

**MAKING CONNECTIONS:
DESIGN STRATEGY FOR THE ALEXANDER
WATERFRONT DISTRICT IN WINNIPEG**

By
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A practicum submitted to the Faculty of Graduate Studies of the University of
Manitoba in partial fulfillment of the requirement for the degree of
Master in City Planning

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ABSTRACT

The study is centered on pursuing a design strategy which might provide guidance on how to revitalize the Alexander Waterfront District in Central Winnipeg. The strategy develops connections with the adjacent downtown areas in the aspects of establishing contextual fit, improving public access, enhancing visual connections, encouraging diverse public uses for different users and 24-hour uses, and increasing public safety in the area. It aims to contribute to Winnipeg's Downtown revitalization by improving the current isolated situation of the Alexander Waterfront District, and to shape the Alexander Waterfront District to be attractive for more people to live, work and be entertained there.

The study is based on a literature review of relevant design principles and precedents, site inventory and analysis of the Alexander Waterfront District, as well as interviews with the key informants. The design strategy provided reflects the common elements of the informants' concerns, and are neither too general nor too specific to allow enough room for any specific design interventions to take place within its framework, thus to ensure a long-term consistency and coherence to the development in the Alexander Waterfront District.

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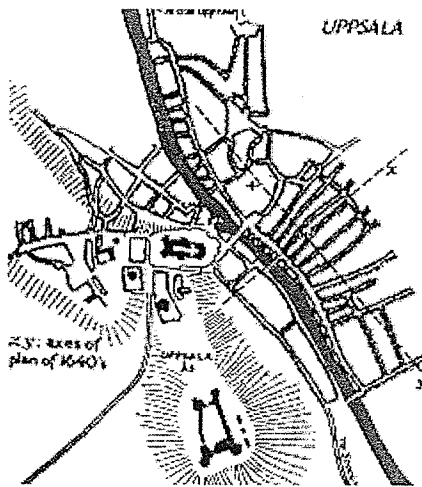
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Chapter One

Introduction

1.1 Introduction

Waterfront has played a special role in urban development. Many cities have developed along waterfronts, either along rivers or on the edge of lakes and seas. Easy access to water for agriculture, commerce, water transportation, as well as the considerations of defense were probably the main reasons for site selection of cities. The particularity of a city site and the way it meets the water give characteristics to the city form and potential for its future development. For example, the growth of the riverside towns¹, in Malardalen of Central Sweden, was aligned with the stream with a street parallel to the stream and narrow passageways leading down to the water. In such cases,



domestic life was centered on the stream. Aligning development with the water is a common response for most cities, and it is evident that most cities' downtowns or historic districts are usually adjacent to waterfront. A busy waterfront in the early days of a city underlines its role as a meeting place for people's day-to-day activities and public enjoyment. H. W. S.

Fig.1: Map of Uppsala in
Malardalen of Central Sweden
Source: Dickinson, Robert E.,
(1961), *The West European City: a
Geographical Interpretation*,
page 19.

¹ Dickinson, Robert E., (1961), *The West European City: a Geographical Interpretation*, London, Routledge & Kegan Paul Limited, page 18.

Cleveland, the well-known park planner of Minneapolis said², “The river is the grand natural feature which gives character to your city.”

However, with the passage of time, the change of major transportation modes from water transportation to railway transportation in the 19th century expanded the geographic and commercial opportunities, and usually weakened cities’ reliance on water. On the other hand, when the railroad came in, moving along the waterfront, and taking over large areas of waterfront lands for tracks and secondary services, it compelled residents to flee the waterfront areas and made it more difficult to access on foot. The railroad running along the shoreline blighted waterfronts, which began cities’ shift away from waterfronts. Later in the mid-20th century, when highway and air transportation became the predominant transportation modes, along with technological development, especially the emergence of containerization, use of the railroad trackage declined, and the mills and factories along the waterfronts decayed. Many urban waterfronts have ceased to be working waterfronts. The nature and use of urban waterfronts have changed, leaving large tracts of abandoned waterfront property adjacent to urban centers. There are numerous examples in North American cities, such as waterfronts in Montreal, Toronto, Boston, and Cincinnati.

The Alexander Waterfront District (hereinafter “the AWD”) in Winnipeg, the selected study site for this practicum, is a case in point. It is located in Downtown Winnipeg, between the Exchange District, Chinatown, the Disraeli Freeway, and the Red River. It was originally a residential neighborhood; rapid growth in the early part of 20th century transformed the area into a commercial warehouse and industrial district, and the

² Cleveland, H. W. S., 1945, “Suggestions for a System of Parks and Parkways for the City of Minneapolis”, *Minneapolis Park System 1883-1944*, Minneapolis, Theodore Wirth.

waterfront lands were occupied with rail lines. In recent decades, the abandoned railroad and slower growth have resulted in the decline of the area. The area has become a neglected part of the city, on which the city has “turned its back”. It remains isolated from the rest of the city. Its generally poor physical image, combined with limited public access, produces perceptions of lack of safety of the AWD and surrounding areas, decreases its appeal for people to live, work and play there, and constrains its future development. More significantly, this in turn brings about negative impacts on the revitalization of the surrounding downtown areas.

Nevertheless, the values of urban waterfront, with its rich historic, cultural and natural resources, have been rediscovered. The effective reuse of waterfront sites buildings and other port facilities for recreational and cultural activities, and for commercial and residential uses, has occurred in North America cities, such as the Forks in Winnipeg, and Laclede’s Landing in St. Louis. Besides, many cities have discovered that waterfront areas can be unique assets in the revitalization of downtown districts. Toronto, Vancouver, Calgary, Baltimore, Boston and San Francisco are good examples that benefited from looking to the waterfront when planning improvements to a downtown district. Urban waterfronts display their unique characteristics and potentials to provide diversified opportunities for economic development and public enjoyment. Their redevelopment in many cities has been a viable revitalization tool for downtown districts.

The aim of this practicum is to develop a design strategy which can provide guidance on how to revitalize the Alexander Waterfront District and better reconnect it to adjacent downtown areas. The design strategy aims to contribute to Winnipeg’s

Downtown revitalization by improving the current isolated situation of the AWD, and to shape the AWD to be attractive for more people to live, work and be entertained there. The study is informed by a literature review of relevant urban design principles and precedents, a site inventory of the study area, as well as interviews with key informants who may have views on this topic, or close connections to the AWD.

The findings from this study are anticipated to be shared with several agencies having interest in the AWD. These include City of Winnipeg Planning and Land Use Division, CenterVenture, Downtown BIZ, Exchange District BIZ, Chinatown Development Corporation, and North Main Partnership. Further, the study should be of assistance to communities elsewhere who are facing similar problems and struggling to find ways to improve these special areas.

1.2 Research Problem and Objectives

The Alexander Waterfront District currently remains isolated from the rest of the city. Its generally poor physical image, limited public access, and perception of lack of safety, decrease its appeal for people to live, work and play there, and constrain its future development. This problem situation in turn brings about negative impacts on the revitalization of the surrounding downtown areas.

The study has three objectives:

- To investigate and analyze relevant urban design theories and practice regarding waterfront redevelopment;
- To conduct empirical research of the study area and understand the situational context; and

- To develop a design strategy for the study area, with an emphasis on making connections with Downtown Winnipeg, and the potential to stimulate revitalization.

1.3 Research Strategy

1.3.1 Research Questions

The research questions are:

- What urban design principles and examples are particularly applicable to the study area?
- What are the critical insights and perspectives of the local community regarding the study area?
- What are the historic context and the current physical situation of the study area?
- What are the strengths, weaknesses, opportunities and threats (SWOT) of the study area?
- What design concept framework and supportive design recommendations, informed by the preceding research results, could be developed for the study area?

1.3.2 Research Tactics

The research tactics include a literature review, interviews, and a cartographic and photographic survey.

(a) Literature Review

The literature review consists of three distinct but ultimately connected themes: 1. role of urban waterfront in city development, 2. recent urban waterfront redevelopment in North America, and 3. design principles and precedents for making waterfront

connections. The study of the relevant precedents from a variety of geographic locations in North America helps to identify and analyze the successful or unsuccessful precedents. Precedents study is focused on the five design principles identified and adopted in the ongoing literature review. The literature review provides a foundation to guide further research, and contributes to developing the design strategy for the Alexander Waterfront District.

(b) Interview Instrument

A semi-structured interview was administered with key informants having a good knowledge of the study area, or who have been or are involved in previous or ongoing development projects regarding the study area. They were asked to evaluate the effects of these previous and ongoing initiatives, and to provide insights about the situational SWOT analysis and suggestions for the proposed design strategy of the AWD.

The interview process was considered to be a way to broaden the source of information and give other perspectives in the planning and design for the study area, and is conducive to developing the design strategy and providing direction for future research. The data collected should merit reference by other interest groups or authorities in future work on the study area.

(c) Cartographic and Photographic Survey

This survey was conducted along with the site inventory, collecting the two/three-dimensional data of key visual elements, open space, land usage, etc. within the study area. Maps, diagrams, technical drawings and so forth were consulted in this survey. For the photographic survey, see Appendix E.

1.3.3 Research Process

The following flowchart shows the research process beginning with identifying the nature of the research problem and objectives. The research and survey, including a survey of the existing situation, a literature review and an evaluation of previous and on going initiatives regarding the AWD, is then carried out. Based on the preceding research, a situational SWOT analysis is conducted to identify the strengths, weaknesses, opportunities and threats of the AWD. The analysis provides a basis for the design concept framework. Relevant design recommendations to support the design concept framework are proposed. The feedback regarding the design concept framework and design recommendations is collected, and the direction for further research is then identified.

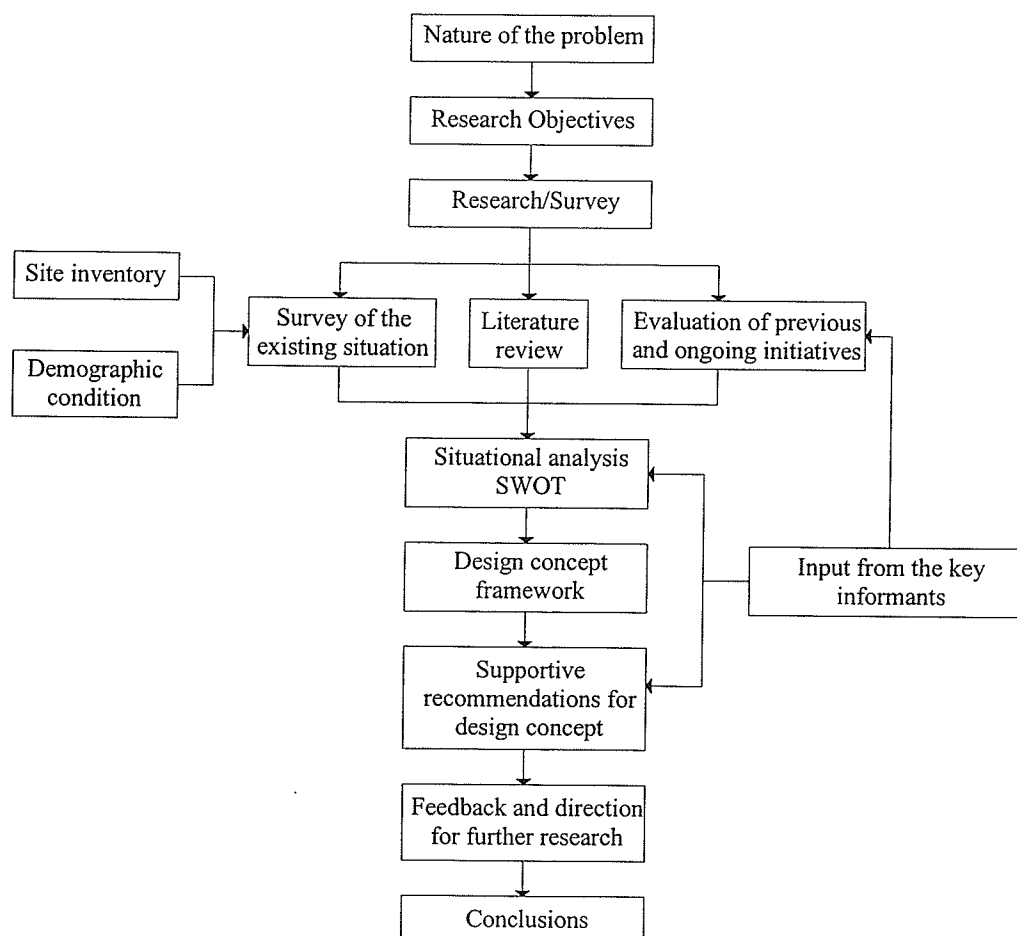


Fig.2: Flowchart of research process

1.4 Study Limitations

The focus of this research and intervention is on the physical aspect. Waterfront connections could be made physically, but also historically, culturally, economically and psychologically. These perspectives are usually interrelated and interactive with each other, working collectively for the revitalization of both waterfront areas and downtown districts.

Examples of waterfront planning and design cited are geographically limited to North America, based on the assumption that they have more similar historic and urban context to the study area. The relatively small number of informants was limited to those familiar with the study area, as a result of time and resource constraints.

1.5 Organization of Document

The document is organized into seven chapters. Chapter One provides an introduction of the subject being discussed in the document. The general background of this topic, research problem and objectives are identified. The research questions, the research tactics employed, the research process and limitations of the study are addressed.

Chapter Two is primarily a literature review, which is divided into three sections. In the first section, the role of urban waterfront in city development is outlined, showing how close their connection has been since the early development of a city, and its evolution along with the changes of waterfront functions. In the second section, the focus is on urban waterfront redevelopment in North America since the 1960s. The third section reviews relevant design principles that would achieve waterfront connections, such as establishing contextual fit, improving public access, enhancing visual connections,

encouraging diverse public uses, and increasing public safety. Related precedents are studied combined with theoretical review. This chapter forms the theoretical framework for the further study.

Chapter Three focuses on the study of the Alexander Waterfront District. The historic development of the Alexander Waterfront District is traced; its recent development trend and current physical characteristics is identified, followed by the investigation of its demographic condition.

Chapter Four is the evaluation of previous and ongoing development projects regarding the Alexander Waterfront District. A range of interview questions is designed, and a semi-structured interview is carried out with relevant informants to collect their insights in terms of the effects of the projects. The discussion in this chapter is supplementary to the preceding chapter to provide a whole situational picture of the Alexander Waterfront District, and both offer a solid base for the AWD analysis in the following chapter.

Chapter Five provides a situational context analysis based on the preceding research results, in terms of the strengths, weaknesses, opportunities and threats of the study area. Input from relevant informants in terms of the analysis is examined.

Chapter Six is the elaboration of the design strategy in which the design concept framework and relevant supportive design recommendations are set up for the study area to achieve waterfront connections.

Chapter Seven presents conclusions, providing the feedback from relevant informants regarding the design strategy, and suggests directions for further research on urban waterfront planning and design.

Chapter Two

Urban Waterfront Planning and Design

The literature review considers the relevant issues of urban waterfront in three themes. The first theme outlines the role of waterfront in city development, showing its close connection with the early development of a city, and its evolution along with the changes of waterfront functions. The second theme is urban waterfront redevelopment in North America since the 1960s. The third theme is a review of relevant design principles that would achieve waterfront connections, such as establishing contextual fit, improving public access, enhancing visual connections, encouraging diverse public uses, and increasing public safety. Related precedents are referred to, combined with theoretical review.

2.1 Role of Urban Waterfront in City Development

The term “urban waterfront” has a more inclusive meaning. It can mean the water’s edge in cities and towns of all sizes, from the port areas of large metropolitan regions on the coast to small resort towns with busy harbors. The water body may be a creek, canal, river, lake, bay, or ocean. Urban waterfront has played a crucial role in city development, which has evolved along with the changes in waterfront functions.

As we all know, most early human settlements were developed along water, either by a river or on the coast. This was not only because water was the foremost resource for farming and daily needs of inhabitants, moreover, it provided the only reliable and efficient means for transportation in ancient times, as the movement of materials,

products and people was primarily dependent on water transportation. Easy access to water transportation thus became an inevitably primary factor for the founding and development of a city. As Mumford pointed out, a waterway was a dynamic component of a city, "... without which it could not have continued to increase in size and scope and productivity: this is the first efficient means of mass transportation, the waterway." He further noted: "That the first growth of cities should have taken place in river valleys is no accident; and the rise of the city is contemporaneous with improvements in navigation, from the floating bundle of rushes or logs to the boat powered by oars and sails."³ As evidence of this, all four main ancient civilizations arose in great river valleys: the Yellow River, the Indus, the Euphrates and the Nile. Another illustration showing how waterways affected the birth of cities can be found in the town and city names in China and Europe, which commonly refer to the specific location of the city in relation to a river, such as Fen-hsi (Shansi Province) carrying the meaning of west of the Fen River, or is related to a river name, such as La Charite-sur-Loire, Alfeld-an-der-Leine, Frankfort-am-Raten, and Stratford-on-Avon.⁴

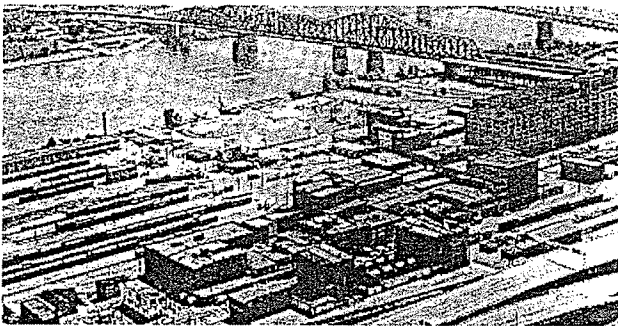
The early development of North America cities, taking the five early port cities established along the Atlantic coast for example, Boston, Newport, New York, Philadelphia and Baltimore, also clearly demonstrates the fundamental relationship between waterfront and urban development. Having a well-located and safe port was one of the common features of these five cities. This was crucial, with the port serving as the only linkage between Europe and America in the early colonial time. Because of this, the

³ Mumford, Lewis, 1961, *The City in History: Its Origins, Its Transformations, and Its Prospects*, New York, Harcourt Brace Jovanovich, page 71.

⁴ Kostof, Spiro, 1992, *The City Assembled: the Elements of Urban Form Through History*, London, Thames and Hudson, page 39.

waterfront of these cities was a focal point of city life. It was not only a marketplace for people gathering to do their day-to-day activities, receiving and distributing necessities, and packaging and loading outgoing cargo, but also a primary stage for social interaction, exchanging information and ideas. With the passage of time and settlers' migration westward, port cities, such as Pittsburgh, Cincinnati, St. Louis, Toronto, etc. began to emerge along inland waterways. The invention of the steamboat in the late 18th century enhanced the importance of waterways and further demonstrated the role of waterfronts in urban growth.

However, the role of waterfront in city development began to be weakened with the appearance of the railroad in the 19th century. This brought about a two-sided impact. On one hand, many cities expanded rail lines to the waterfront and strengthened the importance of the waterfront in transferring supplies. On the other hand, rail lines spread the geographic and commerce opportunities to those areas earlier unapproachable by waterways, thus weakening cities' reliance on water. Some cities such as Dallas and Denver, which were neither close to a coastline nor any major rivers, appeared. Meanwhile, the rail yards took over large areas of waterfront lands for trackage and secondary services, which transformed the waterfront area into an industrial hub. The



typical scenario of a waterfront area then was characterized by rail yards, industrial buildings, and shipping facilities which funneled raw materials and finished products to and from

Fig. 3: Cincinnati riverfront in 1960s
Source: Renewal of Waterfront Areas, in *The Journal of Housing*, No5, 1964 June, page236.

throughout the country. Noise, dirt and poor visual impression produced by trains, repair sheds and foundries, mills and factories, collectively made the waterfront lose its attraction for people. Many city centers began to shift away from waterfronts.

The role of the waterfront in city development was further weakened when the rail lines began to be abandoned, due to the change of transportation mode as the emergence and popularity of the automobile and later air transportation, combined with the emergence of the new shipping technology, containerization, after World War II. The old port areas were not constructed for modern container ships to maneuver easily, and lost their original usefulness. In addition to the decline in railroad trackage, the decayed mills and factories along the waterfronts left large tracts of abandoned waterfront property and under-used facilities adjacent to urban centers. Some old ports were then converted into storage uses, or used as outdoor parking, or for highways and airports. Cities began to turn their back on their water edges. Many waterfronts became neglected areas, isolated from the rest of cities.

In recent decades, the value of waterfront as an initiative for urban development and catalyst for downtown revitalization began to be recognized. With the trend towards city living, many people, of various ages, interested in the amenities and convenience of city living, were attracted to waterfronts. Waterfront locations were also becoming prime attractions for new and converted office uses near downtown. Breen and Rigby pointed out in *Waterfronts: Cities Reclaim Their Edge* that many downtown investments in recent decades were related to waterfront development,

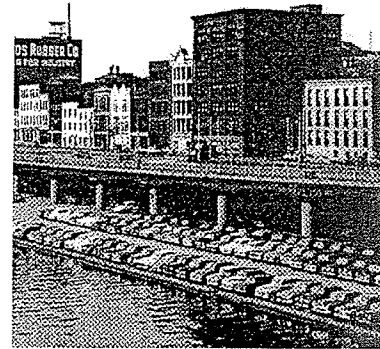


Fig.4: Outdoor parking along Pittsburgh waterfront
Source: McQuade, Walter, *The Suffering Shore Line*, in *Architectural Forum*, 1961 June, page90.

including the waterfront projects in St. Paul, Baltimore, Halifax, Milwaukee, etc. Successful waterfront development stories occurred in some cities, enticing more cities to explore similar opportunities to enliven their downtowns.

2.2 Recent Urban Waterfront Redevelopment in North America

Urban waterfront redevelopment is an international phenomenon in recent decades. North America is generally thought to be in the lead in this field⁵. This phenomenon had its beginning in North America during the early 1960s, bloomed in the 1970s, and accelerated in the 1980s. A 1971 study by Arthur Cotton Moore identified over 80 cities in North America having some sort of urban renewal program in a waterfront area⁶.

A number of factors contributed collectively to North America's pioneering role in this trend. First of all, most North American cities are located along water. Of the 75 largest cities in the United States, only six are not located on a significant body of water⁷. Besides, the first shift to cargo containerization in the United States after the World War Two led to the obsolescence of older port facilities and left large tracts of abandoned waterfront property. The internationalization of the economy and trade, such as the shift of some manufacturing industries to overseas, in some degree made a number of ports in North America no longer as busy as before. Another tremendous change occurred in the transportation field. North American countries have the widely known reputation as "countries reliant on the automobile", as private automobiles became more reliable for

⁵ Breen, Ann and Rigby, Dick, 1994, *Waterfronts: Cities Reclaim their Edges*, McGraw-Hill, Inc., page 11.

⁶ Cowey, Ann Breen and Rigby, Richard, 1979, "On the Waterfront", in *Planning*, November, vol.45, no.11, page 10.

⁷ Breen, Ann and Rigby, Dick, 1994, *Waterfronts: Cities Reclaim their Edges*, McGraw-Hill, Inc., page 11.

travel since the mid of 20th century, which brought about the general abandonment of large cruise ship terminals and piers, and commuter ferries. As people's access to waterfront decreased, the isolated situation of waterfront increased.

Fortunately, people's desire for public excitement along the waterfront was not reduced. In 1964, Daniel Ahern - who headed the private group involved in Boston's waterfront redevelopment, said that, "The basic human interest in the amenities and attractions of water bodies, together with the kind of dramatic proposals which waterfront locations stimulate, results in a high degree of public excitement over waterfront development."⁸ Meanwhile, a range of governmental actions occurred and policies were set up for waterfront redevelopment. In 1965, the White House Conference on Natural Beauty declared: "there is far too little actual water's edge available to the typical city resident."⁹, and recommended that waterfronts be taken into account in all city plans. "Urban renewal powers," the conference concluded, "should be used in a comprehensive way to improve waterfronts and set them free from transportation barriers, blight, and dumps in order to realize their environmental values,"¹⁰. In the same year, the Water Quality Act was passed. Again in 1970, the Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) were created. A number of federal urban renewal funds and other assistance measures such as the Urban Beautification Program were launched, which had a significant impact on waterfront redevelopment. During the late 1960s, it was estimated that about 50 federally-assisted

⁸ Cowey, Ann Breen and Rigby, Richard, 1979, "On the Waterfront", in *Planning*, November, vol.45, no.11, page10.

⁹ The President's Council on Recreation and Natural Beauty, 1968, *From Sea to Shining Sea: a Report on the American Environment - Our Natural Heritage*, page 62.

⁹ Cowey, Ann Breen and Rigby, Richard, 1979, "On the Waterfront", in *Planning*, November, vol.45, no.11, page11.

waterfront redevelopment projects were undertaken, returning them to use as desirable community features.¹¹

Additionally, the historic preservation and back-to-the-city movement that happened in the 1960-70s augmented this trend. In 1966, the National Historic Preservation Act was passed. The Act encouraged the adaptive reuse of the older buildings listed in the National Register of Historic Places, which stimulated waterfront redevelopment, as waterfronts commonly possess a number of unique older structures. Some good examples of recycling historic buildings along waterfronts include Quincy Market in Boston, and the Terminal Warehouse Building in Toronto. The back-to-the-city movement towards downtown living attracted many people who had tired of suburban life. As waterfront areas are usually located close to the city core, waterfront locations became prime attractions for those seeking the amenities and convenience of city life.

