A COMPARATIVE ANALYSIS OF PUBLIC ACCESS ALONG THE WATERFRONT WALKWAYS OF KINGSTON AND BELLEVILLE, ONTARIO

By

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Executive Summary

Topic and Purpose
This Report aims at understanding just how accessible the waterfronts in the cities of Kingston and Belleville, Ontario, are to the public by focusing on the physical design of the waterfront walkways and evaluating them against criteria established through research. The ultimate objective is to use these results to propose design interventions in order to enhance the pedestrian environment and improve public access to the waterfronts.

In order to aid in the development of this thesis the following research questions are proposed:
- What specific design elements and guidelines have been incorporated into the design of the waterfront walkways in both Kingston and Bellville?
- How has the design of the waterfront walkway affected public access to the waterfront?
- What design interventions could be used to improve this environment?

Study Area
A subsection of the entire length of Kingston’s waterfront walkway was chosen in order to allow for detailed analysis. This subsection of the walkway was further divided into two sections: Part 1 consisting of the section from Breakwater Park to An Gorta Mor Park, and Part 2 stretching from An Gorta Mor Park to Brock Street. Part 2 denotes a more urban walkway while Part 1 has a more natural and insulated feel. For Belleville, analysis was conducted on the existing waterfront walkway as well as the proposed walkway design in Belleville’s Waterfront Master Plan.
Figure 1 Waterfront Walkway in Kingston

Source: Google Maps

Figure 2 Waterfront Walkway in Belleville

Source: Google Maps
Evaluation Method
Fifteen evaluation criteria were developed using design guidelines for waterfront walkways developed by New Jersey’s Department of Environmental Protection (NJ Dept, 1989) which were then updated with more recent design guidelines from cities that have redeveloped successful pedestrian-friendly water fronts, including Portland and Miami. Results from the analysis of the existing waterfront walkways using the evaluation criteria are shown below.

Table 1 Evaluation of Waterfront Walkways

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Legend: ◇ Not at all; ◆ Poor; ◆ Adequate; ◆ Good; ◆ Excellent
Conclusions

Kingston

In terms of the design of the walkway a number of factors lend themselves to increasing public access to the waterfront, including the fact that the walkway follows the shoreline closely, that it is wide enough to accommodate at least two-way pedestrian traffic along its length, that sightlines to the walkway from adjacent streets are maintained, thereby increasing visibility (visual access) to the walkway. A great deal of parking is also found along the length of the walkway and a number of transit routes are found in close proximity, thereby allowing for greater public access to the walkway through a variety of transportation modes. The two sections of Kingston’s walkway, when considered together, do provide links between various destinations such as City Hall in the downtown to Kingston General Hospital, and even Queen’s University, thereby making it more likely for people to use the walkway.

There are however a number of factors that do deter access to the waterfront. The sections of the walkway where it veers away from the shoreline and onto main streets breaks continuity. Accessibility from the streets is generally poor with few formal pedestrian crossings, fast traffic, and a lack of distinct entrances marking access to the walkway. The walkway along the western section is also in extremely poor condition and would inhibit use by the physically disabled.

Recommendations

- Articulate a vision for the waterfront and its walkway through a Waterfront Master Plan
- Implement recommendations from the Cycling and Pathway Study to provide a continuous waterfront walkway
- Implement the recommendation from the Downtown Action Plan for a cantilevered boardwalk around the Radisson Hotel
- Shape a coherent waterfront and waterfront walkway identity through branding and improved entrances to the walkway
- Improve access to the walkway across King Street West and Ontario Street
- Add lighting to allow for use during night time
- Improve access to the water’s edge
- Design a better transition between public and private space
Belleville

In terms of the existing design of Belleville’s waterfront walkway there are a number of design features that increase public access to the waterfront, including the ample width of the walkway that can accommodate two-way pedestrian and cyclist traffic, the panoramic and unhindered views of the water along the entire length of the walkway, easy access to the water itself, and the relatively easy access to the walkway from adjacent and surrounding streets west of the Moira River.

However, there are a number of factors that deter public access, including the extremely large gap between the eastern and western sections of the walkway, the deplorable access from main streets east of the Moira River, and the lack of any major and noteworthy destinations along the walkway.

Many of the deficiencies in the design of the existing walkway are identified in the Waterfront Master Plan which provides recommendations to help overcome them. The Plan for example, recognizes the poor connectivity between the two main sections of the walkway and provides a number of solutions to alleviate this gap, including a pedestrian and cyclist bridge across the Moira River, a 9 metre wide pathway along the water’s edge over private property, and the development of South Front Street as a pedestrian and cyclist path. The Plan also highlights the need for better designed entrances at East and West Zwick’s in order to define the waterfront as a distinct area and to highlight the waterfront walkway, and also emphasizes the need for better designed parking lots with increased screening and landscaping to minimize visual impact and maximize permeable surfaces. Recommendations for improving Belleville’s waterfront walkway only cover those issues for which the Waterfront Master Plan does not already provide solutions.

Recommendations

- Provide additional seating along the entire length of the walkway
- Establish design principles for better transition between public and private space
- Retain Access to the Water
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This Report is dedicated to my late father who was and forever will be my source of inspiration and a paragon of what can be achieved with dedication, ambition, and above all, loyalty.

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1.0 Introduction

Waterfronts are currently experiencing a resurgence in importance and rediscovery of their role as a major public amenity. Boardwalks, shorelines, and beaches are a natural attraction for residents of both urban and rural centers, and both young and old delight in physically connecting with water itself. However, the historic role of waterfronts as ports and industrial areas has often left urban residents bereft of the opportunity to actually experience this enchantment of the seas and the play of the waves, impeded as they are by the presence of walls, fences, industrial block layouts, all designed to keep the average resident of the city at bay and out of the way of vital industrial and port operations. Yet the decline in importance of industries along the waterfront, and the growing obsolesce of traditional port operations have presented societies with the rare opportunity to redefine and redevelop this crucial amenity in a manner aligned with the values of contemporary society. One of the first steps involved in doing so is to bring people back to the waterfront, and this entails understanding the barriers that impede access and how to use design and other interventions to overcome them.

This Report compares public accessibility to the waterfronts in the cities of Kingston and Belleville. It focuses upon the physical design of the waterfront walkways in both cities and how these walkways can be enhanced to encourage public access to the waterfront, and even the water itself.

1.1 Waterfronts – Development, Decline, and Revitalization

Ports and waterfronts have historically played a central role in the settlement and growth of cities. In fact, the prosperity of early settlements largely depended on the development of the port: either the two prospered together or they declined together (Hoyle, 1989). In historical times, settlements were often founded on the edges of freshwater lakes and rivers to provide for the needs of the settlement or as a means of transportation and conveyance. Even in relatively recent times, North American cities were often situated on waterways to facilitate the transfer of
goods and passengers (Wrenn, 1987). The City of Kingston, for example, was founded in 1673 at the source of the St. Lawrence River by the French as a major strategic element in their control of the fur trade (Osborne & Swainson, 2011). In time the city grew into a major harbor and served as an important trans-shipment point between lake vessels that plied Lake Ontario and the bateaux that could navigate the river rapids of the St. Lawrence. On the other hand, the City of Belleville was founded by an English captain who built a sawmill and gristmill at the mouth of the Moira River.

In terms of the physical development of ports Wrenn (1987) shows that port cities often underwent a similar sequence of events in terms of development, and that thus a typical pattern of port and waterfront development can be identified. However, the closely intertwined relationship that a city and its port enjoyed would not stand the test of time. The beginning of the 20\textsuperscript{th} century saw the very nature of the shipping industry change. Railways and highways offered alternative and often cheaper means of transferring goods and passengers. Shipbuilding itself began to experience a permanent decline and cities, like Kingston, that had once prospered on the strength of their shipbuilding industry experienced a slow and prolonged decline. A similar sequence of events was experienced in both Kingston and Belleville. Improvements in navigation allowed ships to bypass their traditional port-of-call in Kingston (Osborne & Swainson, 2011). The rise in popularity of railroads as a means of transportation saw both cities competing to build their own in order to serve industries at the water’s edge. World War II would help stimulate shipping again, but it would be prove temporary.

The decline of waterfronts was not an abrupt or sudden process, except perhaps in the case of a few high profile closures (Gordon, 1997b). Instead, the decline was often gradual with changes in technology making existing facilities obsolete. As demand for port facilities slowly petered off, once thriving wharves, piers, and warehouses were abandoned and left to deteriorate. Ports and waterfronts that had once nurtured the growth of cities were now viewed as dangerous and obsolete areas with little use in a rapidly modernizing world. A planning study for the City of Kingston from the 1960’s repeatedly used the words “serious blight” when describing the decay that had set into the areas around the city’s Central Business District and the waterfront.
Section 1: Introduction


According to Breen, the modern urban waterfront phenomenon began in the 1960s, blossomed in the 1970’s, and accelerated in the 1980’s (Breen & Rigby, 1994). The central and key location that ports and waterfronts occupy within cities ensures that alternative proposals for their utilization are always available (Gordon, 1997b). However, competing interests often have their own vision for how these places should be redeveloped. City planners may envision social housing or more space for public amenities. Port authorities often want to retain control in order to find alternative uses such as terminals for cruise ships or cargo facilities. Developers see the potential profits that can be reaped through large condo developments.

Waterfront revitalization projects initiated in the 1960s and 1970s were often based on the model developed for urban renewal schemes and were heavily subsidized by government grants (Gordon, 1997a). Significant improvements in terms of infrastructure were often required in order to attract private sector investment. The industrial legacy of waterfronts however resulted in a number of physical impediments to redevelopment, including poor local access for transportation and pedestrians, inadequate utilities, and a complete lack of social services for any proposed residential development (Gordon, 1997a).

1.2 The Argument for Waterfront Access

According to Gordon, increasing public access to the waterfront was one of the tools that redevelopment agencies used to combat the perception of crumbling and abandoned waterfronts as blighted and dangerous areas. While these redevelopment agencies often saw increased public access as simply a means to an end, the argument can also be made that the waterfront is a public amenity and that the public has a right to access its waterfront. In fact, according to the Ontario Ministry of Municipal Affairs guide to waterfront planning (which incidentally enough, has a picture of the City of Kingston’s waterfront on its front cover), the general understanding is that the public should have maximum access to the waterfront, especially in urban environments where water and open space are scarce resources and usually come at a premium (MMAH,
The “public’s right to shoreline access has a legal basis in the public trust doctrine, whose roots for most of the United States go back to Roman times, when free access to navigable waters and the foreshore was the right of every citizen” (Breen & Rigby, 1994).

It is self-evident that people love the water; they will try to reach it and touch it, if not actually attempt to swim in it. As Breen describes it, “for most of us, the water’s edge is the clearest boundary between what is stable and concrete and what is changing, mysterious and not fully comprehensible” (Breen & Rigby, 1994). Beyond just the sentimental value people might attach to waterfronts, providing increased public access can also result in a growth in community spirit, perhaps even a renewed sense of identity that can be promoted and marketed (MMAH, 1997). Moreover, public access in this regard refers to more than simply providing access for people to the waterfront through the use of passive landscapes, but rather the creation of dynamic and active surroundings that actually draw people to the area (Hoyle, 1995). These sentiments led to a series of plans in Kingston starting all the way from 1960 to provide access to the waterfront for the public. However progress has been slow and the results were uneven, partially as a result of significant barriers to waterfront access.

1.3 Barriers to Waterfront Access

While increasing public access to the waterfront may be a worthy goal, with some planners going so far as to consider it a critical component of waterfront revitalization (Hoyle, 1995), the fact is that a large number of barriers exist that impede planners from readily providing increased public access. The two types of barriers that will be discussed here are physical barriers and psychological barriers.

Public access was never considered an important consideration during the development and growth of ports and waterfronts. In fact, many older ports were often designed with the explicit intention of keeping the public out (Gordon, 1996). The loading and unloading of cargo and passengers, the limited space for storage and warehousing, and the rise of waterfront industry, meant that waterfronts had no additional space to devote to public access, nor were members of the public necessary welcome in such areas. Walls and fences were often built to protect precious
cargo. Where walls and fences weren’t built, the industries, warehouses, and offices of the merchants along the shoreline themselves provided a physical barrier separating the city from the waterfront. These barriers were augmented by the later addition of railway tracks and highways along the waterfront (Wrenn, 1987). Railway tracks and yards occupied large amounts of land, and while they may have fallen into disuse over time as the waterfronts themselves fell into disuse, it was often not economical to remove or relocate these lines to areas away from the waterfront (MMAH, 1997). In many cases, communities simply tried to work around the tracks. Other common physical barriers include infrastructure, such as utility structures, waste treatment facilities, and electrical generating plants, that are often built along waterfronts, either out of choice or need, but do not permit public use. This is true in both Kingston and Belleville. In Kingston, the city’s water pumping station and treatment plants are located within the study area, while Belleville has its water and sewage treatment plants located along the waterfront walkway. In less urban areas residential development may have also be permitted along waterfronts resulting in a broken or discontinuous waterfront walkway.

In addition to physical barriers, the public often faces physiological barriers to accessing waterfronts. Such barriers may or may not actually exist, i.e. they are determined by an individual’s frame of reference or psychological state at a given moment. Nonetheless, such barriers play an important role in whether or not an individual will utilize the option to access the waterfront. Gordon, for example, identified the ‘specter of urban blight’ as a major catalyst for the redevelopment of waterways (Gordon, 1997b). The image of abandoned and derelict ports and industries not only provided a source of embarrassment for the public, but also created the impression that these areas were dangerous to walk around. Psychological barriers thus involve real or perceived threats to safety. If a user feels uncomfortable or threatened along the waterfront, or perceives it to be dirty or neglected, they will not use it (MMAH, 1997). Moreover, if the waterfront or the waterfront walkway crosses over or along private property, the public may be discouraged to utilize it due to the perception of being on or too close to private property.

These historical trends leading to the construction of barriers, decline of harbours, and rising demand for public access to the water’s edge form the backdrop for the current waterfront
planning issues faced by cities both small and large, including the case studies of Belleville and Kingston that will be dealt with in this Report.

1.4 My Interest in This Topic
My own interest in this particular topic arose as a result of my experience of growing up in a city situated on a very distant ocean. It is not until you leave the ocean far behind that you realize just how much of an impact it had on your life. However my curiosity regarding public access to the waterfront was kindled during a summer spent working for the City of Saint John in New Brunswick. The city’s waterfront is defined by a declining industrial port with very little public access. Those sections of the waterfront that do allow public access are very well used and there is a constant demand for more publically accessible paths, yet a stubborn reluctance by the Port Authority to relinquish control over the land, dreaming as they are of the unlikely day that industrial activity returns to their port.

1.5 The Research Questions Proposed
In order to better understand this topic this Report will establish criteria for evaluating the physical design of waterfront walkways and then use these criteria to evaluate two actual waterfront walkways. Based on the findings design interventions will be proposed in order to improve public access to the waterfront. To aid in the development of this thesis the following research questions are proposed:

➢ What specific design elements and guidelines have been incorporated into the design of the waterfront walkways in both Kingston and Bellville?

➢ How has the design of the waterfront walkway affected public access to the waterfront?

