)

swinging gates, vehicles, trap doors, signs, piled wood, animals and goods displayed on the sidewalk. Fences were to be “no lower than four feet which height shall be the height of a lawful fence in the city.” Sidewalks were to be cleared of dirt, debris, and snow by the adjacent property owners. In turn, foot passengers while on the streets or sidewalks were expected to refrain from defacing property and lamp posts, loitering, lighting fires, gambling, throwing objects, posting indecent placards, carrying on business, driving animals, sleds, carts or other vehicles on the sidewalk, and damaging trees. As an incentive to comply with the new regulations, the fines for a by-law infraction were severe: fifty dollars, or the sale of your goods and chattels, or twenty-one days in gaol (jail).

The importance of the sidewalk was also evident a year later when the City passed its first by-law to “regulate the erection of buildings, and to prevent encroachment.” All buildings under construction were to provide a ‘public pathway’ at least four feet wide “for the convenience and security of the public,” and the sidewalks were to be kept free of obstructions. Sidewalks, however, were only one of many amenities for pedestrians discussed in the *Streets By-law*.

Winnipeg’s Tree Planting Initiative 1876-1890

For Winnipeg to grow and prosper it needed to attract and retain citizens and provide every imaginable amenity, type of goods and services. This was achieved, in part, by creating a city that was beautiful, safe, and convenient. While the sidewalks provided a safe and mud-free place to walk, the climate of Winnipeg was ‘harsh’, and the outdoor landscape visually ‘barren’. A public meeting held in April of 1873 to discuss the lack of

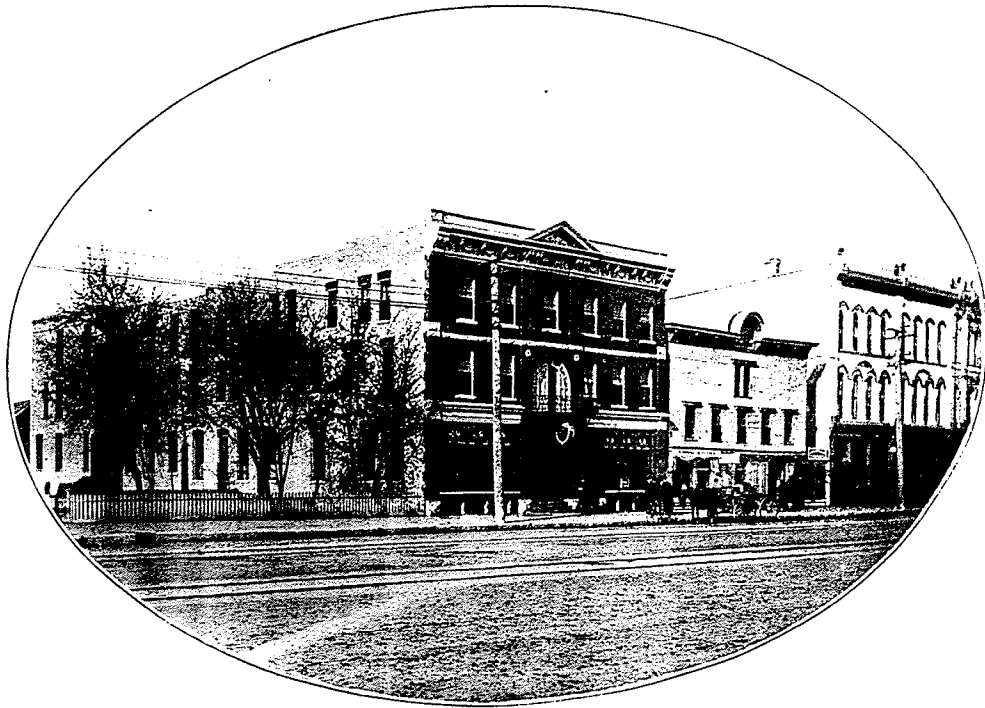


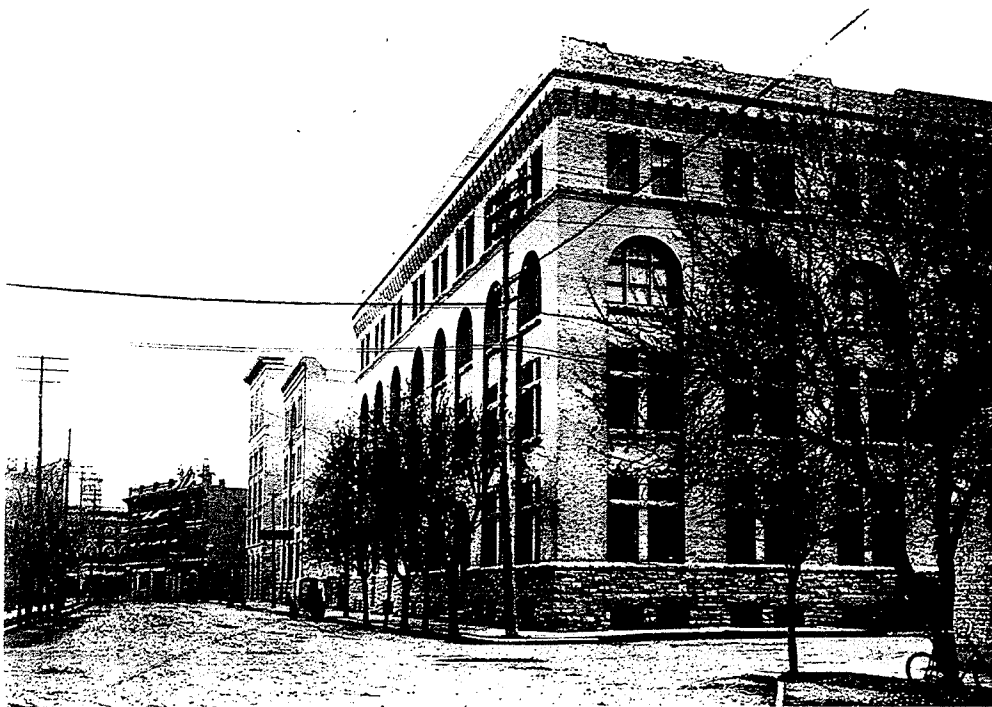
Fig. 43 *Main Street street trees* (Winnipeg Images, 172)

trees in Winnipeg resulted in a tree planting initiative, which began with two new pieces of legislation brought before the provincial government: *The Tree Planting Act* and *The City of Winnipeg Charter*.

The Tree Planting Act of 1873 gave legislative authority for the planting of trees adjacent to provincial highways, and upon publicly-held land. In this act, municipalities were granted the authority to provide funds for the planting of trees. The trees planted by landowners became the property of the landowner who planted them, and were legally protected from damage or removal without authorization. After the City's incorporation, the *Streets By-law* transferred this authority to all land under the jurisdiction of the City government.

Of the thirty-five items listed in the *Streets By-law*, five are related to the installation and protection of the street trees. Trees were to be planted under the direction of the City's engineer, and protected from damage by a fence or box. Trees were also protected from damage caused by humans including climbing, defacing, removal, and damage caused by animals.

While most behaviour mentioned in the By-law was punishable by fines, the planting of trees was rewarded with a 'tree planting bonus' of one dollar "for each ornamental shade tree planted in or along any street, lane or thoroughfare, or public place..." This was a remarkable amount of money because at that time, a day's wages for a city labourer were also set at one dollar for hard labour, and it would be 1881 before their wages would be increased to two dollars a day.



WINNIPEG FACTS

Incorporated in 1873.

Is the geographical centre of the North American Continent.

The greatest grain centre in the world.

Municipally owned Hydro-Electric Plant supplies Light and Power equal to the lowest rates in the world.

Municipally owned High Pressure Fire Service System.

Single Telephone System owned and operated by the Government.

Shoal Lake Water is now brought to the city a distance of one hundred miles by gravity.

The plant is capable of supplying all requirements for many years to come. The water is soft and pure.

Estimated population 183,595 for 1918.

Parks Act adopted 1892.

Park System consists of 31 parks and squares with an area of 674 acres.

Is administered by a Board appointed by the City Council.

Park properties purchased to date have cost \$534,154.45.

Cost of improvement, care and maintenance during twenty-six years \$1,613,075.54.

The Debenture Debt of the Board is \$424,000.00.

Provision is made for every form of amateur sport.

Childrens' Playground equipment provided.

Public Comfort Stations and Rest Rooms provided in all the larger parks.

The only Conservatory and Palm House in the West.

A growing and interesting collection of native wild animals.

Tax levy for park purposes in 1918 ($\frac{1}{2}$ mill) \$126,264.40.

The Per Capita Cost for all park services in 1918 was 69 cents.

The value of park buildings is approximately \$190,000.00.

The present value of park properties, buildings, equipment and plant is estimated at \$3,092,500.00.

The number of persons to each park acre is 272.

The first boulevard was constructed in 1895.

The boulevard system has now a total frontage of approximately 120 miles.

The total cost of construction of all boulevards to the 31st December, 1918, approximates \$163,834.00.

The maintenance of all boulevards to the 31st December, 1918, including the planting and care of 28,000 street trees cost \$402,229.21.

Brookside Cemetery, municipally owned, contains 160 acres. Forty-five per cent of all interments were made there in 1918.

Perpetual maintenance of all graves and lots guaranteed.

Fig. 44 (above) Street Trees Bannatyne Street East (Winnipeg Images, 89)

Fig. 45 (below) Winnipeg promotional statistics (Winnipeg Views)

"That for the preserving regularity in the streets,...there shall be allowed by the City of Winnipeg out of the funds thereof, an amount equal to one dollar for each ornamental shade tree, planted in or along any street, lane, square, thoroughfare, or public place..."

- By-law 25 item 21½

Planted trees began appearing in front of businesses, residences, churches and even (ironically) one of the city's sawmills. Winnipeg's first tree planter to be paid a tree-planting bonus was the future City alderman S. J. Jackson who planted his tree at the corner of Maria and McWilliam Streets. Recipients of the tree-planting bonus represent a cross section of Winnipeg society including clerks, merchants, politicians, doctors, surveyors, builders, and future mayors. Some of the well-known tree planters were: the chief of police D.B. Murray (1878), Dr. O'Donnell (1879), politicians F.P. Roblin (1878), W.F. Luxton, MPP (1880), and H.S. Westbrook (1885), merchant David Young (1880), sawmill owners Dick & Banning (1881,1885), the jeweller George Andrews (1882), and the congregation of Holy Trinity Church (1885). Other individuals planted trees in public areas including A.W. Latham who provided trees for Brookside Cemetery (1879), and Charles Jones and Son who were paid \$1,350 for trees planted at Donaldson's Park (1882).

Trees were such a source of pride in Winnipeg that the City paid to have trees shipped to Winnipeg for the celebration of the Queen's birthday in 1885. The trees were used to create an arch display on Main Street, and then were sold, and planted within the city. During the fourteen years of the *street tree* planting initiative seven hundred and fifty-eight dollars were paid out for the planting of these trees ; however, many more trees were planted along Winnipeg's streets and in its parks. The actual number of street trees planted is unknown as the Board of Works records are sometimes

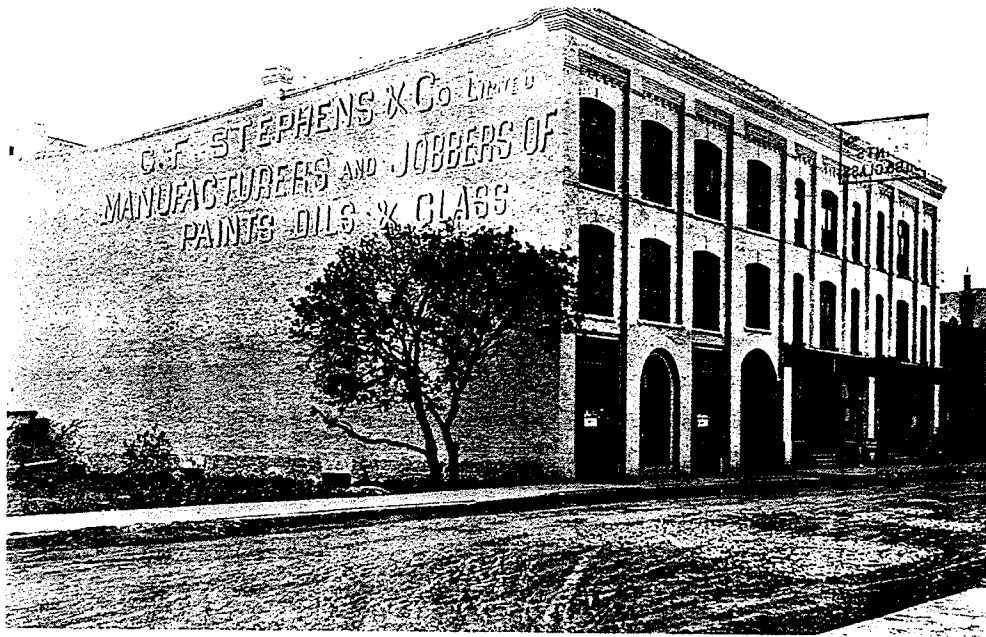


Fig. 46 (above) *Street tree at G.F. Stefens & Co. Limited* (Winnipeg Images, 114)
Fig. 47 (below) *Street trees at residence of S.H. Strevet* (Winnipeg Images, 172)

incomplete, and some requests for reimbursement were denied by the City's engineer as the tree in question did not meet his approval for reimbursement.

In 1887 By-law 410 respecting trees was written to amend the *Streets By-law*. In this By-law, potential tree planters were required to obtain a tree permit which noted the lot number and name of the street where the tree was to be planted, and the species of tree. A sketch of the planting location was to be provided, and the tree had to be of a certain size: between one and a half and four inches in diameter, and no less than eight feet in height. The payment of the tree-planting bonus was changed to delay the payment of funds for two years, and then payment occurred only if the tree was in good health at the two-year anniversary. No bonuses were paid for trees planted on private property.

Despite the difficulty in maintaining trees to their full maturity within a city experiencing a building boom, and known to have an early and cold winter and short growing season, the program's longevity was no doubt also due to support from other provincial legislation, individuals and organizations.

...whereas the great highways...are sufficiently wide to allow a margin of each side for the purpose of the growth of trees;...whereas such growth of trees would add to the beauty and general utility of the road and material wealth of the section of country through which they were planted and otherwise conduce to public advantage..." (45 Vic. Cap. 6, 1882).

The Act to Encourage the Planting of Trees along the Great Highways and Road Allowances within the Province, introduced in 1882, provided planting information including the spacing of trees, and species "best adapted to the climate" such as oak, elm, ash-leafed maple, poplar, balm-of-gilead, spruce, tamarac, balsam, pine, wild

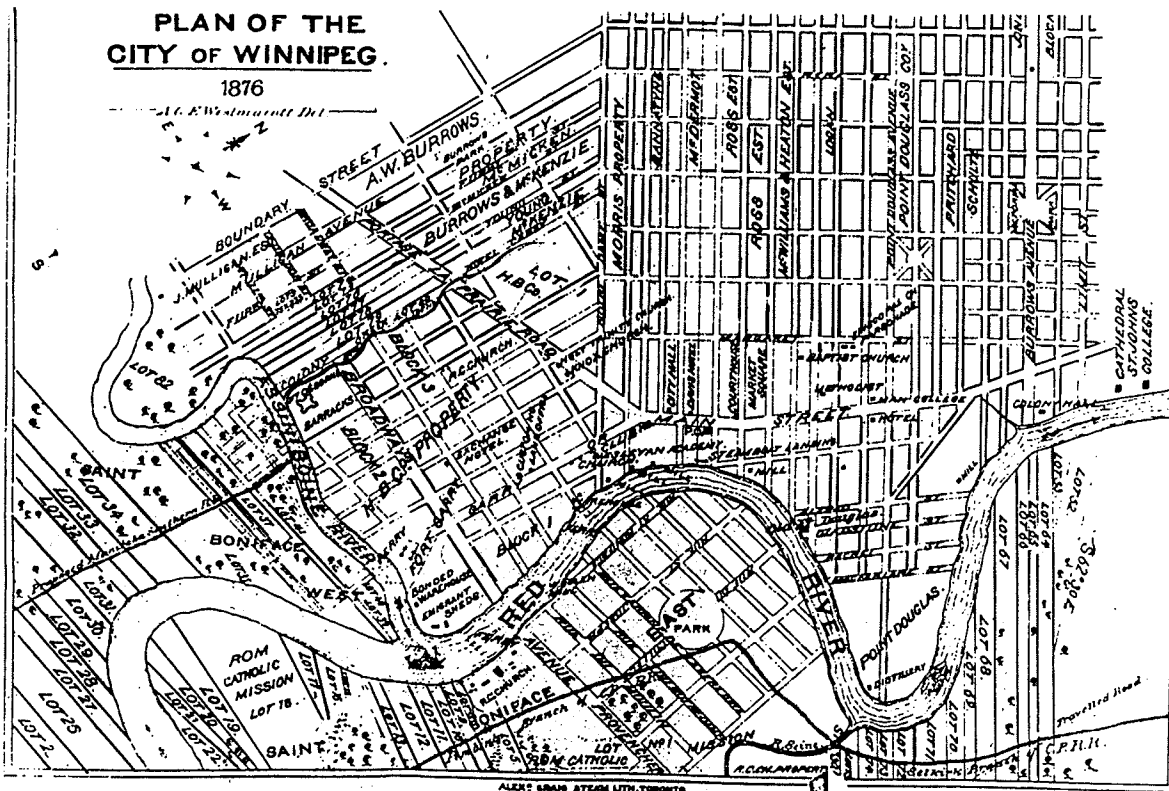


Fig. 48 Street trees and boulevards on Broadway Avenue (Gillies, 27) (PAM N-4653)

cherry and hawthorn. Two years later the Province legislated the celebration of Arbor Day. Tree planting was also supported by individuals and organizations such as A.P. Stevenson who opened Pine Grove Nursery at Morden in 1874, the Provincial Agricultural and Industrial Society of Manitoba who were formed in 1879 to "procure and experimentalize [sic] with new...plants and trees," S.A. Bedford who became the first superintendent of the Brandon Experimental Farm in 1888, and the Winnipeg Chapter of the Canadian Order of Foresters formed in 1890.

The last tree-planting bonus was paid out in 1889 after approximately 1,000 trees had been planted along Winnipeg's streets, and in private properties and parks. The Board of Works had become strained with the breadth of their responsibilities, so the protection and planting of trees was turned over to a new department: the Winnipeg Parks Board. The Parks Board, created under authority of the *Manitoba Public Parks Act* of 1892, prepared their own by-laws for the planting and protection of trees, and for the development and maintenance of parks and boulevards within the city. In 1895 some of the duties of the Parks Board were assigned to D.D. England who was hired as the city's first landscape gardener, responsible for the city's street trees, parks, and boulevards.

The boulevards were a piece of land within the road allowance set aside for the planting of trees, shrubs, and grass. Unlike the sidewalks, the boulevards were ornamental only. Travel or play upon the boulevards was punishable by a fine or time in jail. This regulation was established to protect the city's valuable and scenic trees.



THE PEMBINA AND SELKIRK branches of the Canadian Pacific Railway shown in this 1876 plan of Winnipeg were still under construction at that time. Boundary Street was later changed to Maryland as the city grew beyond it.

Fig. 49 Plan of the City of Winnipeg 1876 (Winnipeg 100, 2)

Support for tree planting was also wide spread because Winnipeg's business elite and politicians, who were also pedestrians, understood the economic and social value of trees. From 1874 onward, the City commissioned photographers to take photographs of the tree-lined streets, and then used the photographs and tree statistics in promotional material for the city. The trees and sidewalks also supported the principles of good government set out in the 1874 Charter. They provided a sense of safety from traffic and wind and rain; they assisted in providing a convenient means of moving through the city, and they were free from nuisance under the protection of the *Streets By-law*. Winnipeg's citizens and business elite, however, had set their sights beyond the stability and powers of government. They felt that Winnipeg was destined to be a city that was innovative, and unique, and what better place to showcase these achievements than along the sidewalks of Winnipeg's premier thoroughfare, Main Street.

The Sidewalk Experience 1874-1899

To understand the development of the sidewalk landscape of Main Street, it is important to remember that the people involved in creating and maintaining this landscape were pedestrians themselves. The Victorian pedestrians in Winnipeg had very high standards of decency and moral behaviour, and they set out to make their city a reflection of these standards³. The first impression of a business or home was determined at the sidewalk.

³ In both the Winnipeg Charter and the Municipal Act, trees were mentioned within a section titled "Decency and Good Morals."

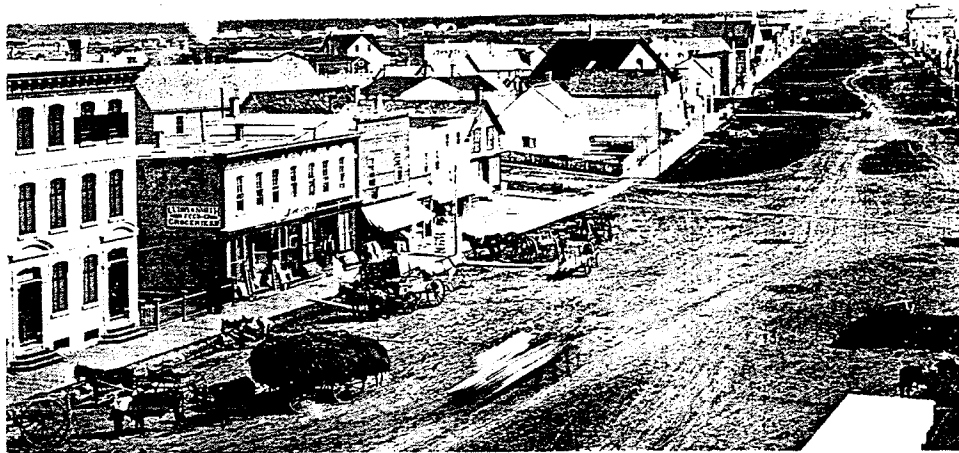


Fig. 50 *Main Street looking south, 1870* (Mitchell, 26) - note the width of Main street.

Main Street's former names reflect its stages of development. As 'Indian Trail' this path of travel was a part of a north-south migratory route for native people, and a part of the Hudson's Bay Company's network of trading trails. The trail was created to provide a route through the prairie grasslands and oak stands which bordered the Red River. After the construction of Fort Garry at 'the Forks' of the Red and Assiniboine rivers, the portion of the trail adjacent to the fort was measured, widened, graded, and named 'The King's Highway' and later 'Garry Street.' When both homes and businesses were built along the graded roadway, the name Main Street was chosen.⁴

After it was graded to a width of one hundred and thirty-two feet, Main Street was dangerous for travellers arriving in Winnipeg prior to 1874. The broad expanse of open clay soil was saturated with water after a rain and during spring thaw making it almost impossible to walk across. Persons on foot were also at risk of being hit by the fast-moving vehicles of the day including the stagecoach.

The sidewalks, however, were a relatively safe haven for people moving on foot, and an integral part of the marketplace of goods and services as they were a display and advertising space for the downtown businesses. When the sidewalks were connected together, potential customers were enticed further along the street and into more streets. Moving from sidewalk to sidewalk between businesses and residences was also accommodated by oak plank crosswalks laid at the intersection of major cross streets.

⁴ While the name 'Main Street' was formally adopted in By-Law 34 (June 1875), the name was also likely a political choice as it established the prominence of the north-south highway from the east-west Portage Road.



Fig. 51 *Main Street north from Graham 1880 (PAM N13792).*

Despite hazards posed by the construction of the sidewalks, walking along the wooden sidewalks of Main Street in 1874 was said to be a scenic and convenient experience. Wood and wrought iron fences enclosed yards; striped wooden poles marked the stagecoach stop; occasional lamp posts offered light at night, and trees offered shade, shelter and cooling as noted by George Bryce.

"One of the houses of the early days that attracted attention by its size, if not by its architectural beauty, was a building erected by Mr. Bannatyne on Main Street...this building was in the midst of a garden, and was well surrounded by rows of thriving Red River maples" (Bryce, 5).

As the only public space in the city, however, the sidewalks were occasionally the site of behaviour which contravened the *Streets By-law*. The police report of 1879 notes three incidents of driving on the sidewalk, three incidents of obstructing the sidewalk, and eight citations each for loitering, and 'abusive and insulting language'. The *Streets By-law* would continue to be amended to prohibit behaviour which was deemed either immoral or presented a hazard for pedestrians.

The objective of the downtown sidewalks, however, was to attract customers to the businesses of Main Street. This goal would be achieved through the combined efforts of the business community and the City government. By 1879 pedestrians were provided with many urban services drawing them to the sidewalks of Main Street including mail service, telegraph service, stagecoach service, a government bank, and a weekly newspaper. In order to clearly direct customers to their businesses, the City

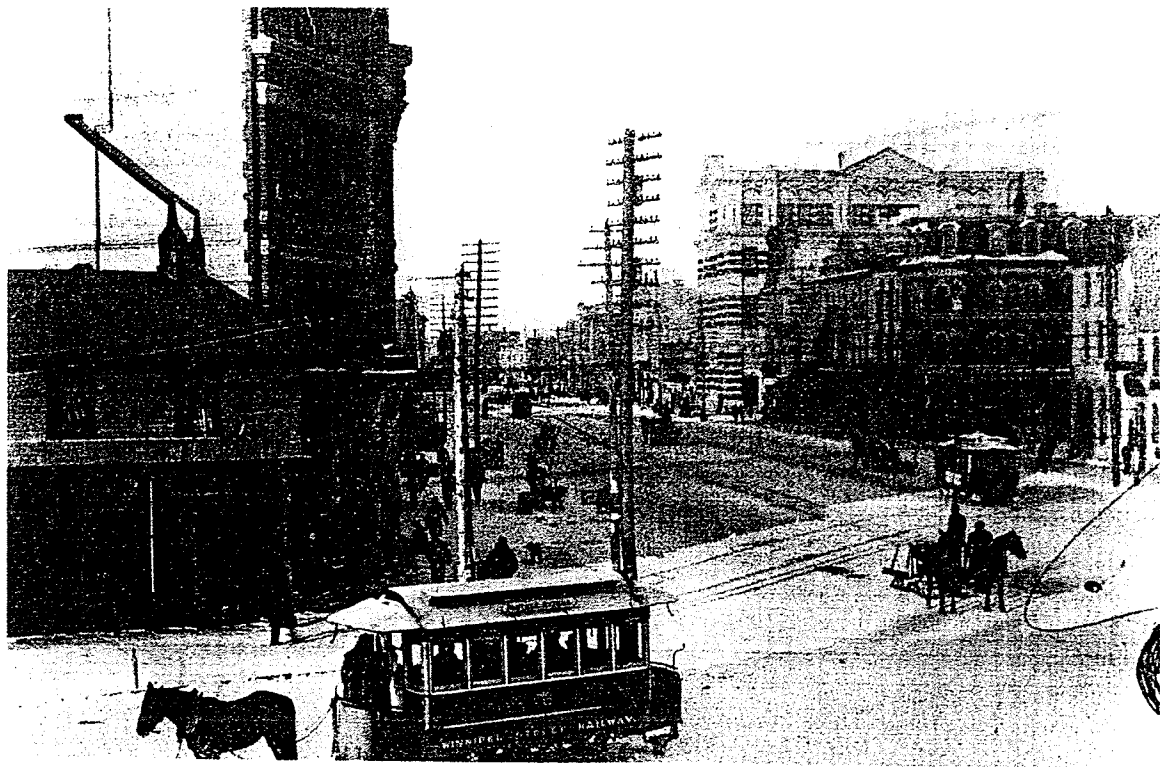


Fig. 52 *Main Street 1890* (Thomas Burns Collection 565)

commissioned John Kerr to provide and install the first street signs in 1879⁵. Sixty-eight street signs were installed on Main Street and all the streets leading off Main Street between Fort Garry and Point Douglas.

In the years prior to incorporation, all open land used for travel was identified as a 'road' or a 'street'⁶. Many of the streets were on privately-held land, so after incorporation, the City arranged to purchase the land. As a result some of the streets were re-named. A map of the city from 1880 notes a mix of avenues and streets. Influenced by the formal street naming systems of large American cities, the City of Winnipeg decided to re-name all its routes of travel with numbers e.g. fourth avenue. The routes of travel perpendicular to the Red River became 'avenues', and the routes intersecting the avenues remained 'streets'. While this distinction helped pedestrians orient themselves within the city, the decision to use numbers was reversed when Mayor Thomas William Taylor took office in 1893. The use of 'avenues' and 'streets', however, remained.

From incorporation until the turn of the century, Main Street remained the 'spine' of the commercial centre of Winnipeg. The City's by-laws and Charter were revised continually to meet the changing needs of the Main Street businesses and pedestrians. One of the first challenges for council was negotiate the needs of pedestrians and business owners over the issue of encroachments.

⁵ House numbers were not installed until 1882 by James Henderson, author of the Henderson Directory of the city. Mr. Henderson was contracted to provide the house numbers at a cost of twelve cents each.

⁶ Maps of the city from 1874 note all routes as 'streets' with the exception of Burrows Avenue, Mulligan Avenue and Provencher Avenue. It is unclear from the maps whether or not Broadway was an avenue (it is simply named 'Broadway'); however, its width appears consistent with the other three avenues.



Fig. 53 (above) *Display of goods on sidewalk by L.B. Foote (Smith, 43)*

Fig. 54 (below) *Street encroachments on Princess Avenue (Winnipeg Images, 143)*

Ask the Chief of Police to "compell [sic] people to remove all merchandise exposed for sale, packing boxes, agricultural implements and their obstructions from off the sidewalks and sidewalk extensions." - Alderman Young addressing the Board of Works in 1879.

Pedestrians expected to move along the sidewalks that their taxes and private money had paid for safely and without interference from nuisance. As the City was liable for the safety of the pedestrians, the City of Winnipeg By-laws and Charter supported this legal concept of right-of-way. The *Streets By-law* was regularly updated to maintain freedom from nuisance (anything interfering with passage along the sidewalk, or causing harm to persons using the sidewalk), and right-of-way.

Along Main Street, however, the sidewalks were also the domain of the businesses which fronted them, and in many cases had either constructed them, or paid for their construction through frontage taxation. While the right-of-way was legally protected, the sidewalks were also 'local improvements' to the businesses and street. After the installation of a sidewalk, a business was deemed to have 'improved' in both appearance and value, and its property taxes were raised accordingly.

Before incorporation, the businesses used the sidewalks to display their goods, and signage. When the City assumed responsibility for the private sidewalks in 1874, the practice of storage and advertising upon the sidewalk became a nuisance as it encroached upon the now 'public' thoroughfare. The historical practice of utilizing the sidewalk, the input given toward creating sidewalks, and the payment of taxes created a sense of entitlement on the part of the business owners toward the sidewalk landscape. As building facades were constructed up to the edge of the sidewalks, the volume of the sidewalk allowance (both in breadth and height) had to provide space for

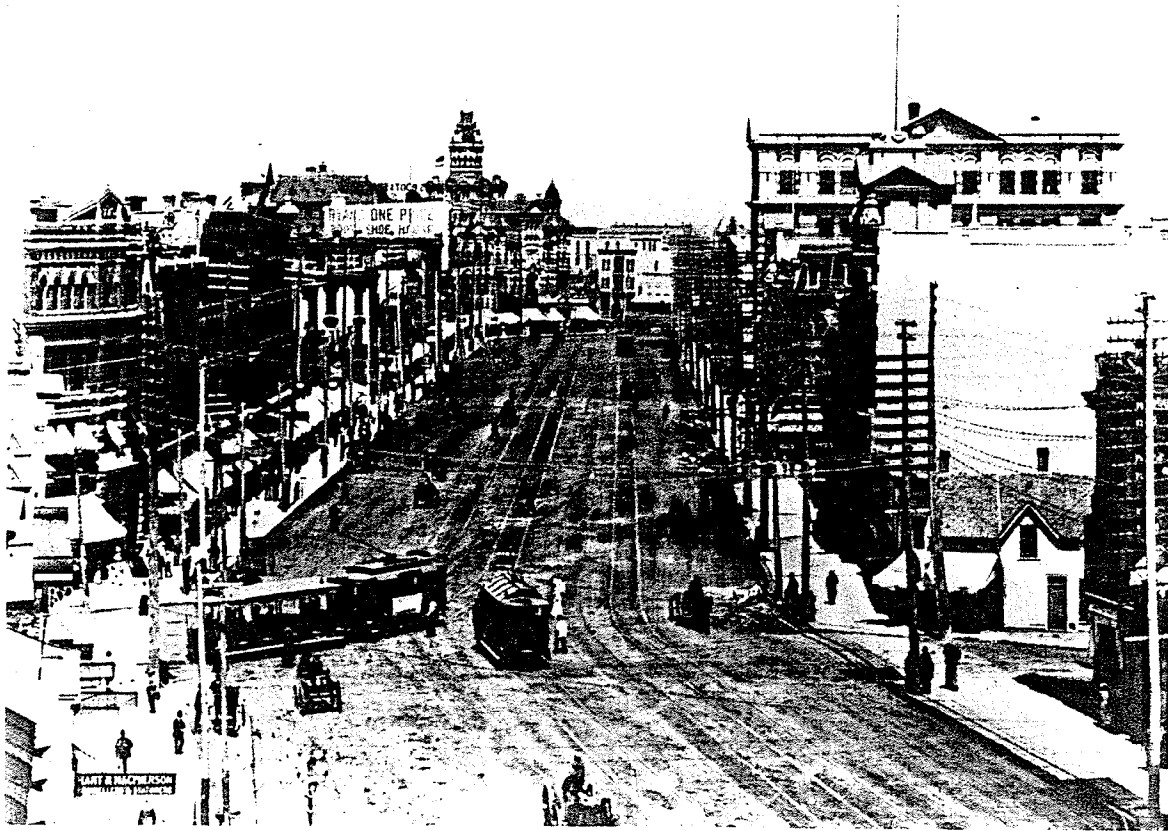


Fig. 55 *Main Street looking north 1894* (PAM Winnipeg Streets Collection, N9799) - note overhead lines.

necessary services and complementary amenities. The approved encroachments appearing during this period both delighted and upset the pedestrians of Main Street.

Some of the encroachments permitted during this time were considered a modern amenity while others were an eyesore and considered unsafe. The encroachments considered as modern amenities included boulevards, lamp posts, awnings, drinking fountains, public mailboxes for mail collection, newspaper boxes, and a street clock. Creating an eyesore, and threatening the safety of Main Street's pedestrians were wooden poles with cables, fire hydrants, and gates.

Walking along the sidewalks of Main Street during the last two decades of the nineteenth century revealed many of the modern amenities within the city, but with civic prosperity came greater demands upon the three-dimensional space set aside for sidewalks. The sidewalk surface contained less private-sector displays and goods, but more amenities provided by the City government for the safety of citizens, and the advancement of the city's economy. Wooden poles were installed to carry numerous cables which were strung from pole to pole. These cables provided transmission of the fire alarm system, the telegraph service, the telephone system, and later the city's electricity. Fire hydrants were also located within the land set aside for sidewalks as they required access from the roadway, and close proximity to the city's buildings. Merchants were permitted to display goods upon the sidewalks within the first twenty-four inches of the sidewalk measured perpendicular from their building facade, and were permitted to place signs and signposts at the curb edge of the sidewalk. Some of the notable private encroachments at this time were the revolving showcase in front of



MAIN ST. LOOKING NORTH FROM BANNATYNE AVE.

Fig. 56 *Main Street looking north from Bannatyne* (Mitchell, 35) - note awnings.

Dufferin's store, and the pocket-watch style clock mounted on a pole in front of Dingwall's Jewellers. The sidewalk also attracted pedestrian activity by being the location of mailboxes to post letters, and newspaper boxes.

The late nineteenth-century sidewalks of Winnipeg also provided for pedestrian comfort and safety through by-law restriction of gates or doors which would swing over the sidewalk,⁷ and the regulation and provision of awnings. Awnings were fabric or solid material extensions to the building facade which provided pedestrians with shelter from sun, wind, rain or snow while they conducted their business along Main Street. The construction and location of awnings was regulated by the City government as a form of private-sector encroachment. Business owners contested the City's requirement that the awnings be placed no lower than eight feet above the sidewalk. As one merchant explained to the Board of Works, this height was "all together too high for the purpose of which the awnings are intended as the sun up to 10 am can easily get underneath them." The one foot reduction which was finally agreed upon (situating the awnings no lower than seven feet above the sidewalk) still provided pedestrians comfortable cover from the elements without interfering with any other use of the sidewalk. The merchants were also keeping the sidewalks swept, and in winter the snow cleared promptly from the sidewalks in front of their businesses, and not simply resorting to spreading salt which damaged the granolithic sidewalks and curbs. In this era, consideration of pedestrian needs also led to the installation of four cast iron drinking

⁷ Gates were prohibited from swinging over any sidewalk in the Streets By-Law (1899). Other building embellishments prohibited for their obstruction of the sidewalks included doorsteps, porches, and trap doors. In the City of Winnipeg Charter of 2002, this issue has been changed to gates are not to swing over *streets*.



Fig. 57 *Pedestrians and the street railway service, 1892* (PAM Transportation Collection N7600).

fountains which had been purchased from a company in New York City in 1888. The popularity of the fountains is evident in the City Engineer's Report of 1896 which noted that the fountains were "flowing 5,000 gallons of water per day."

As the city sidewalks were also well-used in the evenings when the citizens of Winnipeg were travelling to and from public lectures, concerts, events, and performances, the City installed state-of-the-art electric street lights along Main Street to replace the old coal oil lamps and the dangerous and exploding gasoline lamps. The lighting system along Main Street was featured in one of the city's promotional publications, *The Dominion Magazine*. To prevent over-burdening the power plant for the system, the lights were initially operated on a 'moonlight schedule'.

Pedestrians were now competing with a high volume of vehicular traffic which created problems when pedestrians were travelling on the recently constructed Louise Street bridge which was built with space allowed for pedestrian travel, but did not contain a sidewalk. By-law 143 addressed this issue by requiring that "no vehicle or carriage [was allowed] to travel faster than a walk." One of the new forms of traffic appearing during this period was the Street Railway service which allowed pedestrians to move through the city as passengers within a vehicle, then continue their travel on foot. This early form of public transit connected residential neighbourhoods with the commercial district of the downtown. At this time, another means of travel would begin capturing the imagination and attention of Winnipeg pedestrians as it would compete for space and use of the city sidewalks.



Fig. 58 Arrival of the velocipede L.B. Foote Collection (Smith, 68)

Increasing mobility - pedestrians on bicycles

By the late 1800's, the sidewalks were established as busy public spaces which were used to showcase new activities and inventions to challenge and delight Winnipeg's pedestrians. As these activities and new forms of travel were introduced to people using the sidewalks, participants in the challenges, races, and early forms of cycling were considered 'pedestrians' until the popularity of these activities conflicted with use of the sidewalk for passage and commerce.

Pedestrian prowess was put to the test during an event called 'wobbles'- a forty-eight hour non-stop walking race which was introduced in Winnipeg in 1878 (Winnipeg Heart of a Continent, 67). These races proved to be both popular and profitable for the City. After complaints from citizens, the *Streets By-law* was amended to prohibit 'wobbles' taking place on the sidewalks of the city, and the race was held indoors at City Hall. The council records of 1879 show two rentals of City Hall for "walking matches" sponsored by Messrs John E. Wilson, and H.H. Ireland for a total rental of one hundred and twenty-five dollars.

By the last quarter of the nineteenth century, Winnipeg's pedestrians were not only found on the city sidewalks or using the street railway, they were beginning to experiment with a new means of moving about the city. In 1875 when the first bicycle "a velocipede" (with its distinctive 40"-60" front wheel) arrived in Winnipeg, the Free Press named its owner and operator, Mr. P. la Seur, Winnipeg's first "velocipedestrian." Riding the velocipede was considered an act of courage and talent, and contests involving this bicycle lasted until 1888. Due to the instability of the velocipede, causing



Fig. 59 *Cycling along newspaper row* (Winnipeg Images, 46)

a safety risk to other pedestrians, riding this bicycle was banned from the sidewalks of Winnipeg.

Despite the arrival of the first 'safety' bicycle in Winnipeg in 1875 (so named because it had two wheels of the same size making it more stable to ride), bicycles were prohibited within the boundaries of the City of Winnipeg in 1883. At this time bicycles were considered too fast and dangerous for the sidewalk, and too slow and small for the busy roadways. In protest to the bicycle ban, the Winnipeg Bicycle Club and the Rover Bicycle Club were formed.

