THE EFFECTS OF RAILWAY CORRIDORS AND RIGHTS-OF-WAY ON URBAN MORPHOLOGY:

A Study of Growth, Abandonment, and Re-use of Railway Corridors.

PATRICK J. MCISAAC

A practicum presented to the University of Manitoba in partial fulfillment of the requirements for the degree of Master of Landscape Architecture in the Department of Landscape Architecture.

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BY

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A practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

MASTER OF LANDSCAPE ARCHITECTURE

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Chapter I

INTRODUCTION

Our cities are a complex blend of systems that exist and interact on many levels. Transportation systems - from the local to regional and national levels - are firmly tied into the overall urban fabric that gives order and viability to urban functions. The efficiency of transportation networks effect and determine almost every aspect of urban form and function. The transportation system of a city functions as a network - connecting the various essential elements of the urban framework at all levels; and as a hierarchy - determining greater and lesser importance to various aspects of the urban system.

Winnipeg's location and origin is rooted in the historical availability and efficiency of transportation systems. Our role as a trading centre, at the confluence of two major prairie rivers, reflects a time when linkages to the rest of Canada and North America were by water - via canoe, York boat, paddlewheel steamer, and barge. Later, transcontinental railway lines were built through Winnipeg and several national and international railway companies established terminals, marshalling yards, and other related facilities in the city. These railway companies triggered

great industrial, economic, commercial, and urban growth that insured the continued existence of Winnipeg. As a result, Winnipeg's growth and evolution became physically and economically tied to the vitality and viability of national railway systems. Today's urban form is in many ways a result of these strong form determinants.

The needs of both railways and cities have changed considerably. The time has passed when the requirements of the railway companies were paramount. The great amounts of land dedicated to railway activities are now experiencing conflicts with adjacent urban uses that have grown to surround their perimeters. Peripheral land uses are now the railways, restricting them, and severely limiting their growth and expansion. Railway companies have grown, reorganized, and often built larger more efficient facilities further away from urban pressures. Large pockets of open land near city centres are often unnoticed but potentially highly valuable city assets.

In Winnipeg, railway rights-of-way and yard facilities pass through the historic and functional centre of the city bordering many of the city's older neighborhoods, the downtown core, and substantial portions of the banks of both rivers. All of these facilities are in the process of responding to the internal and external forces of change and reorganization - from being phased out or abandoned; to a state of underuse as they fail to address the conflicts

created as a result of their their boundary interfaces with other areas.

Winnipeg, perhaps more so than any other Canadian city, has been profoundly affected by the growth and continued presence of railway facilities and activities. Our situation today, however, reflects the general scenario that is common to all cities with a railway presence. Winnipeg finds itself at the end of a process of railway birth, growth, decline, and subsequent removal or abandonment from urban areas. This process has spanned almost the entire history of the city itself, a period of more than a century. An understanding of the complexities of this process must be gained in order to suitably deal with the opportunities before us today. One such area is the older residential neighborhood of Fort Rouge.

The presence of the railway activities of the Fort Rouge Yards has had a determinate effect on the origin and development of its surrounding neighborhoods. The yards were a precursor to the emergence of the adjacent neighborhood of Lord Roberts, attracting workers who built their homes nearby, and the streets, schools, streetcars, and other elements which comprise a neighborhood. There was a time when the industrial activities of the Fort Rouge Yards coexisted with nearby residences. Roundhouses, repair shops, and smokestacks, were nestled close by with the homes of the workers.

Unable to expand to meet the changing needs of the railway, the Fort Rouge Yards were judged to be obsolete and phased out in the early sixties. All industrial facilities and buildings either burned or were demolished and the land became virtually abandoned. Since then, this vast area of vacant and unused land has remained dormant, awaiting a breath of new life and new uses to once again fill this historically vital piece of the city. To the future of the city, this pocket of land represents a valuable hidden resource ready to meet the demand of our future growth.

This, then, is the challenge taken by this study: to explore the complex relationship that has existed and exists between the Fort Rouge Yards and the adjacent city neighborhoods and determine methods of re-integrating the vacant yards into the functional structure of the city.

1.1 TERMS OF REFERENCE

The terms of reference for this study as established in the study proposal are as follows:

The principal objective of this comprehensive study is to examine the alternatives and possibilities for the future redevelopment of the C.N. Fort Rouge Yards in Winnipeg. Inherent in the study process is the examination of the historic growth processes of railways in Canada, specifically as they relate to urban growth and the

development of Western cities in general, and of Winnipeg, in detail. The relationship between railways and urban growth, form, and present condition are considered vital to the understanding of the problem. Reasons for railway underuse, relocation, and/or abandonment will be examined as they relate to the situation. Finally, having determined the process through which we have arrived at present conditions, recommendations for future action will be given.

The following objectives have been defined to guide the direction of this study:

1. To study the historical growth of Canada's railways, their relationship to the growth of Western Canada and its cities, and their influence on the growth and development of the City of Winnipeg.
2. To examine the historical and current relationships that exist between railways and urban form in the specific context of the city of Winnipeg.
3. To study the changes that have occurred in the national railway system and how these relate to the underuse or abandonment and current role of railway facilities in our cities.
4. To examine and determine the forces and causes behind the underuse, relocation, and/or abandonment of rail yards and right of ways.
5. To study examples of railyard and right-of-way re-use and to determine major successful development alternatives.

6. To explore the role of landscape architecture in urban planning and design that attempts to recapture and use, fully, neglected parts of the urban framework.
7. To explore the study specifically within the context of the Fort Rouge Yards in Winnipeg.

These terms of reference relate to broader issues confronting this study. As the parameters of the study narrow, more specific goals and objectives will be determined and confronted.

1.2 ISSUES AND OBJECTIVES

Several issues arising early in the study from preliminary research relate to the specific study areas. These issues are the basis of need for problem resolution and lead to the formulation of objectives to guide the study.

1. ISSUE: WHAT ARE THE EFFECTS OF RAILWAYS ON URBAN FORM?

   CONCERN: The city and its railway facilities have developed simultaneously from nearly identical periods. Their individual and combined morphology is closely intertwined.

   GOAL: To develop an understanding of the historic and contemporary relationship between railways and urban form.

   OBJECTIVE: To use this understanding in the development of guidelines that respect the historic relationships and/or conflicts that cities and railways have and are experiencing.

2. ISSUE: CAUSES OF RAILWAY UNDERUSE, RELOCATION, OR ABANDONMENT

CONCERN: Abandonment of railway yards and rights of way or underuse of existing facilities has occured over an extended period of time and for a wide variety of causal factors.

GOAL: To understand the reasons behind abandonment and underuse in order to properly assess the present condition and function of the Fort Rouge Yards.

OBJECTIVES: To assess the changes in the use and activity occuring in the yards and determine the effects of these changes on the adjacent community and neighborhoods.

To develop a framework for development that is responsive to the functions and needs from the points of view of the railway and nearby residents.

3. ISSUE: LACK OF RE-USE

CONCERN: Since phasing out of activities in the Fort Rouge Yards, opportunities for re-use of the land have not been fully realized despite negotiations between the City and the CNR.

GOAL: To evaluate what forms of re-use have occured and how these have come about, and to additionally evaluate failures in plans of re-use.

OBJECTIVE: To alternative re-use possibilities that have been successfully employed, and which have not in order to understand what types of reuse are most appropriate.

4. ISSUE: WHAT POSSIBILITIES EXIST FOR THE FUTURE?

CONCERN: As the Fort Rouge Yards have been vacated, they will eventually be re-used in some fashion.

GOAL: To give substance to re-use alternatives and recommend land uses that maximize optimum land use potential.

OBJECTIVE: To identify strategies that lead toward the effective reuse of the Yards based on future needs.

1.3 THE STUDY AREA

The study area has been defined by the boundaries of the former Fort Rouge Yards where they interact with a variety of different urban forms (see figure 1). These boundaries or interfaces contain the prime area of study. Activities and urban forms outside these boundaries and their specific interface situations will be considered a secondary area of study in order to reconcile negative interface situations and attempt reconcile conflicting land uses or problem areas.

The boundaries of the study area and their interface situations are as follows:

1. West Interface

   This edge is created by the CN main line trackage along which Pembina Highway and its varied commercial and light industrial activities has grown. It is the strongest and most defined edge and acts as an inpenetrable barrier between existing neighborhoods. There is currently no interaction through this barrier and no access points across to or from he study area.

2. East Interface

This boundary is created where CN property meets the neighborhood of Lord Roberts which consists of single family and multi-family dwellings. There is need for upgrading of this neighborhood and opportunity for re-integrating the neighborhood into the study area. Existing neighborhood form and condition will be considered vital to the study. conditions will be strongly considered.

3. South Interface

This edge is created by the major vehicular/rail interchange at Jubilee and Pembina Highway which forms another inpenetrable barrier to community interaction.

4. North Interface

Another traffic/rail interchange that includes the Fort Rouge Transit Base and the Red River creates this edge. The area that lies within these prescribed areas is of primary interest and concern. The selection of these boundaries is based on the limits of CN property, which because of early dedication, has resulted in remarkably different growth patterns and urban forms. The physical

character of the area will be discussed in detail later in the study.

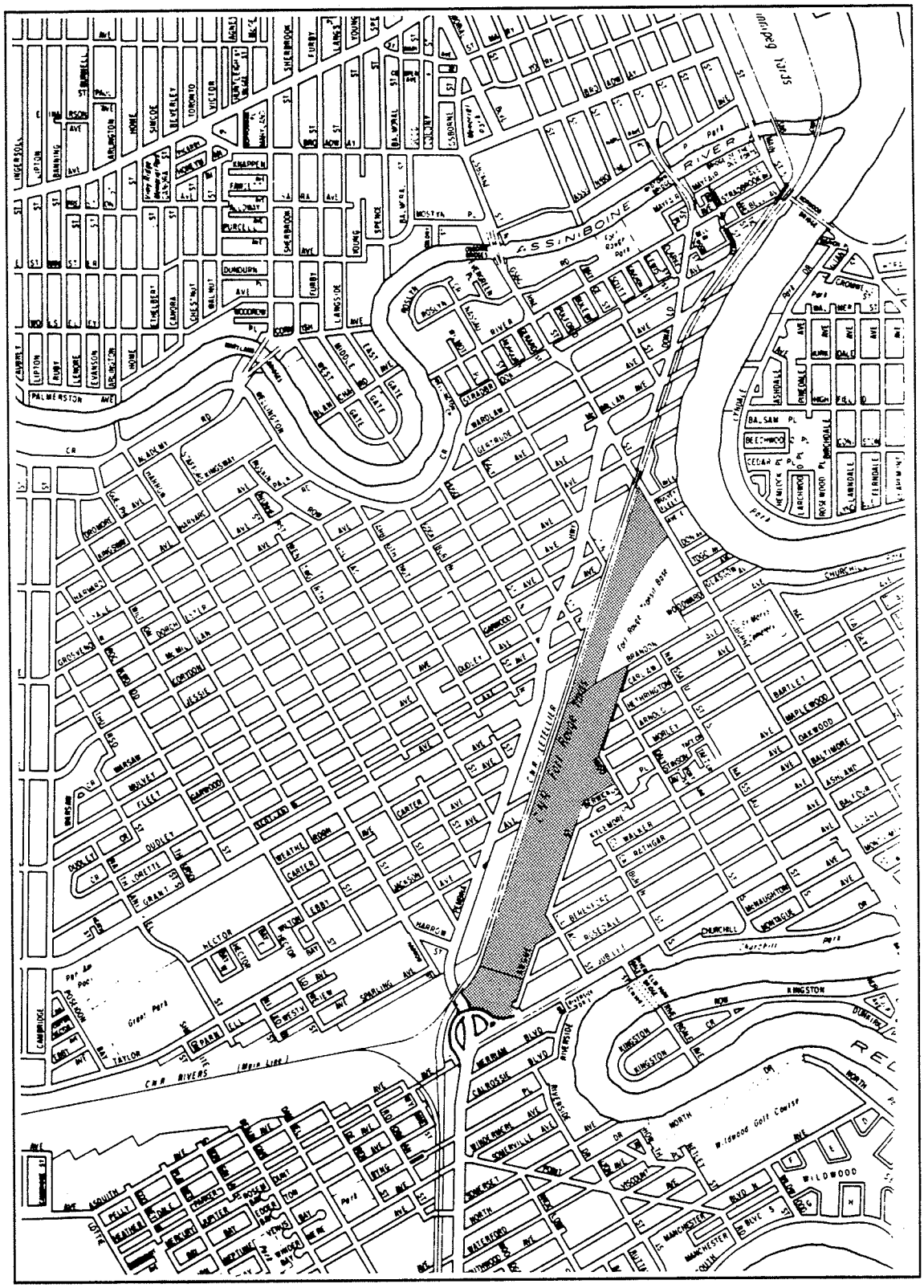

Figure 1: MAP ONE: THE STUDY AREA

Chapter II

A CHRONOLOGY OF RAILWAY GROWTH IN WINNIPEG

2.1 RAILWAYS AND THE DEVELOPMENT OF PRAIRIE CITIES

Canada's first Railway was opened in 1836 between La Prairie, on the mainland south of Montreal Island, and St. Jean on the Richeleau River. By 1856, there were at least 68 miles of railway in operation in the populated eastern section of Canada.

At the time of Confederation, the significance of the railway to the country was quite evident. It has been stated that the history of the railway has been the history of Canada. This is especially true in the western portion of the country, which was settled and developed later than the east. To the west, the railway represented a necessary precursor to settlement, growth, and development.

In 1873, an editorial in the Manitoba Free Press stated:

> The two great wants of this country are railroads and settlers. The former is necessary to secure the latter.[1]

Winnipeg's political and business leaders believed at this time that railways were absolutely necessary to promote economic and population growth. Indeed, this belief was

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[1] Manitoba Free Press, (Winnipeg: 27 December, 1873).

held by all North American community leaders and was probably true given the physical expanse of the continent and the overwhelming need for transportation. Railways have been instrumental in the development of most North American cities; a fact of which our early civic leaders were acutely aware.

Prairie cities in Canada developed as a result of the arrival of the railway, which was to fulfill its promise of growth and prosperity. The sites of future towns and cities were fixed by railway engineers and officials. The cities of Brandon, Regina, Moose Jaw, Swift Current, Medicine Hat, and Calgary originated as a result of railway company decisions to locate terminals, station grounds, and lay out rudimentary townsites at their future locations. These cities owe their subsequent prosperity and growth to these early events.

In other locations, some settlement had occurred prior to the arrival of the railway. Edmonton and Winnipeg began as Hudson Bay Company trading forts. Winnipeg had attracted some agricultural settlement and developed into a thriving commercial town before the rails arrived. In these cases the railway became a second focus which changed the direction of future growth. It seems, however, that the railway companies were accustomed to having control and were somewhat reluctant to locate in an existing settlement, preferring the freedom offered by controlling growth and development.

Before the railway, Canada's West was thus largely unpopulated, with few settlements of any great consequence, and seemingly an endless landscape, difficult to govern and control. The young country, but a few years of age, was a fragile union of disparate regions, vulnerable to the pressures of separation and/or annexation to the United States. As many of the citizens of Winnipeg believed the railway would ensure their vision of growth and prosperity, Canada's leaders in Ottawa believed the railway would make possible and practical their vision of Confederation. The railway, in Ottawa's eyes, would physically, economically, and socially bind together the young country and fill the empty prairies with people to break the land and build towns.

Wedded into the concept of Confederation was a plan of immigration, settlement, and agricultural development of the West, to give Canada strength in human resources and a place in the world market with the production of grain. The inclusion of the West in Confederation would serve as a market for Eastern industries who were experiencing some difficulty in establishing southern markets in the United States. The government was committed to the creation of strong east-west ties to direct the flow of trade, provide geographical links between regions and population groups, allay the fears of separation and annexation of the west to the southern republic, and bolster the economic strength of the dominion.

In 1871, the federal government entered into an agreement with the newly created Province of British Columbia to build a transcontinental railway connecting eastern markets to the Pacific Coast. The construction of this railway was a condition of the entering of British Columbia into Confederation. Thus the Canadian Pacific Railway Company was formed and incorporated in June 1872 by the "Act to Incorporate the Canadian Pacific Railway Company".

Aside from the political reasons inherent in Confederation, there were two main reasons behind the construction of the railway. Firstly, it was needed to settle the undeveloped agricultural west and exploit its mineral and lumber resources. Secondly, it was intended to direct the flow of trade across the nation. The strong political and economic need for the railway, and the federal government's commitment to its construction, led the West into a frenetic boom period of railway construction and population growth that was to carry well into the next century and forever to change the face of the western landscape.

Because of the federal government's commitment to the national railway system, geographical constraints, difficulties in finding capital, and for incentive, the Canadian government readily gave subsidies, land grants, protection legislation, and other privileges probably unequalled by any other railway in North America. The

railways acquired rights and privileges which have become the basis of many present day problems of railway relocation in urban areas. As our cities have grown around original railway grounds and the needs of the companies have changed, conflicts have arisen. Many of these conflicts are as old as the railways themselves, and will be examined further.

2.2 THE EMERGENCE AND BOOM OF THE RAILWAY IN WINNIPEG

(For a more detailed and illustrated account of this period, please see appendix 1.)

The arrival of the railway in Winnipeg was an event accompanied by scandal and political turmoil. The construction of a transcontinental system was seen to have obvious benefits to established or emerging communities along its route. Winnipeg's political and business communities were as anxious to be guaranteed a place on the main line as they were to acquire a rail connection with Eastern markets. This connection was seen as a vital link that would ensure the city's prosperity, and the question of the federal government's choice of route became of paramount concern in Winnipeg. Winnipeg, unlike Montreal or Toronto, could not fall back on water to meet its transportation needs.

A guarantee of crossing through Winnipeg was, however, not given as politicians argued between Winnipeg and Selkirk as the selection of the the terminal crossing through Manitoba. Between 1874 and 1881, the political battle continued accompanied with changes in federal governments, forceful lobbying efforts from Winnipeg, and financial promises by the city's politicians. During this uncertain period, the city negotiated for construction of its own colonization line south to the U.S. border at Pembina, North Dakota, and forged ahead with the construction of a railway bridge across the Red River, built at civic expense.

By 1878, The Manitoba and Southwestern Railway was completed becoming the first prairie section of railway. It was put into operation with service run between St. Paul, Minnesota, and Winnipeg. In 1880, construction began on the city built bridge across the Red River into the established neighborhood known as Point Douglas. These developments, however, should be considered for what they really were: efforts made to force the federal government into directing the main transcontinental line through Winnipeg. (see

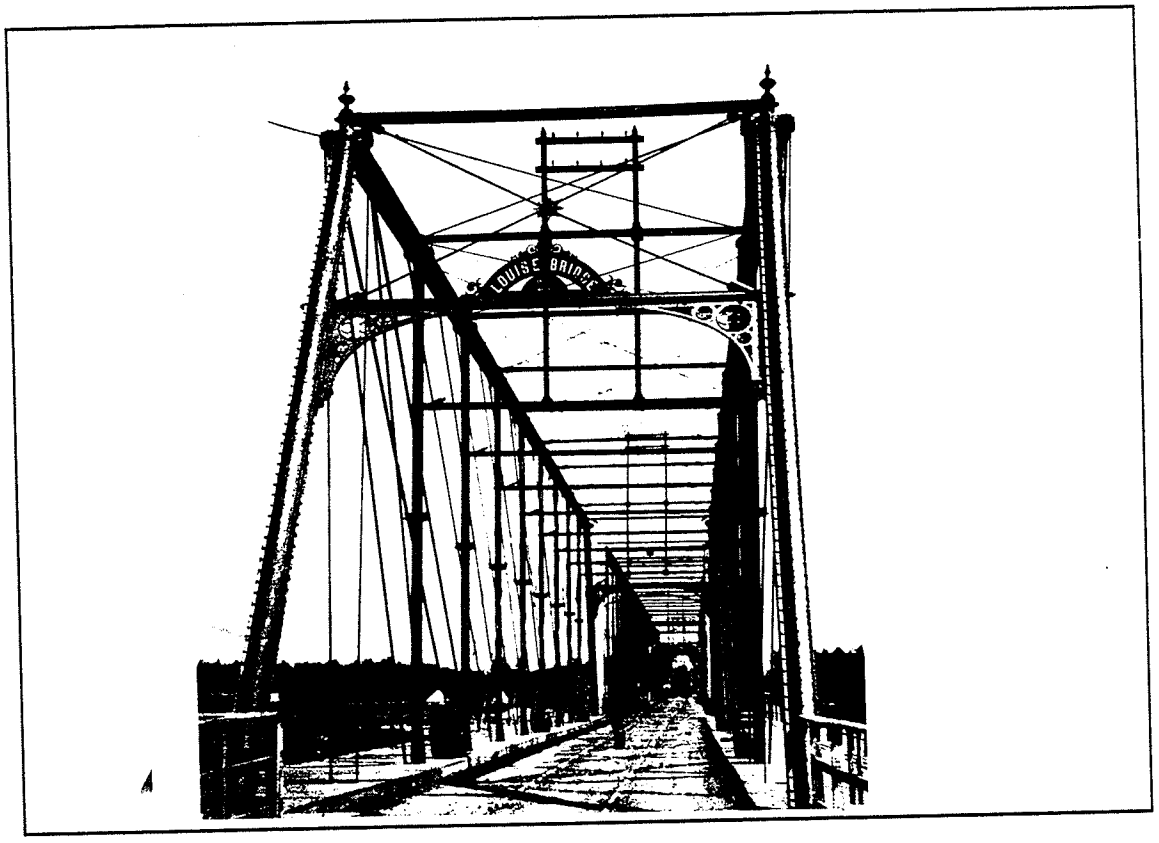


Figure 2: THE LOUISE BRIDGE: Winnipeg's first railway bridge
source: Provincial Archives of Manitoba

figure 2)

Finally, in 1881, the Canadian Pacific Railway Company announced the construction of a terminal and passenger facility in Winnipeg indicating that the city had won its decade long battle. The city entered a new era in its history, an era that was to forever alter the city's future growth and fortunes. Winnipeg immediately embarked on a chaotic building and real estate boom that saw the birth of several new railway companies, phenomenal physical growth, population increase, and immeasurable social change.

The new terminal and yards were built between 1882 and 1884 in North Winnipeg. The line entered the city from the east via the generously provided, civic built railway bridge. It bisected Point Douglas into North and South Point Douglas, until then, one of the city's more desirable residential districts. It headed west across Main Street where the terminal and yards grew.

Until 1888, the Canadian Pacific Railway company had held a monopoly throughout Western Canada. This monopoly was created in 1872 by the parliamentary act which had incorporated the C.P.R., and was intended to ensure its ability to complete the vital transcontinental link unhindered by external competition, especially from American Railways. When the line west was completed and the last spike drive in 1885, however, increasing use and lack of

competition lead efforts to revoke this monopoly. Again Winnipeg's political and business interested weighed heavily in this effort, fearing that high freight rates would be harmful to the city's wholesalers and commercial suppliers competing with their Eastern counterparts. By 1888, "An Act Respecting Railways" was passed, and included the elimination of the C.P.R. monopoly clause.

The void created by the lack of railway competition was quickly to be filled by the formation of aggressive new railway companies. In 1889, the Northern Pacific and Manitoba Railway Company (NP&M) was formed under the sponsorship of the Provincial Government of Manitoba and operated as a subsidiary of the Northern Pacific Railway Company. Yards, freight facilities, and a passenger terminal were established along Water Street, between Main Street and the Red River, and south to the junction of the two rivers. This was the beginning of the East Yards complex, which was to consume a substantial portion of valuable waterfront property. (see figure 3)

A second significant railway was formed in 1889 called the Manitoba and Southeastern Railway Company (M&SE). This railway operated first out of the C.P.R. Yards in North Winnipeg, but soon built its own facilities in St. Boniface. Thus, before the close of the nineteenth century, there were at least three independent railway yards operating out of Winnipeg.

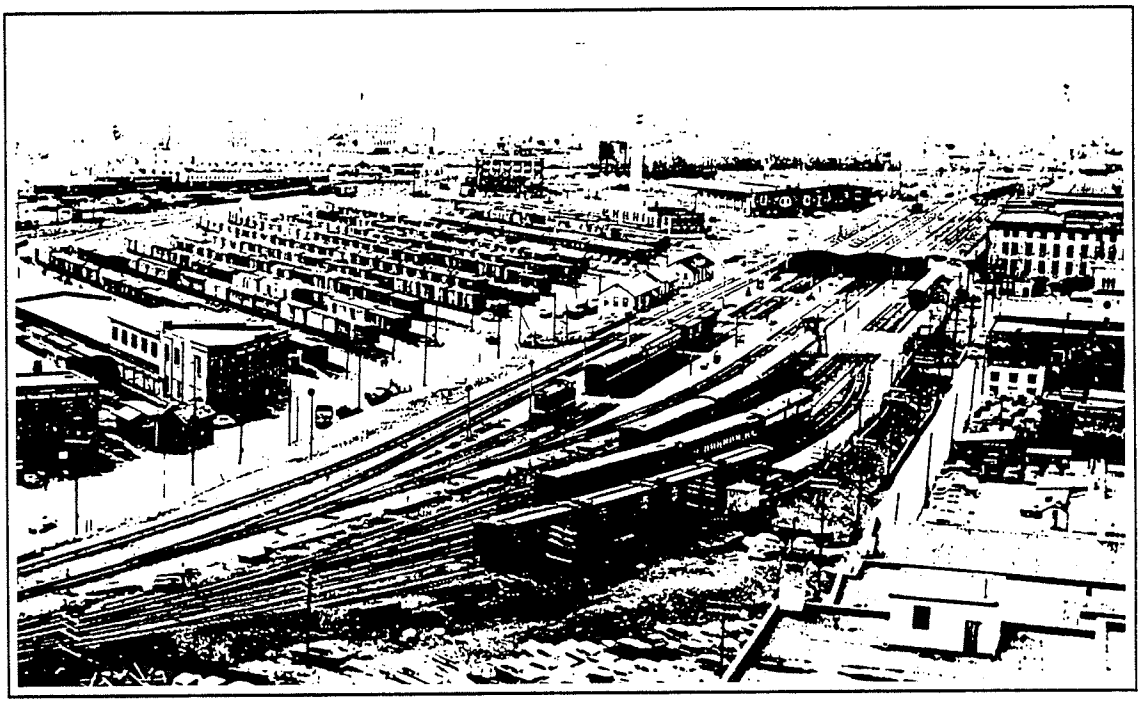


Figure 3: THE NP&M YARDS OR EAST YARDS IN FULL USE
source: Winnipeg Tribune Collection, University of Manitoba, Department of Special Collections and Archives.

In 1901, the Canadian Northern Railway Company came into being as an amalgam of several non-viable small railway companies, including the two previously mentioned. This railway was to grow in such astounding proportions that a line coast to coast was achieved by 1915. The NP&M Water Street terminal became the base of operations for this new company, and the yards expanded until they were limited by Main Street to the west, the Red River to the east, Water Street to the north, and the Assiniboine River to the south. It was not long before the needs of this growing company could not be met by these restricted facilities. The

company sought a plan of reoranization and expansion of its facilities, and in 1904, announced its decision to move Canadian Northern's main shops and marshalling yards to the Fort Rouge area.

This expansion and reorganization included the construction of a new passenger terminal at the foot of Broadway Ave. on Main Street. This move that put an end to the connection of Winnipeg to St. Boniface by bridging the Red River between Broadway and Provencher Avenues. The Fort Rouge Yards officially opened in 1909 and included a massive new roundhouse, numerous engine repair buildings, and shop facilities. (see figure 4) They were to employ upwards of 500 workers. Union Station on Broadway was completed and opened two years later.

As the Canadian Northern Railway Company was being formed and expanded, the federal government was negotiating to build a second transcontinental railway separate from the C.P.R. This system was to be called the National Transcontinental Railway (N.T.R.) and was to be operated by the Grand Trunk Pacific Railway company (G.T.P.). A site near Winnipeg was chosen for central repair and maintenance facilities, and construction began on the Transcona shops in 1909. These shops opened in 1913 and immediately began to handle all of the system's repair and maintenance facilities. Grand Trunk Pacific shared use of Union Station with Canadian Northern. The building housed all passenger

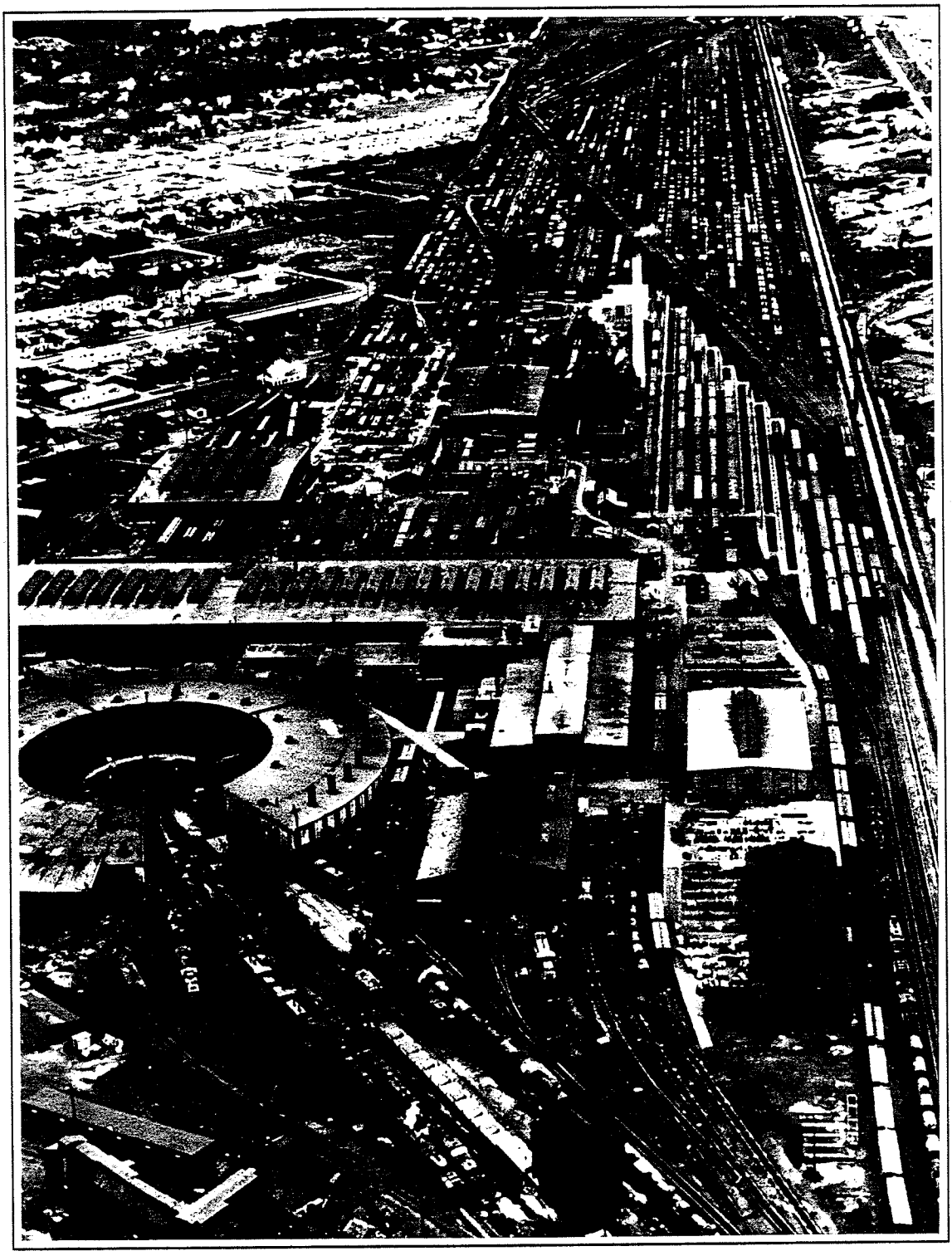


Figure 4: AERIAL VIEW OF THE FORT ROUGE YARDS, ca. 1920
source: Winnipeg Tribune Collection, University of Manitoba, Department of Special Collections and Archives.

services, the main offices of both railways, and the

Winnipeg Joint Railway Terminal Company, which was formed in 1912 to handle all switching operations between the yards of the two systems. This allowed Grand Trunk Pacific use of Northern Pacific facilites and acess to industrial facilities from which it would otherwise be excluded.