➢ What design interventions could be used to improve this environment?
1.6 Organization of This Report

The following sections expand upon the method and the analysis that will be used to answer the three research questions. Section 2.0 provides the background and context for each of the two waterfront walkways that will be examined. Section 3.0 outlines the research method and the fifteen evaluation criteria that form the basis of analysis that will be used to analyze the waterfront walkways in the City of Kingston (Section 4.0) and the City of Belleville (Section 5.0). Section 6.0 concludes this Report by connecting the analysis and research back to the three research questions and by providing recommendations for creating a more publically accessible and inviting waterfront walkway.
Section 2.0 Setting the Context

As discussed in Section 1.0, this Report will evaluate the design of the waterfront walkways in Kingston and Belleville with the ultimate aim of proposing design interventions in order to enhance the pedestrian environment and improve public access to the waterfront. The first step is thus to set up the context for the analysis by introducing the two cities and by defining the exact parameters of what constitutes a waterfront walkway in each case.

2.1 Kingston – Context

“The Limestone City”

Kingston was founded on the orders of Louis de Buade, Count Frontenac, on a Mississauga First Nation site as a major strategic element in the French control of the fur trade (Osborne & Swainson, 2011). It was captured by British forces in 1758, and following the rebellion of the United States, became an important settlement for United Empire Loyalists. With the creation of Upper Canada in 1791 the village grew into a town as it experienced gains in commerce and shipbuilding, while its strategic role grew as a result of its military garrison during the War of 1812-1814. Kingston was proclaimed the capital of Upper and Lower Canada in 1841 but was stripped of this title a mere 20 months later (Osborne & Swainson, 1988). By the mid-nineteenth century events had begun to collude to relegate Kingston to relative obscurity as improvements in navigation allowed ships to bypass this traditional port-of-call, with the final death knell sounded by the completion of the Montreal – Toronto rail connection in the 1850s (Osborne & Swainson, 1988). World War II helped stimulate manufacturing and shipping, but by then, and to this very day, the essential mainstays of the local economy have become the presence of institutions: Queen’s University, the Royal Military College, federal penitentiaries, and others.
Kingston’s Waterfront Today

Given Kingston’s strategic location athwart the west-east transport route at the point where Lake Ontario enters the St Lawrence, it is easy to recognize that the water and the waterfront played an essential role in the development of this city. The downtown waterfront was a bustling working-port with a grain elevator at the foot of Queen Street and the terminus of the Kingston and Prembroke Railway’s line right in front of City Hall. However, shipping had begun to experience a permanent decline by the mid-nineteenth century, and the opening of the St Lawrence Seaway signaled the end. Within thirty years, “the collapse of Kingston’s shipping was complete” (Osborne & Swainson, 1988).

As a working port, Kingston had traditionally paid little concern to the actual aesthetics of the city’s waterfront setting, though it had prodigiously been blessed with a wonderful skyline of towers and spires that greeted visitors from the water as they approached. The demise of waterfront commerce and industry presented the city with the opportunity to conceive of and undertake a new comprehensive plan for the waterfront that would encapsulate the values of contemporary society.

However this sort of creative development was not to be and development took the form of ad hoc and piecemeal political decisions (Osborne & Swainson, 1988). High rise apartments and chain hotels of undistinguished design popped up along the waterfront and “none of the developments incorporated the waterside location into their concept in any meaningful way – except to provide the occupants prime quality vistas” (Osborne & Swainson, 1988). The hotel at the foot of Princess Street sealed off the view of the harbor and the Royal Military College enjoyed from lower Princess Street, while the Radisson Hotel incorporated a nominal public walkway around its property.

Yet not all of the development in the area consisted of poor decision making. The city’s old pumping station was retained as the Pump House Steam Museum in 1975, the well-designed Marine Museum was opened in 1971, while Confederation Park was built in front of City Hall after Canadian Pacific Railway abandoned the property in 1961 (Mika et al, 1989). In addition,
the hotels and apartment towers did help bring life to the downtown waterfront district and help revitalize the area.

Figure 2.1 Kingston Waterfront Walkway Study Area

Source: Google Maps

Kingston’s Waterfront Walkway

According to the Waterfront Pathway brochure found on the City of Kingston’s website, the waterfront walkway begins just west of Lake Ontario Park and stretches for eight kilometres to Emma Martin Park just north of the LaSalle Causeway. However, this walkway, as defined by the City of Kingston, includes multiple stretches along main streets and which cannot be considered as part of a true waterfront walkway. These stretches include the section along King Street West from Portsmouth Olympic Harbor to Utilities Kingston Waterfront Plant, and from Macdonald Memorial Park to Simcoe Street, and on Ontario Street from Lower Union Street to Gore Street. In addition, the brochure shows the walkway going along the water’s edge between Confederation Park and LaSalle Causeway, though in reality this section consists largely of parking lots that are not easily traversable and cannot therefore be considered as part of a formal waterfront walkway.
In order to conduct meaningful analysis of the design of the walkway, a smaller section of the walkway as defined by the City of Kingston has been chosen, consisting of the length from Breakwater Park in the west till Confederation Park in the east. To allow for comparisons during the analysis phase, this subsection was further divided into two sections based largely on the typology of surrounding uses. Part 1 of the walkway consists of the section from Breakwater Park till An Gorta Mor Park at the foot of West St., while Part 2 stretches from An Gorta Mor Park to Brock Street. Part 2 is a more urban walkway dotted with high-rise apartments and hotels and with development often coming right up to the walkway itself. Part 1, on the other hand, has a more natural feel with wide buffers separating the walkway and the waterfront from surrounding uses.
2.2 Belleville – Context

‘The Friendly City”
Situated midway between Montreal and Toronto on the shores of the beautiful Bay of Quinte, Belleville’s history goes back to the early days of the United Empire Loyalists when Captain John Walden Meyers built a sawmill and gristmill at the mouth of the Moira River, around which grew the city of Belleville. Loyalist refugees helped settle this area. The coming of the Grand Trunk Railway in 1856 saw the city become an important junction and the city boomed, with its iconic City Hall and market place completed in 1873 (Mika et al, 1973). However the lumber trade, the main source of the city’s prosperity, began to decline towards the end of the 19th century, and it was not until the end of the Depression that economic vitality would return with new manufacturing and the establishment of the area’s reputation for fine-cheese production (Mika et al, 1973).

Belleville’s Waterfront
Belleville’s waterfront can be divided into two sections for analysis – one to the west of the Moira River and the other to the east (see Figure 2.5). The western section is largely dominated by East Zwick’s Island Park and West Zwick’s Memorial Park. Approximately two-thirds of West Zwick’s and almost all of East Zwick’s consists of landfill that was capped and formed into rolling hills and level fields. Today extensive programming has developed on West Zwick’s, including soccer fields, play structures, pavilions, the incorporation of a heritage military airplane, a stage and a splash pad, as well as significant parking facilities. East Zwick’s consists largely of grassy areas, with the northern end privately owned by the Morch Marine marina and the Ramada Hotel.

To the west of the Moira River the waterfront consists of residential and commercial buildings along the shoreline till Meyers Pier Park. The Park was created through infilling in the 1930s and 1940s with municipal and industrial waste and construction debris. While the site was once used for commercial harbour services, today it functions as a public marina used by boaters stopping along the Bay of Quinte.
Section 2: Setting the Context

Figure 2.4 Belleville Waterfront Walkway Study Area

Belleville’s Waterfront Walkway

For analysis of Belleville’s waterfront walkway, this Report will consider the design of the existing walkway as well as the proposed design in Belleville’s Waterfront Master Plan.

Existing Waterfront Walkway

According to the waterfront map produced by the Waterfront Regeneration Trust, Belleville’s waterfront walkway consists of a 7 kilometres long pathway starting from the Water Treatment Plant on Dundas St. West all the way till East Bayshore Park at Herchimer Ave to the east. It would however be incorrect to consider this pathway as a single walkway as users must detour around private land at East Zwick’s Centennial Park (the Ramada Hotel and marina), cross the Moira River using Dundas St., and walk all the way to Meyers Pier Park before being on the walkway again. Thus for the purposes of this Report, the section of the pathway from the Ramada Hotel to Meyers Pier Park (denoted in yellow in Figure 2.5) is not considered as part of the waterfront walkway, and is therefore not included in the analysis of the design of the existing walkway.

1 Map can be found at www.waterfronttrail.org/trail-p-belleville.html
Figure 2.5 Belleville Existing Waterfront Walkway

Source: Bing Maps

Waterfront Master Plan

The Waterfront Master Plan was created by Brook McIlroy Planning in 2006, and provides a vision for an active waterfront open all year round. In terms of the walkway, the Plan considers options to improve safety and increase connections between the various areas that constitute the Belleville Waterfront. The Plan was presented to City Council on May 9th, 2005 and was approved in principle before being presented to the public.
Section 2: Setting the Context

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Section 3.0 Method and Evaluation Criteria

This section introduces the case study methodology used for the purposes of this research as well as the criteria that will be used to evaluate and assess the design of the two waterfront walkways. This section will also assess the limitations of the methods employed and will address issues of reliability, bias, and validity.

3.1 Case Study Method

A comparative case study method was deemed appropriate as this Report seeks to understand how the physical design of the waterfront walkways of Kingston and Belleville affects public access to the waterfront. A comparative case study method would help answer the research questions introduced in Section 1.5 as they delve into the realm of the ‘how’ and the ‘why’, i.e. beyond just an exploratory phase.

Yin (2009) describes a case study method as one that “relies on multiple sources of evidence, with data needing to converge in a triangulating fashion” and which “benefits from the prior development of theoretical propositions to guide data collection and analysis”. This Report will use the evaluation criteria as the theoretical framework and lens through which data will be collected and analyzed. A variety of data sources will be used, which in turn should converge in a triangulating fashion, thus providing a robust and valid answer to the research questions.

3.2 Evaluation Criteria

As Table 3.1 shows, fifteen evaluation criteria have been developed in order to assess the physical design of the two waterfront walkways. The design guidelines for waterfront walkways developed by New Jersey’s Department of Environmental Protection (NJ Dept, 1989) formed the basis of these criteria. These criteria were then updated with more recent waterfront design guidelines from cities that have redeveloped successful pedestrian-friendly waterfronts, including
Portland (Portland, 2002) and Miami (Miami 21, 2011). Finally, academic literature on waterfronts was studied in order to identify any additional criteria for evaluating the pedestrian friendliness of waterfronts.

<table>
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<tr>
<th>Table 3.1 Evaluation Criteria</th>
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<td><strong>Walkway Design</strong></td>
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<td>- Spatial Orientation</td>
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<td>- Dimensions</td>
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<td>- Material</td>
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<tr>
<td>- View of the Water</td>
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<td>- Landscaping</td>
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**Spatial Orientation**

Spatial Orientation refers to the exact path the waterfront walkway takes along the shoreline and the continuity and lack of gaps along it. In order to truly enhance the waterfront experience, the waterfront walkway should meander along the shoreline as much as possible (Miami 21, 2011). The walkway need not be exactly along the water’s edge but should be set a few feet away in order to prevent erosion (NJ Dept, 1989). In less urban settings, the walkway may meander further into woodlots or trees in order to provide visual and spatial interest (NJ Dept, 1989). However, the waterfront nature of the walkway must always be preserved such that the walkway should not turn in to any other ordinary pathway or trail.

**Figure 3.1 Walkway closely follows shoreline – Ohio River, Louisville, Kentucky**

Source: Flickr (www.flickr.com/photos/80464769@N00/3329180128/)
Just as importantly every effort must be made in order to ensure that the waterfront walkway be continuous (NJ Dept, 1989). Circulation along the walkway is an important factor in increasing waterfront access, and gaps in the walkway or sudden dead-ends act as deterrents in encouraging waterfront use. In dense urban areas, where space along the waterfront may be limited or tight, a decked promenade or cantilevered boardwalk may extend over the water in order to ensure continuity (NJ Dept, 1989). An example of a cantilevered boardwalk extending out over the water can be found in the recently renovated Mimico Waterfront Park in Toronto, where Waterfront Toronto built a series of cantilevered boardwalks, each approximately 76 metres in length, in order to ensure continuity for pedestrians along the water’s edge.
Dimensions

Waterfront users represent a diverse group of people ranging from the young to the very old, from handicapped individuals to serious athletes, joggers, bicyclists, and even recreational fishers. These users often use the waterfront and the walkway simultaneously. It is thus necessary to set a minimum dimension for the walkway in order to ensure that the needs of all users are considered. According to the standards set by the City of Miami, the walkway should be a minimum of 4.1 metres (15 feet) wide and at a constant elevation in order to allow for handicapped access (Miami 21, 2011). This standard is rather generous, and may not always be possible in dense urban areas. New Jersey’s Dept of Environmental Protection on the other hand has a wider variety of standards to account for different situations. A waterfront walkway used only by pedestrians should be a minimum of 1.8 metres (6 feet) wide, but a shared bicyclist and pedestrian pathway should be between 3.0 metres (10 feet) and 3.7 metres (12 feet) wide. A public pier along a marina should be at least 1.8 metres (6 feet) wide, while a public promenade along the water should be at least 3.7 metres (12 feet) wide. Moreover, a walkway should have a cross slope of 1% to 3%, depending on the surface material, and should be pitched away from the water in order to ensure that runoff does not flow directly into the water (NJ Dept, 1989).
Material
The type of material used in a waterfront walkway can not only have an impact on the usability of the walkway, but can also be used to distinguish between different zones along the walkway (the formal walkway versus a short gravel path detour for example) and for distinguishing a contemporary urban waterfront from a more rustic path. Walkways should generally be constructed of non-slip paving materials of high aesthetic appeal and quality (Miami 21, 2011). Hard paved surfaces suit urban areas while loose aggregate or compacted soil should be used on rustic walkways (NJ Dept, 1989). Bikeways should be paved with material that is traversable in wet conditions.

View of Water
Considering that the main attraction of a waterfront walkway is the water itself, every effort must be made to ensure that the views of the water are not obstructed. Views should be preserved from critical public vantage points, and excessive plantings or structures along the water’s edge that
may obstruct the view should be avoided (Portland, 2002). In areas where walkways meander towards and away from the water, pedestrian nodes should be created in order to provide views of the water (NJ Dept, 1989).

**Landscaping**
In order to protect the attractiveness of a waterfront walkway it is often necessary to buffer the walkway from both roads and parking areas. Landscaping not only buffers the walkway from undesirable views, but also helps enhance the visual quality of the walkway. This ensures that users can relax and enjoy their time along the trail (Portland, 2002). Wherever possible, native plants should be used for landscaping and shade trees be provided at pedestrian nodes or near benches and seating areas (Miami 21, 2011).

**Connection**
While circulation around the waterfront walkway is an important consideration in a successful design, connection to other public areas is just as important. This permits users to not only easily access the walkway, but also allows the walkway to function as a route to destinations rather than simply as a recreational trail. Waterfront parks, marinas and public promenades can serve as important destinations, while transit stops, throughfares, public plazas and shopping areas are important public areas for the walkway to connect to (Miami 21, 2011).