These forces collectively brought dramatic changes to urban waterfronts in North America. Toronto's Harborfront, Granville Island and False Creek in Vancouver, Baltimore's Inner Harbor, Boston's Central Waterfront, and the San Francisco Waterfront are the most typical and successful examples that are widely recognized as the leaders of the waterfront redevelopment movement in North America. They have been attracting millions of local residents and tourists annually.

The waterfront phenomena did not only prevail in large North American cities in the 1970s; a number of medium-sized and small cities as well were busy with their waterfronts. One issue of the AIA Journal in 1971 cited a range of examples: "St.

¹¹ Lehmann, Richard A., and Wood, Donald F., 1966, "Waterfront Renewal: What Recent Events and Trends Portend for Nation's Urban Water Frontage", in *The Journal of Housing*, November, no10, page590. Also see The President's Council on Recreation and Natural Beauty, 1968, *From Sea to Shining Sea: a Report on the American Environment – Our Natural Heritage*, page 60.

Petersburg in Florida revived its 'Million Dollar Pier' which would have a drive-around road for sightseeing, fishing promenade, restaurants, heliport, etc.; Miami finished a seaport on Dodge Island in Biscayne Bay; Oshkosh in Wisconsin opened a commercial complex on the Fox River; St. Louis was reverting its riverfront from what had been a shoddy, industrial warehouse and transportation center to pleasant, people-oriented areas; ...¹².

Successful waterfront redevelopment stories having occurred in some cities making working on waterfronts an initiative to attract new investments, spur development of real estate and the tourism economy, and re-enliven downtown. Many other cities throughout North America, such as Calgary, Milwaukee, Buffalo, Minneapolis St. Paul, etc., were continuing to explore similar opportunities to offer something special to their citizens and visitors during 1980s and 90s.

The perceptions are growing among developers that waterfronts present tremendous opportunities for commercial, residential, recreational or mixed-use projects. Waterfront areas can provide distinct characteristics to cities and be unique assets in downtown revitalization. As Braunfels pointed out, "When we arrive by boat, we enter them (cities) not on their periphery but in their centers."¹³ It is clear that the waterfront phenomenon will continue as a focus of urban development across North America in the years ahead.

¹² Balchen, Bess and Linville, Jack, (1971), "The Waterfront: Let's Face It", in *AIA Journal*, April, vol.55, no.4, page18.

¹³ Braunfels, W., 1988, *Urban Design in Western Europe*, Chicago/London, Transl. K. J. Northcott, page79.

2.3 Making Waterfront Connections: Design Principles and Precedents

2.3.1 Contextual fit

Context is a frequently used word with broader meanings. It not only refers to the geographical location of an area within a city, but also indicates the entire environment in respect of cultural, natural and social settings associated with the area. Contextual fit, as Breen and Rigby point out, is “to be sensitive to the whole environment, the context, the setting, the plants, the climate...”¹⁴ Therefore, a well-designed urban waterfront would contextually fit, in a large sense, its physical setting – responding to the urban context; its cultural setting – respecting the heritage values; its natural setting – achieving ecological fit; and its social setting – reflecting the constituency’s concerns. Each of these will be addressed in the following sections.

Responding to the urban context:

The study of contextualism has long been pursued. The key question around this issue might be, as Lang stated,¹⁵ “How does one get a new total design or an all-of-piece design to look as if it belongs to (or is part of) its surrounding context?” A variety of approaches to achieve a sense of contextual fit have been studied in recent decades. The law of similarity and visual continuity of Gestalt theory raised three basic principles calling for new development to keep the same street pattern, and same building mass as its surroundings, and have, if not the same type of architectural style as its surroundings, as least the same colors and materials. Lang noted that Claflin in his paper “Simulated Stimulation/Stimulated Simulation: Regionalism and Urban Design” took a similar approach by using the same materials, detailing, or color as the surrounding buildings.

¹⁴ Breen, Ann and Rigby, Dick, 1991, “Prospect”, in *Landscape Architecture*, February, page 128.

¹⁵ Lang, Jon, 1994, *Urban Design: The American Experience*, New York, Van Nostrand Reinhold, and page 275.

Moreover, post-modernists suggested that an abstraction of elements from the surrounding built form could still work for a contextual fit.¹⁶

The approaches of contextual fit have been explored not only in regard to urban solids, but urban voids as well. As Trancik stated “successful spatial design has been achieved without creating buildings in isolation, but by taking into consideration how new and old buildings and spaces fit together into the established urban context.”¹⁷ The approaches probed in the field of urban voids have been remarkably varied. Ralph Erskine tended to seek a theory of organic order by blending proposed and existing structures in an informal organic arrangement that seems to grow out of the local and regional context naturally. In contrast to Erskine, the new classicists advocated using formal interventions, such as symmetry and perspective, to organize disparate elements around an idealized urban space. Other approaches include using collages of urban form to emulate the evolution of the city, and so on and so forth. In summary, as Trancik concluded, “... an evolved, indigenous urban form is more satisfying than complete order imposed from outside. The former generally suggests a more fluid, village-like space in which disparate elements are connected and into which new pieces can be fit as the place changes over time.”

The exploration of contextual fit in the field of urban voids pushes the study to a more in-depth level, rather than simply reflecting the surrounding built form visually. Therefore, responding to the urban context calls for waterfront development to be a continuum of the city's structure without weakening its distinct characteristics.

¹⁶ Lang, Jon, 1994, *Urban Design: The American Experience*, New York, Van Nostrand Reinhold, and page 276.

¹⁷ Trancik, Roger, 1986, *Finding Lost Space: Theories of Urban Design*, New York, Van Nostrand Reinhold, page 116.

Respecting the heritage values:

The cultural context of waterfront is mainly represented in its heritage. Since the waterfront is generally where a city was founded, many structures with rich historic and cultural values are located along or around waterfront areas. Contextual fit calls for waterfront development to seek a sensitive answer to those elements that seem to be constraints initially, but eventually turn out to be distinct features for the waterfront. A range of approaches has been implemented in recent decades, such as restoration, renovation, and adaptive use, to deal with heritage buildings. The Terminal Warehouse Building, built in 1927 in Toronto's Harbourfront, demonstrates the unique opportunity to enhance waterfront use when the heritage value is respected. The building is one of the first poured-in-place concrete structures in Canada, with eight floors, initially used as warehouse. The adaptive reuse resulted in commercial, offices, and residential uses, being successfully integrated into the new Harbourfront redevelopment. It is reputed to be the cornerstone of Toronto's Harborfront project.¹⁸

Achieving ecological fit:

Ecological fit calls for waterfront development not causing negative impacts on natural resources such as water, soil, aquatic life, and so on. Since urban waterfront land is generally a limited resource, it is an ecological system worth the highest priority in conservation and protection. Ecological inventories, soil-suitability study, water quality assessment, flood effect etc. should be better integrated into the waterfront planning process, to secure an effective conservation and protection of waterfront natural assets and support a compatible waterfront development simultaneously. The implementation of

¹⁸ Breen, Ann and Rigby, Dick, (1996), *The New Waterfront: a Worldwide Urban Success Story*, New York, McGraw-Hill, p82.

the concept of 'greenways' running beside waterways is a good illustration. Riparian greenways can achieve numerous valuable environmental benefits. Riverside vegetation may protect the banks from water erosion, provide shade to restrict weed growth, create a feeding and breeding habitat for various kinds of fish and wildlife, and reduce aquatic pollution. A survey conducted in the United States in 1989 revealed a high public appreciation of the value of establishing greenways in urban waterfront areas where city residents can experience the tranquility of the natural landscape and enjoy viewing birds and other wildlife in water.¹⁹ In New York State, legislation has been passed calling for a study of a Hudson River Valley Greenway along 246km of riverside.

Ecological fit is also related to the physiological need of human beings for a healthy and comfortable physical environment, such as the protection from excessive wind and rain, exposure to sun or availability of shade. Response to climate was one of the key issues for waterfront development in northern cities. The planning of Toronto's Harbourfront is a case in point (Fig.5). To ensure year-round activities along the harborfront, especially from November to May when the weather can be very chilly, several design approaches were implemented in the development framework to mitigate

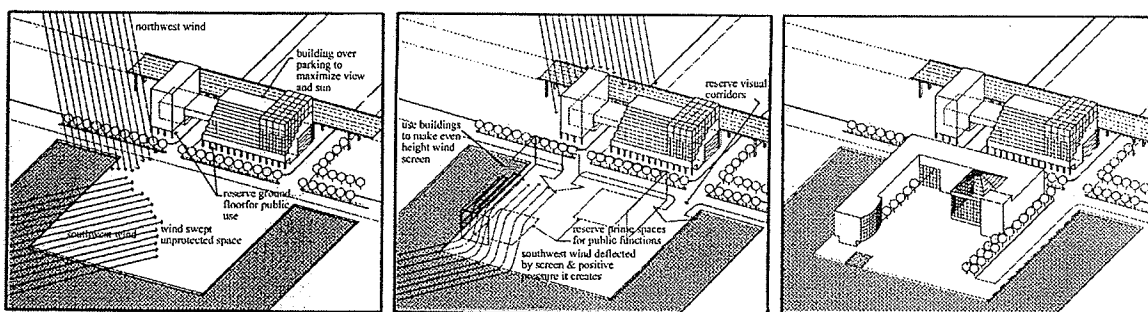


Fig. 5: Response to climatic variations in the design of Toronto Harbourfront.
Source: Wrenn, Douglas M., (1983), *Urban Waterfront Development*, page88.

¹⁹ Gardiner, J.L., Edwards, P.J. and Ball, J.H., 1993, "Urban Waterside: Context and Sustainability", in White, K. N. et al ed., ed., *Urban Waterside Regeneration: Problems and Prospects*, New York, Ellis Horwood, page 9.

climate impacts. The measurements included arranging the orientation of buildings to shelter people from the western winds, and containing features such as covered walkways along the ground floors, which can be glass enclosed in winter and opened in summer.

Reflecting the constituency's concerns:

“The fit of a settlement,” as Lynch said²⁰, “refers to how well its spatial and temporal pattern matches the customary behavior of its inhabitants. It is the match between action and form in its behavior settings and behavior circuits.” The characteristics and composition of a waterfront constituency define one aspect of the waterfront urban context. Wrenn identified two types of constituency:²¹ “a primary group composed of people who use the waterfront as a residence, place of work, or recreation resource and a secondary group of people who occasionally go to the waterfront, have no direct involvement with it, but feel the water’s edge is a public resource and are concerned about it.” The constituency comprises existing user groups, and may affect the developments or policies related to the waterfront. If current waterfront lands have a high vacancy rate or are under-used, then the secondary group that Wrenn identified would be more crucial to take into account.

A contextual fit waterfront proposal calls for new development to match the behavior patterns, or any concerns and needs of the constituency. Public participation to actively involve the constituency in the development process would be an effective way to achieve this end. The case of the Georgetown waterfront in Washington, D.C. is a converse illustration of this point. In this case, the city supported the proposed commercial uses along the waterfront, but incurred strong objections from citizens who

²⁰ Lynch, Kevin, 1981, *A Theory of Good City Form*, MIT, page 151.

²¹ Wrenn, Douglas M., 1983, *Urban Waterfront Development*, Washington, D.C., ULI-the Urban Land Institute, page 29.

felt the waterfront should be designated as parkland instead. The controversy over this matter eventually forced the developer to make significant changes.

2.3.2 Public access

Public accessibility to waterfront areas is one of the crucial issues in the planning and design of urban waterfronts. Although most waterfront areas are in close proximity to city centers, which should have made them highly accessible, in many cases they usually are not.

Barriers to public access:

There are five main barriers to waterfront access, including:

1. Highways along water edges

Construction of limited-access highways or main roads along waterfront is probably the most common limitation to waterfront access, which has happened in many North American cities. For minimal displacement of people and impact upon surrounding uses, waterfront lands have usually been developed for highways, cutting off cities from the water edges. In Manhattan, for example, 94 percent of the waterfront lands are lined with major highways²². As a result, a relatively large portion of the island's perimeter is blocked to the pedestrian. It was even said that there had been not a single waterside restaurant existing on the whole island before 1977.²³

²² Wagner, Robert F., 1980, "New York City Waterfront: Changing Land Use and Prospects for Redevelopment", in Committee on Urban Waterfront Lands ed., *Urban waterfront Lands*, Washington D.C., National Academy of Sciences, page 88.

²³ Heckscher, August 1977, *Open Spaces: the Life of American Cities*, Harper & Row Publishers, page93.

2. Railway facilities and industrial structures located in waterfront areas

This is another type of barrier commonly found on urban waterfronts. Rail lines, combined with various facilities, such as repair sheds, foundries, and factories, as well as utility facilities, such as electrical generating plants and waste water treatment facilities located in waterfront areas made it difficult for anyone to approach. As an example in Toronto, in 1908, there were from nine to sixteen tracks at street level running along the waterfront, which cut off the Toronto downtown from the harbor.²⁴ Some other cities like Chicago, New Orleans, etc. had the same situation. It was estimated that over one-third of the waterfronts in major American Cities had rail lines.²⁵

3. Privately owned lands

Owners holding private properties adjacent to waterfront areas often object to the public trespass on their lands at the water edge. Such a case could be found in the City of Chicago, where private waterfront properties block the city's intention to create a pedestrian walkway. Certainly, public ownership of waterfront lands, or at least a strip along the water's edge, would be conducive to a high degree of accessibility.

4. Institutional barriers

An example of this type of barrier would be some government-owned facilities or military base located along waterfront, such as the U.S. Navy Training Center in San Diego waterfront, which restricted public access to some portion of the waterfront areas.

²⁴ Harbourfront development Corporation, 1978, *Harbourfront Site History*, page 16.

²⁵ London, Mark, 1976, "Urban waterfront planning", in *Canadian Institute of Planner Forum*, May, page 6.

5. Psychological barriers

Psychological barriers are usually generated by poor physical images and unsafe perceptions of the waterfront areas. In this case, waterfront areas are still perceived to be inaccessible, even when physical access is possible.

A variety of planning and design approaches have been tried in many waterfronts to overcome these barriers to enhance public access, as discussed in the following section.

Establish public access:

“There are well-known devices for improving access, including the provision of new channels and modes, the rearrangement of origin and destination, the abolition of social and physical barriers...”²⁶. One common approach being used to improve public accessibility to waterfront areas is the establishment of public right-of-way along the water edge. It can be represented in a wide range of options from bike and pedestrian trails to streetcar routes. Trails can be situated along the water edge and extended into the downtown area and beyond, linking the waterfront with downtown shopping and business districts, and nearby residential areas. It provides people with a way to interact with the water directly. In San Francisco, the waterfront zoning regulations demand a pedestrian walkway along the water edge as part of any new development. In the City of Portland, a four-mile river trail winds along the river through an existing park at the water edge, and connects with the downtown, providing year round activities, such as roller blading, biking, and walking. Another good example could be found in the town of Grand Haven, MI²⁷. A two and a half mile riverfront boardwalk was created in 1984, providing access

²⁶ Lynch, Kevin, 1981, *A Theory of Good City Form*, MIT, page 203.

²⁷ Kotval, Zenia & Mullin, John R., 2001, “Waterfront Planning as a Strategic Incentive to Downtown Enhancement and Livability”, in Burayidi, Michael, ed., *Downtowns: Revitalizing the Centers of Small Urban Communities*, New York, Routledge, page 191.

to shops, restaurants, a miniature golf course, and scenic parks. As well, the boardwalk led people to several prominent features of the downtown. It brought about significant reinvestment in downtown and became a successful catalyst of downtown revitalization.

In face of the highway and rail line barriers to waterfront areas, various design strategies have been tried. Considering the Louisville waterfront for example, two proposals have been raised to re-establish the pedestrian connections between the waterfront and downtown. One was to build a riverfront plaza decking over the elevated highways; the other was to make a dynamic park, with the sloping planes of lawns, flowing under the highways. In Manhattan, New York, physical access to the waterfront was set up as a mandatory condition in the Lower Manhattan Special District Plan in 1973. The pedestrian connections would go over lower Manhattan's elevated highways and tie the waterfront projects to the existing development behind.

It is also crucial to set up an integrated set of public transportation modes including bus or streetcar, linking to the waterfront, in addition to pedestrian connections. A well-planned mass transit network becomes more necessary for a waterfront with mixed uses. The need for a well-managed circulation is a requirement not only for both the aesthetics and functionality of waterfront but also for safety reasons. Unplanned traffic circulation can be chaotic for both vehicles and pedestrians, and in turn limit the public access to waterfront areas physically and psychologically.

The waterway itself can be used to access waterfront. In many cities, a waterbus has been launched to link destinations along the waterfront. In northern cities, waterways in winter will not only be a place for recreation, but also a natural access to waterfront by skating.

Encouraging diverse public uses and providing a safe environment along waterfronts are other effective means and, have equal importance as well to enhance public access. These points will be discussed in the following sections.

2.3.3 Visual connection

Visual connection is another commonly discussed issue in waterfront design. It represents a two-fold meaning: visual access to waterfront, and views from waterfront to the city. The latter is of the same importance, as the waterfronts in most cities offer the only opportunity for people to regain a peaceful setting and enjoy the entire skyline of the city. To establish visual connections between city and waterfront would both achieve the amenity values and enhance city identity.

Waterfront usually possesses special visual characteristics, which is reflected in its unique built and natural environment. The waterfront built environment usually features ferry buildings, marinas, ship repair facilities that can only be found along the water edges. Often, these structures are visual landmarks and serve as a focal point within a waterfront setting. The movement of moored boats bobbing in the water and nautical flags flapping in the breeze, as well as a variety of surface materials used on the docks further create a rich visual texture. The waterfront visual interest is also frequently enhanced by its natural features. The horizontal edge where land and water meet produces a sharp contrast to the vertical elements found along shorelines. Besides, vegetation, as a kind of soft visual element, also influences the casual character of urban waterfronts by gentling the hard appearance of waterfront built-structures. Furthermore, The two-dimensional water surface provides a wide field of vision. It provides a limitless

space for people to relax themselves by escaping the dense enclosed sense of the city and the high-pressure city life.

Visual accessibility varies tremendously among waterfronts, determined by the configuration of the urban shoreline, the expanse of the water body, and the area's topography. It is also determined by man-made factors such as the building height. To protect views from inland buildings, height limits have been set in several cities for areas near the water. However, for pedestrians at street level, the restriction on the heights of buildings has little value, as a two-story building would block the views as effectively as a twenty-story one. On the other hand, for the same bulk, a high-rise building usually could occupy less ground than the low-rise, thus allowing more open space that establishes visual corridors to the water. If the ground level of a building is kept open, it would be even better to minimize the obstruction of pedestrian views. Therefore, visual corridor guidelines have also been established in many waterfronts plans to protect views to the water by severely

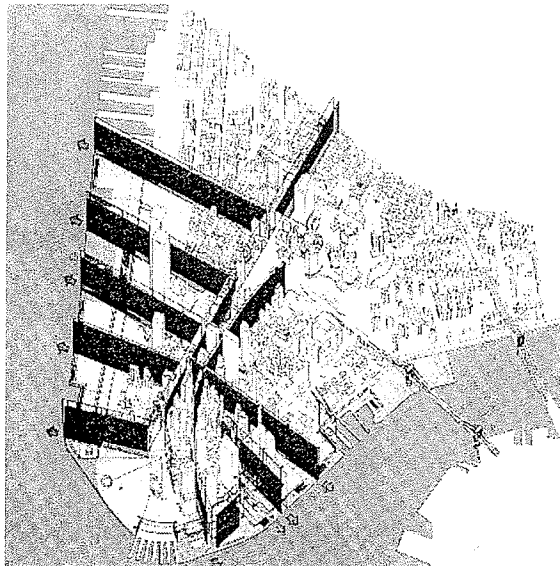


Fig. 6: Visual corridors extending from inland to water in New York City.

Source: New York City waterfront: a Fear of Filling, in *Progressive Architecture*, June 1975, page 51.

restricting construction within these corridors. In the Lower Manhattan Special District Plan of 1973, one of the key considerations was the introduction of visual access to the waterfront. Visual corridors, corresponding to the main paths of pedestrian movement, would extend from Broadway to the water. In the Halifax waterfront plan, urban design

guidelines also called for the preservation of broader panoramic views of and from the water.

Landmarks or vistas on the water edge could serve as focal points to help enhance visual access. Taking the St. Louis waterfront for example, the grand shimmering arch of stainless steel situated at the water edge, designed by Eero Saarinen to memorialize the country's western expansion, is visible from most points within downtown St. Louis, reminding people in the other parts of the city of the river's timeless existence.

Waterfront lighting can be another efficient approach to achieve visual accessibility. Lighting can highlight attractive features, focus attention on a particular area, and create an exciting atmosphere. Lighting can contribute to safe perceptions of waterfront areas and support night-time activities for a 24-hour living waterfront as well.

2.3.4 Diverse public uses

Public uses first:

Private property ownership or institutional uses along the waterfront, as discussed previously, have hindered public access and the active-use of waterfront, and thus weakened its connections with the rest of city. Therefore, a close waterfront connection calls for diverse public uses in those special areas.

A ranking of uses starting with the most public would probably be: park, public activities, shops and restaurants, hotel, office, and private and exclusive housing.²⁸ The choice of uses based on the degree of publicness would probably put most public uses in the areas of highest visibility and accessibility, and also closest to the water.

²⁸ London, Mark, 1976, "Urban Waterfront Planning", in *Canadian Institute of Planners Forum*, May, page 3.

Public recreational use has usually been found to be the primary function in many urban waterfronts, since water has long been considered as providing wonderful recreational amenities for human beings. A city park along waterfront is certainly one of the most common forms for recreation. It provides a large parcel of green open space serving as a stage for public meeting near the water edge, attracting numerous people, both local residents and tourists, to the water. A park also creates outdoor space for various kinds of water-related recreational activities. As well, an actively used and well-maintained waterfront park would bring about other related activities such as specialty shops, restaurants, hotels, etc. together, as the best location for shopping and dining is probably near a city park where people are gathering. Further, these features would definitely help to create an active atmosphere along the waterfront.

For ensuring a more day and night livable waterfront, many cities have tried to make waterfronts serve as tourist attractions. Unique and special features, through the approaches of historic preservation, street lighting, different street patterns, etc. have been geared to the needs of tourists that prefer seeking different experiences. The services and amenities, such as information kiosks, telephone booths, public restrooms, benches and trash receptacles have been well provided and marked for the tourists' convenience. Ensuring special activities or a higher level of animation than in the rest of the city would also attract local residents for repeat visits. Residential uses as well have been developed along the waterfront in many cities, with the aim to achieve an active environment.

The type of public uses along a waterfront would be best selected based on the needs of the local community, as the situations vary from city to city. Since most urban waterfronts are adjacent to downtown districts, the needs and unique characteristics of

waterfronts and downtown districts should be assessed before selecting the best use. In this way, waterfront and downtown would be mutually supportive.

A “working waterfront” is still possible:

Is it still possible to place industrial uses along urban waterfronts? Environmental soundness is the foremost requirement for waterfront industries. In a symposium about waterfront industry held in Toronto in 1990²⁹, a series of criteria was suggested for identifying industries appropriate for waterfronts. A safe, well maintained and managed working waterfront would not only provide employment opportunities and tax benefit for the local community, but also serve as an attraction for local people and city tourists to obtain knowledge through observing the working of various industries – “the drama of the docking and loading and unloading of ships has a special fascination of its own.”³⁰ If it is integrated with certain teaching and research programs, it can actually be a special destination for professional groups as well as students. In the small fishing pier at Provincetown, some whale-watch boats and fishing vessels are open to visitors to see how those boats function. The fishing pier is surrounded by other recreational facilities such as restaurants, shopping streets and a commercial museum, which creates entertaining and learning experiences for visitors simultaneously.

Mixed but not messy:

If waterfront uses are mixed, special attention needs to be given to each element to ensure that one doesn't negatively impact on the others. Actually, mixed uses should not be mutually exclusive, and some problems caused by mixed uses can be resolved. As

²⁹ Desfor, Gene, 1990, *Urban Waterfront Industry: Planning and Development Green Enterprise for the 21st Century Symposium Report*, Toronto, Minister of Supply and Services Canada, page 18.

³⁰ The President's Council on Recreation and Natural Beauty, 1968, *From Sea to Shining Sea: a Report on the American Environment – Our Natural Heritage*, page 61.

discussed in the preceding section, a working waterfront can co-exist with a recreational harbor if it is well planned and managed. The case of Portland provides further illustration. The city is using a municipal zoning by-law to limit recreational boating access to certain areas in order to avoid the threat to the fishing industry. Mixed uses can be truly integrated and complement each other. Such is the case with the Halifax waterfront. The strategy was simply to keep the entire ground floors of the office buildings open for public uses such as open space, shops, and aquarium or maritime museum. Small lobbies at unnoticed positions in the ground floors were designed to lead to the upper levels of offices. It hopes to attract people for more public activities along waterfront without noticing the offices there. On the other hand, the offices would provide a substantial part of the revenue, which would make the ground floor public uses possible.