By the beginning of the first world war, there were three transcontinental railway systems operating in Canada and through Winnipeg. Numerous smaller companies were formed with often little more than a single line, where a need for transportation was to be met and profitted from. The railway era had peaked in Winnipeg, which had become the hub of the western transportation network. The era of booming railway growth, however, was to end almost as quickly as it had begin. The influence and significance of railways, however, continued to be a powerful force in formation of Winnipeg's urban form.

2.3 POST GROWTH DECLINE AND REORGANIZATION 1914 - PRESENT

At the onset of World War 1, Winnipeg's fortunes seemed bright, as a direct result of its position as a railway centre. Three transcontinental railway systems (the Canadian Pacific, National Transcontinental/Grand Trunk Pacific, and Canadian Northern) operated out of the city offering competitive transportation rates. This encouraged the growth of a commercial distribution industry that supplied the entire Northwest by taking advantage of these

competitive rates and vigorous western immigration. The railways offered a great source of employment both directly and indirectly. By 1914, there were at least seven independent railway yards and terminals active in various parts of the city. (see Table 1)

These good fortunes were not to last as several global events led to a shifting of Canadian priorities. When World War 1 erupted in Europe, immigration to Canada all but ceased as the state of the world economy declined. As Winnipeg was dependent on the prosperity of Canada and the West, it was equally dependent on the state of the global economy, the worldwide price of grain, and the changing tides of immigration. Virtual cessation of the flood of immigration changed the entire picture of Canadian development. Tightening of domestic spending ended several promising railway projects which depended on government subsidies. The feasibility of three separate transcontinental systems had always been an questionable issue, and now it was being tested dramatically. Railway projects which had once promised to be economically sound became business failures.

The opening of the Panama Canal in 1914 had a lasting effect on Winnipeg's future. The new route offered a cheaper alternative for goods bound for B.C. and Alberta other than passing through Winnipeg. Up until this time, Winnipeg as the "gateway city" had been the bottleneck through which all people

TABLE 1

MAJOR RAILWAY TERMINALS AND YARDS IN WINNIPEG

NAME OF FACILITY	OPERATOR	WHEN BUILT	LOCATION
CPR YARDS	Canadian Pacific	1882 - 1884	North Winnipeg
WATER STREET OR EAST YARDS	NP&M, then Canadian Northern & GTP, then CNR	1889, expanded 1904, closed 1960's	Central Winnipeg
PADDINGTON	M&SW, then CNR	1898, closed	St. Boniface
FORT ROUGE YARDS	Canadian Northern then CNR	1904 - 1909 closed 1960's	Fort Rouge
GREAT NORTHERN	Great Northern	ca. 1900 closed	North Winnipeg
MIDLAND	Midland Railway	1911, closed	Central Winnipeg
TRANSCONA	NTR then CNR	1909 - 1913	Transcona
SYMINGTON YARD	CNR	1962	St. Boniface

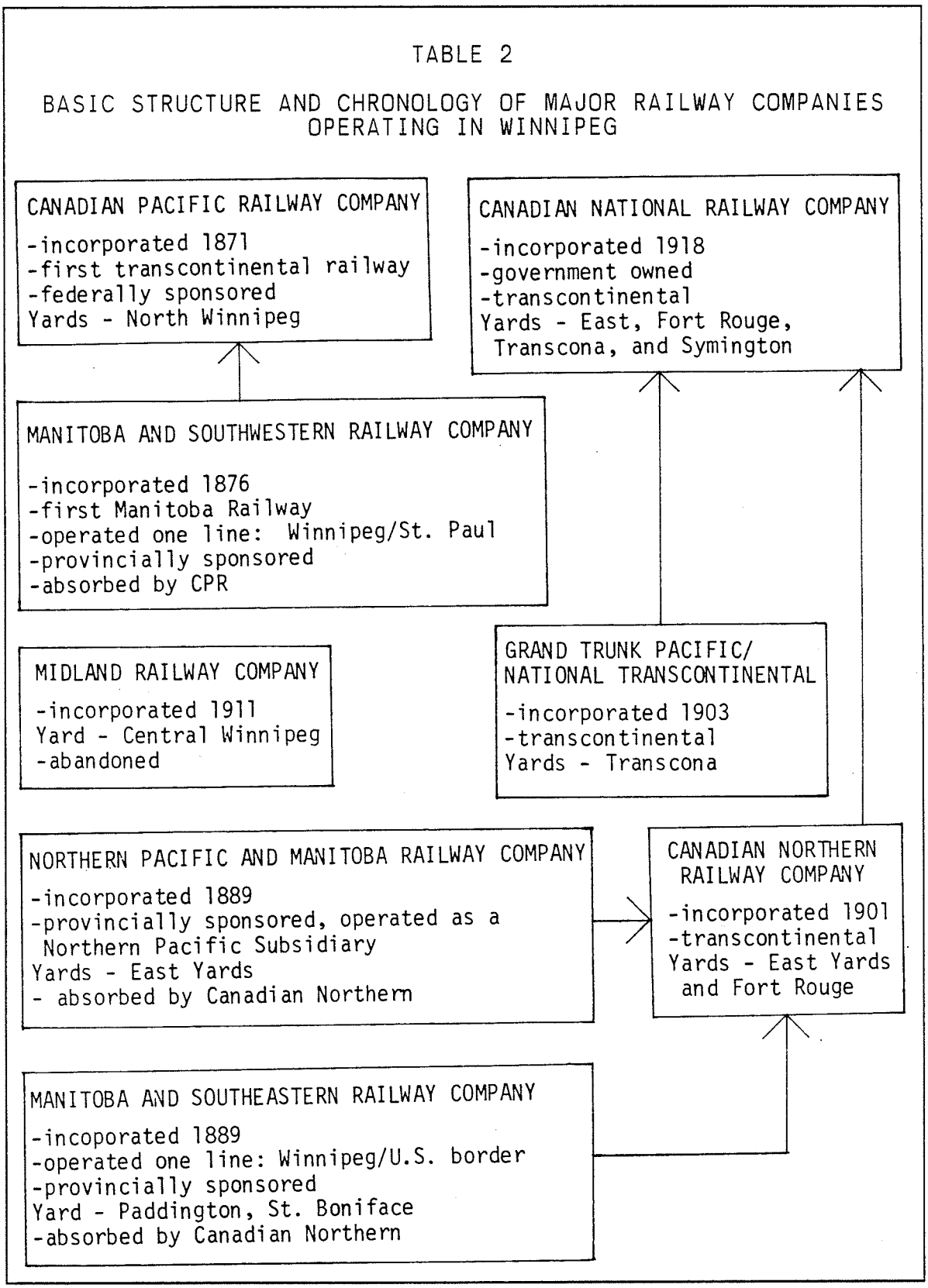
or goods moving east or west had to pass. Winnipeg's wholesale trade and grain marketing business began to wane as the City of Vancouver enjoyed fortune and growth.

Both the Grand Trunk Pacific and National Transcontinental Railways were plagued by financial difficulties throughout World War One, and both railways were nearing financial collapse. The Canadian government, seeing that this would have a disastrous effect on the Canadian economy, stepped in and took complete control of the National Transcontinental Railway on Nov. 20, 1918. Later the same year, the federal government also took over the Canadian Northern System. A new company, called Canadian National Railways was formed in 1918 to operate the two collapsed railways. Canadian National Railways (CNR) later absorbed the Grand Trunk Pacific Railway Company in 1923. These acquisitions, along with several minor ailing railway companies, formed the main constituent companies of the present day CNR, a crown corporation under government control. (see Table 2)

The events that ended the pre-war railway boom also served to eliminate redundant, inefficient, and non-competitive railway companies. Most of these smaller railways were either absorbed by their larger competitors or languished until their eventual demise. Across the country, thousands of miles of track were ripped up and the steel put towards the war effort. Few independent or local railways survived, while those that did

TABLE 2

BASIC STRUCTURE AND CHRONOLOGY OF MAJOR RAILWAY COMPANIES OPERATING IN WINNIPEG



became insignificant parts of the national railway system that exists today in much the same form as it did then.

On a national scale, only the Canadian Pacific and Canadian National Railway companies continued to be viable economically. After a brief period of growth following World War 1, railways in Canada did not again experience the boom from which Winnipeg had so greatly prospered. As the fortunes of the railways and the city were so intertwined, Winnipeg's growth slowed in similar proportions.

Of the two major railways, the CPR was by far the more efficient system, having been designed and built as a singular entity. The younger CNR, however, comprised of smaller competing companies, was a more cumbersome beast to handle. This was especially true in Winnipeg where CN operated out of the four yards that were established by separate competing companies - the East (Water St.) yards, Paddington, Fort Rouge, and the Transcona shops. While the CPR easily handled its traffic at its one massive yard in the north end, the CNR had to somehow co-ordinate its activities into an efficient and competitive organization.

From its formation in 1923, few changes in the CNR terminal facilities were made. Generally, trains operating on the former NTR and GTR lines used the Transcona yards as a terminal while those using the former Canadian Northern used the Fort Rouge Yards. CN operations became an essentially dual yard system in which transfers were necessary, creating increased labour, time,

and overall inefficiency. Many trains were marshalled outside of the city at Sioux Lookout or Melnick to avoid the problems of the Winnipeg facilities. Despite these drawbacks, the system was growing slowly and steadily. Traffic increased, along with the size and number of cars per train, further compounding the problems.

By the forties and fifties, the CNR system had increased greatly in response to the general growth of the country and post World War II prosperity. It was determined that Winnipeg's terminal capacity would be reached by 1962 and possible solutions for terminal reorganization were considered. The first possibility was to increase the capacity of the existing yards to their maximum potential. This option was immediately rejected as it would mean continuing on with the split yard system that had created so many problems in the past. As well the expansion of the existing yards was severly limited by physical barriers such as the rivers and urban development.

The second option was to consolidate all of CN's Winnipeg yard operations into a modern classification yard. This option was agreed upon and in the late fifties and early sixties, CN began to reorganize their facilities away from the existing in-city terminals of the East and Fort Rouge Yards. The facilities at Transcona were expanded to handle all car and engine repair and maintenance functions that had previously been carried out in the Fort Rouge Yards. Construction also began on a massive marshalling yard in St. Boniface to handle the marshalling and

classification procedures that had been the function of the East and Fort Rouge Yards. The new yard, called Symington Yard, was

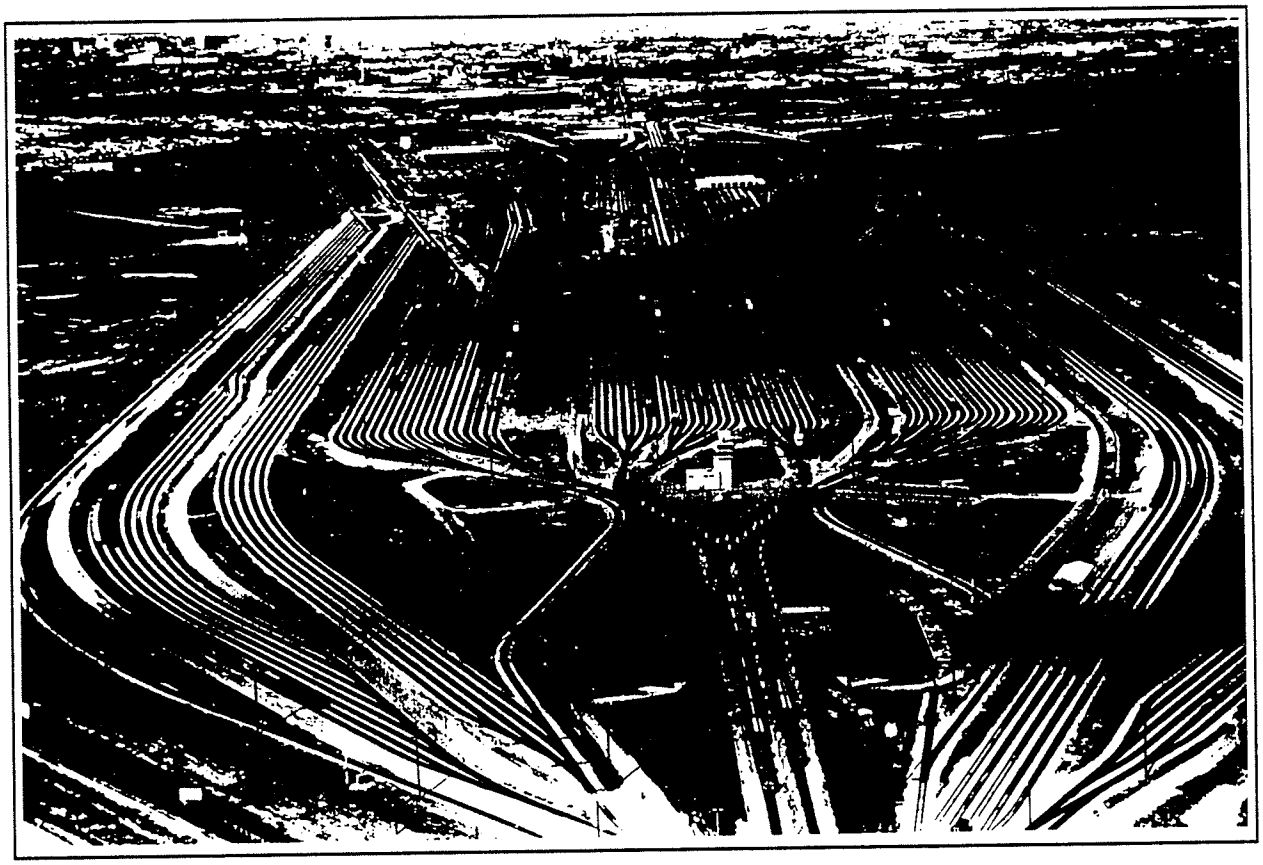


Figure 5: CN SYMINGTON YARDS
source: Winnipeg Tribune Collection, University of Manitoba, Department of Special Collections and Archives.

officially opened in 1962. (see Figure 5)

With the opening of the new CN Symington Yard, the CPR yards in north Winnipeg remained the only fully active yard of consequence within the city. The East Yards and the Fort Rouge Yards, once active and vital symbols of growth and prosperity, immediately became vacant and redundant pieces of the urban past.

Chapter III

RAILWAYS IN THE URBAN CONTEXT

3.1 ROLE OF THE RAILWAYS ON THE DEVELOPMENT OF WINNIPEG'S URBAN FORM

> Situated as it is almost in the very heart of the continent, Winnipeg has become not only an important focus of railway traffic, but it is also developing into a great centre of railway industries. It is the home of thousands of railroad employees, and is conspicuously a "railroad town". It is indeed confidently asserted by many that it will soon become one of the greatest railroad centres of the world.[2]

As the railway was considered the most desired and primary form of development for Winnipeg, it is not surprising that visitors to the city quickly noted the position of paramount physical, social, and economic importance that railway facilities held in the growing city. The previous comment was written by such visitors to the city representing the British Association for the Advancement of Science and intended as a guide book to the city for British citizens and Canadians of British descent. It is not unlike other accounts of Winnipeg during this era which invariably commented on Winnipeg's railway facilities. It is evident that the railway was, at this time, the most

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[2] British Association for the Advancement of Science, Winnipeg 1909: A Handbook to Winnipeg and the Province of Manitoba, (Winnipeg: 1909), p.45.

significant single element influencing urban development and subsequent urban form.

Whether or not Winnipeg is a unique example of urban growth response to the railway, is impossible to tell without detailed research of similar conditions and histories of other Canadian cities.[3] As it has been stated, however, the city of Winnipeg was devoted to the railways and believed in their promise of prosperity and growth, as did other North American cities at the time. This factor, coupled with Winnipeg's geographically central location on the national transcontinental framework, could be considered to be sufficient evidence to support the argument that the railway had at least as much influence on Winnipeg as it had on any other North American city experiencing similar growth phenomena at that time.

3.1.1 EARLY FORM DETERMINANTS

The strong influence of the railway on the growth of the city is rooted in the early 1880's when the CPR entered the city. This event alone guaranteed the future growth of the city and ensured its position as a major prairie centre. Transportation "not only made Winnipeg into an urban metropolis but also greatly influenced the shape and form of its aereal extent.[4]

[3] Alan F. J. Artibise, The Urban Development of Winnipeg; 1874-1914, Urban History Review, No. 1, pg. 5.

The urban growth of the city was thus determined at a basic level by transportation in the form of railways. But to what extent did early railway facilities effect the morphology of the city's urban structure and the typology of growth patterns? To determine the level of influence of the railway on urban development it is useful to compare it to other growth parameters.

Because Winnipeg is a young city built on essentially undisturbed terrain, and because of the rapid accelerated growth of the early days of the city, it is possible to note major influences that have created our present urban morphology. Others have researched and written extensively on Winnipeg's early growth and several key factors can be noted which have influenced growth and form can be readily seen:

1. Natural Conditions, especially rivers and drainage.
2. Early Transportation Patterns. (ie. pre - railway)
3. Early Surveys.
4. Cultural Influences.
5. Railways.

Each of these factors had considerable influence in setting the early patterns and forms of growth from which future development ensued. Whether exerting positive or

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[4] Hans August Hosse, "The Aereal Growth and Functional Development of Winnipeg from 1870 to 1913" (Unpublished M.A. thesis, University of Manitoba, 1956).

negative growth stimuli, the placement, location, and form of urban growth and development was affected at the most basic level by these factors.

1. NATURAL CONDITIONS

The natural conditions of the flat and featureless prairie on which Winnipeg was to grow did little to inhibit urban growth and much to encourage it. Aside from the rivers, streams, and localized drainage conditions, the prairie allowed virtually free and open growth unhindered by natural forces. All that deterred or affected growth at this time were the two major rivers, the numerous creeks and streams, and the propensity of certain lands towards flooding. Oxbows and swamps that existed at this time were somewhat of a barrier but were more readily overcome.

The confluence of the Red and Assiniboine Rivers has been a natural focus for settlement pre-dating European settlement. The banks of the rivers and immediate lands offered valuable resources. Fertile farm land, readily available fuel, and building materials in the form of the native tree stands inhabiting the banks, were valued and readily exploited resources. In encouraging early settlement, however, the rivers were soon to become an obstacle to overcome as settlement occurred on either side of the major river. The Red River was and has been the

single most effective barrier to surmount because of its width and widely meandering characteristics. The Assiniboine River exhibits a similar barrier effect, albeit to a lesser extent because it is narrower and less meandering.

2. EARLY TRANSPORTATION PATTERNS

The importance of river transportation to settlement before the arrival of the railways reinforced this natural focus and encourraged settlment of the entire region. Early transportation routes were to follow these natural patterns set by the rivers, connecting early settlements which clung to their banks. From the village of Winnipeg and Fort Garry near the forks, radiated cart trails and paths leading to other settled areas. The Main Road headed north following the west banks of the Red River to the Selkirk Settlement. The Pembina Trail ran south along the Red to Pembina and the United States. Along the north bank of the Assiniboine, a trail ran westward to various settlments along its route. And to the south-east, away from the Red, ran the Dawson Road. These early transportation patterns were to develop into Main Street, Pembina Highway, Portage Avenue, and Dawson Road; the spines of Winnipeg's street patterns.

3. EARLY SURVEYS/CULTURAL INFLUENCES

Early surveys generally followed the rivers and the trails running in a perpendicular fashion between the two, forming long agricultural lots having both water and road access. Added to the rough forms determined by the rivers, trails, and rudimentary surveys, were cultural influences which predetermined settlement. To the east of the Red River, a predominantly French, Roman Catholic Church governed mission community had formed. To the west of the Red River, was an Anglo-Saxon, Protestant and Hudson Bay Company controlled community. These cultural differences could be seen in the varied settlement and survey patterns imposed on the landscape. The rivers, especially the Red, were a strong barrier separating the two communities.

Thus the early form of Winnipeg was set - primarily influenced by the rivers - but also following early transportation patterns, surveys, and cultural determinants. Subsequent growth has followed these basic patterns, if only by the mere fact of their existence.

4. RAILWAYS

The arrival of the railway in Winnipeg marked the presence of a strange and new form determinant that was to rival all others. The railways needed not respect any of these early factors; they crossed the rivers with ease and

in doing so, were the first to effectively and permanently overcome this barrier.

Like the rivers, the railways entering the city became extremely effective growth barriers. Yards and R.O.W.'s soon segmented the city at many angles, effecting the economic value and desirability of nearby land, and causing desirable residential growth to shift away from affected areas.

Yards at some points were crossed with bridges (the Arlington and Salter bridges) and in this way functioned physically as did the rivers. It is interesting to note that the City Planning Commission Report of 1911-1913 found that the rivers and the railways contributed equally to the obstruction of traffic:

> The main obstructions to traffic which exist throughout the city are:
>
> -The CPR Yards on the North.
> -The Assiniboine River and railway tracks on the South.
> -The Red River on the East.
> -The various railways on the West.[5]

As the rivers and railways functioned in a similar fashion in regard to the obstruction of traffic and growth, they functioned conversely in regard to the types of growth they encouraged or inhibited. While the railways discouraged desirable residential growth and were the reason

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[5] City Planning Commission, "City Planning Commission Report" (Winnipeg: 1913)

behind the leap across the Assiniboine River and the spread of affluent neighborhoods southward, they encouraged industrial and commercial growth where transport was needed. Conversely, the rivers which had been used as a transportation source, have historically encouraged desirable residential growth and continue to do so. The growth of the city in a general sense followed the natural patterns set by the rivers, and the man-made patterns set by the growing railway network. (see Figure eight)

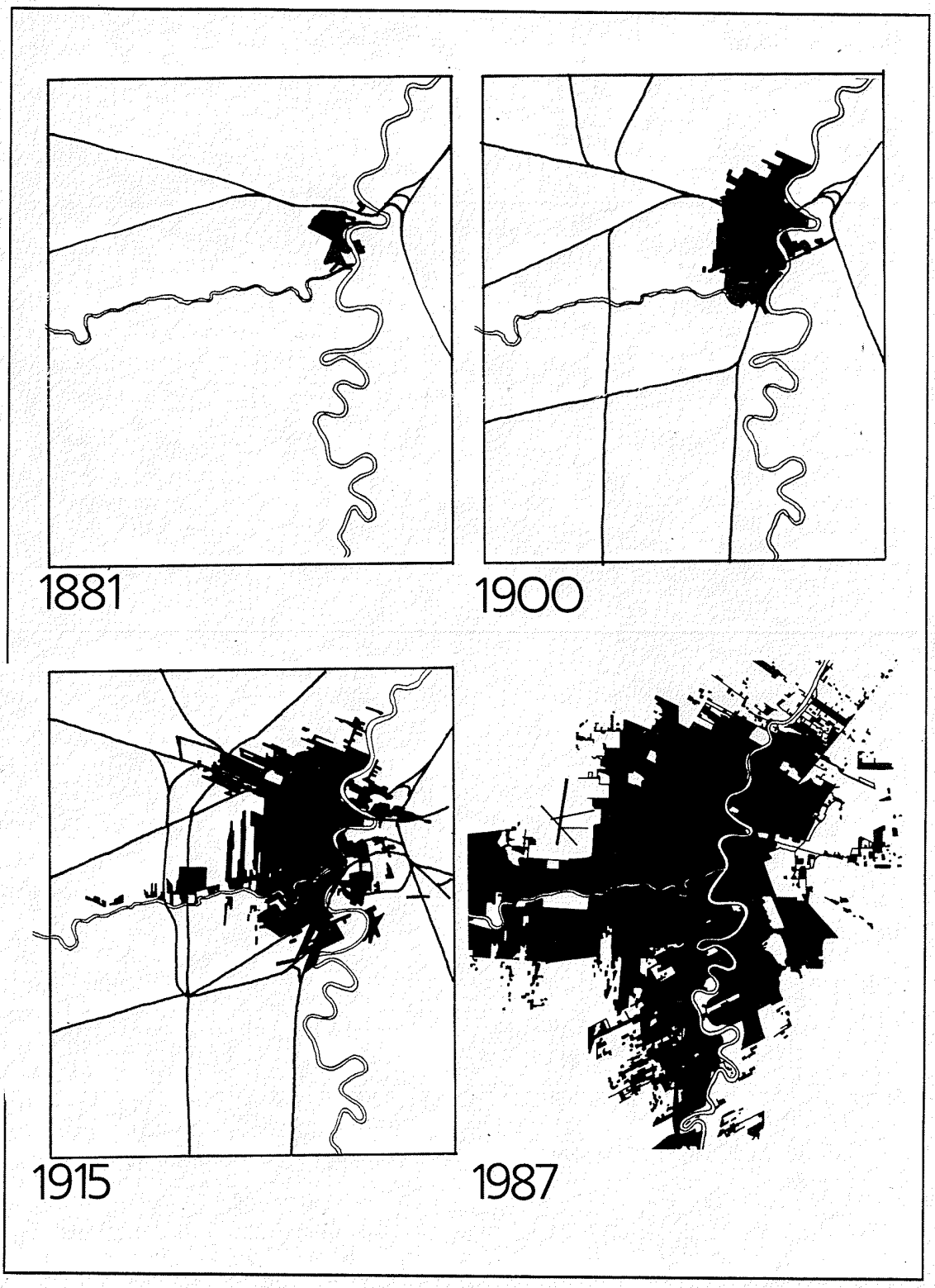

Figure 6: THE GROWTH OF WINNIPEG RELATED TO RIVER PATTERNS AND RAILWAY GROWTH

3.2 EFFECTS OF RAILWAYS ON EARLY GROWTH

It is not possible, in this study, to note and measure all of the effects that the railways have had on the urban development of the city. It is possible,however to note from our present urban form, several major trends that have occurred as a direct result of railway activities and are persistently evident in the configuration of the city. Three of these most evident physical manifestations of Winnipeg's urban development are as follows:

1. The southwestward movement of the city's most affluent and desirable residential areas.
2. The consumption of valuable river frontage in the downtown core.
3. The creation of separate socio-economic residential enclaves within the city proper.

1. SOUTHWARD RESIDENTIAL MOVEMENT

The first measurable affect the arrival of the railway had on urban development (aside from the construction of the first railway bridge in 1880 and the stepped up public works programs after the announcement that the railway would pass through the city) was the beginning of a southward movement of desirable residential neighborhoods. This movement was a

direct result of the construction of the Louise Bridge across the Red River, and the construction of the main line and major yard facilities in the north part if the city.

Between 1881 and 1884, the CPR built its new yards and terminal in North Winnipeg and began actively using the new line, bridge, and facilities immediately. The new line entered the city via the bridge into the area known as Point Douglas - then one of the most desirable neighborhoods in Winnipeg. Point Douglas immediately became known as North and South Point Douglas and began a slow decline to a level from which it has never recovered.

By the turn of the century, the area was further contained by a natural gas plant which had located along the rail lines to the west, and a power plant on the river to the east. By now its homes were occupied by working class families who had little influence in civic matters. After 1909, the section north of the CPR line was chosen by the chief of police and the mayor as a container for the city's vigorous and uncontrollable prostitution trade. South of the main line, the neighborhood was gradually replaced by industry which took advantage of the proximity to rail and water.

At this time, the city's other most desirable neighborhoods were the former Hudson's Bay Reserve bounded by Broadway and the Assiniboine River, and Armstrong's

Point, an area physically similar to Point Douglas. As each of these areas was prevented from growth or expansion by physical constraints, either by the river or surrounding urban development, the city looked for new areas to accommodate the growth of future neighborhoods. As the city's affluent region was already located on what was the south part of the city - along the banks of the Assiniboine River - and the railway yards and industry were concentrating in the north part of the city, it seemed only natural that the growth of these affluent neighborhoods would continue in a southward direction. The only obstacle preventing this drift was the Assiniboine River itself. This natural barrier was quickly overcome as the river was to be bridged privately, and later by the city, to accommodate the demand for growth. The Osborne bridge was completed in 1883, the Maryland in 1894, and the Main Street (Norwood) bridge built in 1897 (replacing an earlier private toll bridge). With the construction of these bridges came the ease of crossing the Assiniboine River and the establishment of new residential areas south of it. Later, when the Winnipeg Electric Railway Company provided public transportation across these bridges, the southward growth of neighborhoods was further encouraged and neighborhoods such as Crescentwood, Fort Rouge, River Heights and Tuxedo grew from the first affluent homes of Roslyn Road, and Wellington Crescent.

The same efforts that were made to bridge the natural barrier of the rivers was not made to cross the man-made barrier that was the CPR Yards. When the yards underwent the massive expansion program of the early 1900's, a subway was built at the mouth of the yards at Main Street, but all other roadways terminated where they met the edge of the yards. This interruption in the urban framework was later to include even streetcar lines which terminated a the south side of the tracks leaving their passengers to cross on foot the "Ribs of Death".[6] These obstacles obviously did little to encourage the growth of neighborhoods to the north, and the low economic status of the railway workers and immigrants who settled in this precinct, further encouraged civic politicians to ignore this part of the city. By the early 1900's the area suffered from overcrowding, substandard housing, poverty, and all of the social problems that accompany these negative environmental conditions.

> The role of the company in changing the character of the North End was readily apparent. The construction of a large station, locomotive shops, stores, office building, foundry, freight car shops, powerhouse, scrap yard, and immense marshalling yard (120 miles of track and space for 10,000 cars) by itself represented a considerable industrial development. The huge CPR complex was, in short, the dominant physical feature of the north end. No one could enter that portion of the city without becoming vividly aware of the mass of buildings and tracks, noise, dirt, and smell. the central core (Wards 2 & 4) and the South End (Wards 1 & 3) also had considerable railway facilities located within their boundaries. These, however were located on the extremities,

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[6] John Marlyn, Under the Ribs of Death (Toronto: McClelland and Stewart, 1957).

> not in the heart of the district as was the case in the North End.[7]

The Canadian Northern (former NP&M) railyards east of Main Street contributed also to this southward movement of Winnipeg's neighborhoods. When Canadian Northern took over the NP&M yards along Water Street, it expanded the yards southward to the Assiniboine River and asked permission of the city in 1904 to close East Broadway to facilitate the construction of a new passenger station on Main Street at the foot of Broadway. Until this time, a temporary bridge connected Broadway to Provencher Blvd. which lay directly in line across the Red River in St. Boniface. The construction of Union Station effectively ended the planned connection of Winnipeg to St. Boniface, and forced the spread of the city away from this area.