**Transition between Public and Private Space**
As a public amenity, a waterfront walkway should not only feel as part of the public realm, but should also be inviting to the public along the entire length of the waterfront walkway. This can often be difficult in urban areas where private property may abut public walkways. In order to deter the public from access to private property, fences or even walls have often been used. Such barriers are undesirable along the waterfront as they not only obstruct views for the owners of the private property but may impinge upon the design and the public feel of the waterfront walkway (NJ Dept, 1989).
In such cases the interface between public and private may be managed through careful and thoughtful design. A transition zone may be established, marked by shrubbery and shade trees, in order to clearly delineate the public realm from the private realm. Changes in grade may be used to deter access to the private property. Private space should always be inwardly focused, and building configurations can be manipulated so that private space is contained. Signage at critical points should be used to indicate the limit of public access (NJ Dept, 1989).

Figure 3.8 Landscaping used to separate public and private space – Green Bay, Wisconsin
Section 3.0 Method and Evaluation Criteria

Seating
In order to allow the public to truly appreciate a waterfront walkway, and to maximize the use of the walkway, it is necessary to provide frequent and well-designed seating. Seating along the waterfront walkway should be located at frequent intervals along the length of the walkway and should be positioned to take advantage of views (Miami 21, 2011). Seating should be sheltered from the wind and set back slightly from the walkway so as not to impede pedestrian flow (NJ Dept, 1989). The design of the seating should also complement the natural environment and should be of a durable material with perhaps a unified design or maritime motif to help foster a sense of identity along the waterfront and the walkway.

Figure 3.9 Seating should be provided at regular intervals – Marina Bay, Singapore

Source: Flickr (www.flickr.com/photos/25802865@N08/4755692929/)

Figure 3.10 Distinctive seating helps forge a waterfront identity – Green Bay, Wisconsin

Source: The City of Green Bay
Restrooms
Just as important is the need to provide adequate restroom facilities along the waterfront walkway. Restroom facilities should be located within a short distance of the most heavily used areas, should have clear signage, and be well maintained (NJ Dept, 1989). Their architecture should be compatible with the surrounding area, and their design must make provision for handicapped access.

Accessibility from Streets
In order for people to use the waterfront walkway it is imperative that it be easy for them to reach the waterfront walkway (Portland, 2002). Connection from the street grid to the walkway should be provided through the use of both formal pedestrian crossings as well as visual corridors (NJ Dept, 1989). Visual permeability helps attract users to the waterfront from surrounding neighbourhoods and provides a sense of safety rather than isolation for users of the walkway (NJ Dept, 1989). It is thus important for the walkway to have easy and inviting access from the streets with multiple access points from streets and other public spaces, and which are well-lit, wide enough to accommodate bicyclists and pedestrians, and highlighted with signage, plantings, and street furnishings. After all, the more comfortable and convenient the access, the more accessible the walkway will be for the public.

Figure 3.11 Regular pedestrian crossings allow for easier access to the walkway

Source: Flickr (www.flickr.com/photos/nafmo/965196650/)

Access to the Water’s Edge
While the waterfront walkway increases pedestrian access to the waterfront, in many cases access to the water itself maybe desirable. While this access can be easily provided in areas where the waterfronts consist of a sandy beach, even urban waterfronts can highlight and
emphasize the ability of users to interact directly with the water with access to the water provided through the use of steps, pebble beaches, or boardwalks, depending on the desired function, the need to protect sensitive ecosystems, and so on (Portland, 2002).

Figure 3.12 Interaction with water is an intrinsic part of the waterfront experience

![Interaction with water is an intrinsic part of the waterfront experience](Source: Flickr (www.flickr.com/photos/sembrono/2853105310/))

In some cases access to the water’s edge may be undesirable, and even dangerous. This is often the case for coastal cities with powerful currents, large changes in tide levels, or where erosion is a threat. Railings and barriers are often used along the water’s edge to prevent access to the water. However such barriers may be unnecessary and usually undesirable. Instead a buffer zone should be established between the walkway and the water’s edge, usually consisting of a rough textured surface that discourages walking, or planting beds with lighting to accentuate the landscaping. Where shore protection structures, such as seawalls, stone rip-rap, or sloped concrete revetments are used, public access across the top of the structure should be provided, unless doing so such constitutes a risk to the public (NJ Dept, 1989). Fishing and general passive recreation is often enjoyed from the top of such structures.
Physical Accessibility

Over the past decades the rights of the handicapped to gain access to public areas and recreational facilities have gained increasing attention and concern. Access to the waterfront walkway is no different. More importantly, such access must be continuous from the curbside to the water’s edge (NJ Dept, 1989). The walkway should not have sudden changes in gradient. All facilities along the trail, such as restrooms, should make provision for handicapped use.

Signage

Signage serves a variety of functions, including marking entrances to the walkway, as wayfinding guides showing the length and direction of the walkway and destinations along the
way, as informative tools highlighting important heritage or ecosystems along the length of the walkway, and even perhaps to identify the walkway as part of the public realm. Signs should be of a consistent design along the length of the walkway to not only make it easier for users to identify them, but to also help promote a distinct waterfront and waterfront walkway identity (Miami 21, 2011). The use of a maritime motif or such would thus be encouraged.

Figure 3.15 Distinctive signs with a uniform design promote a waterfront identity – Brooklyn, New York

Source: The Brooklyn Gateway Initiative

**Lighting**

In urban areas it is important that the waterfront walkway be well lit in order to promote a safe environment along the walkway, to minimize the potential for harm, and to improve the legibility of signs and encourage the use of pedestrian areas. Lighting can also be used to highlight salient features of a site, such as the water’s edge. Generally ‘area lighting’ 5.0 to 7.6 metres (16 to 25 feet) should be confined to parking lots, ‘mid level’ lighting 3.0 to 4.5 metres (10 to 15 feet) should be used in pedestrian areas, while ‘low level’ lighting 0.05 to 1 metre (2 to 42 inches) in height should be used to illuminate the walkway or define the water’s edge (NJ Dept, 1989).
Figure 3.16 Lighting should be provided at regular intervals in order to permit night-time use

Source: Sustenta Corp (http://sustentacorp.com)

In non-urban areas, lighting may not be necessary depending on proximity to nighttime population and expected use (NJ Dept, 1989). In such cases, lighting should always be of a pedestrian scale.

Figure 3.17 Bollards and pedestrian scale lighting can be used to emphasize the water’s edge – Liverpool, England

Source: Resource for Urban Design Information

Parking

Parking should be provided for the waterfront to be accessible to users who may not live close by within walking distance or along transit routes. Wherever possible, a parking area should be
located adjacent to, or within a reasonable distance of the public access entry point (NJ Dept, 1989). The number of spaces required will depend on each individual site and circumstances. Parking lots should be located behind buildings or in the interior of a block. Lots should be screened from streets, pedestrian ways, and especially from the walkway itself through the use of landscaping. Wide expanses of surface pavement should be broken up visually by planted medians with shade trees (Portland, 2002). Porous material should be used to allow for water to percolate into the soil.

**Figure 3.18 The walkway should be buffered from adjacent parking lots**

Source: Mayfly Engineering (mayflyeng.com/?Portfolio:Urban_Infill)

### 3.3 Data Sources

The data sources that will be used for collecting and analyzing data for this Report include a policy review, direct observations – including the employment of an audit, and the use of pictures and maps.

**Policy Review**

A policy review of all relevant planning and policy documents pertaining to waterfronts, cycling, pedestrian environment, design guidelines, as well as secondary and downtown plans for Kingston and Belleville will be conducted in order to better understand the policy context within which each of these waterfront walkways was conceived and designed. The objective would be to ascertain whether policies relating to the design of waterfront walkways exist, and that if they
do, assess whether they hamper or encourage good design standards, and what might be done to rectify the situation.

*Direct Observation and the Audit Tool*

The primary method of data collection will be via direct observation and the use of the evaluation criteria. The evaluation criteria were developed and refined so as to aid in the collection and analysis of the design and walkability of the waterfront walkways. As mentioned earlier, these evaluation criteria were developed using the design guidelines published for waterfront public access by New Jersey’s Department of Environmental Protection (NJ Dept, 1989). These guidelines were then updated with waterfront design guidelines published by other municipal governments.

Each of the waterfront walkways was traversed multiple times in order to collect as much information as possible. Direct observations were recorded in an audit specifically prepared for this purpose and which can be found in Appendix A. Some quantitative data was also collected (e.g. the width of sidewalks and the number of benches).

*Pictures and Maps*

Historical and archival pictures were studied in order to graphically understand and map the historical development of the waterfronts and waterfront walkways. A pictorial record of the walks on the waterfronts was also kept. These pictures helped provide visual support and confirmation for observances and audit results. They also helped track certain design elements (e.g. is the design of seating consistent throughout the waterfront walkway) and to analyze and ruminate on some of the design elements missed during the audits.

Maps were also analyzed to better understand circulation patterns and access points. How many streets dead-end rather than connect to the walkway? Is there access across private properties? These and other considerations on how well the waterfront walkways are integrated into the existing street grid are important questions for the purposes of this Report and were understood with the aid of maps.
Miscellaneous

Other tools and sources for data included GIS shapefiles, aerial photographs, and Google maps. These tools were used to collect certain data that may be more difficult to collect while walking, and which are better and perhaps more accurately collected through other means e.g. the distance between benches along the waterfront walkways.

3.4 Limitations of the Method

It must be noted that the research method developed for the purposes of this Report exhibits a number of limitations. Acknowledging the existence of these limitations is the first step in trying to minimize their impact on the outcomes of this Report, though that may not always be possible.

One of the limitations is that the evaluation criteria used in data collection and analysis have been developed from a variety of sources. While some of these sources, such as the PEDS audit tool, have been tested independently in their own right, the list of evaluation criteria used in this Report has not been studied or used outside of this Report. As such, there is no objective measure of how reliable or complete this list is as a measure of public accessibility on waterfront walkways.

Secondly, some of the data collected is objective or quantitative in nature, such as the width of the waterfront walkways at various points, or the number of access points along the length of the walkway. Some of the data is subjective, such as how well the waterfront walkway preserves the views of the water. Findings will thus reflect the views of the author rather than an objective assessment of how all users, or even a significant proportion of waterfront users, perceive the quality of views of the water along the walkway.

This Report analyzes Belleville’s Waterfront Regeneration Master Plan as part of the analytical phase. However there are a number of other plans and designs that could not be included due to time and resource constraints, such as the Breakwater Park Concept Design or Kingston’s Downtown Action Plan.
Lastly, while a number of data sources are used, the Report would have benefited with an additional interview component. While the scope of the Report deals with whether the design of the waterfront walkway is conducive to public accessibility, and thus focuses on the physical design of the waterfront walkway rather than the perceptions of users, or even how exactly the walkway is used, interviews with users could have provided additional details that would have benefited analysis. However, this component was left out due to time and resource constraints.
4.0 Evaluation of Kingston’s Waterfront Walkway

This section will evaluate the existing design of Kingston’s waterfront walkway based on the fifteen evaluation criteria developed and expounded upon at great length in the previous section. Each criterion will be evaluated separately based upon my own experience and direct observations. Upon recording of results below, each group of criteria will be summarized in a comparative manner using a point scale ranking system based on the use of ideograms. The value assigned to each criterion, and represented by the symbols, will indicate the degree to which the design of the walkway meets criterion and illustrates the positive and negative attributes of the walkway. The symbols used to represent the degree to which the criteria are met are:

- Not at all
- Poor
- Adequate
- Good
- Excellent

As already discussed in Section 2.1, for the purposes of this Report, Kingston’s waterfront walkway is considered and evaluated in two separate sections. Part 1 consists of the walkway between Beverly Street at Breakwater Park until the foot of West Street at the Pump House Steam Museum. Part 2 consists of the walkway starting at the foot of West Street all the way to Princess Street and Ontario Street in Kingston’s downtown. Details on the rationale for this division of the walkway into two sections can be found in Section 2.1.
Section 4: Evaluation of Kingston’s Waterfront Walkway

4.1 Policy Analysis

Official Plan

Schedule 5 (Pathways) of the Official Plan for the City of Kingston shows an existing and unbroken pathway running the length of Lake Ontario through the study area. The Plan goes on to state in Policy 3.9.8 that the City is “committed to the maintenance and improvement of the Waterfront [Walkway] as a continuous system” and in Policy 10A.1.9 that the walkway “will be extended and enhanced along Lake Ontario…through public actions and public-private partnerships or easements”. In addition to highlighting the importance of a continuous walkway, the Official Plan recognizes that “improved pedestrian linkages to the waterfront and between blocks in the Downtown” adds to the vitality of the area (Policy 10A.1.4) and that the public has a right to access to the waterfront with access enhanced at the ends of public right-of-ways within the Downtown and Harbour Area. In terms of design guidelines for the walkway, the Plan states that views to the harbour from adjoining streets are character-defining elements of the area and to be protected.

The Official Plan incorporates a number of themes and criteria that have been highlighted in Section 3.0 as elements of a well-designed waterfront walkway, including the importance of a continuous uninterrupted walkway and the need to protect views of the water. Although there is a policy context promoting good design for a waterfront walkway, whether these elements are found in the existing walkway will be assessed later in this chapter.

Zoning By-law

Most of the waterfront walkway within the study area falls under the purview of the Downtown and Harbour Zoning By-Law. Breakwater Park, Macdonald Memorial Park, Confederation Park, and An Gorta Mor Park are zoned as parks while most of the remaining lands are zoned as a Harbour use. Uses within this category are required to maintain a buffer of 10 metres from the water for buildings or structures, and that the Right of Way for public use, which includes the Waterfront Walkway, shall be a minimum of 10 metres wide and uncovered.

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1 City of Kingston Official Plan (2010), Retrieved from www.cityofkingston.ca/residents/development/officialplan
2 Downtown and Harbour Restricted Area (Zoning) Bylaw 96-259, Retrieved from www.cityofkingston.ca/business/development/zoning/
Due to the urban nature of the walkway and heritage elements in Section 2, the 10 metre separation between buildings and water, and even the 10 metre ROW, is not always possible. However, this provision within the By-law does highlight an important need to maintain a wide enough walkway for both pedestrians and cyclists along, or close to, the water’s edge.

**Other Plans and Studies**

**Downtown Action Plan**

The Downtown Action Plan (DAP), approved in principle by City Council in 2004, is an infrastructure and urban design study for the entire downtown.\(^3\) With respect to the segment of the Waterfront Walkway that falls within the downtown, the Plan encourages the creation of a distinct identity reflecting the marine and industrial heritage of the waterfront through the use of pavement, signature light fixtures, and site furniture. Among other features the Plan also recommends a boardwalk built on the breakwater at Breakwater Park.

The Plan also highlights the fact that the point at which the existing waterfront walkway goes around the Radisson Hotel is rather uncomfortable to traverse as the boardwalk is restricted in width and dark due to the low overhang. The Plan proposes a cantilevered boardwalk extending out over the water by 2.4 to 3.0 metres in order to provide a more welcoming walkway.

