

Pedestrian Connectivity Along Victoria Harbour

Interactive Qualifying Project Report

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Sponsors: Designing Hong Kong Limited & Harbour Business Forum

Liaisons: Paul Zimmerman, Roger Nissim, and Margaret Brooke

Advisors: Creighton Peet, WPI Professor

and

Jennifer McWeeny, WPI professor

Submitted by:

Alexander Bosworth

Brandon Bozeat

Alexander Ing

Mengyue Yu

Date submitted: 4 March 2016

Abstract

The goal of this project was to provide recommendations for increasing the pedestrian continuity and accessibility of Victoria Harbour's waterfront. Through observations, archival research, and a public survey, we determined the current and future condition of the waterfront, allowing us to make recommendations for improving pedestrian access. Although only approximately one third of the harbourfront allows pedestrian access, we identified and recommend marked detour routes to help connect existing promenades to create a continuous pedestrian loop around Victoria Harbour.

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Authorship

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Executive Summary

Many of the most beautiful cities around the world contain harbours with waterfront walkways. These walkways allow for a city's residents to enjoy the beauty of the harbour and access the water. Harbourfronts not only contribute to the beauty of a city but can be a key element for economic growth. Hong Kong was once a major hub for manufacturing and shipping due to its location as a major port. However, over the years Hong Kong has refocused its economy towards tourism and providing financial and other services. This has shifted economic activity away from using the harbour for commercial shipping, and has led to increased focus on the redevelopment of the city. The main focus of infrastructure within the city has been constructing taller residential and commercial buildings, as they have become a larger source of income and economic growth. This has been prioritized over developing a harbourfront that is friendly to visitors and enjoyable for pedestrians. As a result, Victoria Harbour, one of the most iconic harbours in the world, lacks a continuous pedestrian walkway along its harbourfront.

Our project goal was to provide recommendations for improving continuity along Victoria Harbour's waterfront. In order to meet this goal, we needed to determine the extent of discontinuity by finding and observing inaccessible areas of the waterfront, determine detour routes around these areas, and determine the general public's opinion of waterfront access and promenade continuity. After gathering this information, we were then able to determine what must be done by businesses and the government to improve the waterfront for pedestrian use and create a more continuous pedestrian walkway.

We were able to determine that most promenades included barrier-free access (BFA), but did not allow dogs, except for certain areas of Quarry Bay, Tsing Yi and Tsuen Wan. Our walking data and research allowed us to compile a large chart that summarizes the current and

future status of individual waterfront areas. This chart corresponded to maps that show detour routes, land and project ownership, and where the waterfront is accessible.

From the information we collected, we concluded that approximately 27 out of 73 kilometers of the harbourfront allows pedestrians to walk along the water. In other words, approximately 36.7% of Victoria Harbour allows pedestrians to access the waterfront. Our survey indicated that the general public is in favor of more waterfront access for pedestrians and that a continuous pathway is important to fully enjoy the harbour. For inaccessible waterfront areas, approximately 19 kilometers are *temporarily* inaccessible. The remaining 27 kilometers includes areas that are permanently inaccessible due to the nature of their use, such as active working areas and marine police stations, and will likely never be developed into pedestrian walkways. For the detour routes, we recommend the implementation of signage using consistent branding, including the Victoria Harbour logo, to direct pedestrians along a continuous route between waterfront promenades. This project highlights the lack of continuity in pedestrian walkways around Victoria Harbour and offers recommendations to improve pedestrian connectivity and navigation.

1. Introduction

Coastal cities face the unique challenge of fully utilizing their waterfronts for economic and cultural growth. A fully utilized waterfront maximizes the efficiency between the public enjoyment of their water body and economic advantages of the city's waterfront. If the waterfront is designed in a way in which any pedestrian path is continuous, the public can enjoy the waterfront as single continuous entity. If pedestrian walkways along the water are inaccessible and discontinuous, waterfront access can be restrictive, greatly reducing benefit the residents and tourists have by living or visiting a waterfront city. Rapid urbanization or the prioritization of industry, has often established policies and infrastructure that disregard the presence of continuous promenades. Some cities, such as Baltimore, have successfully balanced their economies and industries with a pedestrian friendly waterfront, while others, such as Hong Kong, are still implementing changes to address such concerns.

The rapid development of Hong Kong's Victoria Harbour as an important economic and trade center has left much to be desired for pedestrians. Hong Kong has extensively grown its harbourfront through land reclamation before the Protection of the Harbour Ordinance in 1997 (1997) stopped this process.. Victoria Harbour's waterfront is now permanently established, allowing for proper urban planning to occur. However, gaps along the harbourfront promenade exist due to the presence of businesses, roads, and bridges. In addition to the discontinuities, certain areas of the waterfront are also difficult or impossible to access from the hinterland because of physical impediments or the lack of pedestrian infrastructure such as bridges and walkways (Audi, et. al, 2010).

Many groups and organizations have studied Victoria Harbour's waterfront for the purpose of planning a more continuous area and transforming it into a more inviting recreational

area (Audi, et. al, 2010). In 2008, the Harbour Business Forum (HBF) (2008) identified six major gaps along the waterfront in a report that reviewed the entire harbour. Based on that study, the HBF produced recommendations for improving the continuity and utilization of the waterfront for residents and tourists.

Given that over seven years have passed since the completion of the original study, the HBF and Designing Hong Kong (DHK) believed it was time to evaluate the progress made in implementing their recommendations from the 2008 report. Such recommendations include removing physical barriers and temporary blockages, increasing signage, creating more open space, and improving visibility of Victoria Harbour (Harbour Business Forum, 2008). In addition HBF and DHK believed that another review of the Victoria Harbour continuity was in order as since this report was published, no other research has been conducted to determine what progress has been made in improving the accessibility and continuity of the waterfront.

The goal of this project was to provide recommendations to the HBF and DHK on how to improve continuity of the waterfront promenades around Victoria Harbour. While the whole harbourfront was analyzed for continuity and accessibility, the six specified areas were also analyzed according to whether or not the recommendations from the 2008 HBF report had been followed. This information was then mapped using Google maps to create a visual display of all possible breakpoints and a record of types of breakpoints. The results were used to generate new recommendations so that the harbourfront could eventually exist as one continuous and accessible entity. All this information will help decision-makers to determine what needs to be done by businesses and the government to improve the waterfront in terms of pedestrian friendliness.

2. Background

This chapter discusses cities from around the world that can serve as analogs to a problem all waterfront cities face and covers existing research pertaining to more specific project details on Victoria Harbour's waterfront. While waterfronts provide a unique source of beauty and recreation, they are also useful for commercial and industrial uses. Hong Kong is particularly aware of this problem as its economy has transitioned in recent years. Previous research has identified pedestrian discontinuity as an issue resulting from allocating waterfront areas to commerce in between recreational areas.

2.1 Importance of Waterfronts

A waterfront is defined as an area of land or section of a community along a body of water. Many waterfronts were established for economic purposes such as shipping and industrial areas. Recent waterfronts have evolved into vibrant districts with public parks, residential areas, public attractions, and retail spaces blended together. Residents and governments establish and maintain successful waterfronts by skillfully balancing economic and commercial activities with public spaces, the environment and aesthetics. Engineering and design considerations for a successful waterfront include adequate infrastructure with ease of access, transportation, public amenities and sufficient retail space for encouraging social gatherings and social interaction. Examples of world renowned waterfronts that enjoy substantial year-round economic and social activity include Baltimore, London, Paris, Cape Town, Dubai, Helsinki, Istanbul, Rio de Janeiro, San Francisco, Singapore, Sydney, and Venice.

2.2 Walkability

To have a continuous and accessible waterfront, the walkability of the harbourfront has to be considered and methods to evaluate its walkability determined. The methods that are commonly used for assessment have to balance both the quantitative aspects, such as physical accessibility, ease of navigation, and number of roads crossed, with qualitative aspects, such as how safe a path is or how crowded a path is. A method for assessing walkability, or combination of methods must have a balance of quantitative and qualitative aspects in order to more effectively analyze the harbourfront.

2.2.1 Definition of Walkability

Walkability as a word has no formal Oxford English Dictionary definition; however, it is a commonly used term in engineering and urban planning and design. Steven Abely (2005), managing director for Abley Transportation Consultants and a 2015 MacLean Citation defines walkability in a number of his papers as “the extent to which the built environment is walking friendly” (p. 3). This definition, while providing an accurate description of walkability for most studies, is too broad for the specific goals of this project. A more useful definition of walkability in Hong Kong is “the extent to which characteristics of the built environment and land use may or may not be conducive to the residents in the area walking for either leisure, exercise or recreation, to access services, or travel to work” (Hung et. al, 2015, p.1). This definition is appropriate for the focus of our research because it encompasses the potential uses of the Victoria Harbourfront. In addition, it focuses specifically on how the built environment and land use affect walkability.

2.2.2 Walkability Studies

There are multiple studies in place to quantify and measure walkability, ranging from simple check lists to complex algorithms to try and determine how walkable or unwalkable a test area is (Audi et. al, 2010). The Walkability checklist produced by Safe Routes: National Center for Safe Routes to School (2015), uses a checklist to try and answer five questions about a walking route and uses a rating system to determine the walkability of the route in a subjective manner. In addition, it provides simple suggestions on how to improve problems that might have been encountered while walking the route. While unsupported in Hong Kong, the website Walk Score (2015) uses information from a database to calculate a walk score and provide feedback on how accessible certain amenities are to the average person walking to them.

A more in-depth analysis of walkability uses Geographic Information Systems (GIS) to analyze how walkable a route is based on quantitative and qualitative data (Esri.com, 2015). GIS are designed to help “capture, manage, analyze, and display all forms of geographically referenced information” (p. 2) and then help to use those data to “understand, question, interpret, and visualize... in ways that reveal relationships, patterns, and trends” (p. 2). In relation to Hong Kong, papers such as those by Chan (2009), Hung et. al (2015) and Kelly et. al (2011), a study in the United Kingdom, all use GIS to help them assess walkability. Chan’s (2009) study combines multiple methods of existing studies and applies them to Hong Kong with the aim to quantify the relationship between the built environment and the pedestrian. Hung et. al (2015) use the Global Walkability Index and the Asian Development Bank/Clean Air for Asian Cities methods of analysis and modify them to better fit Hong Kong. They ultimately track a series of nine variables to compile their GIS.