> Encroachment of the residential areas of the central core by railways was perhaps the most notable development after 1900. Besides the CPR spur track and the Midland Railway in Ward 4, the Canadian Northern Railway Yards and station took up a great deal of desirable waterfront land in Ward 2. In 1904, this development resulted in the closing of one of the ward's major streets and thereafter the upper class residents who remained in the ward tended to live close to the Assiniboine rather than the Red River. this development is an important one for it hastened the growth of a north-south split in Winnipeg, with desirable residential locations concentrating around the Assiniboine River.[8]

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[7] Alan F. J. Artibise and Edward H. Dahl, Winnipeg in Maps, 1816 - 1972, (Ottawa: National Map Collection, Public Archives of Canada, 1975), p. 159.

[8] Alan F. J. Artibise, Winnipeg: A Social History of Urban Growth, 1874 - 1914, (Montreal: McGill-Queen's University Press, 1975), p.154.

2. CONSUMPTION OF RIVER FRONTAGE

The expansion of the Canadian Northern facilities is notable also for the consumption of valuable waterfront land that it entailed. The line followed the Red River south through the built up parts of the city as it offered the line of least resistance through this area. The yards were expanded southward to the junction of the Red and Assiniboine Rivers and across to consume the entire historic area known as "The Forks". Once the historical and functional centre of Winnipeg, the Forks became the exclusive property of the railway. The expansion of the railyard continued southward consuming the banks of the Red River to the Fort Rouge Yards which began construction around 1910. As a result of this expansion, all river frontage from Water Street in the north to Corydon Avenue in the south came under the sole control and use of the Canadian Northern Railway Company and has been restricted from public use ever since.

3. SEGREGATION OF RESIDENTIAL ZONES

Railways contributed significantly to the separation of the city's neighborhoods into distinct zones that differed as much socially as they did economically. Before the railways, the rivers physically distinguished different parts of what was to become Winnipeg. The city was

contained in the area north of the Assiniboine River and east of the Red River. To the east across the Red River lay the community of St. Boniface accessible only by ferry, ice in winter, and later a temporary bridge built between Broadway Avenue and Provencher Blvd. To the south of the Assiniboine River, little settlment occurred prior to the 1890's.

With the physical barriers of the rivers playing an active role in shaping the destiny of the growing parts of Winnipeg, the railways made an easy job of further segmenting the city. While the rivers have since been bridged and communication improved to a limited degree, railway corridors that have developed since have proven to be equally powerful physical barriers to intra-urban communication and integration.

Railway developments have contributed to the segmentation of the city in several ways. The most obvious form of physical separation has been the railway corridors and rights-of-way that bisect the city slicing it into segments. These areas have developed into neighborhoods as a result of their physical separateness and specific influences on their growth. For example, the desirability, or lack of it, of an area to specific ethnic groups (whom tended to settle together in the generations immediate to immigration) influenced the creation of "ethnic" areas in the city. Other areas developed because of economic influences,

becoming upper class neighborhoods because of their physical desirability. In these ways, the railway rights-of-way set the framework for social and economic classification of the city's neighborhoods. While this stratification certainly is not unique to Winnipeg, the role played by the railways is notable. Its effects can be seen in North and South Point Douglas, created by the first rail right-of-way, and in the North End, separated from the bulk of the city by trackage and intensive industrial development, and in the southern drift of the more affluent southern neighborhoods.

Transportation corridors as powerful barriers exist in all cities especially where points of access across their pathways have not been created. This is especially true in Winnipeg where little effort was made to establish cross connections and reconcile street systems to the railway lines. Whether for safety purposes or other reasons, the effect is one of physical separation and repression of social interaction between parts of the city.

> Even without the railway lines, Winnipeg streets would have been a maze: the railways turned it into a nightmare. The CPR crossed the Red River into the east and made a beeline out of it to the west. It located its main yards and station in what eventually came to be quite close to the geographic centre of the town. A quarter-mile or so to the south of the CPR were the Midland Railway yards at the end of its line which entered the city from the southwest. The Canadian Northern Main line cross the Red River half a mile or south of the CPR, cut sharply to the south, and then left by the southwest quadrant. One railway from the south came in on the east side of the Red River to the CPR depot and another came in on the west side to Union Station. The Canadian Northern located its main assembly yards and shops in the

> southwest area and nestled its freight yards in behind the station on Main Street. Finally the two main railways were connected by transfer tracks along the banks of the Red River.[9]

The effects of these railways on the form of the city was one of segregation and "compartmentalization of Winnipeg.[10] From the outrageous concessions made to attract the first railway to Winnipeg, subsequent railway companies knew that they could ask for almost anything when locating in Winnipeg. Free land, tax relief, unlimited entry access, and cash were readily gifted by a city council dominated by business and commercial interests. Even after the city's status as an urban centre was assured, city council continued to allow railways to operate and expand without control and with considerable concessions, even though it is was evident that the city had the ability to control and direct growth.

In the early part of this century, the problems caused by the railways and the city's "laissez-faire" policy were being discussed openly in the newspapers. In the 1913 City Planning Commission Report, the problems being created by the railways were outlined:

> The steam railways entering the city at present are the Canadian Pacific Railway, the Canadian Northern Railway, the Grand Trunk Pacific Railway,

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[9] James Gray, A Boy From Winnipeg, (Toronto MacMillan of Canada, 1970), p. 78.

[10] Alan F. J. Artibise, Winnipeg: A Social History of Urban Growth, 1974 - 1914, (Montreal: McGill-Queen's University Press, 1975), p. 76.

> and the Midland Railway. Each of these railways with their numerous branches, yards, and shops, cuts off the city into many different sections. It does not seem that the entrance of these steam railways has been considered on any road scheme which would be convenient and beneficial to either the city or to the Railways themselves, by, that the entry has simply followed the line of least resistance.[11]

These concerns were unheeded and railway growth continued unplanned and without any consideration of detrimental environmental effects. Vast areas of underused railway land remain that pay little or no civic taxes and, thus, are reluctant to move. The city has grown around these land parcels and along the net of rights of ways that bisect the city from every direction, divide neighborhoods, seal portions of the river from view or use, and disrupt social interaction and communication. The effects of the city's approach to railways has been permanent as summarized by Artibise:

> Instead of taking this long term approach, one that took into consideration the harmful as well as the beneficial effects of railway development, the commercial elite gave the companies a free hand to enter and leave Winnipeg at their convenience. A They thus left to future generations of Winnipeggers a poor legacy, for geography, railroads, and a blind commitment to growth combined to turn Winnipeg's environment into an uncoordinated and socially disruptive series of self contained ghettos.[12]

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[11] City Planning Commission, "City Planning Commission Report" (Winnipeg: 1913).

[12] Alan F. J. Artibise, Winnipeg: A Social History of Urban Growth, 1974 - 1914, (Montreal: McGill-Queen's University Press, 1975), p. 76.

In examining the effects of railways on Winnipeg's urban form, this research has focused on the era of greatest growth ending at the onset of the first world war. It was during this period that the basic form and structure of the city was set, leaving for future generations an awkward framework upon which to grow and develop. Since that time, the influence of railways has diminished considerably and the city has asserted its viability as an and vital urban centre. However, the basic problems caused by the unresolved conflicts between railways and urbanism remarkably remain intact. The major yards and rights-of-way remain in active use and bring additional modern problems to the original ones - the transport of hazardous materials to name one. While minor local adjustments have been made where conflicts arise, significant interventions have not been realized. The relocation in 1962 of the urban CNR operations to the Symington Yards outside of the city has been the single major change in Winnipeg's railway situation, although it was a move initiated solely by the railway company. The relocation of the CPR yards, on the other hand, has been a longstanding issue.

The legacy left by our early politicians and railroad barons is, however, not a completely negative one. Where railways have been removed from the urban core, huge contiguous parcels of land are left. These parcels should

be viewed not as liabilities, but as valuable assets. The opportunities that eluded the early builders of Winnipeg are again before us.

3.3 THE EFFECTS OF RAILWAYS ON ADJACENT COMMUNITIES

The growth, development, and quality of urban functions adjacent to railway facilities are profoundly affected by the presence of these facilities in both a positive and a negative sense. Railways have historically been a great benefit to our communities, especially from an economic viewpoint, in encouraging the growth of towns and cities in which railway activities were centred. (Railways have been both the foundation and fibre of Canadian settlement, agriculture, commerce, and industry and were the roots from which western Canadian communities, towns, and cities sprouted.) Railways were the only real communication link and vehicle of trade between communities and were an absolute requisite to Confederation in the tying together of the West to the established eastern townships and the central federal government.

Today, railways no longer possess the central role in the Canadian economy and the imagination of its people than they once did. Other forms of transportation and communication have usurped this role and we have created a system of diversified transport modes. Automobiles, trucking, the construction of efficient national road networks, and air traffic have taken hold of many of the responsibilities that were once the sole domain of the rails. As a result, old railway terminals and grounds, founded in the centre of cities, are now either surrounded by intensive secondary

development, or what have come to be the oldest parts of the city.

Today, the situations that exist between railways and cities are much different than they once were. Where railways were considered the economic lifeblood of a city, they are now often viewed as obstacles to constructive urban growth. Almost all Canadian cities have had to, or are attempting to, resolve the problems associated with railway facilities that affect urban form and life. It is evident that todays's problems associated with the impact of railways are rooted in historical growth factors, as has been discussed.

> It is therefore obvious that the railroad facilities were organized strictly in keeping with the demands of railroad operations and their immediate economy, to the detriment of the normal growth and life of the community. Such locations of railroad rights-of-way failed to take into account their ultimate effects on land values, and consequently, on the financial equilibrium of the municipalities. This seeming lack of consideration for vital aspects of collective life is readily explained by the fact that the railroad was, then, the predominant factor in the prosperity of new settlements. Unfortunately, the disadvantages attached to such lack of foresight could not but be felt sooner or later, and finally have resulted in today's regrettable conditions.[13]

In Winnipeg, the relationship between the city and the railways has changed considerably. Winnipeg is a more mature city politically, economically, and socially. A city planning movement has emerged which guides and controls

[13] General Report: Plan for the National Capital, Jacques Greber, chairman, (Ottawa: King's Printer, 1950), p. 82.

development to a much greater extent than was once the case. Residents additionally have much higher expectations in regards to urban dwelling. Where once conflict situations between railways and the city were accepted, they are now seen as serious problems begging solutions.

Today the presence of railway lines, railway yards, terminals, and other facilities present a variety of effects to urban centres that have grown to surround these original facilities. Rapid urban growth around Winnipeg's complicated and sprawling rail network has created numerous conflicts. The increase in the use of cars and trucks has created physical conditions that are difficult to resolve. There has been strong citizen support towards the complete removal of railways from our cities, and in many cases, this demand has been realized. To this end, railways have been blamed - often erroneously - for wielding a completely negative effect on neighborhoods through which they pass. It is necessary, therefore, to examine what the specific effects, if any, that railways have on land uses and their subsequent form.

3.3.1 INDUSTRIAL LAND USES

Historically and currently, railways have an extremely positive effect on industrial land uses. Because of the geographic expanse of Canada, and our continuing commitment to railways as the chief transporter of goods, industry

often depends on access to a local yard, branch line, or spur line with which to connect themselves to the national rail transportation system. In most cases, the presence of railway connections fostered the growth of adjacent industrial areas. Because of this, no conflict exist since the two functions are mutually beneficial.

3.3.2 COMMERCIAL LAND USES

Most commercial activities do not require rail access, rather, transportation of goods is provided through a convenient centralized location. However, few conflicts arise where commercial activities and railways meet. Often commercial activities serve as a buffer between railways and other uses. An example of this is the extensive commercial strip that has developed along Pembina Highway adjacent to the railway lines. This strip does not conflict with the adjoining railway activities.

3.3.3 RESIDENTIAL LAND USES

The interface between railways and residential areas is a complicated problem that may be poorly or well resolved depending entirely on local conditions. Because of this, the effects of railways on residential neighborhoods is a dichotomous issue resulting in confusion as to what types of conflicts exist and what the nature of these conflicts are.

Railways have often been blamed for blight in adjoining residential areas. Railway workers historically built their houses near their place of employment, especially in early days when cars were non-existant or uncommon. Because of this, these homes are often the oldest buildings in the community, were simply and cheaply built to lower standards than the rest of the community, and are often poorly maintained. Thus they may give a false impression of decay. The railway is not necessarily a negative or blighting influence on adjacent neighborhoods and residential areas. Rather, it encouraged primary residential growth in the development of these homes and neighborhoods for a distinct socio-economic group - that of workers and labourers who found employment in the railway yards.

Major railway facilities encouraged the growth of entire new neighborhoods, communities, and suburban developments. Originally these areas were named after the railway that fostered their growth. The north end adjoining the CPR yards was once known as "CPR Town" and the town of Transcona (from 'transcon'tinental) as a result of the Grand Trunk Pacific terminal built there, was once known as "Grand Trunk Pacific Town", "GTP Town", or "Grand Trunk Entrance". The presence of the railways was considered such an encouraging force that land speculators and developers did not hesitate to use this fact in their advertising. (See Figure 7)

Figure 7: MAGAZINE ADVERTISEMENTS FOR NEW CITY LOTS
source: Western Home Monthly (clockwise from top left: Feb. 1907, March 1907, June 1907, April 1907, June 1910)

Today, we would not expect to see new residential developments so enthusiastically advertised on the basis of their proximity to a major railway installation. The fact that quite the opposite is true today is indicative not only of the major down turn in the influence and image of the railways, but also of a change in values in regard to community standards. Yet new residential areas being built as our cities grow, have little choice but to eventually come into contact with existing railroad facilities, be they yards, terminals, or rights-of- way. When this happens, a greater effort is made to reconcile this interface and to minimize the existence of the line. Often, there seems to be little effect on the value of the new city precinct. Consider for example the residential area in Winnipeg south of Tuxedo - one of the city's most affluent and socially desirable neighborhoods - which has grown several within metres of the westward branch of the CNR main line. The negative influence of the railway seems not to have been felt here as it is in other parts of the city. Obviously, the issues arising from the proximity of residential areas to railways are complex ones, the conflicts arising not always resulting in the same effects, and usually combining with other factors to produce an end result.

3.3.3.1 CONFLICTS - RAILWAYS VS. NEIGHBORHOODS

It can be said that conflicts between railways and neighborhoods are as old as the railways themselves. This is true for several reasons. Firstly, conflict situations are found where early railroad installations and early neighborhoods were coincidentally built, with little regard to their harmonious co-existence. Secondly, few railway yards or terminals have since been built, while those that have are usually located outside of urban areas and their accompanying pressures (eg. Symington Yards, Winnipeg, sited east of the city). And, thirdly, zoning and growth controls have ensured that residential areas have not located immediately adjacent to railroad facilities. Thus the problems and conflicts arising between residential uses and railways are historical in nature, and are compounded by the depreciation of time and by decay. As well, with the growth of cities and the swell of population comes demands for growth of residential areas, placing further pressures on railway yards, terminals, and their ancillary facilities, thus creating further conflicts.

When conflicts exist between two physical land uses, they can be measured in terms of the negative influence one has on the other. From the point of view of residential neighborhoods, conflicts with railway uses are manifest in the following physical effects:

a) BARRIER EFFECTS

We have seen the effectiveness as barriers that railways, because of their linear nature, can be on the forms of a city, and in detail, on the growth of Winnipeg. These barrier effects have literally set themselves in steel and concrete resulting in the existing form and configuration of the city. Aside from general urban form, there are typical conflict situations caused by barrier effects that occur in all cities with railway facilities present. Conflicts between the street system and railway systems are common occurrences that are extremely difficult, and often impossible to adequately resolve. Safe rights-of-way and railway crossings are often impossible to secure. In addition, railway crossings, rights-of-way, and industrial facilities have created barriers and obstructions to effective urban growth and the continuity of the city.

b) NOISE, VIBRATION, AND POLLUTION

Historically, the major annoyances caused by railways and most immediately perceived by citizens have been noise, vibration, and pollution. Whereas the deeper effects of

railways on urban morphology are often more difficult to perceive, residents living near railway facilities are most apt to notice the intrusion of noise, vibration, and pollution, on their environments.

Before dieselization of the railways, steam locomotives were the major source of "noise, dirt, and smell".[14] The diesel engine greatly reduced the emission of smoke and the levels of noise. However, the noise of engines and steel on steel, the vibrations caused by heavier trains, and the exhaust and fallout emitted from diesel combustion continue to be problems.

c) BLIGHT AND DECAY

As has been suggested, blight and decay are often mainly the result of historical precedents; the fact that railway facilities and their adjacent neighborhoods are often the oldest parts of a community being the main cause of blight and decay. This issue notwithstanding, the conflict between railways and residential neighborhoods has, and continues to be, a major cause of community degradation. Older, neighborhoods

[14] Alan F. J. Artibise and Edward H. Dahl, Winnipeg in Maps, 1816 - 1972, (Ottawa: National Map Collection, Public Archives of Canada, 1975), p. 41.

suffering from the effects of time are even further discouraged from upgrading and rejuvenation when located near railways. As these areas become poorly valued in economic terms, the stigma of their proximity to the 'tracks' becomes an additional handicap that may be impossible to overcome.

d) SAFETY HAZARDS

Now more than ever, railways in the urban context are becoming greater threats to the safety and well-being of the community. Because of their linear nature, secure edges are difficult to achieve thus inviting possible safety conflicts between rail rights-of-way and adjacent uses. Points of crossing are best handled when direct contact between between circulation routs can be avoided (eg. vehicular underpasses or overpasses rather than grade crossings.) And finally, the transport of industrial materials and hazardous goods now commonly used by industry, has no choice but to follow the route set down in previous generations, often through the most developed and populated segments of our cities.

3.3.4 RECREATION AND OPEN SPACE LAND USES

The relationship between railways and open space is not a clear issue. Obviously safety considerations are necessary and the possibility for conflicts exists, but until now, this has been a largely unmeasured concern. The linear nature and sheer expanse of railway lands offers an unusual opportunity for the development of recreational and open space corridors in either a shared use or a single use form. The recycling of railway yards into various forms of recreational facilities and open spaces is extremely common in the United States and will be dealt with further.

It is evident from the previous discussion that railways themselves offer a wide variety of possible impacts on adjacent urban land uses, and when in combination with local circumstances, elicit often very different results. There can be no clearly stated formula to measure and determine how the combined impact of railways and local factors will react, as there is not a simple cause and effect relationship. Rather, it is more advisable to observe and denote local conditions and attempt to understand the relationship between process and resultant form. In doing so, we will undoubtedly revert to historical growth processes - as this study has so often done - in which will be found the basis of understanding and reason.

Chapter IV

RAILWAY ABANDONMENT, RELOCATION AND RE-USE

4.1 CAUSES OF AND PRESSURES FOR ABANDONMENT AND/OR RELOCATION

The focus of this study to this point has been the significant role that railways have played in the physical and social shaping of our cities, especially in terms of the contemporary problems that railways present under current urban scenarios. Inherent in these problems are pressures for, and the possibility of, removal or relocation of railway facilities where conflicts become acute, or where more economically viable uses outweigh the needs of the railway. There are three main reasons behind the abandonment, relocations, removal, or reuse of railway facilities.

1. Abandonment and/or relocation because of underuse.
2. Abandonment and/or relocation because of the inflexibility of obsolete facilities to meet modern needs.
3. Relocation, removal or re-use because of the demand for more desirable, appropriate, or economically viable uses.

From the above, it should noted that railway facilities are either abandoned for a variety of causes, or removed and re-used as the result of specific pressures. In this section these factors will be examined in order to understand the reasons for, and different types of, railway re-use.

4.1.1 CAUSES OF ABANDONMENT

Railway abandonment has been occurring since railways have been built in Canada. Thousands of miles of early Canadian railway lines that failed to prove their economic value were quickly removed early in this century. The first world war saw many more miles of steel ripped up to be reused in the war effort. Since then, the growth of motor transport, the construction of efficient highways, and finally, the growth of air transport have taken away much of the business that was once the sole domain of the railway companies. Railways themselves have gone through times of economic stress, causing the demise of countless railway companies and the amalgamation of others to form stronger entities (the Canadian National Railway Company, for instance). Competition has been manifest in the abandonment of major lines, terminals, yards, and other facilities.

As early as 1948, the abandonment of railway facilities in the United States was seen as such a problem that a regulatory body was set in place to govern and control abandonments. In the "Regulation of Railroad Abandonments", Charles Clerington noted four main reasons behind abandonments.[15]

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[15] Charles Clerington, "The Regulation of Railroad Abandonments", (Cambridge: Harvard University Press, 1948), p. 17.

1. Competition from other sources of transportation.

a) From other railroads

Competition from other railroads has been a major cause of railway abandonments especially when railway companies were more numerous and competition was acute. Overbuilding and the duplication of services caused the duplication of expenses. Consolidation of facilities, by the abandonment of the superfluous half, led to reduced costs and more economical operations.

b) From other sources of transportation.

Until the construction of highways, competition for traffic from other forms of transportation was insignificant. Highways connected together the pieces of Canada in much the same way that railways did. Since that time, the shipping and travelling public have chosen to substitute other forms of transport in the place of the railroad. Highways transport, in the form of car, truck, and bus, offers greater flexibility and efficiency for passenger and freight traffic.

Air transport has virtually replaced all other forms of passenger transit for inter-city movement

other than the private vehicle. It offers obvious advantages in speed and comfort that railways have been unable to compete with. Freight transport by air carrier has not replaced railway transportation in the same way, yet it is a major and growing form of competitive transport.

One final source of competition is the pipelines which distribute oil and gas where once specialized railway cars commonly carried these commodities. It is not as significant as the previous forms of competition, but should be mentioned.

2. Readjustment in railroad operating practices in a given area.

Changes or adjustments in the operating practices of railways, and subsequent changes in facilities have been the result of attempts to increase operating efficiency and maximize economy of operations. In the past, railways have chosen to share facilities such as terminals, trackage, and yards, thus eliminating the need for duplicate facilities. Abandonment, re-routing, or relocation of terminals and main lines to fine tune railroad operations is also an adjustment factor.

3. Decline in the sources of traffic.

Railroads in Canada were built to meet a specific transport need. Whether to move people or to serve specific industries such as agriculture, the railways became dependant on their sources of traffic. When these sources decline or cease - be it through depletion of resources, or decreases in immigration - the railways inflexibility and inability to adjust may result in its closure or abandonment.

4. Changes in legal status.

A variety of changes in the legal status of a railroad may result in its underuse and subsequent abandonment. When abandonment of operating privileges over the tracks of another carrier results in use by one carrier, serious underuse may be the result. A railway company may dispose of a facility or line to private use, thus eliminating it from the "public" domain. Both of these changes may result in such a low level of usage, that, although the line or facility is technically and legally an active line, it is for all intents and purposes an abandoned line.

While the previously listed causes have been the major reasons behind ralway abandonment, several other should be noted that have had specific relevance in more recent years,

especially to the railway situation in Winnipeg. These influences may not have in themselves caused abandonment or relocation, but when combined with each other or the above, have had the same result. These causes could be loosely categorized by the following:

1. Modernization and Technology.

In an effort to improve economy of operations and to compete with alternative forms of transportation, railways have adopted new technologies and modernized often resulting in the obsolescence of existing facilities.

a) Dieselization

During a period extending from the thirties to the late fifties, Canadian railways changed over from steam to diesel engine power. Dieselization and its increased motive power, meant fewer engines were needed to pull longer trains at greater speeds. Maintenance operations underwent significant physical changes. Along with changes in labour practices (far fewer men were needed to operate and maintain the new engines) went changes in basic operating practices. The famous roundhouses of the past, built to accommodate

steam engines and their peculiar needs, were less than ideal for the larger and longer diesel engines. The longer trains pulled by more powerful engines did not always fit into yards designed for fixed length trains. As dieselization was a gradual process, so to was the process of modernization of the facilities that were to accommodate them. This process included the construction of newer facilities and the abandonment of existing ones.

b) Expansion and Decentralization

Coupled with increased length of individual trains, was a gradual increase in overall freight and passenger traffic. Unlike the original growth periods of the railways previous to the first world war, this increase in traffic took place over time with the gradual increase in the population of Canada and the growth of its economy. This was further compounded by the growth of cities to surround and absolutely limit the growth of existing facilities. Multi-storied warehouses built at the turn of the century were inflexible to modern freight handling practices which demand one-level storage and larger physical expanse.

The result of the expansion and decentralization of railroad facilities in Winnipeg can be seen in several landmark stages. As discussed, the construction of the Fort Rouge Yards was a result of the limits of the East Yards, as was the construction of the Transcona terminal. The completion of Symington Yard was the most recent answer to the limits of the three yards, resulting in the abandonment of the former two. This has been the major significant trend in railway abandonment and relocation in North America in recent years: the suburbanization of newer facilities that has been the result of these varied factors.

c) Intermodal Shipment

In an effort to compete with the speed and flexibility offered by highway transport, railways have invented containerized freight handling and intermodal shipping practices. Flexibility is attained by the direct transport from one carrier to another, whether from ship to train, truck to train, or the reverse of each. The result of this practice has been that new separate facilities are needed to accommodate the transfer operations. This has contributed to the underuse or

abandonment of existing facilities that could not be adapted to this practice.

d) Increases in Speed.

Increases in speed that have taken place and will continue to take place in an effort to compete with other transport forms, mean that densely populated urban areas with grade crossings must be avoided for obvious reasons. Existing trackage often will not accommodate the additional stress of increased speed and an individual line may be required for higher speed trains only to ensure safety. This change in operating practices has a particular effect on the abandonment of specific lines found in populated urban areas, and existing trackage on older roadbeds.

The above causes, while they may tend to overlap, have been the main reasons behind the underuse and possible abandonment of existing railroad facilities. The following section will take into account additional pressures that have been placed on railways with the same end result.

4.1.2 PRESSURE FOR REMOVAL AND/OR RELOCATION

The previous causes of abandonment are based on internal railway decisions and policies to effect optimum economies of operations. From the point of view of a railroad company, decisions are obviously made based primarily on financial and economic considerations. There are, however, additional pressures that can strongly affect railway operating practices that originate from external forces and society at large.

Railways operate within a given society, and, therefore, are subject not only to its economic conditions, but to specific political and social parameters within which they must cooperate. Railways are vested with public interests placing further pressures on their actions. In Canada, railways could not have been built without considerable political, social, and financial support. This fact coupled with events that have led to government ownership and control of more than half of the country's railways, has resulted in our present national railway system that is either owned, or under the strict control of, government, and, thereby, citizens. Canadians, therefore, have a particular ability to direct and effect change in our railroad operating practices. This ability to pressure railway companies into accommodating societal needs has and will continue to be a strong factor in determining where and how railway facilities fit into our changing urban fabric.

Often pressures brought to bear on railways will result in their abandonment and/or relocation.

In urban areas where railways have lost their former usefulness and no longer represent the "highest and best use" of scarce urban land, social and economic pressures are being generated to effect their removal. In these cases, removal and relocation is initiated by urban centres whose rationale is not as clear as that of railway initiated removals. From the point of view of the affected urban centre, demands for removal are based more on value judgements, rhetoric, and subjective reasoning than they are on economics and financial matters - the language of the railway companies.

In order to overcome the differing terms of reference extant between railways and urban centres, the latter have had to develop convincing arguments to both encourage the removal or relocation of railway facilities while maintaining a good working relationship, and ensure that the freed land is not overvalued by the railway company. In doing so, various cities have often successfully used similar arguments to pressure removal.[16] As the railway/urban interface is similar in Canadian cities, so too becomes the basis for these arguments. The following are common pressures resulting in railway relocation:

[16] John Michael Lainsbury, "The Implications of Railway Relocation in Western Canadian Cities" (M.Sc. thesis, University of British Columbia, 1975).

1. The need for developable land near the urban core.

This argument is perhaps the most common, and the most economically justifiable in terms of benefit-cost analysis. It has resulted in many railway relocations in Canada stemming from strong urban pressures. The growth of cities around railway facilities, and the strength of urban economies, together with social pressures, are perhaps the most effective force behind the abandonment and removal of railway yards and terminals from downtown areas.

2. The physical, social, and economic integration of discordant urban parts.

Railways have been pressured to rectify negative urban situations which they have been blamed for creating in the past. As cities mature, these situations may become more acute, and the will to remove the divisive element may outweigh the demands of the railway.

It should be noted that the argument that the railway is responsible for dislocation of city elements is hard to prove. Subsequent alternative uses additionally may have the same dislocating effect.[17]

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[17] Ibid. p. 79.

3. The need for removal of the source of blight.

Where railways exist in areas of decay or blight and their role in encouraging that blight is provable, they may be successfully pressured to relocate in order to allow rejuvenation of the affected area. This is especially true where there is a community initiative for improvement.

4. Freeing of land for needed transportation arteries.

Because of their linear nature and typology as transportation forms, railway corridors are often a natural choice in the siting of new transit networks. Frequently there is little choice but to use established right-of-way for major vehicular thoroughfares and rapid transit systems in high density areas. As major public expenditures these endeavors may be the only pressure economically strong enough to replace railways.

5. The needs for conflict resolution.

Railways may be pressured into relocation due to the many previously noted conflict situations that they are involved in. For example, increases in vehicular urban traffic may cause unsafe situations at crossings that can only be resolved through the

removal of one of the parties - generally the railway.

Few railway abandonments or relocations are the result of a single cause or pressure. Rather, they are almost always the result of a combination of many or all of the noted internal causes and external pressures. Generally, the transfer of land away from railroad uses is a decades long process, finalized only after the experience of chronic problems and conflicts, and the process of internal and external changes. The noted causes and pressures may be used in analyzing the basis of specific abandonments.

In response to these listed pressures for railway removal occurring in Canadian cities, the Federal government enacted a statute entitled the Railway Relocation and Crossing Act . This statute establishes the right of an urban municipality to plan for, and request the relocation of railway lines and facilities. It is currently being implemented in major rail relocations in the planning stages in Regina and in Toronto.

4.2 RE-USE OF RAILWAY LAND

4.2.1 POTENTIAL PROBLEM AREAS

Where re-use or redevelopment of railway corridors is a possibility, several major obstacles must be overcome before any serious action can occur. A recent (1976) post-conversion evaluation of railway corridor re-use projects in the United States noted several commonly occurring problem areas.[18] These problem areas were noted through a nationwide survey an the opinions of a panel of experts to the field. They focused on conversion to Parks and Recreation uses specifically, but are commented on here as they relate to the broader goals of this study.

1. Time Dimensions.

   This is crucial element in the conversion of railway land. If too much time in the decision making process is taken, possibilities for acquisition for a specific purpose may be lost. This has been the case is recreation based conversions, where the element of time in obtaining acquisition funding has led to the sale of the land to other interests.

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[18] National Recreation and Park Association. Effective Utilization of Abandoned Railroad Rights-of-Way for Park/Recreation Purposes. (Arlington, Virginia: 1976), p. 2.

Time may be an important factor the opposite sense as well. Railway lands may be developed too quickly and without foresight, thereby resulting in lost opportunities. It is often true that neglect may serve to conserve valuable land parcels for the future when their use might be optimized.