**Figure 4.1 Concept design for cantilevered boardwalk at Radisson Hotel.**

\(^3\) *Downtown Action Plan (DAP)*, retrieved from www.cityofkingston.ca/residents/development/urbandesignprojects/downtown/
The DAP highlights a number of issues with the existing design of the walkway and proposes solutions to help overcome them. Some of these solutions, if considered appropriate, should be incorporated into the solutions proposed as part of this Report.

Cycling and Pathways Study

The Cycling and Pathways Study, a comprehensive review and analysis of the existing and potential pathway system for the City, labels the existing walkway along Breakwater Park as substandard and proposes a wider Multi-Use Pathway instead. The Study also proposes a number of interventions to improve the connectivity of the existing walkway:

- **Extend the walkway around the Marine Museum and connect to Gore Street**
  
  The Study emphasizes the need to maintain connectivity along the waterfront and proposes developing a pathway around the pier on which the Marine Museum is located. An easement would allow for connection to Gore Street, thus maintaining continuity along the waterfront walkway. The Study also provides a concept drawing for this option:

Figure 4.2 Concept design for extending the walkway around the Marine Museum.

![Concept design for extending the walkway around the Marine Museum.](source: Kingston Cycling and Pathway Study)

- **A new boardwalk around the private residences east of Macdonald Memorial Park to connect the walkway to the Kingston Yacht Club.**
  
  The Study recognizes an existing gap in the waterfront walkway between Emily Street and Simcoe Street (see Section 4.2.1) and the need to establish a new public right-of-way so as to maintain continuity. The Study proposes a new boardwalk, built over infill or cantilevered from the shore, around the private residences between Emily Street and Maitland Street with

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4 *Cycling and Pathways Study (2003)*, retrieved [www.cityofkingston.ca/residents/transportation/cycling/pathways/](http://www.cityofkingston.ca/residents/transportation/cycling/pathways/)

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A Comparative Analysis of Public Access Along the Waterfront Walkways of Kingston and Belleville, ON

an easement with the Kingston Yacht Club allowing access from Maitland Street to Simcoe Street, thus closing the gap. The cantilevered option is considered a better option by the Study as it would have less of an environmental impact than infill.

**Figure 4.3 Concept design for a new boardwalk between Emily Street and Maitland Street.**

The Study also proposes crosswalks across King Street West at Kingston General Hospital and at Emily St. and underlines the need for designed entranceways and signage to entice users to the walkway.

The Study incorporates a number of the themes and criteria highlighted in Section 3.0 as elements of a well-designed waterfront walkway. The Study also proposes a number of design interventions to overcome issues with the design of the existing walkway. If the analysis conducted in this Section reveals the same issues with the existing walkway that the Study highlighted, then the solutions proposed by the Study should be considered for inclusion in conclusions and recommendations section of this Report.

**Breakwater Park – Community Engagement and Concept Design**

Between January and August of 2012, the City of Kingston and KFL&A Public Health worked with 8-80 Cities, a Toronto-based non-profit organization, to organize a public workshop to find ways to improve Breakwater Park through a process of community engagement. 8-80 Cities aims at helping cities transform into places where active transportation is encouraged and where residents have access to vibrant parks and public places. Their final report for this project
identified a number of issues with the existing design of the Park, including deteriorating infrastructure, lack of programming, and unsafe or inconvenient access for pedestrian and cyclists.\textsuperscript{5}

Concurrently, Claude Cormier + Associés Inc. developed a concept plan for the Park.\textsuperscript{6} Some of the solutions proposed in their concept designs includes increasing the walkway width, enhancing access to the Park with crossings, improving aesthetics through maintenance and greenery, and additional lighting and seating facilities. These solutions mirror many of the criteria for good waterfront walkway design already discussed in Section 3 and should be considered as possible solutions in this Report.

\textbf{Figure 4.4 Concept Plan for Breakwater Park}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure4_4.png}
\caption{Concept Plan for Breakwater Park}
\end{figure}

\textit{Source: City of Kingston}

\textsuperscript{5} 8-80 Cities, Make a Place for People – Breakwater Park, Kingston, Retrieved December 22, 2012 from www.cityofkingston.ca/residents/recreation/parks/breakwater
4.2 Walkway Design

4.2.1 Spatial Orientation

Part 1 – Breakwater Park to Pump House Steam Museum

In terms of spatial orientation, the waterfront walkway generally follows the shoreline quite closely apart from the large gap in this section between Emily Street and Simcoe Street when the walkway detours away from the water and along King Street West in order to bypass private property. This gap, also highlighted in the Cycling and Pathways Study (Section 4.1), breaks the continuity of the walkway and detracts from the overall waterfront experience. The Cycling and Pathway Study proposed a solution in the form a new boardwalk built over the water between Emily Street and Maitland Street, with access through the Yacht Club to Simcoe Street, thus ensuring a continuous waterfront experience. Users are also inconvenienced at the Hospital’s helipad between Breakwater Park and Macdonald Memorial Park where, because the helipad blocks the path and due to a lack of a formal detour, users are forced to work their way through the adjacent parking lot (see Figure 4.5).

Figure 4.5 The walkway closely follows the shoreline

Figure 4.6 Forced detour through the parking lot around the Hospital helipad. Water is often found pooling here as well.
Part 2 – Downtown Kingston

The walkway does follow the shoreline quite closely except for the section between Battery Park and the Marine Museum where users are forced to go around the Museum and private property via Ontario Street. This creates a significant gap in the waterfront walkway and breaks its continuity. This gap was also identified in the City’s Cycling and Pathways Study which proposed extending the walkway around the Museum as a possible solution (Section 4.1). East of Confederation Park users are presented with a variety of options to choose from in order to continue traversing the walkway, though none of them are particularly enticing as a route. Users may choose to go around the Holiday Inn along the water via Crawford Wharf, though the gate to this path is not always open. Users may choose Brock Street to get onto Ontario Street and continue onto the Causeway, or they may thread their way behind the Howard Johnson hotel and along the Lone Star Grill’s back patio to get onto Princess Street and then Ontario Street.

Figure 4.7 Detour along Ontario Street around Marine Museum

Source: Google Maps
Section 4: Evaluation of Kingston’s Waterfront Walkway

4.2.2 Dimensions

Part 1 – Breakwater Park to Pump House Steam Museum

The walkway is approximately 1.9 metres wide at Breakwater Park, 1.8 metres at Macdonald Memorial Park, and 3 metres wide at An Gorta Mor Park. While a walkway around 2.0 metres wide is generally considered wide enough to accommodate two-way pedestrian traffic, it is however a rather tight fit for simultaneous use by both cyclists and pedestrians. This was in fact regularly observed along the walkway, when cyclists would often force joggers to run on the grass rather than the walkway at Breakwater and Macdonald Memorial Parks. The walkway at An Gorta Mor Park is however wide enough to accommodate both types of users comfortably.
Part 2 – Downtown Kingston

Along this section the walkway is generally a lot wider. The walkway was measured to be approximately 2.7 metres wide just east of the Marine Museum, 6.3 metres wide between Battery Park and the Radisson Hotel, and approximately 4.2 metres wide around the Radisson Hotel. It is thus wide enough to comfortably accommodate both pedestrian and cyclists concurrently without comprising space or safety.

4.2.3 Material

Part 1 – Breakwater Park to Pump House Steam Museum

The walkway has a concrete surface between Breakwater Park and Macdonald Memorial Park, and of asphalt east of Simcoe St. to An Gorta Mor Park. Along Breakwater Park the walkway is in ‘poor’ condition with a significant number of cracks, bumps, and holes. A thin strip of the walkway (towards the water’s edge side) has been allowed to significantly deteriorate and is both an impediment for users as well as aesthetically unpleasant. In fact, many joggers were observed...
jogging on the grass rather than on the walkway along this section of the Walkway, both due to the danger of bumping into cyclists and in order to avoid the deteriorating walkway. The section at the Macdonald Memorial Park is in fair condition with some bumps and cracks. The section east of Simcoe St. is however in good condition with little discernable deterioration.

Figure 4.12 Visible deterioration at Breakwater Park

Part 2 – Downtown Kingston
Along this section the walkway consists entirely of asphalt apart from the wooden boardwalk along the boat ramp at the foot of Gore Street. The wooden boardwalk provides a welcome break from the unrelenting concrete and asphalt. There is even a small wooden bridge spanning Ahoy Rental’s boat-launch that provides some variety along the walkway. Condition is ‘Good’, except for the short section between William Street and Johnson Street that shows visible deterioration and cracks.

Figure 4.13 Boardwalk and a little bridge at An Gorta Mor Park
4.2.4 View of the Water

Part 1 – Breakwater Park to Pump House Steam Museum

The walkway offers unencumbered views of the water along its length with panoramic views of both Wolfe Island and Lake Ontario, except for the section where it veers away from the water and onto Ontario Street with private property largely blocking any view of the water. There are few trees along the water’s side of the walkway, and benches have been oriented to maximize exposure to the water and take full advantage of the views. Public structures and facilities, such as the Newlands Pavilion, have also been designed to be porous and to not obstruct views.

Figure 4.14 Sweeping views of the water at Breakwater Park

Part 2 – Downtown Kingston

Views of the water are unencumbered along the entire the length of the walkway apart from the section where it diverts onto Ontario Street between the Marine Museum and Battery Park. Battery Park and Confederation Park provide panoramic views of the water, of moored boats, of the historic Shoal Tower, and of the Royal Military College on the other side of the Causeway, with benches placed at a multitude of angles to take full advantage of views.

Figure 4.15 Unencumbered views at An Gorta Mor Park
4.2.5 Landscaping

Part 1 – Breakwater Park to Pump House Steam Museum

Most of the walkway is well buffered from surrounding main streets with a double row of trees serving as a buffer along Breakwater Park and with open space, trees, and a change in gradient along Macdonald Memorial Park. This buffers the walkway from traffic, surrounding buildings and uses, yet is still porous enough to be inviting for users and without making them feel isolated. However, the section of the walkway that goes around the Hospital helipad lacks buffering from the adjacent parking lot or the helipad.

Figure 4.16 Double row of trees buffer walkway from surrounding uses

Part 2 – Downtown Kingston

There is a great deal less landscaping and buffering on the non-water’s edge of the walkway along this section, perhaps reflecting the more urban feel of the walkway. While the An Gorta Mor Park has some green space and Battery Park has some trees, there is little in terms of screening of the walkway from adjacent uses and buildings. A large buffer would usually be unfeasible in tight urban areas, however some form of landscaped buffer is often necessary to provide some distance and separation from adjacent streets and uses in order for users to fully appreciate the waterfront experience.

4.2.6 Connection

The two sections of the waterfront walkway, when considered individually, do not provide much in the way of linking or connecting destinations along the walkway. However, when taken as a single walkway, albeit one with a number of gaps, the walkway serves as a conduit between important sections of the downtown, such as City Hall, Confederation Park, and even the LaSalle
Section 4: Evaluation of Kingston’s Waterfront Walkway

Causeway, to the residential neighbourhood of Sydenham Ward, the Kingston General Hospital, and even adjacent Queen’s University.

Summary

In summary, while the walkway closely follows the shoreline along Part1, the large gap in the trail when it detours onto King Street West between Emily Street and Simcoe Street, as well as the difficulty in going round the helipad through the parking lot, detracts from the overall waterfront experience. While the walkway is wide enough to accommodate two-way pedestrian traffic comfortably, it is not wide enough for simultaneous pedestrian and cyclist traffic. The ensuing conflict often results in pedestrians using the grass rather than the walkway. The walkway is also in generally poor condition with a great deal of visible deterioration.

Along Part 2 of the walkway, the walkway again suffers from a significant gap between the Marine Museum and Battery Park where users are forced to detour along Ontario street in order to bypass the Museum. The walkway is however much wider along this section and is in much better condition than in Part 1.

Table 4.1 Evaluation of Walkway Design

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
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<th>Part 2</th>
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</thead>
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<tr>
<td>View of the Water</td>
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<td>4</td>
</tr>
<tr>
<td>Landscaping</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Connection</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Legend:  Not at all;  Poor;  Adequate;  Good;  Excellent

In terms of implications for future planning, it is obvious that a lack of connectivity and the need to detour along main streets is a major impediment to the realization of a well-designed waterfront walkway. The Cycling and Pathways Study already highlights the gaps between Emily Street and Simcoe Street and the detour around the Marine Museum, and offers a variety of solutions to help overcome these spatial difficulties, including a new boardwalk built over the
water between Emily Street and Maitland Street and extending the walkway around the Museum. Design interventions are also offered to widen the walkway where space may be tight, such as through the use of a cantilevered boardwalk extending over the water around the Radisson Hotel. That being said, solutions differ between plans, and there is a distinct need for the articulation of an overall vision for the waterfront and the walkway through a waterfront master plan that looks at the entire length of the waterfront and proposes broad solutions rather than smaller, localized, and ad-hoc interventions.

4.3 Transition between Public and Private Space

*Part 1 – Breakwater Park to Pump House Steam Museum*

The walkway is well separated from adjacent uses and buildings along Breakwater Park with a width swath of open space and a double row of trees. This gives the walkway a feel of being distinctly public and separate from the adjacent road and private realm, but with enough porousness in the buffer for the walkway to not feel isolated. This is also the case at Macdonald Memorial Park where both open space and a change in gradient help to subtly reinforce the public nature of the walkway. This unfortunately is not however the case along the rest of this section of the walkway. At the hospital helipad users are forced to detour through the parking lot which gives the feel of intruding upon private space. Similarly, when the walkway restarts at the foot of Simcoe St., there is little in the way of buffering between the backyard of the apartment building and the walkway. While the open space does provide some sense of distance between public and private, it essentially feels like a detour through the apartment complex’s backyard and gives a sense of intrusion upon private space. It should be noted that open space is still useful as some form of buffer and is preferable to having a solid, non-porous fence at the property boundary. However a shrubbery or some other sort of vegetation, as the apartment building has used on Simcoe Street, would serve better to delineate the public realm from the private.
Section 4: Evaluation of Kingston’s Waterfront Walkway

Figure 4.17 Lack of buffer between private and public realm at foot of Simcoe St.

Part 2 – Downtown Kingston

The transition between public and private space is generally poor along this section of the walkway. While to some extent this is the effect of the more urban nature of the waterfront, the transition from private to public space along this section could have been better handled through more thoughtful design. Ahoy Rentals, for example, uses a fence to separate their property. The fence comes uncomfortably close to the trail, is not high enough to deter theft, and seems more as a form of property demarcation which could have been handled alternatively with a shrub or some sort of vegetation. It feels especially surreal as a park bench is visible just beyond the fence, adding to the sense of the private intruding upon public space (See Figure 4.18). Similarly, at the Waterfront Apartments just east of Ahoy Rentals there is minimal landscaping or fencing to separate private property from the public walkway. It does not help that the management of the apartment has placed an advertisement sign next to the walkway, or that users are forced to go through their parking lot and onto the main road in order to continue on.