The membership of these clubs included the City's mayor Thomas William Taylor, future mayor J.H. Ashdown, and prominent lawyer Isaac Pitblado. Their 'resolution' sent to City council to request a repeal of the bicycle ban noted that "doctors and even clergymen ride wheels in other cities" (Winnipeg's Early Days, 29). Not to appear behind the times, the By-law banning bicycles was repealed. The popularity of the bicycle led to by-laws which regulated the operation of bicycles, and protected and regulated the bicycle paths in The City of Winnipeg.

Three by-laws to create and protect bicycle paths were enacted in three years (1899-1901): *By-law 1628* to set aside portions of Portage Avenue for use as a bicycle path; *By-law 1629* to provide for the protection of bicycles paths within the city, and *By-law 2127* to expand the network of bicycle paths to other streets within the city. The first Portage Avenue bicycle path was located between Maryland Street and the western city limits (*By-law 1628*).



Fig. 60 (above) *Cycling near the Bank of Hamilton* (Winnipeg Images, 87)
Fig. 61 (below) *Bicycles parked along Princess Street 1900* (Wilder, 49)

By-law 2127 expanded the network of bicycle paths to seven streets in the City of Winnipeg: Portage Avenue (north side from Home Avenue to the western city limits), Pembina Highway (both sides from Corydon Avenue to the west end of River Park), Main Street (east side from Sutherland Street to the northern city limits), Sherbrook Street (west side from Portage Avenue to Notre Dame Avenue), Assiniboine Avenue (north side from Kennedy Street to Osborne Street), Gwendoline Street (east side from Logan Avenue to Fonseca Avenue), and Owena Street (east side from Logan Avenue to Fonseca Avenue).

When former mayor Thomas William Taylor became an MLA in 1900, he continued to champion the use of bicycles in the city. His first order of business in parliament was the introduction of *An Act Respecting the Construction and Maintenance of Bicycle Paths* cited as *The Winnipeg Bicycle Paths Act* (1Edw.VII, Ch.53, March 29, 1901).

The act established, maintained, controlled and managed "a bicycle path or system of bicycle paths...established by the City of Winnipeg, both inside as well as outside its limits..." Construction and maintenance of the bicycle paths would be financed through a fifty cent bicycle tax levied annually upon "each bicycle used or ridden in the City of Winnipeg, the wheels of which exceed eighteen inches in diameter."⁸ Bicyclists were compelled to keep to the portion of the road set aside for bicycles, and not exceed the bicycle speed limit of ten miles per hour.

Despite provincial support, the bicyclists were not welcomed by all citizens of Winnipeg as evident in the anti-bicycle behaviour which was occurring in the city and prohibited

⁸Previous attempts by the City to tax tricycles were rejected by angry parents.

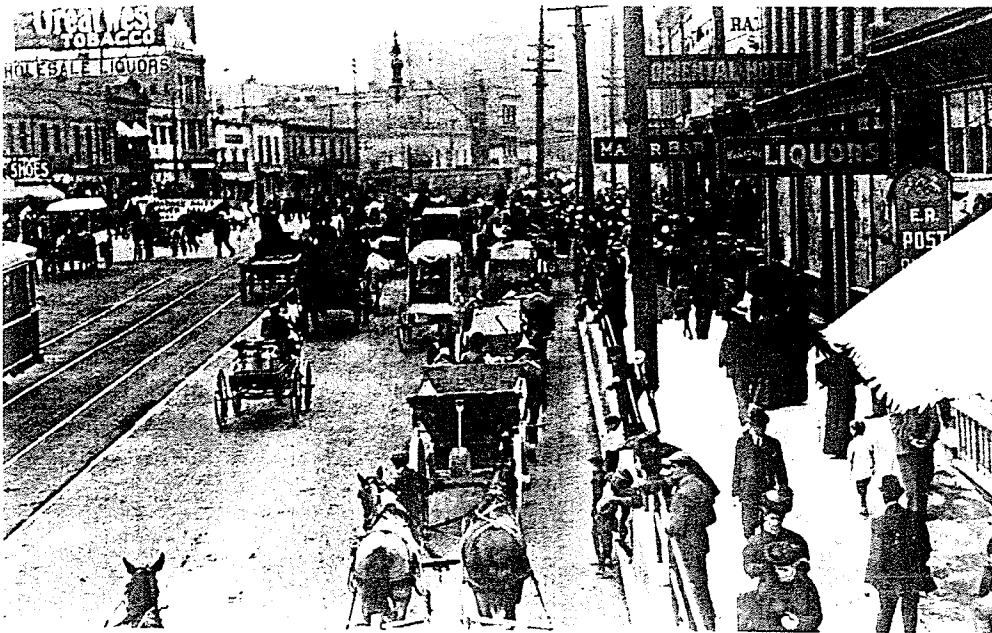


Fig. 62 (above) *Women walking on Main Street, 1910* (PAM N20657, Burns Collection 112)
Fig. 63 (below) *Traffic on Main Street at Higgins, 1904* (Currie, 75) (PAM N7968)

in the Act:

if any person does or commits any of the following acts...drives, leaves or hitches any...animal upon any bicycle path...wilfully obstructs, injures or destroys any bicycle path...places upon the surface of any ..street...or..bicycle path, any glass, metal or stones, earthenware or other substance of a nature likely to cause injury to bicycles...or which are of a nature likely to cut, injure or puncture any pneumatic tire."

As the new century began another new opportunity for increased speed of movement would tempt the pedestrians of Winnipeg: the automobile. Considered by the bicycle enthusiasts as a passing fad, the automobile would prove its dominance of both the streets and the political activity of the City council. The automobile set a new pace within the city - a pace by which all other moving objects would be judged. The foot passengers of Winnipeg who had settled and 'beautified' the streets and sidewalks to become citizen 'pedestrians' were quickly becoming a form of 'traffic,' and the slowest form of traffic in the city

Pedestrian and Vehicular Traffic

The first legal reference to 'traffic' in the history of Winnipeg is found in the Hudson's Bay Company Charter of 1670. In the Charter, the company is granted authority to make laws "for the better advancement and contynuance [sic] of the said Trade or Traffick [sic]." The word 'traffic,' as used in the Charter, originated in 1505 to refer to "carrying on trade" (etymonline.com). When trade turned to commerce, the word 'traffic' began to refer to "people and vehicles coming and going" (etymonline.com).

Winnipeg's early pedestrians were referred to as foot passengers because they were travelling to and from Winnipeg for supplies, or were simply passing through. To



Fig. 64 *Safety islands and traffic controls at Portage and Main 1929 (Currie, 69)*

protect the foot passengers from the early automobiles, the first by-law to regulate “vehicles not drawn by horses” was introduced in 1903 (#2759). This by-law restricted the speed of vehicles to ten miles an hour, except when turning a corner when they were required to slow to four miles an hour. Vehicles were also required to make their presence known by sounding their horn when approaching pedestrians, and carrying lit lanterns if travelling after dark.

The first by-law to regulate “...the conveyance of traffic in the public streets” (#6304) was introduced in 1910, and persons moving within the city on foot were given a new title: ‘pedestrians’. Pedestrians were not regulated, but vehicles and streetcars were according to their direction of travel, or by the hand signals of an on-street police officer. Vehicles and streetcars moving “in a northerly or southerly direction” had the right-of-way over vehicles or streetcars “going in an easterly or westerly direction.” Once Main Street and Portage Avenue were declared main arteries in 1925, vehicles were required to come to a full stop before entering these roadways.

By 1928 traffic lights were introduced into the city, and pedestrians were restricted to crossing the street only at traffic signal intersections, and “directly toward a green light” (By-law 14081). This regulation, considered too restrictive for application upon all streets of Winnipeg, was amended in *The Traffic By-law* of 1931 to apply only to the following thoroughfares: Donald Street, Hargrave Street, Main Street, and Portage Avenue. Like cars, pedestrians were now also expected to ‘keep to the right’ when “proceeding along a sidewalk.”

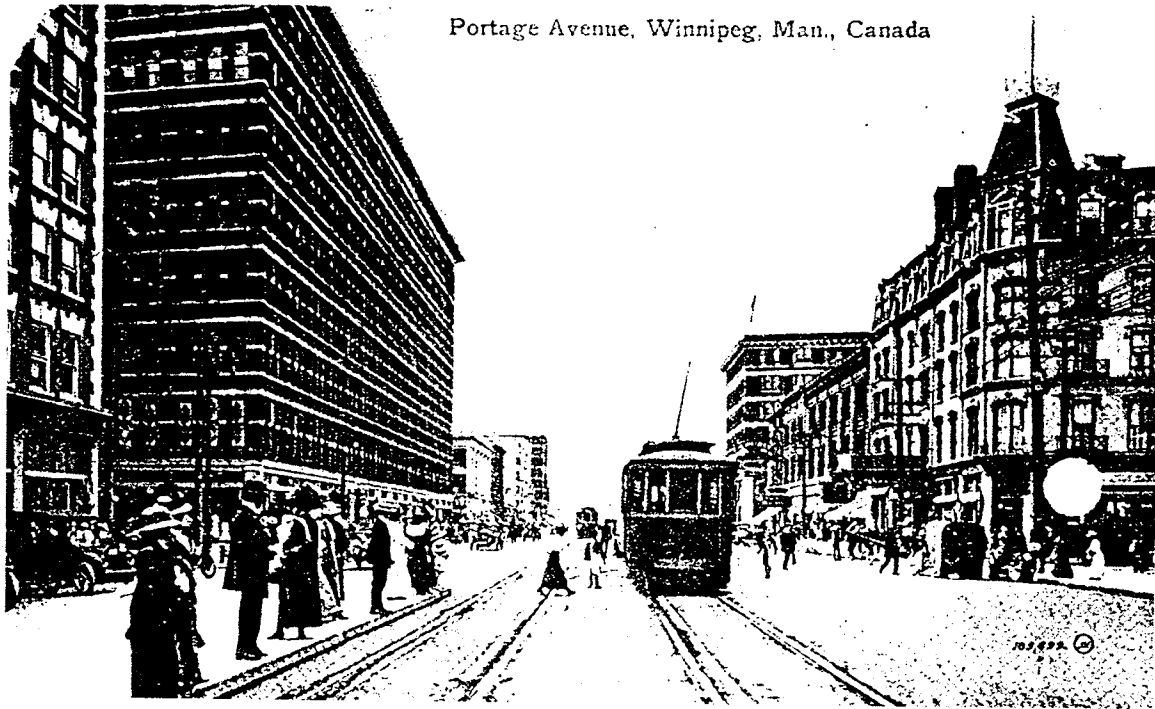


Fig. 65 Safety loading zone on Portage Avenue 1910 (Wilder, 20).

For the safety of pedestrians while they were in the roadway portion of the street, the City introduced 'safety islands or zones' on Main Street and Portage Avenue in 1929⁹. The safety island was defined within the street by a post and chain enclosure and a flashing light. Bus stops, introduced in 1937, were designated portions of the side of a street or avenue set aside only for use by vehicles offering public transit services (By-law 14932). For the convenience of bus patrons, no other vehicle was permitted to stop in these designated locations. In a further effort to control the parking and stopping of vehicles, the City also created 'safety loading zones' which were designated portions of the side of certain streets or avenues set aside during certain times of the day for loading or unloading passengers or commodities.

Regulation and development of the sidewalk landscape was quickly becoming segmented into different departments of the City administration. Each department would prepare and administer their own by-laws based upon their own legal and operational responsibilities. When regulations for the movement of people shifted from the *Streets By-law* to the *Traffic By-law*, law was beginning to change the City's approach toward people in this landscape which had been protected and developed for their use and pleasure, and the commerce and promotion of the city.

Definitions had become necessary as the increases in traffic and building construction had increased the City's range of liability. The beautification and amenity initiatives

⁹ Wooden safety platforms had been introduced in Winnipeg prior to 1918 by the Winnipeg Street Railway Company as a landing platform for their customers. The platforms were necessary as the electric street cars travelled in the centre of the street. These platforms were considered encroachments within the street.



Fig. 66 (above) *The sidewalk experience* (Mitchell, 47)

Fig. 67 (below) *Night Lighting on Portage Avenue east of Donald ca. 1915* (Sproxton, 99) (PAM N18633)

which had directed the development of Winnipeg's sidewalks would be replaced with regulations which placed a greater priority on urban safety.

As 'traffic', pedestrians became objects regulated under the same terms as vehicles: their speed of movement, and their actions. The patterns of behaviour resulting from the traffic regulations would eventually become accepted statistics which were then considered applicable to all pedestrians. One example of traffic statistics is the speed at which a human can walk across a roadway. The sidewalk landscape that had functioned to showcase a remarkable history of commercial activity, innovation and 'beautification' would become physically altered to further facilitate the safety and convenience of vehicular and pedestrian 'traffic'.

Sidewalk Life after the arrival of the automobile

The arrival of the car brought a different scale to the streets and sidewalks of downtown. Signage became enlarged and was hung perpendicular to the building facades in order to catch the eye of motorists. Light fixtures moved higher up their poles, and increased in luminosity to simultaneously light the roadway and sidewalks.

In 1904 the downtown of Winnipeg lit up the night sky as all-night lighting began. The early city-wide electric street lighting was more than a utility - it was another modern convenience. By 1912 new ornamental lamp posts had been commissioned and installed with two levels of lamps: one higher for lighting the street, and one lower at the scale of the sidewalk. Like the early sidewalks, the lamp posts were considered such a symbol of prosperity that two-thirds of the cost for their manufacture and installation



Fig. 68 *The sidewalk experience looking north from Bannatyne on Main Street (PAM N232)*

was paid for by the adjacent property owners. By 1914 the city could boast 2,420 lamp posts in service - more than ten times the number of lamp posts at the turn of the century.

While the Parks Board had been actively installing boulevards with trees, shrubs, flowers and grass, they were also faced with complaints that the growing urban forest was becoming an urban nuisance. The trees, many of which were now more than twenty-five years old, had developed wide and full crowns of branches and leaves which grew out over the sidewalks and blocked the visibility of business and street signage, and the use of the sidewalks. After being protected through by-laws and government departments for thirty-four years, the trees had become a nuisance. In 1908 for the convenience and safety of Winnipeg's citizens, overhanging trees were to be trimmed to provide an eight foot clearance between their lowest branches and the surface of the sidewalk. Trimming, however, did not solve all the ways in which the trees had become a nuisance to the streets of Winnipeg; therefore, in 1944 *The Tree Trimming By-law* also permitted tree removal "when necessary for the convenient use of the street."

Signs had been regulated within the *Streets By-law* since 1881, but after the introduction of the automobile, signage had increased so much in size that this By-law was revised to control the use and size of 'billboards' - a term coined for larger signage hung from buildings or mounted on frames (By-law 3157). Billboards were to be less than six feet in height if fronting the street, and the bottom of the billboard was to be no less than three feet from the ground. By 1909 signs began appearing that were not flat

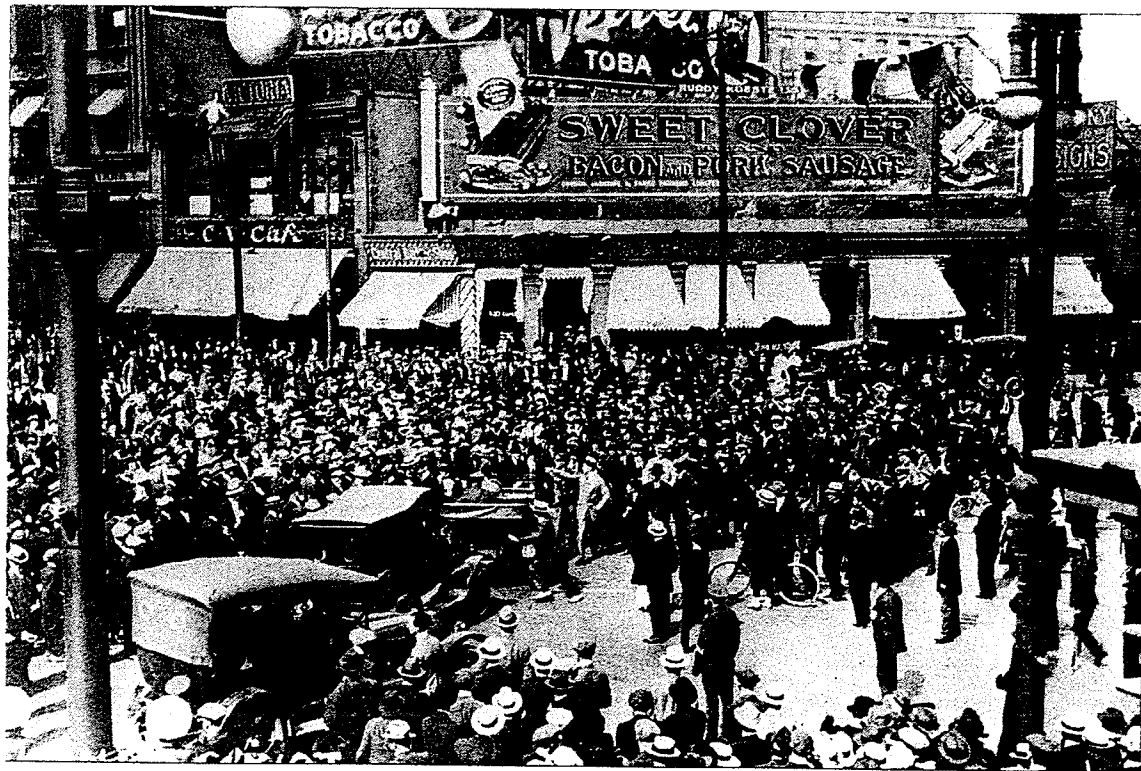


Fig. 69 (above) Signage on a Vancouver Street ca. 1910 (Holdsworth, 158)
Fig. 70 (below) Winnipeg General Strike, 1919 (PAM N12313)

against a facade or fence - they were encroaching into the sidewalks. The first *Signage By-law*, introduced in 1909, (By-law 5563) restricted the encroachment of signs overhanging streets to two feet, including any signage already in place within the city. By 1930 signs were permitted to encroach ten feet on most streets, and twelve feet on Portage Avenue and Main Street with one interesting stipulation: "in no case shall the maximum projection be more than one foot less than the width of the sidewalk."

The sidewalks also continued to be the site of new amenities: garbage receptacles were introduced in 1906; public lavatories were built in 1917, and pay phones were introduced in 1921. As the sidewalks were the centre of public life, by-laws continued to be written to prohibit unwanted behaviour such as: spitting (1907), canvassing (1922), making unnecessary and harmful noise (1947), and behaviour previously labelled immoral, and now referred to as part of 'public convenience and welfare' such as begging, drunkenness, vagrancy, soliciting, swearing, gambling, indecency, and idling or loitering (1947).

Despite restrictions upon loitering, the sidewalks were the gathering space for many public events, including the most infamous public event in the history of Winnipeg - The Winnipeg General Strike. This public uprising of 1919 brought thousands of people onto the sidewalks and into the streets of downtown Winnipeg. At the centre of the unrest was Main Street where the crowd and the police met. While this event led to greater restrictions upon individual and group sidewalk behaviour within the *Streets By-law*, it also established the precedent of Winnipeg's sidewalks as sites for freedom of

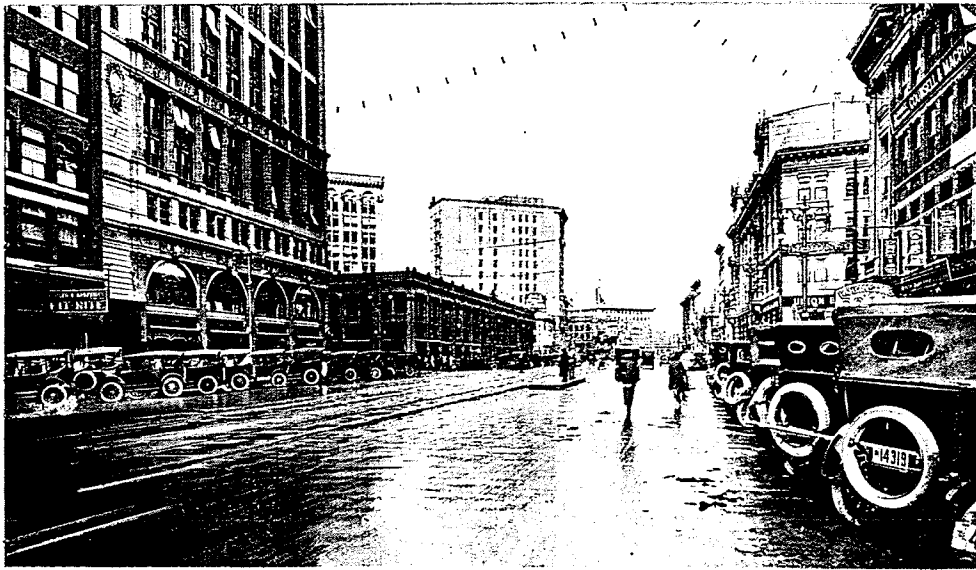


Fig. 71 *Parking along Portage Avenue* (Mitchell, 47).

expression.

Even though the sidewalks had been the staging area for the celebrations, mourning, protest, and inventions, they were falling victim to the same purpose that had created them: convenience. By the time of the City's centennial in 1974, convenience no longer meant wide continuous sidewalks - it meant comfort found within a car or a building. The tall buildings were creating down drafts upon the sidewalks, and the vehicular traffic continued to pollute the air with exhaust and splash pedestrians. With all this and the seasonal extremes in Winnipeg's climate, the pedestrians of Winnipeg migrated to new routes of travel within the city.

Leaving the sidewalks - movement under/above ground

Beginning in 1967 the business community began looking for new ways to bring people back to the downtown (Clark). Following the example of the first indoor pedestrian network built in Montreal in 1962, the City of Winnipeg began preparations to build a pedestrian skywalk system. Considered an "essential amenity", the skywalks would be built between buildings in the air space over the streets and sidewalks to provide a "climate-controlled...environment linking all parts of the downtown." It was hoped that the skywalks would also stimulate economic and development activity in Winnipeg's downtown.

Before the skywalk system was completed, the City also began developing a pedestrian network underground to connect the buildings surrounding the historic corner of Portage Avenue and Main Street. When the pedestrian concourse was

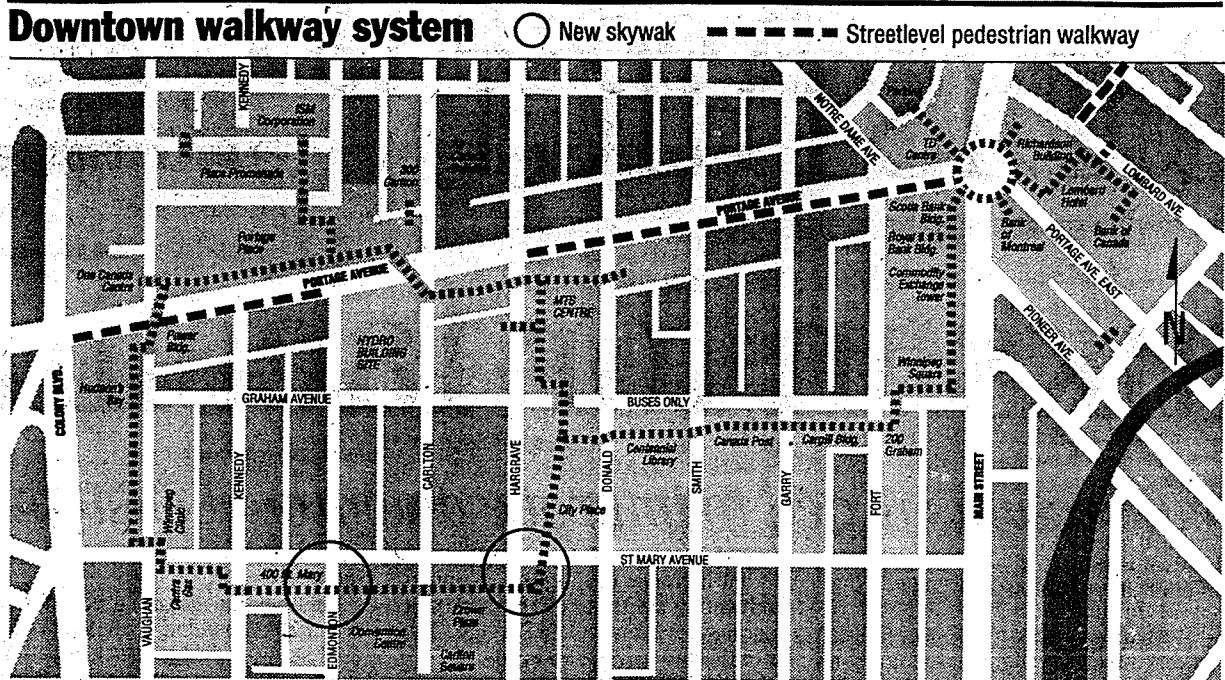
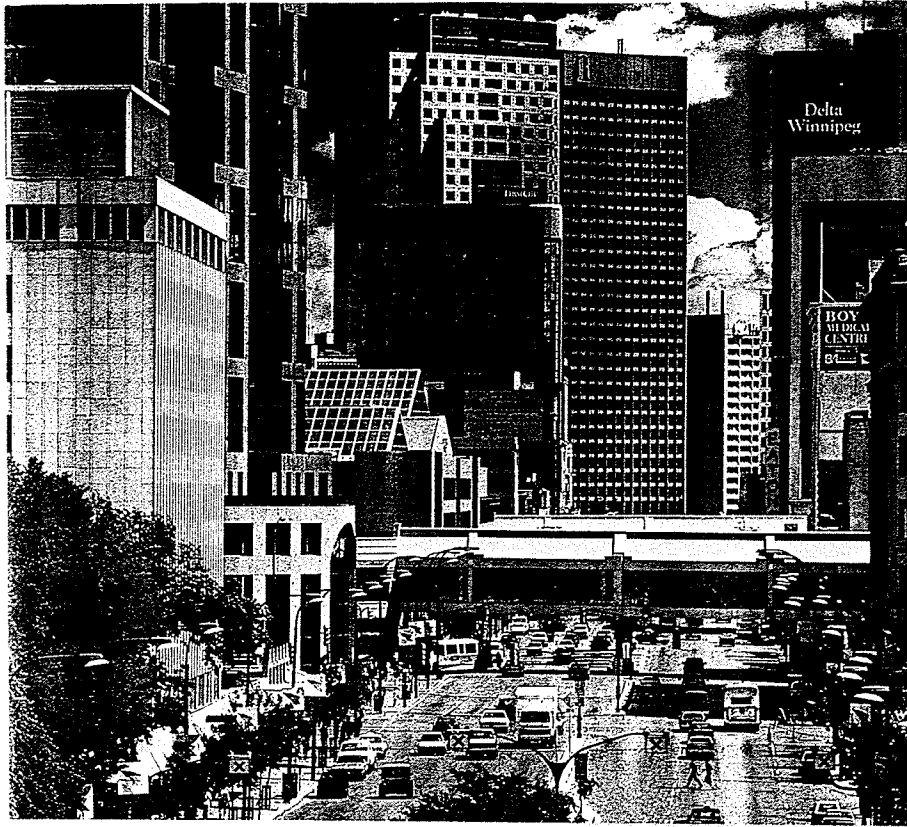


Fig. 72 (above) Skywalks on Portage Avenue, Winnipeg (Tourism Winnipeg brochure)
 Fig. 73 (below) Proposed skywalk extension (Winnipeg Free Press March 24, 2004)

opened in 1979, it connected the lower levels of three downtown banks and an office tower. It was later extended from 1997-1998 to include an underground gallery of shops (Winnipeg Square) and an outside entrance to the Graham Avenue transit mall.

The skywalk system creates 1.2 miles of indoor circulation connecting over nine hundred businesses and offices. As well as being a convenient walking route, the skywalks are wide enough in some places to accommodate new retail space. The City has demonstrated its support for this type of circulation by recently announcing improvements to the skywalk system. A new identity and signage is proposed for the skywalk system, and the City is also considering extending the skywalks into previously unconnected parts of the downtown.

Conclusion

The history of Winnipeg's sidewalk landscape is a social, economic and environmental history. This is a history of increasing restrictions placed upon persons moving over a landscape in order to protect the public good, and showcase the city as a positive, progressive place to live and work or visit. When the first trails were set to and from 'the Forks', the space set aside for public travel was carved out of opportunities upon the existing prairie. When the settlement of Winnipeg began, the movement of people was permitted within an artificially created landscape that was controlled by the private regulations of the Hudson's Bay Company and later by the initiatives of Winnipeg's business and property owners.

Defining this landscape first occurred with the creation of maps of the area prepared by

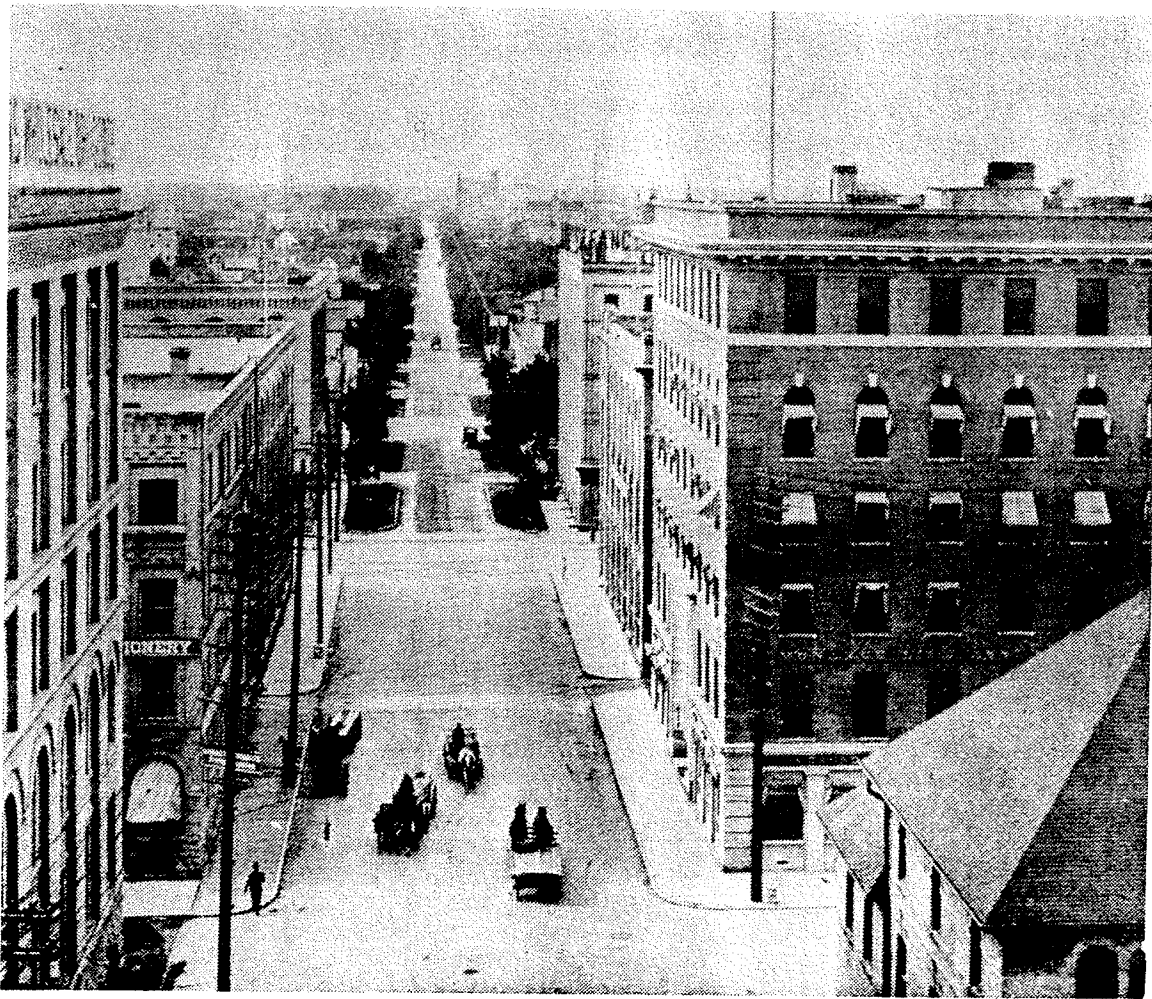


Fig. 74 *Bannatyne Avenue looking west from King Street 1910 (Waddel, 29).*

military personnel, Company employees, and government surveyors. These maps were far more influential than simply providing information - they were also a political device used to control land use and movement of persons and goods. When regulation was declared in written documents, the land and activity upon the land was negotiated through the powers and jurisdiction of law(s). It would be the legislation and by-laws which followed the incorporation of the City of Winnipeg which would define the landscape of the city from the surrounding prairie land. At the time of incorporation, law and legislation was associated with progressive thinking and establishment, and for many years to follow Winnipeg would adopt new legislation for its public space from other cities deemed to be role models of civic development.

Winnipeg would also follow social trends of other Canadian and American cities by introducing and initiating new amenities for the very popular and very protected sidewalk landscape. Many of the sidewalk landscape amenities then became published bragging rights used to attract investment, businesses, and settlers to the city. In later years of the nineteenth century and the early years of the twentieth century money was spent and legislation written for this landscape because the politicians, business owners and citizens understood that the condition of the sidewalk landscape was a reflection of the city's prosperity. Amenities included in this downtown landscape at this time were *valuable* in the expense incurred to provide them, their uniqueness within the city, and the social and economic gain anticipated from their installation.

The value of this landscape was also demonstrated through the legislation written to

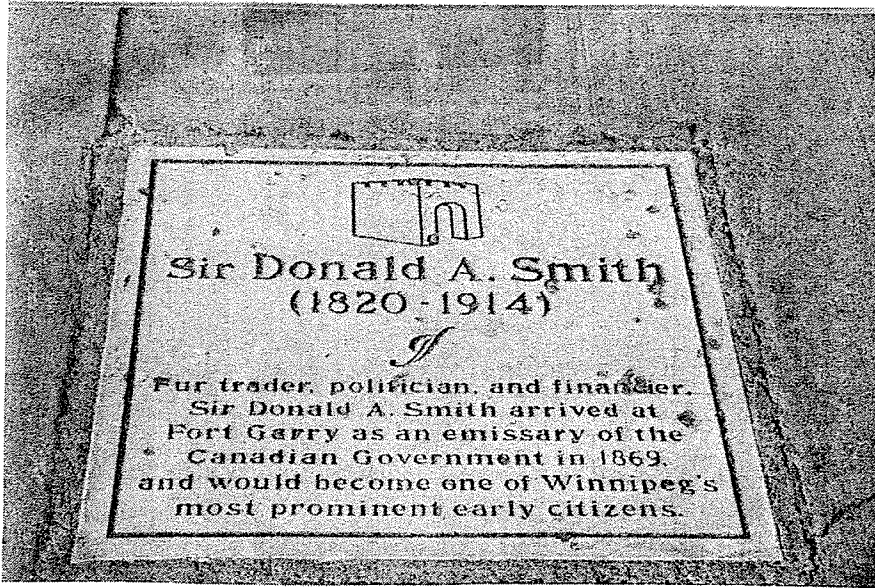


Fig. 75 (above) Sidewalk plaque on Portage Avenue, Winnipeg (author)
Fig. 76 (below) Street Tree on Main Street North, Winnipeg (author)

protect amenities and persons using this protected public space. The *Streets By-law* addressed many aspects of the sidewalk landscape including its use, pedestrian behaviour, and adjacent development. As the city grew, the control of civic activity was divided among various City departments, and new by-laws for this landscape appeared. The result we see today is many by-laws for the sidewalk landscape often with different terminology and being administered by different departments with different priorities.

Still important today is the protection of the value of the sidewalk landscape. The installation of historical markers in the downtown sidewalk landscape, and the addition of new amenities demonstrate that this landscape still has value. This value, however, is not evident in outdated legislation and by-laws for this landscape, neglected maintenance, long-term abandoned businesses adjacent to this landscape, and poor health of street trees. Demonstrating value for this landscape can be achieved in the same way that the sidewalk landscape began - through one document that defines, and holistically understands the users, amenities and opportunities within this public showcase, destination and landscape.

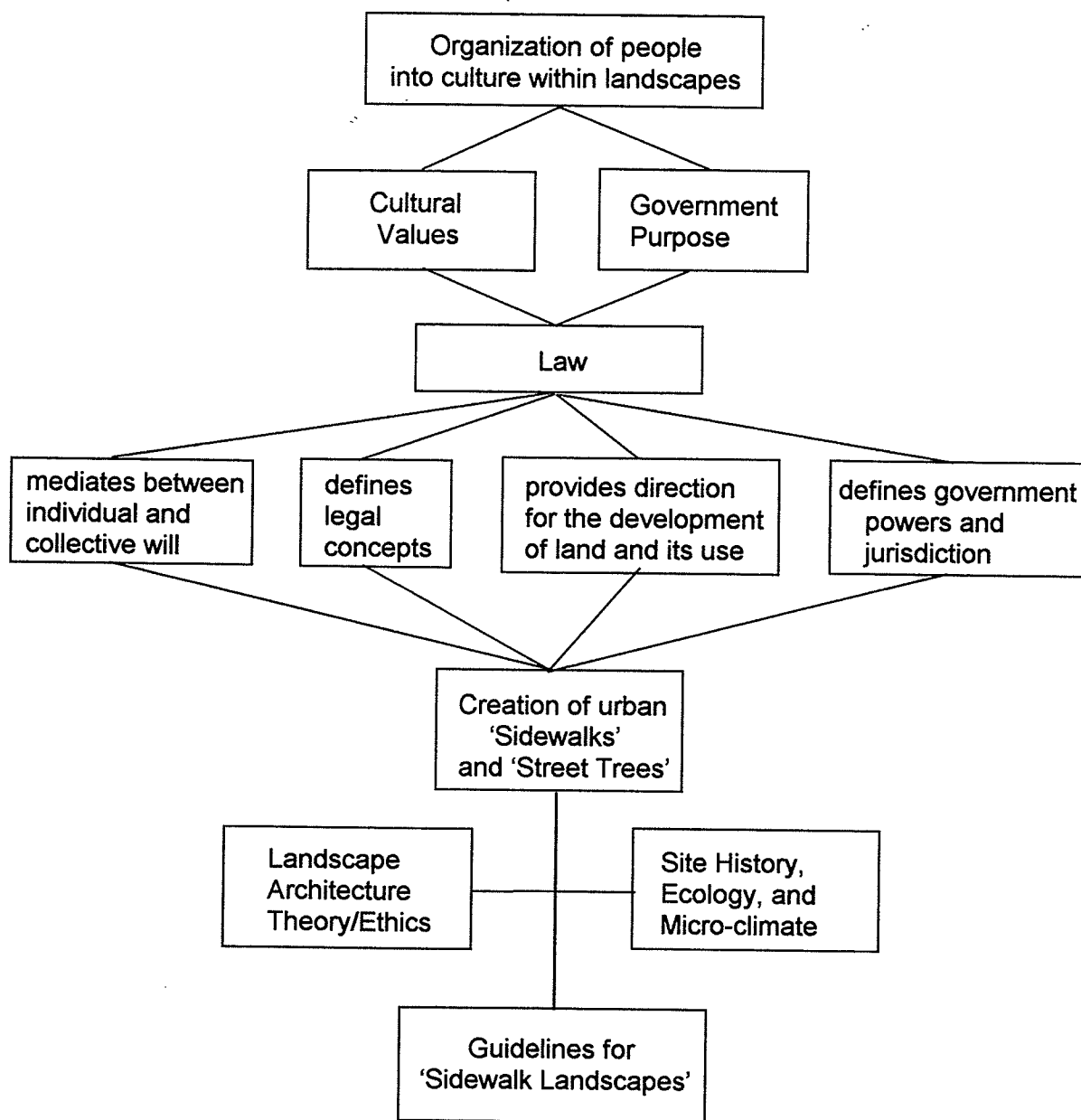


Fig. 77 Flow chart illustrating relationship among law, culture and sidewalk landscapes (author)

Chapter Three

Law as Inscription of Cultural Purpose upon the Sidewalk Landscape

"The collision and layering of the pieces of today's landscape, like fragments of our perplexing and complex social self, are yielding a remarkable mosaic, one that speaks with clarity and power to the interwoven and complex relationships between our culture and land."

- Michael van Valkenburgh
Forward to "Taking Measures Across the American Landscape"
by James Corner and Alex S. MacLean

The inscription of cultural purpose upon land has been examined in the aerial photographs, drawings, and writings of James Corner and Alex MacLean. The photographs as a visual record of cultural inscription are a readable 'measure' of the relationship between culture and the land it modifies and then occupies. The resulting form of the land reveals both the predictable and spontaneous impacts of the inscription, including the capacity of land to support cultural purpose. There is, however, a written form of cultural inscription which also reveals and 'measures' the relationship between culture and the land which it occupies. This written expression of cultural purpose results from the act of governing a group of people in a defined spatial area of land, and is realized in the legal documents of government which enact cultural purpose under the powers and jurisdiction of law.