2. Acquisition Costs.

Railway companies are not as eager to dispose of their unused land as they once were, resulting in higher acquisition costs. As we will see later, these economic issues are crucial in effecting changes in ownership and the feasibility of future re-use alternatives.

3. Title Problems.

The complexity of the legal status of railway property titles is an issue that can be only briefly mentioned here. Given the convoluted railway history of this country and the variety of land grants, deeds, eminent domain, and purchase agreements made in the formulation of the railway system, it is not surprising that changes in title may become a contentious issue possibly impeding the re-use process.

4. Negotiation for Purchase.

This issue rises out of the previous problems mentioned and varies widely in complexity. In the American experience, it was noted that negotiation for purchase was much more easily carried out from a public rather than private issue. In Canada, it is often likely that land leases from railway companies will be an alternative to outright purchase.

5. Public and Political Opposition.

This issue relates most commonly to public re-use alternatives where public funds are being used, or the potential user group is the public. In these instances, public and political support is obviously required to effect conversion. The generation of public interest is crucial to ensure the success of a conversion scheme.

6. Development Costs.

The costs of re-development will, of, course determine its feasibility in economic and financial terms. The planning of a successful conversion will include accurate and realistic development cost goals.

7. Operation/Maintenance.

In terms of public oriented re-use alternatives, especially park and recreation related schemes, this seemingly minor issue has been seen to be of significance in the early planning stages to determine overall project feasibility.

8. Environmental Impact Statements.

This is generally not an issue in urban focused conversions, but may be required in the planning of corridor conversions in environmentally sensitive areas.

4.2.2 CHANGES IN OWNERSHIP

It is evident that as railway corridors through whatever means experience underuse, are abandoned, or are relocated, the significant pieces of land remaining must be cycled back into the urban system. Before this occurs, several major obstacles to the re-integration of this land must be overcome. While these issues may be extremely complex and require in depth study on their own, they must be briefly mentioned here to fully appreciate the entire process of railway re-use.

Unless a railroad company decides to undergo some kind of redevelopment scheme on its own, a change in land ownership must take place before re-use will occur. Occasionally, railroad companies have undergone their own redevelopment schemes but these usually entail industrial redevelopments, hence, a change in land use has not occurred. Where significant re-developments inclusive of land-use changes occur, a change in land ownership almost always precludes any action. In some cases, the railway company may act as a partner in the redevelopment, retaining land ownership as its share of the scheme.

Having established the importance of a change in land ownership, significant obstacles should be noted that may impede this essential step in the process. Before the transfer of land occurs, there must be an established will

on the side of the railway company to do so. In the previous sections were noted internal causes of and external pressures for railway abandonment or relocation. Each may effect removal of railway facilities but may not in themselves incur the will to dispose of railway lands. Several key points may prevent this from occurring.

1. Taxation

Often, it is the case that railway lands are taxed at levels far lower than their actual value. This occurs for two reasons. Firstly, tax incentives that were offered in the previous century and the early part of this century may still be in existence. Railways may have negotiated guarantees of tax free status or fixed rates at levels that do not meet modern standards. These subsidies were offered to encourage the establishment of terminals in cities as has been previously discussed.

Secondly, railway companies may have negotiated preferential taxation status in order to maintain competitiveness with other forms of transportation. This is further compounded by the fact that publicly owned highways, waterways, and air terminals pay no taxes, but are maintained and supported from subsidies in the form of tax contributions. This

argument has been the basis of negotiations for "fair" taxation of railways implying lower taxes.[19]

As a result of these favourable taxation situations, railways may be extremely reluctant to relinquish this land. The same incentives that encouraged railways to locate in cities at their origin, may be the major stumbling block to their removal.

2. Speculation.

While some railway facilities may enjoy favoured taxation status, this is by no means the rule. Some portions of abandoned railway property that have been sought by private purchasers failed to change hands as the railway companies refused to sell the land.[20] Even though railways have complained of tax burdens, they have not always taken the opportunity to dispose of this unused land and its accompanying burden. The reason for this is speculation on the part of the railway company that can be noted in two forms.

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[19] Frederick R. E. Curr, The Social and Economic Effects of Railway Abandonments with Special Reference to Land Use and Taxation (Ohio State University: 1961), p. 227.

[20] William Francis Flanagan, "Redevelopment of Abandoned Railway Yards in the Urban Neighborhood, Planning Proposals for the Canadian National Railways's Fort Rouge Yards, Winnipeg" (M.C.P. thesis, University of Manitoba, 1972), p. 45.

a) Anticipation of future needs.

While abandoned railway land may be of no use to the railway presently, there may be possibilities for a renewal of demand for its use brought about by new growth, new technologies, or the restructuring of practices. If these occurrences were to come about, the railway would be in a position to utilize existing property rather than re-assembling land at higher costs.

b) Investment Potential.

While land values continue to rise and urban land becomes increasingly in demand, property held by railway companies becomes a more highly valued asset. It is in the interest of railway companies to maintain ownership of this land until demand for it increases its value. As an aside, this desire to hold off the sale of property may be in the best interests of cities, acting as a land bank preventing the development of large tracts of land until optimum uses can be found for them.

3. Relocation Problems.

Until a site for relocation of railway facilities (if needed) is found, and new facilities established,

railway companies are reluctant to relinquish existing facilities. The remaining land may be held for purposes that construction of new facilities may not readily accommodate (eg. storage of equipment). Because of this, railway companies will often hold onto their unused land until no possible use can be found for it.

4. Costs.

Costs incurred in the replacement of existing facilities at a new site are often prohibitive even in the case of relocation of an underused site. Railway land in cities may thus be extremely underused.

Of course, each of the above factors and possibly other may come into play impeding the change inland ownership which must proceed for any redevelopment possibilities.

4.2.3 EXAMPLES OF RAILWAY YARD AND/OR R.O.W. REDEVELOPMENT IN NORTH AMERICA

> a truly manmade non-renewable resource - our railroad rights-of-way.[21]

When examining the re-use alternative of railway land, it becomes evident that the original form and function of the land has much to do with its future re-use possibilities. Corridors and rights-of-way are generally long narrow strips of land bordered by a wide variety of land uses as they pass from urban, through suburban, to rural regions.

Railway yards on the other hand are larger, wider nodes occurring along corridors generally in the centres of cities where they are bordered by more intensely developed urban form. It would follow, therefore, that as these two types of land, similar in nature but so variant in form, area, expanse, and edge, would require very different re-use alternatives to suit their specific needs.

Past examples of the conversion of railway yards, corridors, and/or rights-of-way, could be loosely group into three main types of redevelopment that have commonly occurred. Each type of redevelopment has been a specific response to the parameters and possibilities offered by specific sites and their surrounding context:

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[21] Patricia J. Briner, ed., Effective Utilization of Abandoned Railroad Rights-of-Way for Park/Recreation Purposes: Potential Problems and Solutions, (Arlington, VA: National Recreation and Park Association, 1977), p. i.

1. Transportation Corridors
2. Park/Recreation Use
3. Urban Development

As we shall see, through the following examination of these re-use alternatives, each is particularly suited to the specific conditions created by the land being redeveloped. Railway corridors and/or rights-of-way have generally found new use as alternate transportation or park/recreation corridors because of their physical nature. Railway yards, on the other hand, have generally found new use in more intensive forms of urban development (such as office space, housing, commercial space, etc.) because of their physical nature.

4.2.3.1 TRANSPORTATION CORRIDORS

As railway corridors offer established rights-of-way, they are obvious alternatives in the planning of new our modernized transportation routes. Civic freeways, arterial road networks, and especially rapid transit routes, have commonly made use of converted railway corridors in this manner. There are numerous examples of cities who have used their abandoned or underused railways in developing needed urban transit networks. Briefly, the following are selected examples of this type of redevelopment.

1. Ottawa

   -Rail lines converted to modernized arterial road network.

2. Lethbridge

   -Railway yard and right-of-way converted to combined highway and open space.

3. Vancouver

   -Railway spur line and tunnel converted to elevated rapid transit and subway system.

4.2.3.2 PARK AND RECREATION USE

Parks and recreation as a re-use alternative for abandoned or underused railway corridors is an alternative that has just begun to be explored in the last decades. In terms of applying new function to existing form, this type of railway re-use has taken on three major forms as follows.

1. Conventional Parks and Open Space.
2. Recreation Trails.
3. Scenic Touring.

The traditional park or open space re-use alternative has seen the development of several abandoned railway facilities. These instances have generally taken place in urban areas where population densities warrant the need for

open space. Abandoned or unused railway yards are generally the object of conversion, given their size and width. These types of redevelopments do not differ significantly from the redevelopment of other types of industrial facilities.

The conversion of railway rights-of-way to recreation trails is a relatively new re-use alternative for unused or abandoned railway corridors. This alternative not only explores methods of re-using awkward linear parcels of land, but also uses unconventional open space in their re-use.

To examine the possibilities of the conversion of railway corridors to park and recreation use, it is advisable to examine the American scene which has been actively pursuing this re-use alternative in the past decade. Their experience not only indicates the value of railway corridors as a recreation resource, but also indicates problems associated with the conversion process.

The conversion of railway corridors to recreation use in the United States was initiated by federal agencies and the National Recreation and Park Association. In 1975, a simple guidebook entitled "From Rails to Trails"[22] was published by the Citizens Advisory Committee on Environmental Quality. Some 36,000 copies of this 36 page booklet were distributed to recreation personnel, park planners, outdoor groups, and interested citizens and provided a step-by-step guide to the

[22] U.S. Citizens Advisory Committee on Environmental Quality, From Rails to Trails, Arlington, VA, 1975.

conversion process.[23] The guide led the reader through the process of locating trails, to the construction of functional facilities. Its influence on the re-use of abandoned rights-of-way, coupled with the availability of federal funding, can be seen in the great number of converted rights-of-way prior to the curtailment of federal funding.

The conversion of abandoned railway corridors was in response to two major factors. Firstly, as noted in the report, there has been a great increase in hiking, biking, cross-country skiing, and other forms of recreation while metropolitain areas have been expanding without adequate space provided for recreation pursuits. These forms of recreation are difficult to provide under traditional open space planning conventions, and are costly to create through the assembly of individually owned parcels of land. At the same time, thousands of miles of abandoned railway lines have become available for alternate uses. These linear strands of single-use land are uniquely suited to recreation purposes because of their physical configuration. Additionally, there is the possibility of the future re-use of this land for transportation use and it is advisable, therefore, to maintain its linearity, its physical integrity, and its ownership by a single authority. Recreation re-use again is ideally suited to this purpose as

[23] 'Washington Scene", Parks and Recreation, April 1975, V.10, No. 4, p. 16.

the linear integrity of rights-of-way are maintained, little permanent development is necessary, and the land can be held under public ownership.

Generally, the agenda of railway right-of-way conversion offered to the public was based on realistic goals that reconciled the objectives of all participating parties. Transportation authorities were satisfied with the preservation of rights-of-way for possible future transportation use. Recreation and open space planners, and the using public were offered the opportunity of inexpensive recreation corridors. In order to meet these goals, several obstacles had to be overcome as were outlined in the previous section.

The Canadian experience to date has lagged behind the American situation in terms of conversions, due to several factors. Political motivation, funding, and differing beaureacratic structures are basic reasons for this delay. There are, however, structural differences in our cities, railway networks, and population bases that have created different need situations. In the United States, the majority of conversions have taken place in the industrialized northeastern states which were developed earlier and with greater density than most of Canada. A great number of rail lines in this region were created to serve scattered industrial uses that have since disappeared. The greater population base and uburbanization in this

region that provides a substantial user group base for potential conversions. Many rail lines that have undergone conversion can be found in these urban fringes where rights-of-way often provide scarce open space that has been effectively reverted to a 'natural' state because of time and neglect.

The structure of Canadian railway systems is somewhat of a contrast to the American situation. Railways in Canada were built later to meet different goals as discussed in Chapter One. Canada's railways exist in a more linear east-west configuration because of the physical nature and settlement patterns of the country. In the west, railways have been built primarily to meet agricultural needs and trackage is dispersed over areas of low population density. Conversion to recreation use is not a possibility where a potential user base is sparse. Hence, in Canada, conversion possibilities are limited to the more populated and earlier settled southeastern region, or to urban fringe areas.

The final recreational re-use alternative of railway rights-of-way is itself not necessarily a re-use or does it necessarily involved abandoned railway lines. It is the use of rail lines for scenic touring. This alternative has been popularized in the recent past by the interest in heritage and conservation. Scenic touring as recreation involves the re-use of existing trackage and antique rolling stock for passive recreation. Both the rolling stock (steam

engines and restored passenger cars) and the railway corridor (which may be through a region of particular scenic or historic interest) provide material for recreational use. This type of re-use is mainly directed towards rural areas.

The following are examples of parks and recreation based redevelopments of railway yards and corridors:

1. Conventional Parks and Open Space.

a) Liberty Park, Jersey City, New Jersey
-redevelopment of abandoned yards and terminal of the Central Railroad of New Jersey, 800 feet across the water from the Statue of Liberty.
-35 acres opened in 1976 attracting 700,000 visits annually
-will eventually encompass 800 acres, almost as large as New York's Central Park.
-will include a crescent-shaped harbour front promenade backed by trees and meadows, a two mile long serpentine waterway, a rehabilitated historic terminal building, and a wildlife refuge.
-site of rededication ceremonies and centennial celebration for the Statue of Liberty.

b) The Forks National Historic Park, Winnipeg.

-redevelopment of a portion of the former Canadian National East Yards adjacent to the forks of the Red and Assiniboine Rivers in Winnipeg.

-site covers 5.5 ha., with construction budget of $3.5 to 4 million.

-proposed function will include historic interpretation of the role of the site in the history of native culture, the European fur trade, and the settlement of western Canada.

-programmed events such as a children's festival, puppet shows, and historical interpretation will be staged.

-facilities to include an entry plaza off Water Street, an amphitheatre on axis with St. Boniface bascillica and docks, docking facilities, parking, interpretive panels and displays, passive open space, and possible archaeological digs.

c) Midland Railway Yards, Winnipeg.

-terminal facilities and yards removed to make way for Winnipeg's Urban Renewal Area #2 scheme in the late 1960's.

-half of the original Midland Railway ("Fruit Row") was developed as housing.

-1969 freeze on urban renewal stopped any development here and the yards were not fully developed.

-although this was not intended to be an open space redevelopment scheme, half of the former yards have been grassed and landscaped to some degree, with some playground facilities installed and a daycare/community centre located in an existing railway structure. The land provides and functions as open space for nearby residents.

2. Recreation Trails

a) Elroy-Sparta State Trail, western Wisconsin.
-a 32 mile bicycle/hiking trail including 35 steel bridges, overpasses, and trestles, and 3 tunnels.
-acquisition cost was $12,000(U.S.) in 1965, developed with useable surfaces in 1971.
-connects towns of Elroy and Sparta through rural countryside of native forests and streams.

b) Illinois Prairie Path, Illinois.
-35 mile trail developed on Chicago, Aurora & Elgin interurban railroad.

c) Burke Gilmain Trail, metropolitain Seattle.
-11 mile urban recreation trail.

d) Cargill, Long Park Trail, Longview Texas.
-2.5 mile illuminated walking, running, biking trail.

3. Scenic Touring

a) Prairie Dog Central, Winnipeg/Grosse Isle, Manitoba.
-seasonal rail tour using vintage locomotive and rolling stock.
-2.5 hour round trip from Winnipeg to Grosse Isle and return on functioning rail right-of-way.

b) Wakefield/Barry's Bay, Ottawa region.
-scenic train tour through Gatineau area using vintage locomotive and rolling stock on functioning right-of-way.

4.2.3.3 URBAN REDEVELOPMENT

General urban redevelopments have been the most common re-use alternative for urban railway lands. They encompass all types of railway land, from the redevelopment of corridors and rights-of-way, to large yard and terminal areas.

It is difficult to describe in specific detail the forms of urban development in regards to this issue. For the purposes of this study, urban redevelopment of railway yards will be considered in terms of built form occupying railway lands as opposed to transportation and recreation facilities. Therefore, they encompass many different types of developments; from industrial, to commercial, residential, and mixed-use developments.

There are several reasons contributing to the fact that urban redevelopments in their various forms have been the single most common form of re-use of urban railway land. Railway yards and terminals were often built first, at or near city centres, and have been the first to be abandoned. Railway companies usually recognize the value of this land in economic terms and often act as real estate developers, or in concert with developers, to maximize and optimize the economic redevelopment of their unused land. There is a cost justification factor governing the re-use of these facilities. In economic terms, only large scale urban redevelopment alternatives may be able to meet these cost justification goals, especially where private interests are concerned.

All Canadian cities have and will continue to experience redevelopment of urban railway lands as economic, technological, and social changes take place in our cities. This is not to say that this redevelopment process is a

planned or controlled one. Rather it is part of the overall process of urban transformation that takes place as a function of the urban ecosystem. This transformation process generally difficult to trace as it is not necessarily documented, but is part of the continued dynamism of urban affairs. The following examples are an attempt to describe the end product of the redevelopment process that has occurred in Canadian cities.

1. Place Ville Marie & Place Bonaventure, Montreal

   -26 acres of CN land in downtown Montreal developed into a $75 million trade and convention centre over existing terminal tracks in 1967.

   -funded by private developers on air rights leased from CN.

   -includes underground shopping, connections to streets and railways, offices, hotels, railway terminal, and rapid transit facilities.

2. Edmonton

   -78 acres of downtown land (6000 ft. long, 17 blocks) including trackage for rapid transit, offered for development by CN.

   -26 storey office tower and railway terminal built in 1967 followed by subsequent developments including rapid transit system.

3. Vancouver

-former railway terminal, now land leased from CN along waterfront developed into private office towers.

4. Granville Island, Vancouver

-former industrial and railway site redeveloped into mixed commercial, residential, industrial precinct.

5. Moncton

-shopping centre built on CN land.

6. Toronto

-170 acres of CN and CP land (railway yards and terminals) along waterfront offered for redevelopment.

-waterfront, formerly industrial land serviced by railway tracks, developed into "Harbourfront", commercial, residential, office, and recreation facilities.

-CN tower, hotel complex, and convention centre built on portion of railway yards.

-future developments will include a domed stadium, office and commercial space, and housing.

7. Saskatoon

-CN railway yards removed from central business district allowing vacated land to be used in reconnecting roads, central city mall, parking, and office space.

8. Harte Subdivision, Winnipeg

-in mid 1960's, Canadian National Railways removed this redundant line in the process of rationalizing its railway system.

-when the line was removed, the City of Winnipeg acquired the land and developed a limited access arterial street (Grant Avenue), rows of apartments, and a shopping centre.

-development occurred as land was sold off on a piecemeal basis and with few controls.

9. East Yards Redevelopment, Winnipeg

-plans are underway for the redevelopment of this valuable piece of downtown land in Winnipeg and will include the development of housing, rapid transit, commercial, and open space.

10. Fort Rouge Yards, Winnipeg

-since their abandonment in the early 1960's, the only development to occur here is the construction of the City of Winnipeg transit terminal and garage on the northeast end of the site.

11. Ottawa

    -trackage adjacent to Rideau Canal removed and station used as a conference centre.

12. 'Renaissance Regina'

    -commercial, residential and park redevelopment proposed for 96 acre site in downtown Regina.

    -site formerly occupied by CN and CP railways, to be vacated by 1992.

Chapter V

THE FORT ROUGE YARD - FORMULATION OF DEVELOPMENT STRATEGIES

The intention of this section is to analyze the redevelopment options discussed in the previous chapter and consider their merit as possible opitons for the Fort Rouge Yards. The goal of this analysis will be to recognize where need and contextual compatibility of these options exists, or does not exist, so that a basic list of possibilities can be created.

The method of this section is outlined by the following process model.

1. Key points uncovered in the previous study will be outlined as they relate to the study area.
2. A rational for the selection of the Fort Rouge Yards will be discussed.
3. Need for he redevelopment examples from Chapter 4 will be determined with respect to the site context.
4. From the analysis of need, the examples will be refined and expanded into a redevelopment menu by eliminating items for which there is no determined need, and elaborating items for which need is highest.
5. The redevelopment menu will be further analyzed in terms of the site interfaces (ie. where the site meets surrounding land uses).
6. The site will be divided into manageable zones and the redevelopment menu analyzed in terms of these zones.

7. Goals and Objectives relevant to the site itself will be refined.

8. The site zones will be priorized according to the above.

9. A basic phasing, zoning, and programming of the site and its development potential will be formulated from discussion and analysis of the above process.

It will be necessary at this point, to focus in specific detail on the site and its surrounding neighborhood to refine and synthesize the preliminary phasing, zoning, and programming. This, however, will occur and be discussed in Chapter 6.

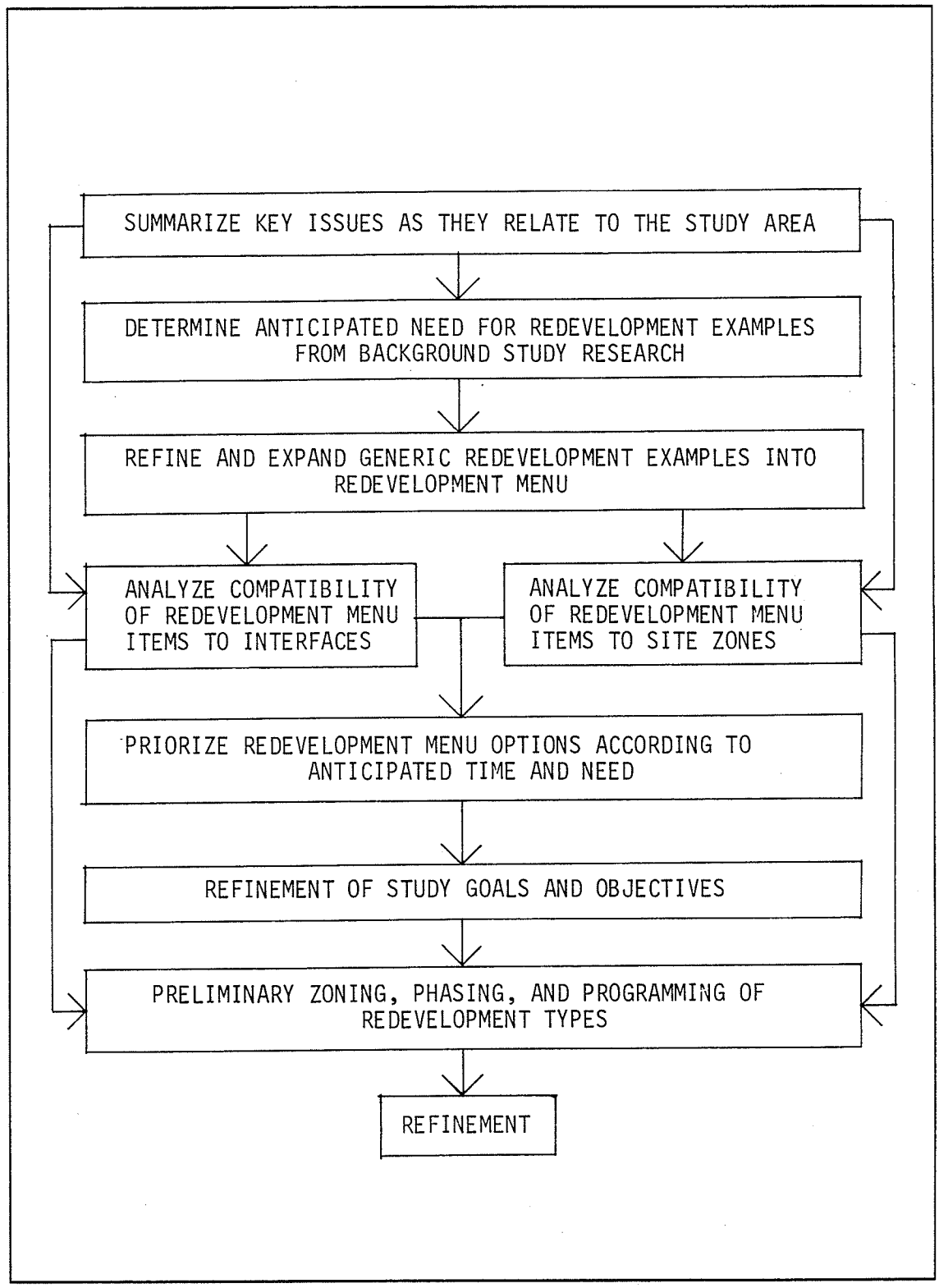

Figure 8: THE SELECTION PROCESS

5.1 SUMMARY OF BACKGROUND ISSUES AND INFORMATION

The four previous chapters have focused on issues and information in specific regard to the growth of form, and subsequent decline of the Fort Rouge Yards and adjacent urban areas. In order to place this information within a useable context, it is necessary to distill major points as they will relate to the formulation of development strategies and guidelines.

5.1.1 GENERIC FACTORS OF RAILWAY GROWTH, ABANDONMENT, AND RE-USE AFFECTING RAILWAY REDEVELOPMENT

- Railways were allowed to impact urban growth virtually unhindered by outside influences. Resultant growth exhibits the impact of railway influences.

- In Winnipeg, railway growth became a form determinant that outweighed other major influences, including natural conditions.

- Subsequent urban growth has ironically led to constriction of facilities contributing to their obsolescence.

- Abandonment occurs for a variety of reasons, generally including a reaction to conflicts with adjacent urban areas.

- Railway abandonment further compounds conflict situations that exist with adjacent land uses.

- Interface situations which at one time adapted to railway activities, must once again adapt to new conditions.

- If redevelopment options are not controlled or planned, urban growth may converge incrementally into vacated areas in a haphazard fashion.

- Often abandonment/relocation results in the formation of "scar tissue" along former railway boundaries.

- Re-use of railway land is accompanied by major obstacles which must be overcome prior to the application of effective re-use strategies.

- Common re-use alternatives that have been exploited in other cities include transportation corridors, parks and recreation, and varied urban developments.

5.1.2 RATIONALE FOR SELECTION OF FORT ROUGE YARDS AS STUDY FOCUS

As major issues were discovered in the study of railway abandonment and re-use, a basis for the selection of the Fort Rouge Yards as a case study area was solidified. Research into growth and abandonment of the yards noted is commonality with similar underuse or abandonment situations.

The following are key points noted in the background study as they relate to the selected study area:

- The Fort Rouge Yards and surrounding urban areas, constructed in 1909 and abandoned in 1962, exhibit the common symptoms of railway growth and abandonment as discussed in Chapters III and IV. Because of this, they offer an excellent opportunity for a post-abandonment re-use case study.

- The Yards have remained virtually vacant for some 25 years or more and redevelopment options have not been fully explored and exploited. This factor offers a further opportunity to examine re-use strategies from a current perspective.

- The fact that re-use has been slow in occurring, coupled with the growth characteristics of the City of

Winnipeg, suggests that redevelopment options will remain long-term urban goals. This offers an opportunity to set these goals and objects in in order to foster effective and compatible long term growth morphology.

- The neighborhoods immediately adjacent and surrounding the Fort Rouge Yards exhibit the negative effects of railway growth abandonment. This factor provides an opportunity to plan for neighborhood upgrading, concurrent with rail yard re-use in order to create a harmonious and compatible degree of fitness between the two.

- The yards site, adjacent neighborhood, and nearby or connecting urban parts possess many positive attributes that can be exploited in future growth plans.

5.1.2.1 ASSUMED CRITERIA

Specific criteria that will effect re-use, must at this point be listed so that they may be incorporated into re-use strategies.

- The main line rail right-of-way will remain intact and active.
- Future rapid transit will share use of this right-of-way.
- There is no forecasted demand for the return of the site to its former use. Limited railway use that remains on site can easily be relocated to other facilities in the city.

5.1.2.2 GENERIC DEVELOPMENT TYPES RATED BY NEED

As discussed and cited in Chapter 4.2.3, several redevelopment possibilities were found common to the re-use of railway yards and corridors in North America. These generic redevelopment types are rated as follows according to anticipated need or demand in the context of the Fort Rouge Yards site in Winnipeg. Need has been loosely defined to include not only current need or demand, but also anticipated need, and the possibility of the creation of a demand for a specific development type (so as not to reject out of hand, options at this level).

REDEVELOPMENT TYPES VS. NEED

KEY - ANTICIPATED NEED

NOT ANTICIPATED ●
LONG TERM NEED ◒
POSSIBLE NEED ◐
NEED EXISTS ○

REDEVELOPMENT EXAMPLES		URBAN NEED
URBAN DEVELOPMENT	INDUSTRIAL	◐
	COMMERCIAL	◐
	OFFICE	●
	RESIDENTIAL	○
PARKS AND RECREATION	CONVENTIONAL PARKS & OPEN SPACE	◒
	RECREATION CORRIDORS	○
	SCENIC TOURING	●
TRANSPORTATION CORRIDORS	RAPID TRANSIT	○
	ARTERIAL ROADWAYS	◒

Figure 9: NEED FOR GENERIC REDEVELOPMENT TYPES

DISCUSSION

The purpose of this matrix is to determine where a general need for generic redevelopment types exists. This matrix is not intended to be site specific, nor are the redevelopment types listed considered to be an absolute list of options. The redevelopment types are tested to determine need or demand for specific redevelopment types in Winnipeg.

The following conclusions have been drawn from this matrix:

Highest anticipated need - Residential Development
- Recreation Corridors
- Rapid Transit

Lowest Anticipated need - Office Development
- Scenic Touring

At this point, the options of office development and scenic touring will be considered unfeasible. The items of highest anticipated need will be expanded into a larger list of possibilities for consideration, then tested against specific site conditions.

5.1.3 COMPATIBILITY OF DEVELOPMENT TYPES WITH SITE CONDITIONS

5.1.3.1 EXPANSION AND REFINEMENT OF REDEVELOPMENT MENU

The previous list outlined only where need for a specific development type may be anticipated without recognizing specific site considerations. This list has been expanded into a 'redevelopment menu' in order to test the compatibility of specific land uses against generalized site conditions.

EXPANDED REDEVELOPMENT MENU

The previous redevelopment list has been elaborated into five general land use categories for which a need may be anticipated:

1. INDUSTRIAL
2. COMMERCIAL
3. RESIDENTIAL
4. OPEN SPACE/PARK AND/OR RECREATION
5. TRANSPORTATION

These land use categories are defined as follows:

1. INDUSTRY

   a) HEAVY - active and intensive industrial activities that most strongly effect adjacent areas (eg. railyard)

   b) MEDIUM - medium sized and/or intensity industry.

   c) LIGHT - small or light intensity industrial activities that are more easily insulated and have the least impact on adjacent areas.

2. COMMERCIAL

   a) REGIONAL - that which serves and draws upon a large outlying region.

   b) LOCAL - that which serves a small and specified region of neighborhood or local scale.

3. RESIDENTIAL[24]

   a) SUBURBAN - single family dwellings on conventional city lots, 5 - 7 units/acre.

   b) LOW DENSITY MULTIPLE - 2+ family, attached, 2 story max., 10 - 20 units/acre.

   c) MEDIUM DENSITY - 3 story, walk-ups, small apartments, 25 - 50 units/acre.

   d) HIGH DENSITY - 4+ story apartments, 50+ units/acre.