Figure 4.18 Fence separating Ahoy Rental’s property from walkway
Section 4: Evaluation of Kingston’s Waterfront Walkway

Figure 4.19 Bench visible on Ahoy Rental’s property just beyond fence

At Battery Park, the height of the adjacent residential and commercial towers and their proximity to the Park makes the Park area seem more like an extension of the tower’s property than as a distinct public realm (See Figure 4.7). Walking around the Radisson Hotel can also be especially uncomfortable as users have a blank wall to one side and the overhang above which detracts from the open nature and feel of a waterfront walkway. The unwelcoming nature of the walkway around the Radisson Hotel has also been highlighted in the City’s Downtown Action Plan which proposes a cantilevered boardwalk extending out over the water as a possible solution.

Figure 4.20 Dark and unwelcoming walkway beneath the Radisson Hotel

Source: K7Waterfront

While Confederation Park clearly feels public, the plethora of paths through the Park takes away from the feel of a distinct walkway. Access around the Holiday Inn is especially uncomfortable
as users have to thread through a private gate and along a narrow path lined with windows. The other option is to go along Ontario St., which essentially ends the feeling of a distinct public waterfront walkway.

Figure 4.21 Poorly designed transition from apartment complex to walkway takes away from waterfront experience

In summary:

Table 4.2 Evaluation of Transition between Public and Private Space

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
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<th>Part 2</th>
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<tbody>
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<td>🌟</td>
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Legend: 〇 Not at all; 🌟 Poor; 🌟 Adequate; 🌟 Good; 🌟 Excellent

In terms of implication for planning, the City may wish to consider outlining and formally adopting design guidelines for the transition between public and private space for future development along the waterfront walkway. A waterfront walkway masterplan could also consider design interventions for existing development to improve the interface between the public and private realm.

4.4 Amenities

4.4.1 Seating

Part 1 – Breakwater Park to Pump House Steam Museum

While there is a great deal of seating available along this section, the variety of shapes of the benches – from brown wooden ones at the Parks to the black steel ones at the foot of Simcoe St.
results in a lack of cohesiveness or a distinct waterfront identity along the walkway. Apart from benches, the Newlands Pavilion also incorporates a large amount of seating into its design, while a low wall along the hospital parking lot and the steps leading to the water at the Richardson Bath House provide additional informal seating. In terms of their orientation, the benches are well-positioned to take full advantage of the panoramic views the walkway offers, while the Pavilion provides some degree of sheltered seating for users.

**Figure 4.22 Lack of uniformity in seating design**

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**Part 2 – Downtown Kingston**

This section of the walkway rates “Fair” in terms of provision of seating. While there are many picnic tables at the An Gorta Mor Park and lots of benches at Battery Park and Confederation Park, large sections of the walkway offer little or no seating. The benches at Battery Park are again well-positioned to take advantage of views, but offer little in the way of protection from the elements. The many types of seating offered along this section also detract from the sense of cohesiveness in design that a waterfront walkway should have.

**Figure 4.23 Benches are well positioned to take advantage of views at Macdonald Memorial Park**
4.4.2 Restrooms

**Part 1 – Breakwater Park to Pump House Steam Museum**

This section of the walkway is poorly served in terms of public restrooms with the only one available at the Richardson Bath House, which in itself is only open for part of the year.

**Part 2 – Downtown Kingston**

This section is also poorly served by public restrooms with the only ones available found at City Hall and the Wolfe Island Ferry Dock.

**Summary**

Both sections of the walkway offer a great deal of seating, though in Part 2 they are largely concentrated at the three parks: An Gorta Mor Park, Battery Park, and Confederation Park, rather than spread out evenly along the walkway as in Part 1. While the benches are generally in a good state of repair, a singular design along the entire length of the walkway would have been especially helpful in crafting a strong waterfront identity along the walkway.

There is however a dearth of public washrooms along the walkway, with just the Richardson Beach House in Part 1 and City Hall and the Wolfe Island Ferry Dock along Part 2. The lack of easily accessible public facilities can pose an impediment to the enjoyment of both the waterfront and the walkway for longer durations of time, especially if children are accompanying adults.

**Table 4.3 Evaluation of Amenities**

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<td>Restrooms</td>
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Legend: 🟠 Not at all; 🟠 Poor; 🟠 Adequate; 🟠 Good; 🟠 Excellent

In terms of implications for future planning, the City could simply provide more amenities for users. This is already considered to some extent in the various plans and studies undertaken by the City, such as the Cycling and Pathways Study that shows more seating, plantings, and other amenities along the strip between Breakwater Park and Confederation Park. However, there is a
need to rise above this rather localized approach to planning and consider the provision of amenities on a broader scale along the entire walkway through a study or masterplan that identifies specific areas that would benefit most through the increased provision of amenities based on locational advantages, usage patterns, and so on. A masterplan could also help crystalize a waterfront identity in the design of these amenities.

4.5 Public Access

4.5.1 Accessibility from Streets

Part 1 – Breakwater Park to Pump House Steam Museum

Accessibility from the street is generally poor along this section of the walkway with few formal pedestrian crossings along the rather busy King Street West. Traffic is usually fast and constant, and the bend in the road at the hospital results in poor visibility. The only pedestrian crossings are at Collingwood Street and at the traffic intersection at Barrie Street. This results in pedestrian having to often run across the King Street West in order to access the walkway, and thus acts as a deterrent to its safe and easy use. That being said, sightlines to the water and the waterfront walkway from adjacent streets are well maintained with porous buffering and the lack of buildings or structures to block the view.

Figure 4.24 Lack of pedestrian crossings along King St. West
Part 2 – Downtown Kingston

While Ontario Street, which runs parallel to the waterfront, does act somewhat as a deterrent to pedestrians crossing, traffic is relatively calmer, especially at the western end of this section. Formal pedestrian crossings exist at Johnson Street and directly in front of City Hall. However, in spite of the lack of crossings, pedestrians were noted crossing Ontario Street at many of the other intersections. In addition to more opportunities to cross the street, and with sightlines to the water and the walkway well-maintained, access to the walkway from these streets is relatively easier along this section when compared to Part 1.

4.5.2 Access to Water’s Edge

Part 1 – Breakwater Park to Pump House Steam Museum

Most of the water’s edge is covered by armor stone revetment piled high enough that, while views are by no means affected, access to the water itself is difficult. The uneven surface of the revetment offers treacherous footing, and few users would attempt to reach the water. The only direct access to the water can be found at Richardson Bath House where steps lead down to the water, or at Breakwater Park where a number of small pebble beaches allow for contact with the water. These beaches are popular with walkway users as well as a resting spot for ducks and geese.
Part 2 – Downtown Kingston

There is no access to the water’s edge along this section of the walkway apart from a boat launch at the foot of Lower Union Street. The rest of the shoreline is generally lined with armor stone revetment which offers little access to the water. A small fence at the marina between Breakwater and Confederation Parks prevents any unwanted access to the water.
4.5.3 Physical Accessibility

Part 1 – Breakwater Park to Pump House Steam Museum

While the gradient of the waterfront walkway at this section is relatively flat so as not to impede access to the walkway for the physically disabled, two problems do present themselves. The lack of pedestrian crossings across King Street West makes access difficult. This however is mitigated somewhat if users drive to the waterfront instead of using the streets. The second problem is the poor condition of the walkway itself, as discussed in Section 4.2.3, which would result in a great deal of difficulty in traversing the walkway.

Part 2 – Downtown Kingston

This section of the walkway presents fewer hurdles for the physically disabled as the gradient is relatively flat and the path is in much better shape. However, access across Ontario Street, while better than access across King Street West, is still not easy and presents somewhat of a challenge for those who might need more time in crossing roads and streets.

Summary

Access to the waterfront walkway from surrounding streets and neighbourhoods is generally poor due to high-speed traffic along King Street West and Ontario Street, and a dearth of pedestrian crossings. While generally a problem for most pedestrians, the lack of formal crossings is especially an impediment for those with physical disabilities who may not be able to safely cross the street without a formal intersection or pedestrian crossing. That being said, sightlines of the water and the walkway along adjacent streets are generally well maintained with few obstructions. Access to the water itself is however constrained due to the use of large armorstone revetment along most of the shoreline. Additional pebble beaches, such as the ones at Breakwater Park, or steps to the water, such as at Richardson Beach House, would not only allow access to the water, but would greatly enhance the waterfront experience.
Table 4.4 Evaluation of Public Access

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<tr>
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</table>

Legend:  ○ Not at all; ◼ Poor; ◼ Adequate; ◼ Good; ◼ Excellent

In terms of implications for planning, access to the walkway from the streets can be improved through the use of pedestrian crossings, provision of traffic lights, and other measures to help calm traffic along Ontario Street and King Street West. Formal entranceways to the walkway could also be established with landscaping, signage, and maps. Views of the water along adjacent and perpendicular streets can be protected through the establishment of view corridors, while access to the water’s edge can be improved through the use of steps, pebble beaches and other design interventions that would still provide necessary protection against erosion of the shoreline. All of these proposed solutions would be elements of a thorough and overarching waterfront, or waterfront walkway master plan. Improving physical accessibility along the walkway depends in large part to improving general access to the walkway. However, the adoption of policies that underline the need to consider the specific needs of the disabled, such as Universal Design Guidelines, would help ensure the design of more inclusive public spaces in the future.

4.6 Wayfinding and Lighting

4.6.1 Signage

*Part 1 – Breakwater Park to Pump House Steam Museum*

There are a number of signs posted along this section of the waterfront walkway and are especially helpful at the point where the walkway detours away from the water and onto King Street East as they help direct users back to the waterfront and the walkway. That being said, the walkway would greatly benefit from a map showing the entire length of the walkway, especially at the parking lots at Macdonald Memorial Park and the Richardson Beach House which are important access points for walkway users. Moreover, the existing signs consist of a variety of types and design, which can result in some confusion – there are Waterfront Regeneration Trust
signs and City of Kingston Waterfront Pathway which are themselves found in multiple designs. A single design used along the entire length of the walkway would cause less confusion and add to the identity of the waterfront and its walkway. In addition, there is a lack of any signage identifying the walkway near any of the entrances or access points to the waterfront.

Figure 4.29 Lack of cohesiveness in sign design

Part 2 – Downtown Kingston
There are again a number of signs along this length of the walkway that identify the walkway for users as well as identify important landmarks along the way. However, there is again a lack of consistency in design. A map of the entire walkway at the An Gorta Mor Park, while helpful, could have benefited from being located at a more important access point or entrance along the walkway. Notable is the lack of any signs identifying the route to take when the walkway veers off to the main road at the Marine Museum and after Confederation Park where a number of options present themselves to users.

4.6.2 Lighting
Part 1 – Breakwater Park to Pump House Steam Museum
There is a noticeable dearth of lighting along this section of the waterfront, with some lighting near the Richardson Bath House, and four floodlights stuck at various angles in the trees at Breakwater Park. This lack of lighting is a serious impediment in the use of the walkway as they promote an uninviting and perhaps even dangerous atmosphere at night.

Part 2 – Downtown Kingston
The two parks, Battery Park and Confederation Park, provide ample lighting, making the walkway more attractive to use at night. The section between the two parks, at the point where it winds around the Radisson Hotel, while lit, is still rather dark and uninviting, especially with the blind corners that must be crossed.
Figure 4.30 Lighting at Breakwater Park

Summary

In summary:

Table 4.5 Evaluation of Wayfinding and Lighting

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Part 1</th>
<th>Part 2</th>
</tr>
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<tbody>
<tr>
<td>Signage</td>
<td></td>
<td></td>
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<tr>
<td>Lighting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend: ○ Not at all; ⬜ Poor; ○ Adequate; ⬝ Good; ● Excellent

Implications for future planning: more signage along the waterfront that provides necessary direction and instructions is needed and which helps foster a distinct waterfront identity. A variety of lighting should also be considered; pedestrian level lights along the walkway with smaller bollard lighting used to help accentuate the water’s edge.

4.7 Surrounding Environment – Parking

Part 1 – Breakwater Park to Pump House Steam Museum

This section of the walkway is well served by parking with lots at the Hospital, at MacDonald Memorial Park, and by the Richardson Bath House. However, the design of the lots leaves much to be desired, with little in the way of landscaping to buffer the cars from walkway users. Nor do the parking lots incorporate any features to increase sustainability such as permeable materials and so on. In fact, not only is their design lacking, users are also forced to detour through the parking lot at the hospital as the helipad blocks their path.
Part 2 – Downtown Kingston

There is a great deal of parking available within a short distance of the walkway along this section, with lots at An Gorta Mor Park, at the Waterfront Apartments, around Confederation Park, as well as on-street parking on Ontario Street. Again, their design is lacking with little buffering or other features highlighted in the evaluation criteria, and users are again forced to detour through a lot, this time at the Waterfront Apartments, in order to continue along the walkway.

Table 4.6 Evaluation of Surrounding Environment

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Part 1</th>
<th>Part 2</th>
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</thead>
<tbody>
<tr>
<td>Parking</td>
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<td>🌟</td>
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</tbody>
</table>

Legend: ☐ Not at all; ☑ Poor; ☑ Adequate; ☑ Good; ☑ Excellent

In terms of implications for planning, there seems to be adequate provision of parking along the waterfront walkway. However, design guidelines for the better design of parking lots, with improved screening of lots from adjacent uses and incorporation of features that improve sustainability could be adopted and applied to existing lots.
5.0 Evaluation of Belleville’s Waterfront Walkway

This section will evaluate the existing design of Belleville’s waterfront walkway as well as the proposed design presented in the Belleville Waterfront Redevelopment Master Plan based on the fifteen evaluative criteria developed and expounded upon at great length in Section 3.0. Each criterion will be evaluated separately based upon my own experience and direct observations. Upon recording of results below, each group of criteria will be summarized in a comparative manner using a point scale ranking system based on the use of ideograms. The point assigned to each criterion, and represented by the symbols, will indicate the degree to which the design of the walkway meets criterion and illustrates the positive and negatives of the walkway. The symbols used to represent the degree to which the criteria are met are:

- O - Not at all
- □ - Poor
- ■ - Adequate
- ◇ - Good
- ● - Excellent

5.1 Policy Analysis

Official Plan

The waterfront is mostly designated as Open Space within the Land Schedule of the Official Plan.¹ This designations applies to lands predominantly used as “significant public outdoor parks and [for] recreation uses” (Policy 3.6) and also permits docking for boats, yacht clubs, and marina uses along the Bay of Quinte. The Plan notes the importance of trail development for the growth of an open space system and that trails that connect shoreline areas should be developed wherever possible (Policy 3.6.2). The Plan also recognizes that access to these open spaces is largely vehicle dependent, and that while adequate parking should be provided, the visual appearance of these parking areas should be enhanced through appropriate landscaping.

¹ City of Belleville, City of Belleville Official Plan (February 2002)
As we have seen in Section 3.0, having destinations along a walkway or connecting different parts of the City is an important part of encouraging use of a walkway. This is recognized by the City’s Official Plan which states that pedestrian access between the waterfront and the downtown is an important policy consideration, and that a future trail system along the Moira River could act as a possible link.

**Zoning By-law**

The waterfront is largely zoned as O2-1 and falls within the Open Space Zone.\(^2\) Permitted Uses include parks, boat docking, yacht clubs, and marinas. Nothing specifically related to waterfront pathways and walkways is included within for this zone.