2.2.3 Measuring Walkability

Walkability is typically measured with specific quantitative metrics as well as qualitative observations in order to be accurate (Audi et. al, 2010). Different criteria of walkability, however, are more important to different people. One frequently used technique to assess walkability is the Pedestrian Environment Review System (PERS) (Transport Research Laboratory, 2010). This technique uses quantitative and qualitative data to assess the street environment. Crossings, public transport, public spaces, waiting areas, interchange spaces between different modes of transport, and footways, footbridges and subways are the six factors that the PERS uses to evaluate a given environment. The Global Walkability Index (GWI), another index, uses 11 factors to determine walkability: availability of a crossing, pedestrian count, length of surveyed stretch, obstructions, maintenance and cleanliness, amenities, disability infrastructure and sidewalk width, motorist behavior, walking path, modal conflict, security from crime, and crossing safety (Krambeck, 2008). The Scottish Walkability Assessment Tool (SWAT) evaluates walkability by focusing on functionality, safety, aesthetics, and destination, with each of those categories having measurable items such as type of path, pedestrian signage, directness of path, type of pedestrian crossings, and crossing aids (Aspinall et al., 2008). The Bikeability and Walkability Evaluation Table (BiWET) evaluates similar factors such as parks, historic buildings (i.e., attractiveness of the path), sidewalks, green space, open space, bicycle lanes, billboards, and residential and business areas (Hoedl et al., 2010). Each study's criteria cover most of the factors needed to quantitatively and qualitatively assess the walkability of a target area, and these criteria and their associated techniques of analysis can be applied to determine how walkable an area is in order to provide a complete study.

2.3 Waterfronts in Selected Cities

Cities around the world have waterfronts and harbours similar to Hong Kong's Victoria Harbour. Many cities have faced a similar problem of the underuse of their waterfronts and have over the years found useful ways to overcome these issues. In the 1950s, Baltimore, Maryland, began renewing its harbourfront, bringing in new businesses, entertainment, and residential buildings (Kostopoulou, 2013). Conversely, Singapore's economy was growing so fast that it needed to expand to the harbour front. This encouraged the development of a harbourfront with local businesses, tourist attractions, and residential areas (Gwee, 2012). Istanbul is an example of an older city with a long and complex history due to its geographical location. Istanbul showed the world that instead of adding more, and getting rid of developments along its harbourfront, Istanbul could improve it (Alamuddin, 1987).

2.3.1 Baltimore

The Inner Harbor of Baltimore was once a large commercial center for trade, but now it is a historic port and tourist attraction. As explained by Kostopoulou (2013), before Baltimore struggled to adapt to the shift in economic conditions in the mid-twentieth century, its economy developed and relied on its harbor for shipping and industry. According to Kostopoulou, the 1904 Great Baltimore Fire left much of the harbourfront destroyed, thus leaving many people unemployed. It took many years for Baltimore to rebuild its harbourfront to allow ships to dock in its port. Kostopoulou mentions that large cargo ships began to be used in the mid-twentieth century and Baltimore was unable to improve its docking facilities to accommodate these larger ships. Eventually, everything was abandoned, and the Inner Harbor was no longer a large shipping port (Kostopoulou 2013).

During the late 1950s and early 1960s, the renewal of the Inner Harbor began. During that time, the waterfront was transformed by incorporating entrepreneurial activities such as businesses and banks, commercial attractions such as shopping centers and small stores, and environmental activities such as land parks, walkways and aquariums. Kostopoulou's research indicates that the city of Baltimore believed that the best way to bring in tourist and locals to the waterfront, was to make it more enjoyable. More importantly, people are going to need to walk around these districts, therefore, it is important to provide walkways accordingly along the waterfront. In 1973, 1.5 million people attended the Baltimore City Fair in one weekend, with the festival attracting more tourists to Baltimore Inner Harbour (Kostopoulou 2013). Baltimore had set the standard for post-industrial port cities, and was awarded Urban Land Institute's Heritage Award. In fact, the Urban Land Institute said "the harbor now stands as the model for post-industrial waterfront redevelopment around the world" (bmoreMedia.com, 2009, para. 3).



Figure 2.1: Baltimore Harbor (Source: Zsmurlo, 2007)

2.3.2 Singapore

Marina Bay is Singapore's most iconic harbourfront located in the southern area of the city. As Gwee (2012) mentions, the Marina Bay was being developed in 1969, 360 hectares of reclaimed land was added to the existing Central Business District. The purpose of this development was to alleviate challenges faced by economic growth and to maintain Singapore's position as a leader in finance and business (Gwee, 2012). As mentioned by Yee and Ng (2007), the reclamation work began in 1969 and lasted until 1992, with long term plans for the Marina Bay being made by the Urban Redevelopment Authority's 1983 conceptual Master Plan. Marina Bay is Singapore's most iconic harbourfront located in the southern area of the city. As Gwee (2012) mentions, the Marina Bay was being developed in 1969, 360 hectares of reclaimed land was added to the existing Central Business District. The purpose of this development was to alleviate challenges faced by economic growth and to maintain Singapore's position as a leader in finance and business (Gwee, 2012). As mentioned by Yee and Ng (2007), the reclamation work began in 1969 and lasted until 1992, with long term plans for the Marina Bay being made by the Urban Redevelopment Authority's 1983 conceptual Master Plan.



Figure 2.2: Boardwalk at Marina Bay Sands Singapore (Source: Chen, 2010)

One of the main objectives for the Urban Redevelopment Authority (URA) was walkability along the waterfront. According to the property report done by the Marina Bay Residences (2008), the URA planned to complete two promenades, completing a 3.5 km waterfront loop along the bay. This walkway would link the Merlion Park, Esplanade Theatres, and the ArtScience Museum with the integrated resort, Marina Bay Financial Centre and The Fullerton Heritage. The property report mentions that this walkway not only connects local businesses and entertainment venues along the bay area, but allows for visitors to walk right up to the edge of the water. In fact, the plans for the Marina Bay loop will be part of an 11.7 km waterfront route that goes around the Marina Reservoir. This will link the Gardens by the Bay, the Marina Barrage and the new Sports Hub. The 3.5 km waterfront loop acts as a bridge, connecting the entire harbourfront together, making it continuous and accessible to tourists and Singapore local residents. Renowned Australian architect Philip Cox commended the Marina Bay area as a “‘new focus of the city’ and a way for Singapore to become ‘the most successful maritime city in the world’” (Marinabayresidences.com, 2008, para. 15.).

2.3.3 Istanbul

Istanbul's Golden Horn has one of the oldest harbourfronts in the world according to Alamuddin (1987). It was used during the Byzantine Empire by the city of Constantinople's navy. Because of its rich history, it has become one of the most popular tourist attractions in Istanbul. His research depicts that prior to the 1980s, the 8 km long sea inlet was being heavily polluted by industries located along its banks. Being a bridge between Europe and Asia, Istanbul relied on capitalism, rather than centralized governance for its economic system; therefore, many industries were built along the harbourfront. Alamuddin states that Mayor Dalan of Istanbul proposed to clean up the Golden Horn in 1984, making this one of the largest environmental improvement projects in the world.



Figure 2.3: Golden Horn, Istanbul, Turkey (Source: Yildiz and Gulsen, 2009)

According to Alamuddin, the first step to improving the harbour, involved removing “disagreeable” buildings, relocating people, relocating industries to an industrial zone, and restoring historic buildings for cultural and tourist use; these historic buildings would feature a

“green area” designated for recreational use. The second step required the installation of a sewage collection system along the coast to clean the water. The final step was to keep parks in cleared areas to make the surrounding harbour look nice. Alamuddin notes that the reduction of pollution and removal of industry from the harbourfront improved aquatic life and reduced automotive traffic within the city. This allowed for more continuity along the harbourfront as most industries were relocated. With buildings removed, industries relocated, and historic buildings and museums restored along the harbourfront, the waterfront became more continuous and accessible to the public. With the harbourfront being cleaner and less congested, it encouraged more tourism in Istanbul (Alamuddin, 1987).

2.4 Hong Kong's Victoria Harbour

Situated between Hong Kong Island and Kowloon peninsula, Victoria Harbour is the world-renowned symbol of Hong Kong. Its natural beauty and economic value have attracted the attention of tourists and businesspersons from all around the world to Hong Kong. Victoria Harbour has also become one of the largest global transportation centers with its unique location and shipping infrastructure (Carroll, 2007).



Figure 2.4: Victoria Harbour in 1905 (Source: HK Central Library, 1905)

2.4.1 Hong Kong Harbour's History

Victoria Harbour has always played an important role in the history of Hong Kong (Carroll, 2007). After acquiring Hong Kong during the First Opium War (1839-1842), Britain gained a free port to use in trade with China, and an era of high volume trading between Europe and Asia began. After the Opium War ended, Hong Kong became the Asian headquarters for many British companies, and similarly, the connections between local Chinese merchants and overseas Chinese made Hong Kong a commercial base for trade with Southeast Asia. In the latter part of the 20th century, as cheaper labor appeared in Shenzhen and other Mainland Chinese cities, manufacturing gradually declined in Hong Kong, causing its major economic system to change. Financial and commercial services and tourism are now the biggest supporting sectors of Hong Kong's economy. Due to this change and the decrease in shipping activity, Victoria

Harbour has been undergoing a transition from an industrial and trade center to a combination of commercial and recreational uses.



Figure 2.5: Victoria Harbour in 2016

2.4.2 Protection of the Harbour Ordinance

Since the 1800s, land reclamation within Victoria Harbour has contributed to Hong Kong's economic growth by adding more land to the waterfront area. In 1997, the Legislative Council of Hong Kong passed the Protection of the Harbour Ordinance (1997), which gave government the control over the land reclamation of Victoria Harbour. This ordinance states that “the harbour is to be protected and preserved as a special public asset and a natural heritage of the Hong Kong people, and for that purpose there shall be a presumption against reclamation in the harbour” (p. 531). This was done in an attempt to solve the problems caused by the narrowing of the harbour due to land reclamation. Although the bill does not apply to already planned reclamation sites, no additional harbour land filling can be done for the following 999 years. The passage of the Protection of the Harbour Ordinance has significantly limited the land

development of the harbour, thus prompting efforts to plan better uses of the harbourfront since it is an especially important resource for Hong Kong.

2.4.3 Functions of the Harbour

Victoria Harbour serves many purposes including commercial shipping, tourism, and as a recreational venue. Its waterfront became crucial for the growth of industry and finance, resulting in the establishment of policies and infrastructure to support these areas of Hong Kong's economy. In this section, the discussion is focused on the usage of Victoria Harbour as a commercial shipping port, and as a tourist attraction.

Victoria Harbour is strategically located adjacent to major shipping trade routes to and from China and the rest of Asia, and it has modern marine terminals (Harbourfront Commission, 2011). It is also home to most of the port facilities, with 220,000 ships docking in the harbour on average every year. Hong Kong Port is a world-class port and the largest container port serving south China. The port produces 1.4% of Hong Kong's GDP amounting to 21 billion US dollars. The commercial port is an important foundation of Hong Kong's economy serving a key role in trade and logistics sectors. Hong Kong Port's core commercial port activities are container ship operations. Around 400 container liners serve Hong Kong weekly, connecting to over 500 destinations around the world. Passenger ships, oil tankers, and transiting ships for the Shenzhen ports and local vessel activities also dominate part of the overall operations in the Victoria Harbour ports. As much as the shipping brings benefits to Hong Kong's economy, its large occupancy of the harbour space has created problems for the harbourfront's walkability and accessibility.