2.3.5 Public safety

The isolation of waterfront from the rest of city may, in part, contribute to the unsafe perceptions generated among people. There would be no possibilities for a dynamic waterfront if people feel their security is threatened. Maslow ranks safety needs as a primary need after hunger and thirst, and they are represented physically and psychologically. Physical safety is “concerned with attaining a security of knowing that one is safe from physical harm – from the natural elements, human elements, and from artificially created elements of the environments such as moving cars and structurally unsound buildings.”, while psychological safety means “to have control over the

environment, to know they are in space and in time, to not be socially or physically lost.”³¹

There have been considerable debates about the degree to which a physical environment could affect people's actions and have some relation to crime prevention. Hough³², in a crime prevention study in Toronto, stated that the design of the physical environment influences the perception of territory and the ability of people to monitor their surroundings, two factors that could deter crime and vandalism. Newman found that crime rates were lower in areas with the qualities including having a clear set of territorial markers, little open space under nobody's clear jurisdiction, and opportunities for natural surveillance, using building and landscaping forms and materials that communicate a positive image, and so on.³³

Undoubtedly, visibility into a particular open space improves safety because of the increased opportunity for surveillance by other surrounding users. Usually, parks having views from adjacent residences or streets, as well as having greater visibility within the site, have a lower incidence of problems³⁴. Lynch in his plan of “Boston Tomorrow” calls this indirect and direct surveillance “eyes on the street”³⁵. Jane Jacobs and Kevin Lynch advocated building forms which allow views into the open spaces and encourage regular and frequent users, two critical components that enhance safety.³⁶

³¹ Lang, Jon, 1994, *Urban Design: The American Experience*, New York, Van Nostrand Reinhold, page156, and 158.

³² Hough, Michael and Barrett, Suzanne. 1987, *People and City Landscapes*, Toronto, Conservation Council of Ontario, page105.

³³ Lang, Jon, 1994, *Urban Design: The American Experience*, New York, Van Nostrand Reinhold, page245.

³⁴ Hough, Michael and Barrett, Suzanne. 1987, *People and City Landscapes*, Toronto, Conservation Council of Ontario, page106.

³⁵ Banerjee, Tridib and Southworth, Michael, ed, 1990, *City Sense and City Design: Writing and Projects of Kevin Lynch*, Cambridge, Massachusetts, The MIT Press, page686.

³⁶ Jacobs, Jane, 1961, *The Death and Life of Great American cities*, New York, Vintage Books.

Amenities such as lighting are significant as well to improve visibility and avoid hidden corners. "Good lighting reduces opportunities for miscreants to hide and enables people to scan the environment."³⁷ Adequate lighting at night is important to ensure the optimal use of waterfront throughout a 24-hour period. In addition, maintenance would contribute to safety. A poorly-maintained place indicates less value and attention paid, and in turn discourages people from using it. Safety is also related to the conflict between pedestrian and vehicles. Jan Gehl³⁸ notes that safety from vehicular traffic is another concern, particularly when improved pedestrian access and usage are anticipated.

2.4 Summary

The evolution of urban waterfront functions and forms reveals the factors of a close connection between waterfront and city, and waterfront's significant role and impact in urban development. Urban waterfront, with its often strategic location, is the most visible place in a city and is the place where a city's history is concentrated. As Alex Krieger says, it is "along its waterfront (that) the aura of a city resides and persists."³⁹ Waterfront redevelopment as a catalyst for urban revitalization has been widely recognized, and deserves continuous effort. Many successful urban waterfront redevelopment precedents in North American cities provide practical experience and reference for the redevelopment of the Alexander Waterfront District in Winnipeg, for their similar waterfront evolution history and urban context. The theoretical design principles identified in the preceding literature review should be integrated in implementation, and respond to the different situations in various cities, where relevant

³⁷ Lang, Jon, 1994, *Urban Design: The American Experience*, New York, Van Nostrand Reinhold, page 245.

³⁸ Gehl, Jan, 1987, *Life Between Buildings*, New York, Van Nostrand Reinhold Company.

³⁹ Marshall, Richard, ed. 2001, *Waterfront in Post-Industrial Cities*, London, Spon Press, page 13.

emphasis is determined as the principles are applied in practice. Making waterfront connections is to make the waterfront an organic part of city, a place that people desire to go to and stay in for a quality life experience. Therefore, waterfront connections should not only exist physically, but most importantly, reside in people's day-to-day life, deep in their consciousness.

Chapter Three

The Alexander Waterfront District

The Alexander Waterfront District is in the northeast portion of Winnipeg's Downtown. It is bounded to the south by Lombard Avenue and Stephen Juba Park terminating at the Water Intake Structure along the Red River, to the west by Main Street, to the north by the Disraeli Freeway and George Avenue, and to the east by the Red River. The AWD covers about 31.3 ha (77.3 acre). (Fig. 7)

3.1 Historic Perspective

The Alexander Waterfront District, with its rich history, has played an essential role in the urban development of Winnipeg. It was one of the first sites inhabited by early European settlers traveling from Hudson Bay up the Red River in the early 19th century. To some degree, it saw the rise and fall of the city's development. (Fig. 8)

In 1826, Alexander Ross, the first historian of the Red River settlement⁴⁰, arrived in the Red River Colony with his family, settled on a river lot located between what is now John Hirsch Place and Alexander Avenue, from the river bank going west two miles. He built a house known as "Colony Gardens" on the riverfront for his wife and three children. In 1852, his eldest son, William Ross constructed a house at the foot of Market Avenue, which became the first post office of the settlement in 1855. This log house, later known as "Ross House", was moved to Joe Zuken Park in 1948 and serves now as a

⁴⁰ Bureau of Travel and Publicity, Department of Industry and Commerce, Manitoba, *City of the Rivers*, Winnipeg, Queen's Printer, page 26.



Fig.7: Boundaries of the Alexander Waterfront District⁴¹

⁴¹ The digital map of the Alexander Waterfront District and the aerial photo were provided by Land Information Services Branch, Planning, Property & Development Department, the City of Winnipeg. The AWD's boundary was defined according to a "Prospectus" regarding the AWD, produced by the Environment Planning Department, and provided by Martin Sandhurst, senior planner of Planning and Land Use Division, Property & Development Department, the City of Winnipeg, page6.

small museum. The Ross family lived there until the early 1890s. They sold their property, including the land on which City Hall stands today. Later, their former holdings became a residential area with small bungalows and low brick terraces. In 1893, the newly established Parks Board bought the site of “Colony Gardens” and developed Victoria Park, one of Winnipeg’s first four public parks. The park was bounded by Amy Street to the west, the Red River to the east, Pacific Avenue to the north and James avenue to the south. With its mature trees and views, it was thought the most beautiful amusement place in the city at that time. The park served as a meeting place during the Winnipeg General Strike in 1919.

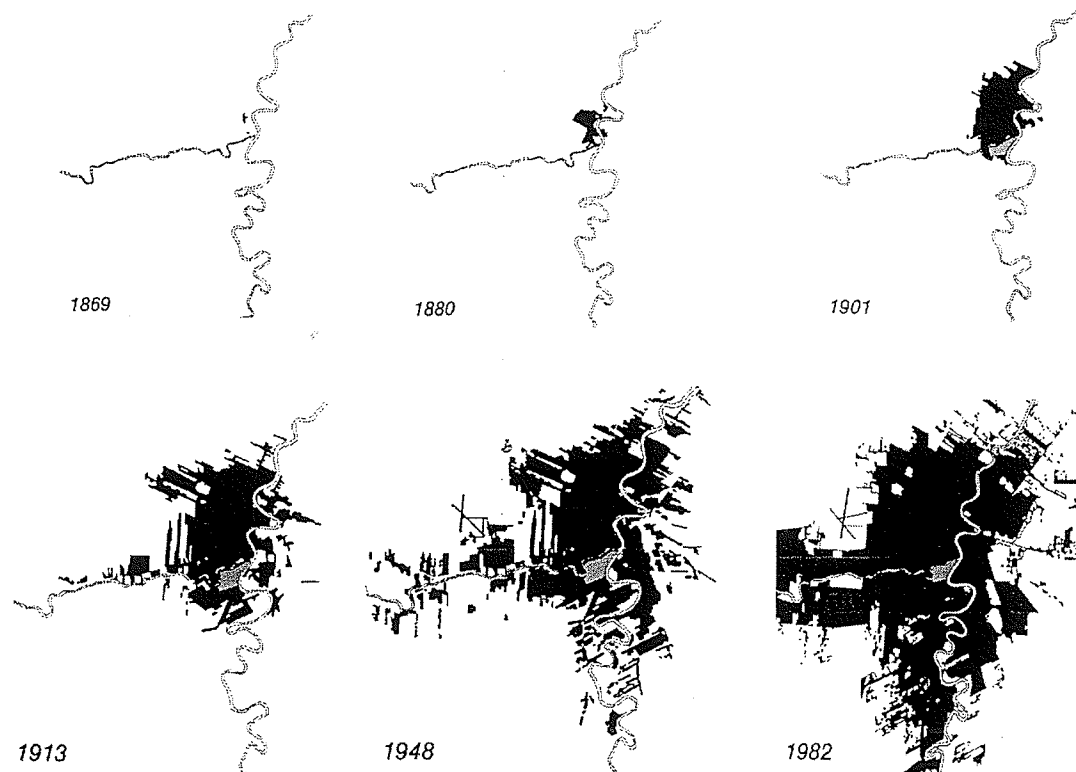


Fig.8: Historic Development of Winnipeg

Source: Faculty of Architecture, University of Manitoba, *Urban Design Studio 1984-85:Fort Rouge*, p.11

In 1906, the construction of a high pressure pumping station on James Avenue, in the southeast corner of Victoria Park, began the decline of the neighborhood and park.

The local residents began to gradually migrate from the area due to the further disruption caused by the installation of a rail line along the riverfront to serve the pump station and the expanding warehouse district to the south. In 1922, the Amy Street Steam Plant was built on the park site, to provide emergency electricity in case of power failure from the two generating plants outside of Winnipeg. Eventually, most of the park disappeared. Rapid growth since the early part of 1900s thus transformed the residential neighborhood into a commercial warehouse and industrial district.

3.2 Physical Characteristics

The preceding section established the historic context of the Alexander Waterfront District. To complement the research, it is important to examine the existing physical conditions and qualities of the AWD. To this end, a site inventory was conducted to gain a better understanding of the current situation regarding the urban context, current land uses and ownership, circulation, heritage features, and general image and visual features. The information gathered provides an objective picture of the AWD. Combined with the later public survey, both provide a solid basis for further situational analysis.

3.2.1 The urban context

The Alexander Waterfront District comprises the East Exchange District and a parcel of land at the southeast portion of the North Main Area. To the west, the AWD neighbors Chinatown and the Civic Center, and to the east is the French Quarter across

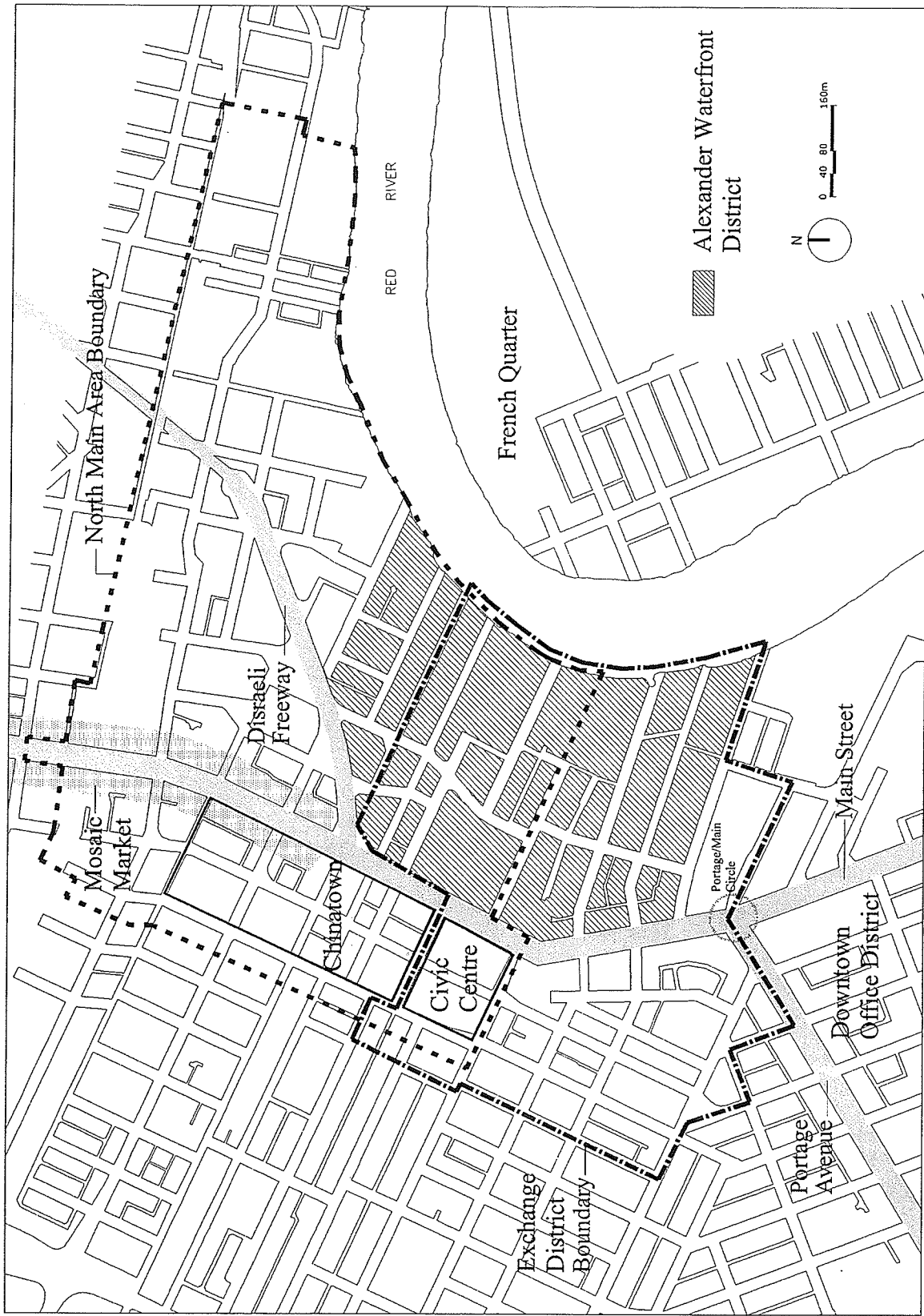


Fig.9: The Alexander Waterfront District surrounding areas.

the Red River. The AWD is just one block away from the famous Portage-Main intersection. (Fig. 9)

A brief examination of the character of its surrounding areas, including the North Main Area, the Exchange District, the Chinatown and the French Quarter, is addressed as follows:

The North Main Area:

The North Main Area is bounded by William Avenue to the south, Higgins Avenue to the north, Princess Street to the west, and the Red River to the east. The area is historically known as Nestawe'ya (Three Points), and it has been frequented by Aboriginal people as far back as 8,500 years ago. "From that time onward, the area has witnessed a succession of aboriginal peoples and their cultures, a process that continues today."⁴² The commercial area along Main Street beginning at the Disraeli Freeway, which is also called Mosaic Market, was one of the first commercial zones established in the late 1800s in Winnipeg. Today, a strong ethnic atmosphere is still apparent with more than 120 businesses located in the neighborhood, including many ethnic restaurants, churches and community services.

The Exchange District:

The Exchange District is a dense urban area consisting of approximately 20 city blocks located in Downtown Winnipeg just north of Portage Avenue. The whole area covers about 0.32 square kilometers. The Exchange District played an essential role in Winnipeg's history. It was once a vital part of Winnipeg's industrial and financial district, at the time when Winnipeg was a railway center in North America and gateway to the West. With the process of de-industrialization and the decline of railway transportation,

⁴² The City of Winnipeg, 1997, *Our Place: North Main Task Force*, page 6.

the warehouse structures in the Exchange District were under-used, resulting in a high vacancy rate. The development boom of the City at the turn of the last century has left a significant collection of intact historic architecture well known for its Chicago Style in the Exchange District. Currently, there are almost 80 municipally designated buildings, 1 provincial designated building, and 5 buildings registered as National Historic Sites in the Exchange District. In 1997, the Exchange



Fig.10: Market Square in the Exchange District.

District was declared a National Historic Site by the Federal Minister of Canadian Heritage for its valuable heritage architecture. Meanwhile, the Exchange District is also famous for its rich artistic and cultural atmosphere. It is the heart of the performing and visual arts community in Winnipeg.

The Chinatown:

The area known as Chinatown was established in 1909 and remains the focus of Chinese culture in the city. It is located between James and Logan Avenues to the west of Main Street. Chinatown offers fine examples of Chinese architecture, and shops selling herbs, spices, Chinese cooking implements and ingredients. The Winnipeg Chinese Cultural and Community Center, in the Dynasty Building, is a center of arts and learning, with many classes and services. The library in the building is the only Chinese library in Manitoba.



Fig.11: Winnipeg Chinatown.

The French Quarter:

Winnipeg's French Quarter, also known as Saint-Boniface, was founded in 1818 by Bishop Provencher, who established the first Roman Catholic mission in the west. The French Quarter is home to the resting place of Louis Riel, Métis leader and one of the founders of the Province of Manitoba. There are over 35 designated historic sites in the French Quarter at present.

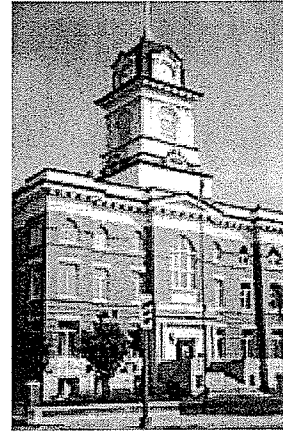


Fig.12: Winnipeg French Quarter.
Source:<http://www.frenchquarterbiz.com>

3.2.2 Current land uses and ownership

There is a considerable diversity of land uses in the Alexander Waterfront District. (Fig.13) One of the most distinguishing land use features of the AWD is that many of Winnipeg's cultural amenities are concentrated there. As well, office uses and a variety of warehouse facilities, with relatively few residential uses, are located in the AWD.

There are a certain number of lands, including the whole riverbank, publicly owned by the city (Fig.14). The Alexander Dock previously owned by the Federal Government, has been transferred to, and is now maintained by the city.

Cultural use:

There are quite a few cultural facilities currently located within the AWD, including the Centennial Concert Hall, the Museum of Man and Nature, the Planetarium, the Manitoba Theater Center, the MTC Warehouse Theater, the Pantages Theater, the Ukrainian Cultural Center and the Royal Winnipeg Ballet Workshop.

Commercial use:

There are a certain number of commercial uses existing in the AWD at present. Most of them are restaurants and bars, which are usually located on the ground floors of the buildings in the southern part of the AWD along McDermott Avenue and Rorie Street, with easy access for people working and living in and around the AWD.

Greenery open space:

There are a few green open spaces in the AWD. They are mainly along the riverfront, which consists of Stephen Juba Park along the water's edge from Lombard Avenue to James Avenue. The park was named for Winnipeg's longest-serving mayor and opened in 1984. At the northern end of the park, there is the Alexander Dock currently providing waterbus cruise service on the Red River.

Industrial use:

With the removal of the railway along the riverfront, and the shutdown of the high-pressure pumping station, the Amy Street Steam Plant, and the riverside water intake structure, industrial uses are mainly occupied by warehouses, which are currently concentrated in the northern part of the AWD.

Office use:

Office uses are mainly located in the southern part of the AWD, along Main Street and Lombard Avenue. They accommodate various kinds of business, government offices and banks, and most of which are situated in the historic buildings, such as the Porter Building, Inland Revenue Warehouse, Grain Exchange Building, Great-West Life Building, Union Trust Tower, and the Bank of Hamilton.

Parking use:

There are currently two parkades located within the AWD. The remaining stalls are outdoor surface parking. According to a statistic by the Planning Department of the city, there are 425 stalls in the two parkades, which is a little bit less than half of the 985 outdoor surface stalls. Parking is generally perceived as sufficient in the AWD. Parking problems only occur at certain peak times when concurrent events take place at the cultural centers in the AWD.

Residential use:

Although historically the AWD was a residential neighborhood, there are only a few old houses still existing in the AWD today. Most of these houses are located on the northern edge of the AWD, generally in very poor condition. Ashdown Warehouse, a historic building located on Bannatyne Avenue, was recently converted to residential use by the Prairie Housing Co-op. The Co-op has been pursuing plans to turn more of the historic buildings into residences in the future.

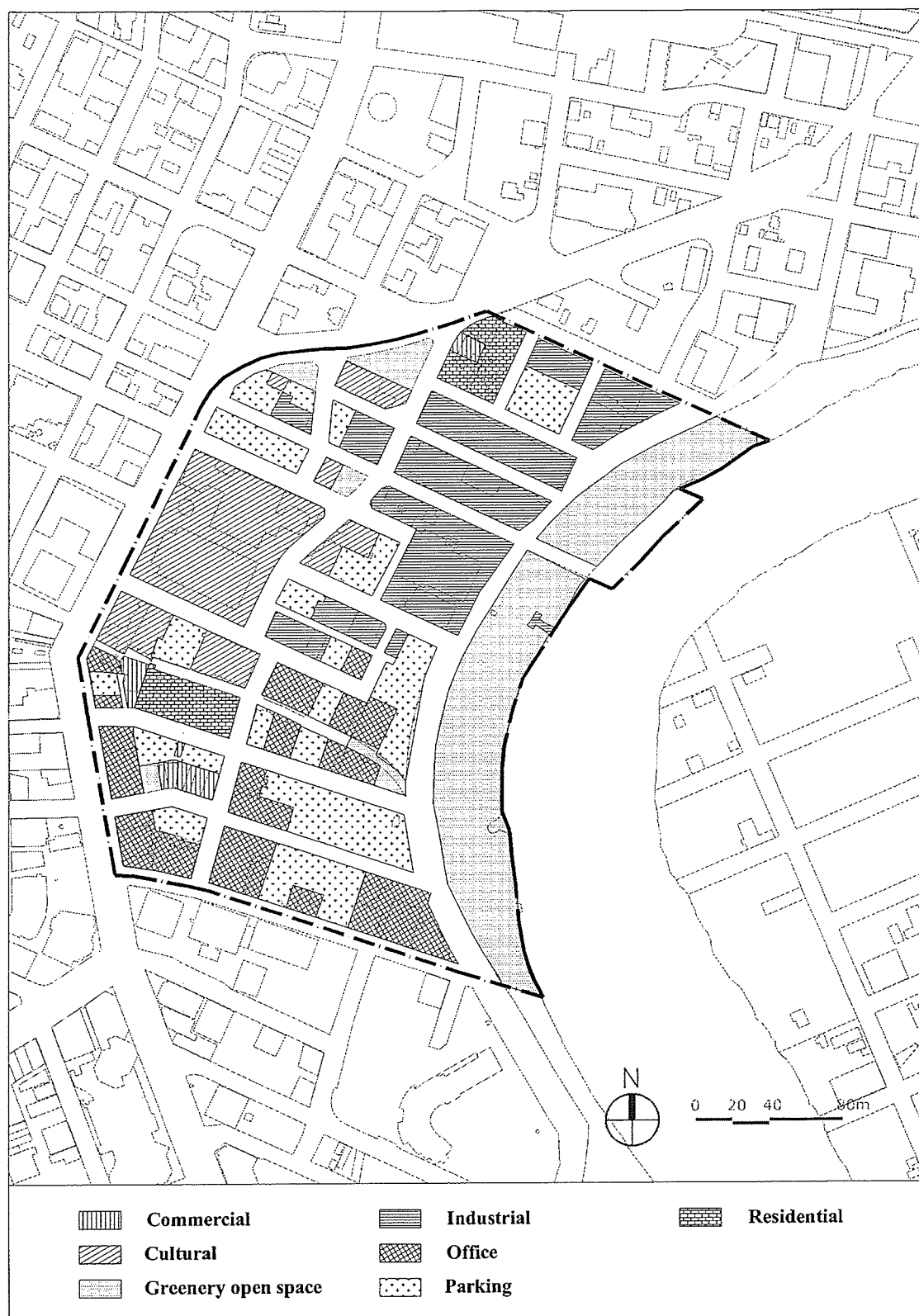


Fig.13: Current land use in the Alexander Waterfront District⁴³

⁴³ According to the site inventory and the "Prospectus" regarding the AWD, produced by the Environment Planning Department, and provided by Martin Sandhurst, senior planner of Planning and Land Use Division, Property & Development Department, the City of Winnipeg, page4-5.