### 5.2 Walkway Design

#### 5.2.1 Spatial Orientation

**Existing Waterfront Walkway**

Belleville’s waterfront walkway does not constitute a single unbroken trail but rather has a large gap that extends from the Ramada Hotel down to Meyers Pier. This gap forces the walkway user to turn away from the waterfront itself at the Hotel and cut across the parking lot in order to access Dundas St. and the bridge across the Moira River. Users must then use Front St. to get to the walkway again at Meyers Pier. At the walkway’s western end, it abruptly ends where the walkway meets private property with a fence-off area separating the public walkway from private lands. At its eastern end, the walkway ends at Herchimer Ave. where users are forced onto the main street if they wish to continue on. Not considering the gap that bisects the walkway, Belleville’s waterfront walkway rigorously follows the shoreline and at no points meanders more than a few metres away from the water.

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\(^2\) City of Belleville, *City of Belleville Zoning By-Law Number 10245*
Waterfront Redevelopment Master Plan

The Plan recognizes the poor connectivity between the eastern and western halves of the waterfront walkway and emphasizes the need to increase connectivity in order to improve circulation. To this end the Plan proposes a pedestrian and cyclist bridge across the Moira River as a first step, a new east-west trail to directly link the new bridge to the Water Treatment Plant in order to provide an alternative route for pedestrians and cyclists, as well as more pedestrian connections to the walkway at East and West Zwick’s. The Plan also advocates that the City negotiate a nine metre wide pathway along the water’s edge from the private Marina and Hotel in order to connect the existing walkway to the new bridge. On the eastern side, the Plan proposes the development of South Front Street as a pedestrian and cyclist path in order to help connect the western half to Meyers Pier Park.

5.2.2 Dimensions

Existing Waterfront Walkway

The walkway is approximately 3.7 metre wide along its entire length, except for a very small portion just east of Meyers Pier where it narrows to approximately 2.7 metre. The walkway is thus wide enough to allow for adequate space for two-way traffic of both pedestrians and cyclists, as well as access for emergency and maintenance vehicles. Terrain is relatively flat.
across the trail, except for the small path next to the Water Treatment Plant that provides access to the walkway, which is relatively steep.

Figure 5.2 Walkway is wide enough for multiple users and maintenance vehicles

Waterfront Redevelopment Master Plan

The Plan does not propose widening the existing walkway.

5.2.3 Material

Existing Waterfront Walkway

The walkway incorporates a variety of materials in order to differentiate certain uses or areas. The walkway consists primarily of asphalt and is in excellent condition with little visible deterioration. Seating areas, such as the small ones along the Water Treatment Plant, or the larger one in East Zwick’s Centennial Park, as well as commemorative paths such as Memory Lane at the eastern end of the trail, utilize paving bricks, which helps differentiate the area or path from the walkway itself. A number of small off-road paths that meander off the walkway and allow the user to get closer to the water consist of gravel. Meyers Pier, as the name itself implies, is a wooden pier. The only section that shows substantial visible deterioration is the path that leads away from the walkway and onto the parking lot at the Ramada Hotel and is rather difficult to traverse.
Section 5: Evaluation of Belleville’s Waterfront Walkway

Figure 5.3 Gravel pathways add interesting detours to main trail

Waterfront Redevelopment Master Plan

The Plan recommends general guidelines in terms of using paving materials of fine quality and workmanship to enhance the pedestrian environment, but no specific intervention is proposed.

5.2.4 View of the Water

Existing Waterfront Walkway

The waterfront walkway provides unhindered views of the water along its entire length. While there are some tees along the shoreline they help buffer walkway users from the wind without compromising views of the water. Benches are also ideally situated to offer panoramic and unhindered views of the water.

Figure 5.4 Sweeping views of downtown from East Zwick’s Centennial Park

Waterfront Redevelopment Master Plan
Section 5: Evaluation of Belleville’s Waterfront Walkway

The Plan emphasizes the need for the walkway to provide unencumbered views of the water and recommends a small plaza at the foot of the Bay Bridge to encourage walkway users to pause and contemplate the Bay at this point where the view is most sweeping.

5.2.5 Landscaping

Existing Waterfront Walkway

A great deal of low shrubbery can be found along the entire length of the walkway, though not always in the ideal position. Near the Water Treatment Plant, shrubbery helps separate the walkway from, as well as visually buffer the user, from the railway line as well as from private development. The shrubbery is low enough to not compromise sightlines but thick enough to prevent walkway users from crossing the railway line. Shrubbery also serves as a separating boundary at the Ramada Hotel. That being said, there are some sections where knee-high shrubbery can be found along the water’s edge which seems like an unnecessary barrier to the water’s edge.

Figure 5.5 Landscaping along the walkway at East Zwick’s Centennial Park

Trees can be found scattered along the water’s edge. The trees do provide some protection to walkway users from buffeting winds without compromising sightlines and views of the water.

Waterfront Redevelopment Master Plan

The Plan encourages the use of shrubbery to both buffer surrounding uses from the walkway, as well as a sort of green barrier along the water’s edge in order to help with ecosystem maintenance. Only native species would be used.
5.2.6 Connection

Existing Waterfront Walkway

Apart from West Zwick’s Island Park, East Zwick’s Centennial Park, and Belleville General Hospital, there is little in the way of specific destinations that are connected by the waterfront walkway. Institutions such as the Town Hall or the commercial centre of the city are a certain distance away from the walkway and hence cannot be considered as destinations along the walkway. While transit connections can be found on Dundas St. West, there few other connections or transit routes for walkway users, leaving the area poorly connected to the rest of the city in terms of transit access.

Waterfront Redevelopment Master Plan

While the Plan does consider the redevelopment of the waterfront as an ideal opportunity to help connect the waterfront with the downtown, it provides few recommendations other than improving east-west connection across the Moira River and redeveloping Front St. to allow for more tourist access.

Summary

Belleville’s waterfront walkway does not constitute a single unbroken trail but rather has a large gap that extends from the Ramada Hotel down to Meyers Pier, forcing users to cross parking lots, private property, and main roads. The existing walkway is wide enough to comfortably accommodate two-way pedestrian and cyclist traffic, and is generally in excellent condition with little visible sign of deterioration.

The Waterfront Master Plan recognizes the ap in the walkway that presents a major impediment for user, and proposes a pedestrian and cyclist bridge across the Moira River, a more prominent east–west connection across Dundas Street West, a public right of way across the Ramada Hotel and Morch Marine marina properties among other solutions. These solutions are excellent suggestions to help improve the connectivity between the eastern and western sections of the walkway, and would be instrumental in increasing circulation around the walkway.
Table 5.1 Evaluation of Walkway Design

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Existing Walkway</th>
<th>Waterfront Master Plan</th>
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</thead>
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<td>Spatial Orientation</td>
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<tr>
<td>Dimensions</td>
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<tr>
<td>Landscaping</td>
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<td>●</td>
</tr>
<tr>
<td>Connection</td>
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<td>●</td>
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</tbody>
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In terms of implications for future planning, the Waterfront Master Plan identifies most of the problems currently experienced by walkway users and proposes solutions to help overcome them. However, one of the major areas that the Plan is lacking is a better way to link the downtown to the waterfront and the walkway. This need is specifically highlighted in the City’s Official Plan and should have been included in the Waterfront Master Plan.

5.3 Transition between Public and Private Space

*Existing Waterfront Walkway*

The waterfront walkway only goes over public land across its entire length. At no point along the trail does the user feel as though they might be intruding upon private property. This is especially true of East and West Zwick’s Parks which engender a particularly public atmosphere along the walkway with children’s play areas, public amenities such as a cafeteria, and ample seating. However, the walkway does go along private property and public infrastructure at certain points, and the transition between the public and private realm can be abrupt rather than subtle. At the Water Treatment Plant for example, a change in gradient and a wrought iron fence separates the Plant from the walkway. While the fence itself is porous and does not block the view of the Plant, it seems unnecessary as the change in gradient is steep enough to discourage trail users from stepping off the walkway and onto Plant property. Nor is the fence necessary for security as it does not extend all the way around the Plant. In this case, the fence does detract slightly from the waterfront experience. Similarly, at the other end of the walkway, a chain-link fence
Section 5: Evaluation of Belleville’s Waterfront Walkway

separates the Sewage Treatment Plant from the walkway, and is perhaps the only part of the walkway that is not particularly welcoming for users. At East Zwick’s Centennial Park, a fence and shrubbery separate the Park from the Hotel. This is unnecessary as a small inlet already divides the Hotel grounds from the public park, and the shrubbery would have been sufficient as a barrier without the need of an intrusive fence.

Figure 5.6 Fence at Water Treatment Plant

Figure 5.7 Fence along Ramada Hotel

An area that could have used more separation between the public and private realms is along Keagan Parkway at the walkway’s eastern end where the lack of buffering from the warehouses and heavy vehicles that ply the Parkway detracts from the waterfront experience.

A part of the walkway that separates the realms well is along the houses just east of the Water Treatment Plant that are separated from the walkway by a change in gradient, shrubbery along the bottom of the slope, and a rustic, ranch style wooden fence at the top. In this case, the houses
Section 5: Evaluation of Belleville’s Waterfront Walkway

feel separated from the walkway, the fence is highly porous, and because it is set some distance back from the walkway, does not feel overbearing.

Figure 5.8 Lack of buffering from warehouse uses in the background

Figure 5.9 Fence separates walkway from Sewage Treatment Plant

Waterfront Redevelopment Master Plan

The Plan recommends improving the remediation buffer between the Ramada Hotel and the walkway at East Zwick’s with additional plantings but does not mention retaining the existing fence. The Plan does not feel the need for a better transition from the Water Treatment Plant and the Sewage Treatment Plant to the walkway or the need for additional buffering of the walkway from the warehouses and heavy traffic along Kiwanis Bayshore Park.
In summary:

### Table 5.2 Evaluation of Transition between Public and Private Space

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Existing Walkway</th>
<th>Waterfront Master Plan</th>
</tr>
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<tbody>
<tr>
<td>Transition between Public and Private Space</td>
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In terms of implications for future planning, the Waterfront Master Plan could be expanded to include design guidelines for better treatment of the zone between the private and public realm and offer strategies for less intrusive and more subtle designs.

#### 5.4 Amenities

##### 5.4.1 Seating

*Existing Waterfront Walkway*

While there a great deal of benches provided along the waterfront walkway, they tend to be concentrated in a few areas rather than spread out evenly along the walkway, especially in East and West Zwick’s Parks and at Meyers Pier. The benches are standard metal benches with arm rests and are well-positioned close to the water in order to provide unhindered views of the water, thereby inviting users to tarry for a bit. Most however have minimal sheltering from the wind, thereby decreasing usability on windier or colder days. Some carry a commemorative plaque which implies that residents of the city are able to contribute in some way to their waterfront. Informal seating is also provided in the form of a low stone wall along the shoreline at the western end of the trail and a large number of picnic tables at West Zwick’s Island Park that can be moved around.

*Figure 5.10 Benches sheltered and well positioned to take in views of water*
Section 5: Evaluation of Belleville’s Waterfront Walkway

Waterfront Redevelopment Master Plan
The Plan proposes additional seating area in East and West Zwick’s as well as more benches along Meyers Pier Park. The Plan does also provide some general design guidelines for benches. It does not however address the large gaps that are currently found between benches and the need to spread them out across the trail.

5.4.2 Restrooms

Existing Waterfront Walkway
The waterfront walkway is rather poorly served by restrooms with only one permanent facility at Kiwanis Bayshore Park. There are portable toilets next to the children’s playground at West Zwick’s Centennial Park and at the beginning of the East Bayshore Park. That being said, the permanent facility at Kiwanis Bayshore Park is large, well designed, highly accessible, and regularly maintained.

Figure 5.11 Portable toilets rather than permanent facilities along East Bayshore Park

Waterfront Redevelopment Master Plan
The Plan does not propose any additional restroom facilities than the existing ones.

Summary
While many benches can be found along walkway, they tend to be concentrated in specific areas, rather than spread out. The Masterplan does not recognize this problem, and instead proposes increasing seating in areas with sufficient existing options. In addition, the walkway is poorly served by restrooms, which can be an impediment to users staying at the waterfront for long periods of time, especially if they have children in tow. The use of band-aid solutions such as port-a-potties does not resolve the core issue of this being an underserved area. The Materplan
does not propose any additional facilities, but does recommend upgrading the existing facility, which appeared unnecessary during data-collection.

Table 5.3 Evaluation of Amenities

<table>
<thead>
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<th>Evaluation Criteria</th>
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<tr>
<td>Restrooms</td>
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In terms of implications for future planning, the obvious solution would be to amend the Waterfront Master Plan and consider the provision of more seating and restroom facilities along the length of the walkway and not just concentrated in specific areas.

5.5 Public Access

5.5.1 Accessibility from Streets

Existing Waterfront Walkway

Access to the waterfront walkway is generally very poor along the western half of the walkway, but is better along the eastern half. At the extreme western section of the walkway, access to the walkway is only possible via a narrow path around the Water Treatment Plant. Visibility to the walkway is itself from the main road is poor with views blocked by the Plant and neighbouring houses. The narrow itself has no signage or formal entrance to denote access to the walkway. At both West Zwick’s Island Park and East Zwick’s Centennial Park long driveways off the main road provide access to parking lots and the Parks, which must then be crossed in order to access the walkway. The length of the distance that needs to be travelled to get to the walkway, the poor condition of the driveways, and the lack of direct sightlines to the water or the walkway from the road makes the waterfront walkway poorly accessible.
Figure 5.12 Narrow, uninviting entrance to walkway from the Water Treatment Plant

This is contrasted with the eastern portion of the waterfront walkway where a number of streets perpendicular to the walkway, and which are well-maintained and have sidewalks. These streets provide comfortable access for both vehicles and pedestrians, while maintaining sightlines of the walkway and the water. There are a number of formal entranceways to small parking lots that have signage, landscaping, and lighting, thereby making it easier to locate and use the walkway.

Waterfront Redevelopment Master Plan

The Plan proposes a number of interventions to help increase access to the walkway, and to the waterfront in general, from main streets. The Moira River Bridge and the East-West Trail along Dundas Street West will help open up the area to pedestrians and cyclists. The access roads at East and west Zwick’s would be improved with pedestrian trails and sidewalks, as well as better upkeep. The Plan also proposes a new east-west road just north of Meyers Pier Park in order to improve circulation around the area as well as access to the Pier. South Front Street would end in a loop in order to provide better access for transit and tour buses.

5.5.2 Access to Water’s Edge

Existing Waterfront Walkway

Two boat launches, one by the Lions Club Pavillion in West Zwick’s Island Park and the other at the foot of South George St., are the only formal access points to the water. A low stone wall at the western end of the walkway, by the Water Treatment Plant, prevents any access to the water. The rest of the walkway is generally bordered by a gentle slope down to the water, with small concrete riprap that does not impede access to the water much.
Section 5: Evaluation of Belleville’s Waterfront Walkway

Figure 5.13 Access to water from walkway is relatively easy

Waterfront Redevelopment Master Plan
The Plan proposes a wide green buffer at East and West Zwick’s in order to filter leaching and improve water quality. While this green buffer would improve the environmental quality of the ecosystem, it would minimize access to the water’s edge. The Plan does however propose a concrete ramp through this green buffer to provide access to skaters and ice preparation vehicles in the wintertime as well as double as a launch for canoes and kayaks.