Tourism has become extremely important to Hong Kong's economic viability. The famous dramatic skyline and night time viewing of Victoria Harbour attracts numerous visitors

to the city every year. As a sophisticated international city, Hong Kong's cultural diversity and cosmopolitan lifestyle are also the core of its attraction. There were a total of 45 million travelers who went to Hong Kong in 2015 alone, and the majority of them were from mainland China (Tourism Commission, 2015). Many tourists utilize what the harbourfront has to offer, along with enjoying Hong Kong's impressive shopping centers and restaurants. However, many tourists have also experienced difficulties enjoying the waterfront due to the lack of signage, undeveloped pathways, and the absence of recreational attractions.

2.4.4 Importance of Walkability in Hong Kong

Walking in cities is an important method of transportation, as personal vehicle ownership in cities can be difficult and public transportation does not always go exactly where an individual needs to go. To track the number of non-mechanized (walking) trips accurately is a daunting task without a fare collection system or a restrictive path of travel. The Harbor Business Forum's Sustainable Transport Opportunity report states that "on an average weekday, Hong Kong residents made some 12.3 million mechanised trips, and some 6.8 million walk-only trips. In fact this amounts [to] nearly 30 million walk trips since all mechanised journeys include walking at the start and finish" (MVA Hong Kong LTD, 2008, p. 22). Hong Kong has over 7.2 million residents, which would mean that on average each resident is making four walking trips a day. By this measure it can be inferred that walking is an important, if not the most important, mode of transportation in Hong Kong. This makes walkability an important issue in Hong Kong in general, not just on the waterfront. In addition to being a primary mode of transportation in Hong Kong, walking is also "the most sustainable form of travel because it consumes no power, improves health, causes no pollution, is equitable and free, and promotes social interaction and

public transport usage” (p. 22). Thus Hong Kong has a vested interest in improving walking and walkability if it wishes to be a healthy and sustainable city.

Approximately 15 percent of the world’s population lives with a disability according to the World Health Organization, amounting to close to 1 billion people with disabilities globally (United Nations Secretariat for the Convention on the Rights of Persons with Disabilities, 2015). This number of disabled persons combined with the growing population in urban areas shows there is great potential for failure to accommodate these citizens. This failure could potentially lead to the loss of up to seven percent of any nation’s gross domestic product (GDP) and as well as opportunity loss of 15-20 percent of the global tourism market share for locations that depend on tourism. If urban development focused on inclusive universal design in the beginning stages of design, there would be low or no additional cost to the developer. Adapting to accommodate persons with disabilities not only benefits them but also other persons who do not necessarily have a disability but rather have accessibility limitations, such as the elderly, parents with small children or strollers, and those carrying loads.

2.5 Harbourfront Connectivity and Walkability

Since the Protection of the Harbour Ordinance in 1997, the physical location of the harbourfront has been constant since land reclamation ceased (Protection of the Harbour Ordinance, 1997). As a result, many organizations and government departments have focused their efforts on studying and planning the harbourfront area to enhance the connectivity and general value of this iconic part of Hong Kong. In 2008, the Harbour Business Forum (HBF) (2008) conducted a study that recognized that in terms of continuity and accessibility of the harbourfront, Hong Kong lags behind other major cities around the world. The Harbour Connectivity Study selected six specific areas along the harbourfront to analyze in order to

understand the mode and extent of discontinuity in those areas so that recommendations could be made to improve accessibility.

Because many prominent stretches of the waterfront were already under consideration by various organizations for planning and development, the Harbour Business Forum (2008) selected six promising areas to study:

- Sai Wan to Sheung Wan
- Causeway Bay Typhoon Shelter to Quarry Bay Park
- Shau Kei Wan Typhoon Shelter to Heng Fa Chuen
- Yau Tong to Kowloon Bay
- To Kwa Wan to Hung Hom
- Yau Ma Tei Typhoon Shelter to Tai Kok Tsui.

These areas are marked with green lines in Figure 2.6.

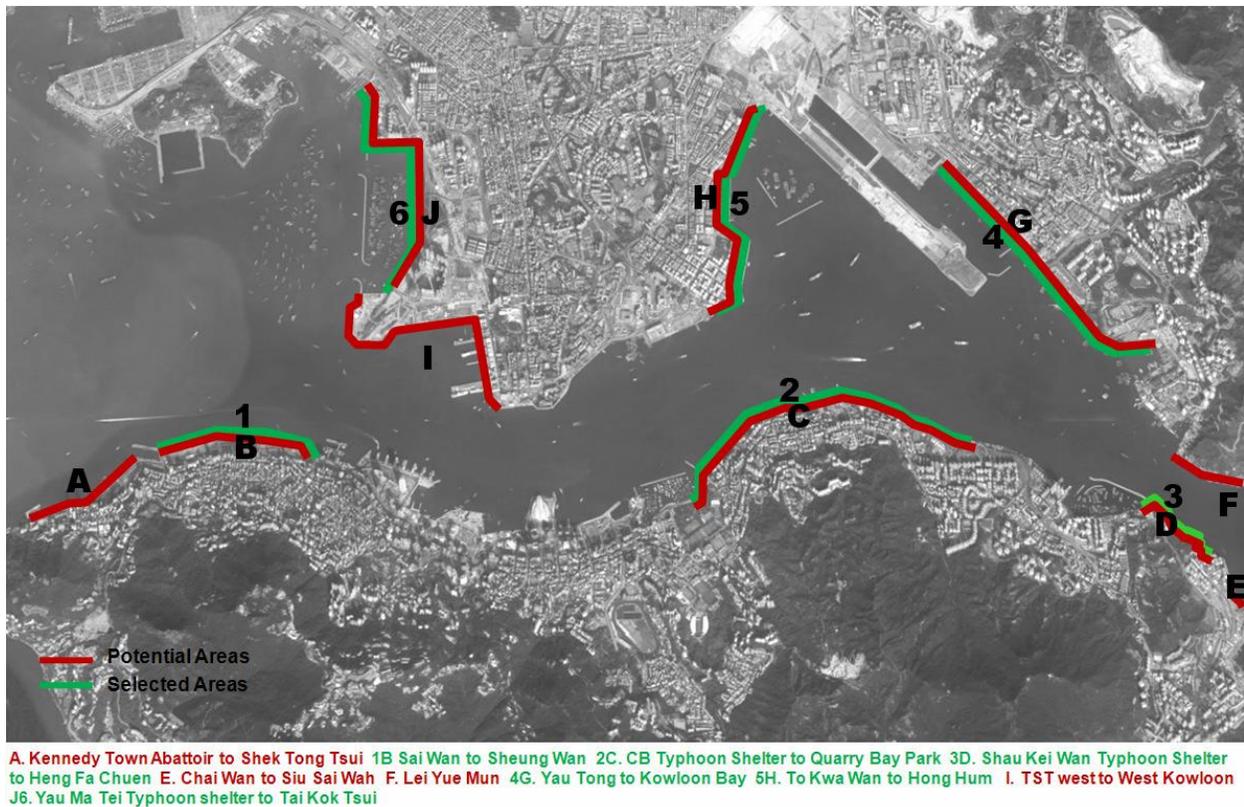


Figure 2.6: Harbour Business Forum study areas (2008)

The report considered many connectivity issues, including physical barriers, temporary blockages, a lack of signage, insufficient space, and impaired visibility. The report generated proposals for projects that could significantly reduce the number and severity of accessibility problems.

2.5.1 Connectivity and Accessibility Concerns

Throughout the six areas of focus in the HBF (2008) report, various physical and visual impediments existed. Some of the most common physical barriers preventing access to the waterfront were roads and buildings, especially high-rise residential buildings that blocked the view of the harbour.

Another common obstruction to waterfront access is government or industrial working areas (Harbour Business Forum, 2008). In Sai Wan, the Western District Public Cargo Working

Area occupies much of the waterfront real estate, forcing the pedestrian path to circumnavigate the area. Continuous access to the waterfront is not possible in situations like this; the cargo area is a port that requires waterfront access not suited for pedestrians. This is also the case from the Shau Kei Wan Typhoon Shelter to Heng Fa Chuen, where enterprises such as The Godown, Wholesale Fish Markets, Shipyards and the Sewage Screening Plant consume a majority of the waterfront. Similarly, waterfront areas may be used for other purposes requiring use of the harbour, such as a vehicular ferry pier that intersects the harbourfront between Causeway Bay Typhoon Shelter and Quarry Bay Park. Due to the nature and ownership of these areas, public pedestrian access to the waterfront is prohibited.

While some of the selected areas have harbourfronts that disallow public access entirely, many sections of Hong Kong's harbourfront have existing promenades which are only accessible from portions of the hinterland (Harbour Business Forum, 2008). For both types of scenarios, the Harbour Business Forum has outlined proposals for mitigating the general inaccessibility and discontinuity of the harbourfront promenade.

2.5.2 Recommendations

In their report, the Harbour Business Forum (2008) claims that implementing their proposed recommendations would increase the length of connected harbourfront in the selected areas from 8.8 km to 22 km. A major proposal includes adding paved pedestrian walkways with amenities such as lighting and landscaping to existing roads. For roads that run along the edge of the waterfront, they recommend building cantilevered boardwalks to allow pedestrians to access the waterfront in those areas. Other solutions include increasing the amount of signage that guides pedestrians to the waterfront and increasing waterside access to areas of interest by virtue of water taxi and sampan services.

While many of the Harbour Business Forum's (2008) report recommendations are general solutions which may apply to multiple areas, the report suggests more specific, large scale operations that would greatly increase the continuity of the harbourfront promenade. For example, many of the piers at the Wholesale Market at Sai Wan are no longer used since transport is now done utilizing vehicular delivery methods. These piers and the surrounding area could be converted into public use areas to increase the pedestrian friendliness of the waterfront in the Western district of Hong Kong Island.

This report emphasized the potential to develop a continuous harbourfront in Hong Kong. Yet since the Harbour Business Forum's report in 2008, there has been no attempt to determine what progress or changes have been made to realize this idea of a continuous, walkable and accessible waterfront. Therefore, our project is an opportunity to reevaluate the waterfront and provide new recommendations for linking the gaps between existing promenades.

2.6 Summary

Hong Kong is a densely populated city that relies heavily on walking as a way to move around. Although the development of a continuous walkway along the waterfront of Victoria Harbour faces difficulties, other cities around the world have shown that these difficulties may be overcome. Many institutions and organizations are working to plan an improved waterfront, including the HBF. In the next chapter we will describe the research methods that we used to contribute to achieving the HBF's vision of an accessible, continuous, and walkable harbour front in Victoria Harbour.

3. Methodology

The goal of this project was to provide recommendations to the Harbour Business Forum and Designing Hong Kong for improving the accessibility and continuity of Victoria Harbour's waterfront. Our objectives were to (1) determine the extent of accessibility and continuity of the Victoria Harbour waterfront, (2) determine appropriate detour routes for areas with no waterfront access, and (3) determine the opinion of the general public on the importance of waterfront access. The methods discussed in this chapter allowed us to complete the project objectives.