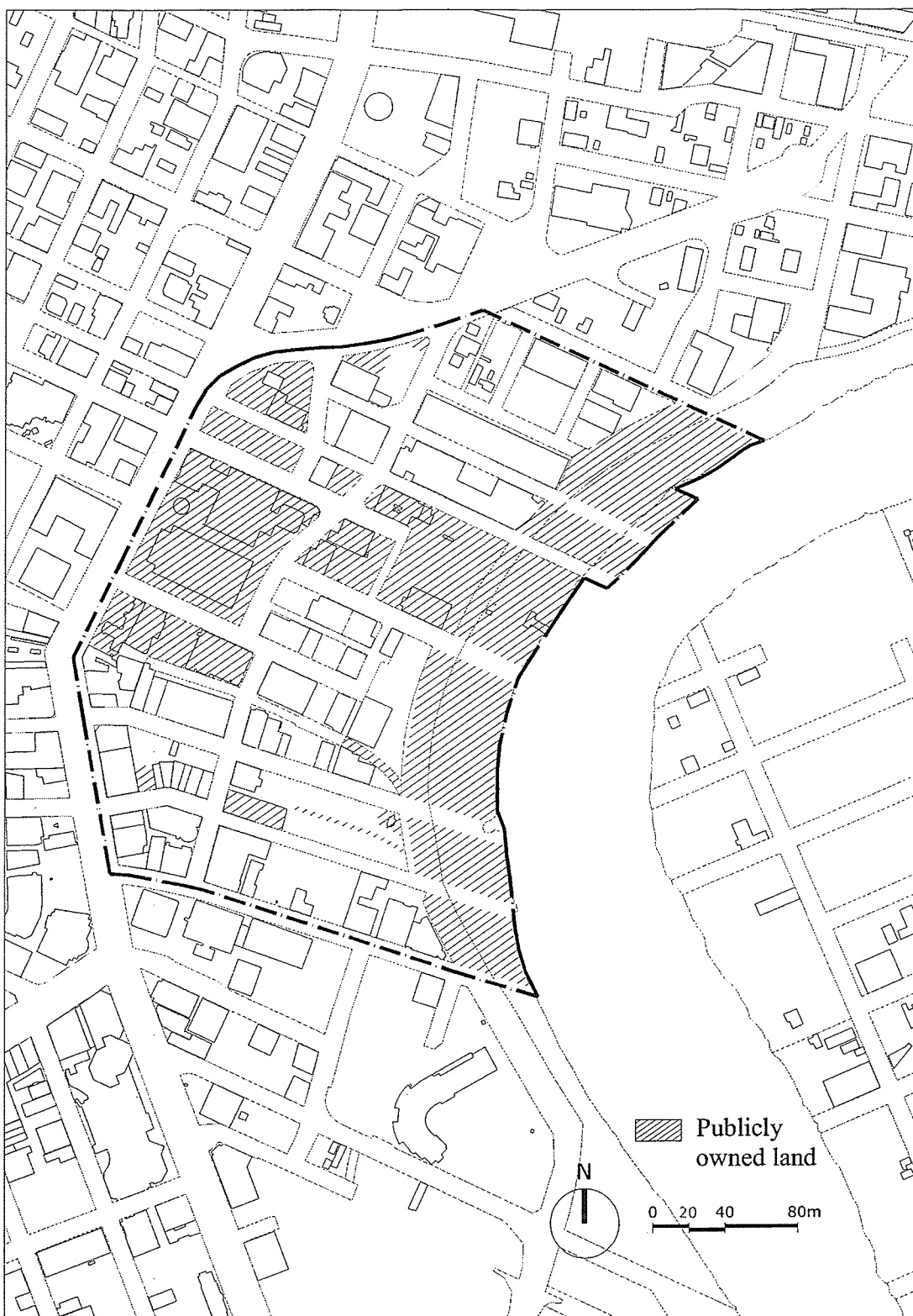


Fig.14: Current public landownership in the Alexander Waterfront District⁴⁴

⁴⁴ According to the "Prospectus" regarding the AWD, produced by the Environment Planning Department, and provided by Martin Sandhurst, senior planner of Planning and Land Use Division, Property & Development Department, the City of Winnipeg, page6.

3.2.3 Circulation

The AWD is surrounded to the north by Disraeli Freeway and to the west by Main Street, both of which are major traffic arterials in the city. The major access points to the AWD are at Pacific Ave., Rupert Ave., Market Ave. and McDermott Ave. on the Main Street side, and Lily St. and Rorie St..

Most roads within the AWD are two-way, except for parts of McDermott Ave. and Bannatyne Ave. between Main Street and Rorie Street, which are one-way. All the east-west roads within the AWD are dead-ended to the east meeting the riverfront lands. This leads to an unsafe perception, due to less pass-through traffic and few pedestrians. Because of the heavy traffic volume on Main Street, some traffic shifts to Rorie Street and Lily Street, which turns out to be a key south-north traffic corridor within the AWD. The currently under-construction Waterfront Drive from Lombard Avenue to Higgins Avenue should mitigate some of the traffic volume on Rorie Street and Lily Street, resolve the dead-end problem of the east-west roads, and bring greater vitality to the AWD.

The AWD is linked to other parts of the city by eight transit routes – Nos. 21,22,24,28,29,31,58, and 67, which is excellent in term of frequency of service and distribution of routes, although the transit routes within the AWD are limited to around the block of the Museum of Man and Nature and Centennial Concert Hall (Fig. 15).

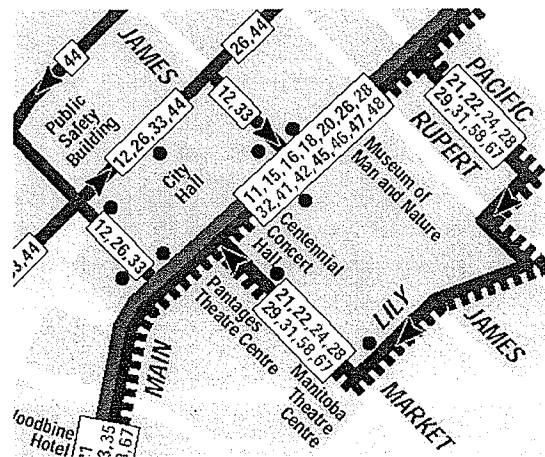


Fig.15: Current public transit in the Alexander Waterfront District.

Source: <http://www.winnipegtransit.com/>

Thus there are still some areas in the AWD that are beyond the five-minute walking distance to bus stops, which in turn limits public accessibility to the AWD.

Most of the streets have sidewalks; however, pedestrian circulation is particularly unsatisfactory in the AWD. There are a certain number of pedestrian uses around the Centennial Concert Hall, the Manitoba Theater Center and Pantages Theater during performance times, and on the walkway along the Red River in Stephen Juba Park during lunchtime in summer.

3.2.4 Heritage features

Historic buildings:

There are a number of historic buildings located in the AWD. Most buildings were erected from the early 1880s until the First World War, and especially at the turn of the century. This intact collection of warehouses, financial institutions, and towers, known for their Chicago-Style, provides evidence of Winnipeg's boom era and its national importance at the time. According to the Heritage Conservation Department of the City of Winnipeg⁴⁵, there are currently forty-three municipally designated historic buildings, listed under the Building Conservation List and Historic Building Inventory⁴⁶, one provincially designated historic building, and three nationally designated historic

⁴⁵ <http://www.city.winnipeg.mb.ca/ppd/historic/>, November 17, 2001.

⁴⁶ The City of Winnipeg retains and compiles two separate yet complementary listings of heritage buildings: the Buildings Conservation List and the Historical Buildings Inventory. The Buildings Conservation List includes structures that have been declared historic by the City of Winnipeg based on recommendations by the Historical Buildings Committee. Historical Buildings Inventory has been compiled including commercial, educational, financial, public, religious, residential, and miscellaneous structures, in order to assess the overall scope of heritage conservation in Winnipeg. The Inventory is a listing of buildings which have not been formally researched and evaluated, but which may have architectural or historical significance. Buildings on the Inventory can be viewed therefore, as possible candidates for inclusion on the Buildings Conservation List.

buildings, located in the AWD (Fig.16). For the full list of the designated historic buildings, see Appendix A.

Other heritage sites:

1. Victoria Park:

Victoria Park, built on the former site of Victoria and Colony Gardens at the foot of James Avenue facing the Red River, is one of Winnipeg's first four public parks. The Parks Board of the City purchased this land from the Ross family in 1893, and opened the Park in the following year. The Park was thought the most beautiful amusement place in the city at that time, for its formal style with shady walkways, sectioned flowerbeds, rustic wooden benches and a bandstand for summer concerts⁴⁷. It was also the site of several critical meetings during the Winnipeg General Strike in 1919. In 1906, the construction of a high pressure pumping station on James Avenue cut off the southeast corner of Victoria Park, and the construction of the Amy Street Stream Plant later in 1922 led to the eventual disappearance of the Park.

2. Ross House:

Ross House, built with hand-hewn squared logs in the style known as Red River Frame, was constructed at the foot of Market Avenue in 1852 by William Ross who became the first postmaster of the settlement in 1855. The House served as the first post office of the settlement at that time. Later, it was saved from demolition by the Manitoba Historical Society and relocated to Joe Zuken Heritage Park in Point Douglas (west side of Meade Street between Sutherland and Euclid Avenues) in 1948. It now serves as a small museum.

⁴⁷ City of Winnipeg, 1997, *Our Place: North Main Task Force*, page 21.

3. Alexander Dock:

The history of the Dock can be traced back to the early twentieth century. It was once the main loading facilities for the local warehouses. It was also used by Lake Winnipeg fishermen to sell fresh water fish on summer weekends. It now serves as one of the waterbus stops on the Red and Assiniboine River, connecting with other Downtown destinations including Promenade Tache, the Forks Historic Port, the Manitoba Legislative Building, Osborne Village and Corydon Ave. BIZ. Paddlewheel River Rouge Tours has recently relocated its operations to the Alexander Dock, providing river sightseeing service.

4. The Scots Monument:

This 18-foot high monument is located just north of Alexander Dock, at the site of the original Fort Douglas - the log fort erected by the Selkirk Settlers in 1815. It is dedicated to Thomas Douglas, the fifth Earl of Selkirk and marks the historical origins of Manitoba as a European settled territory. It also honors people of Scottish origin and their descendants who settled in the provinces, territories and districts of Canada. The monument follows the form of a thistle, and is created in bronze, limestone and stainless steel. The story and names of the Selkirk Settlers are inscribed on the monument, and it is surrounded by stonework in which are imbedded stones from parishes of all parts of Scotland.⁴⁸

5. John Hirsch Place:

This is a lane located in the block between Bannatyne Ave. and Market Ave. close to the riverfront. It was once the site of a historic creek flowing to the Red River, and

⁴⁸ See <http://www.geocities.com/Heartland/Village/1479/historic.html> & <http://www.city.winnipeg.mb.ca/interhom/sightsnsound/historicsites.htm#salvationarmy>, December 29, 2001.

later a spur railway line. It was beautifully streetscaped in 1988 to honor John Hirsch, the dynamic stage director who founded the Manitoba Theater Center.

3.2.5 General image and visual features

The general image and visual features of the AWD were analyzed according to the aspects of paths, edges, districts, nodes, and landmarks (Fig. 17). According to Lynch⁴⁹, paths are the channels along which the observer customarily, occasionally, or potentially moves; edges are the linear elements not used or considered as paths by the observer, which may be barriers, more or less penetrable, or may be seams, lines along which two regions are related and joined together; districts, defined by Lynch are the medium to large sections of the city, but here more refer to a two-dimensional area, which are recognizable as having some common and identifying character; nodes are points, the strategic spots in a city into which an observer can enter and which are the intensive foci to and from which he is traveling; and landmarks are another type of point-reference, which are viewed as external and the observer does not enter within them.

The image and visual types identified in Fig. 17 are relative, and may occasionally shift from each other with a different viewing circumstance. For instance, the water intake building on the water's edge is treated as a landmark, probably only when being viewed from the river. In addition, a roadway, such as Lily Street, may be viewed as a path for the driver but an edge for the pedestrian. Therefore, this analysis is subjective and is not intended to be definitive, but is a way to identify existing elements that may potentially be altered or maintained in a positive way in a future intervention.

⁴⁹ Lynch, Kevin, 1960, *The Image of the City*, The MIT Press, Cambridge, page 47.

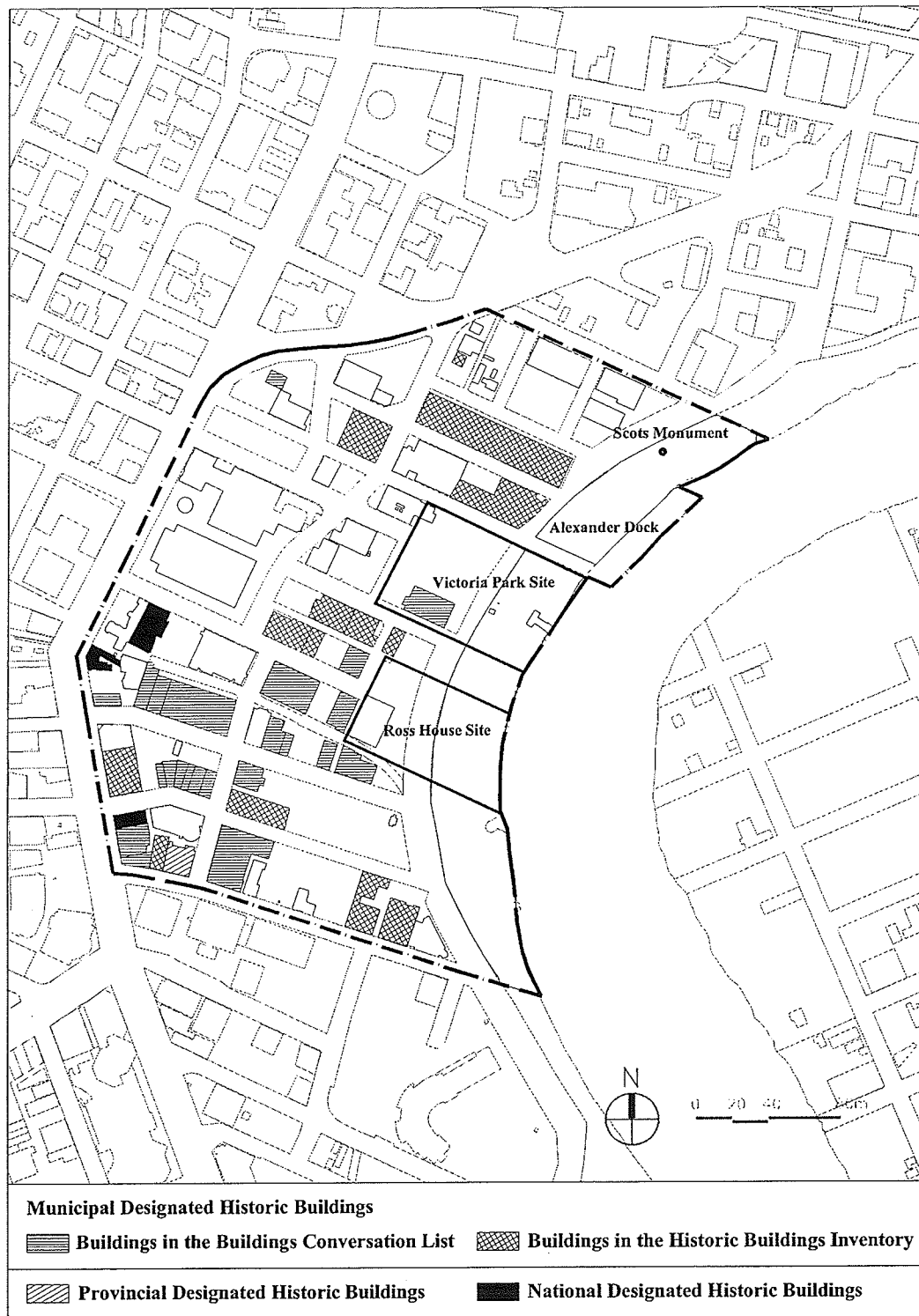


Fig. 16: Historic buildings and heritage sites in the Alexander Waterfront District⁵⁰

⁵⁰ The map regarding the historic buildings in the Alexander Waterfront District was produced, according to the City of Winnipeg's website: <http://www.city.winnipeg.mb.ca/ppd/historic/>, and the "Prospectus" regarding the Alexander Waterfront District, produced by the Environment Planning Department, and provided by Martin Sandhurst, senior planner of Planning and Land Use Division, Property & Development Department, the City of Winnipeg, page2.

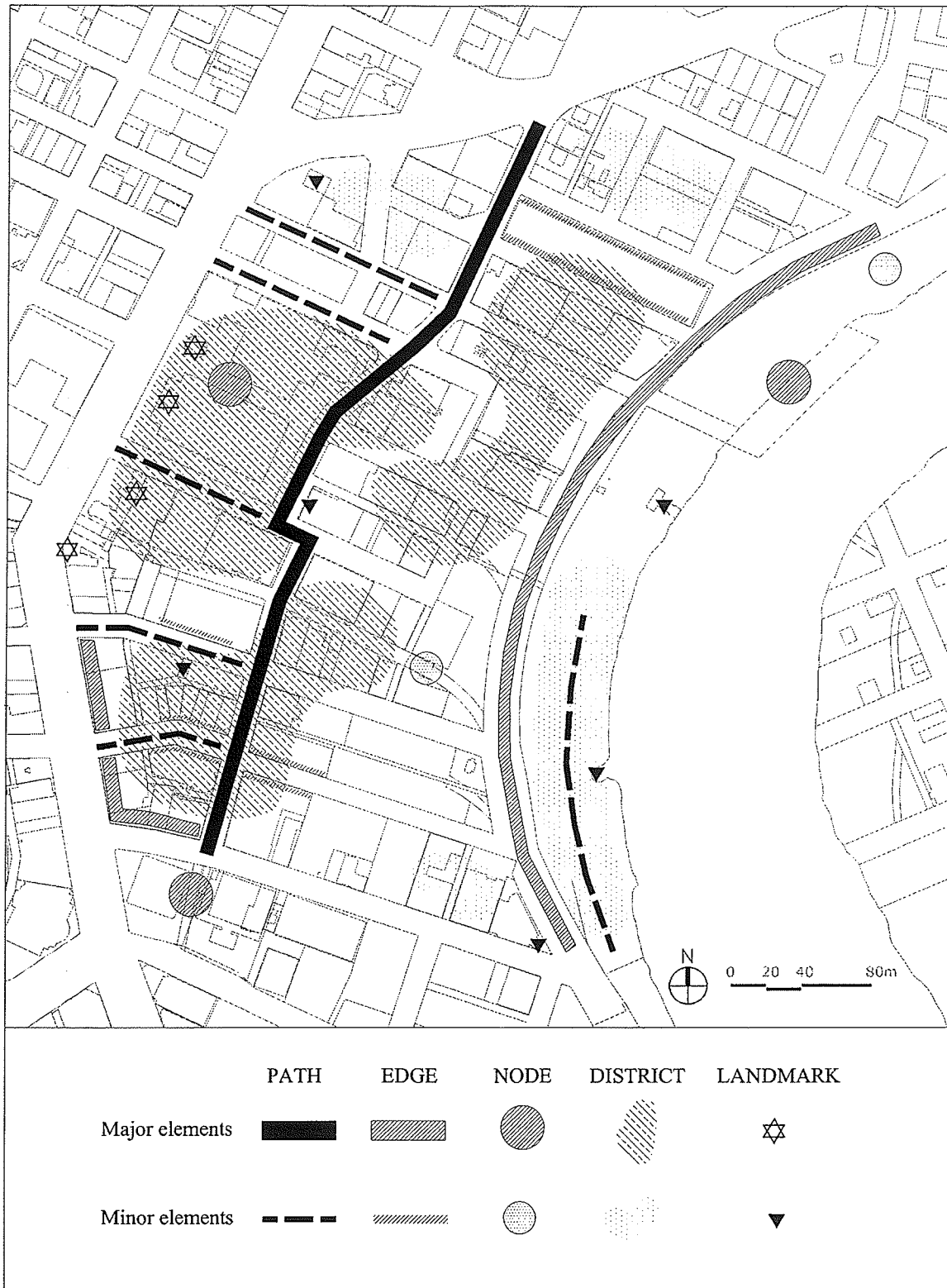


Fig.17: General image and visual features of the Alexander Waterfront District.

3.2.6 Summary

The examination of the physical characteristics of the AWD provides a general profile of the AWD. The unique features of the AWD in general and the particular characteristics of the surrounding urban context are those that distinguish this area from others of the city. This investigation, combined with the following analyses, offers a basis for the development of the design strategy for the AWD.

3.3 Demographic Condition

The demographic census is neighborhood-based. The Alexander Waterfront District is partially included in the Old Financial District and the Main Street North neighborhood (Fig.18). Therefore, the examination of the AWD demographic condition is based on the demographic analysis of these two neighborhoods – the Main Street North and the Old Financial District.

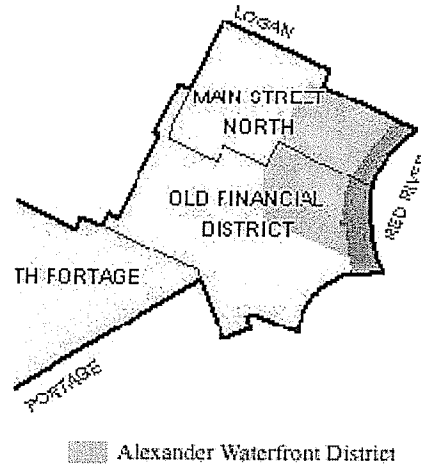


Fig.18: Neighborhood boundary for demographic census.

Source:

<http://www.city.winnipeg.mb.ca/Census1996/pages/danielmcintyre.htm>

Shaded area for the Alexander Waterfront District is added.

3.3.1 Demographic condition in the Main Street North⁵¹

The 1996 census showed that there were a total of 475 residents officially living in Main Street North. This population was a sharp decrease, by 43.1%, from the 835 recorded in 1991 census. The residents aged from 20 to 29 comprised the majority of the

⁵¹ According to *Winnipeg Neighborhood Profiles: Main Street North 1996 Census Data*, Statistics Canada. The recent 2001 census data at neighborhood level will be formulated in May 2003 by Statistics Canada.

population, 24.2%. People aged 75 or greater ranked second at 17.2%. The third largest age group living in the neighborhood was those less than five years old, which took up 8.1% of the total population. There was a very high ratio of visible minorities living in the neighborhood, 90.3% of the total. The educational level and employment ratio of the population were markedly lower than the average of the city. The population having an education of less than Grade 9 took up 43.2%, and the employment ratio was only 38%. The area was perceived as a low-income neighborhood, since 50% households had an annual income ranging from \$10,000 to \$19,999. All the dwelling tenures within the neighborhood were rented. The mobility ratio in the 1996 census was as high as 61.5% within a five-year period.

3.3.2 Demographic condition in the Old Financial District⁵²

The 1996 census showed that there were only 240 residents officially living in the Old Financial District, which was a 17% population increase compared to that in 1991. The majority of the population was aged from 25 to 54, which accounted for 90%. The high ratio of well-educated and employed population was one of the demographic features of the neighborhood. Nearly half of the residents had a university degree - much higher than the 15.1% citywide. The employment ratio is 80.5% - almost 20 percentage points higher than that of the city. The household income data was not shown in the 1996 census. Another demographic feature of the neighborhood was reflected in the lower ratio of the visible minorities, which only accounted for 4.7% of the total. However, the mobility ratio in the neighborhood was surprisingly high. There are 38.1% of the

⁵² According to *Winnipeg Neighborhood Profiles: Old Financial District 1996 Census Data*, Statistics Canada. The recent 2001 census data at neighborhood level will be formulated in May 2003 by Statistics Canada.

residents having moved within the last one year and 85% within the last five years, versus only 16.1% and 43.9% of the city respectively. In terms of the dwelling tenures, 56.5% of dwellings were rented.

3.3.3 Summary

A comparison of the demographic situation of the two neighborhoods reveals the contrasting characteristic of the two neighborhoods (Table 1). Main Street North can be summarized as having a high ratio of youth and elderly population, visible minority population, and low education level, low employment and low-income population. The Old Financial District looks much more vibrant by displaying totally different features on these aspects. More importantly, the population in the Old Financial District has been increasing in recent years, in comparison to the sharp population loss in Main Street North. Both neighborhoods show a high ratio of mobility in the 1996 census, which may be attributed to their still-immature living, working and business environment, especially in the Old Financial District whose demographics reflect the fact that it has a high number of self-employed people. The increasing population in the Old Financial District demonstrates the potential vibrancy of the neighborhood. It is possible to take advantage of the growth in the Old Finance District to influence and stimulate the development of its neighbor, Main Street North.

The analysis of these two neighborhoods provides the demographic context of the Alexander Waterfront District. As existing residential use and stable resident population is very limited in the AWD, the preceding analysis of the two neighborhoods might not

represent the demographic situation of the AWD wholly and precisely. However, this analysis can inform a projection of the demographic condition of the AWD.

	Main Street North	Old Financial District	City of Winnipeg
Population change from 1991 to 1996	-43.1%	+17%	+0.5%
Age range of major population	20-29 yrs, at 24.2% >75 yrs, at 17.2%	25-54 yrs, at 90%	Evenly distributed
Ratio of visible minorities	90.3%	4.7%	11.9%
Education level of major population	Less than Grade 9, at 43.2%	University degree, at 50%	Grade 9-12 without secondary certificate, at 26%
Employment ratio	38%	80.5%	61.1%
Annual income range of major households	\$10,000-\$19,999, at 50%	Not available	\$10,000-\$19,999, at 17%
Dwelling tenures	100% rented	56.5% rented	38%
Mobility ratio within the last five years	61.5%	85%	43.9%

Table 1: A comparison of the 1996 demographic situations in Main Street North and Old Financial District⁵³

⁵³ According to *Winnipeg Neighborhood Profiles: Main Street North and Old Financial District 1996 Census Data*, Statistics Canada. The recent 2001 census data at neighborhood level will be formulated in May 2003 by Statistics Canada.