Land which has been modified to realize collectively agreed upon cultural purposes becomes a culturally-created *landscape*. This landscape serves two predominant cultural purposes: to create an identifiable and ordered 'place', and to provide for the



Fig. 78 *Portage Avenue looking west, Winnipeg (author)*

desired degree of longevity of this 'place'¹. The order sought after and created within this landscape provides for the health and safety of living entities, while the longevity can be a reflection of the cultural practices active within the landscape or the degree of systemic balance achieved between the cultural and natural systems active within the landscape. Order and longevity are achieved through perpetuating established cultural customs and values, while also considering contemporary morality and opinion. This process of translating and adapting cultural purpose and values is applied upon land through the concepts and documents of law.

The largest land mass of interconnected public space in downtown Winnipeg is the network of streets, which includes the sidewalk landscape. While the initial creation of this landscape began as a private sector initiative, the creation, control and maintenance of this public landscape as a network began with the incorporation of the City of Winnipeg, and remains under the jurisdiction and powers of the City government.

The landscape of downtown sidewalks in Winnipeg is defined by its adjacent development: the roadway curb which forms one edge of this landscape, and the building facade which creates the other edge. Within this landscape are surfaces for walking upon, boulevards, trees, soil volumes, air rights, and various amenities and service elements. This is a landscape created and maintained to serve both cultural and government purposes. Because the government is expected to protect the health,

¹ Urban landscapes can be created anticipating permanence, as in the creation of a public park, or anticipating transition as in the creation of a parking lot on land awaiting future development.

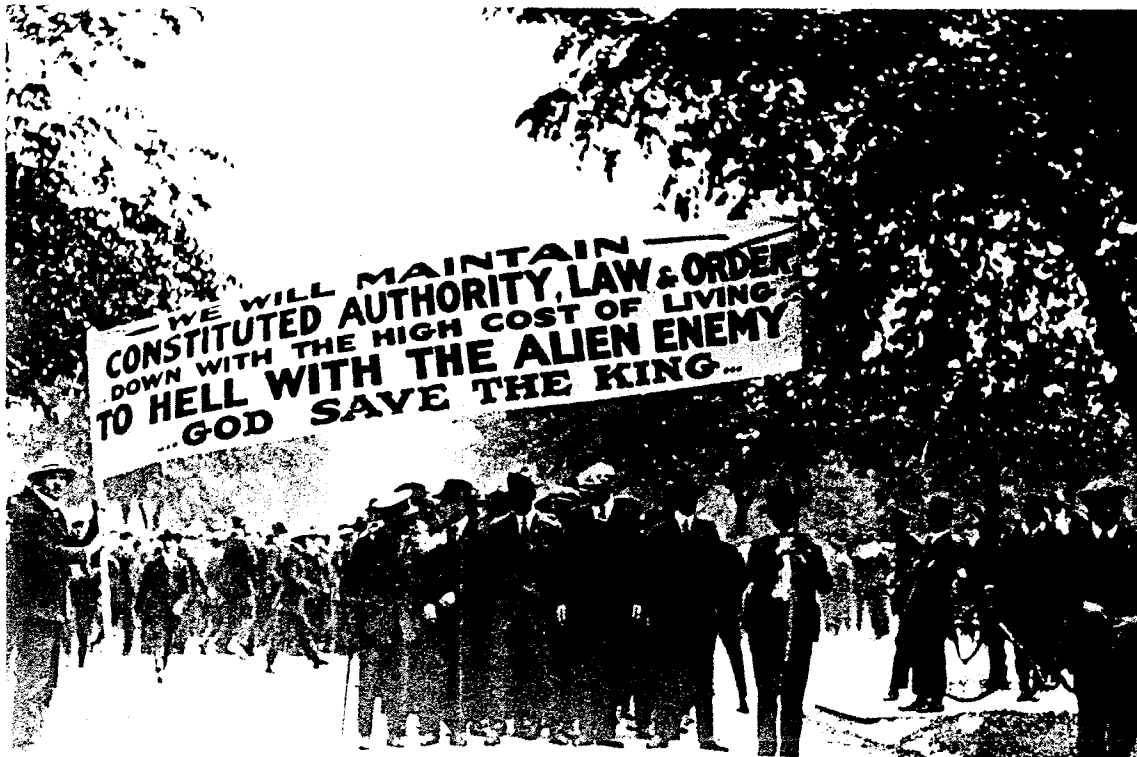


Fig. 79 *Returning veterans demonstrate* (PAM Winnipeg Strike Collection N12295)

safety and welfare of citizens, and maintain the convenience, prosperity and morality of the city, the sidewalk landscape is regulated to be a *safe* circulation network, a *convenient* destination for amenities, and a *healthy* space for public use. These purposes of government and the regulatory processes which support them must be declared and are evaluated through legal documents and courts of law. Within the sidewalk landscape the division of powers and responsibilities are divided among the federal, provincial and municipal governments.

Canada is organized as a federation with a central government. The powers and jurisdiction of governing within Canada are declared in the *Constitution Act* (1982) which is contained within the *Canada Act* (1982). The Greek philosopher Aristotle whose political theory forms part of the foundation of the Canadian legal system referred to a constitution as “a certain ordering of ...inhabitants” creating a “way of life” (www.plato). The *Constitution Act* defines the powers and jurisdiction of governing which are granted to the federal government, and to the provincial governments. The federal government has jurisdiction over the regulations pertaining to moral issues concerning the behaviour of all Canadian citizens (Hoehn,2). The moral behaviour of citizens is based upon civil rights and common law freedoms which are declared and regulated through two federal acts: *The Canadian Charter of Rights and Freedoms* (1982) within the *Constitution of Canada*, and the *Criminal Code of Canada*².

Within the sidewalk landscape the *Canadian Charter of Rights and Freedoms* protects

² While not discussed in detail in this work, the foundation of the Criminal Code is the prevention of harm by one individual unto the person or property of another.

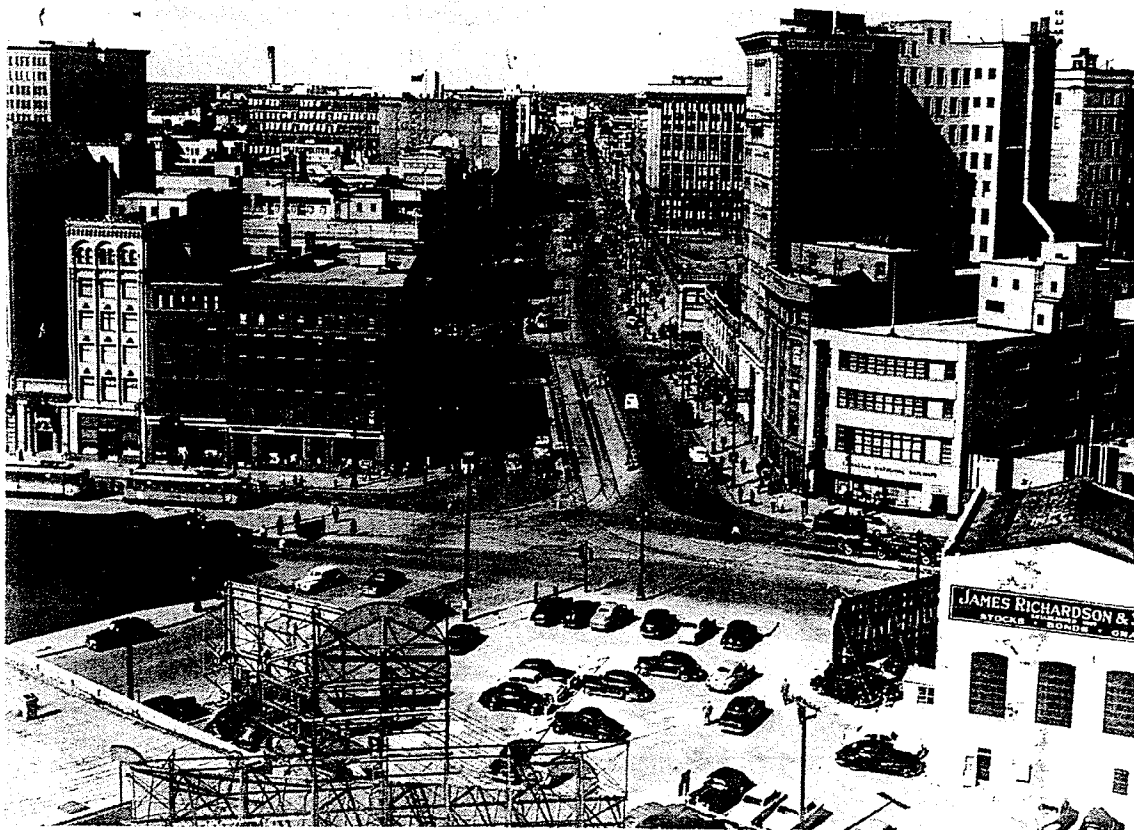


Fig. 80 *Portage and Main 1952 (PAM Winnipeg - Streets - Portage 2)*

a citizen's mobility rights, equality rights, and fundamental freedoms including the freedom of speech, and freedom of assembly and association. Mobility rights and equality rights guarantee all persons the right to move from place to place³. Due in part to this legislation the sidewalk landscape is designed to provide unhindered movement for all persons inclusive of those with varying degrees of motor skills such as people using wheelchairs and walking aids. The sidewalk landscape as a public space within a city is often the location for expressions of freedom of speech and freedom of assembly and association during awareness marches, protests, and through posted written material. These rights and freedoms, however, are not absolute and have restrictions upon them which are defined in the *Criminal Code of Canada*, provincial legislation, and municipal by-laws.

As declared within the Constitution the Province of Manitoba has jurisdiction over land and land use within its boundaries including protection of natural resources and ecosystems, and has jurisdiction over matters relating to conducting business within the province, and the health and safety of its citizens. The Province can confer jurisdiction over development and land use, business and health matters occurring within a city to a city (municipal) government, once a city has been incorporated. The powers and jurisdiction conferred upon the municipal government (city council) is declared in provincial legislation including municipal acts, and in the case of the City of Winnipeg, a city charter.

³ Within the Manitoba Building Code, barrier free access shall be provided to all spaces normally expected.

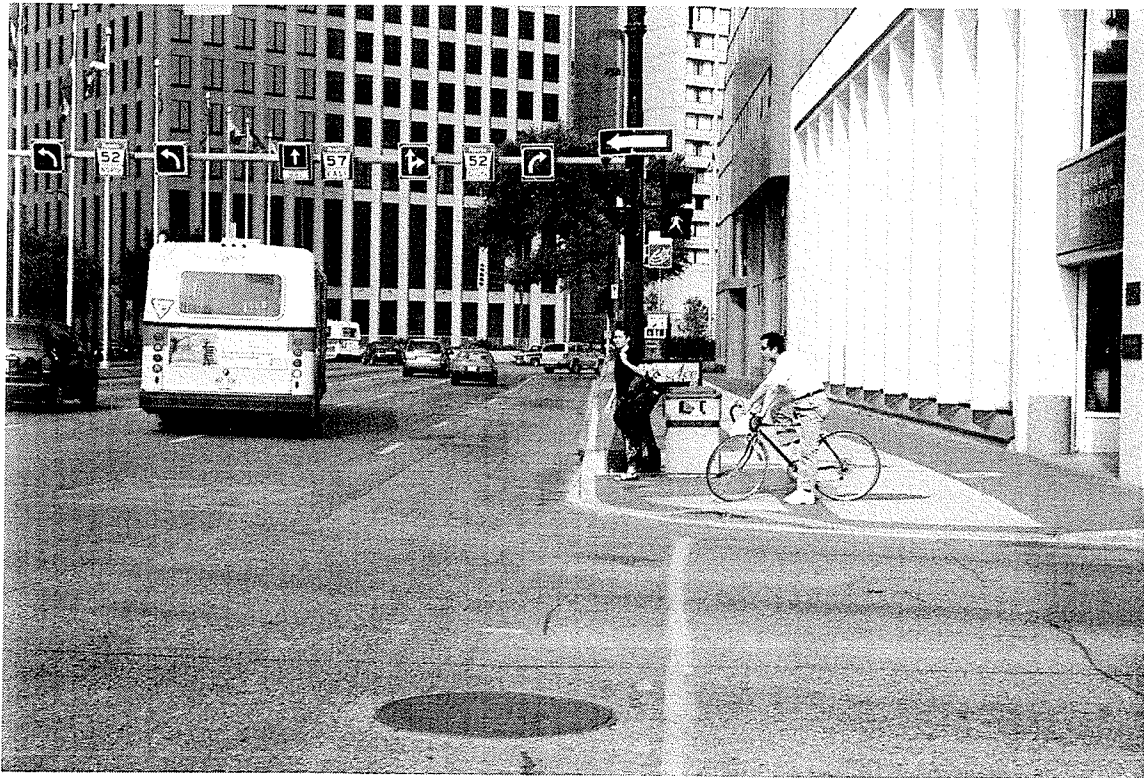


Fig. 81 *Corner of Portage Avenue and Fort Street* (author).

...the purposes of the City are...to provide good government for the city; to provide services, facilities or other things that council considers to be necessary or desirable for all or part of the city; to develop and maintain safe, orderly, viable and sustainable communities; and to promote and maintain the health, safety, and welfare of the inhabitants."

- City of Winnipeg Charter Act

As declared within the *City of Winnipeg Charter Act*, the City of Winnipeg is a corporation granted sovereign and natural person powers to govern within the geographical jurisdiction of the city's boundaries. The 'broad spheres of jurisdiction' conferred to the City Council include: public convenience, health, safety, well-being, activities in public places, streets, activities of businesses, buildings, equipment and materials, floodway and floodway fringe areas, waterways, water, waste, public transportation, ambulance services, fire protection, and police service. The powers which the City can use to exercise its authority are: ancillary powers, the power to regulate or prohibit, the power to adopt codes or standards, and the power to "deal with types of activity or things" using discretionary powers, classification, or a system of procedures (item 174). This act also contains the legal definitions of objects and activities within the city which apply to all by-laws of the City, unless noted otherwise within a by-law.

The sidewalk landscape is referred to in different sections of this document under different identifiers. The sidewalk landscape is within a part of the city's property defined as 'a street' and is one type of 'public place'. In this act, the definition of 'a sidewalk', however, is deferred to the definition within the *Manitoba Highway Traffic Act*. As an expenditure of the City, items within the sidewalk landscape are identified as 'local improvements.' If there is cause to regulate objects or persons within the sidewalk landscape, the power to do so falls within the City's jurisdiction over 'public



Fig. 82 Sidewalk construction signage Graham Avenue, Winnipeg (author).

convenience.'

While the City can proceed with some administrative activities without declaring these matters in a legal document, in most cases it must enact its powers and spheres of jurisdiction through regulating by-laws (MacLean). The requirement to declare terms and procedures pertaining to a regulation is one of the fundamental principles of law (MacLean). The City's by-laws can be prepared for issues unique to the city, but they must match the intentions of their enabling provincial or federal legislation (Hoehn,4). All federal and provincial legislation, however, remain in force within the city, and no by-law can be inconsistent with these forms of higher legislation (MacLean). If a by-law conflicts with the nature or intent of federal or provincial legislation, the by-law or portions therein will be deemed *ultra vires* (without authority) and will be quashed (declared not in force). The validity of by-laws is determined in courts of law (Hoehn).

Courts of law recognize the sidewalk landscape in two ways: as a portion of the 'street', and as land owned by the City which is set aside for public use for *the communication of persons and goods*. 'Communication' refers to people or objects moving over this land, and the commercial trade of goods and services. As the City holds legal title to all land set aside for streets (including air and soil rights), the City can permit use of the sidewalk landscape by a pedestrian (a person moving on foot or in a wheelchair) or an abutter (an adjacent property owner). The sidewalk landscape, however, is deemed to be 'inalienable' which means that the City can collect a fee for a use of this land (including the placement of a sign or an outdoor café) by an abutter, but the use is revocable at any time. Due to the broad scope of activity within the sidewalk



Fig. 83 (above) *Alexanderplatz 1921* by Karl Holtz. Munich Galerie Hasenclever (Clair, 237)
Fig. 84 (below) *Street Life in Copenhagen, Denmark* (Brambilla, 31)

landscape, the City negotiates use and users of this landscape through two types of powers: police powers and the power of eminent domain.

Police powers are the means by which the government regulates use of the city lands and the behaviour of citizens within this land. Regulation is achieved through restraint (the prevention of an action) and/or compulsion (the requirement of an action) which are declared in the government's legislation and by-laws. Through the powers and jurisdiction of sovereign authority, federal legislation regulates all lands and people within Canada. Provincial legislation regulates within its geographical jurisdiction using sovereign powers that apply the intentions of federal legislation. Likewise municipal by-laws can only be prepared to apply the intentions of provincial legislation within the jurisdiction of the municipality. The relationship between provincial and municipal government documents is referred to as 'enabling legislation' whereby a provincial act can 'enable' the legal powers and authority of a by-law.

As mentioned previously, the moral and ethical behaviour of people using the sidewalk landscape is regulated under two pieces of federal legislation: the *Criminal Code of Canada*, and the *Charter of Rights and Freedoms* within the *Constitution of Canada*. While the City cannot assume federal jurisdiction over an individual's rights and freedoms which is legally referred to as "behaviour", nor can it "establish or enforce public morality," under specific circumstances, it can regulate some aspects of how this expression occurs within the city landscape (Hoehn, 12). Using the intentions of provincial jurisdiction over health and safety issues and the conferred powers declared within the Charter, the City of Winnipeg can regulate activity within and use of the



Doorways of Winnipeg

Fig. 85 *Doorways of Winnipeg* (author).

sidewalk landscape that may cause nuisance or a risk to public safety.

Nuisance is legally defined as a site specific inconvenience or offence (Bouvier).

Nuisances can range from anything that interferes with the comfortable enjoyment of property, to an action or circumstance which endangers the health, safety or welfare of citizens. As the sidewalk landscape is set aside for public use, many forms of nuisance occurring here are deemed 'public nuisance'. A public nuisance refers to a nuisance that affects the community in general. In the sidewalk landscape, soliciting, litter, and tree branches which interfere with traffic or visibility of the street are a few of the public nuisances that are dealt with in various city by-laws. Because nuisance is site specific, the suppression of nuisance is a municipal government purpose regulated through police powers declared in by-laws.

The *Streets By-law 1481/77* is a land use by-law to regulate activity within the public domain of the street including the sidewalk landscape. Regulated uses of this landscape are identified as "activities" which are either allowed after obtaining a permit from the City, or are prohibited. Activity deemed to be unsafe and/or to cause nuisance is declared in this By-law as "Prohibited Activity." One activity which is common within Winnipeg's downtown sidewalk landscape, and is regulated as a prohibited activity, is panhandling.

Panhandling is a form of solicitation whereby a person asks for money, food or goods from another person while offering nothing in return. Because the transaction is not considered engaging in commerce and because of the freedoms identified in the



Fig. 86 Cover Design for the magazine "Das Plakat" 1921 by Wilhelm Schnarrenberger private collection (Clair,227).

Constitution, the City can only regulate aspects of panhandling which may become a concern for public safety. Panhandling as an activity can become unsafe when the person soliciting is threatening toward another person, is obstructing the movement of another person, or is entrapping another person at high risk locations such as bus stops or banking machines. The regulations for solicitation within Winnipeg are also declared within the City's *Obstructive Solicitation By-law 7700/2000*.

Similarly, the City of Winnipeg cannot prevent the posting and distribution of printed material within the sidewalk landscape (which is considered a freedom of expression), but it can regulate the terms and locations of posting and distributing material within the downtown sidewalk landscape through its *Handbill and Poster By-Law 1076/75* which addresses "concerns related to aesthetics and safety" by regulating against the occurrence of visual nuisance or litter (MacLean,78).

Traffic congestion is another form of nuisance affecting the sidewalk landscape. Traffic issues are a safety concern under the jurisdiction of the province; however, the police powers regulating traffic within the street and sidewalk landscape are declared in both a provincial act and a city by-law. The *Manitoba Highway Traffic Act H60* is the enabling legislation for the City of Winnipeg's *Traffic By-Law 1573/77*. Together they regulate the movement of people and vehicles as two forms of 'traffic'. The regulations within these documents provide for the *safety* of all forms of traffic, and aim to reduce *congestion* (a slowing or interruption of movement due to a high density of objects in motion) within the streets of the city.



Fig. 87 Traffic signage at Main and Bannatyne (author) - note sign to prevent skateboarding.

People using the sidewalk landscape for movement are identified as 'pedestrians'. The Province of Manitoba and The City of Winnipeg establish regulations for the use of the sidewalk landscape in order to protect pedestrians from harm and inconvenience. Within The *Manitoba Highway Traffic Act*, pedestrians are protected through regulations imposed upon their actions, and regulations imposed upon vehicles. For the safety of pedestrians, this Act declares that bicycles and vehicles are prohibited from travelling within the sidewalk landscape. The regulations within this document are enforced through objects and signage placed within the sidewalk landscape. Traffic signals, crosswalk indicators, and "no-right-turn-on-red" signs are a few of the items added to the sidewalk landscape to reinforce traffic regulations and protect the safety of pedestrians.

The City can also regulate how movement occurs within the sidewalk landscape in order to prevent injury or inconvenience to pedestrians from activity or objects specific to the city landscape. For this reason, the *Traffic By-law 1573/77* prohibits movement using skateboards on designated sidewalks within the city. Movement upon skateboards is typically prohibited within sidewalk landscapes which have a high volume of pedestrian activity, are susceptible to a pedestrian traffic congestion and pose a higher risk for pedestrian injury upon contact with a pedestrian moving at a greater speed. The power to discriminate by declaring certain regulations in certain areas is declared in the *City of Winnipeg Charter Act*.

Prevention of nuisance also forms the basis of many of the City of Winnipeg's by-laws pertaining to objects wanted and unwanted within the sidewalk landscape. In many of



Fig. 88 *Private sector sidewalk maintenance along McDermot Avenue, Winnipeg (author).*

these by-laws the City uses its police powers to compel adjacent property owners to share the responsibility for the condition and safety of the sidewalk landscape. To prevent the occurrence of nuisance from obstructive tree branches, the City has prepared a *Tree Trimming By-law* 8155/2002 which allows for the trimming or removal of any tree on private or public property if the tree in question is growing into the sidewalk landscape or interfering with any public services or utilities. This By-law is intended to inform property owners about their responsibility toward trees growing on their property, but also gives the City power to enter private property to trim any tree growing within or into the sidewalk landscape.

Likewise, the City regulates obstructions which interfere with movement upon the sidewalk landscape and create either a nuisance, or a safety concern. Prevention of nuisance from obstructions is addressed in three by-laws. The *Sidewalk Cleaning By-law* 3422/83 compels property owners or property occupants to keep the sidewalks in front of their property clear of debris and snow. The *Boulevard Maintenance By-law* 5895/92 compels property owners or occupants to keep the boulevards in front of their property free of litter, and, where plant material has been added to the boulevard, keep grass mowed and plant material healthy and tidy in appearance⁴. The *Anti-Litter By-law* 1075/75 prohibits the deposition of litter within the city by any person. Using police powers and penalties of a fine, these nuisance-related by-laws regulate to keep the sidewalk landscape clean, safe and convenient to use.

⁴ For consistency of maintenance, safety, and city image, the City retains responsibility for boulevards and traffic islands within the roadway of streets, and boulevards on regional streets.



Fig. 89 *Former Clifford's Store (now a Vacant Building) Portage Avenue at Kennedy (author).*

Public safety and the prevention of nuisance are also a concern in downtown Winnipeg when buildings adjacent to the sidewalk landscape cease to be used or occupied. In order to “regulate the condition and maintenance” of these buildings for the protection of pedestrians, the sidewalk, and the adjacent property values, the City has enacted the *Vacant and Derelict Buildings By-law 35/2004*. In this By-law vacant buildings must be secured from unwanted entry and damage by either locking all openings (when in good condition), or by boarding over openings with plywood. Walls, roofs, porches, stair, yards, and plants and vegetation are to be kept maintained in order to prevent hazardous conditions for adjacent properties, and pedestrians, and to prevent depreciation of property values adjacent to or within the neighbourhood of the vacant building.

This By-law recognizes the economic and social repercussions of vacant buildings by requiring that owners of these buildings obtain an annually-renewable permit, and agree to annual inspections to keep a building vacant. In an effort to prevent long-term vacancies of non-residential buildings, the permit fees escalate from two hundred dollars for the first one year permit to three thousand dollars for a fourth permit (when the building has remained vacant for three years). The City also requires payment for the mandatory inspections as another disincentive to vacancies. Of particular interest for downtown sidewalks is the duration of vacancy allowed for adjacent commercial buildings. While owners of residential buildings must appear before a committee of council to request an extension after five years of building vacancy, non-residential building owners can obtain “an unlimited number of permits,” and can renew their permits without review. According to a City official, this concession was made for non-

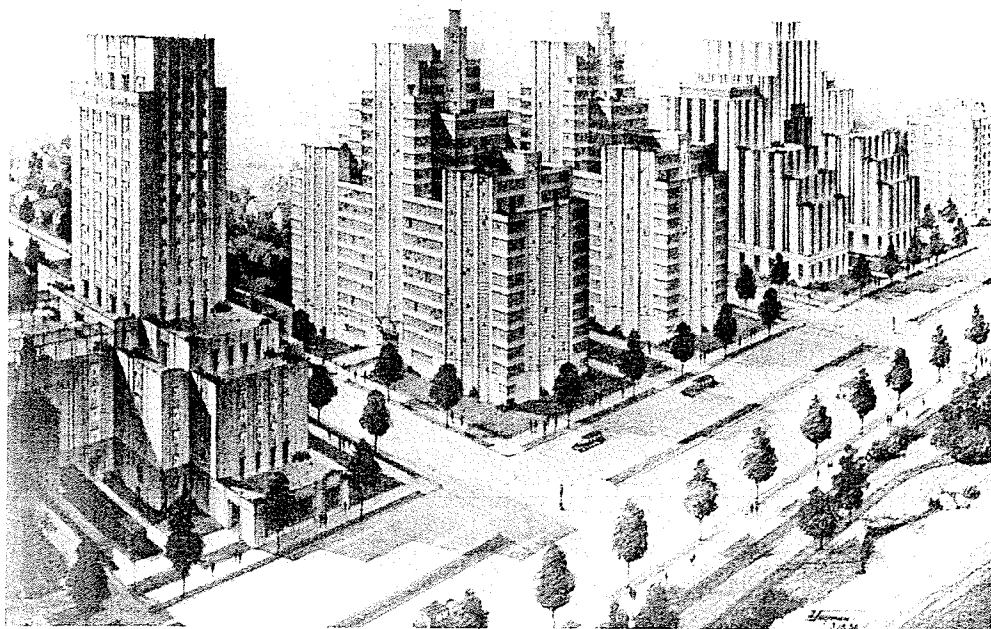


Fig. 90 *Suggestion for arrangement and setback of skyscrapers in New York City 1930 by George B. Ford, drawing by Arthur J. Frappier New York Regional Plan Association (Clair, 87).*

residential buildings because their design, and potential uses may limit their marketability thus requiring more time to find a tenant or use for these buildings (Bergen). The effects of continued vacancy are currently seen on Portage Avenue. While these buildings are regulated to prevent unsafe conditions, nuisance, and property de-valuation, their lack of engagement with pedestrians at the ground level is contributing toward the perception of poor social and economic 'health' in the downtown.

*"And the law, that is the perfection of reason
cannot suffer anything that is inconvenient."*

- Sir Edward Coke from 'The First Part of the Institutes of the Laws of England Section 97b.

The opposite of nuisance is the legal concept 'convenience.' Convenience refers to those actions or things which provide ease and comfort for the efficient and safe use of the city. Within that portion of the city set aside for streets are two surfaces provided for convenience of traffic: the roadway and the footpath. The roadway is the travelled portion of the street for the use of vehicles and is typically paved. The footpath is the portion of the sidewalk landscape surfaced with concrete or pavers, and designed to provide comfortable and safe (convenient) movement of pedestrians. Also added to the sidewalk landscape for the comfort of pedestrian traffic are awnings, benches, planters and trees. In legal terms conveniences found within the sidewalk landscape are referred to as 'encroachments' and/or 'local improvements'.

Encroachments are stationary items placed within the sidewalk landscape which intrude upon the three-dimensional space of this landscape. There are two types of encroachment which impact upon the sidewalk landscape: those which are initiated by



Fig. 91 *Private sector pedestrian amenities, McDermot Avenue, Winnipeg (Kalen, 9).*

the private sector and remain the legal responsibility of the private sector, and those which are initiated by the government and/or private sector, but remain the legal responsibility of the government.

Private sector encroachments include building and business signage, awnings, and outdoor seating areas belonging to a business which abuts the sidewalk landscape. As the sidewalk landscape is provided in part for the commercial activity within a city, encroachments relating to conducting or attracting business can be permitted. These encroachments may be affixed to the ground or a building or they may be seasonal. Permits to install an encroachment within the sidewalk landscape are reviewed to determine the potential for harm and/or nuisance to users of the sidewalk landscape.

According to the *Encroachment By-law 692/74*, "encroachment means all structures of any form on, above, or below ground level which extend into or are constructed or located in a street." As mentioned previously, the government has the right to grant use of any portion of the three-dimensional space of the street, including that space set aside for the sidewalk, if the use provides a convenience for pedestrians, or adjacent buildings, and does not conflict with vehicular traffic, utilities, or public safety.

Encroachments are regulated to ensure that they are structurally sound, fire resistant, and do not pose a direct or indirect threat to public safety due to unsafe construction or surfaces, poor visibility, or risk from water, snow or ice. This By-law regulates encroachments occurring above ground, at grade level or below ground. Above ground encroachments include marquees, canopies, awnings, sun visors, fire apparatus, fire



Fig. 92 *Canopy encroachment Via Rail Station, Main Street, Winnipeg (author).*

escapes, and signs. Encroachments at grade level are identified as 'boulevard protection', and below ground encroachments are called 'areaways.'

Above ground encroachments must "have a minimum vertical clearance" of 3.81 metres (12 feet 6 inches) above the sidewalk level, except those encroachments designed for pedestrian information or protection including awnings, canopies, sun visors, marquees, and signs which are permitted no less than 2.59 metres (8 feet 6 inches) above the sidewalk. A fabric fringe on awnings or canopies can extend an additional one foot lower into the sidewalk space. These encroachments can extend from the wall of an adjacent structure to a maximum of twelve feet, but must not interfere with vehicular traffic; therefore, they cannot come closer than 24 inches to the edge of the roadway.

Boulevard protection refers to landscape designs created as an improvement to the boulevard portion of the street. Whether planted vegetation, or 'rockscaping' these encroachments must not "exceed 0.6 metres (23.6 inches) in height", be "placed closer than 3 metres (9 feet 10 inches) from the edge of the roadway, or "obscure visibility at an intersection." Even though street trees are often planted within the boulevard, they are not mentioned in this By-law⁵.

Under the sidewalks of downtown Winnipeg are 'areaway' encroachments permitted as a convenience to the adjacent buildings. By definition, an areaway includes light

⁵ While not regulated in the By-law, the City has departmental guidelines for street tree placement within the sidewalk landscape. Trees should be planted no less than one metre from a driveway, six metres from an intersection, and three metres from a light standard or fire hydrant. The City directs the placement and protection of street trees through developer agreements and construction standards.



Fig. 93 *Local improvement pedestrian amenities, King Street, Winnipeg (author).*

openings, light wells, vaults, storage spaces, conduits, tunnels, pipelines, coal chutes, service chutes, and other underground conveying devices which are either in use as storage space occupied by an adjacent business, or are abandoned. They can be either entirely underground, or have a portion of their structure exposed at ground level, often as grates, stairs, or access doors. For the safety of pedestrians, the grade level surface of an areaway must have a non-slip surface, and not extend above the surface of the sidewalk.

While areaway encroachments are located under many downtown sidewalks, most of these are relatively small horizontal extensions into the sidewalk space from the property line of the adjacent business (from 1.5 feet to 3 feet). There are also larger areaways typically extending 10 feet from the property line into the space under the sidewalk, and often extending from one third to the full length of a city block, on one side or both sides of the street. These larger underground encroachments are of greater concern to the sidewalk landscape as they will impact upon soil volumes available for plant material, and where these encroachments were created under legal agreements, they may transfer legal responsibility for the maintenance (including cleaning and structural integrity) from the City to the private sector.

Encroachments and modifications to the sidewalk landscape which are maintained by the government are also called 'local improvements'. Local improvements are items or materials added to the sidewalk landscape which are deemed to benefit the public in general, and are undertaken using public money or a combination of private and public sector funding. These improvements include the material which surfaces the footpath

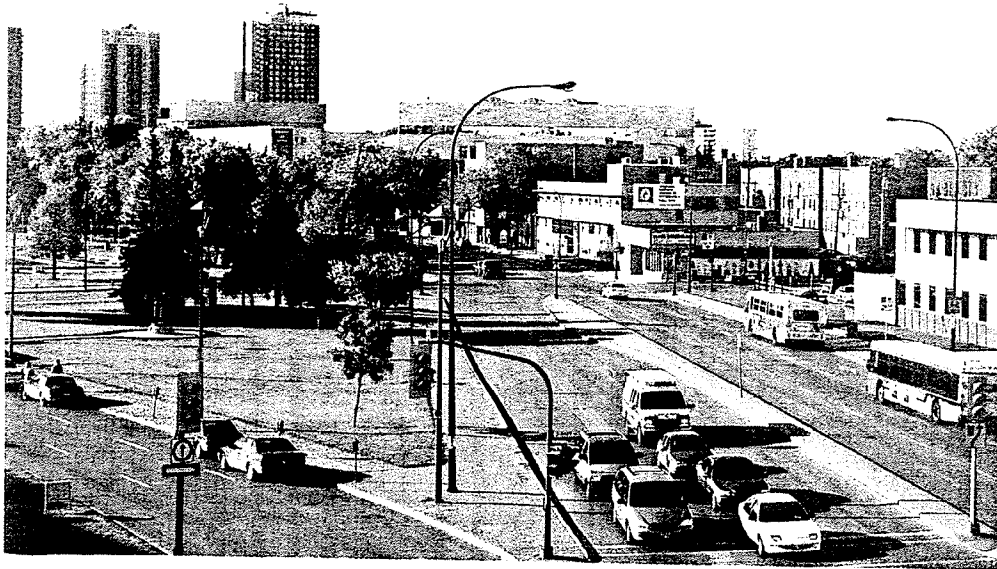


Fig. 94 *Downtown on a Christmas night Portage Avenue, Winnipeg (Kalen, 45).*

portion of the sidewalk, lamp posts, street trees, benches, planters, and any other material or object which has been installed by and remains the property and responsibility of the City. The City will provide these amenities to increase the safety of the sidewalk landscape, or the enjoyment and comfort of pedestrians. Local improvements are initiated through the City's long-range zoning by-law *Plan Winnipeg 7630/2000*, and are regulated through the *Downtown Winnipeg Zoning By-law 100/2004* and the *Local Improvements Regulation By-law 98/72*. The authority to provide these improvements using public funds is due to the City's power of eminent domain.

Beyond providing for the comfortable and safe movement of traffic, the City must also make decisions and engage in activity which provide for its own longevity. The longevity of the City is dependent in part upon the economy and morality of the city. The economy of the city is related to the city's ability to attract and retain business and workers. According to Williams, a "city's outward aspect should interest and stimulate the worker to and from work and soothe and delight the worker in leisure hours" (381). The city develops its outward appearance through the power of eminent domain.

Eminent domain is a city's power to take land for public benefit (Williams). This power is used to purchase or expropriate land for parks, streets, or sidewalks. A city can also take land for provision of sunlight, or air (for health) for beautifying its property (public welfare), or to promote prosperity (Williams). The width of streets and the setbacks of buildings upon property are both due in part to the powers of eminent domain. Eminent domain also gives a city the power to condemn buildings deemed unsafe or unsanitary,



3C-02 Commit to Transit Improvements

The City shall commit to transit improvements to increase ridership by:

- i) making ongoing improvements to service;
- ii) making transit service easier to use;
- iii) making transit service more affordable;
- iv) making transit service more productive; and
- v) making a commitment to high speed transit.



Fig. 95 (above) Corner of Memorial Boulevard and Osborne Street, Winnipeg (Plan Winnipeg, 59).
 Fig. 96 (below) Transit hub Graham Avenue, Winnipeg (Plan Winnipeg, 35).

and to expend public money for the planting and maintenance of trees, and to protect investments made within its streets and sidewalks. Eminent domain thus provides the legal authority for directing land use within a city, and funding local improvements using public funds.

In order to finance local improvements, the City can expend tax revenues or collect frontage levies from property owners whose land abuts the improved portion of the sidewalk landscape. A frontage levy is a cost per lineal foot of land bordering a city street paid by the abutter to the City to reimburse construction and/or maintenance costs of local improvements. Local improvements include any item or work undertaken by the City that is paid for by the City in order to 'improve' the safety, convenience, or appearance of the public sidewalk landscape. While maintenance of local improvements is carried out through the City of Winnipeg's Department of Public Works, the planning and construction of local improvements are considered within the definition of 'development' within the city.

The by-law which outlines the contemporary and long-range development policies for the city including exercising the power of eminent domain is *Plan Winnipeg 2020 Vision* (By-law 7630/2000). While the City Charter states that the City must adopt this type of by-law as its primary development plan (item 224), "council is not required to undertake any proposal" contained therein (item 235). This By-law is also unique because it functions as the main directive for the overall operation of the municipal government, unlike the other by-laws regulating the sidewalk landscape which are written by and regulated through individual civic departments. The intention of *Plan Winnipeg 2020*



Fig. 97 *Sidewalk Conversation* Kennedy Street at Portage Avenue, Winnipeg (author).

Vision is to identify contemporary issues facing the city and long-range goals which will contribute to the longevity of the city. Underpinning this document are six principles derived from social values and government purpose: sustainability, social consciousness, thoughtful development, partnership/collaboration, healthy living, and local empowerment (4).

"To be a vibrant and healthy city which places its highest priority on quality of life for all its citizens."
- vision statement from Plan Winnipeg 2020 Vision (4)

The City invests money in, and prepares planning policy for the sidewalk landscape because, whether the sidewalk landscape is downtown or within a residential neighbourhood, this public space can contribute to the quality of life within the city. A high quality of life is associated with a city which is safe, healthy, vibrant, prosperous, and well-maintained (Plan Winnipeg). Within Plan Winnipeg the sidewalk landscape is discussed within four of the five chapters. The sidewalk landscape is referred to as the pedestrian environment (12), part of neighbourhood streets (33), public rights-of-way (35), sidewalks (36), part of the city's 'infrastructure' (37), pedestrian-oriented streetscapes (44) and public spaces (55). These different terms reflect the different departments of the City and different professions which contribute to the design and maintenance of the sidewalk landscape. This By-law directs all departments of the City to ensure that the sidewalk landscape is safe, accessible, and contributes toward the health of citizens and a positive city image.