3.1 Determining the Extent of Continuity and Inaccessibility

For a path to be continuous, according to our definition, it must remain walkable and follow the waterfront as closely as possible without breaks. If sight of the waterfront is lost for an extended distance or the closest path along the waterfront is unclear, the path is considered broken. Significant detours around closed sections of waterfront promenades or areas with no pedestrian access are also considered breaks in the path. This project expanded the concept of accessibility to include inaccessibility issues unique to the Hong Kong waterfront. Many parts of the waterfront promenades do not allow dogs or bicycles on the path while other parts allow them, thus leading to a discontinuous waterfront for those with dogs or bicycles, even if there is a continuous walking path for pedestrians. These types of accessibility were analyzed to try and make the waterfront promenades continuous for everyone.

3.1.1 Observation of the Harbourfront

The primary method our group used to determine the current status of the waterfront was to walk it and survey the promenades and waterfronts along the harbourfront. Continuity and accessibility of the path were evaluated qualitatively by walking the waterfront and promenades and keeping the definitions of continuity and accessibility in mind. This helped us to determine

where breakpoints occurred and what areas were accessible and inaccessible. All breakpoints and accessible and inaccessible waterfront areas were compiled using Google Maps. Once mapped, the data was compared to recommendations provided from previous reports and used for visual representations. In addition, our group took pictures to record breakpoints, signage, and other points of interest, so that we could use them to illustrate features relevant to harbourfront continuity later.

3.1.2 Mapping the Walking Route

To help our team analyze discontinuity in pedestrian walkways, we mapped our trip around the harbour using Google Maps. At each location along the promenade where a discontinuity or obstacle occurred, we marked the coordinates on a map using Google's "My Maps" app. In addition to recording the locations where walkways along the waterfront started and ended, we also recorded the exact routes we walked for future reference. This map information was used to compare photographic evidence of discontinuities with geographic locations. The map of the route we walked was also used to determine detour routes for areas where the waterfront promenade ended.

3.2 Determining Appropriate Detour Routes

The detour routes we developed are vital to providing a continuous walking path around the harbour; the detours link existing waterfronts while attempting to keep pedestrians close to the water. At the end of a waterfront pedestrian waterfront walkway, we would walk along the nearest roads while using a map to direct us to the next area with waterfront access. In areas where the most direct detour route was not pedestrian friendly due to industrial activity, missing sidewalks, or other hazards, we explored alternative routes along nearby roads.

3.2.1 Comparison of Development Plans and Existing Conditions

In addition to finding detours, we verified that the routes we walked were compatible with plans and proposals for developing areas along the harbour. Using documents provided by the Development Bureau, we were able to verify that the routes would avoid construction areas. The documents also allowed us to identify permanent and temporary detours. Permanent detours are pedestrian walking paths designed to connect waterfront areas indefinitely, since the inaccessible waterfront causing the diversion is a facility which will always require access to the water and may not be safe for pedestrians to interact with. Examples of such waterfronts include working cargo areas and police headquarters. Temporary detours navigate around areas that may potentially become pedestrian accessible waterfront promenades, whether planned or proposed. Although there are many proposals for waterfront promenades, they will not be funded and implemented without public support.

3.3 Determining the Opinion of the General Public

Walking and using archival research to learn about the waterfront generated valuable quantitative and qualitative data, but provided a limited understanding of this topic in the context of Hong Kong's community. To understand the sentiments of local residents in the area, we needed to contact them directly to gather their opinions. Additionally, there would be no pressure to implement proposals without the public's support. Therefore, we conducted a survey where pedestrians were asked to complete a short questionnaire.

At the time of this project, our sponsors highlighted several debates on certain harbourfront areas. One such area involved the Proposed Boardwalk Underneath the Island Eastern Corridor, which was a proposal for building a pedestrian path using the existing structures of the highway between Causeway Bay and Quarry Bay. The length of this area was

also a reasonable size for us to focus our study on given the time we had in Hong Kong to complete our research.



Figure 3.1: Hong Kong resident fishing on the cement support

Figure 3.1 shows another reason we chose this area to conduct the survey. In this picture, there is a man fishing at the end of a support underneath the Island Eastern Corridor. Our team frequently noticed multiple people fishing from these supports. This inspired us to look into the proposal further, since, from what we have seen, there is some public interest in visiting the waterfront under the highway.

3.3.1 Surveying Pedestrians Along the Waterfront

This survey asked the participants four questions. The first two questions are about waterfront continuity in a more general sense, asking how important it is for the public to have a continuous waterfront along Victoria Harbour. The last two questions are more specific about the Island Eastern Corridor Proposal. While the questionnaire was distributed, we presented the participants with information sheets about the proposal in case they were unaware of it. We took a convenience sample of pedestrians along Java Road, Electric Road, and the Quarry Bay

promenade. The sample size of our survey was 100 responses. Participants in the survey were found in a variety of locations, including bus stops, street corners, and waterfront areas. The respondents remained anonymous throughout the process. The survey was presented as a printed questionnaire one page in length in order to minimize the amount of time required to complete it. Questions were printed in both English and Chinese to accommodate speakers of both languages. The questionnaire and information sheet can be found in Appendix C.

3.4 Summary

Observing the availability of pedestrian walkways around the harbour was the primary source of information about the continuity and accessibility of the waterfront. Physically walking along the harbourfront allowed us to determine which areas were and were not accessible. In conjunction with obtaining waterfront development plans, walking also allowed us to explore detour routes around areas that were inaccessible. Lastly, a pedestrian survey allowed us to determine the importance of waterfront access to the general public, which is necessary to justify the development of future promenades and connect existing walkways.

4. Results and Analysis

The goal of our project was to provide recommendations to the Harbour Business Forum and Designing Hong Kong for improving the accessibility and continuity of Victoria Harbour's pedestrian waterfront. This chapter presents and discusses the results of our research in order to explain how we achieved our objectives and what we used to form conclusions and recommendations.

4.1 Waterfront Access and Detours

In this section, maps are used to show waterfront accessibility and detour routes. The maps indicate accessible waterfront using green lines, inaccessible waterfronts using red lines, and detour routes using purple lines. Lines are drawn in accordance with project and property ownership. These lines are labeled for reference throughout the report. This section presents the recommended detour routes around inaccessible waterfront areas organized by district.

4.1.1 Tsuen Wan

The Ting Kau waterfront is approximately 2.8 kilometers long and stretches from K1 to K4 on the map. Most of the waterfront is BFA with about 400 meters running along the beach that is not. Along the entire waterfront, dog access is allowed, apart from the Ting Kau Beach. The beach does not have BFA and is therefore inaccessible to some pedestrians.

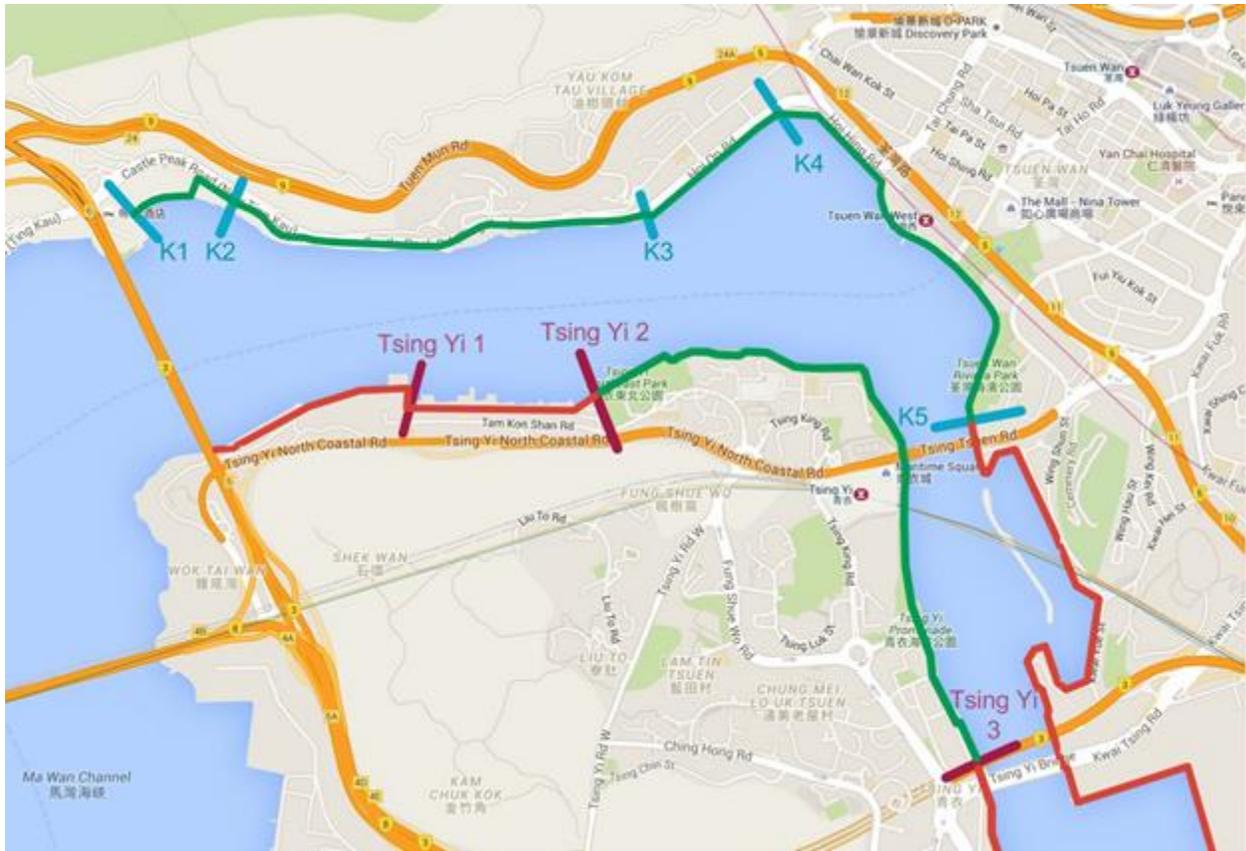


Figure 4.1: Map of Tsuen Wan and Tsing Yi

To walk next to the beach, pedestrians may follow the walkway along the main road towards the Ting Kau Bridge.

The Tsuen Wan West waterfront is approximately 1.7 kilometers between K4 and K5 in Figure 4.1. The promenade is BFA with limited dog access and runs along the water's edge with residential buildings in the surrounding area. The waterfront begins near the end of Hoi On road and runs along the water towards the end of the Tsuen Wan Riviera Park. Beyond the Riviera Park, beyond line K5, the waterfront is inaccessible to pedestrians as this area is mainly composed of container shipping ports.

4.1.2 Kwai Tsing

The Tsing Yi waterfront is approximately 3.9 kilometers long and stretches between lines Tsing Yi 1 to Tsing Yi 3 in Figure 4.1. Approximately 750 meters of the waterfront from lines Tsing Yi 1 to Tsing Yi 2 is inaccessible to pedestrians. This section has a permanent detour that has no BFA but allows dog access. The detour runs through an industrial area with a concrete yard at the very end. From lines Tsing Yi 2 to Tsing Yi 3, the waterfront is approximately 2.8 kilometers long and runs from Tsing Yi Northeast Park along the Tsing Yi Promenade, to the end of the Cheung Fai Road Promenade. This area of the waterfront has BFA with a pet access route on the Tsing Yi Promenade. Many of the promenades along the waterfront are separated by a couple hundred meters of public sidewalk that are accessible to dogs and have BFA. The waterfront ends at Tsing Yi 3 due to the same reason that the container shipping port begins in this area.