Chapter Four

Evaluation of Previous and Ongoing Development Projects regarding the Alexander Waterfront District

4.1 Background

4.1.1 Previous and Ongoing Development Projects

With the closing of the pumping station and Amy Street Steam Plant, the Alexander Waterfront District has undergone numerous changes in the last few decades. In 1967, the Concert Hall, Planetarium, and the Museum of Man and Nature were built in the AWD to commemorate Canada's centennial. A range of cultural facilities was developed later, such as Manitoba Theater Center in 1970, Winnipeg Children's Museum in 1986⁵⁴, and the MTC Warehouse Theater upgrading in 1989. They have helped to gradually turn the AWD into a cultural hub. The late 1980s was a peak period of other redevelopment projects, ranging from streetscaping to warehouse conversions, that have occurred in the AWD, including the Market Ave. Streetscaping in 1987, Ashdown Warehouse Residential Conversion in 1988, John Hirsch Place Project in 1988, Rorie St. Streetscaping and Pantages Theater Renovation in 1990. (Fig.19).

As the Alexander Waterfront District is part of the East Exchange District and part of the North Main Area, it is necessary to examine the development initiatives in these wider areas.

⁵⁴ Winnipeg Children's Museum was relocated to the Forks in 1993.

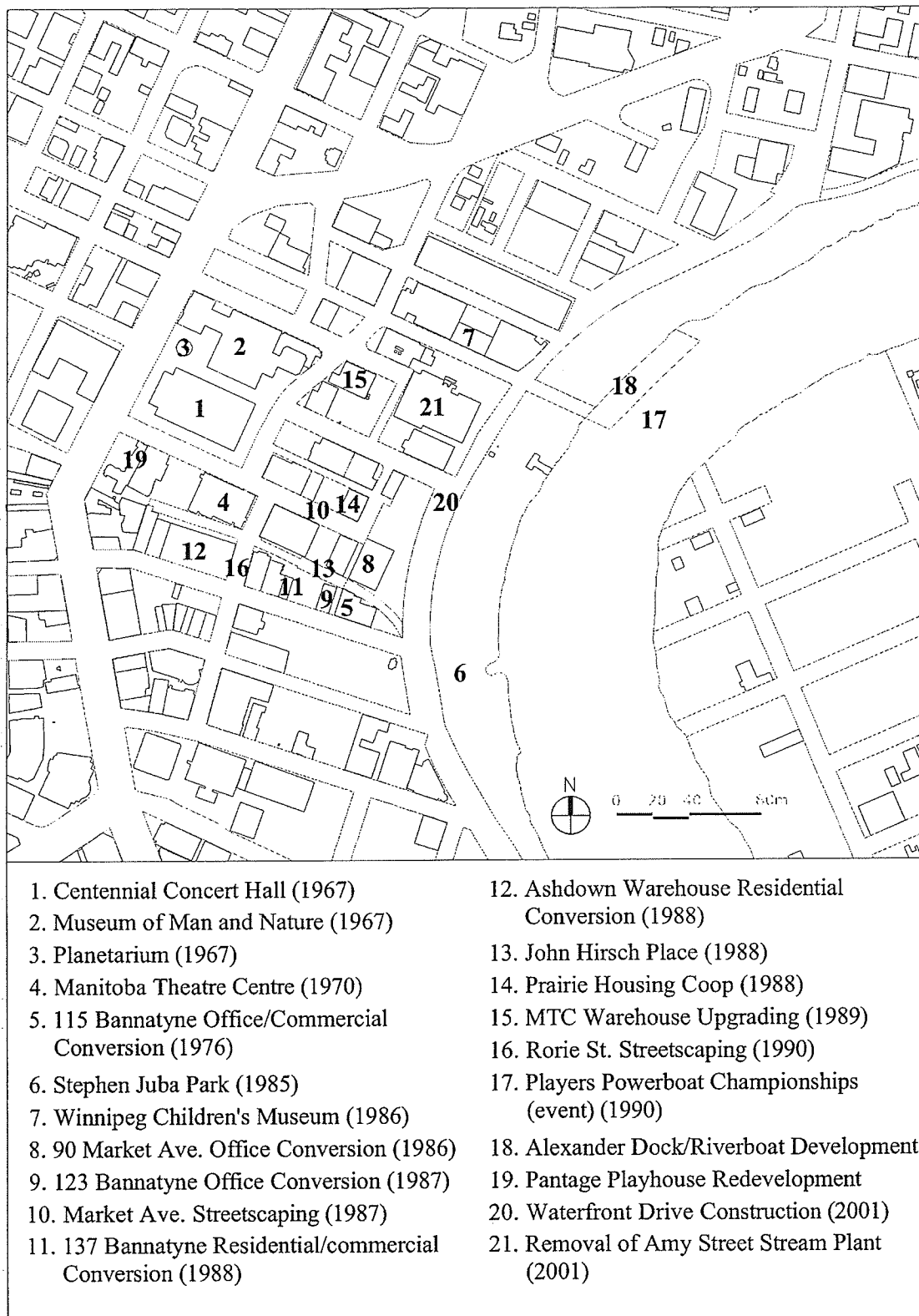


Fig.19: Previous and ongoing development projects in the Alexander Waterfront District: 2002⁵⁵

⁵⁵ Adapted from the "Prospectus" regarding the AWD, produced by the Environment Planning Department, and provided by Martin Sandhurst, senior planner of Planning and Land Use Division, Property & Development Department, the City of Winnipeg, page3.

For the Exchange District, a number of initiatives have been launched in the last few decades. These have included a series of by-laws established for the conservation and preservation of historic buildings since 1977, such as the Historic Buildings By-Law and the Downtown Winnipeg Zoning By-Law⁵⁶. In addition, a range of redevelopment strategies for the Exchange District have been pursued and renewed every five years, through the Winnipeg Core Area Initiative launched in 1981. In 1996, the Exchange District Strategic Action Plan was established. Four development goals were adopted and eight corresponding action strategies were set up (Table 2).

For the North Main Area, the most important initiative is the North Main Task Force set up in 1997, in which a series of issues was covered encompassing the development of Neeginan, commercial development along Main Street, and housing, cultural and social development. The development strategies and plans related to the AWD included the redevelopment of Victoria Park, renovation of the Manitoba Museum of Man and Nature, expansion of the Ukrainian Cultural and Educational Center, development of a Scottish Cultural Center, and housing development.⁵⁷

Recent development efforts have included the renovation of the riverbank in the AWD, under the Riverbank Development Program⁵⁸ administered by the City of Winnipeg, which was introduced in 1997 under the Winnipeg Development Agreement. The focus of this program is to extend the riverbank walkway from the Forks to the Alexander Dock area, and then further to North Point Douglas. \$1.5 million in funding

⁵⁶ Planning Department, 1991, *Heritage Conservation – Regulatory Overview*, the City of Winnipeg.

⁵⁷ The City of Winnipeg, 1997, *Our Place: North Main Task Force*, page43-44.

⁵⁸ The City of Winnipeg, 1997, *Our Place: North Main Task Force*, page29. & <http://www.wda.mb.ca/news/990812.html> December 29, 2001.

ACTION STRATEGIES	GOALS			
	1 To preserve the architectural character of the exchange District	2 To enhance the Exchange District's vibrancy and sustainability by increasing the number of people in the Exchange.	3 To maintain the Exchange as the focus of artistic and cultural activity in the province	4 To develop a sense of community within the Exchange District
1. Encourage the conversion of older buildings into residential apartments.	P	P	S	P
2. Address issues of safety, access convenience and aesthetics.	S	P	P	P
3. Designate a specific theater-cultural precinct within the Exchange and encourage expanded activities.	S	P	P	S
4. Improve the physical and administrative infrastructure needed to support temporary festivals, special events, and film production.	S	P	P	S
5. Improve access to the riverbank, expand Stephen Juba Park and add recreational facilities.	S	P		P
6. Establish a civic campus within the Exchange.	P	P		
7. Identify and support an artists' quarter within the Exchange.	S	S	P	P
8. Improve linkages between the Exchange District and the downtown, the Forks, St. Boniface and Point Douglas.	S	P		

Table 2: The Exchange District Strategic Action Plan goals and action strategies matrix⁵⁹

P: Denotes an action strategy in a primary role

S: Denotes an action strategy in a secondary role

was checked up to improve pedestrian and bicycle access to the riverbank, and to enhance the riverbank as a recreational and tourism resource.

⁵⁹ Source: The Exchange Partnership & the Exchange Community, (1996), *The Exchange District Strategic Action Plan*, Winnipeg, Exchange District Business Improvement Zone, page 27.

Another significant initiative undertaken in the AWD is the development of Waterfront Drive. Since the removal of the CPR rail line along the waterfront in 1991, plans have been made to introduce a waterfront drive into the AWD. In the Exchange District Strategic Action Plan, an action strategy was included to acquire the CPR rail line and improve access to the riverfront by making pathway connections between the east/west streets and Stephen Juba Park⁶⁰. In the spring of 1999 a Waterfront Committee was formed, as part of CentrePlan, to investigate the potential of developing a scenic waterfront drive following the former railway line along the Red River. In the summer of 2000 CentreVenture Development Corporation developed a concept plan for the Waterfront Drive from the CanWest Global Baseball Park north to Higgins Avenue, under the direction of the City's Department of Public Works. The new two-lane road began construction in the spring of 2001. It is expected to encourage more business, entertainment and residential projects in the AWD, and become one of several key initiatives that will act as a catalyst for the revitalization of the AWD as a whole and the



Fig.20: Waterfront Drive under construction, October 2001.

Downtown at large. As Mayor Glen Murray has said of the project: "We're really not just building a road; we're building a community,"⁶¹ The demolition of the Amy Street Steam Plant in

⁶⁰ The Exchange Partnership & the Exchange Community, 1996, *The Exchange District Strategic Action Plan*, Winnipeg, Exchange District Business Improvement Zone, page21.

⁶¹ See http://www.prairiepublic.org/features/riverwatch/news/winnipeg_press/01-18_01.html December 29, 2001.

December 2001⁶² is expected to aid the development of Waterfront Drive, and to strengthen the area as a destination for waterfront activities.

A wide range of development in recent decades has begun to change the character of the AWD. The AWD's preeminent role in Winnipeg's downtown redevelopment has once again been recognized. An international design competition was held in the early summer of 2002, calling for innovative design of the open space along the waterfront in the AWD. It is virtually certain that the redevelopment of the AWD will stimulate more development opportunities in Winnipeg's downtown.

4.1.2 Recent Public Survey Related to the Alexander Waterfront District⁶³

The proposed Waterfront Drive is located from Canwest Global Park to Higgins Ave., and mostly lies within the boundary of the AWD. At the May 2001 Open House presenting the plans for the Waterfront Drive, the public was invited to complete a questionnaire expressing their views on the project's character, plans, and environmental effects, as well as seeking suggestions for the development of the lands on both sides of the road. The results cannot be claimed to be a representative sample of the general public, but they provide more of an impressionistic or snapshot view.

The questionnaire included seven questions (see Appendix B). Regarding the proposed character of Waterfront Drive, 86% of respondents thought its character was consistent with the historic Exchange District, and 78% of respondents were satisfied with the design and extent of the pathway for the combined use of pedestrians, rollerbladers, wheelchairs, strollers and recreational bicyclists.

⁶² O'Brien, David, 2001, "The Beast is Coming Down", in *Winnipeg Free Press*, December 5, 2001.

⁶³ Survey result was provided by KGS Group, and prepared by Thibert Event & Associated management (TEAM), June 2001.

In terms of suggestions for recreational activities and amenities designed for the riverfront park, the most frequently mentioned items were picnic shelters/tables/BBQ pits, boat/taxi docking, stands/kiosks for buskers/artists/vendors, and festivals/programming.

Regarding the suggestions for building uses along the west side of Waterfront Drive (most of which are within the AWD's boundary), 57% of respondents suggested residential, 52% restaurants, 36% bars and entertainment facilities. 29% sidewalk café/pastry shops/small unique boutique retail, and 22% office space.

Regarding suggestions for attracting people to the waterfront on weekends and evenings, the most popular suggestion was free concerts/festivals/entertainment by 30% of respondents; 27% believed that general mixed-use development would attract users; and 14% indicated aesthetic landscaping with proper maintenance.

When asked for their views on possible environmental effects of the project, the majority of respondents (55.5%) did not feel it would have any environmental effects; 18.5% felt the project would have negative effects; and 23% did not provide a response. For those feeling negative effects, most were concerned with the destruction of green space and riverbank vegetation, exhaust fumes and traffic noise, and riverbank destabilization.

In summary, the feedback on the project plans, both regarding character and design, was quite positive. Overall, respondents felt that a mixed-use development of the adjacent lands would be best, with a heavy emphasis on residential development. General activity and free programming/entertainment, with small-scale vendors and kiosks, and adequate security and parking, were seen as key elements for attracting high levels of users to the waterfront on weekends and evenings. There was substantial support for

emphasizing the natural environment (green space), offering pleasant landscaping, and minimizing emphasis on the actual drive and accompanying traffic.

4.2 Evaluation of Previous and Ongoing Development Projects

4.2.1 Research Method and Preparation

As a component of this research, a semi-structured interview instrument was administered to evaluate the effects of the earlier and ongoing development projects discussed previously, and to probe informants' concerns regarding future development of the AWD. Eight key informants were interviewed individually. The sample comprised:

- Two professionals (planner and landscape architect) previously involved in development projects in the AWD
- Two potential developers of the AWD
- Two persons working in the AWD
- One restaurant owner in the AWD
- One frequent user of the AWD

Before each interview, an informed consent form (see Appendix D), requesting interview participation and summarizing the intended use of the information, was given to the interviewees. Each interview was recorded by audiotape, supplemented by written notes. An interview was taped only if permission was granted, and a transcription was made. After being transcribed, the original tape was destroyed.

The results of the interviews are presented in the following section. The interviews were conducive in achieving the final design framework for the AWD.

4.2.2 Interview Responses from Key Informants

Prior to the interviews, the respondents received a brief introduction to the practicum topic, the boundary map of the Alexander Waterfront District, and a list of interview questions. Respondents were encouraged to answer the questions from their professional as well as personal points of view. The responses to the questions are presented as follows:

1. Since the developments of Centennial Concert Hall and Museum of Man and Nature in 1967, there have been a number of projects carried out in the AWD, ranging from cultural facilities developments such as Manitoba Theatre Centre, Children's Museum and MTC Warehouse Upgrading, to historic building conversion such as Ashdown Warehouse, from streetscaping improvement on Market Av. and Rorie St. to the construction of Stephen Juba Park. On the other hand, there are still many industrial facilities remaining and very little stable living population in the AWD. People are concerned about the safety of that area.

Question 1: What's your general feeling about these projects?

Question 2: Do you think the AWD has become more attractive to people at present compared to the time before these projects were done?

Almost all the informants confirmed the vital importance of these projects to the AWD. As they said, these projects have played a crucial role in the development of the AWD by enriching it culturally and socially. Without these projects, the AWD would be a slum. On the other hand, some informants pointed out that as the cultural facilities and activities run only during the business hours; the 24 hours a day 7 days a week public interest in the AWD has been lost. Some felt that there was no sense of neighborhood in the AWD, and that the AWD should be developed as a mixed-use area with sufficient residents living in the immediate vicinity to sustain a vibrant atmosphere rather than just in the duration of the show.

2. Currently there are very few residential uses and stable living population in the AWD.

Question 3: Do you prefer residential development in the AWD, such as residential reuse of historic building?

Question 4: If yes, what do you think would be incentives to attract people to live in the AWD?

Question 5: What kind of people do you think will live there?

All the informants supported the residential development in the AWD. They thought an increased residential population would likely lessen the crime now occurring and increase safety in the area. In addition, an increase in residential opportunities in the AWD would also increase services and businesses, thereby turning the AWD, typically considered a “dead zone” after business hours, into a thriving and lively community. In terms of the reuse of historic buildings, many informants thought affordability was the most crucial issue, although it was considered a constructive initiative. They reported that high-costs, such as the Ashdown Warehouse condos, has actually deterred many individuals who were interested in living in the AWD.

Regarding incentives for living in the AWD, most informants ranked affordable housing first. They commented that the residential development should be affordable for people having different incomes and family sizes. To achieve this end, some informants would like to see capital grants from government for residential development in the AWD. One informant stated that rent controls should be removed, so that the cost of rental outside of downtown would be as high as it should be. Also, many informants mentioned that sufficient community services, grocery stores, local shopping centers, and so on, would be crucial to attract people to live there. One informant thought the incentives should be applied to the builders rather than the potential residents, reasoning that if the business community had confidence in the grants and project funding they would have no problem investing a large amount of dollars in residential development there. Another

point raised was that a comprehensive plan was necessary to avoid scattered residential development in the AWD.

Many informants thought that young professionals working in the downtown, working singles, some “empty nester” families, and post-secondary students, such as those attending the Red River College downtown campus, would like to live in the AWD. Two informants working in the AWD expressed their interest to live there, as it would save transportation costs. They hoped that the AWD could be a community featuring a mix of cultures and generations. The residents there could be a mixture of people of different ages, families of different sizes, university students, young professionals, and so on.

3. The surrounding area of the AWD, such as North Main, has a high ratio of aboriginal and immigrant population, and is perceived as a low-income and deteriorated neighborhood. Meanwhile, the expansion of Ukrainian Cultural and Educational Center and development of Scottish Cultural Center have been proposed in the AWD.

Question 6: Do you think multi-culture could be a feature of the AWD?

Question 7: If yes, what effects do you think this will have on the revitalization of the AWD?

Question 8: Are there any barriers so far for multi-culturalism development of the AWD?

Some informants thought that multi-culturalism could be a feature and gave the AWD a distinct flavor that would potentially help improve and create more interest in the area. They further suggested that this aspect could be used to assist and lever development through community involvement, and attract businesses to the AWD that could serve a multi-cultural population. One informant thought that multi-culturalism didn't play as important a role as it once did in the area, although it was a good aspect. She thought there were significant historical reasons for why people moved to a certain region, especially since Winnipeg no longer attracted large immigration populations, and

people tended to choose where they wanted to live based on a broader knowledge of the city, and no longer restricted by precedence.

4. The Riverbank Development Program under the Winnipeg Development Agreement is intended to extend the parkway from the Forks to the Alexander Dock and further to North Point Douglas. This should be good for the revitalization of the AWD. Meanwhile, some people have expressed their concerns for safety in the public space.

Question 9: What do you think of this concern?

Question 10: How to make the riverfront parkway work best?

All the informants thought the development of the parkway would have positive effects on the AWD, and serve to open up the area to public interest. One informant added that developing and increasing access into an area, via a path or parkway, where most people didn't usually go, would create a spark of interest in that area, and more importantly, it would help to increase safety and security in the area. He further suggested that it was a gradual approach to reintroducing some of Winnipeg's significant locations to Winnipeggers, without having full-blown development in that area. Once public interest was generated in the area, people would be encouraged to develop businesses and housing there. Some informants doubted that people would use the park until the whole atmosphere and the character of the AWD changed in a more positive direction. They suggested more housing and restaurants be developed along the parkway, so that more people would use it, and then safety would not be a concern. Some informants mentioned that safety features, such as good lighting, should be added along the parkway. Another informant commented that creating safety could not always be answered by "pure design", and that politicians, businessmen and, more importantly, people needed to invest in and stand behind their neighborhoods.

5. A recent survey during the Waterfront Drive Open House showed that many people favored this development. While some people were worried the traffic on

the Waterfront Drive would be a barrier to access the waterfront, and some argued that it should be built after the commercial and residential development got underway.

Question 11: Are you satisfied with the development of Waterfront Drive?

Question 12: What do you think about these concerns?

Question 13: To what degree do you think Waterfront Drive will be conducive to the revitalization of the AWD?

Informants generally favored the Waterfront Drive project, as they thought it would actually stimulate public interest and increase public access to the waterfront. One informant suggested "points of interest" along the Drive to identify this part of the city to the general population, who likely have never previously known of its existence. There was only one informant who thought that Waterfront Drive was not necessary. She thought the emphasis should have been placed on pedestrian traffic rather than vehicular because, after all, she added, people felt safer when the streets were lively, not from the amount of traffic passing through. Waterfront Drive concerned some informants who stated that some measures should be taken to prevent through-traffic and slow down vehicles, as it could create a short cut from Provencher Bridge to Higgins. All informants believed that Waterfront Drive should be built before commercial and residential development in the AWD, since nobody would be interested in the current vacant lands until access improved.

6. The city has begun to demolish the Amy Street Stream Plant in December 2001.

Question 14: What kind of usage do you prefer for the site of the Amy Street Steam Plant after its demolition?

Question 15: Many people think about parking on the site, and some think about having a new park to commemorate Victoria Park. What's your opinion?

Informants' opinions on this issue varied. Some supported the idea to re-build Victoria Park, as acknowledging our past, but also pointed to the need to revitalize the area with people and businesses. It was also thought to be good for tourism, by promoting

the city as an interesting place to visit. Others argued that there were already many parkland uses along the waterfront, and that an additional park was not needed if there were no residents living in the AWD. They thought a housing development, hotel or entertainment facility would be more practical. One informant responded “just let the market tell”, doubting another park would be an economic stimulus, and suggesting that it would be better to have buildings to produce taxes to support the infrastructure in the area. Another informant pointed out that the surrounding lands have continued to be used as parking lots, although Steven Juba Park was built in 1980, demonstrating that adding another park wouldn’t contribute much.

Question 16: What single thing concerns you most about the future of the Alexander Waterfront District?

Some informants expressed concern that the development ought to have a good balance between commercial, residential and public amenity spaces, and the residential development should not be too upscale nor too expensive to deny families or students with low income. The AWD could then be kept open to the public, and developed more “inclusively”. One informant was concerned about how to provide the interest, to obtain and maintain the critical mass of people at a level where the AWD could truly become a people place such as the Forks. A people place, he explained, was where people desired to go - not just needed to go, in order to fulfill some necessary goals, such as shopping. Some informants were concerned about the fiscal aspect of the development. One emphasized how to attract investment. Another said there should be some funding system or incentives in place, to lessen the burden of building, or converting some of the old structures in the AWD. One informant said that what concerned him most was the

bureaucracy, as he thought the planning department of the city was (lagging) behind the development instead of promoting it. Another commented that the planning of the AWD should be looked at on a larger scale, with the entire City in mind, rather than just a specific area.

4.3 Summary

Through the examination of previous and ongoing projects in the AWD, associated with the investigation of the physical and demographic conditions stated in the preceding chapter, it is determined that the AWD has been invisibly divided into two areas, in the south - the East Exchange District, and in the north - the North Main Area. There have been more development projects in the southern part of the AWD, and less in the northern part, which has deepened the gap between the two parts of the AWD.

The past and current development projects are generally perceived to contribute to the growth of the AWD. However, the supposed positive effects on the whole District have somehow been limited because of the aforementioned internal separation, as well as the lack of a comprehensive master plan for the AWD in particular. Waterfront Drive, routed through the AWD and connecting the southern and northern parts, plays a leading role in the recent redevelopment trend. In addition, residential use, which is very deficient at present, has been widely perceived as a priority development focus for the AWD, among most the key informants interviewed.

This evaluation of previous and ongoing projects in the AWD provides part of the basis for undertaking the SWOT analysis, addressed in the following chapter.

Chapter Five

A SWOT Analysis of the Alexander Waterfront District

SWOT analysis, as an analytical method, has its origins in business management⁶⁴. When it is utilized to analyze an area of the built environment, strengths (S) and weaknesses (W) refer to the internal working conditions, while opportunities (O) and threats (T) refer to the external working forces on a particular area, which may have impacts on its development.

The SWOT analysis for the Alexander Waterfront District undertaken here is based on the investigation of the historic and existing situation of the AWD, and the evaluation of previous and ongoing projects, addressed in Chapter Three and Four respectively. The strengths and weaknesses, opportunities and threats identified, as well as the informants' views on this analysis are listed as follows. The analysis is intended to assist in formulating possible design strategies for the intervention proposed in Chapter Six.

5.1 District Strengths and Weaknesses, and Input from the Informants

Strengths:

- Part of the AWD overlaps with the East Exchange District – a National Historic Site
- Rich historic and cultural resources exist in the AWD, including the Chicago-style historic buildings, and heritage sites such as the Alexander Dock and the Scots Monument
- Concentration of cultural facilities, including the Centennial Concert Hall, the Museum of Man and Nature, the Planetarium, and the Manitoba Theater Center

⁶⁴ See Mintzberg, Henry, 1994, *The Rise and Fall of Strategic Planning*, Toronto, Free Press, page36-37.

- Strategic location, being proximate to the downtown office district, the Civic Center, Chinatown and the Forks, and adjacent to major traffic arterials of the city, including Disraeli Freeway and Main Street
- Sufficient greenery open space along the water's edge, such as the establishment of Stephen Juba Park
- Sufficient under-utilized lands available for future development
- Existing waterbus connections from the Alexander Dock to five other downtown destinations
- Compact urban form and personal street width-height ratio in the AWD
- Decent bars and restaurants in the south portion of the AWD

Weaknesses:

- Very limited residential use at present
- High amount of industrial and warehouse uses, which does not reflect, nor take advantage of, the strategic location of the AWD
- Many vacant lands and buildings, which leave a dull impression
- Limited public access and pedestrian walkways to, and along, the water's edge
- Poor sidewalk conditions for pedestrians
- Old buildings with poor maintenance, adversely affecting the AWD's image
- Dead-end for east-west roads, which increases perception of lack of safety
- Less public uses and surveillance around Stephen Juba Park, which limits its usage
- Private ownership of most lands on the west side of Waterfront Drive, which might be barrier to coordinated development

Input from the Informants

A variety of views regarding the strengths and weaknesses of the AWD were received from the informants. Some informants agreed with the strengths identified, but thought that some of them had not been fully capitalized upon currently, and the identified weaknesses, such as the limited pedestrian access, inappropriate industrial and warehouse uses, limited resident population, and the poor general physical image of the AWD, actively restrained the realization of these strengths. It was pointed out that, although many cultural facilities were concentrated in the AWD, and it was perceived as a theater district, the active atmosphere carried by these cultural facilities had not spread

to influence the general surroundings. The informants expressed a consensus that these cultural facilities have been serving as isolated nodes in the AWD, where people went just to fulfill the need to watch a performance. Some informants also agreed that the strength which Stephen Juba Park was supposed to bring to the AWD was, ironically, represented as a weakness, because of the lack of other public uses such as restaurants and bars around it, and the park was thus rarely visited in spite of its good location close to the water.