The policies of Plan Winnipeg are applied upon the landscape of Winnipeg's downtown sidewalks through all civic departments including planning, finance, police services, and

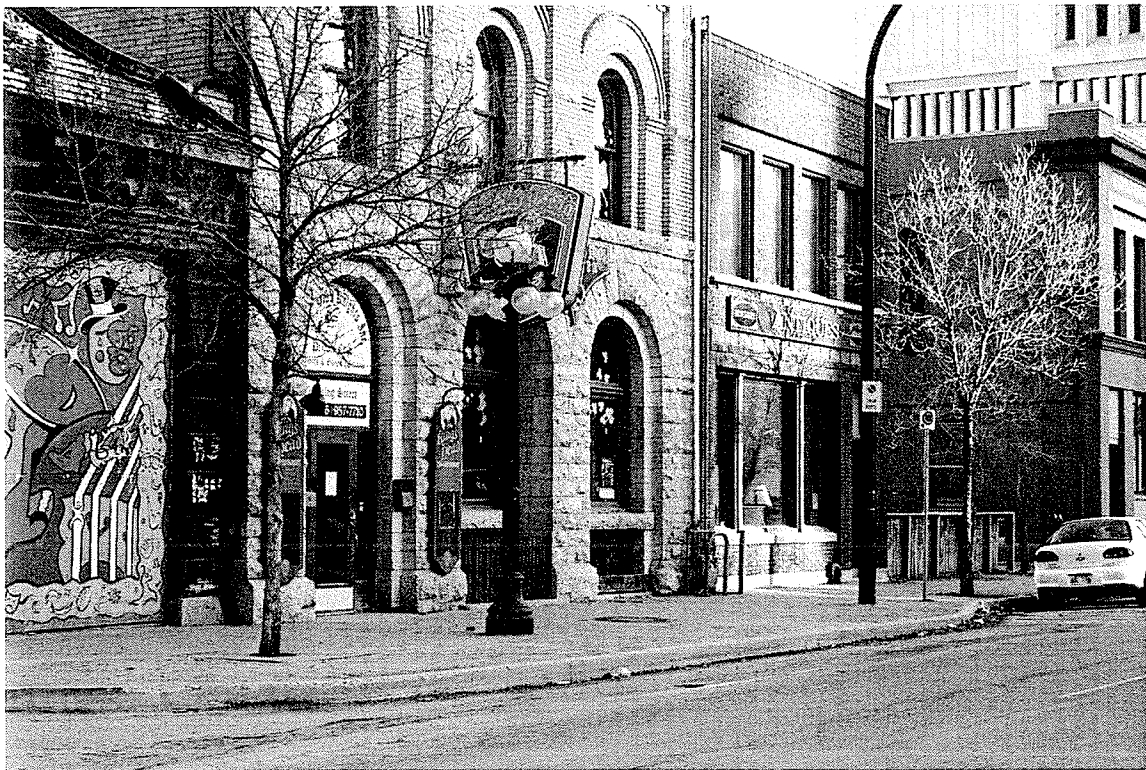


Fig. 98 *Character and interest along the sidewalk of King Street, Winnipeg (author).*

maintenance. This non-regulatory, goal-based document also provides direction to private sector development occurring within the city. The regulatory by-law which applies the principles of Plan Winnipeg to direct development in and adjacent to Winnipeg's downtown sidewalk landscape is the *Downtown Winnipeg Zoning By-law* 100/2004. The enabling legislation for both of these by-laws is the *Manitoba Planning Act* P80.

The intent of the *Downtown Winnipeg Zoning By-law* is to "advance Plan Winnipeg downtown policies, [and] to support and enhance the unique and distinctive neighbourhoods, functional districts, character areas, and focal points that combine to form a diverse, vibrant downtown" by "controlling and regulating use of real property and development in the downtown". This By-law begins by identifying the boundaries that define the downtown of the city as a uniquely regulated land use area. Within the downtown, this By-law further identifies the boundaries of district neighbourhoods containing properties which share a similar or compatible land use, or are of similar or compatible character. Each neighbourhood is identified as a 'sector' which is regulated for meeting the intent of the sector, land use, bulk (area and height) of the built form, signage, parking, loading, and urban design.

By-laws impact upon the pedestrian experience within the sidewalk landscape in different ways either through regulating the behaviour of pedestrians themselves, regulating the objects within this landscape or regulating buildings and property (development) adjacent to this landscape. This By-law regulates adjacent development in anticipation of its impact upon the sidewalk landscape. In consideration of *safety*



Fig. 99 Sidewalk node and through path on Arthur Street, Winnipeg (author).

within the sidewalk landscape, development permits are reviewed for vehicular and pedestrian entry and exit from the development or its site, including lighting levels and potential entrapment sites. Also for pedestrian safety, loading and parking areas must have a 'separation' fence or hedge which is 2.5 feet high (items 230(3), and 240(4)). The fence or hedge height is tall enough to provide an edge for vehicular areas, yet still short enough for a pedestrians or motorist to see into and out of vehicular areas. Also for safety of pedestrians, the "maximum height of landscaping feature obstructions into yards is 4 feet" (item 210(11)). Recalling the *Lot Grading By-law 7294/98*, and in consideration of pedestrian safety, development construction and final site grading shall "prevent drainage water from flowing onto public sidewalks" (items 230 (3c) and 240 (4c)).

Pedestrian comfort and experience within the sidewalk landscape are also a consideration for permit review. Building facade treatment is expected to provide grade-level interest, and "encourage street level pedestrian/business interactions" (item 250 (10)). Building placement upon a site is encouraged to consider the potential for providing pedestrian amenities, and building height is reviewed for its impact upon wind at the pedestrian level (items 210 (3) and 250 (7)). Signage is reviewed for its potential for creating nuisance and/or safety concerns for pedestrians and its benefit to pedestrians through an appropriate scale and placement (items 220(1) and 250(10)). This By-law regulates through statements identifying both intentions and expected results.

The third type of by-law which enacts the power of eminent domain are the by-laws

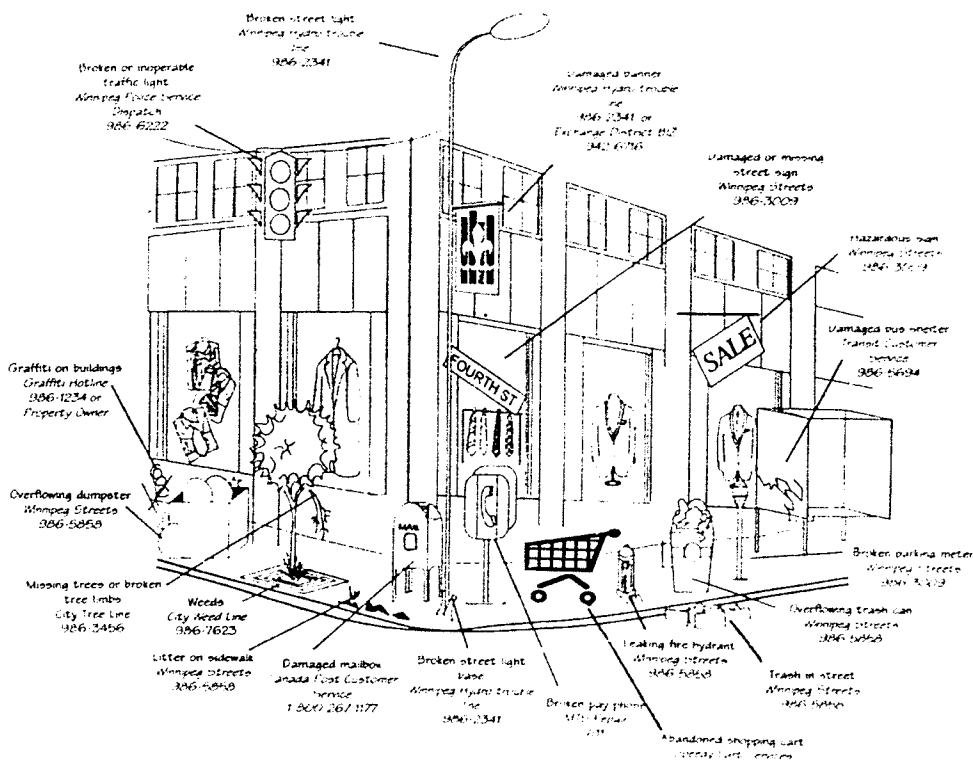


Fig. 100 "Whose Job Is It?" sorting through bylaws and jurisdiction in the sidewalk landscape (Winnipeg Exchange District BIZ, June 1999)

which declare the creation of Business Improvement Zones (BIZ's). Under Division 7 within the City Charter, the purposes of a business improvement zone are to "beautify, improve, and maintain real property of the city within the zone; and to promote improvements and economic development in the zone." The downtown of Winnipeg has two Business Improvement Zones: the Downtown BIZ (By-Law 8114/2002), and the Exchange District BIZ (By-Law 5081/89). Acting as a liaison and creating a partnership between the business community and the City government, the BIZ helps prepare the planning principles and goals identified within Plan Winnipeg, then identifies issues positively or negatively affecting the quality of life in the city. These organizations will also participate in the realization of sidewalk landscape local improvement projects.

Beyond using by-laws to direct development within or adjacent to the sidewalk landscape, the City can also reference research or guidelines to provide direction for both the design and regulation of the sidewalk landscape and its adjacent development. While guidelines by themselves do not have the legal status of a by-law, they can influence the intent of by-laws or be embedded within by-laws. Guidelines affecting the sidewalk landscape appear under many different names and can include tree selection and planting guidelines, pedestrian design guidelines, crime prevention through environmental design guidelines, and urban design guidelines. Some of the best guidelines result from a pro-active partnership between the disciplines of engineering, architecture, city planning, social sciences and landscape architecture.

Practitioners and academics from these disciplines can contribute both theory and

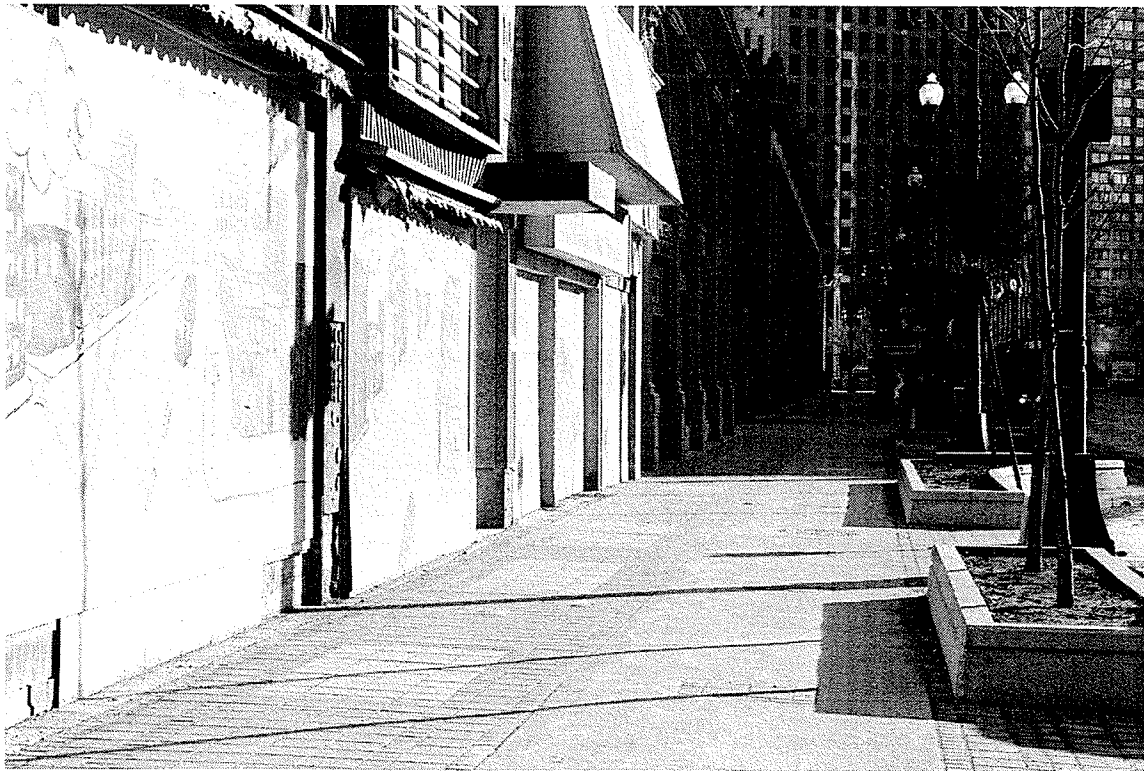


Fig. 101 *A study in contrasts - street improvements and boarded-up storefronts on Portage Avenue* (author).

practical knowledge toward the creation of guidelines. Applied theory allows the government to define its jurisdiction or enact its powers confident that its course of action and authority have been corroborated by professional research and practice. When professional theory or practical knowledge are also deemed to be within the jurisdiction, powers, and purpose of government, they can become a component of a by-law or legislation.

Conclusion

The sidewalk landscape is a culturally-created land use designed and protected to support the public activities of social interaction and commerce. Legislation and by-laws shape and protect the sidewalk landscape through declared regulations, goals and intentions which apply to both people using this landscape and objects within and adjacent to it. The resulting inscription of law upon this landscape creates a negotiated social order and provides for the longevity of this socially and economically important public space.

The first priority for all documents governing this landscape is public safety. Legislation and by-laws address public safety by using police powers to permit or restrict behaviour, activity and land use, and to define nuisance. The City of Winnipeg polices the activity of citizens within and adjacent to the sidewalk landscape to protect against nuisance and fulfil its second priority which is providing convenience. The provision of convenience becomes an approach toward development and land use which demonstrates cultural advancement and civic prosperity. Providing a safe and convenient public landscape can help the municipal government attract and retain



Fig. 102 *Safety and convenience designed into the sidewalk of Portage Avenue, Winnipeg (author).*

businesses, workers, and families which sustain the city's economy and community. While law sets out the regulations and guidelines to achieve safety, and convenience, and demonstrate civic pride within the sidewalk landscape, the success of these goals can be measured by how laws are applied by various departments of the City, and dedicated funding to develop and maintain this landscape.

Apart from being a public space which is designed to be safe and convenient, the sidewalk is also an *outdoor landscape* which is part of an ecological network within the city. The City's power of eminent domain acknowledges the health benefits of this outdoor landscape by regulating development in order to provide sunlight and air movement between buildings, but seems to lose its influence when concerns for maintenance and convenience arise.

...the city-state is neither a business association to maximize wealth...nor an agency to promote liberty and equality....[it] comes into being for the sake of life, but exists for the sake of good life"

-Aristotle from 'Politics'

Aristotle's political theory which still remains fundamental to civic government combines philosophy and ethics. Aristotle realized that the process of applying political theory toward the creation of a city is not a finite task, but an ongoing education in the longevity and adaptability of cultural values, behaviour, and activity. Striving to create the best possible place to live remains the basis of government law shaping today's cities. Aristotle's civic goal of 'good life' reflects today's municipal government goals of 'good government', 'quality of built environment', 'public convenience' and the many considerations for public comfort, well-being and safety evident in Winnipeg's current legislation and by-laws.



Fig. 103 *BIZ Patrol entertainers downtown, Winnipeg* (Passport Seasonal Events Guide, Summer 2003).

Because the jurisdiction, powers and purpose of law are both changing and remaining constant, the legislation and by-laws written for Winnipeg's downtown sidewalk landscape include *prescriptive* regulations and *performance-based* goals, intentions and guidelines. These two legal mechanisms provide a means of ethically evaluating established and emerging cultural activity. Regulations enforce established legal maxims, while goals, intentions and guidelines often introduce and test new practices to determine their cultural acceptance and ethical benefit to society and the landscape it occupies.

This chapter has reviewed law as it relates to the sidewalk landscape as part of a first step toward introducing ethically responsible solutions for the sidewalk landscape while respecting current legal responsibilities and goals. Already within the legal documents written for this public outdoor space within the city are many goals which contribute to the health of the sidewalk landscape including safety, freedom from nuisance, convenience, and accessibility. Using the power of eminent domain the City can introduce practices, policy and guidelines which introduce other concepts which contribute toward a healthy sidewalk landscape including sustainability, and an awareness and solutions for a healthy ecology and relationship with the city's climate. It will be the results of testing these concepts on paper and in practice that will determine their expression in legal documents.

Also revealed in this chapter and the history chapter is the relationship between law and citizens. Laws are written by people for the quality of life that people aim to achieve. When new cultural practices or values emerge such as demonstrating ethical

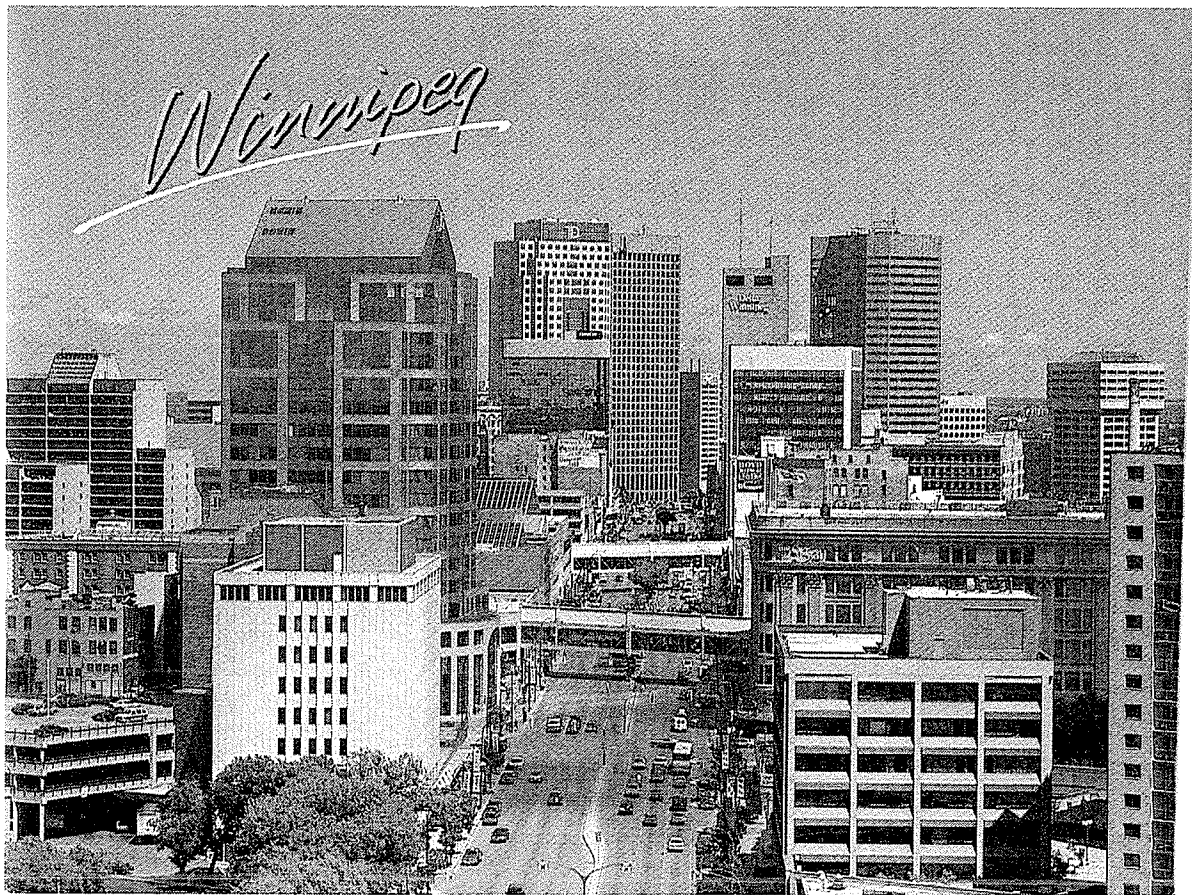


Fig. 104 *Postcard to the world - ecology, economy and sense of place in downtown Winnipeg*
(B. Sytnyk for The Postcard Factory).

responsibility toward the environment, law can introduce these changes to the public creating a potential for greater participation and awareness. Landscape architects as citizens and professionals can participate in initiating changes to law that are deemed to be in the public interest and contributing toward a higher and more sustainable quality of life. As Winnipeg's by-law history revealed, changes to by-laws and legislation for the sidewalk landscape are often initiated from the private sector by business owners, workers, and pedestrians. Landscape architects can contribute to this cultural dialogue through their designs, their written reports, and by educating their clients.

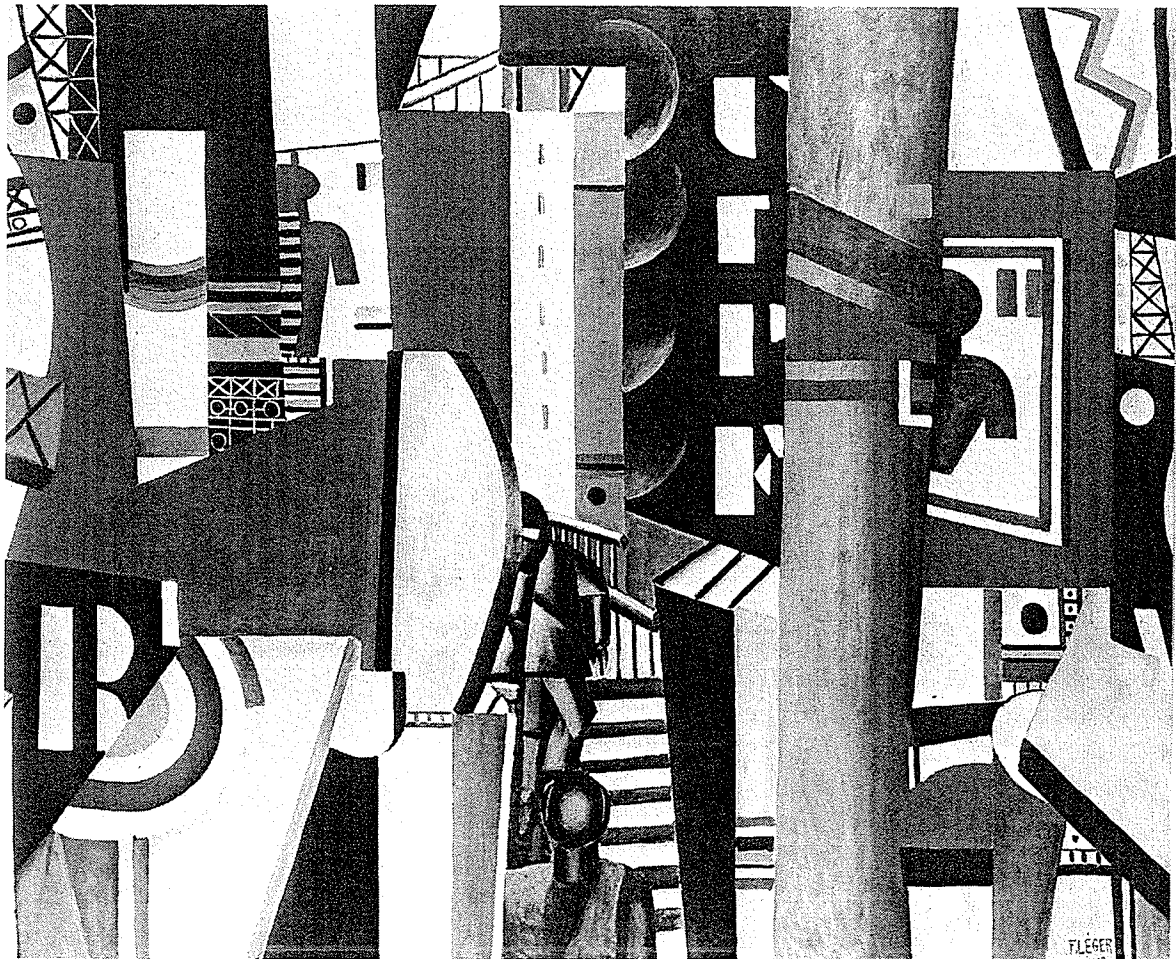


Fig. 105 *The City 1919* by Fernand Léger The Philadelphia Museum of Art (Janson, colorplate 115).

Cultural Perceptions of the Sidewalk Landscape

"Perception is the interface between cognition and reality. Various philosophers of science have argued that theory influences perception to such an extent that partisans of substantially different theories might literally see the world differently. Our perceptual experiences in a given situation are influenced by the concepts, beliefs, expectations and, perhaps, even the hopes and desires, which we bring to the situation."

- Chris Swoyer, "The Stanford Encyclopaedia of Philosophy."

As humans, we possess both instinctive and cognitive skills that allow us to move about places that we encounter seeking the familiar, the necessary, and that which draws our curiosity. The development of cities led to the creation of artificial nature or *landscapes* which accommodate our needs, can be controlled, and help us to control ourselves as a means toward a civil society. The city is an example of a landscape created to accommodate and control our needs within the places in which we live, work, and display our cultural achievements. D.W. Meinig who studied the meaning of *landscapes* observed: "the environment sustains us as creatures; landscape displays us as cultures" (3).

Our cognitive skills help us understand the landscapes we occupy, and in turn understanding provides a sense of belonging and security. The landscapes in which we feel this sense of belonging are created and controlled by the inscription of cultural purpose as realized in written law and built form. The resulting landscapes are: "symbolic...expressions of cultural values, social behaviour, and individual actions worked upon particular localities over a span of time" (Meinig,6).

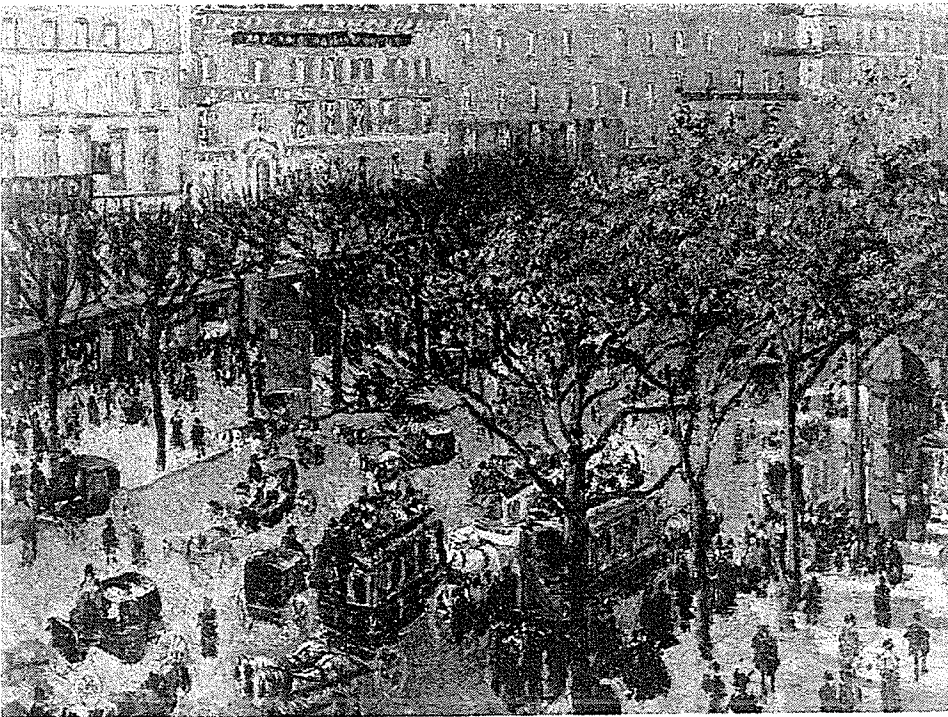


Fig. 106 *Boulevard des Italiens, Morning Sunlight*. 1897 by Camille Pissarro (Gombrich, 325).

This span of time can be the history of a city when cultural values and social behaviour have influenced both the form and use of the sidewalk landscape. This relationship between values, behaviour and the resulting form of the land became evident within the previous chapters which examined the history of the sidewalks in Winnipeg, and the impact of law upon this public space. These chapters demonstrated that our cultural desire for safety and convenience, has resulted in the sidewalk landscape being designed to be well lit, easily traversed, and policed. Similarly, our value of individual rights and freedoms is evident in the use of the sidewalks as one of the public landscapes of the city. In order to perpetuate itself, society also values prosperity and community; therefore our cities are built to include amenities and built form which create this impression. Many values combine to create the cultural perceptions of the sidewalk landscape of a city.

The four perceptions presented in this chapter reflect four distinct ways that our culture 'sees' the sidewalk landscape. This landscape within the city is perceived as *a right-of-way, an investment, a public space, and an ecological network*. These perceptions reflect the complexity of this landscape as it attempts to accommodate the needs of many users. Those who routinely come and go from this landscape will see it differently than those who write policy for this landscape, those who maintain this landscape, those who are visitors to this landscape, or those who live or work in buildings adjacent to this landscape.

The perceptions presented here certainly do not represent all the perceptions evoked by this landscape. These four have been chosen because they were revealed through



Fig. 107 Demarcation of the sidewalk through zone for pedestrians on Portage Avenue (Tourism Winnipeg)

the history and law chapters, and they are supported by landscape architectural theory.

These three areas of research have provided a holistic view of this landscape.

Bringing together the disciplines of law and landscape architecture within the context of the sidewalks of Winnipeg is a vital step toward a comprehensive view of the sidewalk landscape. Using the structure of Meinig's essay *The Beholding Eye*, each perception will be introduced under the common title of "Sidewalk as..."

Sidewalk as Right-of-Way

'Sidewalk as right-of-way' looks at the movement of people from free movement as an instinctive behaviour to organized, legally protected and negotiated movement. With all three levels of government supporting various aspects of this perception, it appears that the mobility of people is the government's most important goal for the sidewalk landscape. Mobility has also been studied by urban theorists like Kevin Lynch whose research into the relationship between movement and cognition provides valuable insight into the issues of safety, negotiation, and convenience which are necessary for urban movement. Stimuli for movement such as 'sequencing' was developed in design theory to encourage pedestrians to experience narratives which unfold while they are moving through a landscape. The importance of providing and maintaining an urban right-of-way has also led to the development of pedestrian design guidelines and accessibility guidelines which direct the decision-making process of municipal government departments dealing with pedestrians as 'traffic'.

The term 'right-of-way' is somewhat confusing as it has three legal meanings which apply to movement within the sidewalk landscape: a freedom of movement, a portion of



Fig. 108 *Abbey Road album cover, artist, The Beatles.*

the landscape designated for movement, and a priority of movement. In its first meaning a 'right-of-way' is a legal 'right' to travel over a designated piece of land. The second meaning began when walking over the designated piece of land became a custom of many people, and the land so used became referred to as 'the right-of-way'. When many people and vehicles began to travel over the same piece of designated land, conflicts between foot travellers and vehicles were negotiated by granting one party priority of travel or 'right'-of-way over the other.

In all three meanings, the right-of-way identifies and protects a portion of the city landscape for the *uninterrupted movement* of people. In the early development of the City of Winnipeg the mobility of pedestrians was necessary for the mercantile economy of the city. Today, this mobility still remains essential to the social and economic needs of Winnipeg's citizens. The quality and speed of movement within the sidewalk landscape are determined by two factors: the safety of those undertaking movement and the ease by which movement can occur.

To understanding the use of, and intentions behind the three legal meanings, it is important to understand the origin and development of the term 'right-of-way'. The concept of a right-of-way originated with the writing of the Greek philosopher Aristotle. From observations of animals in nature Aristotle concluded that humans, like animals, should have the freedom to move from place to place. The Greeks formalized Aristotle's writing into their system of government known as democracy. When the Romans adopted principles of democracy into their code of civil law "Corpus Iuris Civilis", they extended the privileges of democracy to all members of society who



Fig. 109 *Pedestrians crossing Main Street, Winnipeg* (author, 2001).

upheld the personal and public virtues of the city state.

The concept and laws behind a city state and citizenship would not reach Britain until the first quarter of the thirteenth century when the Magna Carta was signed declaring the City of London a distinct governing jurisdiction able to create and maintain its own laws based upon the customs, needs and behaviour of the citizens of London.

Behaviour (including movement) that had been socially accepted over a long period of time, and was 'common' to the people of this defined landscape became the foundation of Common Law. While Common Law is the origin of 'right-of-way' as a legal privilege, the definition and intent of the term 'right-of-way' are now declared in written legislation.

Aristotle's observation of freedom of movement is now declared as the right to personal liberty, a protected 'right' declared in *The Constitution of Canada* under *The Canadian Charter of Rights and Freedoms* (1982). Because the Constitution is a federal act all provincial and municipal laws and by-laws must be consistent with this act and acknowledge protection of this right.

Protection of the rights of pedestrians first appeared in *The European Charter of Pedestrians' Rights* adopted by the European Parliament in 1988. In this document pedestrians have the right to a healthy environment that is sympathetic to their scale, abilities, and needs. They also have a right to the provision of a landscape which is dedicated to their use, linked to "logical and safe routes," and provides "complete and unimpeded mobility" by linking to other means of transport. In 2002, The City of



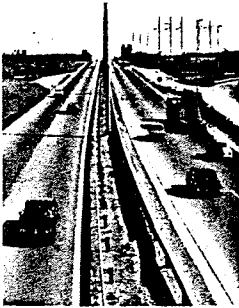
Fig. 110 *Pedestrian and vehicular traffic on Portage Avenue, Winnipeg (author).*

Toronto prepared and adopted a similar document titled *The Toronto Pedestrian Charter*. In this document mobility is valued as “a free and direct means of accessing local goods, services, community amenities and public transit.” Both charters recognize that mobility requires safety, connectivity and consideration of pedestrians’ ability.

The second definition of right-of-way as a portion of land set aside for public travel remains in some legal uses, for example the *Right-of-Way By-law* from Kamloops, B.C., but most legislation refers to this portion of land as a ‘highway’. The term ‘highway’ has been adopted for “public use of a way as of right and without interruption” over many years (Whartons, 1060). When the term right-of-way was no longer needed to identify land set aside for *public* travel, the term was used to denote a specific privilege of travel occurring when two or more objects in motion met on a highway. To avoid collision, one of the moving objects is given the priority of travel or the ‘right-of-way’ over the other(s). During these encounters one form of traffic must cease movement to permit the other form of traffic to continue its path of movement.

As bodies in motion, Winnipeg’s pedestrians are legally defined as one type of traffic - the other being vehicular traffic. For the safety and convenience of all traffic, public travel upon highways is controlled by ‘Traffic Controls’, and ‘Rules of the Road’ declared in the *Manitoba Highway Traffic Act*, and adopted in Winnipeg’s *Streets By-Law and Traffic By-Law*.

After exercising due caution, pedestrians have priority of travel over vehicles during the following situations: crossing the road facing a green light, crossing under a red or

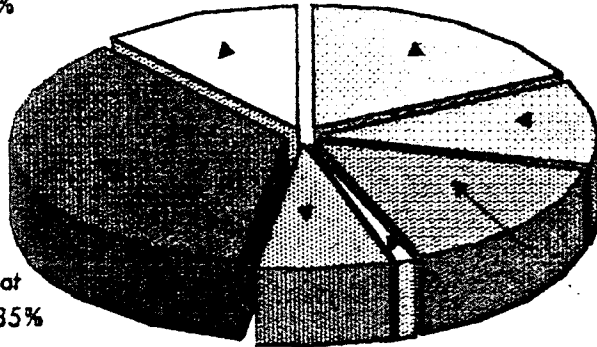


The freeway and the pedestrian mall each have a traffic rate of 85 persons per minute. In the mall, however, more than twenty times as many people are in view at any specific time, because many people are sitting and standing, and because the speed of movement is 3 miles per hour rather than 60 miles per hour.

All pedestrian fatalities and injuries not involving crossings, 12% (119)

Total Injuries and Fatalities = 1013

Crossing at intersection with signal, 18% (179)



Crossing at intersection against signal, 11% (115)

Crossing not at intersection, 35% (359)

Other intersection incidents, 8% (79)

Crossing intersection on diagonal, 1% (10)

Crossing at unsignalized intersection, 15% (152)

Fig. 111 (above) Pedestrians as a form of 'traffic' (Gehl, 78).

Fig. 112 (below) Pedestrian injuries and fatalities in Portland 1991-1995 (Portland Pedestrian Design Guide, C-2)

yellow flashing light, crossing at a crosswalk, and crossing at a pedestrian corridor. Pedestrians also have the right-of-way over vehicles turning left or right on a red light. Once within the travelled portion of the highway (referred to as the 'roadway') pedestrians maintain their priority of travel until they can arrive safely at a kerb, or safety zone (median) - even when the signal lights at an intersection have changed (items 75-88). The act also defines 'Pedestrians' Rights and Duties' which require pedestrians to comply with traffic signals, walk on the sidewalks (when provided) or walk on the left side of the road (when sidewalks are not provided). As further protection to pedestrians, vehicles cannot stop on a sidewalk, a crosswalk, or within three metres of a crosswalk (items 122,138-143). These rules, rights, and duties are written for the safety of pedestrians; however, they have standardized the degree of mobility of all persons moving as pedestrians, and they anticipate a speed of movement which maintains a desired flow of traffic.

It is important to remember that providing speed of movement is the product of two cultural values: convenience and efficiency. Traffic flows which are the primary concern of the sidewalk landscape as a *right-of-way* impact upon the design of this landscape. The timing and intervals of crosswalk signals, the sidewalk surface materials, widths and slopes, and the placement of objects which encroach upon the sidewalk will all affect traffic flow.

Maintaining mobility for all persons regardless of age, or visual or motor ability has been the focus of universal design guidelines. In these documents mobility is associated with independence, and the sidewalk landscape is designed to provide

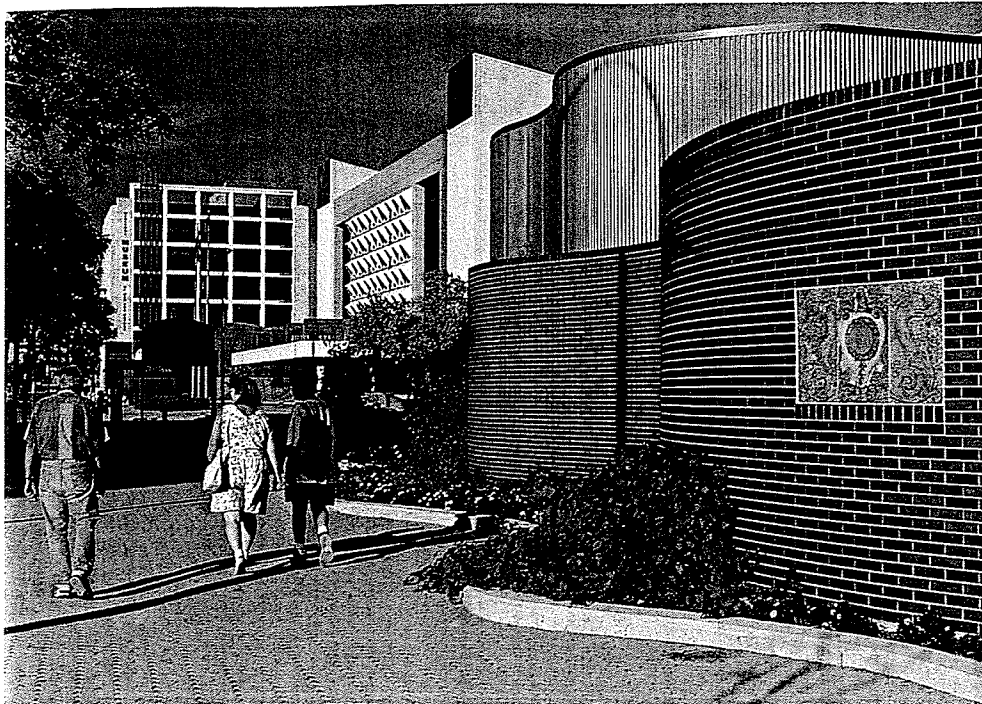


Fig. 113 Sidewalk landscape in front of the Pantages Playhouse Main Street, Winnipeg. (Kalen, 15)

surfaces, signage, ramps, colours, and sounds necessary to achieve independent and uninterrupted movement for all people. Combining safety and cognition, the guidelines provide technical information about ramp slopes, sidewalk widths, traffic island and median design, and the zone of travel.

One of the most comprehensive documents to address pedestrians' mobility, including encouraging mobility, is the *Portland Pedestrian Design Guide* prepared by the City of Portland, Oregon (1998). The goal of this document, prepared as part of a national transportation initiative funded by the United States government, is to "promote an environment conducive to walking." Combining aesthetics, universal design and applicable legislation, the guide is organized into chapters for the four elements necessary for pedestrians' movement within the sidewalk landscape: corridors, corners, crosswalks, and pathways and stairs. The whole document supports uninterrupted movement by addressing conflicts with vehicles, providing situational information necessary for safe choices, providing safe surface conditions, and connecting pedestrians' destinations. Two of their seven principles for pedestrian design address mobility:

3. ***The pedestrian network should connect to places people want to go.***
The pedestrian network should provide...continuous direct routes and convenient connections between destinations, including homes, schools, shopping areas, public services, recreational opportunities and transit.
4. ***The pedestrian environment should be easy to use.***
Sidewalks, pathways and crossings should be designed so people can easily find a direct route to a destination and delays are minimized.