4. OPEN SPACE, PARK, AND/OR RECREATION

   a) ACTIVE RECREATION - playing fields, organized sports, playgrounds, etc.

   b) LINEAR USE RECREATION - bicycle paths, walking/hiking/x-c skiing trails.

   c) PASSIVE OPEN SPACE - landscaped open space for passive, non-structured use.

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[24] Joseph De Chiara, Lee Koppelman, Manual of Housing/Planning and Design Criteria, (Englewood Cliffs, N.J.: Prentice Hall Inc., 1975), p. 76.

d) PASSIVE ECOLOGICAL OPEN SPACE - natural, ecological open space, revegetation areas, etc.

e) BUFFERS - landscape buffering to shield noise, views, conflicting uses, etc.

5. TRANSPORTATION

a) VEHICULAR(Regional) - regional streets and traffic arteries.

b) VEHICULAR(Local) - local streets.

c) PUBLIC(Regional) - regional rapid transit or bus routes.

d) CYCLE - functional bicycle routes.

e) PEDESTRIAN - functional pedestrian routes.

5.1.3.2 COMPATIBILITY WITH SITE INTERFACES

As discussed in Chapter 1.3, the study area is contained by four specific interface situations which take their character from adjacent land uses. These interface situations and issues of adjacency will weigh heavily on the formulation of development strategies in accordance with the issues and objectives. The interfaces are summarized as follows:

WEST - C.N. main line and Pembina commercial/industrial Corridor.

EAST - Suburban residential neighborhood (single family character).

SOUTH - Jubilee/Pembina Highway/railway interchange.

NORTH - Transit Base/Rail line/Osborne Street.

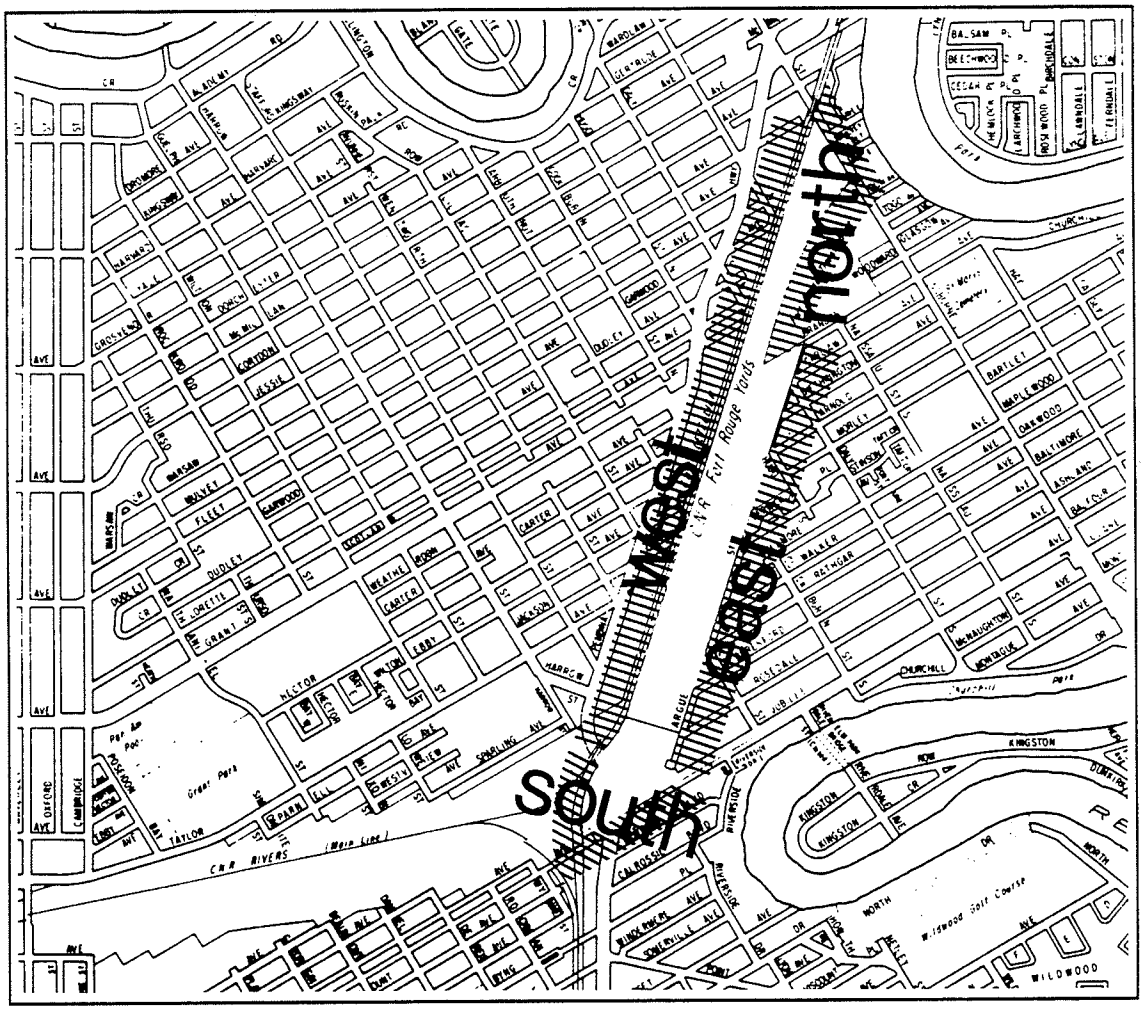


Figure 10: INTERFACES IN THE STUDY AREA

This matrix is a test of compatibility of redevelopment types as they are compared against the listed interface areas and their existing conditions. This test of compatibility is determined by the degree of fitness between existing land uses, and possible or potential land uses. The method is applied in a singular fashion to each interface area as each item on the redevelopment menu is

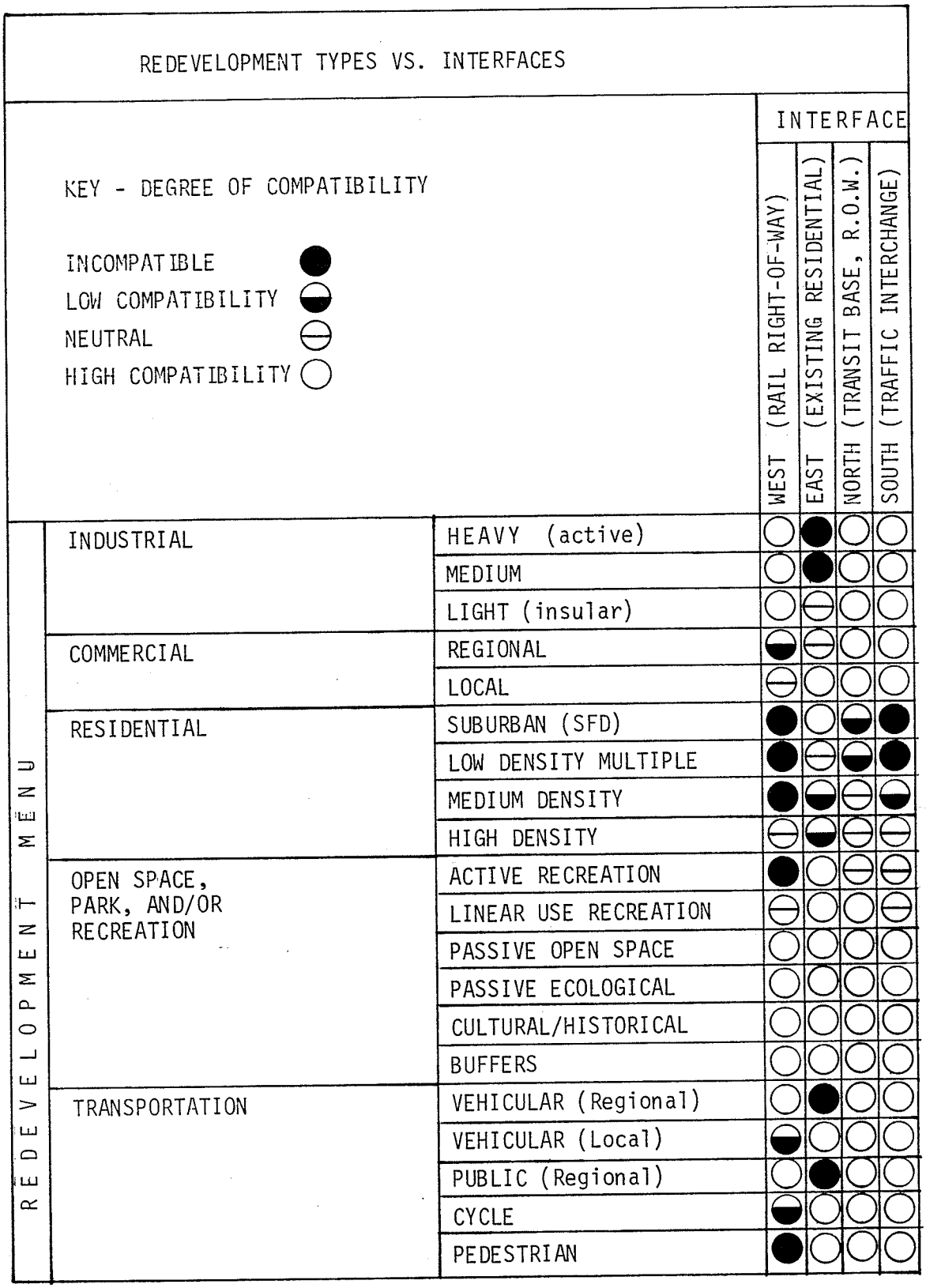


Figure 11: REDEVELOPMENT TYPES VS. INTERFACES

considered. For example, it is obvious that heavy indstry would be an incompatible land use adjacent to the suburban edge found along the east interface area. All forms of open space, park and/or rections, however, would have a high degree of compatibility if located here.

From this analysis, potential redevelopment types can be either rejected or considered for future reference based on compatibility. The results of this compatibility test are listed as follows according to the interfaces:

- WEST INTERFACE

  Industry and Regional Transportation are compatible.
  Residential development and active recreation are incompatible.

- EAST INTERFACE

  Lower density residential development and open space, park, and/or recreation are compatible.
  Industry and Regional transportation are incompatible.

- NORTH INTERFACE

  Lower density residential development is incompatible.
  All other listed development forms are compatible.

- SOUTH INTERFACE

  Residential development (especially low density) is incompatible.
  All other listed development forms are compatible.

5.1.3.3 COMPATIBILITY WITH ZONE CELLS

In order to examine the appropriateness of development menu selections to the site interior, the Yard has been

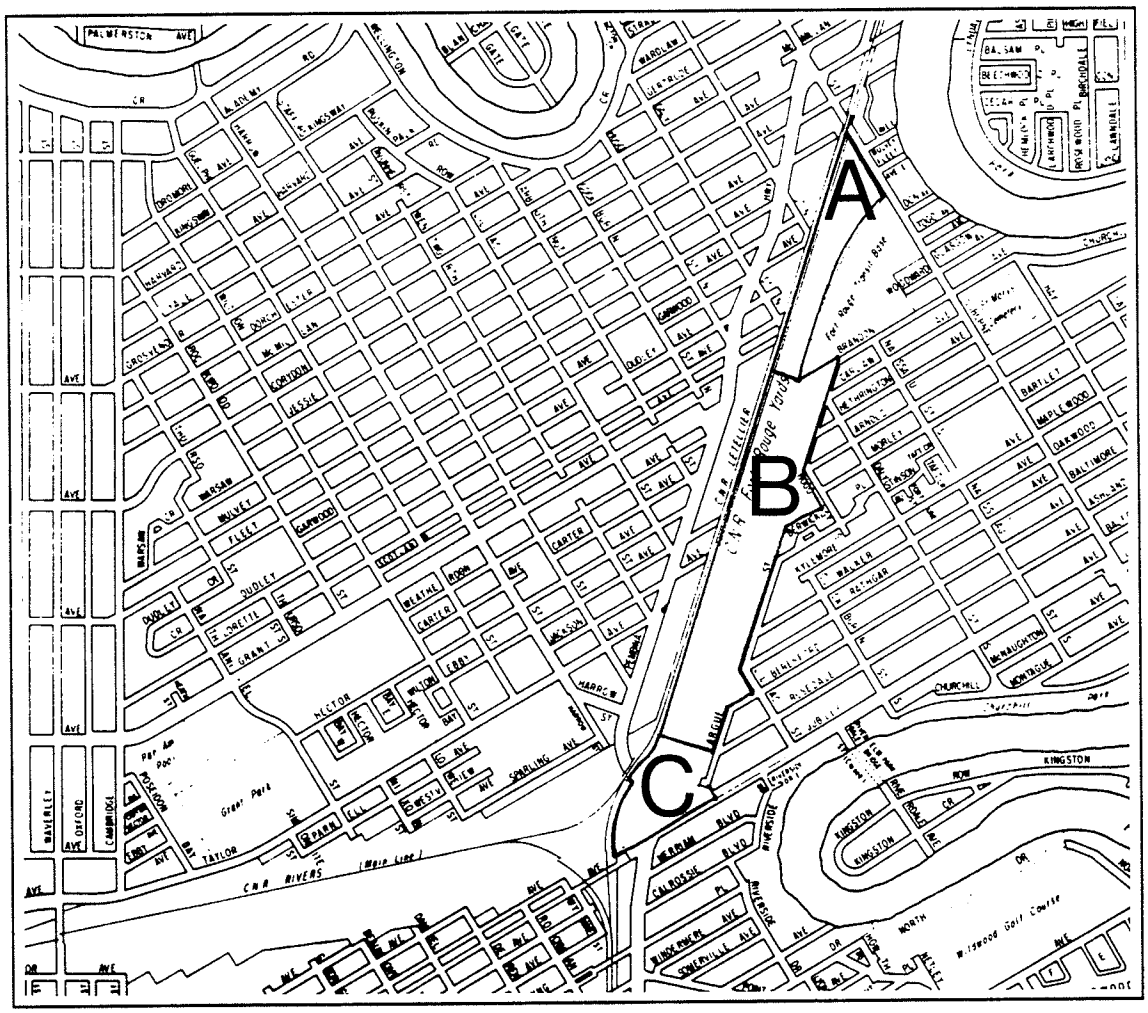


Figure 12: ZONE CELLS IN THE STUDY AREA

divided into three cells as can been seen from figure 12. These cells form semi-enclosed zones that are dominated by

the character of surrounding areas. They are characterized as follows:

ZONE CELL A

This zone, the northernmost part of the site, is enclosed by the Fort Rouge Transit Base, the CN mainline, and Osborne Street. It is the moost physically segregated zone because of the inpenetrability of surrounding elements.

ZONE CELL B

The largest middle section of the site is enclosed by the CN mainline and the adjacent residential neighborhood. Some remaining railway buildings are found in this zone. This zone is the largest of the three, and most open and accessible from the adjacent Lord Roberts Neighborhood.

ZONE CELL C

This zone is found at the southernmost part of the site and is enclosed by the CN mainline and major arterial roadways. It is physically segregated by the railway and busy streets, but is open to the southern tip of the Lord Roberts Neighborhood.

DISCUSSION

Because the site interior is essentially vacant, and this matrix is not intended to repeat the analysis of interface compatibility, few areas of overall incompatibility were found. These items of incompatibility are, however, of note and are listed here under corresponding zones

ZONE CELL A

Low density residential development, active recreation, heavy industry, and local vehicular transportation, are incompatible development types.

REDEVELOPMENT TYPES VS. SITE ZONES

KEY - DEGREE OF COMPATIBILITY

INCOMPATIBLE ●
LOW COMPATIBILITY ◒
NEUTRAL ◍
HIGH CONPATIBILITY ○

REDEVELOPMENT MENU		ZONE CELLS (NORTH) A	B	(SOUTH) C
INDUSTRIAL	HEAVY (active)	◒	●	●
	MEDIUM	○	◒	◒
	LIGHT (insular)	○	◍	◍
COMMERCIAL	REGIONAL	○	○	○
	LOCAL	○	○	○
RESIDENTIAL	SUBURBAN (SFD)	●	○	○
	LOW DENSITY MULTIPLE	◒	○	○
	MEDIUM DENSITY	○	○	○
	HIGH DENSITY	○	○	○
OPEN SPACE, PARK, AND/OR RECREATION	ACTIVE RECREATION	◒	○	○
	LINEAR USE RECREATION	○	○	○
	PASSIVE OPEN SPACE	○	○	○
	PASSIVE ECOLOGICAL	○	○	○
	CULTURAL/HISTORICAL	○	○	◒
	BUFFERS	○	○	○
TRANSPORTATION	VEHICULAR (Regional)	○	○	○
	VEHICULAR (Local)	◒	○	○
	PUBLIC (Regional)	○	○	○
	CYCLE	○	○	○
	PEDESTRIAN	○	○	○

Figure 13: REDEVELOPMENT TYPES VS. SITE ZONES

ZONE CELL B

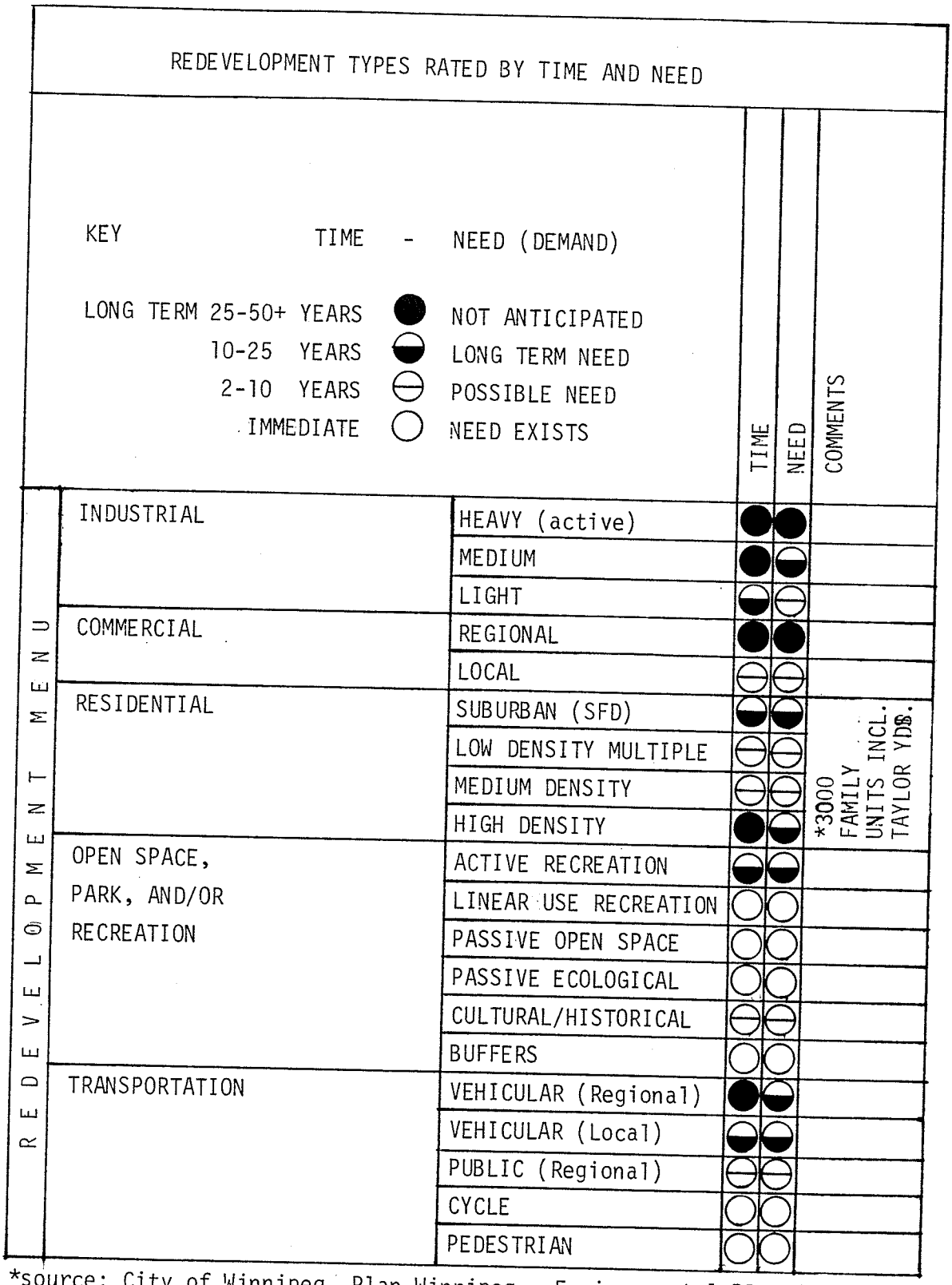
Heavy and medium industry are incompatible development types.

ZONE CELL C

Heavy and medium industry are incompatible along with cultural/historical recreation (as it is of little value here).

5.1.4 PRIORIZATION OF DEVELOPMENT TYPES BY TIME AND NEED

The previous matrices have provided a preliminary basis for exploration of re-use alternatives according to compatibility with existing land uses and urban forms. It is necessary at this point to begin to priorize these development types in order to determine those that require further investigation and exploration. The following matrix outlines anticipated need or demand for these development types with an estimated element of time attached to variant need factors. Need is determined by existing and/or forecasted demands for the development types based on both long range urban growth patterns, and specific re-use alternatives as they impact the site region. Specific proposals that have been made regarding the site itself have been taken into account and incorporated into the redevelopment menu categories. Where capacities of these categories have been suggested in other studies, they are commented on here.



*source: City of Winnipeg, Plan Winnipeg - Environmental Planning Component

Figure 14: REDEVELOPMENT TYPES RATED BY TIME AND NEED

DISCUSSION

It is evident that anticipated need or demand is strongly correlated with time terms. These two parameters could therefore considered to to be parallel and integrated elements.

The following are redevelopment types of lowest need or demand and of longest term:

Heavy and Medium Industry

Regional Commercial Dev.

The following are redevelopment types of greatest need or demand and which could be expected to be implemented in the short term.

Linear Use Recreation

Passive Open Space

Passive Ecological Open Space

Cycle and Pedestrian

Low Density Residential

5.1.5 REFINEMENT OF STUDY GOALS AND OBJECTIVES

The goals and objectives set out at the onset of this study will refined at this point to incorporate information gathered in the study and to direct the preliminary development of re-use strategies for the site and neighborhood. These goals and objectives will guide the priorization of site zones for redevelopment, and formulate a basis for design decision in that zone.

5.1.5.1 REDEVELOPMENT GOALS

> A goal is a general aim, stated in broad terms, sometimes even rather vaguely stated, and yet of the most fundamental importance."[25]

In the context of implementation of re-use strategies in the Fort Rouge Yards, the following goals have been formulated - these goals represent overall statements of aims intended to influence the decision making process across all levels. These goals have been derived from a general site and area context overview, and will be reinforced by further study.

- GOAL - THE INTEGRITY OF THE ADJACENT AND IMMEDIATELY AFFECTED RESIDENTIAL NEIGHBORHOODS SHOULD BE STRENGTHENED AND ENHANCED.

  The integrity of the adjacent neighborhood of Lord Roberts has been compromised by railway growth and subsequent abandonment. Future redevelopment should not further compromise issues of neighborhood integrity, but rather, foster a positive neighborhood character. Redevelopment strategies will strive to take advantage of any existing positive environmental

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[25] Donald P. Grant, How to Weight Objectives Using the Churchman Ackoff Method, Design Methods and Theories, Vol. 10 No. 4, pg. 220.

qualities that exist in, or adjacent to, the site.

- GOAL - PROVIDE ALTERNATIVE RESIDENTIAL ENVIRONMENTS

  Because of unique site attributes, and the availability of conventional suburban residential environments, redevelopment strategies will explore the creation of various alternative residential environments. These new and alternative environments should serve to strengthen the city's overall urban frame through the juxtaposition and composition of urban elements in generally compatible forms. Inherent in this goal is expanded time frame that will be encountered by any realistic development. Therefore, development strategies will be responsive to forecasted growth needs.

5.1.6 REDEVELOPMENT OBJECTIVES

In order to meet the above goals, and arising from their intent, the following objectives represent specific aims in the development of re-use strategies. These objectives contain a "specific measure as to the degree of success or failure in reaching"[26] the aforementioned goals.

- OBJECTIVE - To define and respond to general and specific urban needs that will potentially affect the site and neighborhood.

  Urban needs that impact upon the site or site region must be identified and responded to through the formulation of appropriate re-use strategies. These needs may range from traffic and transit pressures, to open space and recreation needs.

- OBJECTIVE - To define and respond to specific problems occuring in the site or in the adjacent neighborhood.

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[26] Ibid. , p. 128.

Specific problems, especially in terms of the site/neighborhood relationships will be identified with the intention of determining methods of resolving these problems.

- OBJECTIVE - To define and respond to opportunities that can be capitalized on through re-use strategies.

  Opportunities, both regional and site specific in nature, will be determined where they might have an impact on the site. Re-use strategies are intended to capitalize on these opportunities by incorporating them into site redevelopment.

- OBJECTIVE - To determine redevelopment strategies that respect the stability and character of the neighborhood of Lord Roberts.

  In order to acheive this objective, the specific form and character of the neighborhood will be analyzed with the intention of integrating the future use and form of the site into the existing residential neighborhood.

- OBJECTIVE - To analyze and respond to specific neighborhood edge conditions.

  Positive and negative conditions existing in the edge area where the neighborhood meets the site will be examined in order to resolve existing problems and build upon positive attributes.

5.2 ZONE DEVELOPMENT PRIORITY

The previous process outlined the general need for generic development types, the compatability relationship between these and other development types, and ther specific site conditions of interface situations and zones, and a further priorization of development types based on forecasted need and time elements. In order to determine development phasing of the site based on the above criteria, a zone selection process must occur to rationally determine a priority, or preferred, development area.

This zone selection will be based on specific concerns and criteria arising from study issues and goals. The following are issues and concerns that will be used to rank priority development areas.

- Conflict with adjacent use.
  The degree of this conflict and its inherent need for resolution.
- Existing compatibility with adjacent use.
  Arising from the above, and based on existing use, this criteria relates to the compatibility, or lack of it, between different land uses.
- Need for problem resolution.
  Based on problems that may exist in areas adjacent to the study area and related directly or indirectly to site use and condition.
- Potential for short term development.
  The physical and economic potential of a particular site zone for development.
- Potential demand for development.
  The predicted demand potential for development of a site zone.

- Accordance with goals and objectives.
  Priorization for development based on the issues stated in the goals and objectives.

These criteria are related to the site zones as follows:

ZONE DEVELOPMENT PRIORIZATION				
KEY LOW 1 MEDIUM 2 HIGH 3		SITE ZONE		
		A	B	C
PRIORIZATION FACTORS	CONFLICT WITH ADJACENT USE	1	3	1
	EXISTING INCOMPATIBILITY WITH ADJACENT USE	1	3	1
	NEED FOR RESOLUTION OF PROBLEMS	1	3	2
	POTENTIAL FOR SHORT TERM DEVELOPMENT	2	3	1
	ACCORDANCE WITH GOALS AND OBJECTIVES	1	3	2
	PRIORITY RANK (total)	6	15	7

Figure 15: ZONE DEVELOPMENT PRIORIZATION

DISCUSSION

Based on this selection process, it is quickly evident that site zone B possess the highest potential for

development and should be given priority over the other zones. There exists a high degree of conflict along the interface boundary between this zone and the existed with the previous use of this site - that of an active railway terminal, and with its existing condition - that of vacancy and neglect adjacent to a suburban community. The need for interface improvement in this situation is high as is the need for problem resolution within the neighborhood infrastructure.

Because of the existing use of the neighborhood, its established character, and the potential demand for residential housing in proximity to the city centre, the potential for short term development of the adjacent zone exists, as does its potential demand for predicted and continuous growth. Based on the stated study goals and objectives, development of this zone possesses the highest degree of accordance with these goals. There is opportunity both for the enhancement of the existing neighborhood through the development of alternative housing in this site zone. It should be noted that compatibility testing found the development potential of this zone lay in residential development and open space.

Based on the zone selection process, zones A & C appear to have fairly equal potential for development. The priority of development of these areas shall be considered long term, to follow primary development in zone A.

5.2.1 PRELIMINARY DEVELOPMENT PHASING AND PROGRAM

Before proceeding with the planning of specific development strategies, a preliminary framework of phasing and programming must at this point be briefly outlined. A priority area will be further examined and programmed in detail.

PRIORITY DEVELOPMENT RANKING

RANK	ZONE	TERM
FIRST	B	SHORT TERM
SECOND	A	MEDIUM TO LONG TERM
THIRD	C	MEDIUM TO LONG TERM*

*based on future growth factors that cannot be forecasted here.

PRELIMINARY PROGRAMMING OF ZONES BY DEVELOPMENT TYPES

The following selection of development options is based on section 1.2 'Selection Criteria' and represents compatible, preferred, needed development types.

ZONE B

Residential Development - Low & Medium Density
Open Space, Park & Recreation
Transportation

ZONE A

Light/Medium Industry

Residential Development - Medium and High Density
Open Space, Park & Recreation
Transportation
Commercial

ZONE C

Residential - Medium Density
Open Space, Park & Recreation
Transportation
Commercial

This priorization and program is intended here as a skeletal framework on which to build further development strategies. Further investigation into site specific factors and the development of more detailed programming will lead to more rational development strategies. These zone programs suggest only a generic menu of options that may possible components of future redevelopment strategies. Based on the intentions of this study, however, problem areas requiring attention that have arisen from this process must be listed in order to determine strategies that will ameliorate these situations. These problem areas are listed by zone in order of priority, as follows:

PROBLEM AREAS/CONSTRAINTS

ZONE B

-deterioration of neighborhood infrastructed caused by age, use conflict, and abandonment of employment source.
-negative interface condition between suburban neighborhood and vacant/abandoned yards.
-possible conflict with rail right-of-way and future use.
-decay of residential texture.
-lack of re-use.
-enclosure and separation of neighborhood by physical means.
-lack of service infrastructure.

-inaccessibility and enclosure of site zone by surrounding physical features (rail lines, neighborhood edge, lack of streets).

ZONE A

-enclosure and inaccessibility of site zone by surrounding physical features (rail lines, transit base, Osborne St., lack of access roads).
-lack of service infrastructure.
-possible conflict with rail right-of-way and future use.
-lack of service infrastructure.

ZONE C

-enclosure and inaccessibility of site zone by surrounding physical features (rail lines, neighborhood edge, Jubilee/Pembina interchange, lack of access roads).
-possible conflict with rail right-of-way and future use.
-lack of service infrastructure.

The combination of zone priorization, individual zone programming by generic development types, and indication of problem areas by zone is a general basis from where to begin the formulation and articulation of development strategies. These strategies must address each of these factors in order to meet the goals of this study. As an example of this process, I will focus on the priority development zone, or Zone B, in the investigation of redevelopment strategies.

Chapter VI

PRIORITY REDEVELOPMENT STRATEGIES FOR THE FORT ROUGE YARDS

The intention of this section is to give recommendations for the redevelopment of the Fort Rouge Yards, using a priorized zone as a manageable example area. In keeping with the objectives of this study, these recommendations will be considered as development strategies as opposed to development plans. These strategies will offer methods of directing and guiding future growth.