Many informants suggested that any interventions regarding future development in the AWD should take fuller advantage of the existing strengths, which had been offset or even overwhelmed by the present weaknesses.

5.2 District Opportunities and Threats, and Input from the Informants

Opportunities:

- Development opportunities for multi-culturalism, as the AWD is adjacent to North Main aboriginal community and Chinatown, as well as accommodating the Ukrainian Cultural Center and the Scots Monument
- Development initiatives in neighboring areas undertaken in recent years, such as the heritage interpretation strategy and cultural tourism development in the Exchange District, North Main Task Force initiatives, etc.
- Relevant historic building preservation by-laws and regulations established in recent decades, encouraging the recycling of historic buildings for residential/office uses
- Waterfront Drive, passing through the AWD, is now under construction, which should improve accessibility and bring development opportunities to the AWD
- Riverbank walkways connecting the AWD with other downtown areas have been proposed by the Riverbank Development Program under the Winnipeg Development Agreement
- The incremental population and business growth in the neighboring Old Financial District

Threats:

- Immediately adjacent to the Main Street North neighborhood, which is experiencing population loss and is perceived as a low-income and disadvantaged neighborhood
- Without a comprehensive master plan for the AWD at present
- Perception of safety risk of the AWD among local people and visitors

Input from the Informants

Some informants agreed that Waterfront Drive would provide development opportunities for the AWD, and other developments, such as the newly opened office building, the Wellington West Building, on Waterfront Drive last year, and the first retail business on Waterfront Drive, a 250-seat restaurant opened in March 2002, were demonstrations. However, some of them also argued that Waterfront Drive might be a potential threat to the AWD if certain traffic control measures were not in place, as it actually could provide a shortcut from the Provencher Bridge to Higgins, and more people might choose to drive this route due to the heavy traffic flow on Main. This could eventually turn Waterfront Drive into a traffic corridor, and a barrier to the water edge for pedestrian.

Some informants mentioned the stagnant local economy in Winnipeg could also be a threat, which would indeed bring difficulties to implement the development initiatives, although they had been well-planned. They said Winnipeg was not experiencing the same substantial growth opportunities as Calgary and Edmonton; so financial viability, or self-sufficiency capability, would be crucial for the development in the AWD.

5.3 Summary

The preceding SWOT analysis investigated what is happening inside and outside the AWD. From the input of the informants, it is determined that the strengths and weaknesses, and the opportunities and threats, are interrelated and interactive. Also, there might be some overlap among the four analytical categories. Under certain circumstances, a positive factor categorized as an opportunity might well be also viewed from a negative perspective as a threat. Yet, no matter the perspective a factor is viewed from, its nature is thus indeed displayed. Therefore, the SWOT analysis is an effective tool for dissecting the properties and potentials of a part of the built environment such as the Alexander Waterfront District.

In total, the strengths and weaknesses, and the opportunities and threats identified, calls for future intervention in the AWD to preserve the strengths, add to the opportunities, remove the weaknesses, and keep out the threats⁶⁵. The detailed design strategy for the AWD will be addressed in the following chapter.

⁶⁵ See "PARK" strategy in, Jones, Bernie, 1990, *Neighborhood Planning: A Guide for Citizens and Planners*, Washington, D.C., APA Planners Press, page 81.

Chapter Six

Design Strategy for the Alexander Waterfront District

6.1 Development Goals and Design Strategy Structure

The foregoing investigation and analysis provides a data base and directions for refining the development goals and establishing design strategy for the Alexander Waterfront District. The investigation and analysis indicate that the current isolated situation of the AWD originates from its inappropriate land uses, limited public access, deteriorated general image and unsafe perception among local people and visitors. Therefore, the development goals for the AWD are three-fold: to alter its current isolated situation; to attract people to live, work, shop, play and socialize there; and eventually, to contribute to Winnipeg's Downtown revitalization. To achieve the aforementioned development goals, the design strategy is structured as shown in Fig. 21.

Firstly, the development goals are translated into five design principles. Direct means to achieve the three goals are identified, respectively, from which five design principles are induced (Fig. 22). Based on the design principles, a concrete design concept framework, for comprehensively achieving the development goals, is advanced with three particular components in mind: the built setting, open space and circulation. To support the design concept framework, and to provide a reference for future policy-making and intervention for the AWD, the relevant supportive recommendations, referring especially to the aspects of built setting, open space and circulation, are proposed. The related objectives respond to the five design principles, thus eventually achieving the aforementioned development goals.

Fig. 21: Design strategy structure chart

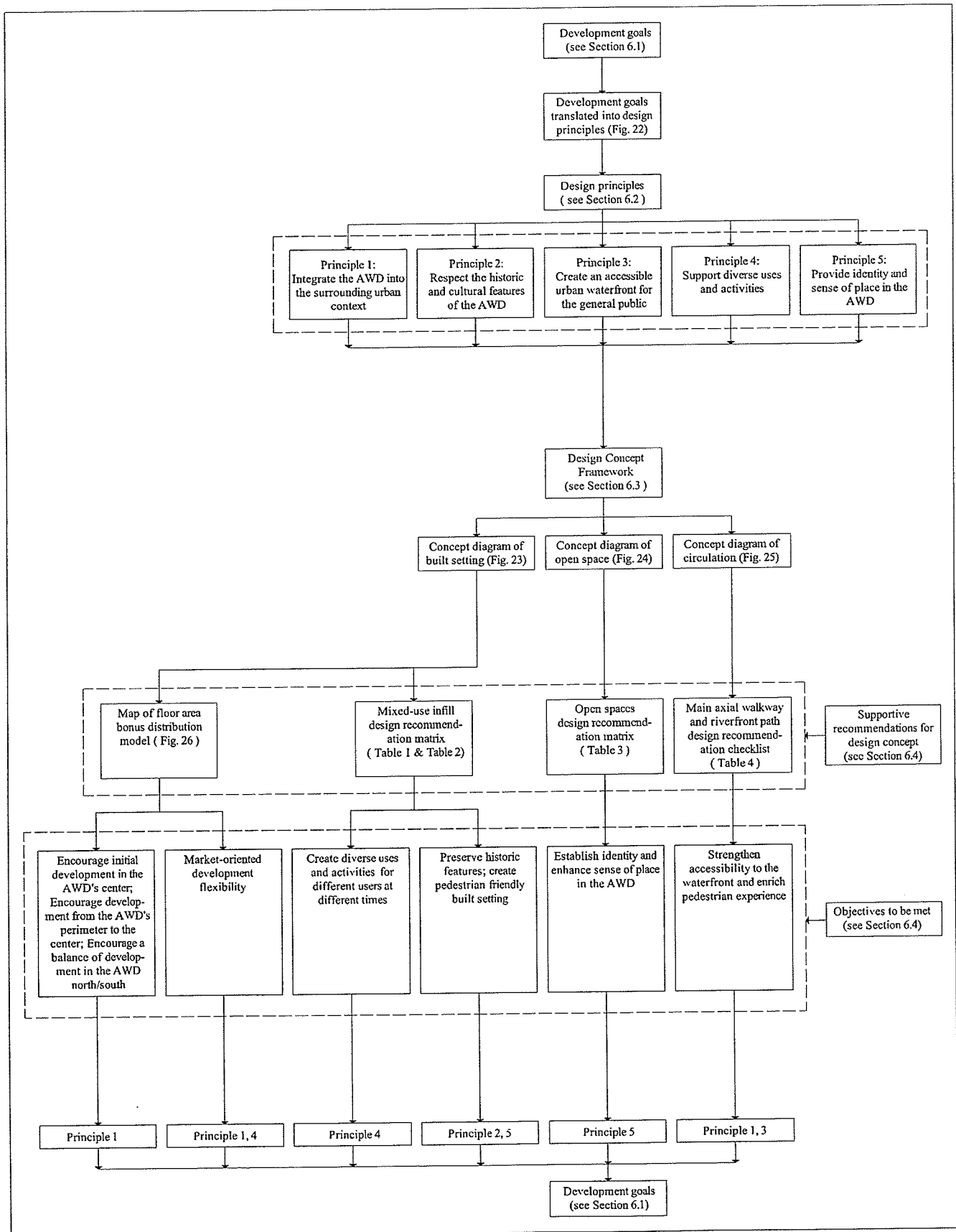
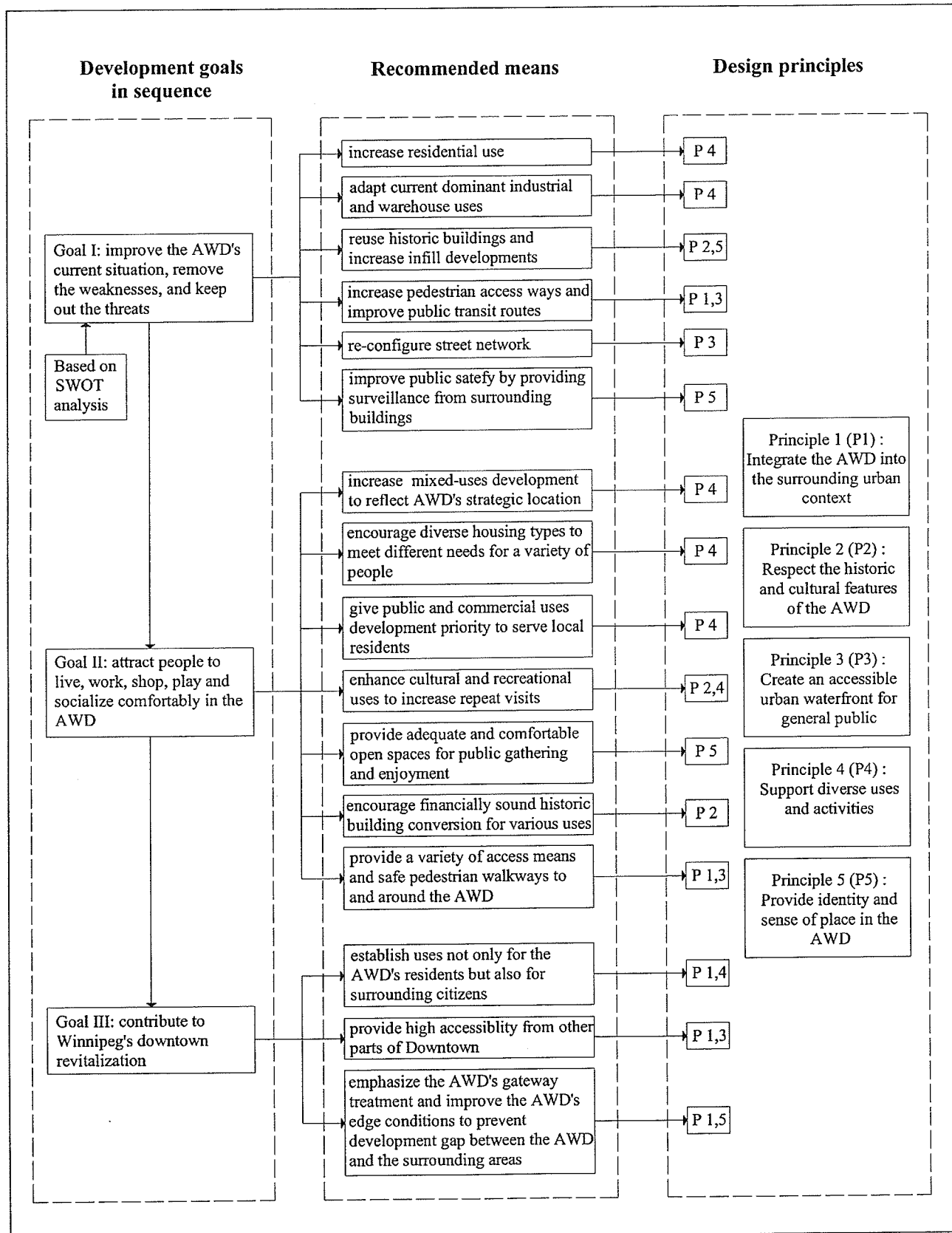


Fig. 22: Development goals translated into design principles



6.2 Design Principles

The development goals are translated into a set of design principles serving as the foundation for the development of a design strategy (Fig.22). The design principles are addressed as follows:

1. Integrate the AWD into the surrounding urban context:

The continuity of the development with its surroundings is necessary for the AWD to become an integral part of the city, and to achieve long-term development success.

2. Respect the historic and cultural features of the AWD:

The heritage assets in the AWD should be maintained and highlighted wherever possible. Opportunities should be taken to allow a sense of history and culture to permeate the AWD, an environment closely connected to the important past of the city.

3. Create an accessible urban waterfront for the general public:

The uniqueness of the AWD, and what distinguishes it from many other areas in the city, is its waterfront location. The physical and visual accessibility to the waterfront, therefore, should be strengthened.

4. Support diverse uses and activities:

Support multiple and diverse uses and activities in the AWD for different users at different times, to contribute to the viability of the AWD.

5. Provide identity and sense of place in the AWD:

The AWD's identity and sense of place come not only from the individual buildings, but also more from the characteristics of its outdoor spaces and streets, and

their relationship to the waterfront. Safety perception among users of these spaces also contributes to the creation of a sense of place.

6.3 Design Concept Framework

The design concept framework consists of three particular components: the built setting, open space and circulation. It is built upon the current characteristics and development initiatives found in the AWD, reflects the design principles proposed, and thus addresses the stated development goals. The design concept addresses the AWD's distinct physical, cultural and historic features through the arrangement of diverse compatible land uses and activities, the reuse of historic buildings and sites, the design of waterfront amenities, and the establishment of pedestrian-friendly open spaces. The concept seeks to ensure close physical, psychological and visual connections between the AWD and its surrounding neighbors, to draw people to the water's edge, and to take full advantage of the unique urban and natural qualities of the area.

The design concept incorporates the notion of urban husbandry, the term used by Gratz in her book *The Living City*⁶⁶. Urban husbandry advocates taking full advantage of existing assets to stimulate a step-by-step rejuvenation, with incremental changes. The design concept for the AWD makes full use of the current resources and existing features. For example, not only the historic architecture but also the existing structurally-sound buildings are proposed to be preserved, and reused adaptively, as much as possible. Also, existing open spaces in the AWD are integrated into the design concept, and their features enhanced by working with proposed new open space. Thus, the design concept aims to achieve an organic development of the AWD that reflects the connection between before

⁶⁶ Gratz, Roberta Brandes, 1990, *The Living City*, Simon & Schuster Inc. New York, page 147.

and after. The existing District assets are capitalized upon as a catalyst to stimulate and promote future development, even in neighboring areas.

The design concept framework references the built setting, open space and circulation, which are illustrated in Fig.23 through Fig.25 respectively. These three components are intended to function together, serving as open-ended guidance for future possible interventions.

6.3.1 Built setting (Fig.23)

The design concept for the built setting carries the theme of mixed-uses, which can encompass residential, office, cultural, recreational, hotel, and commercial uses, among others. It identifies the historic architecture and structurally-sound buildings that need to be preserved and reused. It designates a cultural and recreational use area in the mid-part of the AWD, which is integrated with the existing Concert Hall, Museum and MTC Theater, and which will serve as a development anchor for the AWD. It opens up all other areas in the AWD in terms of land and building uses, as in many cases, the best use for a particular parcel is an outcome of the balance of a variety of factors. But this does not mean that planning and design control measures are not needed in mixed-use areas. Some specific supportive recommendations are proposed in the following section to provide guidance for this design concept. Meanwhile, in the design concept, prior locations for public use at ground level, and recommended corner locations for commercial use at ground level, are identified for developers when they are considering mixed-use development proposals.

6.3.2 Open space (Fig.24)

The open space design concept is focused on attracting people to come, stay and be entertained in the places created. Gateway places on the edge of the AWD are identified to function as attractions, drawing people in. Three key activity places are designated along the waterfront park, combined with the cultural and recreational use area, the existing water edge amphi-theater, and the historic Alexander Dock. These places serve as activity nodes with multiple uses to create more “optional activities”⁶⁷, and to enrich pedestrian experience along the waterfront park. An axial connection place, between the gateway place and key activity place in the cultural and recreational use area, is identified, to unconsciously lead people down to the water edge.

6.3.3 Circulation (Fig.25)

The circulation design concept is pedestrian-oriented. An axial pedestrian walkway is proposed and integrated with the connection place in the cultural and recreational use area leading down to the waterfront park, and connected to the riverfront pedestrian path. The riverfront path links three key activity places, and also connects the AWD with the Forks to the south and with the North Main Area to the north. A new public transit route is established, to be close to the main pedestrian walkway and waterfront open space. Waterfront Drive is re-configured to limit through-traffic and to enhance pedestrian orientation. Meanwhile, it is still well connected with the whole street network in the AWD, to achieve smooth circulation.

⁶⁷ “Optional activities” is thought to be especially dependent on exterior physical conditions and the major symptom of a good quality physical environment. See Gehl, Jan, 1987, *Life Between Buildings: Using Public Space*, page11-13.

Fig. 23: Concept diagram of built setting

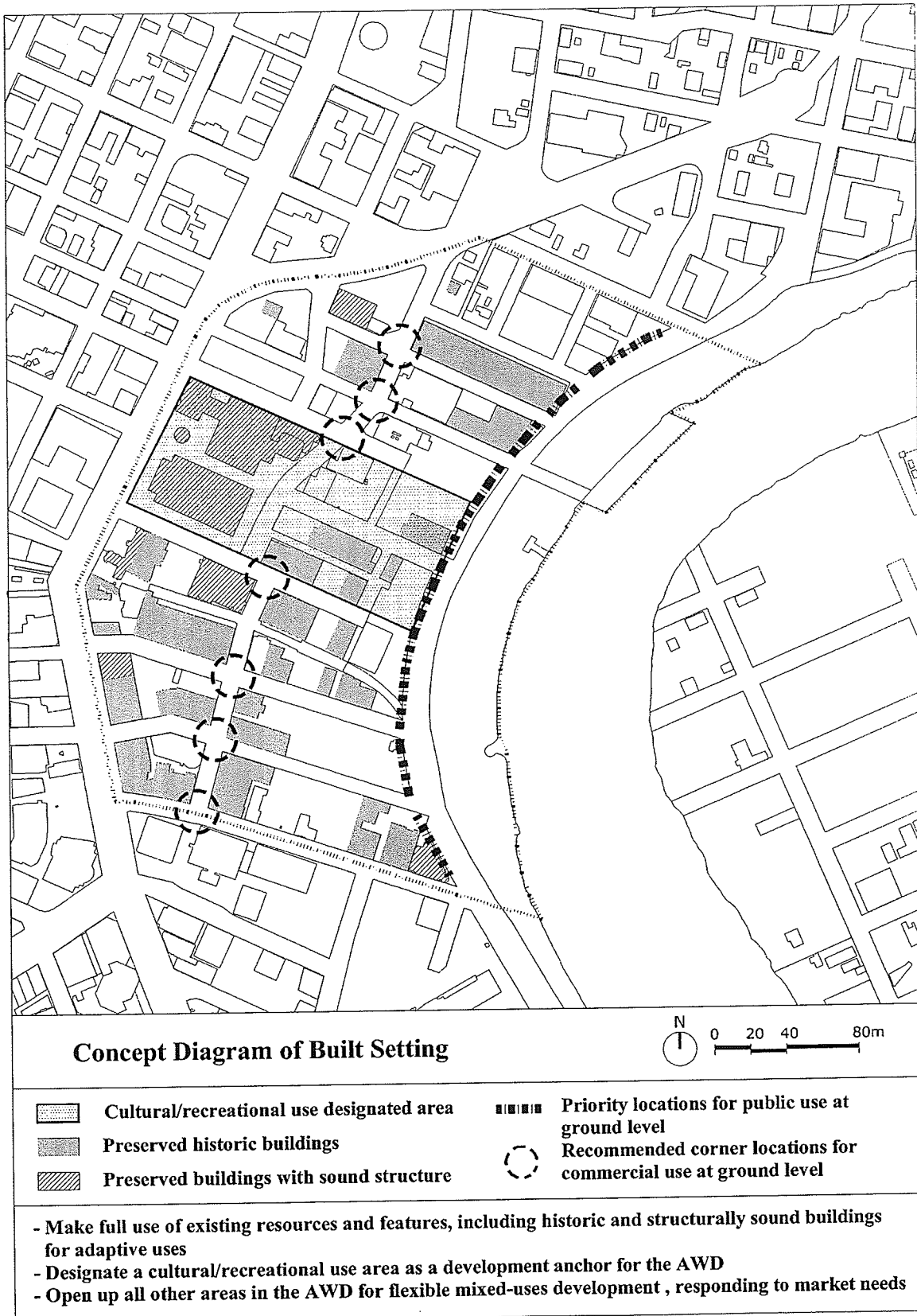


Fig.24. Concept diagram of open space

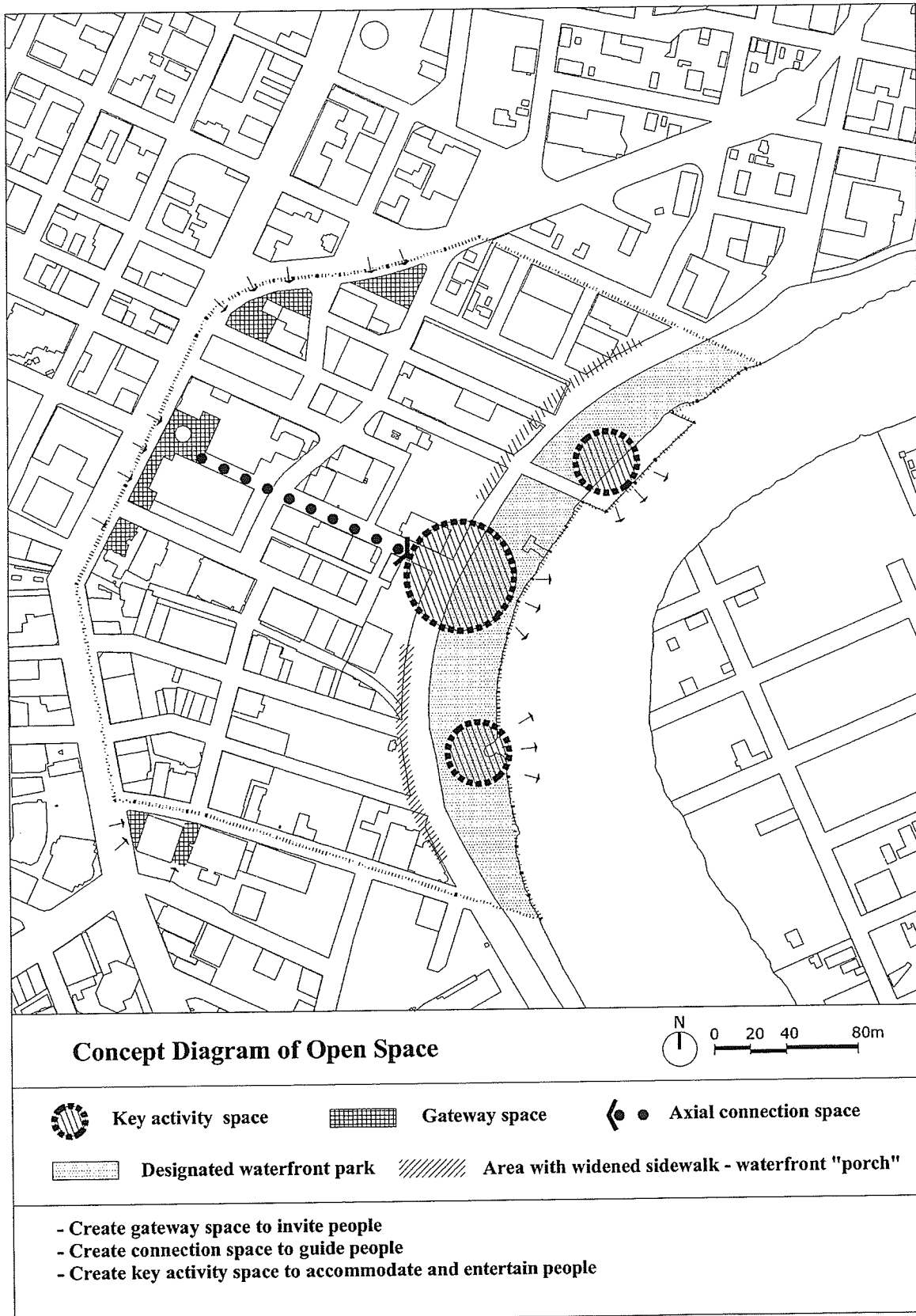
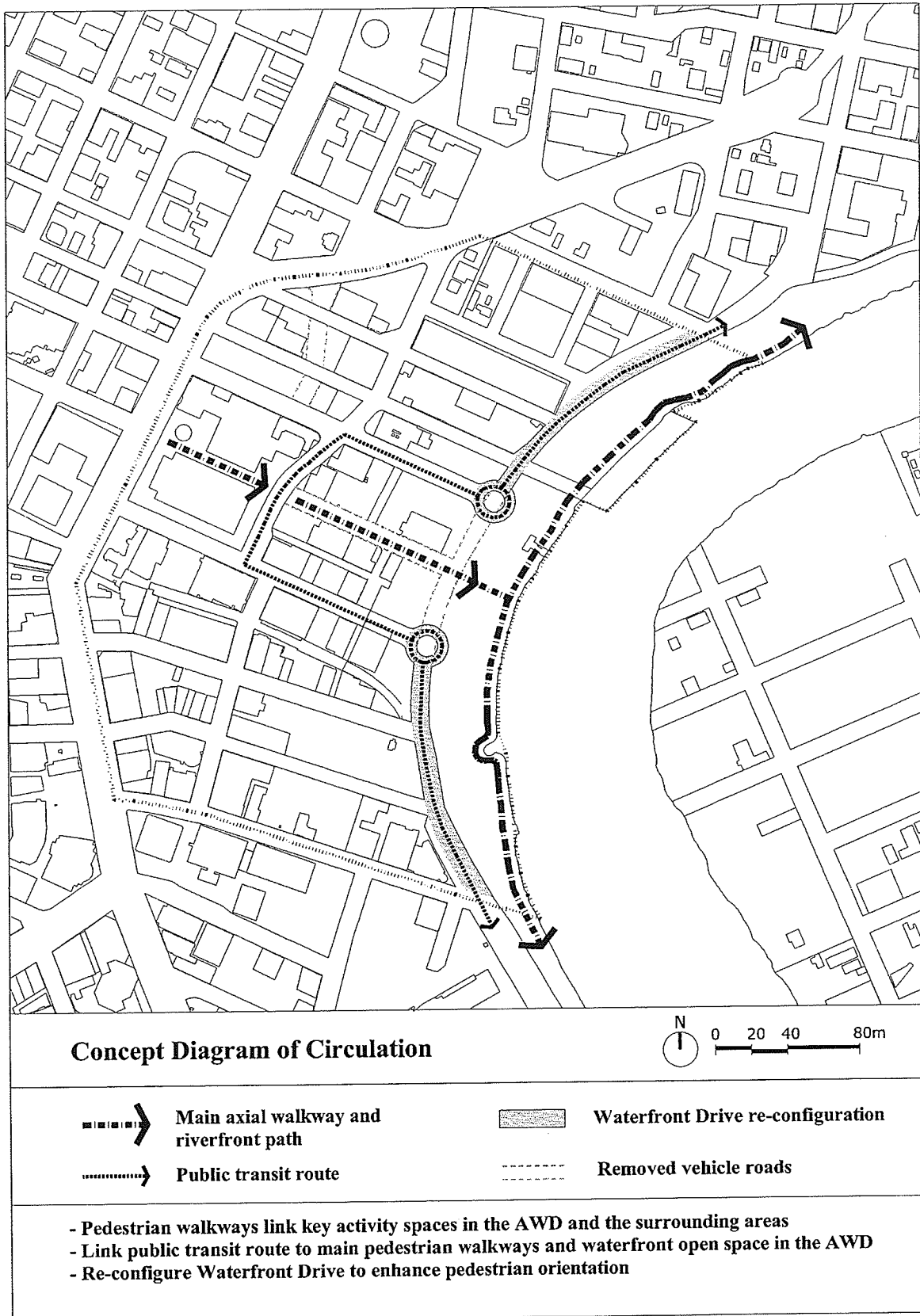