South of the Kwai Tsing road is the container port in the Rambler Channel. The waterfront in this area is inaccessible, and therefore no detour routes around this area are practical or feasible. Our only recommendation is that pedestrians use public transportation to get from Tsuen Wan West to Sham Shui Po.

4.1.3 Sham Shui Po

The Sham Shui Po waterfront is an 887 meter section that spans from K6 to K7 in Figure 4.2. This is the Cheung Sha Wan Wholesale Food and Marine Fish Market and is restricted from public access. Therefore, no detour routes have been given as this area may not be accessed. Our only recommendation would be to use public transportation to bypass this area and the container port to the north of it.

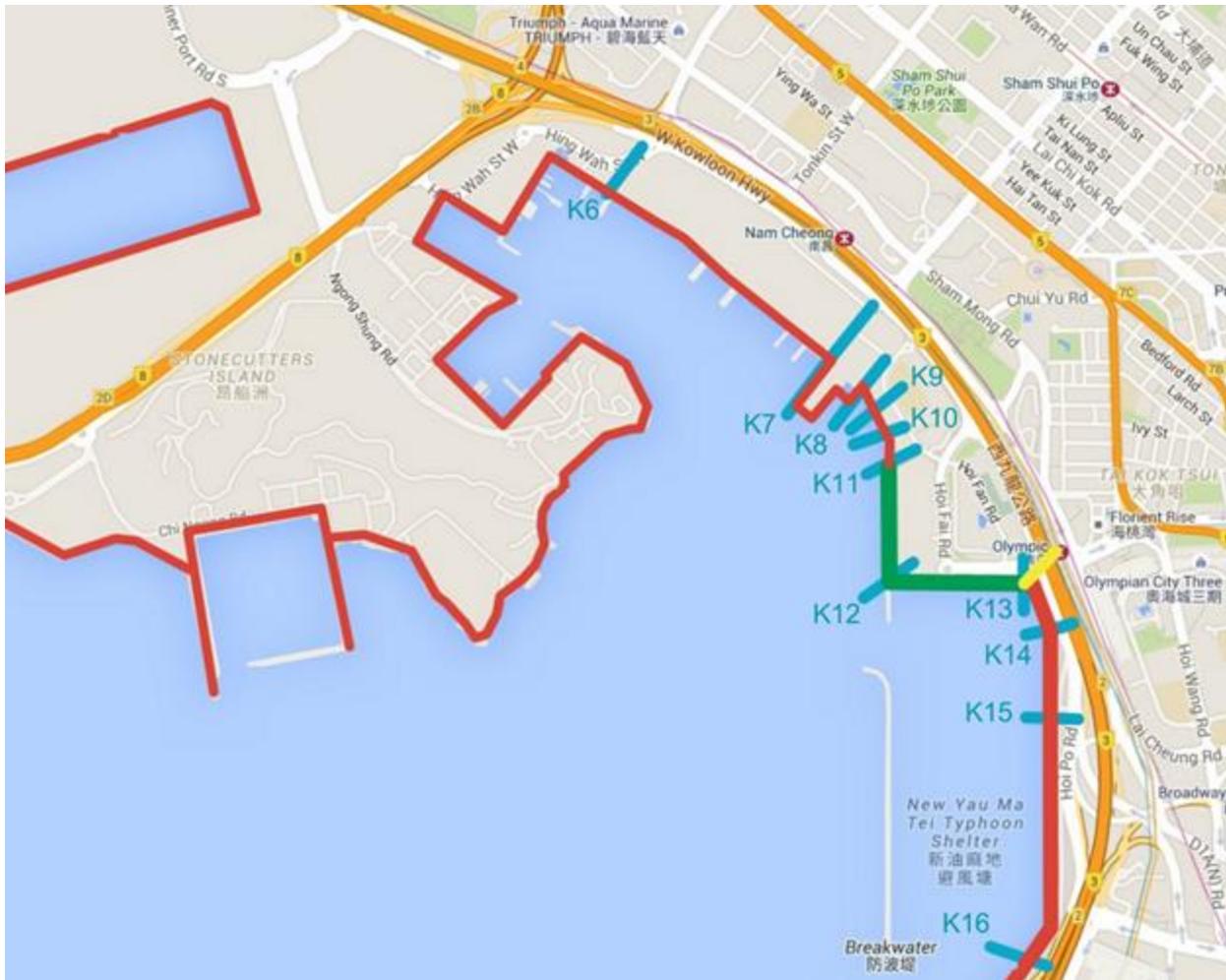


Figure 4.2: Map of Shim Sha Po and Tai Kok Tsui Waterfront

4.1.4 Yau Tsim Mong

Yau Tsim Mong is located on the south western side of the Kowloon Peninsula, and includes the following waterfront neighborhoods:

- Tai Kok Tsui
- West Kowloon
- Tsim Sha Tsui

This area is generally developed and has a mixture of industrial, commercial, and residential areas adjacent to the waterfront.

The Tai Kok Tsui waterfront is a 1.5 kilometer section of waterfront stretching from line K7 to K15 in Figure 4.2. While the waterfront itself is 1.5 kilometers long, approximately 730 meters of the waterfront is currently inaccessible with no barrier-free access (BFA). The remaining 800 meters is waterfront accessible and has BFA but does not allow dogs. The sections of the harbourfront from K7 to K11 and K13 to K15 in Figure 4.2 are permanent detours as the facilities that reside on these lots are important to either the economic sector or are a public service. The detours we recommend to follow are outlined in purple on Figure 4.2. There is one section from K10 to K11 on the map that is a private residential district with a private promenade for residents. In the 2008 HBF (2008) report it was recommended that this private promenade be opened up for public use; however, eight years later this still has not been done. We recommend that this private promenade be opened up so the public may have greater waterfront access.

The West Kowloon waterfront is a 3,242 meter section of waterfront stretching from line K16 to K18 in Figure 4.3. The official West Kowloon promenade includes 1,280 meters of barrier-free waterfront access and allows dogs along the promenade. This is one of the few fully dog accessible waterfront promenades in Hong Kong.



Figure 4.3: Map of West Kowloon and Tsim Sha Tsui waterfronts

In West Kowloon, 1,173 of the waterfront is currently inaccessible; however, it is a temporary detour, as it is part of the planned West Kowloon Cultural District (WKCD), and will have a full BFA access promenade along the waterfront. This temporary detour is marked in purple in Figure 4.3. The route this detour follows is officially marked with signage as can be seen in Figure 4.3.



Figure 4.4: Signage for West Kowloon Waterfront Promenade detour

This detour is also officially updated as the path changes due to construction and path completion. An additional 789 meters of waterfront along the New Yau Ma Tei Typhoon Shelter, from K15 to K16 is a permanent detour as there is no walkable path next to the waterfront. In addition, the detour route around this breakpoint is longer and involves public transit to navigate around. The detour involves backtracking to the Kowloon MTR station and taking that to the Olympic MTR station and exiting and navigating it back to the promenade in Tai Kok Tsui. The 2008 HBF report recommended that the Cargo Working Area on the New Yau Ma Tei Typhoon Shelter push back its operations a few meters so that a BFA walkway could be placed next to the Cargo Working Area, enabling the WKCD to be connected to the Tai Kok Tsui waterfront creating a longer continuous promenade along the Kowloon harbourfront. This recommendation is still valid; however, while surveying the promenade our group noticed that an overpass walkway could be attached to the nearby Route 3 highway exit. This walkway would be similar in design to the current walkway attached to the Hung Hom Bypass in Hung Hom. If this

permanent detour cannot be made more easily accessible through a better detour route, it would be the recommendation of our group to establish the west endpoint of the continuous waterfront promenade on the Kowloon side of the harbour to be in West Kowloon, specifically at the line K16 in Figure 4.3. The reason for this is the numerous and lengthy permanent detours between West Kowloon and the physical end of Victoria Harbour at Ting Kau would make the route unenjoyable and confusing for the pedestrian.

The Tsim Sha Tsui waterfront runs from K18 to K24 in the Figure 4.3. This waterfront promenade runs 1493 meters along the water's edge, with 210 meters of permanent detour where the current the Tsim Sha Tsui Fire Station exists as well as a 579 meter temporary detour where the Avenue of Stars is undergoing construction. This brings the total waterfront in the Tsim Sha Tsui neighborhood to 2,282 total meters in overall waterfront length. Once the Avenue of Stars has been reopened in 2018, 2,072 meters of the waterfront in Tsim Sha Tsui will have waterfront access. While the temporary detour around the Avenue of Stars is appropriately marked where the detour begins, as can be seen by the signs in Figure 4.5 and Figure 4.6, our group found that to navigate the detour it required us to backtrack 131 meters to then begin to navigate the detour.



Figure 4.5: Signage for the Avenue of Stars detour



Figure 4.6: Map of Avenue of Stars detour

We recommend placing signage alerting the pedestrian of this detour 131 meters in advance to save time and also make the detour easier to navigate.

4.1.5 Kowloon City

Kowloon City covers the eastern half of the Kowloon Peninsula and includes the former Kai Tak Airport strip, and encompasses the following waterfront neighborhoods:

- Hung Hom
- To Kwa Wan
- Ma Tau Kok
- Kai Tak

This area overall has a mixture of commercial and residential areas adjacent to the waterfront.

Running 2,685 meters from K24 to K30 in Figure 4.7 the Hung Hom promenade offers a promenade with continuous waterfront access as well BFA.



Figure 4.7: Map of Hung Hom, To Kwa Wan and Kai Tak

The Hung Hom promenade, while continuous for the average pedestrian, is discontinuous for those with dogs, as the promenades along Hung Hom with dog access vary with the ownership of each section of promenade. We recommend allowing dog access along all sections of the Hung Hom promenade, with the provision that dog owners are responsible for their dogs, alleviating the continuity issue for dog owners along the promenades. To help dog owners be responsible, we recommend that dog bins with plastic bags be placed along the promenade. An example of one is shown in Figure 4.8.



Figure 4.8: Dog waste bin

In addition to the continuity recommendations our group noticed that a lack of signage on one section of the Hung Hom promenade as seen in Figure 4.9 makes the path confusing to navigate.