Common to each section of the Portland guidelines are attributes which make each

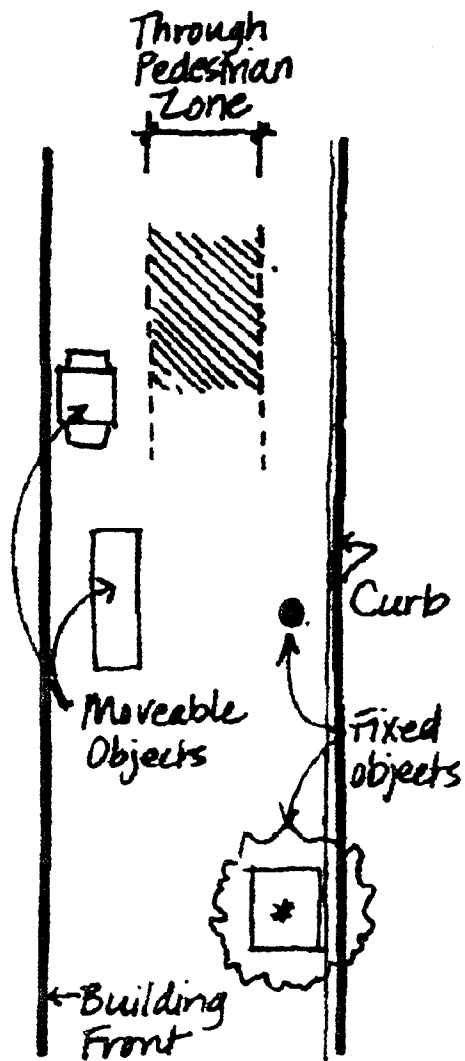


Fig. 114 Typical alignment of the Through Pedestrian Zone within the sidewalk corridor (Portland Pedestrian Design Guide, A-8).

element of the sidewalk landscape 'good'. A good sidewalk corridor is accessible, has adequate travel width, and provides pedestrians with a sense of safety and predictability, and a sense of obvious continuity. Mobility within the sidewalk corridor is achieved in the "through pedestrian zone" which is free of encroachments. Similarly, a 'good' street corner also promotes mobility by having adequate clear space, visibility, and legibility. 'Good' crosswalks have many of the attributes of 'good' corners, but they also consider the importance of time. The 'good' crosswalk will accommodate the needs of the pedestrian by providing a short waiting time to cross, and an adequate time to cross once right-of-way is permitted.

This guideline incorporates some of the wayfinding theories of Kevin Lynch including his characteristics of a 'path' which have been adapted into designing sidewalk landscapes for safe passage. He noted the importance of visual exposure within a path, and path continuity. At the intersection of paths, he states that a perpendicular relationship between paths is the simplest to negotiate. His research also revealed higher levels of trust in wider paths, than narrower ones. Finally he states that the path is part of a network that is organized around regular patterns and predictability. Lynch's work combines the functional needs for safe movement with the experiential response of the pedestrian. His work became the foundation for urban designers interested in designing stimuli for movement into landscapes.

Potteiger and Purinton's book "Landscape Narratives" explains how 'sequences' encourage movement by creating a sense of predictability in the landscape using placement techniques such as spatial proximity or rhythm, and juxtaposition.



AMENITIES

The features planned for the completed PortageScape project include:

Parking Stalls 74 Loading Zones 3 Bus Stops 11

Bus Shelters 14 Planters 54 Coniferous Trees 58

Deciduous Trees 76 Shrubs 2325 Info Poster Panel

Signs 11 Telephone Booths 16 Garbage Receptacles 65

Walk of Fame Inserts (potential) 140 Banners 166

Flag Poles at Portage & Main 45 Information Kiosks 3

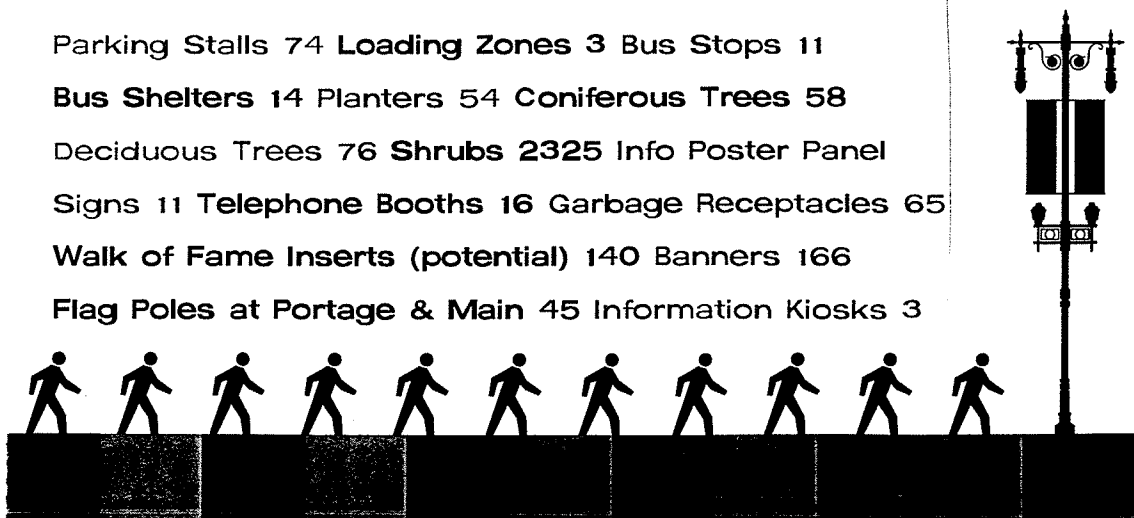


Fig. 115 (above) *Broadway Avenue, Winnipeg* (Mitchell, 42).

Fig. 116 (below) *Portagescape Amenities* (City of Winnipeg project brochure).

Sequences can be revealed within a panoramic view, or through the unfolding of a narrative incrementally spread across the landscape. Another aspect of sequencing is time altering. During the sequence movement, elements in the landscape can provide a “flash-forward” toward a destination, a “flashback” to a historical moment in time, or provide experiential “slow-motion”, or “fast motion” (113).

The sidewalk as a right-of-way incorporates legal rights and obligations with the anticipated experiential effect of undertaking pedestrian movement. Both law and landscape architecture can contribute toward designing, regulating and maintaining the sidewalk landscape as a safe, inviting, and intriguing network which can link the past with the present, climate with built form, and the individual with the city. Pedestrian movement within the sidewalk network can also contribute to the economic, and social health of the city.

Sidewalk as Investment

As well as being a landscape for the safe movement of people, the sidewalk is a construct of the government for the purpose of improving the quality of life in the city, and for demonstrating the economic prosperity of the city. The maintenance of the sidewalk, and the provision of amenities¹ demonstrate that this landscape is an *investment* in the social and economic health of the city. As a network for citizens, consumers, and tourists, the sidewalk landscape is a part of the economy of the city. Its economic value is determined by the costs to maintain it, the revenues collected

¹ Amenities is used here in its broadest sense to refer to lighting, seating, trees, mailboxes, waste receptacles, bicycle racks, notice boards, drinking fountains, pay phones, bus shelters, planters, seasonal ornaments, newspaper boxes, and decorative paving.

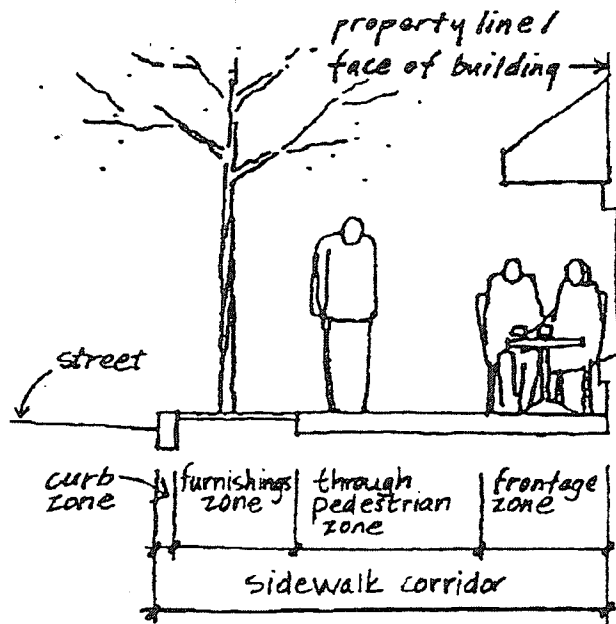


Fig. 117 (above) *Negotiating public/private investment in the sidewalk landscape* (Portland Pedestrian Design Guide, A-5).

Fig. 118 (below) *Events signboard and planter seating on Portage Avenue* (author).

from taxation, and the economic return from improved health, improved social interaction, increased consumer spending, or increased tourism. Objects within the landscape have a dollar value associated with them which is declared in the *Streets By-law*, should they need replacement due to damage.

As an economic investment in the city, the sidewalk landscape can do more than provide a safe and convenient means to pass between and enter the businesses, attractions and residences of the downtown; it can also be an attraction itself. It is both a landscape developed to highlight the activities and neighbourhood character that surround it, and a destination. Investment in the sidewalk landscape can also support this landscape's role as a zone of transition and mediation between different cultural sub-groups and activities. Within the downtown this investment is a partnership between the government and the private sector businesses and organizations²;

"Streets come alive when people who occupy adjacent buildings add something to the mix. Signs, awnings, flowers, [and] a [place] for sitting - all are contributions that elicit a response, or even a dialogue from passersby."

- A. Jacobs, 65.

The public and private money spent on providing, maintaining and developing the downtown sidewalk landscape is expected to boost the city's economy and generate revenue in many ways: through higher taxes from increased property values, through fees for use of the sidewalk landscape space by encroachments, through advertising revenues from signage and sponsorship of amenities, and perhaps most importantly through public satisfaction which keeps people working and living in the city. Alex Wall

² City departments and civic organizations which support the perception of the sidewalk as *an investment* include: Planning, Property and Development, The Downtown Biz, The Exchange Biz, Take Pride Winnipeg.

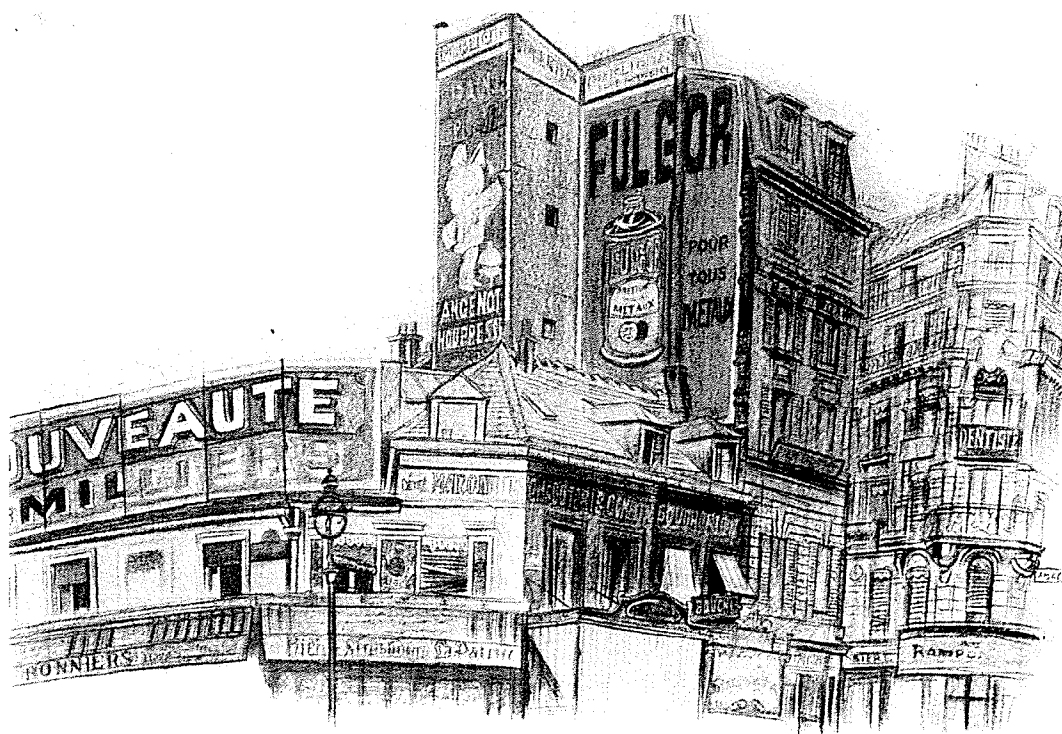


Fig. 119 *Advertisements*, 1926 by Karl Hubbuch Paris, Musee national d'art moderne, Centre Georges Pompidou (Clair, 237).

who looked at the issue of “programming the urban surface” identified one of the challenges of cities: “[they] are competing to retain investment, capital, tax base, population, infrastructure and amenities” due to the “restless mobility” of our culture (246-247). Cities have a tremendous opportunity to market themselves through their sidewalk landscape infrastructure, and postcards from European cities which depict famous sidewalks are an example of the benefits of investing in sidewalk landscapes.

Allan Jacobs’s research into ‘great streets’ is, in many ways, research into ‘great sidewalks’ and how urban sidewalks can become *thresholds* to the economy of the city;

“Many streets are places to do business...they are public showcases, meant to exhibit what society has to offer, and to entice. The entrepreneur offers the goods, [and] displays them to the street. [When] the looker sees,...and ultimately decides to enter the [business], [he or she] crosses the threshold from the...anonymity of the public realm into the private place of exchange.” (64)

The perception of the sidewalk as an investment is supported by the City of Winnipeg’s by-laws which address the appearance and condition of this landscape: *The Boulevard Maintenance By-law* (which provides for the planting and maintenance of the city boulevards), and *The Handbill and Poster By-Law* (which prevents littering downtown by prohibiting or restricting the use of printed material for advertising), and *The Sidewalk Cleaning By-Law* (which provides for the appearance and condition of sidewalks).

In the *Portland Pedestrian Design Guide* attributes of ‘good’ pedestrian design also recognize the sidewalk landscape as an investment. A ‘good’ sidewalk corridor “should contribute to the character of neighbourhoods and business districts, and strengthen



Fig. 120 *City Workers cleaning Portage Avenue prior to the Juno Awards, Winnipeg 2005*
(Winnipeg Free Press, March 31, 2005).

their identity” and should have a landscape design which can “contribute to the psychological and visual comfort of sidewalk users” (A-1). ‘Good’ pathways and stairs should have a “public character” which means that they should be clearly recognizable as a public investment, not a private space. Because pathways and stairs are an investment they should also be “durable” and “cost effective”.

Investing in the sidewalk landscape is encouraged throughout these guidelines; however, the investment should be a wise one that has been reviewed for its long-term impacts as noted in one of the Guide’s principles;

7. **“Pedestrian improvements should be economical.”**
“Pedestrian improvements should be designed to achieve the maximum benefit for their cost, including initial cost and maintenance cost as well as reduced reliance on more expensive modes of transportation. Where possible, improvements in the right-of-way should stimulate, reinforce and connect with adjacent private improvements.”

As mentioned earlier, the sidewalk landscape is an investment from both the public and private sector even though the resulting landscape is *public* space. Historically, this partnership was negotiated through ‘local improvements’³; however, more recently this partnership is encouraged through street improvement projects, and zoning incentives.

Street improvement projects are initiated to improve the visual, functional, and experiential qualities of the sidewalk landscape for pedestrians, for motorists or for negotiating between these two user groups. The improvements can also benefit the businesses or residences adjacent to the sidewalk landscape through increased safety,

³ In the City of Winnipeg Charter, the sidewalk is still mentioned under the definition of a local improvement.

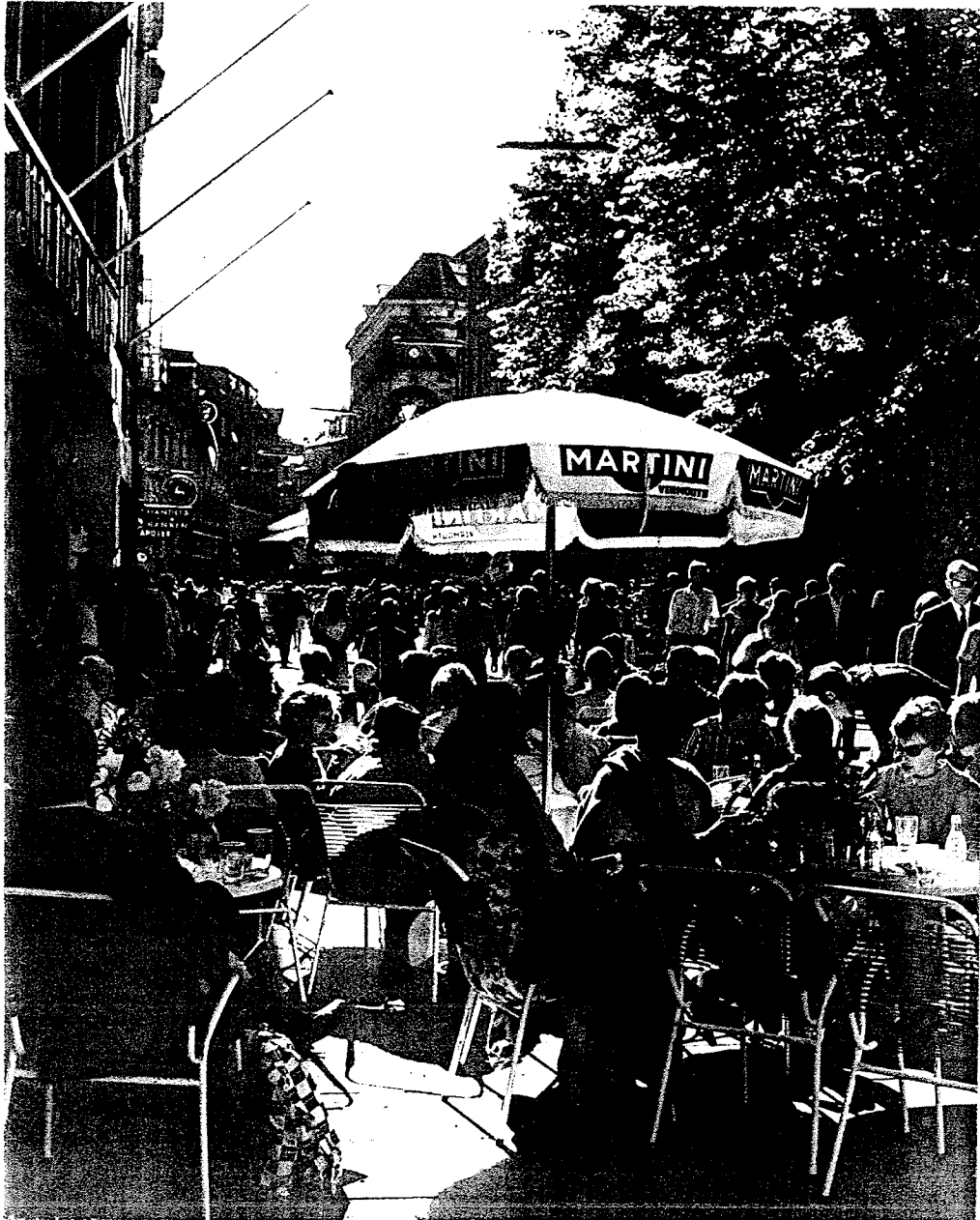


Fig. 121 *Sidewalk investment creating public place in Copenhagen Denmark (Brambilla, 81).*

accessibility and interest. The improvements can be coordinated to present one visual theme which is applied to various amenities including: ornamental lamp posts, hanging flower baskets, benches, ornamental paving, flags or banners, and/or ornamental garbage receptacles. Improvements such as traffic calming devices and widened sidewalks both negotiate pedestrian and vehicular traffic needs and help create a sense of place.

Zoning incentives are an arrangement between a developer and a city. The city will request pedestrian level amenities or a setback to create public space in return for development considerations otherwise not permitted within zoning restrictions including increased size or height of building bulk, or land use. Under this arrangement the city receives private sector investment in the creation or improvement of the sidewalk landscape. This arrangement, however, applies to new construction. In areas of the city where the existing building fabric is being retained, and only the interior is undergoing renovation, the sidewalk landscape benefits from the attraction of the new business, but can also suffer from encroachment investment.

Encroachments such as signage and sidewalk cafes are a permitted private investment in the sidewalk landscape. If the encroachment is deemed to improve the sidewalk's economy, image, or attraction to pedestrians without compromising the safety of the sidewalk or the sidewalk as a right-of-way, the encroachment is permitted. Both signage and cafes are a profitable investment when they attract customers to a business, thus contributing to the economy of the city. Cafes, however, also serve another purpose. As a site of *public gathering* they contribute to the next perception of

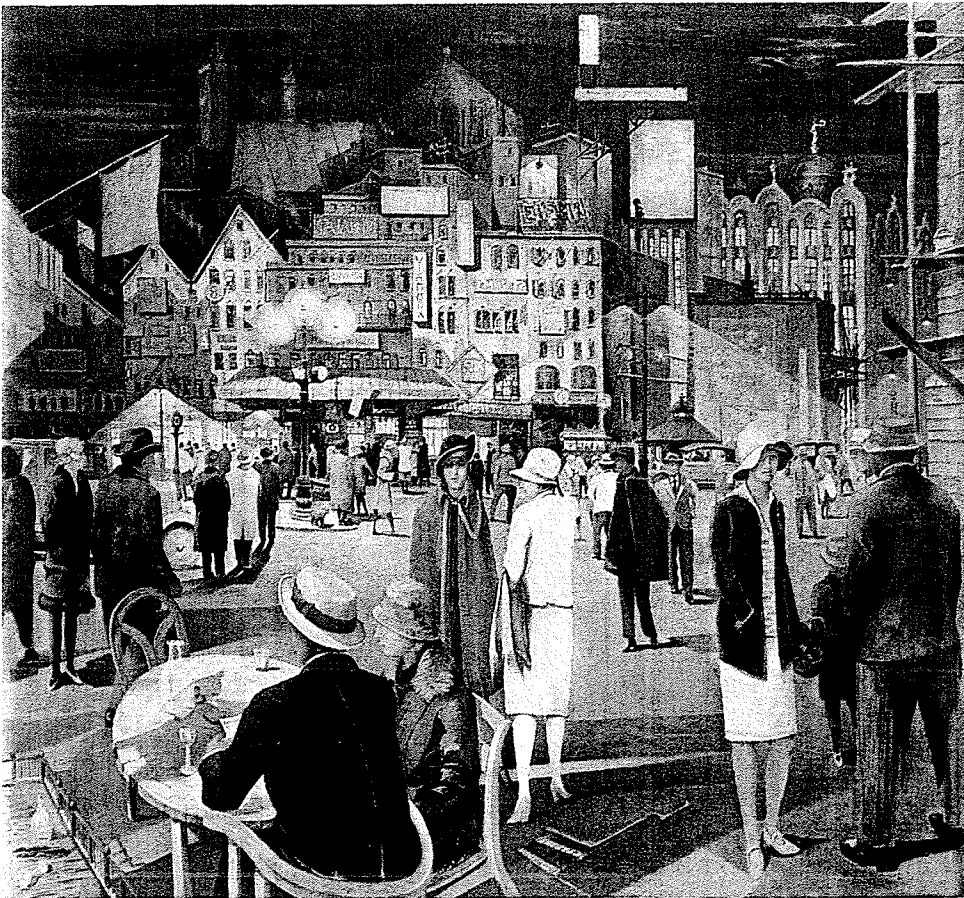


Fig. 122 *Paris at Night*, 1927/28 by Richard Gessner Düsseldorf, Kunstmuseum (Clair, 152).

the sidewalk as a *public place*.

The ambivalence that marks [North American] attitudes toward the city [is due to the fact that] there never was a sense of cities as precious repositories of civilization."

- Witold Rybczynski, 114.

Sidewalk as public place

Encroachment legislation has permitted businesses the opportunity to blur the edge between public and private space in the city. While some encroachments are welcomed by pedestrians, the public sidewalk landscape has become increasingly privatized. The use of sidewalks by the public, however, contributes to the safety, and cultural dialogue of the city. Without the presence of people on the city sidewalks, cities decline both economically and socially. Beyond safety (landscape as right-of-way) and developed space (landscape as investment) the network of sidewalk infrastructure needs to be protected as an urban place tailored to the *scale, and comfort* of people.

'Sidewalk as public space' is a perception that originated with the ancient Greeks who are considered to be the founders of democratic city design. Designing places for people within cities has been studied by urban theorists and designers including Jane Jacobs, Jan Gehl, Allan Jacobs, and Richard Sennett. Influential theory and documents which support the sidewalk landscape as public space include Crime Prevention through Environmental Design (CPTED), and Charters of Pedestrians' Rights developed in Europe and North America.

Even with the introduction of planning and zoning control in the 1920's, Winnipeg's



Fig. 123 *Peace Day Celebrations 1919 Foote Collection (Currie, 85).*

urban development proceeded largely unchecked for its impact upon the downtown sidewalk landscape. As a result, high buildings and wide busy streets, caused the sidewalk landscape to become windy, noisy, and uncomfortable.

Richard Sennett's research into the origins of cities revealed the desire to create space shared by the public for the public good, and to organize the city to facilitate collective living. He notes that the concept of 'public' was expressed by the ancient Greek word *synoikismos*, which was also the word for 'making a city', and 'the significance of peoples' shared experience' (47-48). Cities are often organized around their public spaces - the streets, sidewalks, and open spaces for public use. Within these spaces, the 'public' experience of a city is realized. People moved into cities for their collective safety, the growth of their economies, and the public expression of their culture. It is the public-ness of the city that contributes towards its economic and social sustainability.

As early as the mid-1800's land within present-day Winnipeg was set aside as public space. This public space consisted of a highway with a sidewalk allowance. By the late 1800's Winnipeg's sidewalks had fostered two of Sennett's components for public space: cultural diversity and cultural exchange. After the introduction of the automobile which created 'personal mobility', the 'downtown' was created as the place where people worked and shopped, but they lived elsewhere (Rybczynski). Once people started coming and going from a city's 'downtown', rather than meeting their needs there, their use of its public space declined.



Fig. 124 *Queen and Bathurst, Toronto, Ontario 1979*. photo by Tom Skudra
(National Film Board, 87).

Sennett would also argue that part of the decline of public space is due to our loss of utilizing the sidewalks to “serve the community’s moral purpose” because “we fear to use public space as the realm in which we learn to reconcile our differences” (50,48). In the *Death and Life of Great American Cities* Jane Jacobs also realized the need to reconcile the needs and activity of citizens, and felt that this reconciliation could begin with the visibility and potential for social exchange afforded when sidewalks are seen and used as public spaces.

Jacobs notes that sidewalks, as a public place, can attract and collect both people from the adjacent neighbourhoods and strangers which by their presence and ‘eyes on the street’ contribute to a sense of safety. Sidewalks can also create a public life for people in cities, by providing the opportunity for a comfortable degree of contact with other people, and providing access to people who regularly engage in public dialogues as part of their livelihood, or responsibilities.

Providing opportunity for the interaction between people and with businesses are two ways in which the sidewalk landscape can become a public space. First, however, people must feel that the sidewalks are safe; they must be attracted to the sidewalks, and have a reason to be there. In the *Portland Pedestrian Design Guide*, ‘good’ sidewalk corridors are a “social space [that] provide[s] places for people to interact [by providing] ... places for standing, visiting, and sitting” (A-1). In this guide, the three precursors to social interaction noted above are three of the Guide’s principles for pedestrian design:

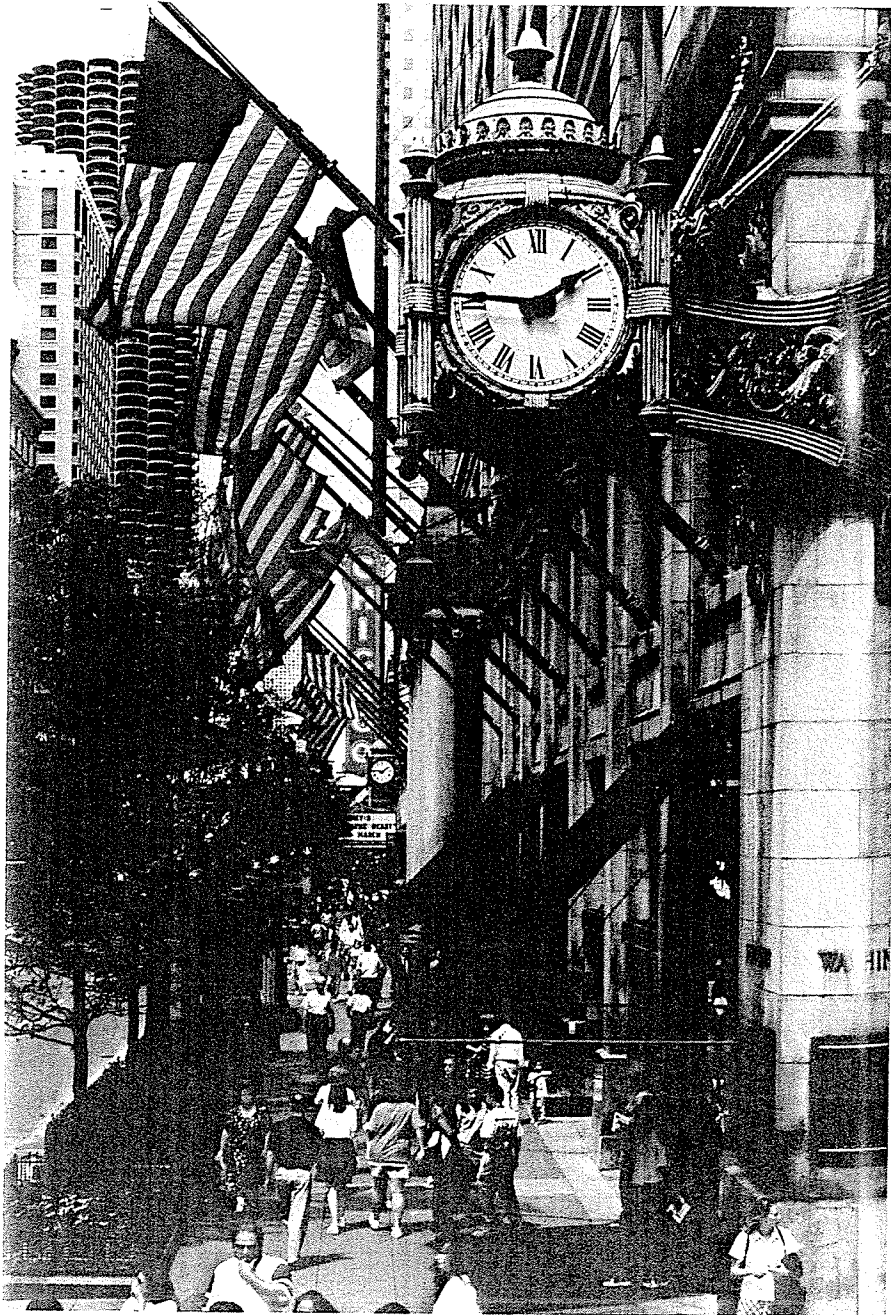


Fig. 125 *State Street, Chicago* (Russell and Robbins, 62).

1. **The pedestrian environment should be safe.**
Sidewalks, pathways, and crossings should be designed and built to be free of hazards and to minimize conflicts with external factors such as noise, vehicular traffic and protruding architectural elements...

5. **The pedestrian environment should provide good places.**
Good design should enhance the look and feel of the pedestrian environment...Amenities such as street furniture, banners, art, plantings, and special paving, along with historical elements and cultural references, should promote a sense of place.

6. **The pedestrian environment should be used for many things.**
The pedestrian environment should be a place where public activities are encouraged. Commercial activities such as dining, vending, and advertising may be permitted when they do not interfere with safety and accessibility.

Safety is perhaps the most important precursor to social interaction. The City of Edmonton's publication *Safe City* adopts the theory of Crime Prevention through Environmental Design to help create safer public sidewalks. The concept of surveillance refers to the public's need to see clearly the extent of places where they intend to go, places that they are passing by, and people that are passing by (if they are inside) to feel safe. For a safe city, lighting should allow people to see where they are going, and be seen by other people and motorists. Sidewalks as public spaces should not be adjacent to entrapment areas, nor should they create a feeling of isolation from the street. For safety, sidewalks should also include activity generators at the street level, and public telephones. Blank walls, poor facility maintenance, and lack of weather protection are also related to safety as they create an "uncomfortable environment discouraging pedestrian activity." Ideally pedestrians will enjoy the sidewalks safely, comfortably, and conveniently.

When sidewalks are designed to create a sense of place by providing space for gathering, shelter, commerce, and movement, they become 'great sidewalks'. Allan



Fig. 126 *Ecological connectivity in Winnipeg (The Postcard Factory).*

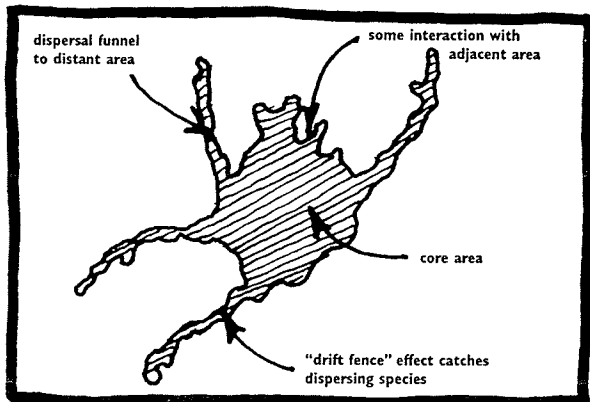
Jacobs' research into what defines 'Great Streets' also revealed examples of many of the world's great sidewalks. For its mix of commercial and entertainment opportunities, and for its trees, flags, clocks, pedestrian-level street signs, and planting beds, Chicago's State Street sidewalk is a great sidewalk. Princess Street in Edinburgh also has a great sidewalk because, like State Street, it provides access to a variety of businesses, but it also provides pedestrians with a panoramic view of the old city, and castle (64). While these great sidewalks no doubt contribute to their cities' social and economic needs could the sidewalk also contribute to the city's ecological needs ?

"There is...increasing evidence suggesting that mental health and emotional stability of populations may be profoundly influenced by frustrating aspects of an urban, biologically artificial environment...it is evident that in our daily lives nature must not be thought of as a luxury to be made available if possible, but as part of our inherent indispensable biological need."

-Frederick Law Olmsted (Dramstad, Olson and Forman, 11).

Sidewalk as ecological network

With a high density of building mass and almost continuous impermeable surfacing, Winnipeg's downtown would appear to have eliminated the natural systems and elements which contribute to the ecology of a landscape. The outdoor landscape of downtown can be described as a patchwork of parking lots, streets, lanes, and sidewalks - hard surfaces engineered to efficiently drain rain water into the city's storm sewers. The density of tall buildings holds car exhaust at ground level, and also creates periodic intense wind gusts due to down draughts. Building facades produce glare, and, like the roadway surface, can act as heat traps. During periods of intense traffic, noise reflects off hard surfaces. Pedestrians hurry across roadways, and try to find shelter from the elements, and trees suffer through root stress, salt damage, and exhaust damage, struggling to survive in compacted soil pits or planters.



Ecologically "optimum" patch shape

An ecologically optimum patch provides several ecological benefits, and is generally "spaceship shaped," with a rounded core for protection of resources, plus some curvilinear boundaries and a few fingers for species dispersal.

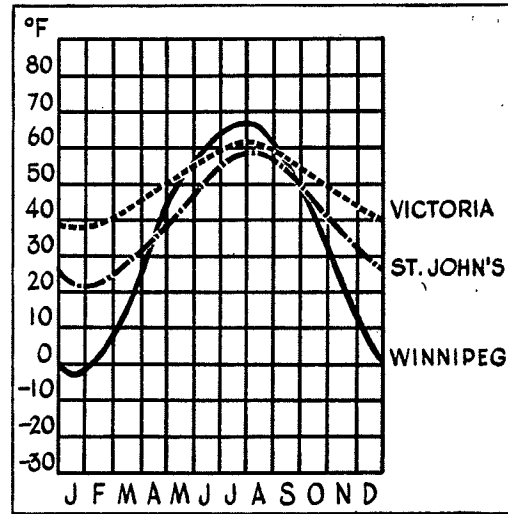
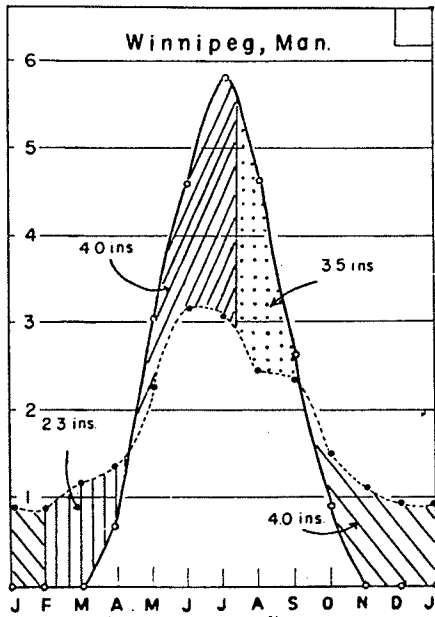
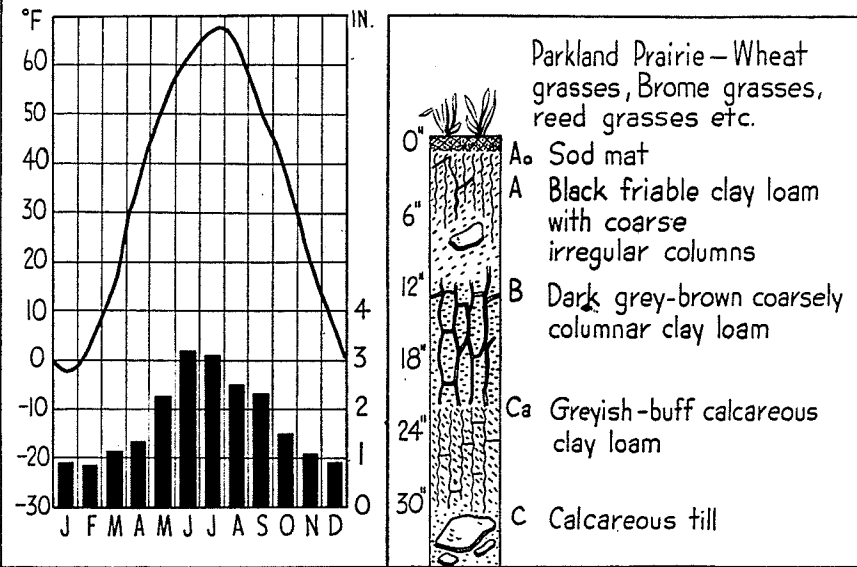
Fig. 127 (above) Air Photo of Winnipeg (University of Manitoba Dept. of Landscape Architecture).
 Fig. 128 (below) Ecology theory showing the benefits of connectivity (Dramstad et al, 32).

landscape ecology... "explicitly integrates nature and humans."
-Dramstad, Olson and Forman, 11

Despite these harsh conditions, the downtown does exhibit characteristics of an ecological system. The movement of rain water into storm sewers, and eventually rivers, and its evaporation back into the air is an urban version of the hydrological cycle. Similarly, the trees, grass and herbaceous plant material of the urban forest are engaged in their daily cycle of photosynthesis and their seasonal cycle of energy production and storage. The daily patterns of people whether moving in cars or on foot also results in energy input and output cycles. Winnipeg's downtown sidewalk landscapes are a part of this urban ecology as they accommodate many living entities including wildlife, people and trees. The sidewalk landscape acts as a network which reveals the city's ecology at three scales: the micro scale of the street, the meso scale of the downtown, and the macro scale of the prairie. The sidewalk landscape as an *ecological network* meets the criteria of landscape architect Michael Hough's concept of the 'green lungs' of a city which should be "a fine mesh of small spaces, distributed evenly over the whole city" (269).

According to Dramstad, Olson and Forman a landscape is understood by its overall structure and function. When a series of corridors are "interconnected with one another" they become a network (41). The network "emphasize[s] the *functioning* of landscapes, and may be used...to facilitate or inhibit flows and movements across [a defined spatial area] (41). The sidewalk landscape is a network as it consists of a connected corridor structure (defined by the facades and roadway curb), which functions to facilitate movement. Because the sidewalk landscape is a network within

WINNIPEG, MAN. - BLACK SOIL ZONE



○ Potential Evapotranspiration
 ● Precipitation
 ▨ Water surplus
 ▩ Water deficiency
 ▧ Soil Moisture Utilization
 ▦ Soil Moisture Recharge

Fig. 129 (above) City of Winnipeg annual temperature, precipitation, and soil structure (Putnam, 359).

Fig. 130 (middle) Annual temperature comparison of three cities due to the effect of continental position (Putnam, 9).

Fig. 131 (below) Annual soil moisture surplus and deficiency, Winnipeg (Putnam, 19).

the downtown set aside for *people and trees*, it can be perceived as an functioning ecological network which processes energy and nutrient flows, and links the downtown with other ecological landscapes such as urban parks (Dramstad's 'patches') and the riverbanks (Dramstad's corridors).