In the previous text, I have focused on the growth relationship between railway yards and urban form, and examined the process of abandonment and re-use in order to lead into the formulation of strategies that respect and build upon these historic interrelationships. Examples of re-use in similar situations in other cities have been examined. Finally, optimization and priorization of development forms have been applied to the specific site. These research areas have been directed toward the application of rational possibilities of re-use in the specific context of the Fort Rouge Yards. The purpose of development strategies recommended will be direct future planning and development in the area, and serve as an example to the re-use of similar sites.

The formulation of strategies and recommendations will consider the following areas:

1. SITE AND NEIGHBORHOOD CONTEXT
   - analysis of physical characteristics
   - analysis of context, character, and condition
   - relationships between neighborhood and site (past and present)
2. EXAMINATION OF PROBLEM, NEEDS, AND OPPORTUNITIES
   - identification and brief discussion
   - recommendations as to problem solution and refinement (eg. buffers, edge treatments, repair)
3. EXAMINATION OF REDEVELOPMENT STRATEGIES
   - identification and discussion re-chapter five
   - recommendations of re-use strategies (eg. infill, creation of new urban fabric)
4. CONCLUSION
   - discussion of general findings and future directions

6.1 NEIGHBORHOOD CONTEXT, CHARACTER AND CONDITION

The information in this section has been derived largely from the following sources:

Lord Roberts Area Characterization Study,
Department of Environmental Planning,
City of Winnipeg, Feb. 1982.

Lord Roberts Community and Neighborhood
Improvement Office

Personal Interview, Don Gannon, Program Manager
Community and Neighborhood Improvement Division,
City of Winnipeg.

6.1.1 LORD ROBERTS COMMUNITY - DEFINITION

The neighborhood is defined as the triangular area west of Osborne St., east and south of the CNR mainline and Fort Rouge Yards, and north of Jubilee Ave.

6.1.2 GENERAL DESCRIPTION

- Mainly low density residential development on smaller lots.
- Fort Rouge Transit base is located in northern apex.
- CNR railway yards along western boundary.
- Commercial/multi-family corridor along Osborne St.
- Recent major public housing component and conversion of a large commercial property to a recreation complex has occurred.

6.1.3 SITE DESCRIPTION

6.1.3.1 PHYSICAL CHARACTERISTICS

- 450 FT wide along eastern side of existing tracks to residences.
- 250 FT remaining portion of lines and storage tracks bordering Pembina Highway (17 lines).
- 3 spur lines onto Pembina.
- 3 remaining structures.
- Land is flat, and poorly drained, was once swamp.

6.1.3.2 CURRENT STATUS

- Yards built in 1909, abandoned 1962.
- 1968 agreement with city to leave only main line intact and active.
- CN has undergone negotiations with the City for use of the Yards as an open space corridor, and a rapid transit right-of-way.
- VIA Rail passenger car maintenance facility was proposed for the site but was abandoned.

6.1.4 HISTORY

Since the early growth of the neighborhood, three major events or changes have occured that have affected the overall area:

- The great demand for residential space after the second World War to plus a street car link caused vacant portions of the area to be filled in.
- The yards were removed in 1961 taking with them the original and historic cause of residential development.

- The Osborne bridge was built across to St. Vital in the mid sixties linking central Winnipeg to the suburbs and causing a great increase in regional traffic.
- A southern freeway was proposed in 1968 by the Winnipeg Area Transportation study and was to utilize the site as a vehicular right-of-way.
- Recently, use of the yards has gradually increased for storage and marshalling purposes, bringing with it, renewed conflicts.

6.1.5 RELATIONSHIP BETWEEN THE SITE AND THE NEIGHBORHOOD

6.1.5.1 GROWTH RELATIONSHIP

Growth of the yards and surrounding neighborhoods occurred simultaneously. Areas in Fort Rouge on either side of the yards were predominantly railway settlements, housing families and workers who walked to the yards from their homes daily. These homes were small but well kept, and the secure employment base offered stability to the general area from the early 1900's to 1961 when the yards were removed, and along with them, the stable employment base they offerred.

Since 1961, the Lord Roberts neighborhood has undergone a gradual change in character. The zone of highest percentage of railway workers that occurred nearest the yards did not immediatlely change. Although their source of employment was relocated, railway workers were at first slow to leave the area. Those that did, did not necessarily choose to

relocate near their new employment site, choosing other factors for neighborhood selection that were allowed by societal changes such as the availability of private transportation. The exodus of former railway workers did accelerate, however, causing the greatest decrease in owner occupied homes in the areas of their greatest prior concentration; ie. nearest the Yards.[27]

The neighborhood seems to have restabilized recently as the effects of abandonment have been settled. There still remains a good number of former railway workers, retired railway workers, and their sons and daughters - but these residents have chose to remain or settle in the area for other reasons.

6.1.5.2 EXISTING RELATIONSHIP

The relationship that exists between the neighborhood and the railway yard could be characterized as an uncertain and uncomfortable one. There are existing conflicts resulting from problems inflicted upon the neighborhood by activities and conditions in the yards. There exists also a great potential for serious conflict and incompatibility due to the present zoning conflict and a recent gradual increase in yard usage.

[27] Basil M. Rotoff, Effects of the Re-location of Railway Installations on Occupational and Residential Patterns in Adjacent Areas: Fort Rouge Case Study. Proceedings of the Seminar Series on Transportation, 1973-1974, Vol. 7, 1-29.

In regards to the Yards, the Lord Roberts Residents Advisory Group outlined three key problems:

1. LOW LEVEL MAINTENANCE
2. NOISE
3. SITE POLLUTION

From the adjacent residents' point of view, there are numerous complaints that fall within these three categories. For example, the site is perceived as derelict and complaints are filed against CN about lack of ground maintenance, storage of derelict equipment, etc. Two common noise complaints result from the use of the storage tracks for switching, and refrigeration cars left overnight in the summer with compressors running. Site pollution results not only from lack of maintenance by CN, but also from illegal dumping of material by others. Other problems include the lack of safety barriers, inviting potentially dangerous situations, the use of snowmobiles and dirtbikes on the site, and lack of policing by CN.

It is obvious that these problems are perceived most readily by residents on or nearest the interface boundary. These problems, however, effect the overall neighborhood stability and character.

6.1.6 LAND USE/ZONING

LAND USE

TYPE	ACREAGE	%
Low Density*	219.48	52.29
Apartment	7.05	1.68
Commercial	9.08	2.33
Parks and Recreation	38.79	9.28
Education	6.50	1.54
Public Buildings	5.43	1.29
Public Utilities	124.07	29.54
Industrial	0.18	0.04
Vacant Land	8.44	2.01
TOTAL	419.92	100.00

*Low Density (includes one to four dwelling units.

neighborhood density - 28.28 persons/residential acre
city average - 25.73 " "

1. "The Lord Roberts area as defined must be considered as a residential area to be distinguished and protected from the adjacent railway yard and Transit complex".[28]

2. The area is appropriately zoned and developed with one or two family homes.

3. Adjacent railway yard is zoned medium and heavy industry (M1, M2) which permits incompatible uses and potential for significant conflict.

4. The transit complex is zoned commercial and is largely physically separate from the neighborhood, having singular access from Osborne St.

5. Osborne St. Corridor is zoned and developed as a commercial and multi-family mixture.

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[28] Lord Roberts Area Charactarization Study, Department of Environmental Planning, City of Winnipeg, Feb. 1980, pg. 1.

6.1.7 MUNICIPAL SERVICES

1. Municipal services are adequate and generally in good condition except for local streets, one half of which require upgrading.

2. "Any future development on the CNR Fort Rouge Yards in residential use would put inappropriate demands on ttthe local street system in the Lord Roberts area, and alternative access should be provided to such redevelopment. If multiple housing is constructed in the Fort Rouge Yards, a major population concentration would be established at the ends of a series of local streets, with the potential to disrupt the existing low density environment."[29]

3. The transit complex acts as a northern boundary to the neighborhood, a transportation corridor at this location would not significantly effect the bulk of the area.

6.1.8 POPULATION

1. Approximatly 6000.

2. Well mixed age groups close to city average.

3. Slightly higher degree of elderly residents due to high rise seniors residence.

4. Family income slightly lower than city average.

6.1.9 RESIDENTS CONCERNS

The following are positive and negative concerns expressed by residents of Lord Roberts through input with the Community and Neighborhood Improvement Division of the City of Winnipeg:

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[29] Ibid.

REASONS FOR RESIDING IN LORD ROBERTS

POSITIVE
-reasonable cost housing
-pride of ownership
-longtime residents
-neighborhood character (older homes, grown trees)
-access to downtown and other larger services
-accessibility of riverbank
-community emergency services
-neighborhood services
-low crime rate
-good bus service
-low level transiency
-good neighborhood facilities for children
-the people
-the Leisure Centre

NEGATIVE
-rundown housing (especially rental units)
-garbage in lanes
-many community groups but no general concensus
-inadequate daycare
-lack of green space in northern sector
-Leisure Centre not utilized efficienly
-lack of organized youth services
-older city services (eg. watermains, sewers, etc.)

6.1.10 NEIGHBORHOOD PATTERNS

6.1.10.1 CIRCULATION

The neighborhood is enclosed by major vehicular arteries and the CN lines. Osborne St. and Jubilee Ave. provide the main linkages to other parts of the city while access points into the neighborhood are provided along these routes with main access points occuring at signalled intersections with main neighborhood streets. The block structure is of an elongated rectilinear form running in a northeast southwest direction. Morley Ave., which could be considered the main neighborhood street, enters the neighborhood in this direction, while two other streets provide access from Jubilee, and along Churchill Drive into Riverview. All other streets could be considered residential in character and 'private' in nature.

A local bus route that provides linkages between the neighborhood and main bus lines, runs down Morley Ave from east of Osborne, and passes through the neighborhood where it connects with Jubilee Ave. and Pembina Highway. The open space between Churchill Drive and the Red River, and the pedestrian bridge off Jubillee Ave., are significant pedestrian and bicycle circulation routes.

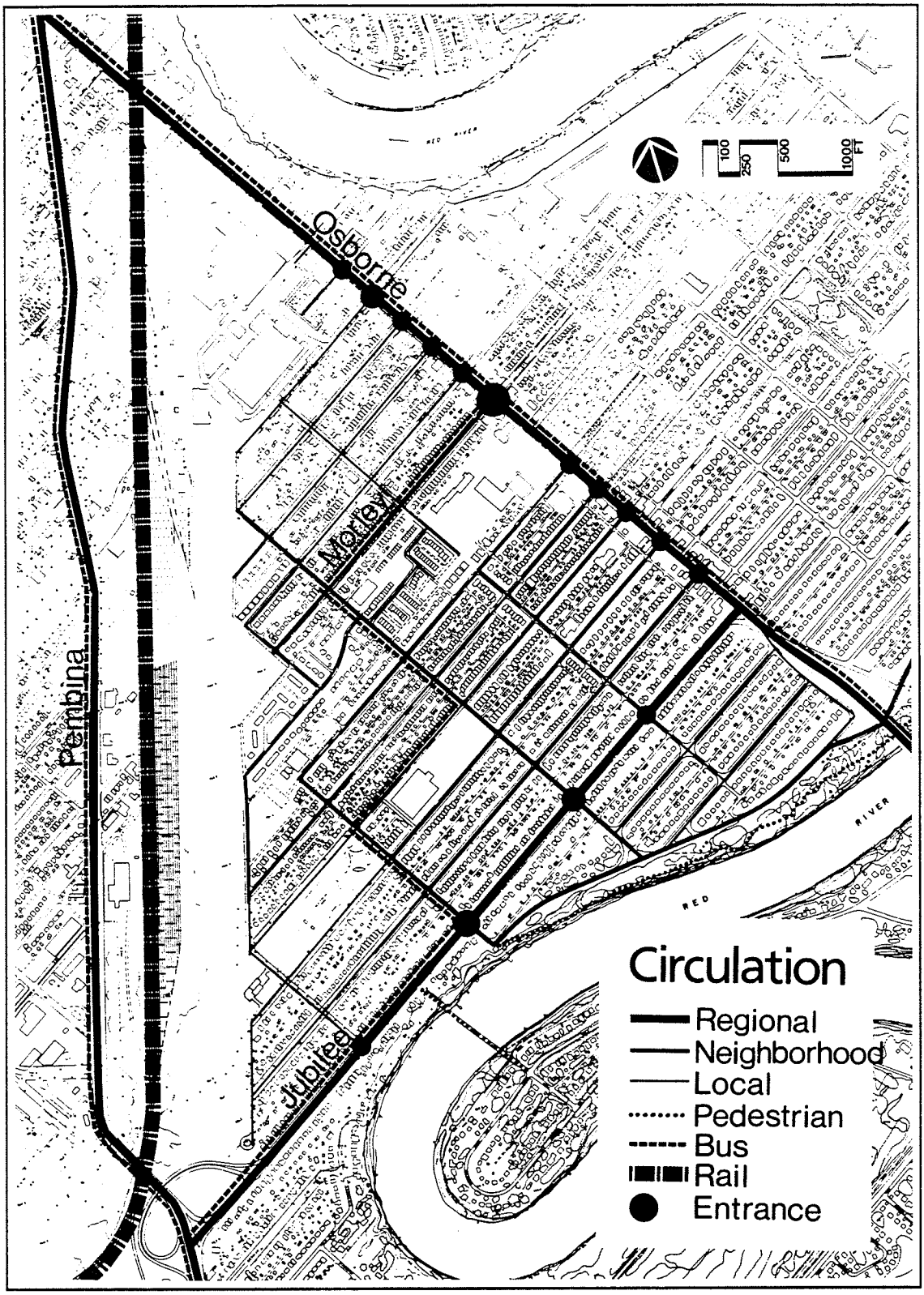


Figure 16: CIRCULATION

6.1.10.2 LAND USE - RESIDENTIAL

The neighborhood consists almost completely of single family dwellings of suburban character, for which it was originally planned and built. The incidence of multi-family structures increase to the north part of the neighborhood and towards Osborne St. Osborne St. has a number of small (2-3 storey) apartment buildings, and a high-rise seniors residence. Similar apartments of this type can be found inside the neighborhood's northern apex.

A significant number of multi-family dwellings (duplexes and row houses) can be found between Morley and Kylemore Streets. In this area, the street pattern has been altered, and a semi-private zone of subsidizied housing inserted.

BUILDING CONDITION - RESIDENTIAL

GOOD	441	25%
FAIR	995	55%
POOR	313	19%
VERY POOR	2	1%

1. One half of homes are in fair condition requiring 'repairs behond those provided during the course of regular maintenance'.

2. One fifth of homes are in poor condition and 'unless renovation is accomplished in the near future, these structures will deteriorate past the point of reasonable cost of rehabilitation'.

HOUSING CHARACTERISTICS

1. 40% of homes in the area were constructed before 1920 with 70% having been constructed before the second world war.

2. Approximately of 60% homes are owner occupied comparing well with the city average of 58%.

3. Generally, lots are smaller than average, and the area consists of one and two family homes, and apartments.

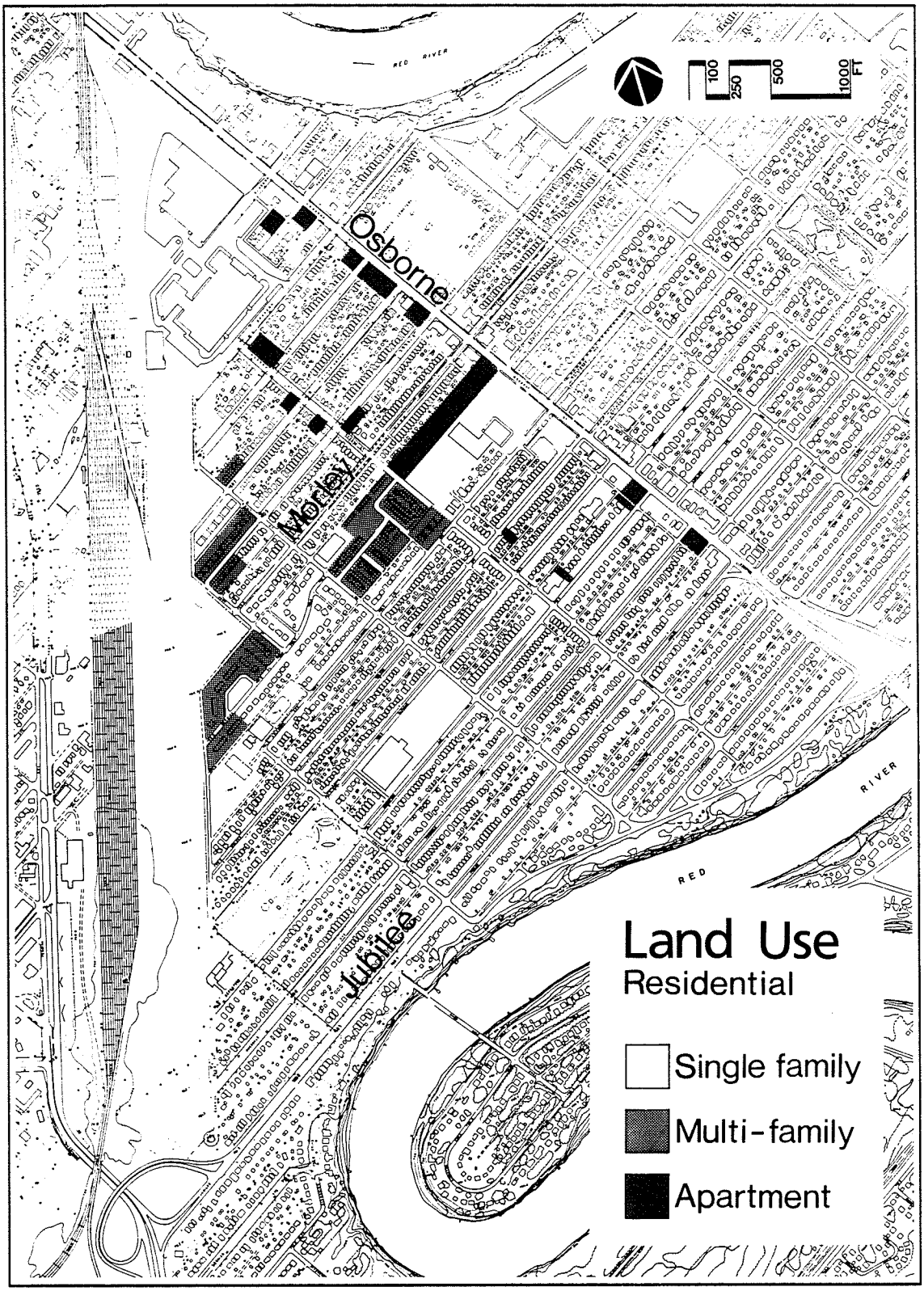


Figure 17: LAND USE - RESIDENTIAL

6.1.10.3 LAND USE - NON-RESIDENTIAL

As can be seen from this map, commercial, industrial, and institutional land uses from this map are mainly limited to Osborne St. The existence of these commercial land uses are due largely to the street's change to a regional commercial artery as a result of the construction of the St. Vital bridge in the early 1960's. Many of these commercial buildings have combined residential use above as, can be noted from the previous map. Neighborhood oriented commercial interests include a grocery store, drugstore, banks, beauty salon, shoe repair, and a florist.

There remains few commercial areas inside the neighborhood where at one time several local groceries served local needs. One small grocery remains, and the Bridge Drive Inn, which caters to a larger region. Industrial land uses are found on the northern apex of the site, where the Fort Rouge Transit base is located, and along the CN Yards, where some remaining railway activities occur. There are two churches in the neighborhood, both within a block of Osborne St.

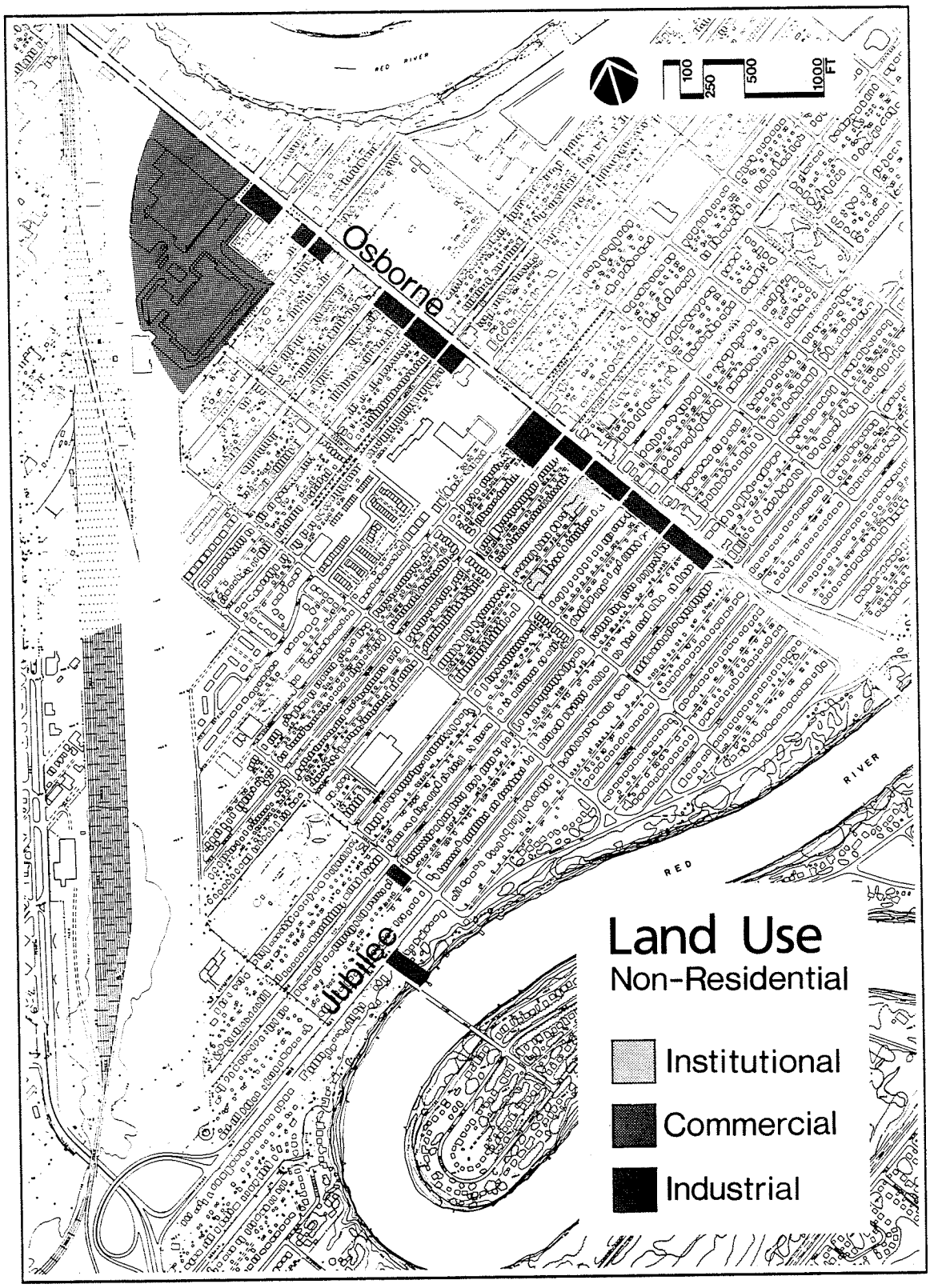


Figure 18: LAND USE - NON-RESIDENTIAL

6.1.10.4 LAND USE - OPEN SPACE

There are 6.54 acres of park and recreation land per each thousand residents in the neighborhood. This land is mainly concentrated in three large park and recreation facilities at the Fort Rouge leisure Centre, the Lord Roberts Community Centre, and McKittrick Park. In addition to this, the banks of the Red River south of Churchill Drive is exclusively used as a public open space, providing a linkage west of Osborne St. to an extensive linear parkway. Also serving park and recreation needs of the neighborhood are the Lord Roberts Schoolyard, and to some degree the open fields in the vacant yards (the southern tip of which have been developed into playing fields). The Fort Rouge Curling Club, and the leisure centre provide recreational needs outside of the immediate region.

There are few small or local facilities because of this concentration with the following exceptions. A small playground or 'tot-lot' has been installed in vacant property in the northern part of the neighborhood. As well, several small open spaces have been provided to service the strip of subsidized housing between Morley and Kylemore Streets.

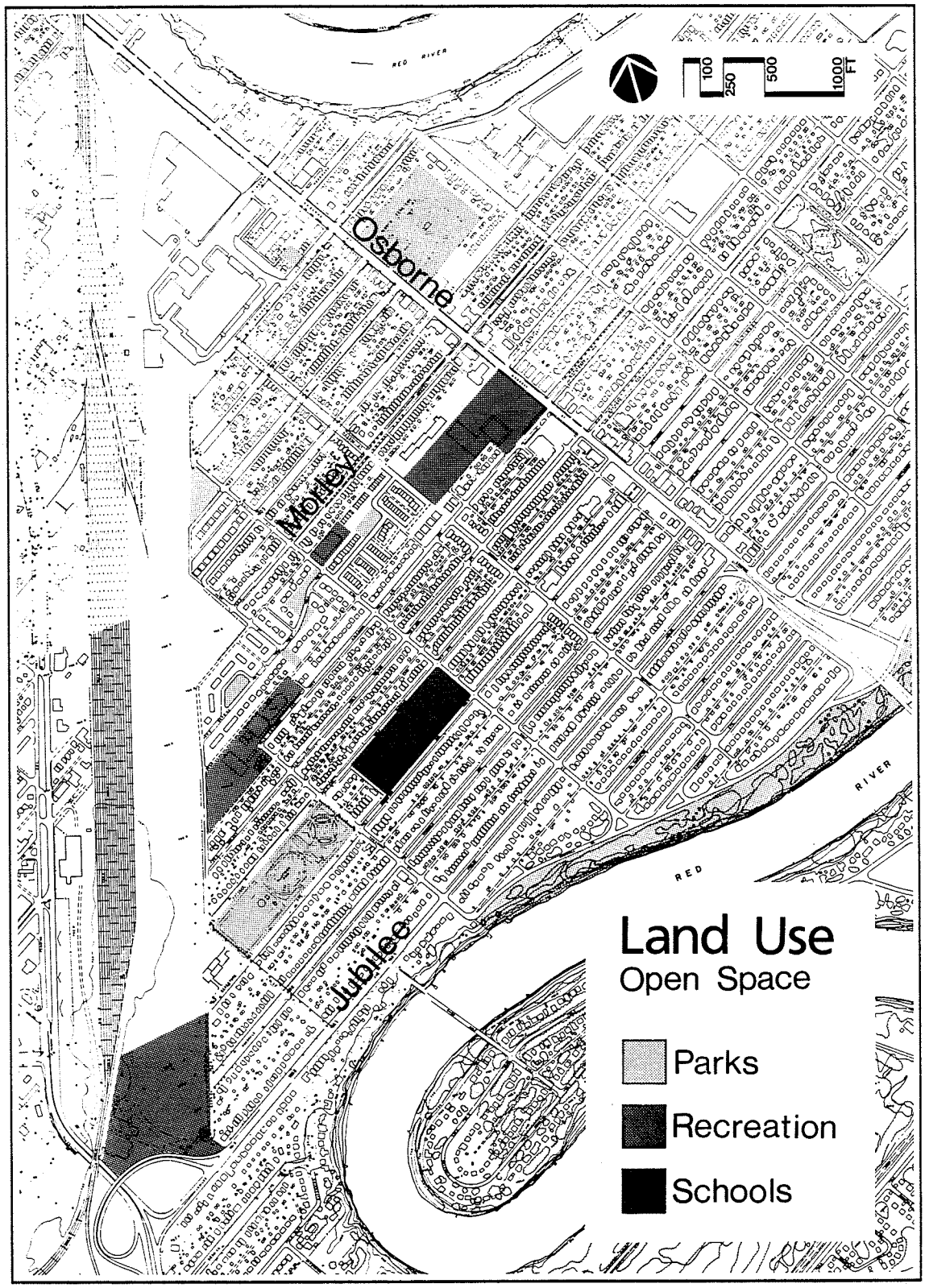


Figure 19: LAND USE - OPEN SPACE

6.1.10.5 NEIGHBORHOOD IMAGE

The neighborhood is defined by the edges that contain it. The CN yards and the Red River provide the most dominant and inpenetrable edges. Osborne St. and Jubillee Ave. also act as edges, although they are weaker and discontinuous at points of penetrability. These edges give the neighborhood its form and boundaries.

Activity nodes exist at points where paths meet, or increased activity occurs. The major nodes are found as follows: Osborne St. and Morley Ave. which is where a major neighborhood access point occurs and bus routes intersect. Walker Ave. where several major commericial interests meet (the local safeway, a drugstore, a bank, and an conveience store). And at the Bridge Drive Inn which attracts a high level of activity in the summer months and provides pedestrian access across the Red River.

There are few significant landmarks in the neighborhood. One is the Bridge Drive Inn because of its location next to a well know historic bridge and its local popularity. The other is Fred Tipping Place, a senior's residence which acts as a visual landmark because of its height. There may be other minor landmarks in the neighborhood as perceived by individual residents, but they are too insignificant to mention here.