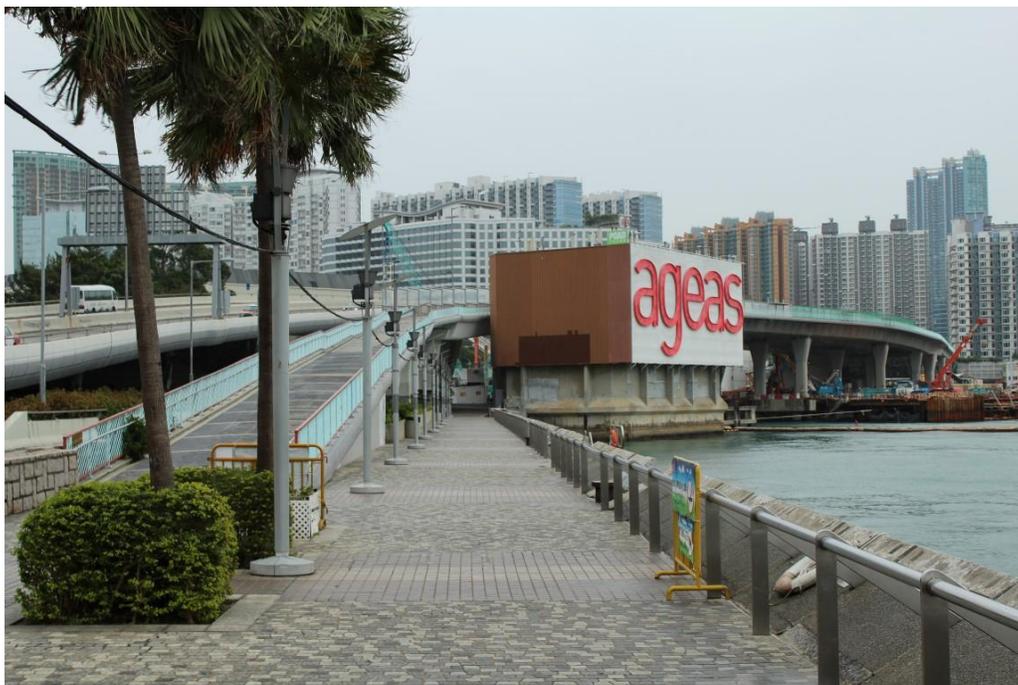


Figure 4.9: Beginning of the Hung Hom Promenade Pedestrian Overpass

At this point the signage directing the pedestrian to the rest of the Hung Hom promenade is unclear as the signage that exists points to two routes, one elevated and one at grade. The continuous route is the elevated route next to the Hung Hom bypass, and thus our group recommends that a new sign be placed next to the route. An appropriate location for where the signage should be placed is shown in Figure 4.10.

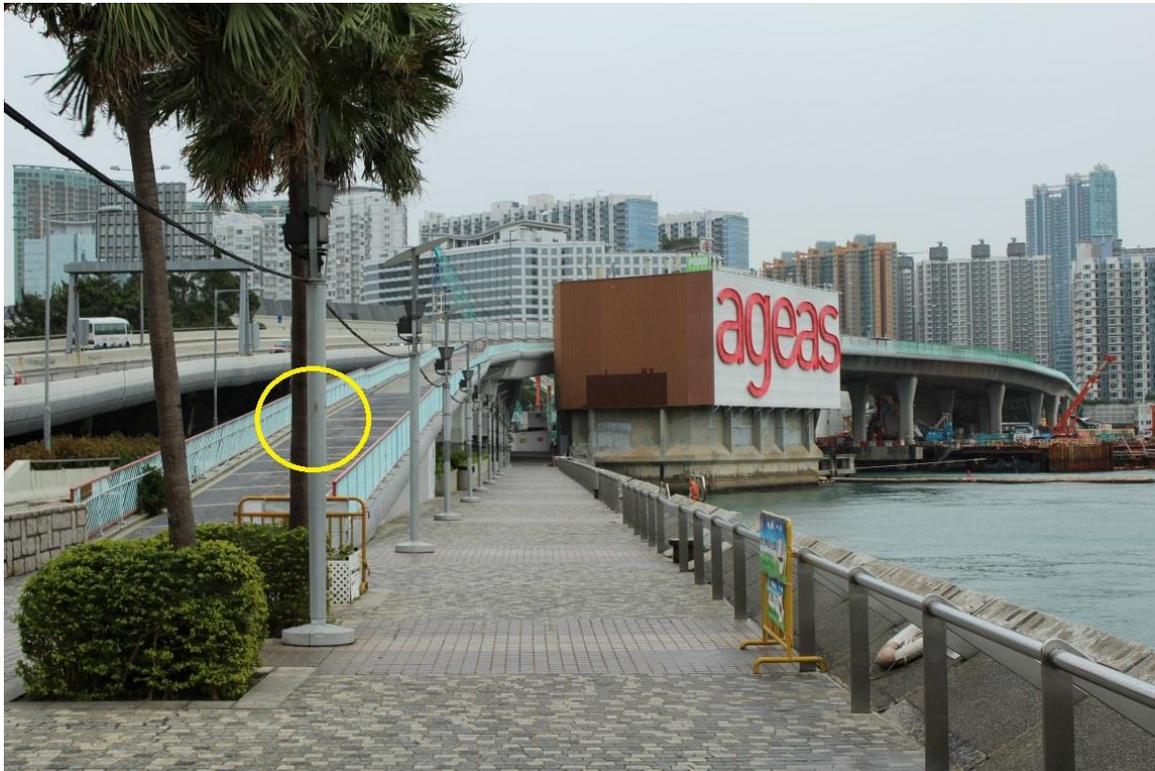


Figure 4.10: Placement of signage for Hung Hom Pedestrian Overpass

The To Kwa Wan waterfront lies in the area between K30 and K36 in Figure 4.7 and is one of the more waterfront inaccessible locations on the Kowloon side of the harbourfront. Of the 822 meters of waterfront in To Kwa Wan there is only 311 meters of pedestrian access to it. The remaining 511 meters currently exist as temporary detours as plans to grant pedestrian access are on record. While plans to grant access do exist for this section, none of them has any definitive timeline or any expected completion date. The Hoi Sham Park Extension for Waterfront Promenade and Reprovisioning of Tennis Courts from Ko Shan Road Park plan will

add 252 meters to the waterfront (The Government of the Hong Kong Special Administrative Region Development Bureau, 2016). Additionally, the lot from K31 to K32 in Figure 4.7, a sewage treatment plant, has plans dependent on the purchase of the privately owned lot, from K30 to K31 in Figure 4.7 (Chu, 2016). If the aforementioned private lot is purchased, there would be a plan to develop both lots to link the To Kwa Wan and Hung Hom waterfronts with a promenade through the lots from K30 to K32 in Figure 4.7. We recommend that the government proceed with the Hoi Sham Park Extension for Waterfront Promenade and Re-provisioning of Tennis Courts from Ko Shan Road plan, so that there can be a longer continuous promenade in To Kwa Wan. After the extension is completed we also recommend that the government try and purchase the previously mentioned private lot so that the promenade in To Kwa Wan could then be linked to the continuous Hung Hom promenade. In addition to these recommendations for development, we recommend a number of detours that are outlined in purple in Figure 4.7. These detour recommendations should be appropriately signed, so navigation of the detour route is easier.

The Ma Tau Kok waterfront is 157 meters of harborfront from K36 to K38 in Figure 4.7, and is divided into two lots K36 to K37 and K37 to K38 in Figure 4.7. The first lot is a bus terminal and ferry pier with a BFA and dog accessible promenade, while the second lot is a gas pigging station and is completely waterfront inaccessible. This lot has to be a permanent detour because the gas pigging station is an important component to the operation of the nearby natural gas station. The permanent detour for this section is shown in Figure 4.7 and we recommend that the area be appropriately marked with signage to increase the ease of navigation. In addition the entire section of Ma Tau Kok has redevelopment plans on record to improve the waterfront promenade and make it more pedestrian friendly.



Figure 4.11: Map of the Kai Tak Runway Strip

The Kai Tak waterfront runs from K38 to K39 in Figure 4.7. To travel from the line K38 to the line K39 and extensive detour is needed. This detour is over an hour long for a pedestrian and takes a route that is far away from the water. We therefore recommend that public transportation be used to detour around the area. The Kai Tak area is currently being developed under the Kai Tak Development plan, and as a result most of the runway strip and former airport area is currently under construction. There are, however, a few areas at the tip of the runway strip, from Kai Tak 1 to Kai Tak 2 and Kai Tak 3 to Kai Tak 5 in Figure 4.11 that exist as a

completed runway promenade. The area from Kai Tak 2 to Kai Tak 3 is currently a temporary detour as it is not along the waterfront in that area, however there are plans in place to add in a waterfront promenade in that area. The temporary detour for this area is outlined in purple in Figure 4.11.

4.1.6 Kwun Tong

Kwun Tong covers about five kilometer of the Victoria Harbour waterfront. As shown in Figure 4.12, this area runs through a variety of sites, from construction areas to fishing villages. This section will discuss the following waterfront neighborhoods in details:

- Kwun Tong
- Cha Kwo Ling
- Yau Tong
- Lei Yue Mun

The Kwun Tong waterfront has a total length of approximately 2.2 kilometers. There's currently one open promenade, the Kwun Tong Promenade, from K39 to K40, of approximately 1.2 kilometer with BFA but no dog access. The rest of the areas in Kwun Tong all have temporary detours away from the waterfront.