Winnipeg's ecological network is influenced the effects of disturbance, and by the broader regional climate, soil, and natural features. The City of Winnipeg is situated within the former basin of glacial Lake Agassiz which left a soil profile of stratified layers of clay and silt. Due to its fine particles, this soil is poorly draining and prone to compaction. Within the city are two rivers - The Red River and its tributary the Assiniboine River which are both part of the Nelson River system which drains into Hudson Bay. The 'continental' climate of Winnipeg is characterised by a seventy degree swing in annual temperatures from a mean temperature of minus five degrees Fahrenheit in January to a mean temperature of sixty-five degrees Fahrenheit in July (Putnam, 347-348). With an average of one hundred and ten frost free days, Winnipeg is within Zone 3a of Manitoba Agriculture's Hardiness Zone classification. The number of growing days, and zone classification are used to determine which species of vegetation are suitable to grow in an area.

Also significant to pedestrian design and ecological health within the sidewalk landscape are the precipitation and wind characteristics of Winnipeg. The predominant prevailing wind is from the south causing down draught wind turbulence on the south-facing facades of east-west streets. While the city's precipitation averages twenty inches annually, the ground holds less moisture than the atmosphere can take up

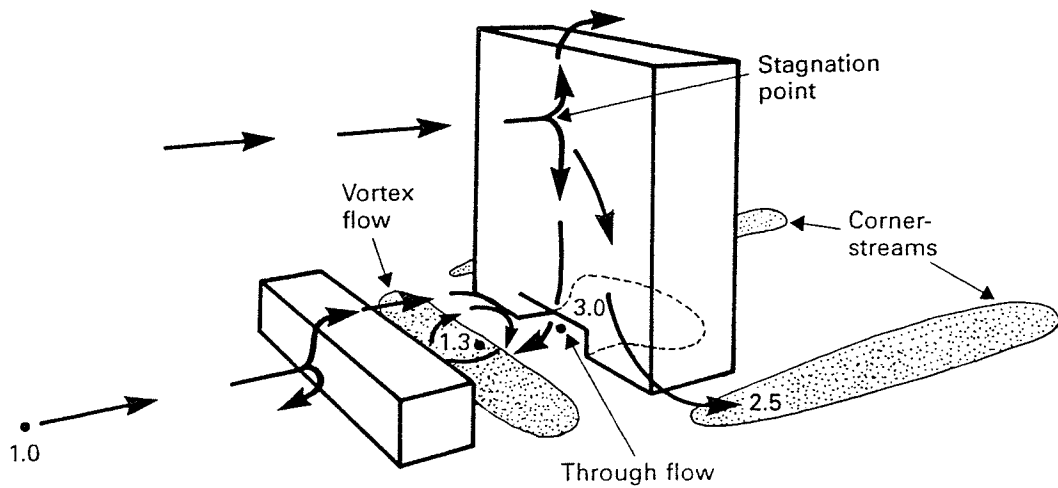
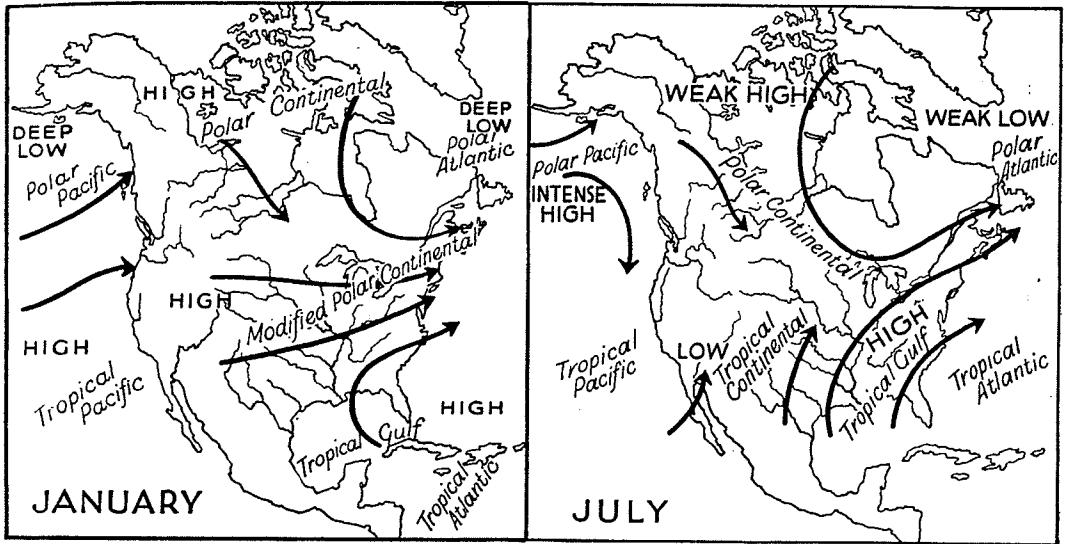


Fig. 132 (above) Air masses affecting the Climate of Canada (Putnam, 11).

Fig. 133 (below) Air flow in the vicinity of a tall building with smaller buildings upwind (Hough, 264).

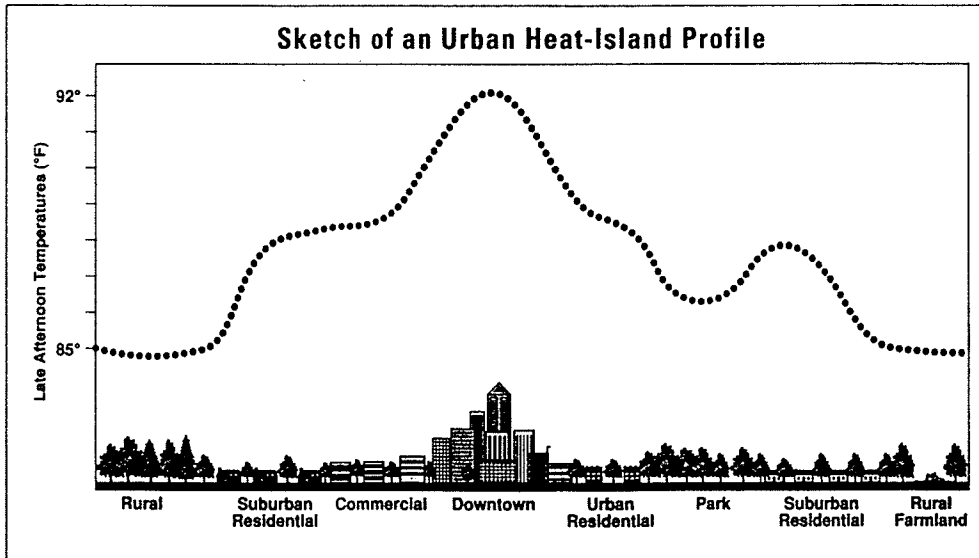
creating a water deficiency of approximately four inches annually (Putnam, 350). This naturally occurring deficiency should be taken into consideration when selecting and maintaining plant material for the sidewalk landscape.

The sidewalk landscape, however, is also affected by the human-designed environment of the city which can be considered as a 'disturbance' within the broader prairie climate and ecology. The 'disturbance' of constructing buildings, surfacing the ground plane with impermeable materials, and planting vegetation into created soil environments and containers requires consideration of urban ecology issues such as down draught wind, glare, albedo values of materials, storm-water management, surface permeability and soil drainage. The extra heat created by surfaces within the downtown, and the impermeability of the ground plane requires valuable city resources such as air conditioning for buildings, and introduced water and nutrients for vegetation. Not all of these issues can be solved through strengthening the ecological design of the sidewalk landscape, but many of them can.

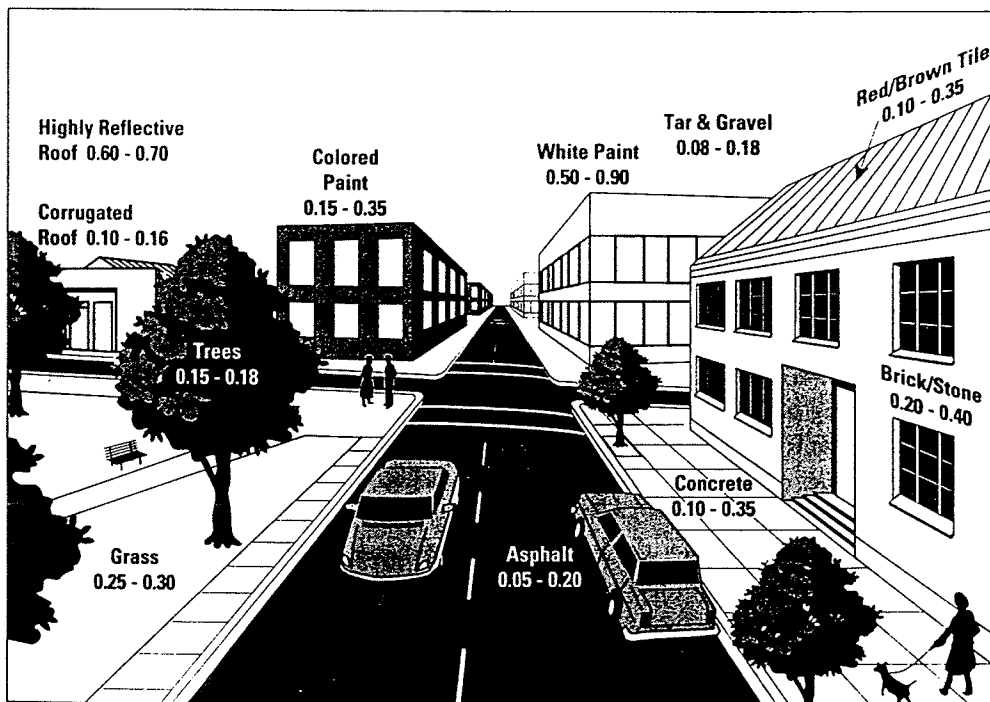
"the nature of design is one of initiating purposeful and beneficial change with ecology and people as its indispensable foundation."

- Michael Hough

Two ecological phenomena impacting upon the ecological health of the sidewalk landscape are 'disturbances' and the hydrological cycle. 'Disturbance', in ecology, refers to any natural or human-made action which interrupts a landscape's normal cycle. On the prairie the disturbances of fire and agricultural development have maintained the prairie landscape and prevented it from becoming naturally forested. In the downtown, disturbance can be either detrimental or beneficial to the ecology of the



Source: Andrasko, Huang, 1990



Source: Huang and Faha, 1990

Fig. 134 (above) Temperature variation between downtown and rural areas (Akbari, 39).

Fig. 135 (below) Surface albedo values in downtown - "surfaces with higher albedo values reflect more solar radiation and are generally cooler." (Akbari, 45).

sidewalk landscape. Disturbances such as vehicular pollution, road salt, and wind gusts are detrimental to pedestrians and trees, yet disturbances can be beneficial when they become a part of the design process or solution.

Responses to site specific disturbances can be designed into the function and form of the sidewalk landscape. Wind gusts can be 'harvested' for their energy to power low-voltage sidewalk lighting, and wind can also be utilized to create form (like a billowed sail) or visual interest (like a pinwheel). The action of people moving along the sidewalks or stopping on the sidewalks is also a type of 'disturbance' which can inform the design of urban lighting. When the sidewalk landscape contains healthy trees, their canopy can filter unwanted wind and create 'white noise' - a soothing sound which helps block out unwanted noise.

The current urban hydrological cycle appears to have little impact upon the sidewalk landscape. For the safety of pedestrians and the protection of buildings, urban horizontal surfaces are designed to shed rainwater into storm sewers. This may be efficient, but it is not an ecologically responsible design decision. According to LEED (Leadership in Energy & Environmental Design) theory, stormwater run-off moves contaminants into water bodies and prevents aquifer recharging (44). Without sufficient rainwater storage, the urban planters and trees require watering from introduced potable water delivered and manually applied. This is a waste of energy and water resources. The sidewalk landscape can become an important part of the urban hydrological cycle by providing a network of permeable surfaces, and urban trees.

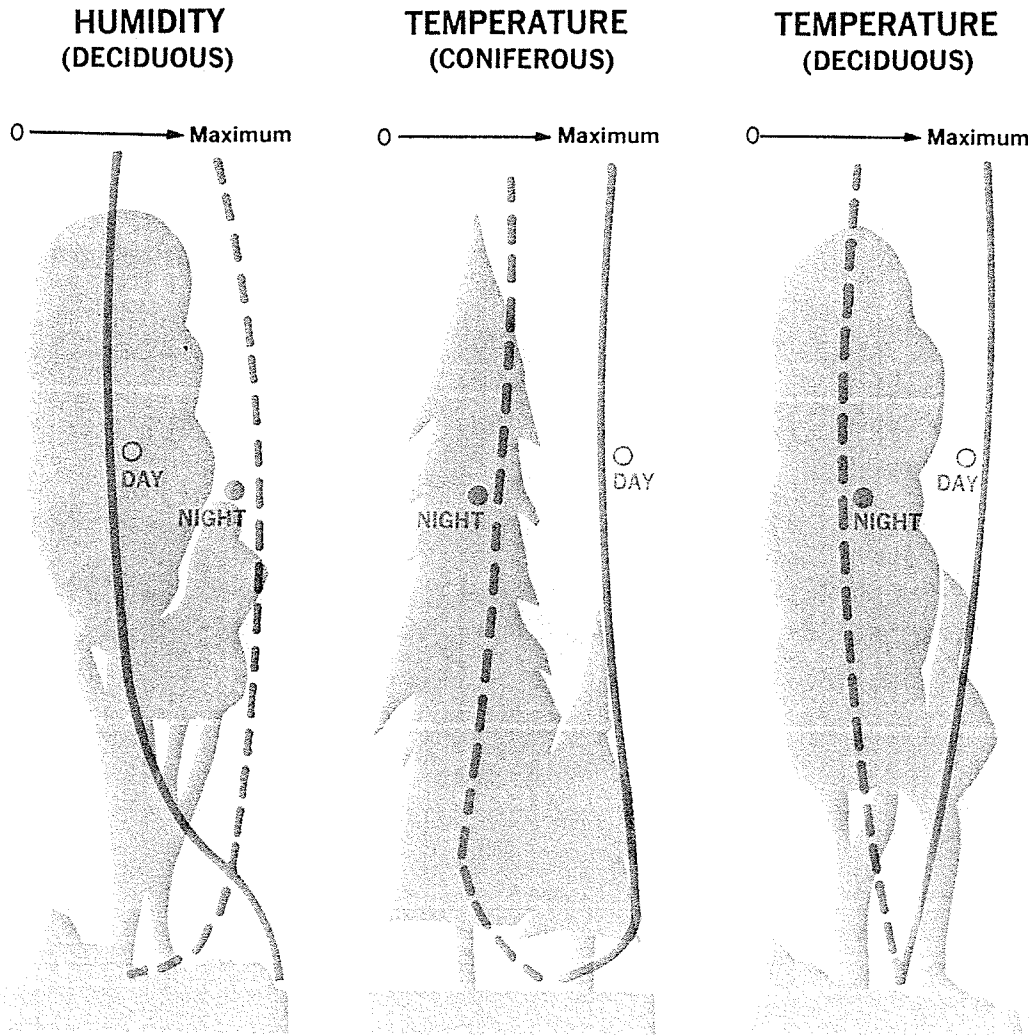


Fig. 136 Forest microclimate comparison showing the variation in temperature and humidity between the crown and base of trees (Cunningham, 7).

Incorporating ecological design into sidewalk landscape design is also achieved by understanding how street trees can be beneficial to the health of this space, and how this space can support the health of street trees. Hough notes there are many physical and psychological benefits derived from planting trees and herbaceous plants within the sidewalk landscape. For the comfort of pedestrians, trees can reduce the effects of wind, and glare from buildings, and can provide shelter from rain. Many trees planted in a grouping creates a vegetated screen that can filter and oxygenate air over a larger area. Trees also provide pedestrians with visual interest and a connection with seasonal change. The use of deciduous trees can provide people using sidewalks with cooling shade in the summer, yet not block access to sun in the winter.

Trees can also help mediate the effects of sun and rainwater upon the surfaces of the sidewalk landscape. The shade from tree canopies can cool building walls and ground surfaces thus reducing the amount of stored heat in downtown. In the summer when this stored heat is not released, due to a mix of tall and shorter buildings in the downtown, the air does not cool at night causing daytime temperatures to be hotter than in other parts of the city. Urban trees can reduce stormwater run-off in two ways. The trees can help reduce storm water run-off by "intercepting rain in their canopies and allowing it to evaporate", by up to four to eight percent (www.clean-water.uwex.edu).

In a lecture given in Winnipeg in 2003, noted tree specialist James Urban said that "trees are a part of the urban infrastructure." Accepting that urban trees die and are replaceable, he said, is not building toward an urban forest legacy which can be



Fig. 137 *Permeability of the sidewalk landscape and healthy street trees, Elgin Street, Ottawa (author).*

sustained. According to Urban ninety percent of tree problems are soil problems, and the greatest soil problem is insufficient soil volumes. Considering that the surface area of the feeder roots of trees is equal to the photosynthesis area above ground, trees need more room for root development than the volume typically provided by a planter, or tree pit. The sidewalk landscape width from building facade to curb and city block length is ideally suited to provide the space necessary for a continuous tree planting bed for tree roots. Urban warned that the sidewalk width must be taken into consideration when selecting sites for tree planting. Sidewalks with a width of ten feet or less are not suitable, unless widened.

Planting trees in groupings along the length of the sidewalk landscape also provides greater protection for each individual tree from wind, sun and salt. Urban also noted that the locations of underground utilities (such as within the soil of the sidewalk landscape) are good areas for tree roots, providing a non-invasive tree species is selected. One example of a successful tree planting design using the 'planting strip' is found on the sidewalks of Elgin Street, Ottawa.

Because of the ecological, and social benefits of trees, some cities and provinces have written legislation and by-laws for tree protection and tree planting. In the *Local Government Act of British Columbia* (2001), which provides legal powers and jurisdiction to municipalities, Division 2 of Miscellaneous Powers is titled 'Protection of Trees'. This legislation gives municipal councils the powers to prohibit or regulate the cutting, removal, and damaging of trees. This legislation also gives powers to identify trees significant for their heritage, landmark or habitat value. As well, council has



Fig. 138 "Layers of Life" a healthy growing structure of multiple vertical layers of vegetation (Cunningham,5).

powers to require the replacement and maintenance of damaged trees, including requiring a cash deposit or other form of security toward the replacement.

Drawing on the legal support of the provincial legislation, the City of Vancouver has prepared *Street Tree Guidelines* which discuss tree spacing, species selection, planting instructions including using a continuous planting trench, pruning instructions, and how to incorporate trees into existing sidewalks. These guidelines support the sidewalk trees' contribution to the city's urban forest. The City of Halifax has prepared a *By-Law Respecting Trees on Public Lands* (1995) to protect its urban forest trees. Within this By-law trees are to be protected from damage to the extent of the drip line or root zone, whichever is greater. Also tree roots are to be protected during below grade work. Both of these documents support the planting of trees in the sidewalk landscape.

When Winnipeg Free Press columnist Christopher Dafoe was asked to describe Winnipeg he said, "It is like a city in the forest." Steven Bensted added, "Winnipeg has more elm trees than any other city in North America"(Bensted, 66-67). Trees are an important part of the image of the City of Winnipeg, and the sidewalk landscape could be the ecological network which can support the survival of this image. With greater permeability, re-direction of unwanted disturbances, and greater utilization of beneficial disturbance, the sidewalk landscape can create a new relationship with the ecological experience of Winnipeg's downtown.

The four perceptions noted in this chapter collectively represent a broad viewpoint of this landscape, but without any one of these four perceptions, the sidewalk landscape

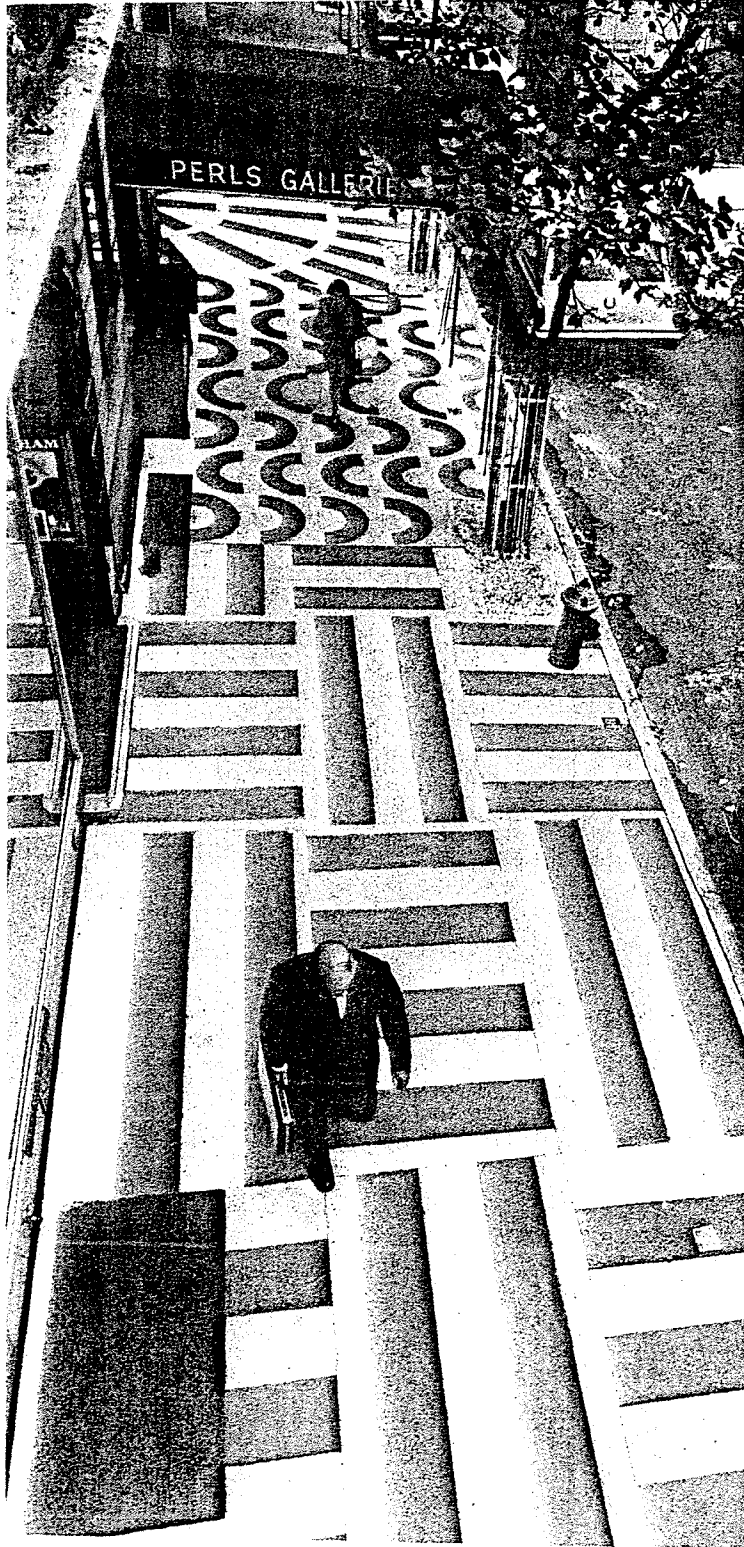


Fig. 139 *Black and white terrazzo sidewalk designed by Alex Calder Madison Avenue, New York*
"Its \$15,000 construction cost was paid by three property owners." (Morris, 32).

will be susceptible to decline. People need an inviting public space to comfortably move, gather, socialize, and engage in the city's economy, and the city needs a public space to *demonstrate* its urban prosperity, and *showcase* its commitment to creating a healthy city using ecologically responsible design. Where these needs can be fulfilled is within the sidewalk landscape.

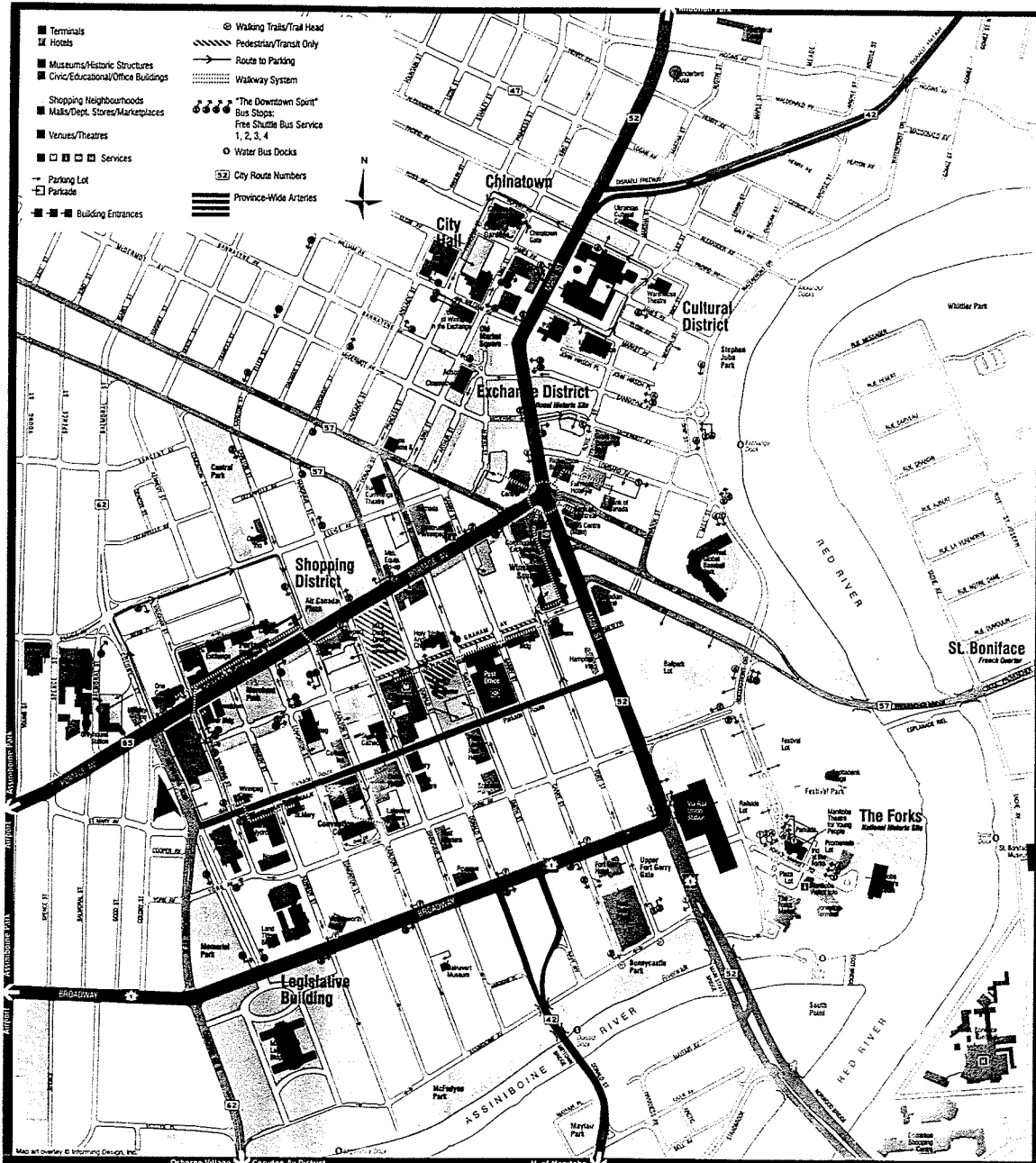


Fig. 140 Plan of Downtown Winnipeg districts (Tourism Winnipeg).

Chapter Five

Information, Expectations, and Negotiation: Writing By-laws and Guidelines

This chapter will examine some of the issues involved in writing by-laws including acknowledging jurisdiction, declaring powers, providing clarity, and maintaining consistency with other municipal government legal documents. While one of the goals of this practicum is the preparation of a Framework for *guidelines*, understanding by-laws will provide a legal grounding for the dissemination of information and expectations within guidelines. Design guidelines are prepared using the scope of governing powers declared in legislation and by-laws in order to direct the creation of a landscape that is more than functional, but also healthy, and attractive to citizens and visitors. Within the previous chapters, the experiential quality and health of the sidewalk landscape were discussed for their social, ecological and economic benefits to the city.

Because guidelines often do not have the legal authority of by-laws, the legal groundwork for guidelines are declared in by-laws. Before undertaking the writing of guidelines it is important to determine whether changes need to be made to existing by-laws or whether a new by-law needs to be written. Also, as guidelines typically consider a broader scope of attention than one by-law, it is important to determine whether there is greater clarity and consistency from consolidating a number of by-laws into one existing or new by-law. Understanding the legal structure and language of by-laws also leads to consistency among all governing city documents. Consistency between documents can help reduce or prevent conflicts between the documents



Fig. 141 *Right-of-way and sidewalk café Graham Avenue transit mall, Winnipeg (author).*

themselves, and the civic departments responsible for the sidewalk landscape.

Studying by-laws also helps find opportunities available which will [re-]define, enrich, and/or help maintain the sidewalk landscape systems in a sustainable balance, yet provide flexibility for new innovation in this landscape. For the social, cultural, economic and ecological health of this landscape it is important that guidelines, policy and by-laws for this landscape minimize conflicts between uses, users, and systems functioning within the sidewalk landscape, and be consistent in their goal of a creating a healthy sidewalk landscape.

By-laws are structured with six component parts. The first component of a by-law is the 'recitals'. The recitals state which provincial legislation is enabling the bylaw, the legal power(s) for the enactment of the bylaw, and explain the intent or purpose of the bylaw. The recitals are followed by the 'enactment clause' which declares that council is enacting the bylaw. Following the enactment clause are the 'definitions' for objects, persons, land, or activity affected by the by-law. Often the definitions will repeat the wording from enabling legislation, or provide clarity for the application of a provincial definition within the context of the city. The City can also create definitions when needed providing the definition is not inconsistent with provincial or federal legislation. Following the definitions are the 'schedule', which states where and when the by-law will be applied, and the 'penalty information' which declares the fines for non-compliance with the by-law. After the penalty information are the 'interpretation' which clarifies the definitions or circumstances of the by-law, and the 'closing' which states the repeal of any previous by-law(s) if necessary, the date the by-law will be enacted, the date the by-law will come into force, and the required signatures of the municipal



Fig. 142 *Three-dimensional quality of the sidewalk landscape Portage Avenue, Winnipeg (author).*

government officials (MacLean, 19).

By-laws that are considered vague, discriminatory, or without jurisdiction or powers can be deemed invalid or quashed; therefore, by-laws must be consistent with their enabling legislation, have clear wording and definitions, and a readily understood meaning and application. The courts recognize that the relationship between those for whom the by-law applies, and the municipal government requires that the by-law can be understood, and is presented and enforced in good faith. If guidelines are also to be understood and adhered to by the public and civic departments, their intent, scope and means to comply must also be clearly articulated. An important component of a guideline for the sidewalk landscape will be the definitions it includes.

As discussed within the chapter *Law as Inscription of Cultural Purpose upon the Sidewalk Landscape*, the sidewalk is currently within the legal definition of the street. This definition is consistent with the observations and recommendations of urban design theorists such as Jane Jacobs, Alan Jacobs, and Donald Appleyard. Like the other physical elements of the street, the sidewalk as land set aside for pedestrian activity contributes to the safety, interest, and economic and social viability of the street. Like the street, the sidewalk landscape is a three-dimensional space, but different from the roadway portion of the street are its use and systemic health.

The sidewalk landscape is legally distinguished for the exclusive use of pedestrians, quite different from the roadway which is used by both pedestrians and vehicles. Clarifying the definition of the sidewalk in order to update its current definition to our



Fig. 143 *Sidewalk landscape development Nicollet Mall, Minneapolis* (Brambilla, 22).

contemporary understanding of a healthy landscape, can consolidate the goals for existing definitions and by-laws, and help direct development and maintenance of this landscape.

Some of the goals for the 'street' are consistent between the sidewalk and the roadway while other goals are unique to the health of the sidewalk landscape. The space set aside for the roadway and the sidewalk are both expected to be safe, well-maintained, and used with ease by the public. Unique to the sidewalk landscape are the degree of comfort of its users, and its ecological health. Users of the roadway are protected from unwanted noise, wind, and precipitation by their vehicles. Their vehicles also offer a sense of safety, and physical comfort. In the sidewalk landscape comfort and safety need to be *designed into the environment* used by pedestrians. Similarly the needs of trees and other plant material introduced into the sidewalk landscape are unique to this portion of the 'street'. Surface permeability and consideration for soil volumes are not necessary for the portion of the street which is the roadway, neither is wind amelioration, but these environmental issues are an important part of creating a healthy sidewalk landscape which is considerate of the needs of its living entities: people and plants. It is within the sidewalk landscape that a healthy relationship between living entities and environment can be showcased.

Because the sidewalk is a created and maintained landscape requiring protection from negative aspects of the roadway environment, recycling of potentially beneficial wind and water within this landscape, and consideration of its three dimensional health, this landscape requires unique attention within the policies, by-laws and guidelines of the



Fig. 144 *Pedestrians negotiating rush-hour traffic blocking the crosswalk on Portage Avenue, Winnipeg (author).*

City of Winnipeg. While the three-dimensionality of the sidewalk landscape is implied in the definition of the 'street', in order to dedicate finances toward this unique civic infrastructure, I recommend creating a new definition for this landscape as follows:

sidewalk n. 1. That portion of a street or highway between the curb lines or the lateral lines of a roadway and the adjacent property lines that is maintained as a healthy sustainable environment for the comfort, enjoyment, and movement of pedestrians, and the health of the urban eco-system. 2. includes any part of a street or highway set apart or marked as being for the exclusive use of pedestrians. 3 includes the footpath, boulevard, air rights, and soil rights.

This new definition will serve two purposes - it will demonstrate value for this landscape and its systemic health, and it will combine legal authority with contemporary civic goals. In many planning policies and by-laws of Winnipeg, goals toward a healthy city are mentioned. By updating this definition with this goal, clarity is achieved between legal responsibility, planning processes, and maintenance which all contribute to a sustainable healthy sidewalk landscape.

The goals within sidewalk landscape guidelines should be supported by the objectives and regulations within the by-laws of the City of Winnipeg. The Framework presented here outlines the principles, objects, and goals proposed for a healthy sidewalk landscape. This information can be used to evaluate current by-laws and legislation, or portions thereof, to determine whether these documents are contributing toward or in conflict with healthy interrelationships within the sidewalk landscape. One example is the by-law relating to vacant buildings. This by-law should be reviewed to determine whether regulations and fines can be used to prevent the ongoing vacancy of ground-level retail space - especially on Winnipeg's destination sidewalk landscapes.



Fig. 145 *Street trees in the roadway median Main Street, Winnipeg (author).*

A new approach to the sidewalk landscape should also be reflected in the *Streets By-law*, and the *Downtown Winnipeg Zoning By-law*. This can be achieved by setting aside a sub-section within these documents dedicated to specific concerns for this landscape. Previously the sidewalk landscape was discussed as the pedestrian-level zone of the *Downtown Zoning By-law*, but this approach did not consider the needs of the street trees. For clarity and simplicity, consideration should also be given to consolidating the numerous by-laws regulating wanted and unwanted items, and activity within the sidewalk landscape including those relating to sidewalk and boulevard maintenance, and tree trimming. Whether this consolidation becomes an updating of the existing *Streets By-law* or a new by-law dedicated to the sidewalk landscape as a unique development and maintenance zone within the city would be at the discretion of the City of Winnipeg departments and council.

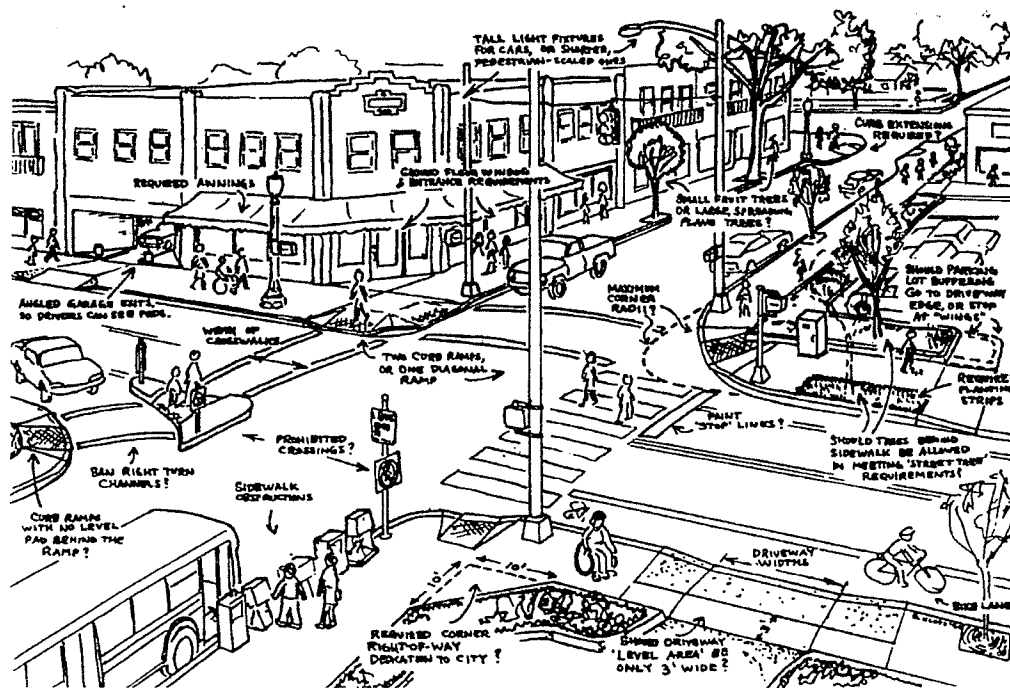


Fig. 146 Pedestrian issues raised during the development of the Portland Pedestrian Guidelines (Portland Pedestrian Design Guide, 4).

Chapter Six

A Framework for Sidewalk Design Guidelines for Downtown Winnipeg

During the course of this research, I reviewed many different types of guidelines written for the downtown issues of cities. Downtown design guidelines typically fall into five categories: urban design guidelines, pedestrian design guidelines, accessibility guidelines, bicycle design guidelines, and urban tree guidelines. Urban design guidelines are written to provide a mechanism for the review of new development or re-development for safety and contextually appropriate aesthetics (Costonis). Urban design guidelines typically address facade details and materials, signage, and safety aspects of street-level design including lighting and fences. These guidelines impact upon the sidewalk landscape through decisions made for adjacent development.

Typically, pedestrian design guidelines are developed under transportation initiatives. As a result, their focus and organization is based upon the safe movement of people along the sidewalk and across roadways. Secondary to safety is their goal to make pedestrian spaces more visually appealing to pedestrians often through the addition of amenities. These guidelines address the desirability of the sidewalk landscape for the pedestrian.

Accessibility guidelines appear within building codes, and as stand alone documents. These guidelines consider use of the sidewalk landscape by people with reduced or impaired vision or hearing, limited physical mobility, or those requiring the aid of a



Fig. 147 (above) *Street Trees on Michigan Avenue, Chicago* (Craul, 30).

Fig. 148 (below) *Brant Street Streetscape Improvements, Burlington, Ontario* (City of Burlington).

wheelchair, walker, or cane for mobility. These guidelines detail methods of construction, and materials which contribute to a tactile, auditory, and safe environment for the movement of all people *with varying degrees and means of mobility*.

Like the pedestrian design guidelines, bicycle design guidelines look at the structure of the bicycle network within a city, and present solutions for the safe movement of cyclists, and storage opportunities for bicycles. While these guidelines can apply to the roadway portion of the street, they will impact upon the sidewalk landscape as an adjacency when they result in the creation of a bicycle lane between the portion of the roadway used for vehicular traffic, and the sidewalk landscape. These guidelines sometimes also recommend that the travel portions of sidewalk landscapes be divided to accommodate bicycle and pedestrian traffic.

There are two main purposes behind urban tree guidelines. Tree guidelines often include information concerning tree health, species selection, planting and maintenance for the information of the general public. These guidelines also provide contractors and city employees with written material and technical information for the pruning of trees, and protection of trees during adjacent construction.

Collectively these guidelines demonstrate a synthesis of research and applied theory from many disciplines interested in aspects of the sidewalk landscape; however, when studied individually, and without cross-referencing each other, they compartmentalize the sidewalk landscape when they could be collectively contributing toward a healthy sidewalk landscape.