5.5.3 Physical Accessibility
Existing Waterfront Walkway
The waterfront walkway generally consists of asphalt and is in very good condition, with little visible deterioration such as cracks or potholes. The gradient is also fairly level. The walkway is thus highly traversable for the physically disabled or those who use wheelchairs. That being said, the walkway itself is less accessible along the western half as the road is set back far from the walkway and the path leading to it is not well-maintained. Parking near the walkway does allow easier access via vehicles, but is of little consolation to those coming from the main road or from transit. The eastern section is more easily accessible due to perpendicular streets, with sidewalks, providing direct access to the trail. In general, the large gap between the two halves of the walkway and the poorly maintained condition of the path leading to the walkway from the road for the western half of the walkway would make crossing the length of the trail nearly impossible for the physically disabled.
Section 5: Evaluation of Belleville’s Waterfront Walkway

**Waterfront Redevelopment Master Plan**

The Plan identifies the need for the waterfront to be inclusive and accessible to all peoples, including the disabled, as a core principle of the redevelopment.

**Summary**

High-speed traffic, lack of pedestrian crossings, and long, poorly maintained roads through East and West Zwick’s result in poor pedestrian access to the waterfront walkway along the western section of the walkway. The situation does improve along the eastern section where residential neighbourhoods close to the water provide perpendicular roads closer to the waterfront. Users can however access the water’s edge relatively easily as the use of small riprap along most of the shoreline does not constrain access. Moreover, the excellent condition of the walkway itself does not constrain access and use by the physically disabled.

The Master Plan does propose a number of interventions designed to help improve access, including improved access roads across East and West Zwick’s Parks with sidewalks and trails, a new pedestrian and cyclist bridge across the River and an improved East-West connection. In terms of access to the water’s edge the Plan proposes a wide green buffer at East and West Zwick’s in order to environmental functioning, which would however limit access to the water’s edge.

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Existing Walkway</th>
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<td>Accessibility from Streets</td>
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<td>Access to Water’s Edge</td>
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</tr>
<tr>
<td>Physical Accessibility</td>
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In terms of implications for future planning the Waterfront Master Plan should consider access to the water’s edge as an important part of the waterfront experience, and offer design solutions that increase access while maintaining the ecological integrity of the area and preventing erosion. A wooden boardwalk is a common design feature used to give access to the water without compromising areas that might be environmentally fragile.
Section 5: Evaluation of Belleville’s Waterfront Walkway

5.6 Wayfinding and Lighting

5.6.1 Signage

*Existing Waterfront Walkway*

The western half of the walkway has little signage, with a distinct lack of signs near entrances to the walkway that might indicate the route, length, and features. There are however a couple of Waterfront Regeneration Trust (WRT) signs along the walkway that mark it as part of the WRT route. The eastern half of the walkway is better served with signage, with a number of City of Belleville signs posted at walkway entrances that highlight the public nature of the walkway as well as routes. There are also a number of additional signs such as commemorative signs at the Rail Roaders Square, as well as conservation posters that give information on native species found along the walkway and highlight the fragility of habitat diversity.

*Figures 5.14 Maps and other signs at Meyers Pier*

*Waterfront Redevelopment Master Plan*

The Plan highlights the need for better designed entranceways at East and West Zwick’s in order to define the waterfront as a distinct area and to highlight the waterfront walkway. The Plan highlights three types of signs that will be needed along the walkway: orientation signs to provide direction to the various elements and areas of the waterfront, interpretative signs to fulfill an educational role, and directional signs that relate to circulation along the walkway.

5.6.2 Lighting

*Existing Waterfront Walkway*

Both halves of the walkway are well lit, with an average of a lamp every 38 metres. Lamps consist of a standard design high pressure sodium (HPS) street lamp style lighting. While the
Section 5: Evaluation of Belleville’s Waterfront Walkway

lamps do not espouse a nautical theme, the use of a consistent design along the entire length of the walkway reinforces the notion of being in a public waterfront walkway area.

**Waterfront Redevelopment Master Plan**

The Plan proposes integrating light bollards with plantings in order to create a dramatic effect at night along the length of the walkway. Downcast pedestrian-scaled lighting of the same type should be used throughout the waterfront, and their poles should be designed to allow the hanging of banners, where appropriate.

**Summary**

While the eastern section of the walkway has adequate signage in terms of indicating entrances to the walkway, trailmaps, and even educational and commemorative signs, the western section suffers from a dearth of them, including an obvious lack of a trailmap. This deficiency is highlighted in the Plan that calls for more prominent entrances along the western section, as well as signs for orientation, interpretation, and direction. The walkway is well however well served by lighting, though the lack of a distinct nautical theme in their design would greatly advance a waterfront identity.

### Table 5.5 Evaluation of Wayfinding and Lighting

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Existing Walkway</th>
<th>Waterfront Master Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signage</td>
<td>♦</td>
<td>♦</td>
</tr>
<tr>
<td>Lighting</td>
<td>♦</td>
<td>♦</td>
</tr>
</tbody>
</table>

In terms of implications for Future planning, the Waterfront Master Plan already identifies the problems on the existing walkway highlighted by this Study and offers worthy solutions.

### 5.7 Surrounding Environment – Parking

**Existing Waterfront Walkway**

There are two very large concrete parking lots along the western half of the walkway, one at West Zwick’s Island Park, and the other at East Zwick’s Centennial Park. The one at West Zwick’s has little in the way to buffer the parking lot from the walkway apart from a grass strip
that runs along the parking lot. The one at East Zwick’s is however buffered from view by a heavily treed dog park. Along the eastern half there are a number of smaller parking lots with minimal buffering to separate the lot from the walkway.

**Waterfront Redevelopment Master Plan**

The Plan emphasizes the need for better design parking lot, with increased screening and landscaping to minimize visual impact and maximizing permeable surfaces. Parking lots should include one tree and a bollard for every four parking stalls and walkways through parking lots should be designed to connect to the walkway and other circulation systems.

**Table 5.6 Evaluation of Surrounding Environment**

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Existing Walkway</th>
<th>Waterfront Master Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking</td>
<td>○</td>
<td>●</td>
</tr>
</tbody>
</table>
6.0 Conclusions and Recommendations

6.1 Conclusions
In this section the relevant findings from the chapters analyzing the existing waterfront walkways in Kingston and Belleville and the proposed Belleville Waterfront Master Plan will be linked back to the three research questions initially advanced in Section 1.5. The first two research questions deal directly with the design of the walkways and their success or failure in allowing for public access to the waterfront. Discussion of these two questions will constitute the Conclusions drawn from the respective Analysis chapters for each walkway. Discussion on the final research question, dealing with specific design interventions that could boost public access, will constitute the final part of this section – the Recommendations.

Before considering the results in terms of the research questions, it would be beneficial to recap the final results of the analysis and findings that resulted from the evaluation criteria developed in Section 3. The findings have already been discussed at length in Section 4 and Section 5, and have been summarized in tabular format on the following page.
### Table 6.1 Evaluation of Waterfront Walkways

<table>
<thead>
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<td><strong>Walkway Design</strong></td>
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<td>Spatial Orientation (how does the walkway relate to the shoreline spatially)</td>
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<td>Dimensions (width and elevation of the walkway)</td>
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<td>Material (material used for paving)</td>
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<td>View of the Water (maintenance of views to water)</td>
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<tr>
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<tr>
<td>Connection (connectivity between walkway and other public areas)</td>
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<td>🌟</td>
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<tr>
<td><strong>Separation of Space</strong></td>
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<td><strong>Amenities</strong></td>
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<tr>
<td>Seating (frequency and design of seating)</td>
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<td>🌟</td>
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<td>🌟</td>
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<tr>
<td>Restrooms (frequency and design of restrooms)</td>
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<td><strong>Wayfinding and Lighting</strong></td>
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</tr>
<tr>
<td>Signage (frequency and design of entrance signs, wayfinding and informational guides)</td>
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<td>🌟</td>
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<td>🌟</td>
</tr>
<tr>
<td>Lighting (frequency and design)</td>
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<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
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<tr>
<td><strong>Surrounding Environment</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Parking (provision of parking and buffering from walkway)</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
</tr>
</tbody>
</table>

Legend: 🌟 Not at all; 🌟 Poor; 🌟 Adequate; 🌟 Good; 🌟 Excellent

As we can see from the table, Kingston’s walkway fares well on most criteria under Walkway Design, with the only real deficiencies being poor connectivity and a relatively narrow walkway that suffers from a lack of maintenance along Breakwater Park and Macdonald Memorial Park. Belleville however scores much better on Walkway Design, suffering mainly because of the the lack of any significant destinations connected by the walkway and the large gap in the existing...
walkway, but which is more than compensated for in the proposed designs presented in the Waterfront Redevelopment Master Plan.

Beyond walkway design, Kingston rates poorly on most of the remaining criteria, notably on poor access to the waterfront and the walkway for the public, especially for those with physical disabilities, due to a lack of formal pedestrian crossings across King Street West and Ontario Street. The lack of lighting is especially an issue in Part 1 of the walkway while Part 2 provides no access to the water at all. The existing waterfront walkway in Belleville fares just as poorly on certain criteria, especially poor accessibility from streets – largely on the western section of the walkway. The proposed design in the Master Plan does provide solutions to a lot of these deficiencies in design, though a dearth of restrooms is a surprising finding across the board.

6.1.1 Research Question 1
In terms of the first research question, this Report tried to use the evaluation criteria to determine what specific design elements and guidelines have been incorporated into the design of the waterfront walkways in both Kingston and Bellville.

Kingston
For the waterfront walkway in Kingston, it was determined that apart from the sections where it veers off onto main streets, the walkway closely follows the shoreline and thus provides users with great proximity and access to the waterfront. The western section of the walkway, particularly at Breakwater Park and Macdonald Memorial Park, are well buffered from surrounding uses. The buffers are however porous enough so that the waterfront user does not feel isolated. Lack of buffering is however a problem the closer the user gets to downtown, with private buildings, spaces, and parking lots often coming right up to the edge of the walkway, thereby detracting from the public feel and atmosphere of the walkway. With little vegetation or structures between the walkway and the water, the walkway does offer panoramic views of Wolfe Island and Lake Ontario. The walkway is also wide enough along to easily accommodate two-way pedestrian traffic along its entire length though not wide enough to accommodate concurrent pedestrians and cyclists along the western section, often resulting in pedestrians or joggers using the grass rather than the formal walkway itself.
There were a number of other deficiencies noted in the design of the walkway. Most of the water’s edge is covered by armor stone revetment, which while necessary to protect against erosion, are piled high enough to severely limit, if not completely cutoff, access to the water – an important aspect of the waterfront experience for users. While seating is plentiful along the walkway there is a severe dearth of restrooms, thereby limiting enjoyment of the waterfront for an extended period of time. The western section lacks lighting, thereby limiting enjoyment of the walkway after dark. There is also a dearth of signs at parks and along the road denoting entrances to the walkway or showing a map of the entire walkway. Most noteworthy however is the lack of a coherent or identifiable waterfront identity – signs are in multiple designs, even when from the same organization, benches are in a variety of shapes and there is little in the way of branding of the waterfront.

**Belleville**

In terms of the waterfront walkway in Belleville, the analysis shows that apart from the large gap between the two sections, the walkway rigorously follows the shoreline, never meandering more than a few metres away from the water. Unhindered views of the water are provided along the entire length of the walkway. It is wide enough to easily accommodate cyclist and pedestrian traffic, is well-lit along its entire length, and well-served with signage along the eastern section. However, there are a number of deficiencies in the existing design of the walkway, including the large gap between the two sections, the concentration of seating in a few areas, the dearth of restroom facilities, and poor buffering of the walkway from the noise and dust that arises along the Keagan Parkway.

Many of the deficiencies in the design of the existing walkway are identified in the Master Plan which provides recommendations to overcome them. The Plan, for example, recognizes the poor connectivity between the two sections of the walkway and provides a number of solutions to alleviate this gap, including a pedestrian and cyclist bridge across the Moira River, a nine metre wide pathway along the water’s edge over private property, and the development of South Front Street as a pedestrian and cyclist path. The Plan also highlights the need for better-designed entranceways at East and West Zwick’s in order to define the waterfront as a distinct area and to highlight the waterfront walkway. It also emphasizes the need for better design parking lot, with
increased screening and landscaping to minimize visual impact and maximizing permeable surfaces. However, the Plan does not address the need to space out seating along the length of the walkway. It also proposes a wide green buffer at East and West Zwick’s which, though beneficial in terms of improving the environmental quality of the ecosystem, would also minimize access to the water’s edge.

6.1.2 Research Question 2
In terms of the second research question, how has the design of the waterfront walkway affected public access to the waterfront, the following conclusions based are drawn from the analysis:

Kingston
In terms of the design of the walkway, a number of factors lend themselves to increasing public access to the waterfront, including the fact that the walkway follows the shoreline closely, that it is wide enough to accommodate at least two-way pedestrian traffic along its length, that sightlines to the walkway from adjacent streets are maintained, thereby increasing visibility (visual access) to the walkway. Moreover, a great deal of parking is found along the length of the walkway and a number of transit routes are found in close proximity, thereby allowing a wider swath of the public to access the walkway using a variety of transportation modes. The two sections of the walkway, when considered together, do provide links between various destinations, such as City Hall in the downtown to Kingston General Hospital, and even Queen’s University, thereby making it more likely for people to use the walkway.

However, there are a number of factors that do deter access to the waterfront. The two sections of the walkway where it veers away from the shoreline and onto main streets breaks continuity and detracts from the overall waterfront experience. Between Emily Street and Simcoe Street users are forced to use the main street in order to bypass private residences. At the Marine Museum users must also detour away from the waterfront in order to bypass the Museum. Both gaps were also highlighted in the background literature, and the Cycling and Pathways Study for Kingston also offered possible solutions to provide a continuous waterfront walkway. Accessibility from the streets is generally very poor with few formal pedestrian crossings, fast
traffic, and a lack of distinct entranceways marking the entrance to the walkway. The walkway along the western section is in extremely poor condition, and would inhibit use by the physically disabled. The walkway is also uninviting along the section where it loops round the Radisson Hotel. The Hotel’s low overhang creates a constricted and dark passage. This was highlighted in the City’s Downtown Action Plan which proposed a cantilevered boardwalk as a possible solution.

**Belleville**

In terms of the existing design of Belleville’s waterfront walkway, there are a number of design features that increase public access to the waterfront, including the ample width of the walkway that can accommodate two-way pedestrian and cyclist traffic, the panoramic and unhindered views of the water along the entire length of the walkway, the easy access to the water itself, and the relatively easy access to the walkway from adjacent and surrounding streets to the west of the Moira River.

However, there are a number of factors that deter public access, including the extremely large gap between the two sections of the walkway, the deplorable access from main streets to the east of the Moira River, and the lack of any major and noteworthy destinations along the walkway.