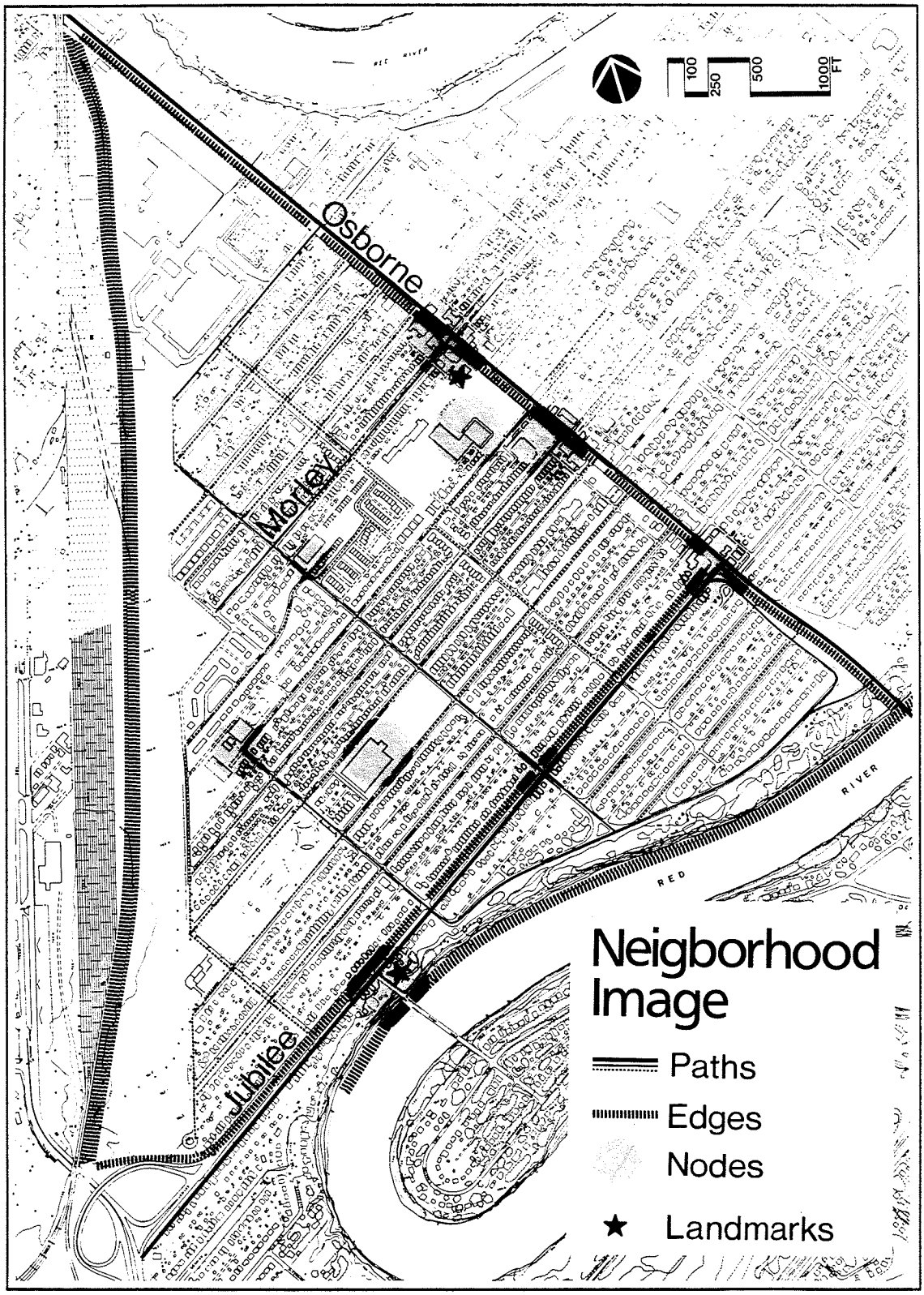


Figure 20: NEIGHBORHOOD IMAGE

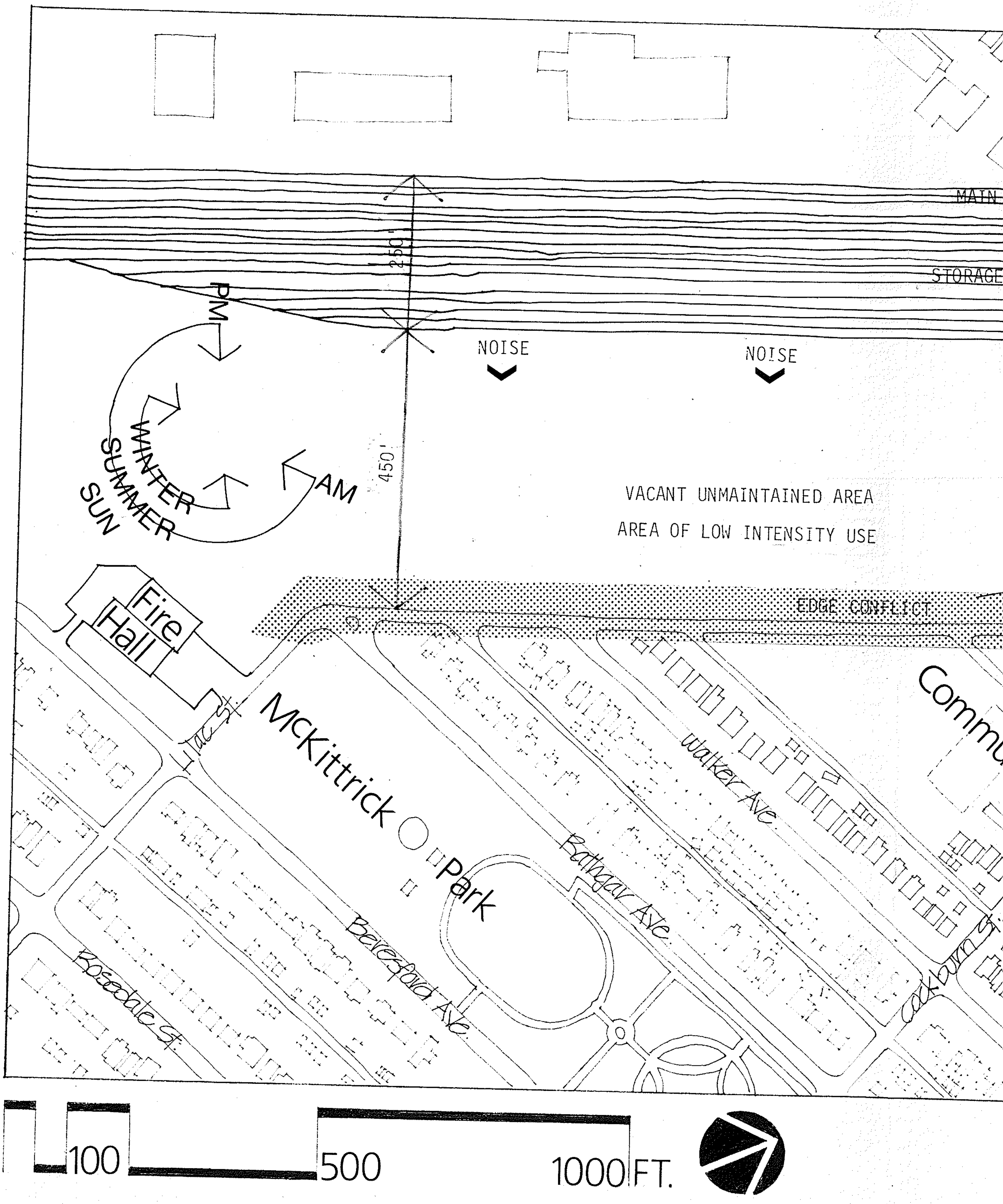
6.1.11 NEIGHBORHOOD EDGE ANALYSIS

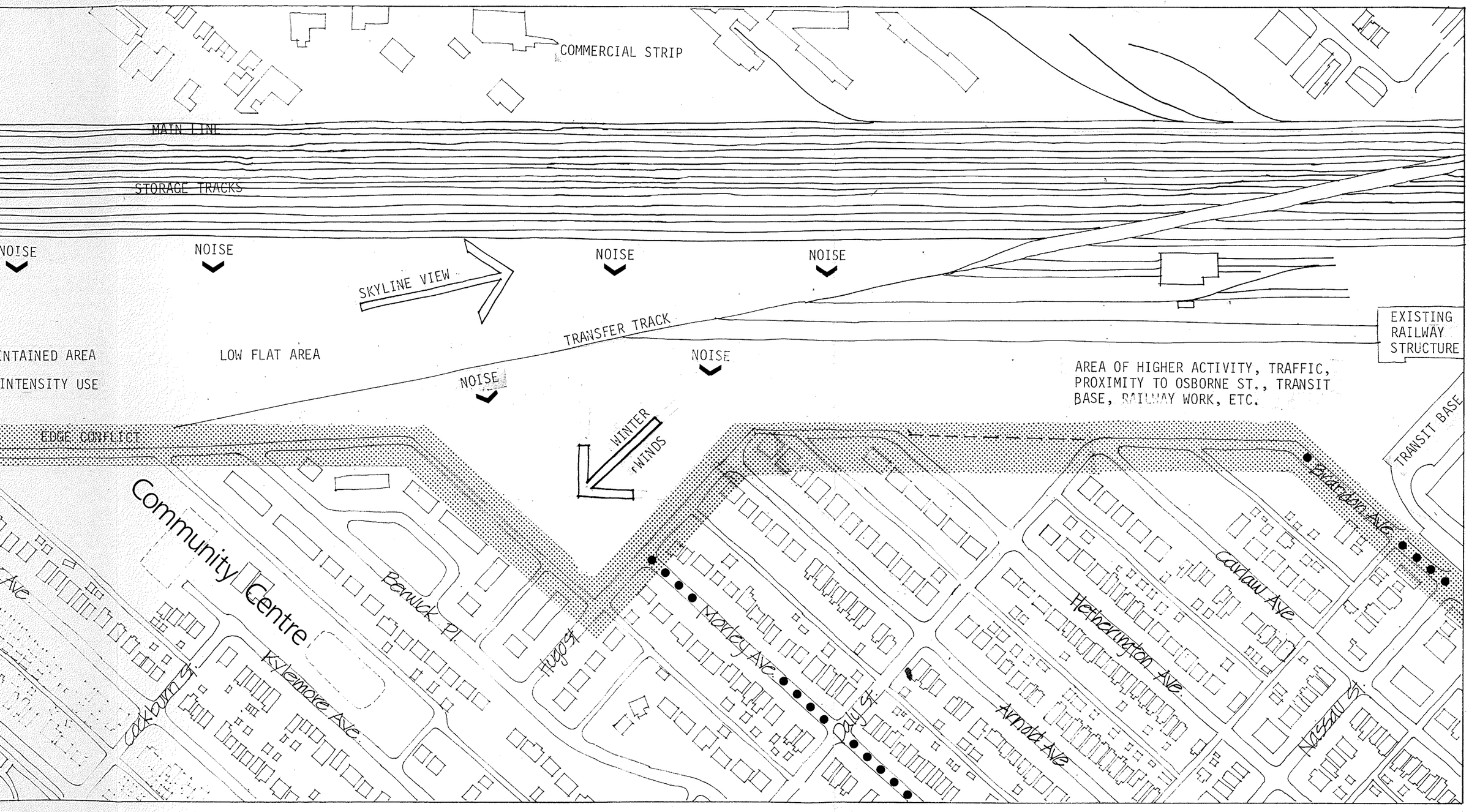
The manner in which the neighborhood meets the edge of the vacant yards will have a strong influence on the form of site redevelopment. This interface situation has been briefly described to here, but must be further analyzed to determine constraints, and opportunities available to redevelopment strategies.

6.1.11.1 SITE ANALYSIS

As indicated by the site plan, the area is dominated by a 250 ft. wide strip of railway tracks. Of these, only the two east tracks are actively used for main line traffic. All other tracks, once used for marshalling purposes, have essentially become storage tracks for excess railway stock. These tracks, and the transfer track dropping into the site, are sources of noise conflicts with nearby residents. The existing railway structure to the north of the site has historic value and potential for public re-use as it lies at the end of one of the busier neighborhood streets, two blocks from a signalled intersection with Osborne St.

Between the edge of the tracks, and the edge of the neighborhood, lies an approximately 450 ft. wide strip vacant and unmaintained land. This land is fairly low, flat, poorly drained, and may require the installation of retention ponds with future development.


MAIN
STORAGE
250'
450'
PM
AM
WINTER
SUMMER
SUN
NOISE
NOISE
VACANT UNMAINTAINED AREA
AREA OF LOW INTENSITY USE
EDGE CONFLICT
Fire Hall
McKittrick Park
Walker Ave
Bathgar Ave
Beresford Ave
Rosedale St.
Cockburn St
Commu
100
500
1000 FT.



Site Analysis

The orientation of the site, and its openness allows for some unique site conditions. This openness and elongated orientation offer uninterupted vistas of the downtown skyline. At the same time, winter winds can penetrate the edge of the neighborhood without barrier.

It will be assumed, at this point, that the storage tracks and minor yard facilities will be removed due to their lack of use, and to allow for future redevelopment. The mainline track will remain and be incorporated with a transitway in a 99 ft. wide corridor, as proposed by the Southwest Transit Corridor Study.[30]

6.1.11.2 EDGE CHARACTER

The purpose of this map is to analyze the quality of access to the site through the existing neighborhood edge. As indicated by the key, existing streets and lane edges are indicated, as are zones and nodes of accessibility. Zones of accessibility are indicated where a public open space meets the site, while nodes of accessibility are indicated where public streets end.

It is obvious that the edge of the neighborhood is essentially open to the site, limited merely by the existence of a low traffic street. This openness allows the

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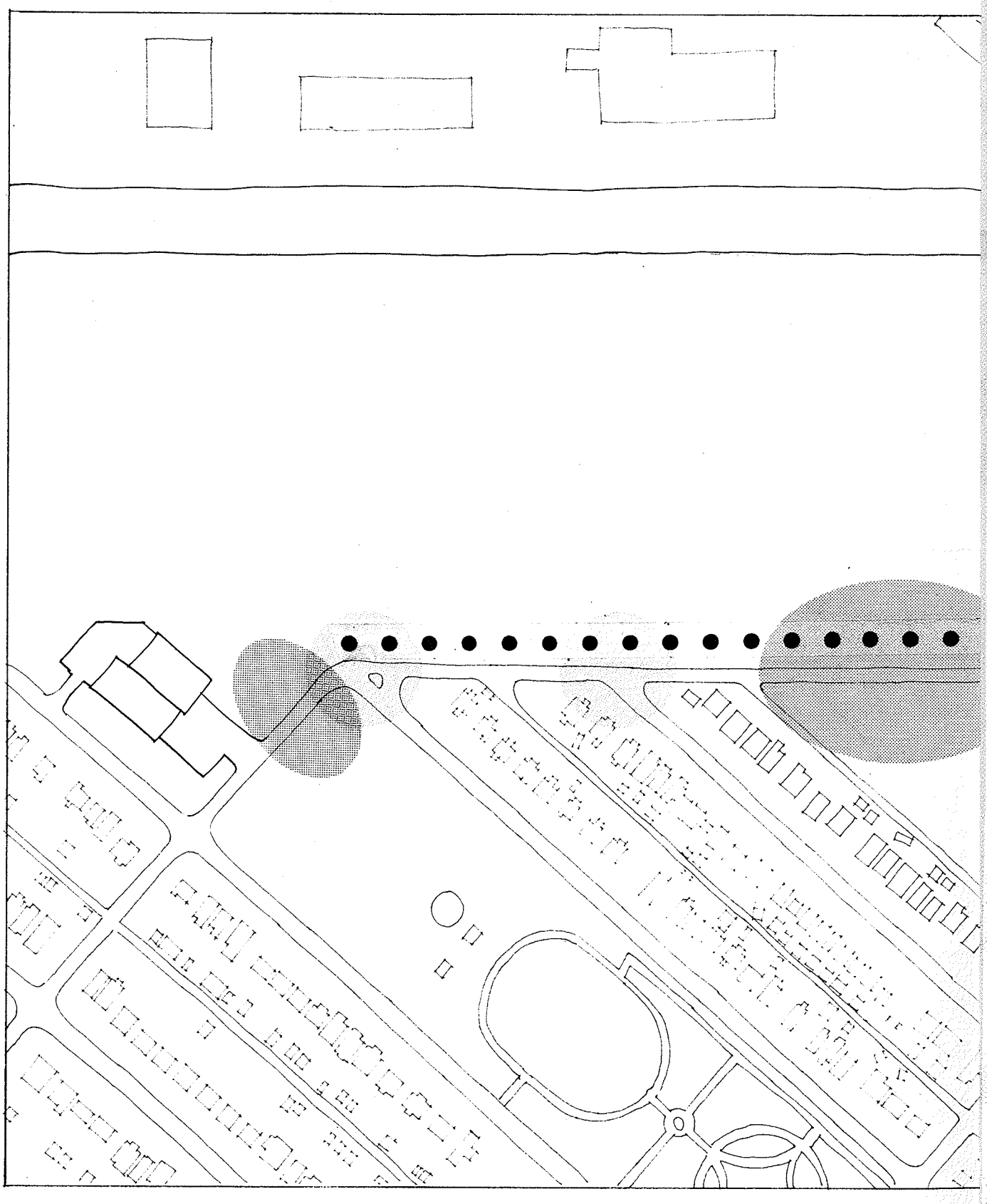
[30] Deleuw - Dillon; Lombard North Group Ltd, "Summary Report: Winnipeg Southwest Transit Corridor Study", Winnipeg, 1978.


100
500
1000 FT.

RAIL/TRANSIT RIGHT-OF-WAY (99')

OPEN STREET EDGE

OPEN LANE EDGE

PUBLIC ACCESS NODE

PUBLIC ACCESS ZONE

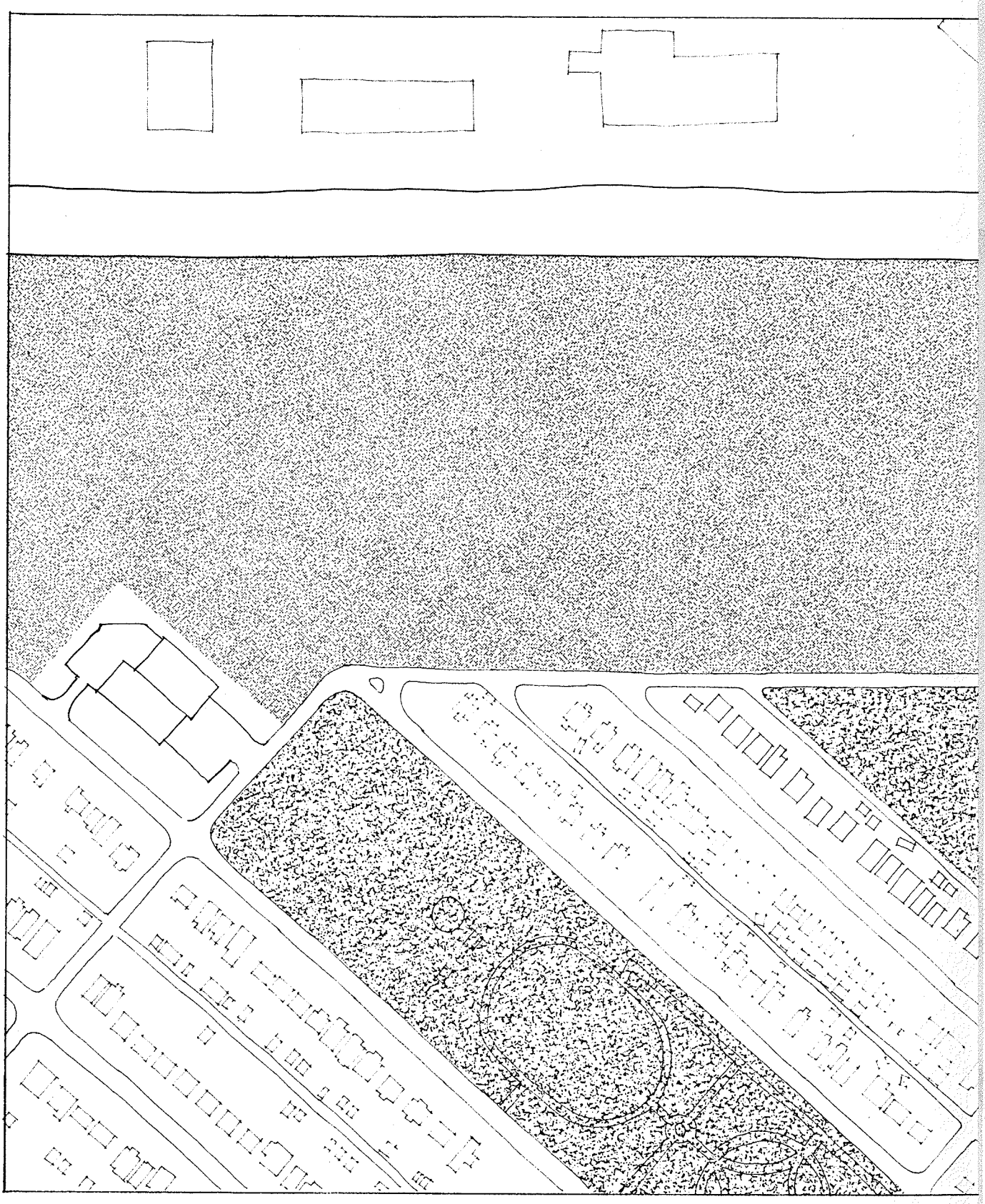
Edge Character

existing problems of use conflict, noise, and pollution to continue. The open condition, however, offers opportunities for integrating the neighborhood into the site.

6.1.11.3 OPEN SPACE

As can be noted from this map, there are three existing open spaces along the edge of the neighborhood. McKittrick Park, with its conventional victorian park form is the oldest and most mature open space. The Lord Roberts Community Centre, with its limited recreational facilities (hockey rinks and tennis courts) is located midway along the site edge. A third small park has been recently built adjacent to a residential infill area along streets. One additional small open space surrounded by a street and rowhouses is located on Berwick Place.

The area of vacant land dramatically indicates the potential open space that the vacant yards offer with the limitation of the rail/transit corridor to a 99' strip. The remaining land has a minimum width of 600' and penetrates further into the neighborhood in angled pockets. There is some additional vacant land on Brandon Street where existing homes have been demolished. It is evident that the amount of vacant land available offers enormous potential for development and for integration with existing neighborhood open spaces.


100
500
1000 FT.

RAIL/TRANSIT RIGHT-OF-WAY (99')

EXISTING OPEN SPACE

VACANT/ POTENTIAL OPEN SPACE

Open Space

6.1.12 SUMMARY

The following are key points from the analysis of overall neighborhood patterns and the analysis of the neighborhood edge specific to the site zone.

6.1.12.1 NEIGHBORHOOD PATTERNS

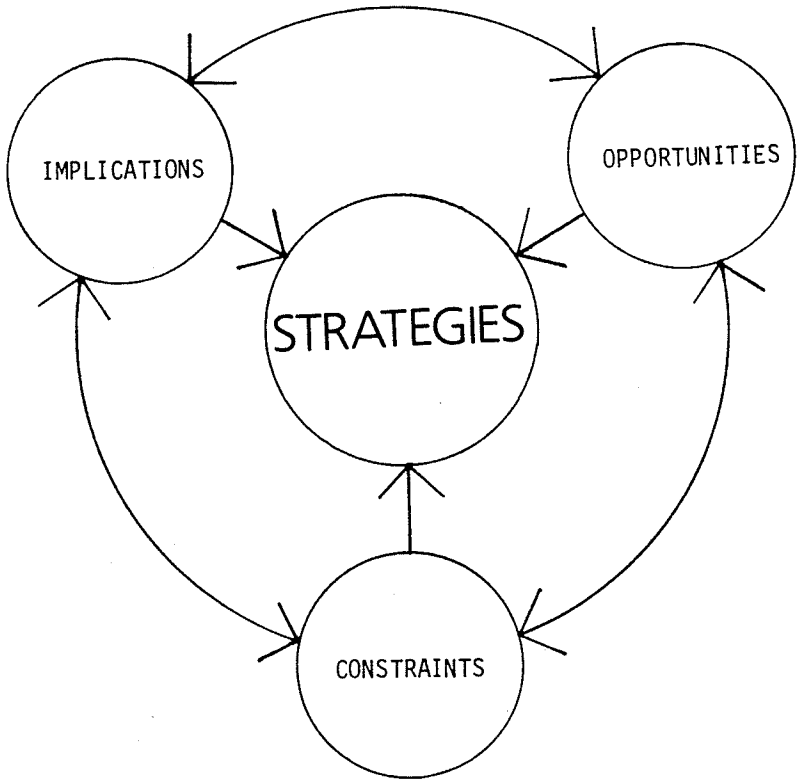
1. The existing street system is not capable of handling a major population increase in the site without extensive modifications.
2. The main line rail line prevents any possible penetration across its length.
3. The common residential form is almost completely single family character. The only exception to this form is the increase in multi-family dwellings north and south of Morley Ave.
4. Lot sizes, housing types, and building condition varies throughout the neighborhood but neighborhood textures is essentially suburban.
5. Commercial land uses are limited to the Osborne Corridor.
6. Park and Recreation facilities are limited to concentrated facilities of conventional nature.

6.1.12.2 NEIGHBORHOOD EDGE

1. The edge of the neighborhood is open and unprotected from noise, pollution, and prevailing winter winds.
2. The vacant yard landform is essentially flat and poorly draining, requiring the installation of retention ponds to handle surface drainage with future development.
3. The rail corridor can be limited to a 99' combined rail/transit corridor.
4. There is enormous potential for redevelopment of the large vacant site, integrating its form and use with the neighborhood patterns and existing open spaces, and encouraging the accessibility of the site to the neighborhood.

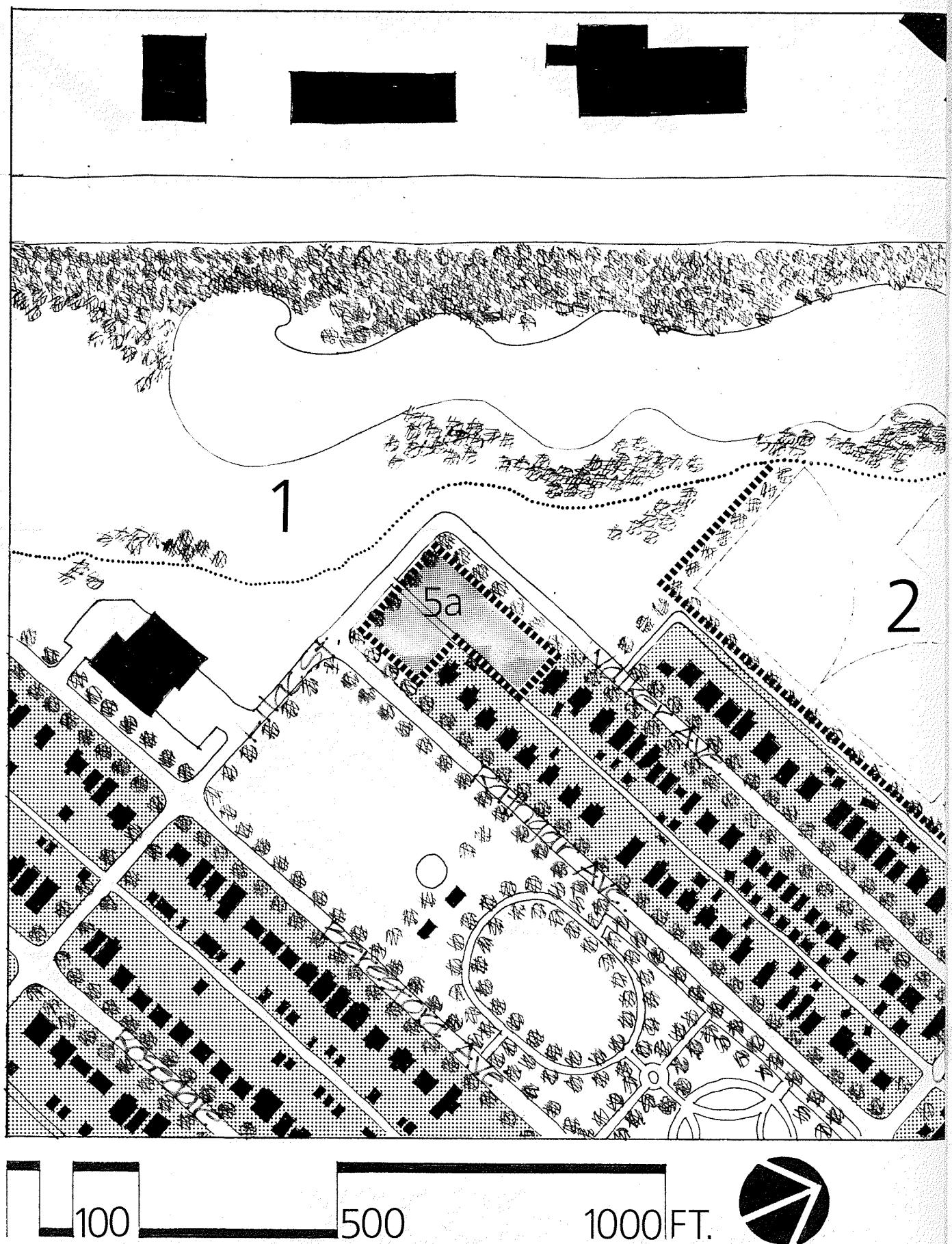
6.2 NEEDS, OPPORTUNITIES, PROBLEMS, AND DEVELOPMENT STRATEGIES

With the intention of organizing information regarding the site and neighborhood into a conceptual plan of re-use, an awareness of relevant issues has been developed. From chapter five, the compatibility of re-use types has been determined with preliminary zoning, phasing, programming, and discussion of problems and constraints. A priorized site zone and neighborhood patterns, conditions, and relationships have been analyed in this chapter. This information will be synthesized as follows in order to develop a conceptual plan of re-use that is responsive to specific constraints, opportunities, and design implications The synthesis approach is illustrated in the following diagram:



CONSTRAINTS	OPPORTUNITIES	IMPLICATIONS	STRATEGIES
RESIDENTIAL -Land use conflict at neighborhood edge. -Noise and visual pollution -Physical decay	-Stability and desirability of neighborhood offers opportunity for dev. of new housing in vacant areas.	-Additional land use conflicts with right-of-way.	-Encourage development of new housing that integrates site and existing neighborhood. -Buffer neighborhood from right-of-way.
TRANSPORTATION -Heavy and increasing north/south urban traffic flow -Limited capacity of neighborhood streets to accomodate increased population and traffic	-Proposed rapid or mass transit corridor in existing right-of-way.	-increased activity in right-of-way.	-Buffer right-of-way. -Locate new housing where traffic can best be accomodated or public transit providec
OPEN SPACE -Site is vacant, unused open space -Need for regional open space corridors. -Site is flat and poorly drained	-Neighborhood edge configuration offers opportunity for integrated open space.	-Accessibility of site must be improved. -Potential conflict with right-of-way. -Drainage problems will be compounded by physical development.	-Develop active/passive open space network. -Buffer from right-of-way. -Provide internal drainage system.