Fig.25. Concept diagram of circulation



6.4 Supportive Recommendations for Design Concept

The relevant recommendations regarding the built setting, open space and circulation, are made to support the design concept, and to provide a reference for future policy-making and interventions for shaping the Alexander Waterfront District.

The proposed recommendations include a Floor Area Bonus Distribution Model (Fig. 26), Mixed-use Infill Design Recommendation Matrix (Table 1 & 2), Open Space Design Recommendation Matrix (Table 3), and Main Axial Walkway and Riverfront Path Design Recommendation Checklist (Table 4). The Floor Area Bonus Distribution Model aims to control mixed-use development to better gear it to changing market needs, and thus to inject more flexibility. The control and adjustment of floor area bonus that provides additional floorspace in return, encourages the initial development in the AWD's center; development from the AWD's perimeter to the center; and a balance of development in the AWD north and south. The Mixed-use Infill Design Recommendation Matrix is introduced to create diverse uses and activities for different users at different times, based on the preservation and reuse of historic, and well-conditioned buildings. Design considerations also favour a sensitive response to streetscape shaping and pedestrian use. The Open Space Design Recommendation Matrix is established to strengthen District identity and enhance sense of place. The Main Axial Walkway and Riverfront Path Design Recommendation Checklist aims to strengthen accessibility to the waterfront and enrich pedestrian experience. The implementation of these recommendations at a more specific and detailed level would fulfill the design principles advanced in the preceding section, and help to eventually achieve the development goals.

Fig.26. Map of floor area bonus distribution model

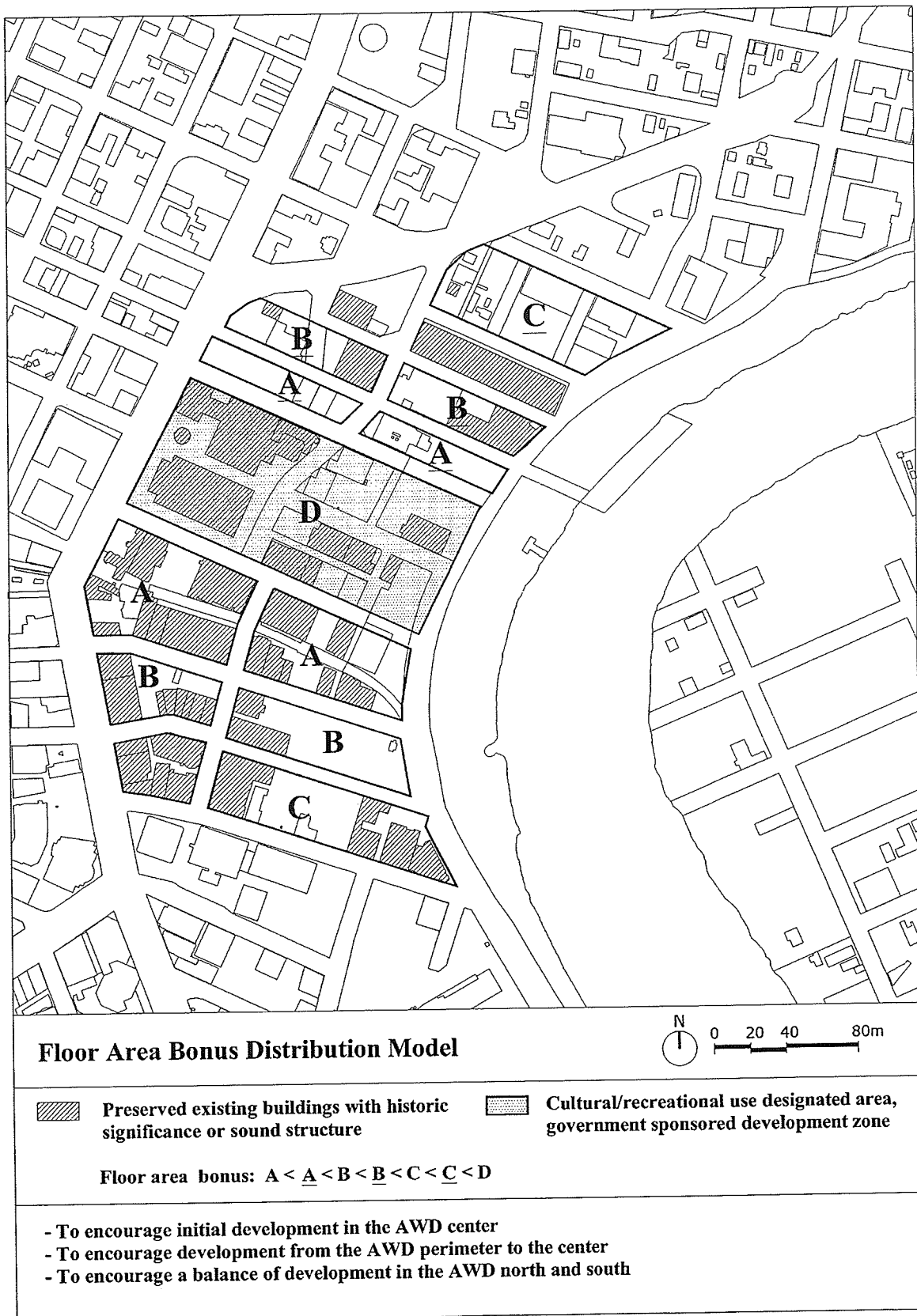


Table 3: Mixed-use infill design recommendation matrix (1)

Preferred location for principal building uses	Residential	Neighboring other residential buildings; Close to community services and commercial uses; Access to waterfront view; Close to major open space
	Office	Neighboring other office buildings; Close to major street for easy vehicle access; Access to waterfront view
	Commercial	Visible location with good exposure; Pedestrian accessible; Close to residential use; At ground level
	Cultural	Good accessibility for both pedestrian and vehicle; Close to major open space
	Recreational	Pedestrian accessible; Close to major open space
	Hotel	Good accessibility for both pedestrian and vehicle; Access to waterfront view
	Parkade	Close to major destinations; Close to major street for easy vehicle access; Away from pedestrian use

Distribution and combination of mixed uses	Mixed-use building pattern	<p>The distribution of mixed uses depends on the nature of a particular use, and the convenience and comfort provided to users. The combination of mixed uses should be compatible with one another.</p> <table><tr><td>4F and up</td><td>office/hotel/residential</td></tr><tr><td>3F</td><td>cultural/office/hotel/residential</td></tr><tr><td>2F</td><td>commercial/cultural/recreational/office/hotel/residential</td></tr><tr><td>1F</td><td>commercial/cultural/recreational/office/hotel</td></tr><tr><td>-1F</td><td>parking/commercial/cultural/recreational</td></tr><tr><td>-2F and below</td><td>parking</td></tr></table>	4F and up	office/hotel/residential	3F	cultural/office/hotel/residential	2F	commercial/cultural/recreational/office/hotel/residential	1F	commercial/cultural/recreational/office/hotel	-1F	parking/commercial/cultural/recreational	-2F and below	parking
	4F and up	office/hotel/residential												
	3F	cultural/office/hotel/residential												
2F	commercial/cultural/recreational/office/hotel/residential													
1F	commercial/cultural/recreational/office/hotel													
-1F	parking/commercial/cultural/recreational													
-2F and below	parking													
Parkade	<p>Parkade should have commercial/recreational use at ground level fronting on street</p> <div><div><div>parking</div><div>parking</div><div>parking</div><div>parking</div></div><div><div>commercial/recreational</div></div><div>Street</div></div>													

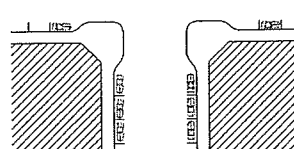
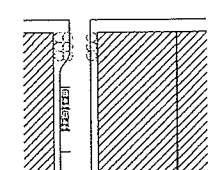
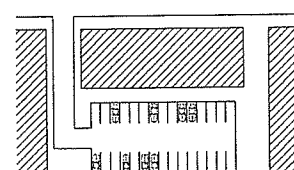
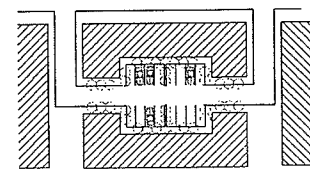
Surface parking patterns	On-street parking around areas having high density of public or commercial uses	Parking on the side of building, with landscape treatment to minimize negative visual impact on sidewalk
		
	Parking at the rear of building	Parking within the block, designed as "parking garden"
		

Table 4: Mixed-use infill design recommendation matrix (2)

<p>Sensitive infill with relation to existing building facade pattern</p>	<p>New infill should respect existing surrounding buildings with compatible characteristics in terms of massing, height, scale, orientation, setback, proportion, facade articulation, color and general architectural style to create harmonious visual quality and unified streetscape.</p> <div data-bbox="829 321 1377 569"> </div> <p>(Adapted from Lang, Jan, 1994, <i>Urban Design: The American Experience</i>, page 107.)</p>			
<p>Building/pocket open space relation patterns</p>				<p>Pocket open space facing north upon street is not encouraged</p>
<p>Building/side-walk edge patterns</p>	<p>Awning</p>	<p>Canopy</p>	<p>Porch</p>	<p>Colonnade & Terrace</p>
	<p>Balcony</p>	<p>Jamba</p>	<p>Arcade & Space above</p>	<p>Colonnade & Balcony</p>

Table 5: Open space design recommendation matrix⁶⁸

	Gateway space	Key activity space	Connection space
Description	Visible, attractive, intimate	Pleasant, enjoyable, safe, accommodate climax	Compatible not conformable, full of discovery and provides anticipation
Location	Key access point to the AWD, on ground level, adjacent to sidewalk and transit stop	Close to the waterfront, adjacent to major public use area	In-between gateway space and key activity space
Size	Personal scale with the maximum dimension of 20 –25 meters to enable seeing facial expressions	Not to exceed maximum dimension of 70 to 100 meters to enable seeing events	With appropriate proportion to surrounding spaces
Access	Accessible on at least one side of its perimeter	Multi-access points encouraged	Major access from gateway space
Uses and activities	Accommodate either lingerers or passers-through	Provide programs or events to encourage stay	Support optional activities and causal movement
Visual feature/ landscape treatment	Distinct visual element, serving as landmark, is a must	Visual complexity with greater variety of color, texture, landscape elements, etc. is encouraged	Compatible with surrounding spaces is a must; strong identity is not encouraged
Surrounding building usage	Attractive public use is a must	A variety of retail shops, restaurant, café, or food vendor is encouraged	Grade level uses should contribute to generating optional activities
Micro-climate	Sunshine to sitting areas at lunch time at least; means to shelter from summer sunshine and winter wind should be provided	Sunshine to most of the occupied area from mid-morning to mid-afternoon; ensure breeze in summer, and means to shelter from summer sunshine and winter wind should be provided	Sunshine at lunchtime should be ensured; means to shelter from summer sunshine and winter wind should be provided
Surveillance	Highly desirable but not required	Surveillance from surrounding buildings and sidewalks is a must	Surveillance from surrounding buildings is encouraged
Seating	Seating should be placed in sunny area	Sufficient seating is a must, and should meet the needs of diverse sitters	A variety type of causal seating incorporating landscape elements is encouraged

⁶⁸ Adapted from Punter, John, 1999, "Fig. 55 San Francisco: Guideline for Downtown Open space", in *Design Guidelines in American Cities: a Review of Design Policies and Guidance in Five West Coast Cities*, Liverpool, Liverpool University Press, page124-125, and Marcus, Clare Cooper & Francis, Carolyn, ed., 1990, "Design Review Checklist", in *People Places: Design Guidelines for Urban Open Space*, New York, Van Nostrand Reinhold, page65-68.

Table 6: Main axial walkway and riverfront path design recommendation checklist⁶⁹

Self-check questions	Confirm/Comment
1. Is convenient, attractive and protected pedestrian entry provided?	
2. Is the pedestrian walkway well connected with public amenities and major open space?	
3. Does the pedestrian walkway provide easy public access to water's edge?	
4. Is personal safety ensured along pedestrian walkway?	
5. Are diverse visual interests, personal scale design elements, such as landscaping, light fixtures, signage, banners, and public art, considered along walkway to maximize pedestrian comfort and enjoyment?	
6. Is pedestrian walkway close to public transit stops, within the maximum five-minute walking distance, or 400 meters?	
7. Is visual and physical intrusion of parking lots and parking structures minimized on pedestrian walkway?	
8. Are dumpsters, utility and service areas screened from pedestrian walkway?	

⁶⁹ Adapted from Punter, John, 1999, "Fig. 20 Seattle: Neighborhoods Design Guidelines Checklist (1993)", in *Design Guidelines in American Cities: a Review of Design Policies and Guidance in Five West Coast Cities*, Liverpool, Liverpool University Press, page49.

6.4 Summary

The design strategy proposed is based on a logical analysis of the existing Alexander Waterfront District conditions, with reference to the relevant literature and precedents of urban waterfront planning and design. The design strategy is concentrated on the elaboration of a design concept, which is treated as an acupoint – the key point must be defined or controlled, for the redevelopment of the AWD. The relevant design recommendations are intended to support the design concept, for optimal implementation. The design concept and supportive recommendations are complementary. They are intended to be neither too general nor too specific, but flexible enough to allow specific designs to occur within them. In actuality, they illustrate a design approach to make the design more process-oriented rather than product-oriented. They do not aim to develop a “one-shot design” that includes everything, and rigid prescription - but isolated from development reality. Instead, the design concept and supportive recommendations provide guidance, meanwhile leaving plenty of room for different designers to perform in a variety of ways at different development stages, to eventually shape the AWD into being a welcoming place for people in the future. The design strategy attempts to envision a dynamic development of the AWD.

Chapter Seven

Suggestions for Further Research

7.1 Feedback from the Informants regarding the Design Strategy

The design strategy proposed in the preceding chapter was reviewed by the key informants to seek comments and suggestions. Communication with informed persons can provide a better understanding of how development of the AWD and the general urban waterfront site can be best achieved. Issues for future research on this topic were identified through this feedback process. The nature of the comments can be broadly grouped into the following three areas: mixed-use development, financial feasibility and long-term maintenance.

1. Concerns about the concept of mixed-use development:

Some informants questioned the proportion of different land/building uses. What would be an appropriate ratio for diverse uses? Should this be totally determined by market needs? And, how to balance the social needs generated by the general public - for instance, wanting a larger open space along the waterfront for public enjoyment, vs. market needs from private developers who, on the other hand, might desire to intensify the development on that site for greater financial return? Some informants also pointed out that a reasonable arrangement of uses should help the AWD serve both as a regional and local attraction for visitors and community residents.

2. Concerns about financial feasibility :

Financial feasibility of the required development was of most concern to the informants. This issue had also been raised during the previous interviews with the

informants. Still, many of them were thinking about the cost for developing the whole area, and whether the market really existed to drive this level of development. It was recommended that there should be some bonus systems, incentives or funding programs in place, from the public sector, to encourage this scale of development proposals. Financial self-reliance would also be crucial for long-term sustainable development.

3. Concerns about the long-term operation and maintenance of the development:

Some of the informants thought that the post-build maintenance was of equal significance to the implementation of the design concept. Maintenance strategies should be addressed during the early stage of pre-development and incorporated into the design considerations. The design, they added, did not need to be upscale. Well-arranged public programs throughout the year, such as those for the Forks, could be effective to maintain the vibrancy of the AWD, while minimizing the financial risk in the initial development stage. As well, a development balance should be sought between revenue-generating uses and other public uses, to cover the high cost of future maintenance, and to ensure a continuing vibrancy of the AWD.

The feedback on the design strategy identified some issues beyond the design per se. Urban design, as part of the urban development process, is a dynamic process, requiring designing for change. The concerns expressed by the key informants lead to broadened thinking about urban waterfront planning and design, to providing direction for further study of this topic.

7.2 Recent Ideas Competition for the Waterfront in Downtown Winnipeg

An international design competition calling for innovative design ideas was held in the spring of 2002 for the waterfront areas in the East Exchange District and French Quarters of St. Boniface. Part of the competition area in the East Exchange District was within the Alexander Waterfront District. The objectives of this idea competition were:

- Environmental design as a key component in the re-emergence of Downtown Winnipeg;
- Interpretation of the city, its rivers and history;
- Enhancement of the existing site as it relates to its surroundings;
- Consideration of future development on both sides of the river;
- Recognition of the site's significance in the history of Winnipeg, and
- Stimulate public debate.

A high level of interest for waterfront development in Downtown Winnipeg was generated through this ideas competition. There were more than 50 submissions from designers across Canada and the United States, and from as far away as Japan and Europe. The ideas competition highlighted an important issue in the planning and design of the waterfront in Downtown Winnipeg among professionals in the City and around the world.

The various submissions reflected some common concerns for waterfront redevelopment in Downtown Winnipeg. Rather than treating the waterfront open space as only a park, mixed-use development was proposed in most submissions. Residential, commercial and recreational uses were accorded much attention by the designers. A variety of ways to treat the water edge was offered, and clear connections between the surroundings, such as City Hall, and the waterfront were emphasized in many submissions.

The competition generated positive interest from developers and property owners seeking development inspiration. Financial feasibility of the design ideas was of most

concern to them. Albert Cheung, the landowner of a site at the end of the Market Street, volunteered his site to be included in the competition. He commented that he felt the design ideas all seemed very interesting but some seemed very expensive. The competition co-coordinator added that “to be realistic and achievable” was a requirement for all submissions. He thought that only a few submissions had given consideration to the slow growth context of Winnipeg and paid attention to an incremental growth strategy to achieve sustainable development of the waterfront.

It usually takes decades to accomplish a large-scale development, such as waterfront redevelopment in Downtown Winnipeg. The public sector’s strong commitment, as stimulator and coordinator, is critical in the development process. This ideas competition, sponsored by the City, was an important first step in the redevelopment process for the waterfront area. Although there are currently no specific plans for how to proceed after the competition, the co-coordinator stated that the competition stimulated development ideas and helped to market the City, attracted more attention from people and better informed them of the development issues, including promoting the development on both sides of the Red River.

7.3 Further Research on Urban Waterfront Planning and Design

This study on urban waterfront planning and design cannot end with the completion of this document. There are generally three issues for future research, arising from this current study and from comments by the informants. These are: process-oriented waterfront planning and design; strong public commitment for continuous efforts at development; and design with future maintenance in mind.

Waterfront planning and design should be closely integrated with the development process. It is itself a complicated process, requiring designers to continually adjust position to gain new perspectives. Waterfront planning and design, as a process-oriented activity, has a two-fold meaning. Firstly, as designers for a particular urban waterfront site, they have to understand the nature of the waterfront development process and the role of design in this process. Secondly, waterfront planning and design should produce a process-oriented "product" rather than a project-oriented "product", which means the design product no longer needs to be beautiful design drawings on paper, as is the case in traditional "one-shot design". With designers addressing an unpredictable future, it is foolhardy to focus on a fixed vision. Design and development policy and guidelines have to be adjusted constantly, according to the reality of the development. Therefore, the process-oriented design product should provide a design framework flexible enough so that different designers can cohesively create specific design products, to fulfill changing needs at different times. It should not be hard to understand that, in a slow-growth economic environment, imposing serious restrictions on how development should take place would be of little assistance in attracting investment.

Waterfront design and development is also an integrated long-term process. Many great waterfront projects in Toronto, Boston, or Baltimore took years from the development of a plan to the start of construction and then to completion. For such an undertaking to be successful, there must be a strong public sector commitment to carry the program through to completion. The role of the public sector is critical in establishing social and physical development policies and programs that provide direction for development. The public investment in infrastructure and other subsidies would usually

be the initial force to launch waterfront redevelopment. Public sector intervention shapes development to meet some specific public ends, and thus to balance the conflicts between different social needs and market needs, and between revenue-generating uses and uses for the general public.

Waterfront planning and design does not end with the completion of construction. A well-designed development is still at risk of losing its attraction after a few years of use, without a suitable maintenance and renewal program in place. Waterfront planning and design cannot solely focus on new creations; close attention should be paid to the care and maintenance of what exists. Consideration of this aspect in the early design stage is significant and should be a part of the basic design. To design with maintenance in mind is to design for change, and to fulfill the full range of needs over time.

7.4 Conclusion

The amount of waterfront land in a city is usually a limited and valued resource. Urban waterfront provides a broad range of development opportunities for a city. Successful waterfront design and development has had catalytic effects on city revitalization. Therefore, there is huge interest in waterfront development; the efforts towards urban waterfront redevelopment are continuing in cities worldwide.

Projects are likely to be different in many ways in different cities. It can be understood from the present study that waterfront redevelopment needs a comprehensive plan to integrate a variety of factors and concerns, and to reflect the waterfront's unique and strategic location and diverse users' needs. As well, an empirically-based design approach, which is specific enough to provide a framework for development and flexible

enough to respond to future changes, is needed. Waterfront redevelopment also needs a solid cooperative public-private partnership, and a strong commitment to carry the program throughout the development process.

The design strategy developed in this study provides guidance on how to revitalize the Alexander Waterfront District, and reconnect it to adjacent downtown areas. It serves as an initial step for future research to realize the potential of the Alexander Waterfront District as a place for more people to live, work and be entertained, and as a contribution to Winnipeg's downtown revitalization.

Bibliography:

Banerjee, Tridib and Southworth, Michael, ed, (1990), *City Sense and City Design: Writing and Projects of Kevin Lynch*, Cambridge, Massachusetts, The MIT Press.

Balchen, Bess and Linville, Jack, (1971), "The Waterfront: Let's Face It", in *AIA Journal*, April, vol.55, no.4, page 17-27.

Barnett, Jonathan, (1982), *An Introduction to Urban Design*, New York, Harper & Row Publishers.

Braunfels, W., (1988), *Urban Design in Western Europe*, Chicago/London, Transl. K. J. Northcott.