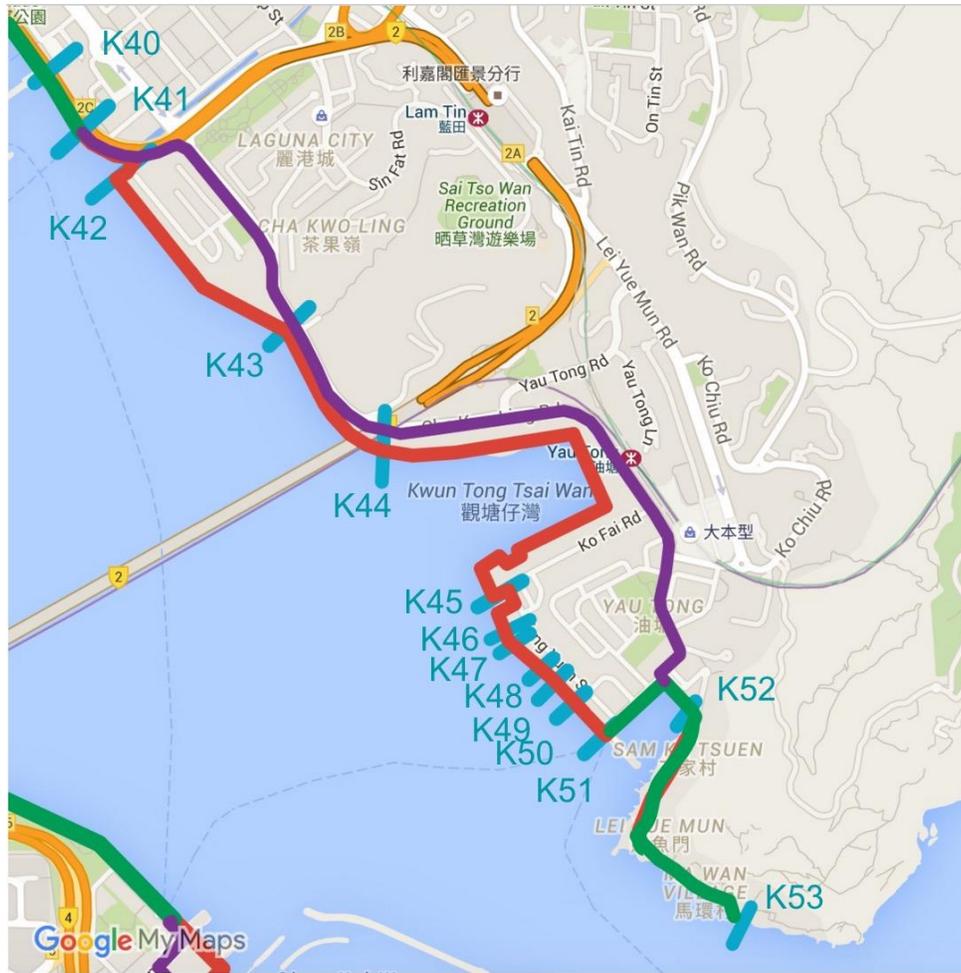


Figure 4.12: Map of Kwun Tong, Cha Kwo Ling, Yau Tong and Lei Yue Mun

Because of the detour from K40 to K43, which is approximately 1 kilometer, all sections have no BFA or dog access. In between K40 and K41, there is a small area of waterfront that is walkable at the end of Kwun Tong Promenade. It runs from the Driving Test Center to Hoi Bun Industrial Building. Further along the waterfront, there is a sewage treatment plant from K41 to K42. The Kwun Tong area ends with the section in between K42 to K43, from Kwun Tong Bypass to Living Grace Lutheran Church. In order to walk near the water, the closest detour is to walk along Wai Yip Street. The detour is a public road, and there is no BFA, but dogs are allowed.

The waterfront of Cha Kwo Ling goes from Living Grace Lutheran Church to Tin Hau, K43 to K44. It has a total distance of approximately 475 meters. There currently is no waterfront, and the detour is continuous from Wai Yip Street as mentioned in the previous section. This non-BFA temporary detour has dog access, and has a developed proposal for it, although the detailed construction plans are still unknown.

Yau Tong has one of the longest waterfront areas on the Kowloon waterfront. With a total distance of approximately 2.3 kilometers, this area goes from K44 to K53. Within the area, there are about 350 meters of BFA promenade, from K51 to K52, but with no dogs allowed. This area is the Sam Ka Tsuen Typhoon Shelter. The rest of the length is divided up into temporary detour and permanent detour. There are approximately 1.7 kilometers of temporary detour, and about 106 meters of permanent detour, with the Kwun Tong Wholesale Fish market being the permanent structure along the water (K47 to K48). The other sections of the area all have proposed plans from Yau Tong Industrial Area. Yau Tong and Yau Tong Bay waterfronts both have some waterfront promenade development plan on record; however, there is no completion timeline for some of those areas or the timeline is dependent on outside factors such as funding or pending plan approval. The stretch from K45 to K51 has waterfront access, however the closest access point is Tung Yuen Street.

Lei Yue Mun on the Kowloon side has a waterfront that is approximately 917 meters long. We have chosen the eastern- endpoint of the Victoria Harbour promenade to be the Lei Yue Mun Tin Hau Temple. The temple is the last attraction on this side of the harbour, where local people practice religion and, sometimes, fish. Beyond this point, there is not much development, and building a walkway appears to be unnecessary. Currently, there is no public promenade or a plan to build one. This area is a village where all the roads we could walk on

were private narrow paths in between residential houses. Therefore, the Lei Yue Mun area is not BFA and also no dogs are allowed.

4.1.7 Central and Western

Moving on to the Hong Kong Island side of the Victoria Harbour, Central and Western District has a waterfront of approximately seven kilometers. Starting from Kennedy Town, ending at Central, this area has the longest continuous waterfront out of all the waterfront promenades. The following waterfront neighborhoods within the Central area will be analyzed more in depth in this section.

- Kennedy Town
- Shek Tong Tsui
- Sai Wan
- Sai Ying Pun
- Sheung Wan
- Central



Figure 4.13: Map of Kennedy Town, Shek Tong Tsui and Sai Wan

Kennedy Town has a waterfront running from HK1 to HK6 as shown in Figure 4.13. It is approximately 1.4 kilometers long with two sections of existing waterfront, two sections of temporary detour, and one section with a permanent detour. Kennedy Town is also the western end of Victoria Harbour because of its unique location. While having BFA access and a completed waterfront promenade, there are no dogs allowed when walking from Sai Ning Street to Huncliff Court (HK1 to HK2). Further down the road heading east, the China Merchants Wharf Pier (HK2 to HK4) blocks access of the waterfront, which a detour via Belcher's Street could bypass, as indicated in the purple line on the left of Fig. 4.14 Although the detours are not BFA, dog owners can feel free to walk their dogs there. From this point a private residential building, that is not open to public, blocks the view of the waterfront. After taking a detour on Catchick Street., there is another waterfront promenade from Smithfield Road to the Western Public Cargo Working Area landing. This stretch of the waterfront is both BFA and dog friendly, which is not very common in Hong Kong.

In Kennedy Town, out of the 1.4 kilometers of available waterfront, only 284 meters are waterfront that is open to the public. There are about 956 meters of the area under the proposed plans for improving them and making them continuous, even though the last 200 meters have already had permanent detours marked to get around them.

Shek Tong Tsui has one section of waterfront going from Western PCWA Landing to Western Wholesale Food Market, HK6 to HK7. It is almost 800 meters long; however, there is no promenade along the whole waterfront due to government work. The most convenient detour is to walk along Shing Sai Road. Thus, although there is no BFA, because it is a detour, dogs are allowed.

The Western Wholesale Food Market, located in Sai Wan, has a waterfront length of approximately 447 meters. Going from HK7 to HK8, the view of the harbour has been blocked out completely by the market. Although there are plans in place to improve the accessibility of the Wholesale Food Market, there is currently no determined completion date for this project. As of now, there is no BFA, but dogs are allowed even though it might be a little difficult to get into this location. Currently, the temporary detour is to take Fung Mat Road, which runs along the edge of the market.



Figure 4.14: Map of Sai Ying Pun, Sheung Wan

Sai Ying Pun, from HK8 to HK9, has a waterfront approximately 490 meters long. This section, in between the Western Wholesale Food Market and the Sun Yat Sen Park, is completely inaccessible and is currently not being used for anything. The plan mentioned above will also help open up this area in order to make this an extension of the Sun Yat Sen Park. The current detour around this area is via Connaught Road West, as shown in purple in Figure 4.14. Dogs are allowed in the detour, but there is no BFA.

Sheung Wan has one of the nicest waterfront promenades on the Hong Kong Island side. The entire 1.1 kilometers are continuous and without any barriers. Even though dogs are not allowed in the park, it is still a very enjoyable public space with a view of the whole harbour. The two sections go from Sun Yat Sen park to HongKong-Macau Ferry Terminal (HK9 to HK10), and from Central Western District Promenade to Man Kwong Street (HK10 to HK11).

Central, as one of the most crowded areas in Hong Kong, has a very busy waterfront. It has a span of 3.8 kilometers and lies in between HK11 and HK13 as shown in Figures 4.14 and 4.15. However, only one section of the two is open to the public along the harbour front, which is

the Central Piers. There is BFA in this section, but dogs are not allowed. Once the end of the Central Western District Promenade has been reached, the road leads away from the waterfront to a detour on Convention Ave. around the water to Expo Drive, which is when the waterfront is open again. This temporary detour is marked as HK12 to HK13, shown in, Figure 4.15. There are ongoing plans for this section to make the waterfront available; however, the finishing date is still unknown. As of now, although there is not BFA, dogs are allowed.

4.1.8 Wan Chai

The Wan Chai District sits in the middle of the northern part of the island and includes the following waterfront neighborhoods:

- Wan Chai
- Causeway Bay

Most of this area is currently under development due to the Central-Wan Chai Bypass construction.



Figure 4.15: Map of Wan Chai and Causeway Bay

The Wan Chai waterfront is 2,037 meters long, stretching from HKI13 to HKI15 in Figure 4.15. While 507 meters is a complete promenade with BFA alongside the Hong Kong Convention and Exposition center from HKI13 to HKI14, the remaining 1,530 meters of

waterfront has a temporary detour running from HKI14 to HKI15 and is outlined in purple in Figure 4.15. This detour goes could potentially have two routes and the second route is marked in blue in Figure 4.15. The first route is a more direct detour along the nearby road adjacent to the waterfront. This route is a little more perilous as multiple lanes of traffic have to be crossed and the sidewalks are occasionally closed due to construction work. The second route is a more pleasant route that and goes through the Sun Hung Kei Center Shopping Arcade and the Harbour Centre. This route is also more smoothly BFA, is wider, and more pleasant to walk.

The Causeway Bay waterfront is 1,399 meters, with 568 meters of temporary detours and 831 meters of BFA promenade. The temporary detours in this section, from HKI15 to HKI17 in Figure 4.15, are generally well marked and kept up well as can be seen in Figure 4.16. The detour routes are outlined in purple on in Figure 4.15.



Figure 4.16: Detour signage in Causeway Bay

The remaining section of waterfront, from HKI17 to HKI18, is generally BFA and walkable, however the path is in general disrepair and improvement.

4.1.9 Eastern

The Eastern district lies on the northeast side of Hong Kong Island and includes the following waterfront neighborhoods:

- North Point
- Quarry Bay
- Shau Kei Wan

Most of the development in the area is residential and commercial in nature.

The North Point waterfront extends from line HK18 to HK22 and is approximately 3.5 kilometers long. This currently uses a temporary detour that runs through the city streets, as there are plans to build a boardwalk underneath the Island Eastern Corridor in the future. HK18 to HK19 begins at the Tung Lo Wan Fire Station and ends at the intersection of Electric Road and Power Street.