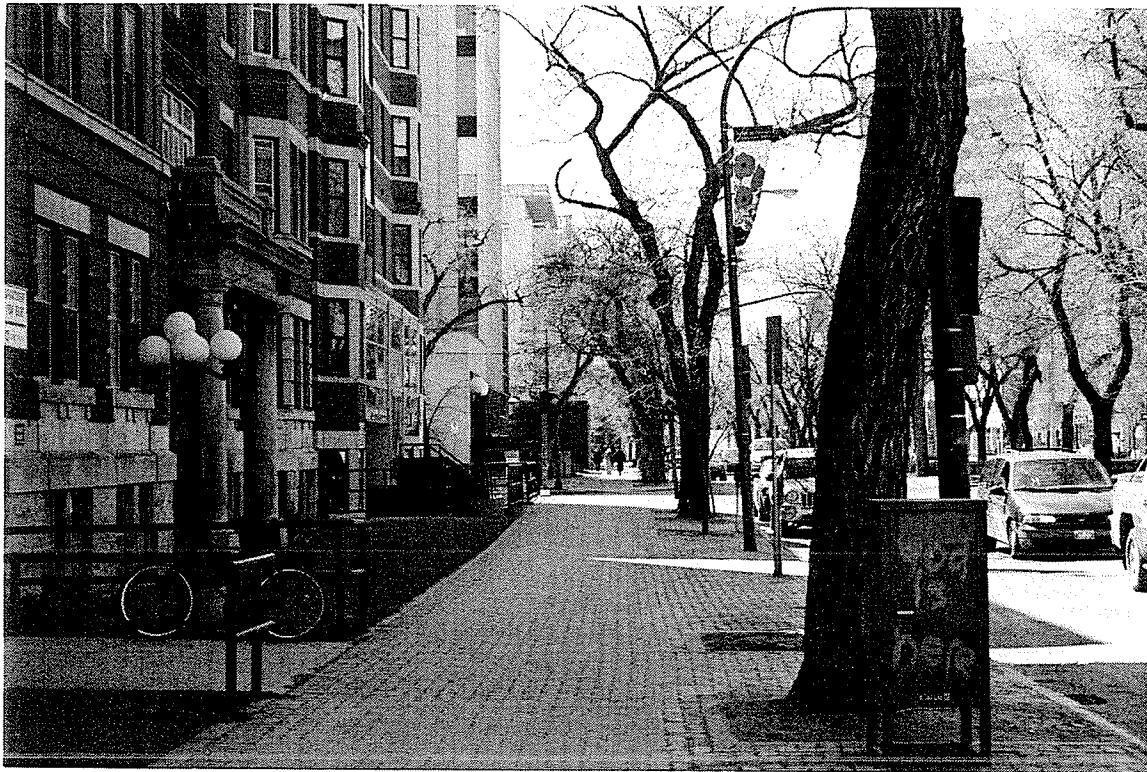


Fig. 149 *Sidewalk landscape along Broadway Avenue, Winnipeg* (author).

While all of these guidelines address the function of the urban landscape, and consider safety, comfort and sensory interest for the pedestrian, the guidelines that I read failed to negotiate the growing requirements for trees (such as larger soil volumes and nutrient cycling) with the other uses and objects within the sidewalk landscape, or to contribute toward the ecological sustainability of this landscape. The people and trees of downtown are both part of the ecology of the city. Bringing the best of tree guidelines into pedestrian guidelines would seem to resolve this issue; however, the systemic health of the sidewalk landscape also requires consideration of the three-dimensionality of this space, and a review of other civic documents and procedures that define, develop, and maintain this landscape.

The purpose of the Framework presented here is to build on the strengths of these other guidelines to create a new guiding document for the sidewalks of downtown Winnipeg that directs the design, development and maintenance of a healthy sidewalk landscape that considers the needs of pedestrians, business owners, and trees, without compromising the sidewalk's ecological, social, and economic health or sustainability.

The Framework presented consists of six parts. The first three parts: the background to writing the framework, the new holistic definition, and the purpose for the framework are a simplified version of the 'recitals' required within by-laws. In this section, the document is named, the reasons are given for its development including its goals, and the persons affected are identified. The new definition for the sidewalk landscape clarifies the sidewalk as a three-dimensional infrastructure. This definition synthesizes



Fig. 150 *The 'effect' created by shadows and canopies along the sidewalk of Smith Street, Winnipeg (author).*

the four perceptions noted in Chapter Four which collectively contribute toward a healthy sidewalk landscape, and acknowledges the City's legal requirement for clarity of jurisdiction.

Following the three introductory parts are the 'Principles' which further detail how the goal of creating and maintaining a healthy sidewalk landscape will be achieved.

Principles are common to most guidelines as they can be used to 'measure' actions anticipated, or to review actions taken, including the wording and goals of legislation, by-laws and regulations in force. The seven Principles identified reflect both the function and character of a healthy sidewalk landscape.

The first principle '**Effect**' combines consideration for economic viability, neighbourhood character, safety, and the experiential impression of the sidewalk landscape. This principle can be used to encourage positive effects such as seasonal interest through vegetation, built objects or lighting, pedestrian-friendly ground-level facade treatment, and awnings, or prevent negative effects such as pedestrian discomfort, entrapment areas, unattended maintenance, closed sidewalks or vacant buildings. One positive effect which can be incorporated is 'warm effect' which can refer to character lighting, the use of banners, planting, or paint treatments which are visually comforting in an otherwise visually barren, or heavily shaded portion of the sidewalk landscape, or for real or perceived 'warmth' in the winter. 'Cool effect' can refer to the introduction of a water feature, shading device, or layered vegetation which can cool the ambient temperatures of an uncomfortably hot area within the sidewalk landscape by creating shade or increased evapo-transpiration, or it can refer to the use of light-coloured



Fig. 151 (above) Closed sidewalk at the Public Library, Donald Street, Winnipeg (author).

Fig. 152 (below) Plants on a wall of a parking garage in Jakarta, Indonesia reduce air temp. by as much as 5°C (Hough, 261).

surface materials to reduce unwanted heat absorption in the downtown. Decisions which contribute to a healthy sidewalk 'effect' (whether experiential or physical) should apply to the planning, design and maintenance of the sidewalk landscape.

The second principle '**Flow**' combines the functional and ecological goals of a healthy sidewalk landscape. Developed from the perception of 'sidewalk as right-of-way', the sidewalk landscape should have a flow of movement that is safe, and visually and physically accessible to all potential pedestrians. This principle can be used to review the time allowed for crosswalk signals, and to promote the use of demarcated crosswalks at intersections, and traffic regulations such as 'no-left-turn-on-red' at a busy pedestrian intersection. Entrances and exits for underground parking facilities present an interruption to pedestrian flow; therefore whenever possible these openings should be perpendicular to the sidewalk 'flow' and not prevent the continuation of the sidewalk network. All vehicular entrances and exits from buildings should be given the consideration of a crosswalk and be clearly marked.

For a designer 'flow' can encourage animation within the sidewalk landscape, or new experiences for the 'flow' of pedestrians using the techniques of sequencing. To incorporate the ideas presented in the perception 'sidewalk as ecological network', 'flow' can initiate a review of buildings adjacent to the sidewalk landscape to determine the potential to redirect or re-cycle unwanted down-draught wind, and determine new opportunities for sidewalk construction which could permit some permeability or re-cycling of stormwater. A healthy sidewalk landscape will utilize 'flow' to help pedestrians feel safe while moving, and wayfinding in the city, and will utilize 'flow' to

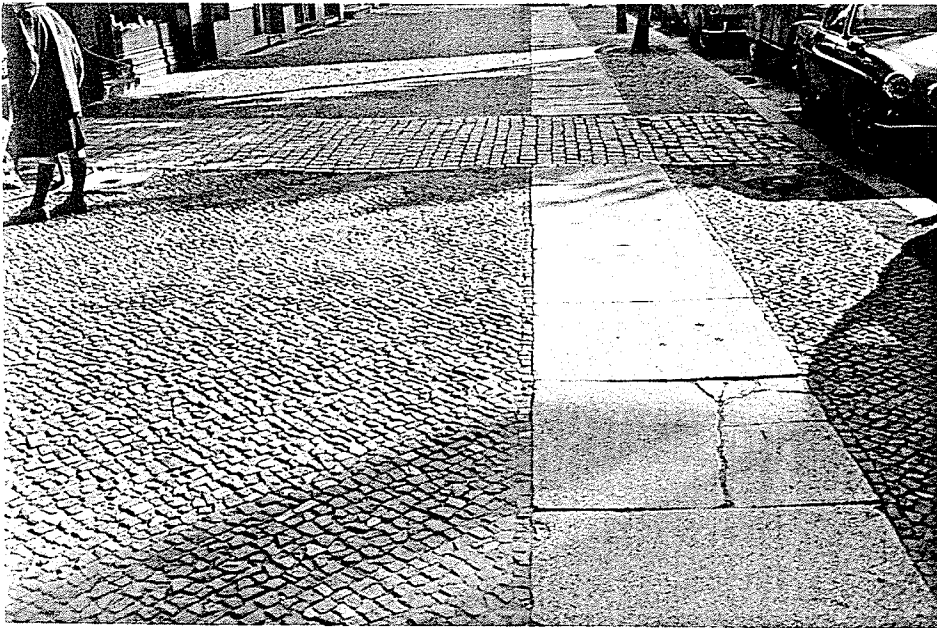


Fig. 153 *Sidewalk paving patterns, Berlin* (Norberg-Schulz, 22).

demonstrate sustainable practices.

The third principle, '**Layer**,' collectively recognizes Winnipeg's history, its winter climate, and the three-dimensional character of the sidewalk landscape. Historic layers within the city should be protected where possible or when lost, acknowledged by a representation situated within or adjacent to the sidewalk landscape. The movement of pedestrians above ground and below ground are also important layers of the sidewalk landscape in a winter city which need to be connected with the ground plane layer through signage, and easily recognizable points of entry and exit. '**Layer**' was also included as a principle to bring awareness to the sub-surface layer of the sidewalk landscape occupied by utility pipes, cables and tree and plant roots. The health of the street trees requires planning and maintenance consideration be given to larger and more continuous soil volumes for these trees, proper drainage within the soil layer, and sidewalk surface permeability to support tree growth. A healthy sidewalk landscape celebrates and maintains its layers with visual and easily understood connections between layers. The sidewalk health is also dependent upon layer sustainability including the cycling of nutrients within vegetative layers, and the movement between vertical layers by pedestrians.

'**Orientation**' has been included as the fourth principle in order to bring awareness to both the safe movement of people and the needs of non-resident pedestrians.

Orientation devices can be signage, surface materials, colour schemes, vegetation, kiosks or transit panels which provide information contributing toward the safety and/or interest of pedestrians. Orientation signage can be used to demarcate a character



Fig. 154 Orientation signage on Donald Street at Broadway Avenue, Winnipeg (author).

area, or facilitate circulation within the city. Orientation connects the pedestrian with the streets, neighbourhoods, businesses and transit within the city. An important issue for an orientation review of documents for or development of the sidewalk landscape is the scale of the orientation device. Signage should be legible, easily discernible and of a scale and in a location suitable to pedestrians. Unique larger scale orientation devices such as clocks, gates, and banners should also be encouraged as supplemental to the pedestrian-scale devices. Within a healthy sidewalk landscape these devices can be used to connect the pedestrian with Winnipeg's history, location, climate and/or ecology, or to educate pedestrians, or to stimulate interest in the nodes, attractions, or services within the downtown.

The fifth principle 'Value' was included as many issues affecting the health of the sidewalk landscape were related to the maintenance of this landscape and the quality of adjacent development. The maintenance of the sidewalk landscape should be valued by both the private and public sectors. This expression of 'value' is currently evident in by-laws for sidewalk and boulevard maintenance, and community initiatives such as wall murals, banners, utility artwork, and outdoor plazas.

As the sidewalk landscape is a created and maintained environment, the monies spent on this landscape can reflect 'value' by selecting materials and plants that meet sustainability criteria for their low impact upon resources, or anticipated longevity. The provision of amenities within the sidewalk landscape, as noted within the perception 'sidewalk as public space' can contribute to the sidewalk's cultural and functional value. A healthy sidewalk landscape demonstrates 'value' in the sustainability of its original



Fig. 155 (above) *Winter Fifth Avenue, 1903* by Alfred Stieglitz - note the individuals clearing snow from the sidewalks demonstrating 'value' (George Eastman House calendar, 2005)

Fig. 156 (below) *Mountain Equipment store, Portage Avenue, Winnipeg* - generous pedestrian entry/public space and use of local materials - an example of 'value'. (author).

design, the public care given toward its maintenance, and a pro-active partnership between the private and public sectors who contribute toward this 'value'.

The sixth principle '**Growth**' reflects the current awareness of environmental interrelationships and how they contribute to the city's health, and the city's inherent desire to continue to attract innovation. This principle combines ideas from the perceptions 'sidewalk as investment' and 'sidewalk as ecological network' which identified positive indicators of sidewalk health as healthy street trees, and adjacent attractions, goods, and services. Connecting pedestrians with adjacent businesses through posted menus, interior tenant information, and the goods or services offered through window displays can contribute toward economic 'growth'. Growth of trees requires planning for, protecting, and maintaining the three-dimensional space in which they are planted. Another example of growth can be achieved by continuing to introduce sustainable technologies, and systems into the public practices of the Winnipeg's downtown. A healthy sidewalk landscape can reflect 'growth' by increasing the public space in front of buildings, providing vertical layers to help sustain nutrient cycling for street trees, and including amenities which utilize wind or solar power, and are constructed of sustainable materials whenever possible.

'**Network**', the seventh principle, looks at the sidewalk landscape as part of larger ecological and transit systems within the city. This network should be maintained to be efficient, sustainable and easily understood (see also 'Orientation'). The principle of 'network', while derived from the perception 'sidewalk as ecological network', also represents the connection between pedestrians and the economy of Winnipeg when



Fig. 157 *View from the Vaughn Street skywalk to Portage Avenue, Winnipeg (author).*

pedestrians have many interconnected and accessible opportunities available to become consumers. A healthy sidewalk landscape has ecological and circulation links to all parts of its network, and includes connections to opportunities for other forms of movement including riding the bus, cycling and (where appropriate) skateboarding, as well as nodal opportunities for cultural exchange . The health of the network requires that the pedestrian understand the extent of and opportunities within the network including the locations of nodes, landmarks and attractions, and above and underground circulation corridors. Special consideration should be given to linking the downtown sidewalks with the city's rivers. The network can be promoted through annual events, civic programmes, and signage.

These principles were chosen as they integrate ecological needs and goals with the economic, social, and cultural needs and goals of a healthy sidewalk landscape. Collectively they express the four perceptions identified as components of a healthy sidewalk landscape, and can be used to facilitate the process of mediation between users, uses, and objects within and adjacent to this landscape.

While all sidewalks within the downtown can be healthy sidewalk landscapes, certain portions of the sidewalk network should be given special consideration to help strengthen or connect character areas, or attract and retain pedestrian activity. These will be **Sidewalk Designs** which link the downtown to the rivers, are adjacent to a transit, commercial, or cultural hub of pedestrian activity, or are created as neighbourhood green corridors. These sidewalk landscapes are identified as a 'link' and a 'destination'.



Fig. 158 *The Sidewalk Landscape of State Street, Chicago* (Russell and Robbins, 105).

Within its network, all sidewalk landscapes connect to other parts of the city, and to the economy of the city; however, a 'Link' is a sidewalk landscape which has been designed using wayfinding, landscape narrative theory, and vegetation to connect attractions or neighbourhoods within the city. Two 'Link' sidewalks can be studied for the City of Winnipeg's sidewalk network. The first is the 'Assiniboine River Link' which connects Portage Avenue with the Assiniboine River along the sidewalks of Hargrave Street. The 'Red River Link' is a second link which connect Market Square, and the Theatre District with the Red River at Waterfront Drive. There are two existing streets suitable for this 'Link' development: Bannatyne Avenue or Market Street - if the City can connect this street through from Rorie Street to Waterfront Drive.

'Destination' sidewalks are links which develop a sense of place by encouraging pedestrian movement to stop and to engage in the enhancement of the public space of the sidewalk landscape. Portage Avenue, Graham Avenue, and Broadway Avenue currently function as destination sidewalks, but York Avenue between Kennedy and Main Street and Main Street between Portage and Broadway Avenue can be further developed as 'Destination' sidewalks to strengthen the sidewalk network between 'The Forks', the Portage and Main Streets' intersection, and the Convention Centre.

As an acknowledgement of the City's scope of jurisdiction with respect to local improvements and development in the downtown, the Framework discusses five elements found within the sidewalk landscape: Crosswalks, Vegetation, Amenities, Surfaces, and Edges. Each element is discussed with respect to the sidewalk landscape principles and roles, and the goals and regulations needed to realize



Fig. 159 *Waterfront Drive sidewalk landscape along the Red River* (author).

systemic balance, while allowing innovation within the sidewalk landscape.

This Framework has been prepared to bring greater awareness to the complexity of issues facing the sidewalk landscape, and to provide a holistic sidewalk definition and principles which can be used to review, and possibly update or consolidate the goals, terminology, and practices outlined within existing legislation, by-laws and procedures for the sidewalk landscape in Winnipeg's downtown. Currently, this sidewalk landscape is discussed within and affected by many City by-laws. This Framework sets the stage for the creation of one integrated document that can mediate the needs and legal responsibilities of many City departments. The goal of a 'healthy sidewalk landscape' within this Framework can synthesize many existing goals such as safety, comfort, convenience, and the prevention of nuisance without compromising environmental responsibility and sustainability.



**A Framework for
Sidewalk Design Guidelines
for Downtown Winnipeg**

April 2005

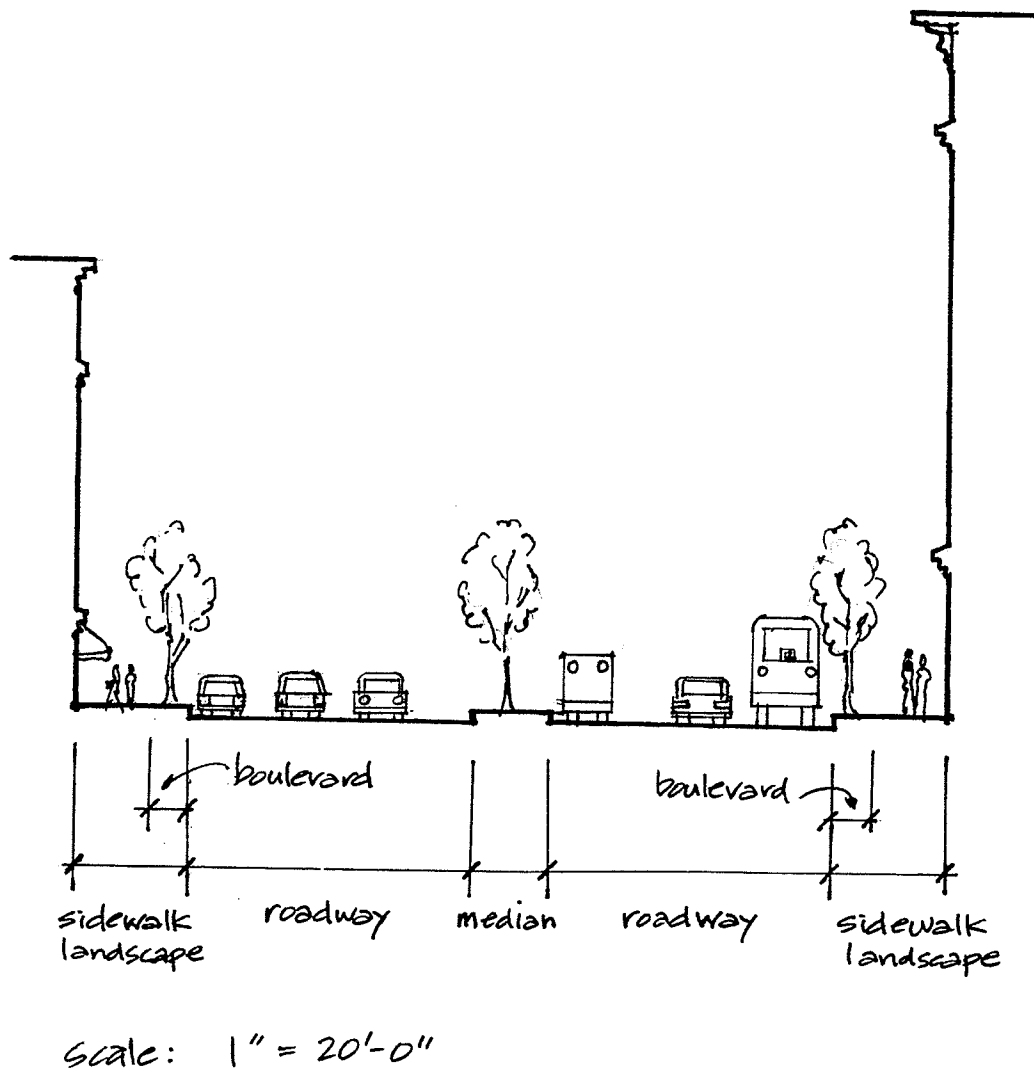


Fig. 160 (cover page) Rush hour pedestrians Portage Avenue at Edmonton Street (author).
 Fig. 161 (above) Cross sectional view of street subdivisions Main Street, Winnipeg (author).

A Framework for Sidewalk Design Guidelines for Downtown Winnipeg

Background

Winnipeg's downtown is currently undergoing a revitalization of its urban built form. In support of private and public sector investments in the downtown, the City has been reviewing and updating its legislation and by-laws to incorporate mixed use development, and new approaches to construction involving adaptive re-use, and sustainable design. The sidewalks of Portage Avenue were recently re-designed and re-surfaced to provide a zone of pedestrian amenities, street parking spaces, and street trees. This Framework supports these initiatives by providing direction to the review of sidewalk policy, by-laws and design to consider environmental awareness, and a long-range sustainable and innovative vision for this network of public space.

Defining a sidewalk landscape in Winnipeg's downtown

The sidewalk landscape is an important public space within Winnipeg's downtown. It provides space for public movement and interaction, space for urban amenities including street trees, and provides access to downtown businesses, attractions, and the transit service. The health of the sidewalk as a cultural and ecological landscape is affected by pedestrian activity, adjacent development, and the application of policy through design and maintenance including consistency between civic departments writing policy, designing for, or maintaining this public space. The first step toward achieving the goal of a healthy sidewalk landscape is updating the current sidewalk definition to incorporate spatial integrity and environmental awareness.

sidewalk n. 1. That portion of a street or highway between the curb lines or the lateral lines of a roadway and the adjacent property lines that is maintained as a healthy sustainable environment for the comfort, enjoyment, and movement of pedestrians, and the health of the urban ecosystem. 2. includes any part of a street or highway set apart or marked as being for the exclusive use of pedestrians. 3 includes the footpath, boulevard, air rights, and soil rights.

Purpose

This Framework has been prepared to help foster a broader understanding of the value of the sidewalk landscape, and can provide direction to civic officials, developers, design professionals and downtown stakeholders as they engage in the revitalization of this socially, economically and ecologically valuable landscape within the downtown. This Framework recognizes the different needs of the many users of this landscape.

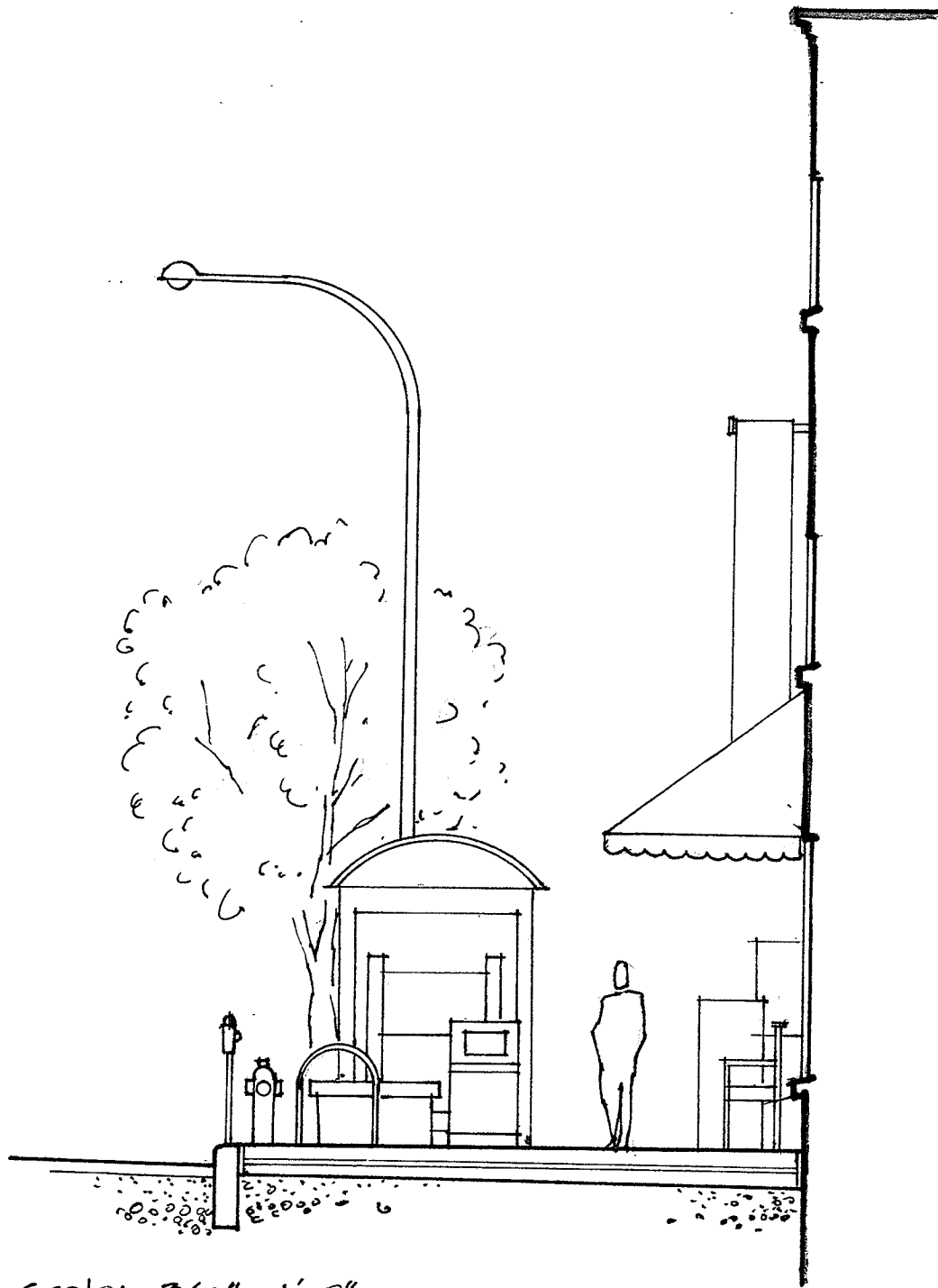


Fig. 162 Cross sectional collage of amenities and spatial complexity within the existing sidewalk landscape of downtown Winnipeg (author).

A Framework for Sidewalk Design Guidelines for Downtown Winnipeg

Contributing toward a healthy sidewalk landscape will be creative and responsible development by both the private and public sectors to create a three-dimensional public landscape which can encourage, facilitate and reward pedestrian activity and business development in the downtown.

For the private sector, this Framework can help provide direction for built and unbuilt sidewalk edges including facades, street parking, and parking lots. This Framework can work with 'Vacant and Derelict Building' legislation to ensure that ground level business opportunities are fulfilled for the benefit of both the businesses adjacent to the sidewalk landscape, and Winnipeg's downtown pedestrians.

For Winnipeg's downtown pedestrians, this Framework addresses potential forms of disturbance, particularly from wind, and noise, which may interfere with pedestrian comfort, or safety, and finds new solutions to either lessen the impact of, or re-cycle these downtown phenomena into becoming a contributing factor in the new sidewalk landscape.

Winnipeg's downtown is a rich mosaic of neighbourhoods containing streets and sidewalks. In conjunction with this Framework, it is hoped that zoning and design review can consider the impact of development upon the sidewalk landscape's contribution toward expressing neighbourhood identity, and connecting downtown neighbourhoods and landmarks.

Principles for Sidewalk Design

The following seven principles have been developed to apply the law and landscape architecture theory and documents discussed within the four perceptions: Sidewalk as Right-of-Way, Sidewalk as Investment, Sidewalk as Public Place, and Sidewalk as Ecological Network. A summary of these principles, their related by-laws, and guidelines, and indicators of sidewalk health can be found in Table 1 on pages 278-284.

1. **Effect**

Within the sidewalk landscape, design and/or development decisions can have negative effects or positive effects. Positive effects are those amenities, designs, arrangements, edges or surfaces which benefit the social, economic and ecological needs of the sidewalk landscape, and negative effects will prevent a benefit from being realized. Included in effects are psychological effects such as feeling unsafe, sensory effects such as disturbance from unwanted noise, and effects related to temperature including 'warm effect' and 'cool effect'. Plant species and elements which provide seasonal 'effect' are encouraged. Facade treatments can create an

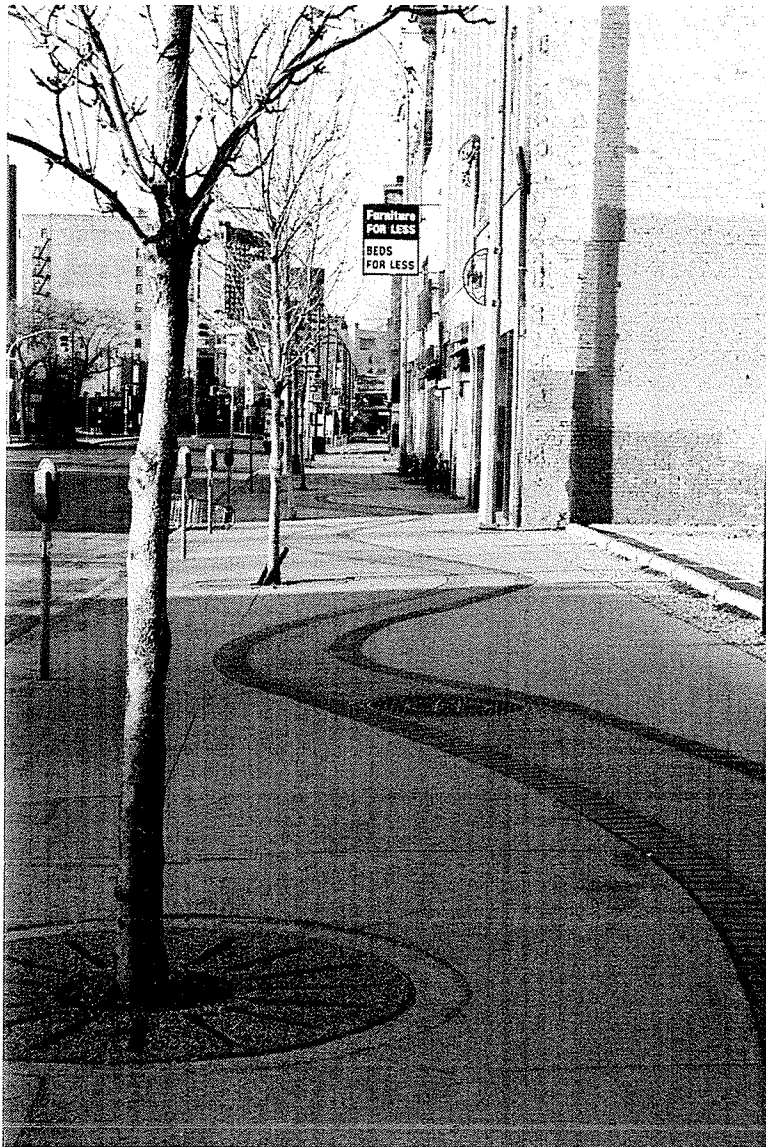


Fig. 163 *Sidewalk landscape paving pattern Main Street near Alexander Avenue, Winnipeg (author).*

'open' or 'closed' effects. At the ground level, all facades should seek the 'open' effect.

Applicability: facades, plant material, amenities, and surfaces.

2. **Flow**

Flow refers to movement within the sidewalk landscape. Many types of flow occur here including rainwater flow, wind flow, economic flow of goods and services, and the varying forms of human flow including recreational movement, commuting, and wandering. Consideration for sensory-driven flow through sound, and tactile surfacing should be included to provide access to all persons. While 'flow' is encouraged to animate and sustain the sidewalk landscape, the pace of 'flow' can be varied through sequencing techniques, and displayed by urban amenities. Intense wind flow should be deflected or re-cycled through awnings or wind turbine devices. Surface permeability 'flow' is encouraged. Traffic calming devices to moderate the speed of vehicular traffic flow are encouraged.

Applicability: surfaces, crosswalks, facades, amenities, and street trees.

3. **Layer**

Like flow, many layers exist in the sidewalk landscape including historic and recent layers of built fabric, layers of movement above ground, on ground, and below ground, and lateral layers including vehicular traffic, street parking, and buildings. Urban ecology including urban trees is another layer. Combining layers in a 'mesh' is encouraged.

Applicability: facades, surfaces, soil, above/underground circulation.

4. **Orientation**

By providing information, direction and interest, orientation is a contributing factor in the 'flow' of people. To create a sense of place, and encourage flow within the downtown, orientation devices are encouraged. Orientation should reflect the micro scale of the street, the meso scale of the downtown, and the macro scale of the City of Winnipeg. Orientation devices shall be scaled and located for pedestrians, and shall encourage a variety of 'flow' types.

Applicability: surfaces, materials, signage, and unique amenities.



Fig. 164 *Private sector pedestrian amenities McDermot Avenue, Winnipeg (author).*

5. **Value**

The value of the sidewalk landscape shall be demonstrated through its amenities, design, and maintenance. A high value will be assigned to materials, plant species and design decisions which meet sustainability criteria. A high value will also be assigned to elements which contribute to the re-cycling of wind and solar radiation. The introduction of private sector amenities in the landscape is encouraged. Replacement values shall be assigned to all elements of the sidewalk landscape including trees, and other plant material. Programs which encourage private sector participation in the decision-making processes and maintenance are encouraged.

Applicability: maintenance, amenities, and facades.

6. **Growth**

The sidewalk landscape shall exhibit the positive image of growth. Plant material will be selected based upon its growth requirements, and the sub-surface soil of the sidewalk landscape will be made available for plant 'growth'. Elements or design decisions which restrict or interfere with plant growth are discouraged. Elements and adjacencies which depict the positive growth of Winnipeg including new modes of travel and technologies are encouraged.

Applicability: street trees, transit, facades, and amenities

7. **Network**

All decisions affecting the sidewalk landscape shall protect the sidewalk landscape as a network. Connections within the network are encouraged as are elements which transition within the network. No development shall be permitted which directly or indirectly results in a break in the sidewalk landscape network. Development which connects the sidewalk landscape of the downtown with other districts is encouraged.

Applicability: transit, signage, crosswalks, and street trees.

Sidewalk Design

While all sidewalks within the downtown should reflect as many of the principles as possible, and should be given proper consideration for the 'Elements' they contain, the City may choose to further develop some sidewalk landscapes to increase safety, orientation, and interest within the sidewalk network of downtown.

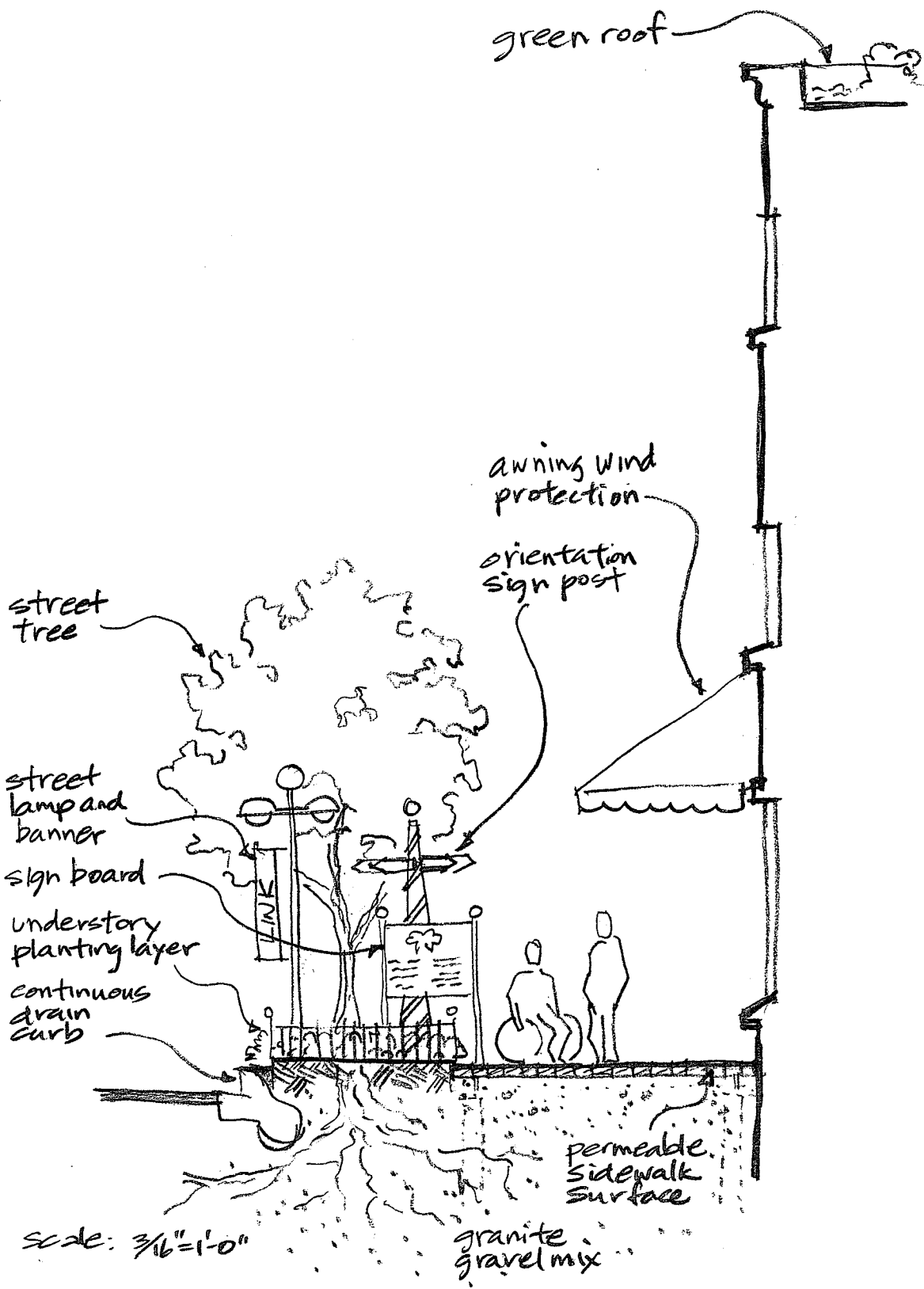


Fig. 165 Cross-sectional collage of proposed 'Link' sidewalk design (author).

1. The 'Link'

'Links' are designed for safe, casual strolling between significant pedestrian destinations and nodes. A greater priority shall be placed upon signage, clusters or rows of street trees, vegetative layering, surface permeability and soil volumes. 'Links' showcase the principles of 'Effect', 'Flow', 'Orientation', 'Growth', and 'Network'. A 'Link' can be created to connect a 'Destination' sidewalk with a natural feature (river), a landmark (theatre), or a neighbourhood (Chinatown). 'Links' can be developed to connect the sidewalks of downtown with the City's two rivers. The 'Assiniboine River Link' can be developed along Hargrave Street from Portage Avenue to Assiniboine Avenue using signage, wider sidewalk landscapes, and multi-storey vegetation. The 'Red River Link' can be developed on either Bannatyne Avenue or Market Street (with an extension) to provide tree-lined strolling sidewalks between Old Market Square and Waterfront Drive.

2. The 'Destination'

'Destination' sidewalks are designed for concentrated and unique amenities, major transit connections and access to adjacent commercial hub(s). A greater priority shall be placed upon amenities that reward pedestrian activity such as cafes, unique orientation or wind devices, and solar-powered parking meters. Smaller scale vegetation is best suited to green wall systems, and planters. 'Destination' sidewalk landscapes showcase the principles of 'Effect', 'Layer', and 'Value'. Portage Avenue, Graham Avenue and Broadway Avenue are examples of 'Destination' sidewalk landscapes. Due to their location between major pedestrian destination sites and areas, consideration should be given to developing Main Street south from Portage Avenue to Broadway Avenue, and York Avenue from Hargrave Street to Main Street as 'Destination' sidewalks. As many existing 'Destination' sidewalks are on East-West streets, wind amelioration and wind re-cycling can be incorporated into south-facing facades.