Breen, Ann and Rigby, Dick, (1994), *Waterfronts: Cities Reclaim their Edges*, New York, McGraw-Hill.

Breen, Ann and Rigby, Dick, (1996), *The New Waterfront: a Worldwide Urban Success Story*, New York, McGraw-Hill.

Breen, Ann and Rigby, Dick, (1991), "Prospect", in *Landscape Architecture*, February 1991, vol.81 No. 2, page 128.

Bureau of Travel and Publicity, Department of Industry and Commerce, Manitoba, *City of the Rivers*, Winnipeg, Queen's Printer.

City of Winnipeg, (1997), *Our Place: North Main Task Force*.

Cowey, Ann Breen and Rigby, Richard, (1979), "On the Waterfront", in *Planning*, November, vol.45, no.11, page 10-13.

Cleveland, H. W. S., (1945), "Suggestions for a System of Parks and Parkways for the City of Minneapolis", in *Minneapolis Park System 1883-1944*, Minneapolis, Theodore Wirth.

Desfor, Gene, (1990), *Urban Waterfront Industry: Planning and Development Green Enterprise for the 21st Century Symposium Report*, Toronto, Minister of Supply and Services Canada.

Dickinson, Robert E., (1961), *The West European City: a Geographical Interpretation*, London, Routledge & Kegan Paul Limited.

Faculty of Architecture, University of Manitoba, (1985), *Urban Design Studio 1984-85:Fort Rouge*.

Gardiner, J.L., Edwards, P.J. and Ball, J.H., (1993), "Urban Waterside: Context and Sustainability", in White, K. N. et al ed., *Urban Waterside Regeneration: Problems and Prospects*, New York, Ellis Horwood.

Gehl, Jan, (1987), *Life between Buildings*, New York, Van Nostrand Reinhold Company.

Heckscher, August, (1977), *Open Spaces: the Life of American Cities*, Harper & Row Publishers.

Hough, Michael and Barrett, Suzanne. (1987), *People and City Landscapes*, Toronto, Conservation Council of Ontario.

Jacobs, Jane, (1961), *The Death and Life of Great American Cities*, New York, Random House.

Jones, Bernie, (1990), *Neighborhood Planning: A Guide for Citizens and Planners*, Washington D. C., APA Planners Press.

Kostof, Spiro, (1992), *The City Assembled: the Elements of Urban Form Through History*, London, Thames and Hudson.

Kotval, Zenia & Mullin, John R., (2001), "Waterfront Planning as a Strategic Incentive to Downtown Enhancement and Livability", in Burayidi, Michael, ed., *Downtowns: Revitalizing the Centers of Small Urban Communities*, New York, Routledge.

Lang, Jon, (1994), *Urban Design: The American Experience*, New York, Van Nostrand Reinhold.

Lehmann, Richard A., and Wood, Donald F., (1966), "Waterfront Renewal: What Recent Events and Trends Portend for the Nation's Urban Water Frontage", in *The Journal of Housing*, November, Vol. 23, No.10, page 590-592.

London, Mark, (1976), "Urban Waterfront Planning", in *Canadian Institute of Planner Forum*, May 1976, Canadian Institute of Planner, Ottawa, page 3-7.

Lynch, Kevin, (1960), *The Image of the City*, Cambridge, Massachusetts, MIT Press.

Lynch, Kevin, (1981), *A Theory of Good City Form*, Cambridge, Massachusetts, MIT Press.

Marcus, Clare Cooper & Francis, Carolyn, ed., (1990), *People Places: Design Guidelines for Urban Open Space*, New York, Van Nostrand Reinhold.

Marshall, Richard, ed. (2001), *Waterfront in Post-Industrial Cities*, London, Spon Press.

- Martin, Thomas J. et al., (1978), *Adaptive Use*, Washington D.C., ULI- the Urban Land Institute.
- McQuade, Walter, (1961), "The Suffering Shore Line", in *Architectural Forum*, 1961 June, Vol 114, No. 6, page 88-93.
- Mintzberg, Henry, (1994), *The Rise and Fall of Strategic Planning*, Toronto, Free Press.
- Mumford, Lewis, (1961), *The City in History: Its Origins, Its Transformations, and Its Prospects*, New York, Harcourt Brace Jovanovich.
- Nelessen, Anton Clarence, (1994), *Visions for a New American Dream: Process, Principles, and an Ordinance to Plan and Design Small Communities*, Washington, D.C. APA Planners Press.
- O'Brien, David, (2001), "The Beast is Coming Down", in *Winnipeg Free Press*, December 5, 2001, page A1.
- Planning Department, (1991), *Heritage Conservation – Regulatory Overview*, City of Winnipeg.
- Punter, John, (1999), *Design guidelines in American Cities: A Review of Design Policies and Guidance in Five West Coast Cities*, Liverpool, Liverpool University Press.
- Shirvani, Hamid, (1985), *Urban Design Process*, New York, Van Nostrand Reinhold Company Inc.
- The Exchange Partnership & the Exchange Community, (1996), *The Exchange District Strategic Action Plan*, Winnipeg, Exchange District Business Improvement Zone.
- The President's Council on Recreation and Natural Beauty, (1968), *From Sea to Shining Sea: a Report on the American Environment – Our Natural Heritage*, Washington D.C.
- Thibert Event & Associated Management (TEAM), (2001), *Waterfront Drive Open House: Tabulation and Analysis of Public Input*.
- Trancik, Roger, (1986), *Finding Lost Space: Theories of Urban Design*, New York, Van Nostrand Reinhold.
- Wagner, Robert F., (1980), "New York City Waterfront: Changing Land Use and Prospects for Redevelopment", in Committee on Urban Waterfront Lands ed., *Urban Waterfront Lands*, Washington D. C., National Academy of Sciences.
- Wrenn, Douglas M., (1983), *Urban Waterfront Development*, Washington, D.C., ULI-the Urban Land Institute.

Websites:

Current public transit in the Alexander Waterfront District:

<http://www.winnipegtransit.com> November 2, 2001.

Historic buildings in the Alexander Waterfront District:

<http://www.city.winnipeg.mb.ca/ppd/historic/dreamweaver/municipal.htm>, November 17, 2001.

The history of the Scots monument:

<http://www.geocities.com/Heartland/Village/1479/historic.html> December 29, 2001.

<http://www.city.winnipeg.mb.ca/interhom/sightsnsound/historicsites.htm#salvationarmy>,
December 29, 2001.

Waterfront Drive development:

http://www.prairiepublic.org/features/riverwatch/news/winnipeg_press/01-18_01.html
December 29, 2001.

Winnipeg French Quarter:

<http://www.frenchquarterbiz.com> November 2, 2001.

Winnipeg neighborhood profiles, 1996 census data:

<http://www.city.winnipeg.mb.ca/Census1996/pages/danielmcintyre.htm> November 20, 2001.

Winnipeg Riverbank Development Program:

<http://www.wda.mb.ca/news/990812.html> December 29, 2001.

Appendix A:
Designated historic buildings located in the Alexander Waterfront District

1. Municipal designated historic buildings on the Buildings Conservation List located in the Alexander Waterfront District:

Address	Name	Grade ⁷⁰	Date listed
184 Alexander Avenue	Ukrainian Cultural Center	III	April 21, 1980
115 Bannatyne Avenue	Donald H. Bain Building	II	June 16, 1980
123 Bannatyne Avenue	Marshall Wells Building	II	Nov. 14, 1983
137 Bannatyne Avenue	Swiss Building	III	Dec. 8, 1986
141 Bannatyne Avenue	MacKenzie Block	III	Jan. 15, 1993
167 Bannatyne Avenue	Ashdown's Warehouse	II	Sept. 16, 1985
168 Bannatyne Avenue	Chatfield Distributors (Franklin Press Building)	III	Nov. 14, 1983
181 Bannatyne Avenue	Kilgour Block	III	Jan. 4, 2000
185 Bannatyne Avenue	McClary Building	III	Oct. 1, 1987
109 James Avenue	James Avenue Pumping Station	II	Nov. 15, 1982
167 Lombard Avenue	Grain Exchange Building	II	Oct. 1, 1992
191 Lombard Avenue	Union Tower Building	II	Sept. 12, 1983
389 Main Street	Bank of Commerce	I	Nov. 7, 1979
441 Main Street	Imperial Bank of Canada	II	Oct. 28, 1997
112-114 Market Avenue	Great West Saddlery Warehouse	III	May 14, 1990
113 Market Avenue	Great West Saddlery Building	II	Nov. 18, 1985
136 Market Avenue	Marshall-Wells Building	III	May 11, 1987
165 McDermot Avenue	Galpern (Porter) Building	III	June 24, 1985
171 McDermot Avenue	Dawson Richardson Building	III	July 15, 1985

⁷⁰ The Buildings Conservation List includes structures that have been declared historic by the City of Winnipeg based on recommendations by the Historical Buildings Committee. Listed structures are classified by a grade system with Grade I buildings representing outstanding examples of architectural and historical merit, Grade II buildings representing the majority of the city's building stock, and Grade III buildings represent moderately significant heritage examples.

173 McDermot Avenue	Grange Building	III	July 15, 1985
175 McDermot Avenue	Toronto Type Foundry Building	III	Aug. 29, 1988
177 McDermot Avenue	T.W. Taylor Building	III	July 15, 1985
179 McDermot Avenue	W.F. Alloway Building	III	June 24, 1985
65 Rorie Street	Northern Electric Building	III	April 1, 1985

2. Municipal designated historic buildings in the Historical Buildings Inventory located in the Alexander Waterfront District:

Building address	Building name	Approximate date of construction
90-92 Alexander Avenue	W.J. Guest Fish Co. Ltd. (cold storage warehouse)	1905
95 Alexander Avenue	T. Eaton Co. Warehouse (also 130 Galt Ave.)	1927
146 Alexander Avenue	Not available	1906
15 Amy Street	Hydro Steam Plant	1923
179 Bannatyne Avenue	Not available	1902
181 Bannatyne Avenue	Not available	1904
110 James Avenue	Ryan Brothers Building	1910
128 James Avenue	Warehouse	Not available
130 James Avenue	Victor Fox Foods	1910
132-134 James Avenue	Victor Fox Foods	1911
45 Lily Street	Not available	1893
93 Lombard Avenue	Lombard Building	1906
111 Lombard Avenue	Not available	1903
185 Lombard Avenue	Not available	1900
423 Main Street	Canadian Wheat Board	1928
133 Market Avenue	Warehouse	Not available
139 Market Avenue	Steele Briggs Building	Not available
145 Market Avenue	Stanley Brock Building	Not available
145 McDermot Avenue	Customs Examining Warehouse	1908

3. Provincial designated historic buildings located in the Alexander Waterfront District:

Building address	Building name	Designation Date
177 Lombard Avenue	Former Great-West Life Building	Oct. 23, 1985

4. National designated historic buildings located in the Alexander Waterfront District:

Building address	Building name	Designation Date
180 Market Avenue	Pantages Playhouse Theatre	1985
395 Main Street	Bank of Hamilton	1980
455 Main Street	Confederation Building	1976

Appendix B:**Questionnaires for the Waterfront Drive Open House held in May 2001⁷¹**

1. Do you feel that the proposed character of Waterfront Drive is consistent with the historic Exchange District?
2. Are you satisfied with the design and extent of the pathways that have been designed for the combined use of pedestrians, rollerbladers, wheelchairs, strollers and recreational bicyclists?
3. Are there any specific recreational activities or park amenities that you would prefer, that you would like to see designed for in the park?
4. What types of building uses would you prefer to see along the west side of Waterfront Drive?
5. What do you think would attract people to the waterfront on weekends and during the evening?
6. Do you feel that the project will have any environmental effects that have not been addressed through design or management of the Waterfront Drive project?
7. Please provide any additional comments that you think will make Waterfront Drive and park a success.

⁷¹ Source: Waterfront Drive Open House, May24, 2001.

Appendix C:

Interview questions for evaluation of previous and ongoing development projects regarding the Alexander Waterfront District

The following interview questions are to investigate key informants' insights and evaluations about the previous and ongoing development projects regarding the Alexander Waterfront District (hereinafter "the AWD"). Please feel free to raise any opinions you may have on these issues. Thanks a lot for your cooperation.

1. Since the developments of Centennial Concert Hall and Museum of Man and Nature in 1967, there have been a number of projects carried out in the AWD, ranging from cultural facilities developments such as Manitoba Theatre Centre, Children's Museum and MTC Warehouse Upgrading, to historic building conversion such as Ashdown Warehouse, from streetscaping improvement on Market Av. and Rorie St. to the construction of Stephen Juba Park. On the other hand, there are still many industrial facilities remaining and very little stable living population in the AWD. People are concerned about the safety of that area.

Question 1: What's your general feeling about these projects?

Question 2: Do you think the AWD has become more attractive to people at present compared to the time before these projects were done?

2. Currently there are very few residential uses and stable living population in the AWD.

Question 3: Do you prefer residential development in the AWD, such as residential reuse of historic building?

Question 4: If yes, what do you think would be incentives to attract people to live in the AWD?

Question 5: What kind of people do you think will live there?

3. The surrounding area of the AWD, such as North Main, has a high ratio of aboriginal and immigrant population, and is perceived as a low-income and deteriorated neighborhood. Meanwhile, the expansion of Ukrainian Cultural and Educational Center and development of Scottish Cultural Center have been proposed in the AWD.

Question 6: Do you think multi-culture could be a feature of the AWD?

Question 7: If yes, what effects do you think this will have on the revitalization of the District?

Question 8: Are there any barriers so far for multi-culturalism development of the District?

4. The Riverbank Development Program under the Winnipeg Development Agreement is intended to extend the parkway from the Forks to the Alexander Dock and further to North Point Douglas. This should be good for the revitalization of the AWD. Meanwhile, some people have expressed their concerns for safety in the public space.

Question 9: What do you think of this concern?

Question 10: How to make the riverfront parkway work best?

5. A recent survey during the Waterfront Drive Open House showed that many people favored this development. While some people were worried the traffic on the Waterfront Drive would be a barrier to access the waterfront, and some argued that it should be built after the commercial and residential development got underway.

Question 11: Are you satisfied with the development of Waterfront Drive?

Question 12: What do you think about these concerns?

Question 13: To what degree do you think Waterfront Drive will be conducive to the revitalization of the AWD?

6. The city has begun to demolish the Amy Street Steam Plant in December 2001.

Question 14: What kind of usage do you prefer for the site of the Amy Street Steam Plant after its demolition?

Question 15: Many people think about parking on the site, and some think about having a new park to commemorate Victoria Park. What's your opinion?

Question 16: What single thing concerns you most about the future of the Alexander Waterfront District?

Appendix D:
Interview consent form

This study explores urban design issues regarding the Alexander Waterfront District in the City of Winnipeg. The information gained from this survey will be applied to the development of design framework for the study area. This study is conducted by Kangjian Luo, in partial fulfillment of the requirements of Master of City Planning from the University of Manitoba. This study is supervised by Dr. David van Vliet of the Department of City Planning, Faculty of Architecture, the University of Manitoba. The University's Ethics Review Board has reviewed this research for its ethical implications.

During this survey you will be asked to answer and explain questions regarding the Alexander Waterfront District. With your permission, the interview will be audiotaped, so that analyzing the material later will be undertaken with greater ease, efficiency and accuracy. Additionally, written notes will be taken to supplement the audiotaping. A transcript will be made from the audiotape. If at any time a portion of this interview makes you feel uncomfortable in any way, you may choose to have the tape recorder turned off for your response, you may choose not to answer the questions, or terminate the interview. Also, if you have any questions or concerns during the interview, please feel free to ask the interviewer at any time. Participation of this survey is completely voluntary and that subjects are free to withdraw from the study at any time, and/or refrain from answering any questions without prejudice or consequence.

Your identity will be kept confidential in the writing up of this research. This means that your name, your position, your organization's name, and any other information identifying you will not be included in the final report of this study. Where information occurs within an interview transcript that will be included in the final report. Names and other information that is confidential will be omitted. Interview notes and transcripts of audiotapes will be kept secure. These materials will be destroyed after completion of the project.

If you are interested in viewing the final report, it will be made available in October 2002. This research will be published as a practicum and archived in the Architecture and Fine Arts Library at the University of Manitoba, and the National Library of Canada. Copies will be made available also to interested agencies.

If you have any questions or concerns after this interview is completed, please feel free to contact Dr. David van Vliet at (204) 474-7176, or Kangjian Luo at (204) 474-7176.

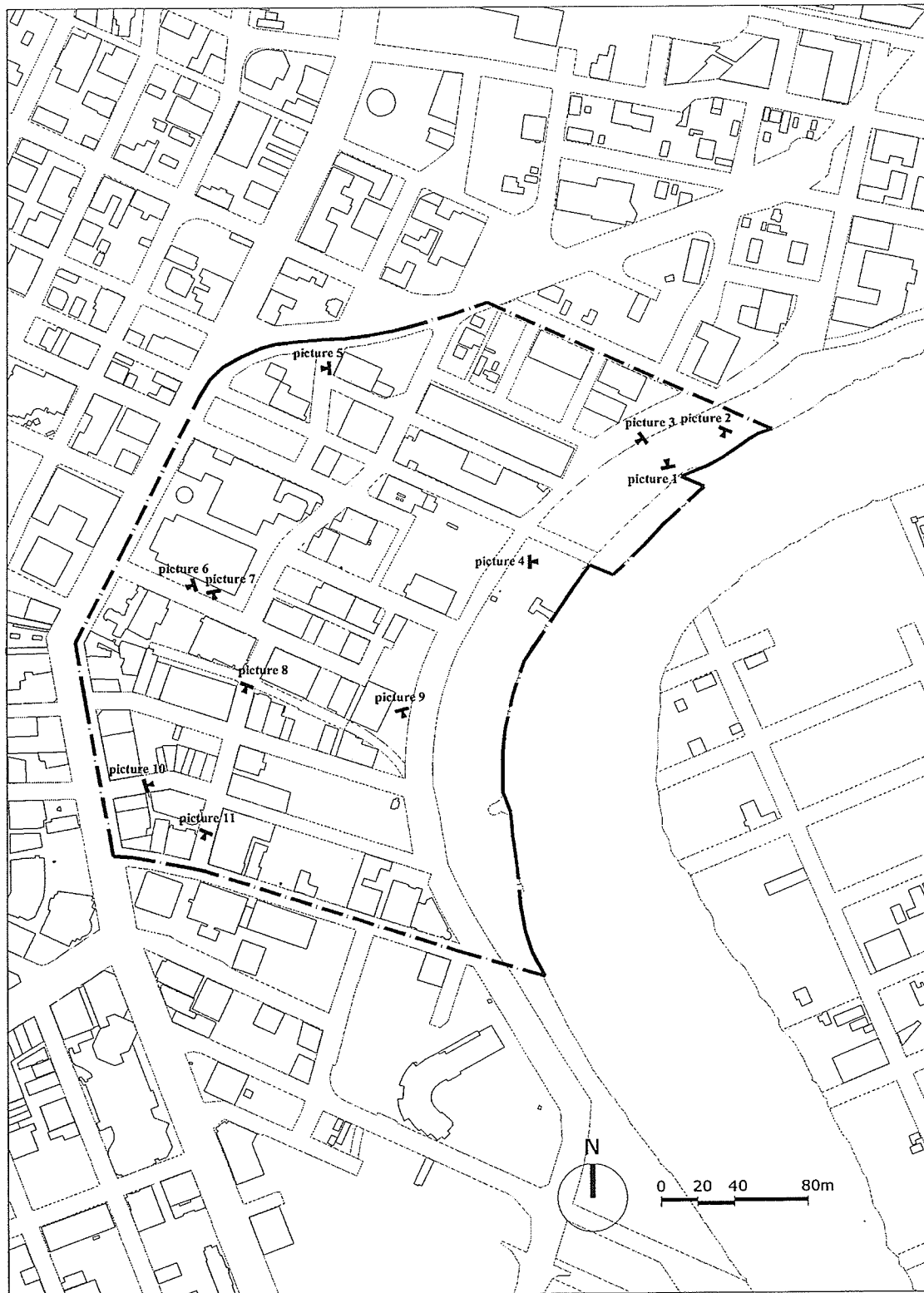
Any complaints concerning the research and interview process may be reported to the University of Manitoba Human Ethics Secretariat at (204) 474-7122.

Thank you for your time and your participation in this interview. Your responses are valuable to this research project and greatly appreciated.

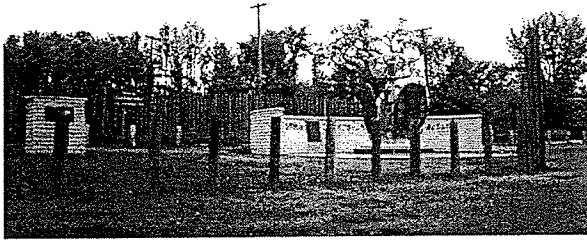
I, _____, give Kangjian Luo permission to use the information gathered during this interview under the conditions stated above for the purpose of the study for the Alexander Waterfront District in the City of Winnipeg.

Date _____
Respondent's Signature _____ Researcher's Signature _____

Appendix E:
Photographic survey of the Alexander Waterfront District⁷²



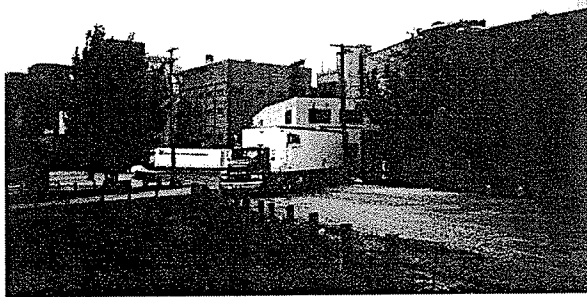
⁷² All the pictures, unless otherwise noted, were taken by the author.



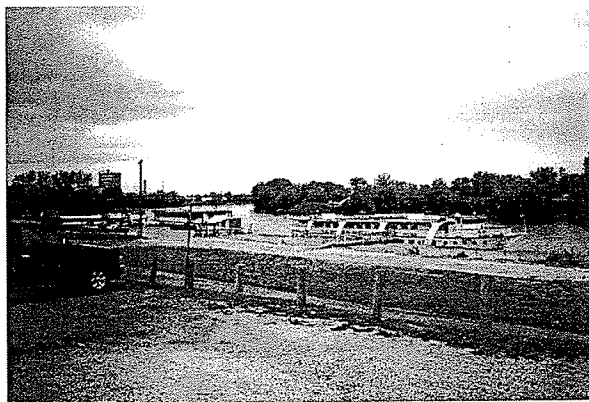
Picture 1: The Scots Monument, one of the historic and cultural resources in the AWD.



Picture 2: Sufficient greenery open space along the water's edge.



Picture 3: Industrial and warehouse uses are dominant along the waterfront in the ADW north.



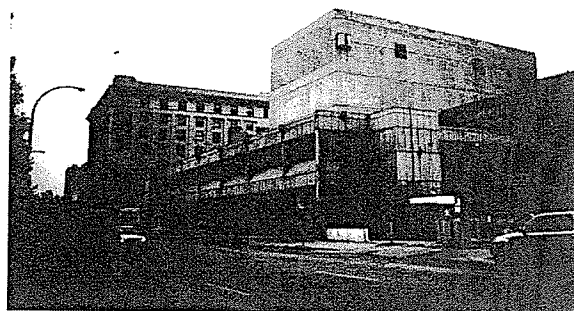
Picture 4: Alexander Dock serves as one of the waterbus stops on the Red and Assiniboine River, connecting with other Downtown destinations.



Picture 5: The Ukrainian Cultural and Educational Center represents the multi-cultural feature in the AWD.



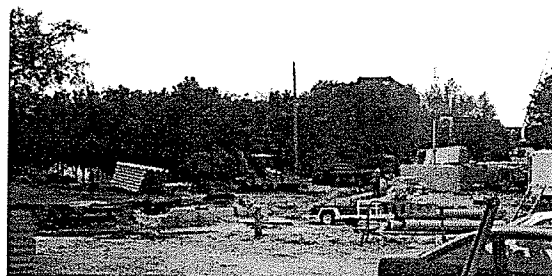
Picture 6: Pantages Playhouse is one of the three national designated historical buildings located in the AWD.



Picture 7: The Manitoba Theater Center, one of a few cultural facilities concentrated in the AWD.



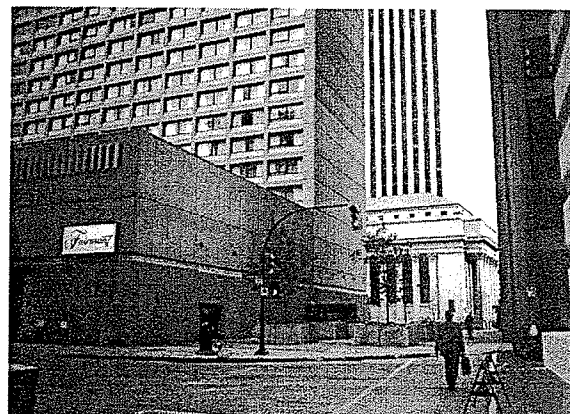
Picture 8: Streetscape in Rorie Street shows a compact urban form and personal street width-height ratio.



Picture 9: Waterfront Drive under construction, October 2001.



Picture 10: Bars and restaurants in McDermot Avenue in the south portion of the AWD.



Picture 11: Key access point to the AWD from Portage/Main circle and downtown office district.