Figure 24: STRATEGY FORMULATION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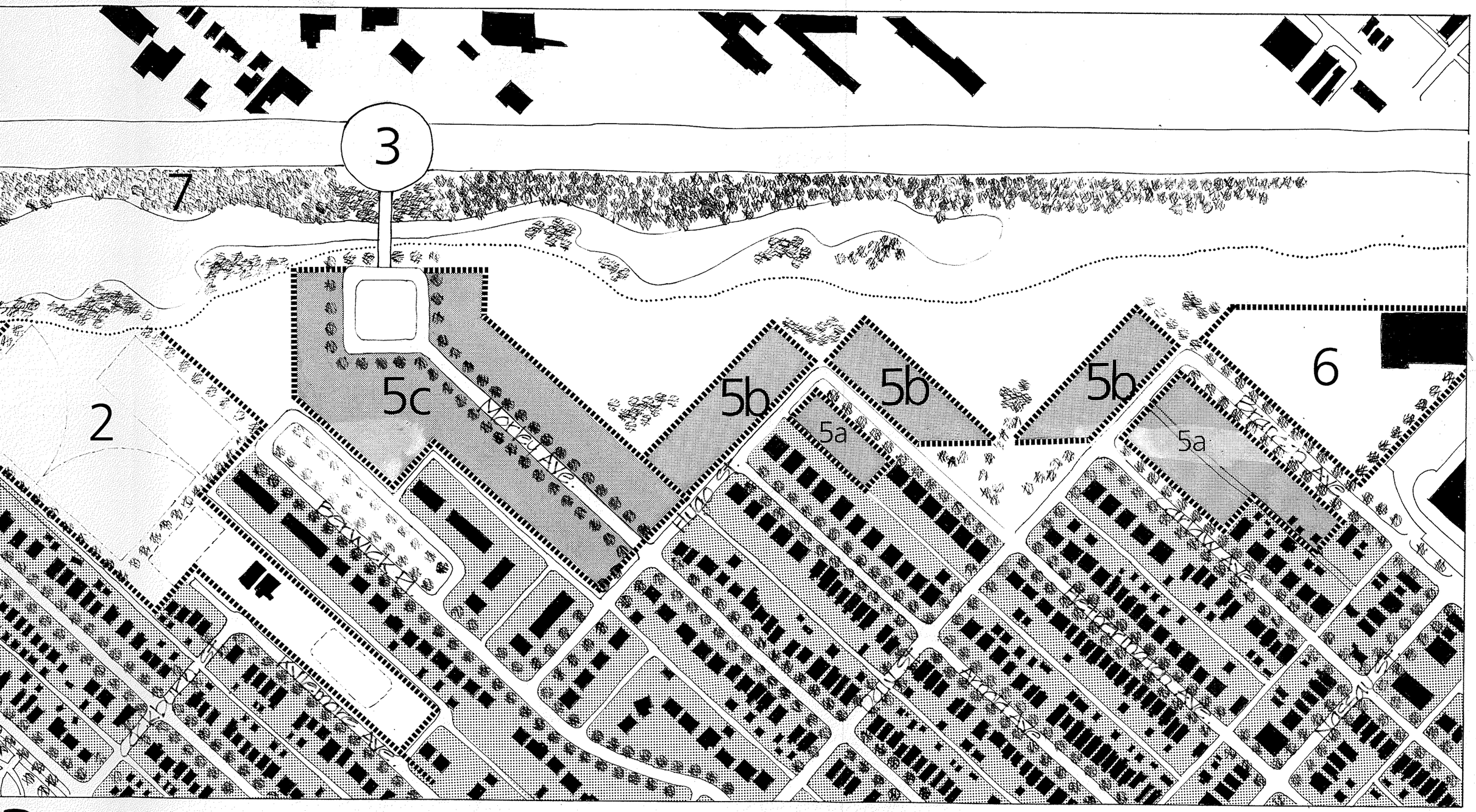

Concept Plan

6.2.1 SUMMARY OF STRATEGIES

(SEE CONCEPT PLAN)

1. Creation of Open Space in the Yards.
2. Integration and Expansion of Lord Roberts Community Centre Into New Open Space.
3. Locate Rapid Transit Corridor and Terminal Connecting to Morley Ave.
4. Reorganize and Restructure Existing Street System Edge.
5. Residential Development Areas:
   a) Revelopment/Infill Areas.
   b) Multi-Family Infill Area.
   c) Transitional Area.
6. Development of Public Use Area.
7. Provide Buffering to Decrease Conflicting Land Uses.

1. Creation of Open Space in the Yards.

This strategy suggests the creation of a large passive open space in vacant land in the site. This open space will be continuous throughout the length of the yards, and connect to other potential areas forming a regional open space corridor. At the north end of the yards, it will connect across Osborne St. to the strip of land lying between the Red River and the railway tracks. This strip extends north to the

Forks Area, and significant features located there. The south end of the open space would connect across Pembina Highway to the Taylor/Parker Ave. railway and transmission corridor.

As this open space is considered to become a part of a continuous regional urban network, its users would not be limited to neighborhood residents, but would include civic residents in general. Its use could range from cycling (for commuting and recreational purposes), to walking, running, cross country skiing, and self directed forms of recreation.

A goal of the development of this open space is its integration into the existing and altered neighborhood fabric. From the analysis of potential open space, this opportunity becomes quite evident. Access nodes and zones have been increased and fingers of open space extended into the neighborhood to meet this goal.

2. Integration and Expansion of the Lord Roberts Community Centre into the Open Space Corridor.

Existing community based recreational facilities have been expanded and opened to the site to increase their size and accessibility. Several new playing

fields have been sited, creating an active recreational zone within the open space. This zone disperses as the facilities open out into the general open space. The intended users of this component will be primarily neighborhood residents and community based sporting groups.

3. Rapid Transit Corridor and Terminal.

As proposed by the Southwest Transit Corridor Study, a transitway will share use of the existing railway corridor at some point in the future. This transitway will connect the University of Manitoba to the downtown core. A proposed terminal location to service the neighborhoods east and west of the corridor has been indicated on the plan. This terminal will connect to the neighborhood via an extension of Morley Ave. Existing neighborhood bus routes will be adjusted to link with the terminal

4. Reorganize and Restructure Existing Street System Edge.

The existing neighborhood street edge pattern has been altered to encourage the integration of the neighborhood into the site. This reorganization allows for greater and more effective nodes and zones of access into the open space, and provide

opportunity for the development of areas of new housing.

5. Residential Development Areas:

a) Redevelopment/Infill Areas.

Three redevelopment or infill areas have been noted where vacant residential sites exist, or where the reorganization of local streets has created potential residential land. The use of this land has been determined by its surrounding context. These areas will be infilled or redeveloped with single family dwellings of similar character to neighboring sites.

b) Multi-Family Infill Area.

Three zones of multi-family infill have been noted. These infill zones are located at the edge of the neighborhood where streets meet the proposed open space. These infill zones will be redeveloped with multi-family dwellings of low to moderate density. The form of these developments is intended to take advantage of their location on the edge of the large passive open space, while allowing access through to this area by other neighborhood residents.

c) Transition Area.

The extension of Morley Ave. and its increased use as a public access route to the rapid transit, will have an effect on the character of the street. This area has been determined to be a transitional area to allow for its adaptation to new conditions. The zone of new and existing residential area is intended to increase in density and develop forms appropriate to the nature of the street. The areas adjacent to the terminal will experience the most increased level of activity. This activity will disperse away from the terminal connection and into the open space. Again, the development of new housing here is intended to take advantage of its location along the open space.

6. Public Use Area.

The existing railway structure in the north part of the site will be incorporated into a public use area. This structure is a former engine repair shop and is of historic and architectural significance as it is the only remaining railway structure on site. It is located off Brandon Ave. (with signal controlled access to Osborne St.) next to the Fort Rouge Transit Base. Its location places the site in

a non-residential zone with easy access to a regional street. The building's use in some public form would not place undue traffic demands on the neighborhood street patterns.

Possible uses for this site could be a railway museum, a site interpretive centre, a public market, a daycare facility, etc.

7. Buffers.

An extensive landscape buffer has been located along the rail/transit right-of-way. This buffer, consisting of the encouragement of native revegetation between the retention pond and the right-of-way edge, will have a minimum width of 50' to control the intermittent noise of transit vehicles and trains, and absorb the pollutants emitted by diesel combustion. It is also intended as a visual screen, obstructing the view of the right-of-way, and introducing the existence of native vegetation along the corridor.

Chapter VII

SUMMARY

These redevelopment strategies and the approach to determining them, is intended in this study as a guide to possibilities for the future redevelopment of the Fort Rouge Yards. I have attempted to build a general awareness and understanding of general railway corridor growth, form, abandonment, and re-use issues with the intention of using the Fort Rouge Yards site as an example or study area, where these issues can be applied. The strategies developed are responsive to these issues and specific site and neighborhood conditions studied. Differing situations and conditions in other sites will of course result in specific and unique strategies.

At this time, the future use of this site has yet to be determined. It is possible that it may one day revert to railway or other industrial use, however, this is unlikely. Perhaps as the city grows, and demands for land near the city centre become more acute, the site will be developed in a more intensive fashion. It is most likely that the use of this site will respond primarily to the needs of the adjacent and immediately affected neighborhood, as has been demonstrated in this proposal.

Appendix A

WINNIPEG RAILWAY HISTORY

A.1 THE ARRIVAL AND GROWTH OF THE RAILWAY IN WINNIPEG

The emergence of the Canadian Pacific Railway Company was accompanied by financial and political turmoil that spanned international borders. The railway originated as a government scheme and a political desire for a transcontinental link. Ottawa desperately wanted the railway to be built by Canadians on Canadian territory while American entrepreneurs lay waiting for what they were sure would be certain failure on the part of Canadians to physically and financially complete this enormous undertaking. Political and financial scandals marked early planning on both sides of the border, prompting the government's decision to proceed on its own as it was unsatisfied with the proposals and the parties who presented them.

Until 1878, when the Conservatives under Sir John A. MacDonald returned to power, the building of the railway had been carried out under the auspices of the government. After his government's victory, the railway was turned over to private business interests formed for the sole purpose of

running the company. Under an agreement with the government, the new company was to receive upon completion, the line built by the government from Port Arthur to Winnipeg, and from Kamloops to Port Moody on Burrard Inlet at the Pacific Coast. In addition, the company was to receive in installments, 25 million dollars and 25 million acres of land upon completion of each 20 miles. The land was to be in alternate sections, of 640 acres each, 25 miles deep on either side of the line in the provinces through which the railway crossed. The company also refused most of the land along the British Columbia section and accepted in its place two to three million acres of land in the Peace River District of Northern Alberta. In addition to the physical subsidy of trackage and land and the financial subsidies, all material for construction was to be imported duty free from other countries (principally England), the railway was to be free of taxation forever, the land grants free of taxation for twenty years, and the company was given assurances of a monopoly for twenty years.[31]

The result of these generous subsidies given by the government to build and support a transcontinental railway, was the completion of an economically solid company capable of operating the expansive new system. The land grants given the company proved to be of much more value than expected and served to buoy the company economically and

[31] R.A.J. Phillips, Canada's Railways, (Toronto: McGraw-Hill Co. of Canada Ltd., 1968), p. 25.

begin an interconnected system of transportation, immigration and settlement. Politically, the cost of the system was a hotly debated issue, but in the long term, was considered a necessary expense for an emerging country rich in natural resources and physical expanse, but sparse in population.

With the construction of the transcontinental system were obvious benefits to established communities along its route. Winnipeggers became concerned with the railway issue so deeply that it coloured all of City Council's activities, the editorial pages of the city's newspapers, and the activities of the commercial elite. Their concerns rested mainly upon the choice of route and how soon connection to the East could be made. Winnipeg's political and business community was as anxious to be guaranteed a place on the main line as it was to acquire a rail connection with Eastern markets. This connection was seen as a vital link that would ensure Winnipeg's prosperity, and the question of the choice of route became of paramount importance. Winnipeg, unlike Montreal or Toronto, could not fall back on water to meet its transportation needs.

Winnipeggers assumed somewhat prematurely that the main line would pass through the city for several reasons. First, the Dawson Road ended in Winnipeg and it was assumed that the railway would follow this early route. Winnipeg was also the largest community in the Northwest and

considered itself to be the "Gateway City" to the entire west. As well, an 1872 map of an exploratory survey for the railway indicated it would pass through Manitoba south of Lake Manitoba and in the general Vicinity of Winnipeg. Finally, when the federal government passed the "Act to Incorporate the Canadian Pacific Railway Company" in 1872, it implicitly suggested that Winnipeg would be on the main line.[32] These factors became liberally interpreted in Winnipeg as a guarantee and in January, 1884, City Council put forth a public works program of unprecedented dimensions in early anticipation of railway prosperity.

However, Winnipeg's hopes for railway prosperity were broken in December of 1874 when the new Liberal government of Prime Minister McKenzie officially announced that the railway would cross the Red River at Selkirk and not Winnipeg. This decision was based on a report by Sanford Fleming, engineer-in-chief of the project, who had determined that Selkirk possessed stabler riverbanks than Winnipeg, and was thus safer from flooding. This proposed route also avoided the arid central prairie region known as Palliser's Triangle after John Palliser's report of his 1857 expedition to the Northwest.[33] He had determined that the area was too dry for agriculture, a belief largely

[32] Alan F. J. Artibise, Winnipeg: A Social History of Urban Growth, 1874 - 1914, (Montreal: McGill-Queen's University Press, 1975), pp. 63, 65.

[33] Irene M. Spry, ed., The Palliser Papers, 1857-1860, (Toronto: The Champlain Society, 1968).

influenced by the concept of the "Great American Desert" to the south, of which the southern prairies were an extension. The proposed route would follow a northwesterly direction away from the central prairies, through the treed Park Belt, towards Edmonton. It was this northern prairie region that was considered at the time to be of the greatest value for agriculture.

The reaction in Winnipeg to this perceived route change was swift and volatile. A Citizen's Railway Committee was formed which immediately sent a delegation to Ottawa in a fruitless attempt to change the Prime Minister's decision. For the next six years, Winnipeg's future hung in the balance as delegations, memorials, and petitions repeatedly made their way to Ottawa to plead the case for the city.

In the meanwhile, Winnipeg concentrated its efforts on negotiating for a branch line to the proposed route, and the construction of a line to the U.S. border at Pembina, North Dakota. Planning for this colonization branch line (called the Manitoba and Southwestern Railway) included a 200,000 dollar subsidy from the city, and the construction of a bridge over the Red River at Point Douglas for free use by the railway. Winnipeg was determined to find its place in the coming railway age and saw the construction of its own railway as a method of both ensuring that place, and possibly convincing the government's Canadian Pacific Railway to locate in the city. However, the negotiations

for the Manitoba and Southwestern Line (MSWR) became confused with the bartering and pleading for the CPR line and little development occurred, aside from the construction of the bridge over the Red River at civic expense. This bridge was to be of great importance to the future growth and development of the City of Winnipeg.

Construction of the Pembina Branch began in the spring of 1876 with the assistance of a locomotive that was floated up the Red River to Fort Garry from the United States. In 1878, the Pembina line was completed and direct rail service commence between St. Paul, Minnesota, and Winnipeg. This was the first prairie section of railway.

Changes in Winnipeg's railway situation began to improve when the McKenzie government in Ottawa was defeated by the Conservatives under MacDonald. The new Prime Minister had hinted at the rerouting of the proposed CPR line through Winnipeg during his election campaign, and not surprisingly, received enormous voter support in the city. After his government's return to power, Winnipeg redoubled their lobbying efforts and began to include unsolicited offers of increasing value in attempt to attract the CPR. These included a 200,000 dollar cash bonus (the same originally offered the MSRW), free use of the railway bridge built across the Red River (built by the city at a cost of 300,000 dollars), and a 30 acre piece of land for use as a passenger terminal (guaranteed free of taxes forever with tax free status promised for all future railway land).

On August 9, 1880, the cornerstone for the city built bridge over the Red River was placed amid public pressure against its construction and scandal surrounding its supporters. It was discovered that the eastern approaches to the bridge were on located on property owned by then Lt. Governor J. E. Cauchon. "The cornerstone ceremony turned into a riot when people ignored speeches and mobbed the free liquor stand."[34] However, the bridge was built, even before the railway agreed to enter the city, and it was to serve both railway and other traffic until 1904 when it was determined too light for heavier trains and was replaced by a new bridge at Orleans St. The original bridge was replaced in 1909 by a traffic bridge located nearby, called the Louise Bridge. Finally, in 1881, the CPR announced the construction of a terminal and passenger facility in Winnipeg and the route was laid through the city. The city thus entered the railway era, an era that was to forever alter the city's future growth and fortunes. Winnipeg embarked on a chaotic building and real estate boom that saw the birth of several new railway companies, phenomenal physical growth, population increase, and immeasurable social change.

Between 1882 and 1884, the Canadian Pacific Railway Company built its new yards and terminal in North Winnipeg. The new line entered the city over the Red River via the

[34] E. Paterson, ed., Winnipeg 100 (Winnipeg: Winnipeg Free Press, 1973), p. 10.

railway bridge so generously provided by the City, and cut through the residential of Point Douglas, then one of the city's most desirable neighborhoods. From then on, Point Douglas became known as North and South Point Douglas, two distinct neighborhoods separated by a line of steel. This was only the first of many impacts that the railway was to have on Winnipeg.

A.2 THE YEARS OF THE RAILWAY BOOM 1885 - 1914

In the beginning of the railway era the Canadian Pacific Railway held a monopoly in Winnipeg and throughout the West. This monopoly was created by the same parliamentary act which formed the CPR, and was created to ensure that the new company would complete the vital Pacific link free of outside competitors, especially established American railway interests who were anxious to find a place in the growing Canadian market. The line west was completed in 1885 when the last spike was driven at Craigellachie, B.C., about 340 miles from the Pacific Ocean. The new railway was so immediately successful and well-used, that increasing traffic and lack of competition led to high freight rates, which were especially harmful to Winnipeg's wholesalers and commercial suppliers competing with their Eastern counterparts. Winnipeg again mounted campaigns and lobbying efforts to Ottawa to protect their interests and pressured the government, with their Western allies, to revoke the clause in the 1872 Act which ensured the CPR its monopoly. In 1888, "An Act Respecting Railways" was passed which included the elimination of the CPR monopoly clause.

The lack of competition had left a void in the western railway scene that was quick to be filled by eager new companies. The boom of immigration and settlement, an increasing population base, and Winnipeg's strategic location as the "gateway to the west" and the most important

distribution and commercial centre, soon attracted the formation of several new railway companies and branches in the city.

In 1889, the Northern Pacific and Manitoba Railway Company (NP&M) was formed under the sponsorship of the Provincial Government of Manitoba and operated as a subsidiary of the Northern Pacific Railway Company, was the first of a group of railway companies that were later to form the present Canadian National Railway Company (CNR). Yards and freight facilities were established along Water Street, between Main Street and the Red River, and south to the junction of the two rivers. A passenger station was built just off Main St. on Water, while freight yards and repair shops were located along the banks of the Red River. This facility was the beginning of the East Yards complex, called such because of its location on what was the east side of the city. Again the city readily gave valuable property as subsidy to the new railway, this time a substantial portion of valuable waterfront property, including the junction of the two rivers, the historic focus of the city.

Also in 1899, the Northern Pacific and Manitoba Railway Company built a magnificent seven story hotel on Main St. at Water St. on the site now occupied by the Federal Building. The 'Hotel Manitoban' was built as a symbol of railway prosperity and frontier opulence to compete with the hotels

of the other railway companies. The hotel was to enjoy a short life, as it burned ten years later when it was filled to capacity with curlers attending a bonspiel on a cold February night.[35]

A second railway in Manitoba that was later to become part of the Canadian National Railway system was formed also in 1889 and called the Manitoba and Southeastern Railway Company (M&SE). This railway had been granted the right to build a line from Winnipeg to the International boundary near Lake of the Woods. At first it operated out of the Canadian Pacific Yards in North Winnipeg, but later built its own facilities at Paddington in St. Boniface. The first section of 45 miles opened between St. Boniface and Marchand, Manitoba and carried mainly cordwood cut from the woodlots along its right-of-way. Total equipment consisted of two engines, two used passenger coaches, and fifty new freight cars. The fuel wood it provided to heat Winnipeg homes provided revenue sufficient to support a small local railway company.

Before the close of the century, there were at least three independant railway yards operating out of Winnipeg: the large Canadian Pacific yards in North Winnipeg, the Northern Pacific and Manitoba Railway yards along the Red River north of the forks, and the Manitoba and Southeastern

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[35] Canadian National Railway Co., CN Bulletin, (Winnipeg: 1967)

Railway in St. Boniface. Other railway companies were beginning to emerge at this time but operated mainly out of the two largest yards facilities of the CPR and the NP&M. The burgeoning population of Winnipeg and the great influx of immigrants through the city was a causal factor in the birth and growth of these railways.

Up to the beginning of the first world war, Winnipeg prospered under a favourable world economy with high grain prices. All immigration to the west had to pass through Winnipeg and commercial interests prospered from the needs of a burgeoning western economy. It was not long before railway facilities built before the turn of the century were unable to handle the growing traffic demands. Large expansion programs and the birth of new railway companies and branches were commonplace in the early years of the new century leading up to the war.

In 1903, the CPR began a huge expansion program in response to Winnipeg's growth as a commercial and grain trading centre. The railway's original buildings constructed between 1882 and 1884 were replaced by new facilities which brought their physical plant to near its present day size. An opulent new station and hotel, the Royal Alexander, were built in 1905 on Higgins Avenue just off Main St. This new station replaced two earlier ones that had served the railway; the first built in 1883 and burned only three years later, and the second which was

built shortly thereafter and used until it too was replaced.[36] An adjacent immigration building was erected to house and process the tides of immigrants into Winnipeg which peaked in 1906. These developments were considered a great boost to Winnipeg's economy and were welcomed by all levels of civic life. By 1911, 3,500 Winnipeggers were employed by the CPR.

Railway competition after the turn of the century was a marked contrast to the days of the CPR monopoly and it was as fierce as it was uncontrolled. The roles of the carriers changed with battles over freight rates and the dynamic nature of immigration and western settlement. Some railway companies, especially the smaller ones, proved either unable to compete with the larger companies, or to be not economically viable on their own.

In 1901, the Canadian Northern Railway Company came into being as an amalgam of several non-viable smaller railways. It was the creation of William McKenzie and Donald Mann who had founded or acquired a number of railway charters and fledgling lines in western Canada. This railway was to grow in such astounding proportions that by 1915, a line from coast to coast was achieved. Two of these railways which became part of the Canadian Northern system were the Manitoba and Southeastern Railway Company and the Northern

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[36] E. Patterson, ed., Winnipeg 100, (Winnipeg: Winnipeg Free Press, 1973). p. 10.

Pacific and Manitoba Railway Company. The Manitoba government had become disenchanted with its role in the railway business and its leasing arrangement with Northern Pacific. The NP&M Water Street terminal became the major terminal and base of operations for the new company and a new bridge was constructed across the Red River, provided eastern linkage to this terminal. (Prior to this time, access across the Red River was provided by transfer tracks to the city built CPR bridge.) With its own bridge access and established facilities in place, Canadian Northern began operating immediately with its first train run between Winnipeg and Port Arthur in 1902.

As a result of this expansion, the needs of the growing company could no longer be met by the restricted Water Street Yards of the former NP&M Railway. The yard was limited from expansion on all sides by Main Street to the west, Water Street to the north, the Red River to the east, and the Assiniboine River to the south. The company sought a plan of reorganization and expansion of its facilities, and in 1904, the decision was announced to move Canadian Northern's main shops and Yards to the Fort Rouge area.

The new yards in Fort Rouge were a part of a reorganization scheme that included plans to erect a new passenger station at the foot of Broadway on Main Street with freight sheds and ancillary services, including an immigration shed, behind the new structure. This bold

stroke put an end to the connection of Winnipeg to St. Boniface by connecting Broadway Ave. to Provencher Blvd. across the river It was a move that particularly angered and alienated St. Boniface residents and was the cause of heated debate by citizens of both communities. (see Figure 26)

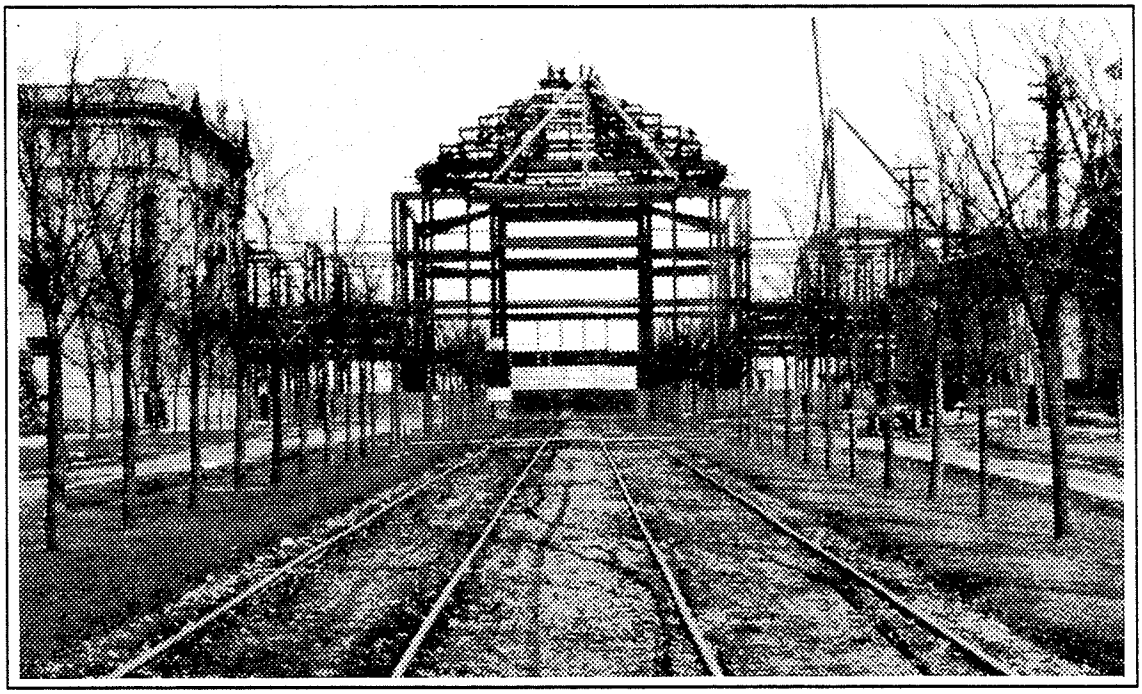

Figure 26: UNION STATION UNDER CONSTRUCTION ON EAST BROADWAY source: Manitoba Archives

Construction of the new station began immediately after a design by Warren and Wetmore, the architects of Grand Central Station in New York. Construction of new industrial facilities in the Fort Rouge Yards began immediately as well and included a massive new round house, numerous engine

repair buildings, and shop facilities. The Fort Rouge shops were officially opened in 1909 and the new station was completed in 1911.

At the same time as the completion of the new station, a new railway opened in the northern part of the city south of the CPR Yards and called the Midland Railway Company of Manitoba. This railway was built to serve the wholesale traders along "Fruit Row" whose warehouses were built along its tracks that ran the length of Ward 4. The Midland Railway opened in 1911 with a yard and freight houses.

Concurrent with the planning of expansion of the Canadian Northern facilities in Winnipeg, the Canadian government was negotiating to build a second transcontinental railway separate from the Canadian Pacific. Called the National Transcontinental Railway (NTR), it was officially formed in 1903 with the purpose of building a high-standard railway from Moncton, New Brunswick, to Winnipeg. This eastern section was to be built by the government and upon completion, leased to the Grand Trunk Pacific Railway Company (a large eastern company which had at one time aspired to build the first transcontinental line built by the Canadian Pacific.) GTP was in turn to build the western section of the transcontinental link from Winnipeg to the Pacific, provide all rolling stock, and act as operator of the line. Construction began on the NTR, or eastern portion of the line, in 1905, and on the GTP, or western side, the

following year. Plans were set for a maintenance facility to serve both sides of the system and construction began on these facilities in 1909. Transcona was the site chosen for these maintenance and repair facilities which included extensive motive power and car shops. The Transcona shops opened in 1913 and immediately began to handle all GTP and

Figure 27: CNR TRANSCONA YARDS
source: Manitoba Archives

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[37] Canadian National Railway co., CN Bulletin, (Winnipeg: 1967)

NTR repair and maintenance functions.[37] (see Figure 27)

The western Grand Trunk Pacific line was opened on April 8, 1914 and a train run from Winnipeg to Prince Rupert. In November of the following year, the eastern National Transcontinental Railway line was opened and train service begun between Winnipeg and Quebec City[38]

Grand Trunk Pacific shared use of the new station on Main Street with Canadian Northern. The building housed all passenger services, the main offices of both railways, and the Winnipeg Joint Railway Terminal Company which was formed in 1912 to handle all switching operations within the area encompassed by the former NP&M Terminal. This allowed Grand Trunk Pacific use of the Northern Pacific Yard, and access to industrial districts from which it had been previously excluded. The Grand Trunk Pacific Development Company also built a hotel across Main Street from Union Station. Adjacent to the entrance gates of Upper Fort Garry, the hotel was called the "Fort Garry" and was opened on Dec. 10, 1913 to become one of the country's leading hotels.

Until the two new transcontinental systems of GTP/NTR and the Canadian Northern arrived to compete with the rail monopoly that the Canadian Pacific Railway had enjoyed, Winnipeg had continued to be a multi-modal transportation hub. The CPR monopoly on its own had failed to end the

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[38] Ibid.

importance of river transport as a natural route of commerce and immigration. By 1911, a series of locks were built at St. Andrews rapids which allowed access through to Lake Winnipeg, the near north, and via other rivers, to points as distant as Edmonton. However, the arrival of competitive transcontinental railway systems with an increasing western network of lines, put and end to the viability and need for river navigation. Winnipeg had a surplus of transportation opportunities at this time, and lost all interest in its rivers. The city embraced its new found status as a "railway city".[39]

> It was only gradually that enthusiasm for river transport waned in Winnipeg. In the days of the C.P.R. and its monopoly there was obvious justification for the idea of developing an inland navigation system that would have connected Winnipeg with Edmonton and the towns, cities, and natural resources in between. But with the advent of two new transcontinental railway systems after 1900, the Grand Trunk Pacific and the Canadian Northern, river navigation simply lost its validity. By World War 1 Winnipeg had been assured of competitive rates, and if anything, Western Canada had an excess of transportation facilities. under these circumstances an inland navigation system with Winnipeg as the major port had little chance of survival. When ignored, as it was by the Winnipeg business community, it was doomed. Winnipeg became and long remained a railway city, and its rivers, the sole natural adornment of the prairie city, were left in slattern neglect.[40]

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[39] Alan F. J. Artibise and Edward H. Dahl, Winnipeg in Maps, 1816 - 1972, (Ottawa: National Map Collection, Public Archives of Canada, 1975), p. 41.

[40] Ibid., pg 47.

The boom of railway growth was centred in Winnipeg but affected as well other parts of the province. Numerous small companies often with little more than a single line, were formed where a need for transportation was to be met. In this way the agricultural areas of southern Manitoba, the Interlake, and the resource rich North soon became connected into a National rail network that was threaded through the city of Winnipeg. At least forty different railway companies and branch lines have operated or are operating in Manitoba as can be seen from Table 3.

Most of these railways are today simply pieces of a rich railway history that saw the expansion of settlement and population over the western prairies. As we shall see, a combination of several significant events led to the demise of most of these small early Manitoba railways. The era of booming railway growth and expansion ended almost as quickly as it began. The influence and significance of railways, however, continued to be a powerful force in the establishment and forming of western settlement.

TABLE 3

RAILWAY COMPANIES AND BRANCHES IN MANITOBA

Canadian National Railway
Canadian Northern
Canadian Pacific Railway
Eastern Railway Co.
Emerson & North Western Railway
Grand Trunk Pacific
Great Northern
Great North West Central
Greater Winnipeg Water District
Hudson Bay Railway
Manitoba & North Western Railway Co.
Manitoba & South Western Railway Co.
Manitoba Central Railway Co.
Manitoba Eastern Railway Co.
Manitoba & Minnesota & Lake Superior Railway
Manitoba & Southern Railway
Manitoba & South Eastern Railway
Manitoba Southwestern Railway
Manitoba Southwestern and Colonization Railway
Nelson Valley Railway & Transportation Co.
Northern Pacific Railroad
Northern Pacific and Manitoba Railway
Portage, Westbourne & Northwestern Railway
Red River Valley Railway
Rock Lake, Souris Valley & Brandon Railway
St. Paul & Pacific Railway
St. Paul, Minneapolis and Manitoba Railway
Saskatchewan and Western Railway
Souris and Rocky Mountain Railway
Southwestern Colonization Railway
Turtle Mountain & Manitoba Railway
Western Railway of Manitoba
Winnipeg & Duluth Railway
Winnipeg & Hudson's Bay Railway Co.
Winnipeg & Hudson's Bay & Steamship Co.
Winnipeg & Southeastern Railway Co.
Winnipeg & Southern Railway Co.
Winnipeg & Stoney Mountain Railway
Winnipeg and Western Railway
Winnipeg River Railway Co.
Winnipeg, St. Boniface & Carillon Railway

source: Manitoba Archives

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