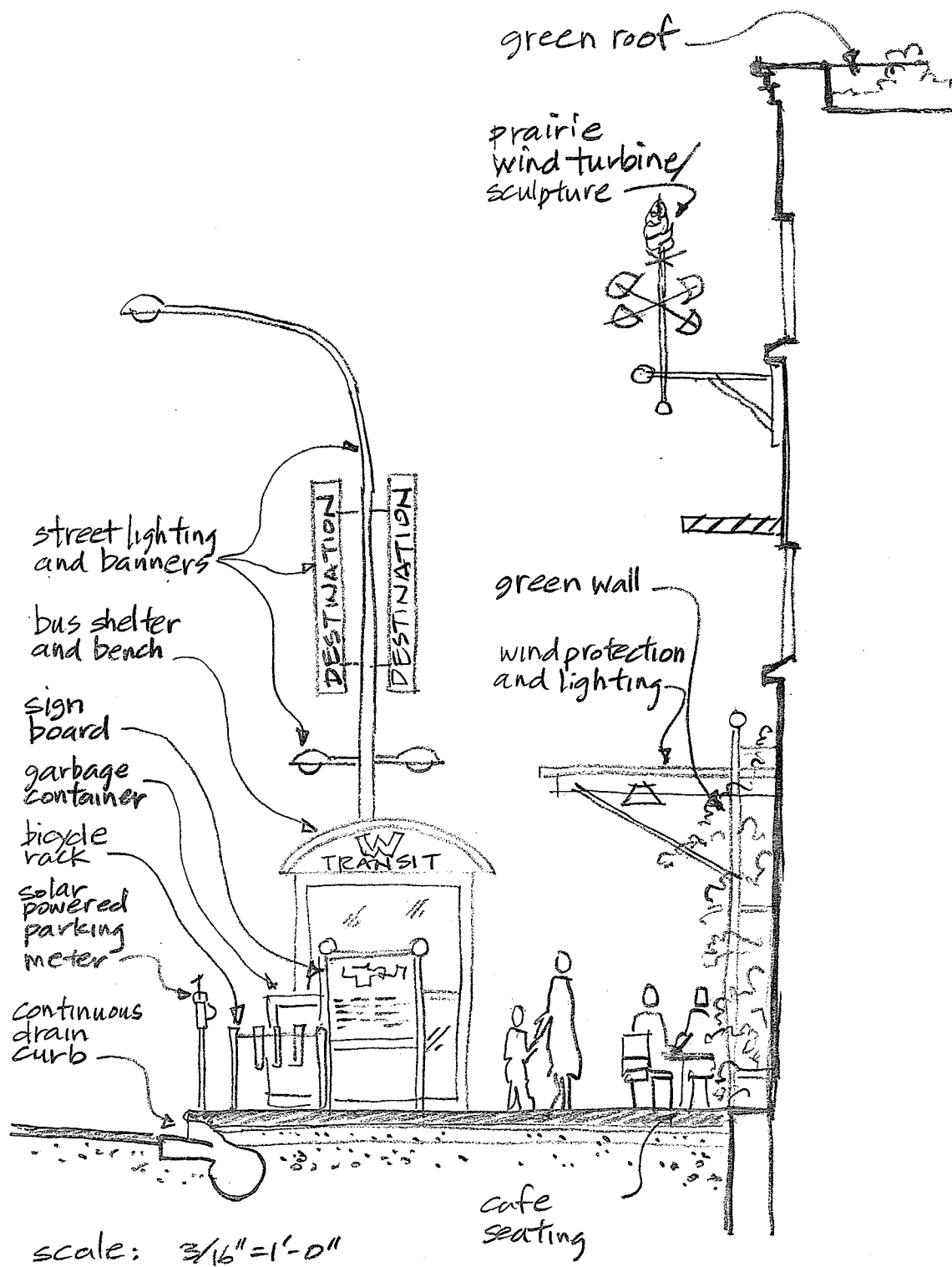


Fig. 166 Cross-sectional collage of proposed 'Destination' sidewalk design (author).

Elements for Sidewalk Design

1. **Crosswalks**

Crosswalks should be designed for safe, accessible, and sensory driven passage using crossing intervals appropriate to their location. Crosswalks should be clearly marked through vertical signage and roadway surface marking. Vehicular entrances and exits at buildings can be considered as crosswalks.
2. **Vegetation**

The plant material chosen should be appropriate to the planting bed size and location in order to promote a sustainable healthy landscape. Wherever possible, indigenous or xeriscape plant material should be selected, and planted in mass plantings. Tree trenches should be large enough to support tree health to maturity, and have proper drainage. Sidewalk surface materials and construction techniques should contribute toward a healthy growing environment for plants by allowing for root growth and permeability. Consideration should be given to neighbourhood or district vegetation themes, and vegetation which demonstrates seasonal change.
3. **Amenities**

Amenities are any private or public sector investment introduced into the sidewalk landscape. Amenities should be reviewed for their benefits to pedestrians and effect(s) upon street tree health, maintenance, and pedestrian 'flow'. Wherever possible, signage should be legible and of a scale and location appropriate to pedestrians. Wayfinding signage is encouraged. Amenities which utilize plant material for seasonal or regional interest, or for cooling through evapo-transpiration are encouraged. Sensory-stimulating amenities using re-cycled wind, or stormwater are also encouraged. Whenever possible amenities should utilize local materials, themes, artists, and tradespersons.
4. **Surfaces**

Surfaces are the horizontal materials which cover the travel or boulevard portion of the sidewalk landscape. Surfaces should be designed for the utmost safety and accessibility by being non-slip, self-draining, durable, and easy to maintain in any season. Wherever possible, surfaces should be more permeable to help reduce or delay stormwater run-off into the sewer system, and light-coloured surfaces should be utilized to help reduce urban

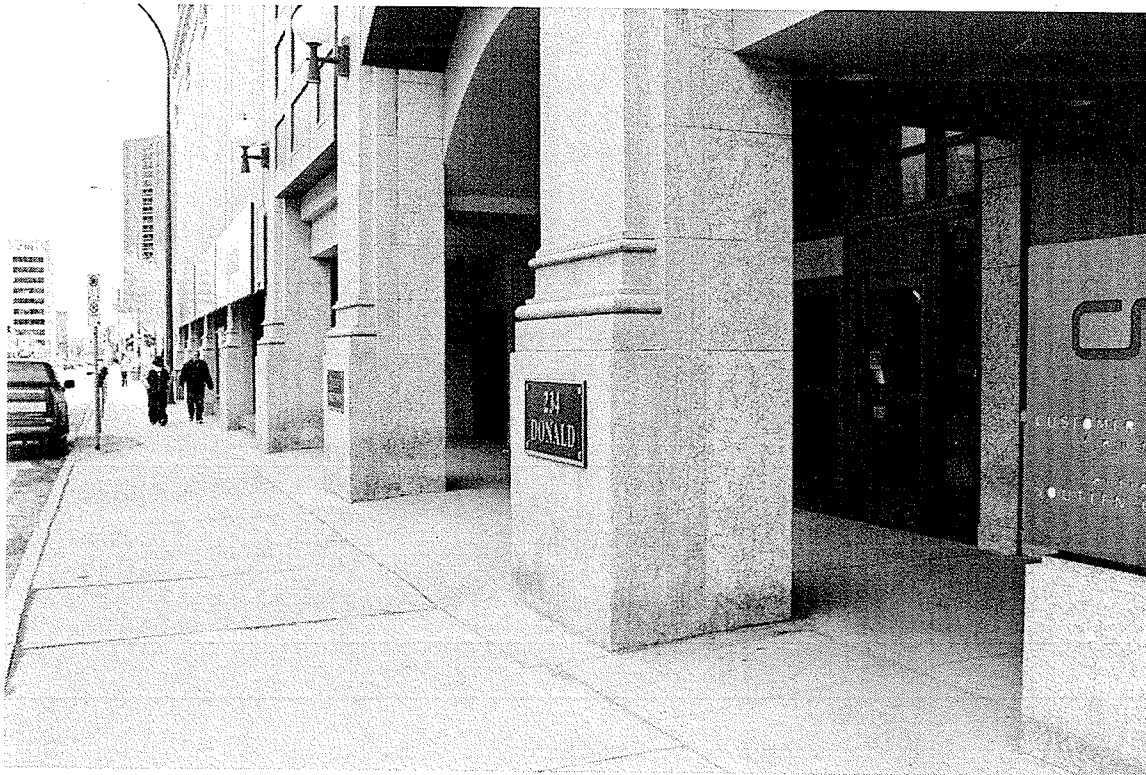


Fig. 167 *Arcaded sidewalk edge along Donald Street, Winnipeg (author).*

heat island effect and discomfort for pedestrians. Xeriscape, native, or theme vegetation is encouraged for non-travel portions of surfaces. Tree species selection should consider maintenance required for the travel portion of the sidewalk.

5. **Edges**

Edges are the implied, or physical vertical limits of the sidewalk landscape including building facades, fences, curbs, and planting beds. All edges should be reviewed for their impact upon pedestrian safety, pedestrian activity, and sustainability. At the roadway edge, parking is encouraged. Wherever possible, ground-level facades should provide visual and physical access to commercial activity. Signage upon building edges should be of an appropriate scale and location for the orientation of pedestrians. Where facades are prone to heat absorption, green walls are encouraged.



Fig. 168 *Pedestrian activity on Portage Avenue, Winnipeg* (author).

Table 1 - Relationship between Principles, Perceptions, By-laws, Guidelines, and Indicators of Sidewalk Landscape Health

Principle	Perception	Current By-laws/Guidelines	Indicators of Sidewalk Landscape Health
Effect	Public Place (safety) Ecological Network Right-of-way	Vacant and Derelict Buildings By-law Sidewalk/Boulevard Maintenance By-laws Streets By-law	aggressive panhandling (negative) closed sidewalks (negative) discharging mechanical devices/systems (negative)
	Investment	Downtown Zoning By-law Lot Grading By-law Obstructive Solicitation By-law Crime Prevention Through Environmental Design (CPTED) guidelines Urban Design guidelines	garbage on sidewalk (negative) glare from facades (negative) long-term boarding (negative) materials with low albedo values (negative) wind gusts (negative) awnings, canopies (positive) ground-level facade interest (positive) healthy plants (positive) operational water features (positive) people walking (positive) seasonal vegetation/amenities (positive) use of colour (positive)
Flow	Right-of-way Ecological Network Investment	Traffic By-law Streets By-law Accessibility guidelines LEED guidelines Permeability guidelines Bicycle Design guidelines Pedestrian Design guidelines	closed sections of sidewalk (negative) crosswalks without ramps (negative) parallel underground parking entrances (negative) snow hoarding (negative) standing water (negative) uneven/broken sidewalk surface (negative) animated lighting (positive) auditory signals (positive) bicycle racks (positive)



Fig. 169 *Clearly marked crosswalks and corner 'plaza' Atlanta, Georgia (D. Kwan)*

Principle	Perception	Current By-laws/Guidelines	Indicators of Sidewalk Landscape Health
Flow	Right-of-way Ecological Network Investment		clearly marked crosswalks (positive) down-draught wind devices (positive) green walls/roofs (positive) no-right-turn-on-red regulation (positive) pedestrian seating (positive) skywalk system (positive) stormwater management (positive) surface permeability (positive) tactile-based information (positive)
Layer	Public Place Investment Ecological Network	Encroachment By-law Downtown Zoning By-law Urban Tree guidelines Historic District guidelines	facade interest (positive) generous/well-drained soil areas for trees (positive) historic markers/sites (positive) historic building signage (positive) on-street parking (positive) permeable sidewalk surface (positive) sidewalk cafes (positive) understorey mass planting (positive)
Orientation	Right-of-way Investment	Streets By-law Downtown Zoning By-law Encroachment By-law Urban Design guidelines	missing building numbers (negative) missing street signs (negative) banners, and unique fixtures (positive) BIZ patrols (positive) neighbourhood amenities (positive) pedestrian-height signage (positive) signposts (positive) unique surfaces/plants (positive) wayfinding signage (positive)



Fig. 170 *Layered vegetation Atlanta, Georgia* (D. Kwan)

Principle	Perception	Current By-laws/Guidelines	Indicators of Sidewalk Landscape Health
Value	Investment Public Place	Downtown Zoning By-law Vacant and Derelict Buildings By-law Sidewalk/Boulevard Maintenance By-laws Urban Design Guidelines	<ul style="list-style-type: none"> unattended maintenance (negative) unattended vandalism (negative) adopt-a-sidewalk program (positive) maintained building entry plazas /planters or seating (positive) neighbourhood-theme vegetation (positive) pedestrian amenities (positive) preservation of historic facades (positive) public/private sector partnerships (positive) sidewalk food vendors (positive) sidewalk postcards/art (positive) street festivals, sidewalk sales (positive) sustainable materials/technology (positive) sustainable vegetation (positive) use of local materials (positive) vacant buildings (negative) vegetation nursery programme (positive) wall murals/utility artwork (positive)
Growth	Investment Ecological Network	Downtown Zoning By-law Vacant and Derelict Buildings By-law	<ul style="list-style-type: none"> on-going vacancy in buildings (negative) adaptable sidewalk construction (positive) healthy/maintained vegetation (positive) menus posted outside (positive) mixed use development (positive) new technology in transit and information systems (positive) pedestrian-level business signage (positive) people with shopping bags (positive) window displays (+seasonal) (positive)

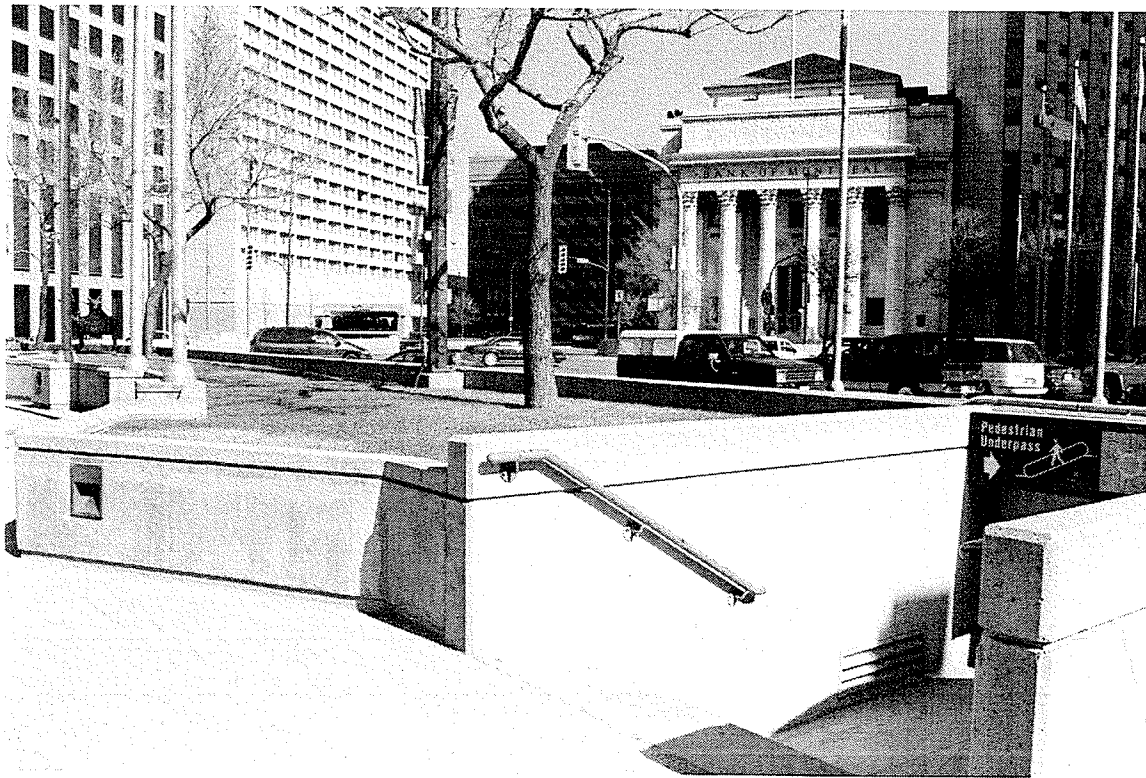
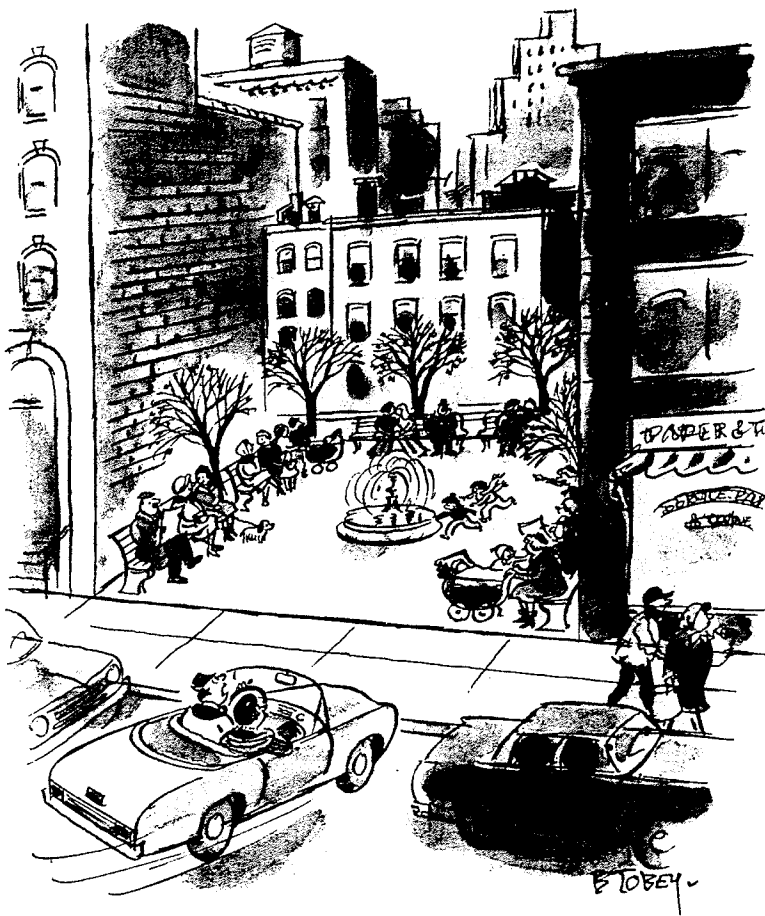


Fig. 171 Entrance to the underground 'crosswalks' for the intersection of Portage and Main Streets, Winnipeg (author).

Principle	Perception	Current By-laws/Guidelines	Indicators of Sidewalk Landscape Health
Network	Right-of-way Ecological Network	Traffic By-law Streets By-law Encroachment By-law	walking tours (positive) wayfinding signage (positive) terminated sidewalks (negative) transit shelters with information (positive) commuter challenge programmes (positive) links to river transit (positive) missing curb cuts (negative) excessive encroachments (negative) poor lighting (negative) vacant buildings (negative) public maps (positive) unmarked/inaccessible links between under/on/above ground circulation (negative)



"This city is going to hell! That used to be a parking lot."

Fig. 172 *Urban evolution cartoon* by B.B. Tobey 1975 for The New Yorker Magazine Inc. (Brambilla, 11).

Conclusion and Recommendations

During the course of this research I have tried to understand how sidewalks function, and how we function in them. Also I have looked at how we value sidewalks, and how we express this value through our legislation and by-laws, and through our perceptions of the sidewalk. Many forms of cultural expression including literature, art, law, and the activity of our public practices contribute to an ongoing dialogue examining and shaping this landscape within the city. The downtown sidewalk is more than an innocuous surface upon which we move from place to place. It is a three-dimensional landscape which provides us with the opportunity to connect with other people, the climate in which we live, and the amenities and services of downtown Winnipeg. While the physical structure of this landscape is designed for long-term durability with hard edges and surfaces, the health of this landscape depends upon systemic balance that should be planned for, reviewed, and maintained.

This work began and developed concurrently with two new directions taken by the City of Winnipeg: downtown revitalization, and a review of legislation and by-laws written for the city. This work also reflects federal initiatives toward environmental responsibility including the recently adopted Kyoto Protocol which sets targets to reduce greenhouse gas emissions. Already laws and cultural activity are being re-defined to incorporate the goals and value of environmental awareness in order to pro-actively create and maintain healthy environments. This work applies these broader initiatives down to the scale of the sidewalk landscape.



Fig. 173 *Complexity of sidewalk sub-systems Portage Avenue, Winnipeg (author).*

During the course of writing this work, I walked throughout the network of sidewalks within the downtown in order to study, question and test emerging ideas I was developing for this landscape. I talked with other sidewalk pedestrians, and city officials trying to understand goals for this landscape, and the problems faced when trying to achieve those goals.

Many of the goals for the downtown have implications within the sidewalk landscape, and it could be within this landscape that these goals are tested, might be realized or might be threatened. The goals of *Plan Winnipeg 2020 Vision*, including sustainability, thoughtful development, healthy living, and the overall goal of a “vibrant and healthy city,” can be ‘measured’ within the sidewalk landscape by preparing by-law and sidewalk audits, and then could be applied by strengthening the urban forest, the pedestrian network, and the links to Winnipeg’s history, and cultural and neighbourhood diversity. An examination of goals and problems can help lead to the development of a culturally and ecologically healthy sidewalk landscape.

This written product of my research has been organized to be both informative, and to promote the ideas presented. In order to find synthesis between the language and principles of the fields of law and landscape architecture, I searched for concepts common to both fields of study. The concept of complexity is found in many fields of study, but for this study it symbolized the relationship among the uses, users, and objects of, and expectations or goals for the sidewalk landscape. The sidewalk landscape’s complexity was studied as a group of co-existing sub-systems which can be developed and maintained in a mutually beneficial and sustainable relationship.



Fig. 174 *Safety and convenience within the sidewalk landscape London, England (Rasmussen, 406).*

These systems range from the economic, functional, social and ecological systems active within the sidewalk landscape to the governing systems involving policy creation, planning, policing and maintenance procedures which shape and maintain this landscape.

Each of the chapters in this work examines aspects of the sidewalk landscape complexity. In the first chapter, *The City and its Sidewalk Landscape* the role of the sidewalk was studied as a reflection of broader social and cultural issues within cities. This relationship and its implications were then studied in the local context as a study of the *Origin and Evolution of the Winnipeg's Sidewalk Landscape*. This research revealed the historic value of sidewalks and trees to the citizens and local government of Winnipeg, and the range of pedestrian activity occurring within the sidewalk landscape. The early by-laws of Winnipeg were written to help create and maintain a marketable and liveable city *at the sidewalk level*.

The legislation and by-laws in force today discussed in Chapter Three *Law as Inscription of Cultural Purpose upon the Sidewalk Landscape*, still regulate and use powers to shape land to provide safety, convenience, and freedom from nuisance toward setting the standards for a quality of life that is declared and maintained through law. What has changed from the late nineteenth century and early twentieth century is the number of by-laws written for this landscape, and the way they have begun to compartmentalize the view of the sidewalk landscape. As this landscape is perceived as one three-dimensional space containing many objects, and users, and supporting many uses, by-laws, regulations, procedures and legislation can be reviewed and



Fig. 175 *Puddles in the crosswalk Portage Avenue, Winnipeg* (author).

linked as contributing toward a larger whole (e.g. a 'set' of sidewalk governing documents) in order to minimize conflicts between departments, by-laws, and procedures taking place within the sidewalk landscape.

Another manifestation of complexity was revealed in the range of expectations and understandings of the sidewalk landscape which emerged from a broader cultural analysis of paintings, theory, law, literature, and users and uses of this landscape. These were summarized as 'Perceptions' because they reflect cultural goals or activity anticipated for, and/or witnessed within this landscape. I would argue that balance between systems within this landscape requires an understanding of and consideration for all four of these perceptions which collectively contribute toward the health of the sidewalk landscape.

The sidewalk as a 'right-of-way' to circulate within the city is an essential and valuable asset for businesses and pedestrians. Enhancing the sidewalk through 'investments' can contribute toward the healthy longevity and safety of this urban asset. This asset, however, must be protected from becoming an urban liability. Developing the sidewalk as a 'public place' can contribute toward social and economic health of the city. Finally, the sidewalk is also an outdoor created landscape and 'ecological network' that requires maintenance and input to remain attractive, healthy, and functional.

Creating a city landscape has consequences such as wind gusts, increased ambient temperatures, glare, and increased dependency upon heating/cooling systems, which impact upon pedestrians at the sidewalk level. An opportunity exists to mediate and re-



Fig. 176 *Median planting as an ecological investment toward a healthy sidewalk landscape Atlanta, Georgia*
(D. Kwan)

cycle these 'disturbances' through 'investments' and strengthening the ecological links to the City of Winnipeg's prairie and river ecosystems.

Critical to the promotion of the ideas presented is finding parity with current City of Winnipeg documents and goals. Understanding the language and format of the current governing documents can contribute toward a review of these documents for consistency in definitions, conflicts between departments, long-term effects of decisions upon sidewalk health, and sidewalk elements not 'valued' within by-laws, such as the current situation with the City's street trees.

While the goal of a healthy city began with the United Nations, this goal has become one of the goals named in the planning documents of the City of Winnipeg. During my research the idea of landscape 'health' emerged first as something that could be measured (i.e. healthy trees are an indicator of a healthy sidewalk landscape), then later as a goal which could be applied equally to cultural, economic, and ecological issues.

Health, like a landscape, is also considered systemic; whereby the health of one part of the system is linked to the health of the whole system. This situation can already be seen in the downtown sidewalk landscape where vacant buildings, damaged trees, empty planters, and missing orientation signage lessen the appeal of participating in this public space. For the city documents, sidewalk health can become one goal which addresses many current goals for the sidewalk landscape including safety, the suppression of nuisance, and convenience.



Fig. 177 Public and Private sector cooperation toward urban vegetation Atlanta, Georgia (D. Kwan)

Establishing the *value* of this landscape can be the first step toward a new approach for the legal and planning processes active within the sidewalk landscape. The sidewalk landscape has cultural, social, economic and ecological value which is expressed within this work by creating *awareness* of the issues facing, and potential benefits from this landscape, by *re-defining* this landscape to address existing conflicts and new ideologies, and by making *recommendations* for the review of legal documents impacting upon this landscape. I have chosen to demonstrate the value of the sidewalk landscape by preparing a *Framework for Sidewalk Design Guidelines for Downtown Winnipeg*.

The Framework will apply the historic powers of eminent domain toward planning for, constructing, and maintaining a healthy sidewalk landscape by contributing toward the safety and comfort for pedestrians, providing generous soil areas for street trees, and providing new opportunities for recycling stormwater and down-draught wind. The Framework will also recommend that this landscape be further promoted to adjacent development to strengthen public and private sector relationships, to demonstrate value for this civic infrastructure, and to bring greater awareness to the effect of sidewalk 'edges' upon the economic and social health of neighbourhoods. This document has also been written to bring greater awareness to the issues facing Winnipeg's street trees, and to help bring them into one vision of a 'healthy sidewalk landscape.'

Finally, this work was written to bring awareness to the sidewalk landscape as one expression of the relationship among law, culture and landscape architecture. It is hoped that this work will not only contribute to landscape architectural theory, but also



Fig. 178 New development with fabric awning MTS Centre Portage Avenue, Winnipeg (author).

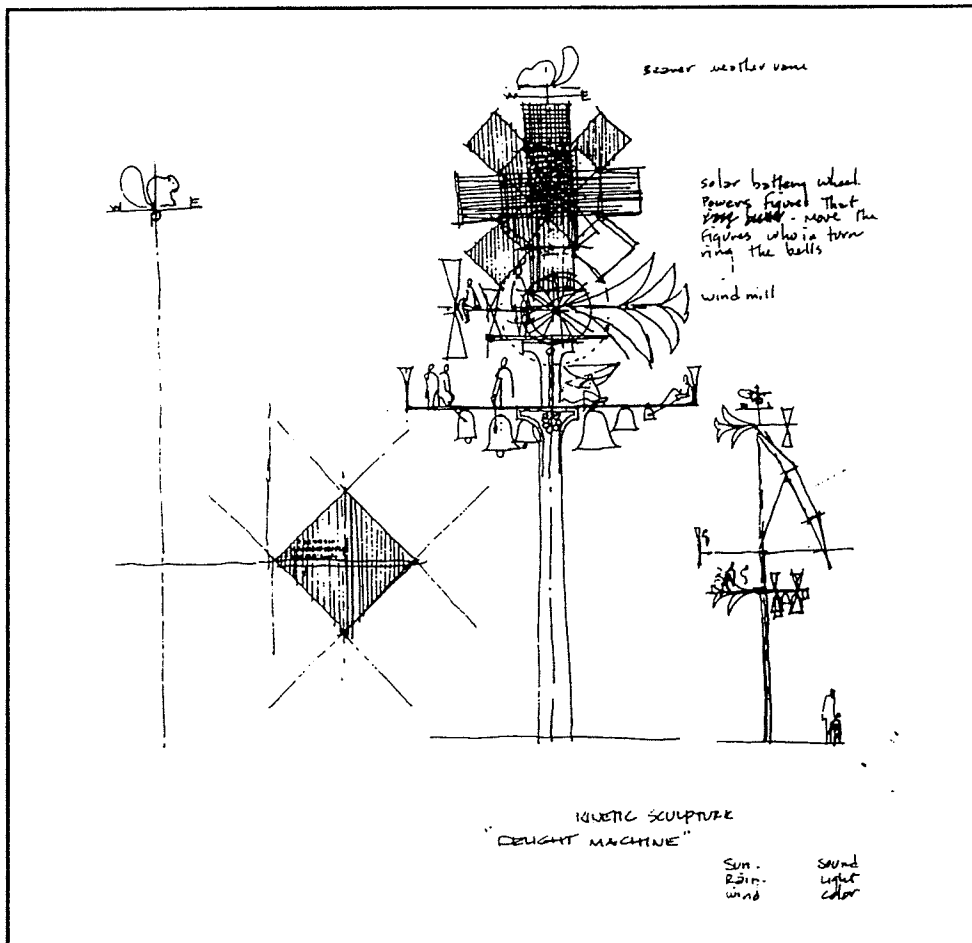
inspire new research and applied research uniting law and landscape architecture.

Landscape Architects and the Sidewalk Landscape

The city in which we drive, live, work, and entertain ourselves is a culturally-created landscape of streets, buildings, parks, and public and private development. This landscape results from a partnership between public and private sector investment, yet is regulated and protected by the by-laws and legislation of the federal, provincial and municipal governments. Landscape architects participate in the creation of policy and design for the city landscape, yet many may not fully understand the impact of government purpose, legislation and by-laws upon this landscape. Understanding the goals and limitations guiding the writing and application of government regulatory documents could help landscape architects become more active partners in meeting the responsibilities of government while encouraging development and participation in the downtown. Understanding the scope of jurisdiction and powers expressed within legislation and by-laws could also stimulate new opportunities for landscape architectural research and design expression within the city landscape.

The roles of the landscape architect in society can be that of a teacher, a designer, and a cultural and ecological translator in order to contribute toward or enable the work of city officials and downtown stakeholders. Utilizing research, landscape architects can also work with city officials to develop target goals for wind, permeability, sunlight, vegetation, orientation, and lighting in the downtown.

Landscape architects can also participate in a review of the permit process for



1 Will Martin's original sketches for a "delight machine" (1). Its modest scale and siting in Pioneer Courthouse Square (4) make the weather machine a popular local landmark. The blue heron (2) represents typical Portland weather, cloudy and changeable; the dragon appears (3) when more severe conditions are forecast; Helia, the sun symbol (5), signals all clear.

Fig. 179 "A Delight Machine" kinetic sculpture by Will Martin ("A Gentle Spectacle", 8).

development of outdoor spaces within or adjacent to the sidewalk landscape. As part of a sidewalk landscape review, the City may consider requiring that all permits relating to the sidewalk landscape include a detailed site plan stamped by a registered landscape architect showing existing street trees, light fixtures, amenities, sidewalk allowances, and underground encroachments, and include wind, and solar impact statements including levels of down-draught wind, glare, and albedo values of proposed finishes. In anticipation of this sidewalk landscape health review and approval process, landscape architects can work with City officials to establish targets for ecological sustainability including species selection, vertical layering in planting designs, and maintenance regimes for sidewalk vegetation. As designers, landscape architects can begin to explore innovative ways to utilize urban 'disturbances' and incorporate a sense of ecological and cultural 'place' in downtown Winnipeg.

Sidewalks of the future

My vision for future healthy sidewalk landscapes in Winnipeg includes sustainable healthy vegetation layered in planting beds, green walls, fixtures which re-cycle urban disturbance into energy and pedestrian interest, a semi-permeable sidewalk surface, generous and well-draining soil volumes for trees, signage which is informative, scaled for pedestrians, and contextual to Winnipeg, sustainable technology lighting which contributes to a sense of safety and animates the sidewalk without undue light pollution, a meaningful use of materials which are derived from sustainable sources and do not contribute to urban heat island effect, and many people out strolling, shopping and enjoying this valuable civic infrastructure.



Fig. 180 (above) Snow hoarding at the pedestrian crosswalk Paris Ontario (author).

Fig. 181 (below) Possible snow plow damage to the sidewalk curb, Winnipeg (author).

In order to proceed toward this vision, I recommend that the City undertake a three step plan of action. The first step involves a thorough analysis of the sidewalk landscape through a series of audits. First, I would recommend a by-law, policy, and procedures audit be undertaken to look for consistency and clarity in the goal of creating a healthy sidewalk landscape, in the definitions, and in the approach taken toward street trees, and encroachments. Another analysis audit would involve updating the locations, physical condition, and legal status of the City's areaways, as these affect both soil volumes available for trees, and legal responsibility for sidewalk maintenance.

The downtown sidewalk landscape also can be analysed for its physical characteristics; therefore, I would recommend the following audits: an ambient temperature audit be undertaken in the winter and summer seasons, a ground-level wind speed audit, a precipitation audit during a heavy rain event to determine potential sites for overflow (roofs, drains), a snow hoarding and snow plow damage audit be undertaken in the winter, a plant material health and nuisance audit including street trees, a lighting levels and quality audit, a urban signage audit to determine pedestrian orientation, available information, and sense of network, a pedestrian traffic audit, and a safety audit including a Crime Prevention through Environmental Design review of sidewalk 'edges' and recorded police statistics.

The second step involves a public promotion campaign to target downtown property owners and tenants, property developers, contractors, design professionals, and the general public to set the groundwork for the third step by introducing the principles, goals, and proposed projects for the sidewalk landscape. In this step it will be important



Fig. 182 *Sidewalk landscape Assiniboine Avenue at the Assiniboine River edge, Winnipeg (author).*

to promote the benefits of sidewalk re-development including safety, potential reduced energy costs, increased pedestrian traffic, and sustainability. Included in this campaign can be sidewalk specific promotions (walking tours, sales), programmes (commuter events), and incentives (potential tax incentives) to encourage pedestrian activity and environmental awareness.

The third step involves sidewalk [re-] design and implementation which will involve studying potential 'Link' and 'Destination' sites including locating the River Links, and sites for green roofs, and walls. This stage will also involve seeking funding sources through public/private partnerships, federal government infrastructure funding, or re-directing existing funds collected due to activity or land ownership in the downtown.

Lessons learned

One of the most important realizations that emerged from this work was the rich potential for sidewalk landscapes and landscape architecture not yet explored through law. It is through law that visions for cities are declared and upheld or modified when necessary. Law has the powers to engage many different users of the sidewalk landscape simultaneously, and consistently over periods of time when governments, and civic officials and employees may change. When society embraces issues of such importance as civic health and environmental responsibility, these issues can be applied within landscapes through law because law has been the vehicle for creating and maintaining land since the introduction of zoning in the first quarter of the twentieth century. I believe it is short-sighted to interpret by-laws as contributing toward over-regulation in cities. Perhaps, we simply need better, more holistic by-laws.



Fig. 183 "Walk" signal on Alexander Avenue, Winnipeg (author).

Another lesson learned from the process of researching and writing this work is the value of conversation. While I read and gathered a great deal of written information, it was the conversations that I had with people that helped me question and direct this work, and place it within a larger context of past successes and failures, current concerns, and the visionary ideas of other people and city governments. Many of these conversations occurred with citizens or employees of the City of Winnipeg. These conversations provided me with valuable first-hand experiences, and challenges which helped me broaden my perspective to 'see' sidewalk landscape holistically. The sidewalk landscape can also stimulate many future conversations, research, and design expressions for the City government, landscape architects, and the faculty and students of the University of Manitoba Department of Landscape Architecture.

Appendix A

Tree Species and Sizes Acceptable for Boulevard Planting

- adapted from the City of Winnipeg Development Agreement
Schedule 'D', revised March 1999.

1. Large size trees

<u>Latin name</u>	<u>Common name</u>	<u>Height</u>	<u>Caliper</u>
<i>Acer saccharinum</i>	Silver Maple	3700-4600 mm	65mm
<i>Fraxinus pennsylvanica</i> 'Patmore'	Patmore Green Ash	"	"
<i>Fraxinus nigra</i> 'Fall Gold'	Fall Gold Black Ash	"	"
<i>Fraxinus mandshurica</i> 'Mancana'	Mancana Ash	"	"
<i>Tilia americana</i>	Basswood	"	"
<i>Acer negundo</i> 'Baron'	Baron Manitoba Maple		
<i>Fraxinus</i> (other species and cultivars may be acceptable)	Ash		

2. Medium size trees

<u>Latin name</u>	<u>Common name</u>	<u>Height</u>	<u>Caliper</u>
<i>Celtis occidentalis</i> 'Delta'	Delta Hackberry	3700-4600 mm	65 mm
<i>Ulmus davidiana</i> 'Discovery'	Discovery Elm	"	"
<i>Tilia flavescens</i> 'Dropmore'	Dropmore Linden	"	"
<i>Tilia mongolica</i> 'Harvest Gold'	Mongolian Linden	"	"

3. Small size trees

<u>Latin name</u>	<u>Common name</u>	<u>Height</u>	<u>Caliper</u>
<i>Prunus maackii</i>	Amur Choke Cherry	3000-3700 mm	50 mm
<i>Prunus virginiana</i> <i>Melanocarpa</i> 'Shubert'	Shubert Choke Cherry	"	"
<i>Syringa reticulata</i>	Japanese Tree Lilac	2400-3000 mm	40 mm
<i>Malus</i> 'Roseyblossoms' (selected cultivars)	Roseyblossom	3000-3200 mm	50 mm
	Crabapple 'Royalty'		
	'Thunderchild'		
	'Selkirk'		

Notes:

1. Boulevard trees shall be planted at equal intervals in accordance with the following schedule:

Large size trees	13 - 16 m apart
Medium size trees	10 - 13 m apart
Small size trees	7 - 10 m apart

2. Boulevard trees shall be planted at a minimum distance from above ground structures as indicated below:

Minimum distance from street intersections	6 m
Minimum distance from light standards	3 m (updated)
Minimum distance from private approaches	1 m (updated)
Minimum distance from fire hydrants	3 m
Minimum distance from hydro poles	3 m
Minimum distance from manholes	3 m

3. Tree planting

- (a) shall not commence until the lot is improved, all underground structures have been installed and the boulevard is finish graded;
- (b) shall not be undertaken when the ground is in a frozen condition or during periods of extreme heat;
- (c) shall occur during the spring or fall planting season;

4. Soil requirements for boulevard trees

- (a) All soil required for the planting of boulevard trees shall consist of black top soil, a fertile friable natural loam containing not less than 4% of organic matter for clay loams and not less than 2% for sandy loams, with an acidity value ranging from ph 6.0 to 8.0 and capable of sustaining vigorous plant growth.
- (b) All soil shall be free of any mixture of subsoil or clay lumps and free of stones and root pieces over 25 mm in diameter and other extraneous matter.
- (c) All soil shall not contain couch or crab grass rhizomes.

5. Specifications for Deciduous Tree relationship between caliper, minimum overall height (mOH), minimum branching height (mBH), minimum number of branches (mB), and minimum root spread (mRS).

<u>Caliper</u>	<u>mOH</u>	<u>mBH</u>	<u>mB</u>	<u>mRS</u>
20mm	1800 - 2400 mm	1500 mm	3	400 mm
25 mm	1800 - 2400 mm	1500 mm	4	450 mm
25 mm	2400 - 3000 mm	1700 mm	4	450 mm
30 mm	2400 - 3000 mm	1700 mm	6	500 mm
40 mm	3000 - 3700 mm	1800 mm	8	550 mm
45 mm	3000 - 3700 mm	1800 mm	9	600 mm
50 mm	3700 - 4600 mm	2000 mm	10	650 mm
60 mm	3700 - 4600 mm	2000 mm	12	700 mm
75 mm	3700 - 4600 mm	2000 mm	14	800 mm
90 mm	4600 - 5500 mm	2000 mm	15	1000 mm

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