**6.1.3 Lessons for Kingston and Belleville from Each Other**

As Table 6.1 shows, Kingston scores better on certain evaluation criteria than Belleville does, while Belleville score higher on criteria such as Access to the Water’s Edge. Thus both cities stand to learn from each other. Kingston for example, could follow Belleville’s lead of developing a waterfront master plan that outlines a coherent vision for its entire waterfront. Currently, Kingston has design solutions proposed in a variety of different studies, some of them already mentioned in Section 4.2, but which lack a unifying theme and implementation plan. Kingston could also encourage greater usage of its walkway by providing an extensive system of lighting along the entire length of the walkway the way Belleville does. Similarly, Belleville needs to connect its waterfront walkway to important destinations, such as its downtown, in order to encourage use of it walkway beyond just as a recreational trail. Belleville could also
follow Kingston’s lead of providing seating along the entire length of its walkway rather than just in specific areas.

6.2 Recommendations (Research Question 3)

Based on the Conclusions drawn from the analysis in Section 6.1, this Report makes the following recommendations for design interventions, thereby answering the third research question: what design interventions could be used to improve the pedestrian and cyclist environment?

6.2.1 Recommendations for Kingston

For the waterfront walkway in Kingston, the following recommendations are advanced:

**Kingston Recommendation 1**

*Articulate a vision for the waterfront and its walkway through a Waterfront Master Plan in order to promote a better designed walkway*

The policy inventory and analysis conducted in Section 4.1 shows that there exists a definite policy basis promoting a well-designed waterfront walkway. Different plans and studies also offer various solutions to overcome many of the problems on the existing walkway highlighted by this Study. Yet the City needs to move beyond this ad-hoc localized approach to waterfront planning and articulate a vision and solutions on a broader scale that considers the entire waterfront as a single zone. Doing so would allow the City to specify design interventions and design requirements that can be implemented on a waterfront-wide basis. A Waterfront Master Plan would thus form the basis for the design interventions specified in the remainder of this Section.

The benefits that can accrue from this in terms of helping crystalize a defined waterfront identity and tackle design interventions on a broad front are plentiful as can be seen in the case of Belleville and its Waterfront Master Plan that proposes waterfront wide solutions to problems.
Kingston Recommendation 2

Implement recommendations from the Cycling and Pathway Study to provide a continuous waterfront walkway

The analysis for the City of Kingston’s waterfront walkway identified two large gaps that broke the continuity of the walkway and detracted from the overall waterfront experience: the first between Emily Street and Simcoe Street, and the other around the Marine Museum. Both of these were also highlighted in the Cycling and Pathways Study done by the City, which proposed the following solutions in order to close the gaps:

1. Cantilevered boardwalk over the water between Emily Street and Maitland Street with an easement to allow access through the Kingston Yacht Club to Simcoe Street.

Solution 1: New boardwalk to connect Emily Street to Simcoe Street

![Cantilevered Boardwalk](image)

A cantilevered boardwalk over the water would help close this gap and has been used successfully in other waterfront walkways, including Toronto’s (Section 3.2). A concept plan from the Cycling and Pathways Study can be found in Section 4.1.

2. A bridge connecting Lower Union Street to the Marine Museum pier, with a new walkway going around the pier and connecting to Gore Street.
Solution 2: New walkway around the Marine Museum Pier

The Marine Museum pier is currently underutilized with little access for pedestrians and other users. A new walkway connected to Gore Street, through an easement, would help close this significant gap in the walkway and improve access and circulation. A wooden bridge could be used to connect the pier to Lower Union Street. The Alexander Henry icebreaker is a permanent exhibit at the Museum and is not usually moved. Thus a bridge could be built behind it.

Kingston Recommendation 3

*Implement the recommendation from the Downtown Action Plan for a cantilevered boardwalk around the Radisson Hotel*

The analysis of the existing waterfront walkway highlighted the uninviting section of the walkway that loops around the Radisson Hotel. This was also emphasized in the City’s Downtown Action Plan that proposed a cantilevered boardwalk extending 2.4 to 3.0 metres over the water as a solution. A cantilevered boardwalk would help alleviate the narrow and
constricted fell of the walkway along this section. Moreover, cantilevered boardwalks extending over the water have been incorporated in the design of many waterfront walkways, including in Toronto (Section 3.2).

**Solution 3: Cantilevered boardwalk at Radisson Hotel.**

Source: City of Kingston’s Downtown Action Plan

**Kingston Recommendation 4**

*Shape a coherent waterfront and waterfront walkway identity through branding and improved entrances to the walkway*

One of the most glaring deficiencies of Kingston’s waterfront walkway, and perhaps of the waterfront in general, is the lack of a coherent, distinct identity that visually reminds users that they are on the walkway, and thus journeying across a specific, and perhaps unique and special route through the City. Users come across a variety of bench types and shapes, a broad array of sign designs, even when they are from the same organization, and a lack of plaques or markers identifying important historical moments and events that occurred along the walkway and the waterfront. Entrances to the walkway, both formal – from parks – and informal – where parallel streets intersect the walkway – lack identifying features, signs, and maps to attract or orient users. Some of the things that could be done would be to use a specific design or trademark related to the waterfront on signs throughout the length of the walkway. Entrances can be designed to stand out using signs, maps, or markers. Maps can be placed along regular intervals,
and light poles should have flags, such as at Breakwater Park. A coherent waterfront and walkway identity will also help users follow the walkway as it veers away from the water and onto main streets and help steer them back to the waterfront. Maps will help users identify destinations along the walkway and thereby increase usage.

**Kingston Recommendation 5**

*Improve access to the walkway across King Street West and Ontario Street*

While improving entrances to the walkway and creating a waterfront brand will go a long way in attracting additional users, the lack of easy access across King Street West and across Ontario Street will continue to constrain additional usage. Increased pedestrian crossings or the slowing of traffic is required in order to make it easier for users to access the walkway. Vehicular traffic should also be slowed down along King Street West, especially at the blind turn near Kingston General Hospital, which is an especially difficult crossing point for pedestrians.

**Kingston Recommendation 6**

*Add lighting to allow for use during night time*

Apart from Confederation Park and Breakwater Park and the sections where the walkway merges with main streets, there is a distinct lack of lighting along the walkway. This not only gives the impression of isolation and danger after dark, but also creates a safety issue along the water’s edge. Lights on bollards can also be used in conjunction with typical lighting poles to highlight certain parts of the walkway or emphasize the water’s edge. Creating a well-lit environment is essential in order to encourage usage beyond daylight hours.

**Kingston Recommendation 7**

*Improve access to the water’s edge*

Contact with water is one of the most intimate experiences users can have along the waterfront, and the waterfront walkway plays an important role in aiding users to reach and enjoy this most fundamental of waterfront activities. It is thus almost tragic that users of Kingston’s waterfront
walkway are unable to access the water due largely to the armor stone revetments that line the shoreline along almost the entire length of the walkway. While these revetments play an important role in slowing erosion and protecting the delicate ecosystem of the shoreline, the sheer size of the blocks used in this case, and the height that they are piled up to prevent any but the most daring access to the water. Alternative options can provide protection as well as enable access to the water’s edge and can already be found along the walkway in Kingston: the pebble beaches at Breakwater Park for example protect the shoreline from erosion and provide an access to the water. Steps leading down to the water can be found at the Richardson Beach House and would be well replicated at Confederation and Battery Parks where they could serve dual the purpose of providing access to the water and serve as seating. The Downtown Action Plan already proposes steps to the water at Confederation Park, however solutions need to be considered at a variety of locations along the walkway and not just at a handful of spots.

Kingston Recommendation 8

*Design a better transition between public and private space*

The western section of the walkway utilizes various design elements, such as a change in gradient, green space, trees, and shrubbery to separate the public waterfront and walkway from surrounding uses. This distinction is not as clear closer to downtown. While this is due in large part to the more dense urban nature of the walkway along this section, and competing forces for space, several design options are available to better divide public and private space. At the Breakwater Park for example the sheer scale of the towers and the steps leading from the parking area to the Park often makes the Park seem like an extension of the Hotel’s outdoor amenity area. Trees and additional landscaping could be used to better separate the Park area from private space, yet still be porous enough so as not to disrupt sightlines of the water or completely isolate the Park. Low height shrubbery could be used at An Gorta Mir Park instead of the fence, while shrubbery and a change in gradient could be used at the Waterfront Apartments just west of the Maritime Museum.
6.2.2 Recommendations for Belleville

Recommendations for the waterfront walkway in Belleville will be treated slightly differently than was done in the case of Kingston. Many of the deficiencies and problems identified during the analysis phase of this Report, including poor connectivity, poorly designed entranceways, the lack of easy access to the walkway from Dundas St West, the absence of a distinct waterfront identity, or poorly designed parking lots with no buffering, are already identified in the Waterfront Master Plan. The Plan also proposes solutions to overcome these problems. As such, this Report will only focus on those deficiencies identified in the analysis phase but which have not been identified or dealt with in the Master Plan.

Belleville Recommendation 1

*Provide additional seating along the entire length of the walkway*

While a great deal of formal and informal seating is already provided, and the Master Plan proposes adding even more, most of it is concentrated in a few areas rather than spread out across the length of the walkway. Concentrating seating in highly public areas such as East and West Zwick’s Parks, with its playground and pavilions, is a good idea, however seating should be provided in other areas to allow weary users to rest, or to enjoy the views and waterfront experience in relative solitude away from more heavily used areas.

Belleville Recommendation 2

*Establish design principles for better transition between public and private space*

There are a number of sections along the walkway where a better transition between public and private space could have been designed. Especially notable is the use of unnecessary fencing at the Water Treatment Plant and at the Ramada Hotel. The fence at the Water Treatment Plant is unnecessary the change in gradient is steep enough to discourage trail users from stepping off the walkway and onto Plant property. Nor is the fence necessary for security as it does not extend all the way around the Plant. Similarly, at the Hotel, a small inlet already divides the Hotel grounds from the public walkway, and shrubbery would have been sufficient as a barrier without the need of an intrusive fence. On the other hand, the lack of buffering from adjoining warehouses along
the Keagan Parkway detracts from the waterfront experience, and a buffer of trees, shrubbery, or other design interventions would be most welcome. It would thus be beneficial for the city to establish design principles to better separate public and private space for the length of the waterfront walkway as well as identify specific sections where an intervention would be beneficial.

Belleville Recommendation 3

*Retain Access to the Water*

While the existing waterfront design does not generally impede access to the water, the proposed Waterfront Master Plan does include a green buffer along the water’s edge. While such a buffer may improve ecosystem functioning along the water’s edge, given the urban nature of the walkway, it may perhaps be better to retain access to the water, and maybe improve ecosystem functioning through the use of green buffers and other features along non-urban or less accessible parts of the waterfront.

6.3 Limitations & Further Research

Even though the fifteen evaluation criteria used in this Report were developed using a variety of sources, they were found to be generally quite adequate for the purpose of assessing public accessibility to the waterfront. The criteria encompassed almost all aspects of a user’s interaction with the waterfront, including sightlines to the water from neighbouring streets, the ease of access to the waterfront walkway itself, the degree of continuity and connectivity around the walkway, and even the level of amenities and facilities provided. The absence of any other specific evaluation criteria was never felt through the course of writing this Report, and it is this Report’s conclusion that the fifteen criteria used here are more than adequate as a checklist for evaluating waterfront walkways.

That being said, the subjective nature of some of the results of the analysis conducted over the course of writing this Report is felt to be a noteworthy limitation. Ease of accessibility to the
waterfront walkway, for example, as determined by one user of the walkway would perhaps differ in rating to that of another’s. In some cases, the difference in opinion might even be significant. As such, a user perception survey would have been of significant value in assessing public accessibility to the waterfront in conjunction with the approach taken within this Report. This survey could be developed using a modified version of the fifteen evaluation criteria, with a five-point ranking scale for most questions making it easy for participants to answer. Conducted over a large enough group of users, the results of this survey would be a good measure of how users of the waterfront walkway feel about its design and usability. However, this was not entirely possible in this case due to time constraints, the need to be present on the waterfront for significant periods of time in order to collect surveys, and the need for the survey to be conducted in both summer and winter to get a proper sampling of users.

The analysis conducted in this Report was based on evaluation criteria developed from the design guidelines for waterfront walkways published by New Jersey’s Department of Environmental Protection in 1989. While over thirteen years old, the design guidelines were found to be relatively broad in scope, yet comprehensive enough with sections dedicated to different designs for different urban settings, or the different needs of a more rural walkway, to still be highly relevant today, and to be a good framework within which to develop the evaluation criteria. These criteria were then updated with more recent waterfront design guidelines from the City of Portland and the City of Miami, both of whom have redeveloped highly accessible pedestrian-friendly waterfronts. These updates largely centered on criteria dealing with landscaping, the need to connect different places, wayfinding, and access to the water. All-in-all, while there was some need to update the New Jersey design guidelines, they were found to be highly relevant and a great framework for conducting this analysis.

The decision to focus on two smaller sections of Kingston’s waterfront walkway rather than on the entire walkway was found to help focus the analysis and make more effective recommendations. Studying the entire length of the walkway, while important in of itself and perhaps an area for further research in the future, would not have presently allowed for a more meaningful analysis due to time and resource constraints, and the range of problems that would have to be focused on. Having two smaller subsections allowed for both inter-city comparisons
within Kingston, as well as with the existing walkway in Belleville. That being said, a better approach might have been to compare the two sections of Kingston’s walkway with similar sections of the waterfront walkway in Toronto that is currently undergoing renovation and incorporates many contemporary design guidelines, some of which were used as examples in Section 3.0.

Finally, a number of Plans and concept designs for the waterfront walkway could not be evaluated as a part of this Report due to time and resource constraints. Some of these, such as the concept designs for Breakwater Park and the City of Kingston’s Downtown Action Plan, have been briefly touched upon in the Policy Analysis portion of Section 4. These Plans and concept designs should form part of a complete evaluation in a future study.


City of Belleville, City of Belleville Official Plan (February 2002)

City of Belleville, City of Belleville Zoning By-Law Number 10245

City of Kingston, Cycling and Pathways Study (2003), retrieved www.cityofkingston.ca/residents/transportation/cycling/pathways/

City of Kingston, Downtown Action Plan (DAP), retrieved from www.cityofkingston.ca/residents/development/urbandezignprojects/downtown/

City of Kingston, Downtown and Harbour Restricted Area (Zoning) Bylaw 96-259, retrieved from www.cityofkingston.ca/business/development/zoning/

City of Kingston, City of Kingston Official Plan (2010), retrieved from www.cityofkingston.ca/residents/development/officialplan


# Appendix A

Data collection audit developed for the purpose of collecting information

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</tr>
<tr>
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<td>3 Rubbish Bins (Dust Bin)</td>
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<td>4 Other Amenities</td>
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<td>5 Passive Zones</td>
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<td>6 Signage</td>
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<td>7 Lights</td>
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<td>8 Parking</td>
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## Things to Note

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<td><strong>Notes</strong></td>
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<td>Separation of Public and Private Space</td>
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<td>Treatment of Water's Edge</td>
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<td>Views and Blockage</td>
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<td>Breaks in continuity and where it ends</td>
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<td>Landscaping and types of trees</td>
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<td>Walkway Material and Condition</td>
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