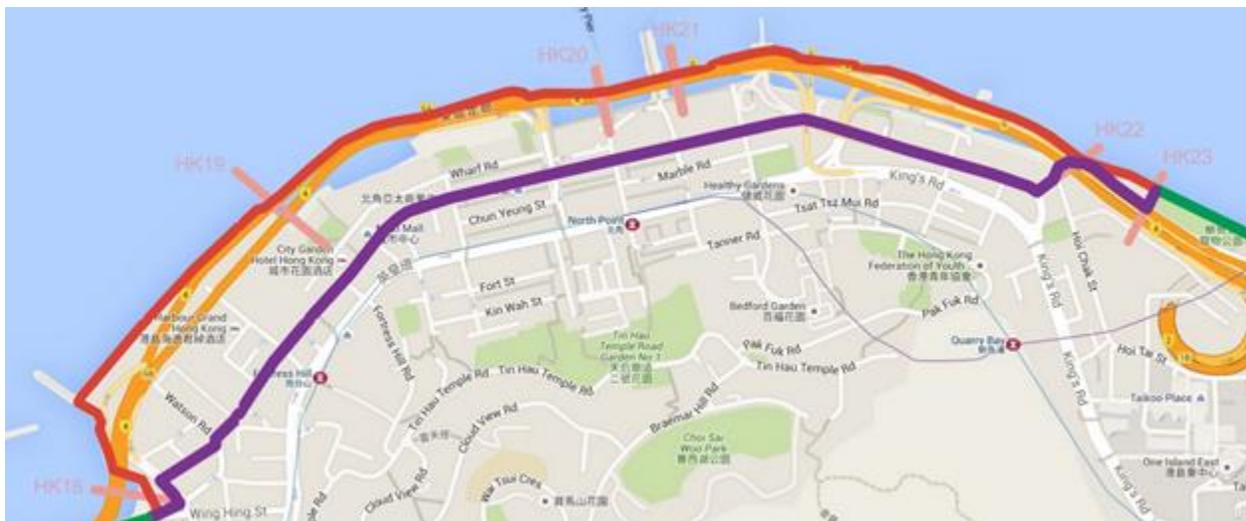


Figure 4.17: Map of North Point

This route has BFA as well as dog access and is approximately 1.3 kilometers. Further down Electric Road, between HK19 and HK20, the route will end at the intersection of Java Road and Shu Kuk Street. This detour has BFA, has dog access, and is approximately 913 meters long. The next section is between HK20 and HK 21 between Shu Kuk Street and Kam Hong Street along Java Road. Between these two streets is the North Point Passenger Ferry Concourse. This stretches about 172 meters long. This route has BFA and dog access. The last section runs from HK21 to HK22 and is approximately 883 meters long and also has BFA and dog access. It follows Java Road from Kam Hong Street to Hoi Yu Street by the Eastern District Police Headquarters and North Point Police Station.

The Quarry Bay waterfront stretches from HK22 to HK24 and is approximately 1.7 kilometers long. The section between HK22 and HK23 runs from Hoi Yu Street to Quarry Bay Park. This section is only 184 meters long and is considered a temporary detour.



Figure 4.18: Map of the Island East

Although this detour does not have BFA, it does allow dog access. As you enter the Quarry Bay Park, the section is approximately 1.5 kilometers long with BFA and dog access along the promenade in certain locations. The majority of this section is along the water's edge until it reaches the Marine Police Headquarters, where the waterfront is then inaccessible.

The Shau Kei Wan waterfront stretches from HK24 to HK27 and is approximately 918 meters long. The section between HK24 and HK25 is considered a permanent detour, as the Marine Police Headquarters will not be relocated, and therefore a detour route around the building must be made. This detour is 260 meters long, is BFA and dog accessible. The Aldrich Bay Promenade connects to the detour route, between HK25 and HK26. This section of the promenade runs along the waterfront and is approximately 658 meters long. It has BFA but does not allow dog access.

The last section runs from HK26 to HK27 and is approximately 727 meters long. This section does not run along the waterfront, and is considered a temporary detour. Pedestrians must walk through the city along the sidewalk of the main road as accessibility ends at Aldrich Bay. At the end of the section, pedestrians will find the Coastal Defense Museum as the endpoint of Lei Yue Mun. This museum also marks the end point of Victoria Harbour on Hong Kong Island.

4.2 Public Opinion

This section presents the data collected from the pedestrian survey. The results of our survey indicated that overall, the public had positive feelings toward using the waterfront and extending access to the waterfront. Without public support, there is no incentive to implement plans to develop new waterfront promenades. In addition to the questionnaire responses, many pedestrians indicated in conversation that they would like to see more dog-friendly areas along the waterfront. Based on similar interactions, we believe that studying the general public's

desired use of waterfront promenades could be the topic of future research such that recommendations can be made for improving conditions for cycling, running, walking dogs, and other activities.

4.2.1 Importance of Waterfronts

One objective of our research was to determine how important and necessary waterfront access and continuity is to the general public. Figure 4.19 shows that the majority of our survey respondents felt a continuous waterfront walkway along Victoria Harbour is at least “somewhat important” for the community, with 39% of respondents claiming it is “very important.” No respondents answered “somewhat unimportant” or “not important.”

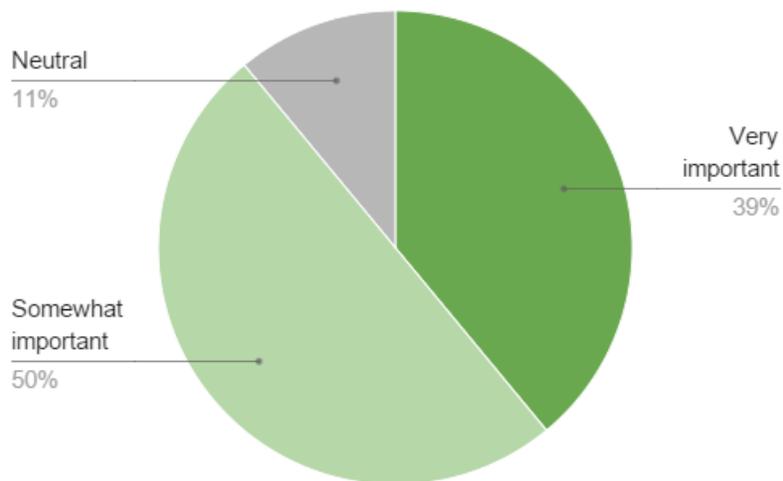


Figure 4.19: How important is it for the community to have a continuous waterfront walkway along Victoria Harbour? (n=100)

Similar results to the first question were seen in the responses to the second question; most respondents at least “somewhat agree” that a continuous pedestrian pathway from Quarry Bay to Causeway Bay is necessary for the public to fully enjoy the waterfront. Only one respondent somewhat disagreed with the statement, and none strongly disagreed. A summary of responses to the second question are shown in Figure 4.20.

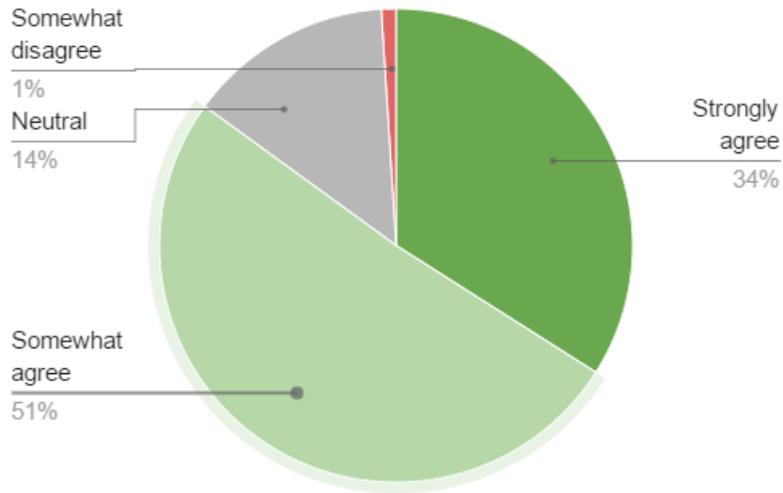


Figure 4.20: Do you agree that "a continuous pedestrian pathway from Quarry Bay to Causeway Bay is necessary for the public to fully enjoy the waterfront?" (n=100)

4.2.2 Boardwalk Awareness and Support

The second half of the questionnaire pertained to the proposed construction of a boardwalk underneath the Island Eastern Corridor. As seen in Figure 4.21, 75% of respondents were not aware of the proposal. However, after providing a brief explanation of the project via an information sheet (see Appendix C), many respondents indicated they were in favor of the proposal.

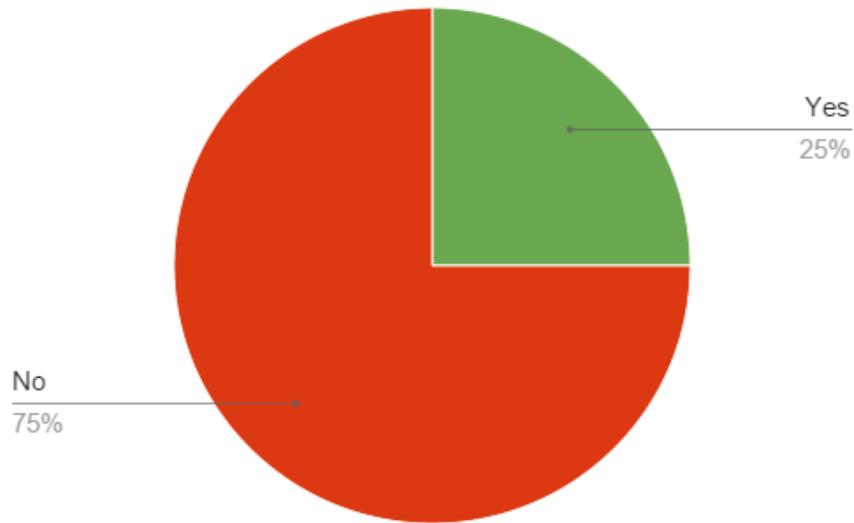


Figure 4.21: Are you aware of the proposed boardwalk underneath the Island Eastern Corridor? (n=100)

From Figure 4.22, we can see that 76% of respondents were supportive of the project. Approximately 70% of respondents who were unaware of the proposal still selected “Yes” as an answer to this question.¹ Only one respondent did not support the construction of the boardwalk.

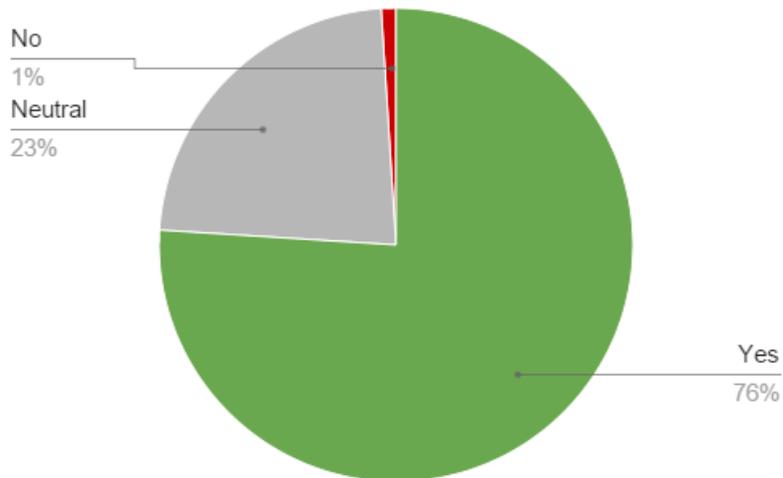


Figure 4.22: Do you support the construction of a boardwalk under the Island Eastern Corridor? (n=100)

¹ 75 respondents answered “No” to Question 3, but 53 of those 75 respondents selected “Yes” as an answer to Question 4. The remaining respondents answered “Neutral.”

Although this survey pertains to the Island Eastern Corridor spanning the waterfront from Quarry Bay to Causeway Bay, public support for increased waterfront access may be indicative of a trend across all areas of Victoria Harbour. We recommend that a similar survey be conducted regarding other proposals for waterfront construction projects that would span the whole waterfront of Victoria Harbour on both the Hong Kong Island and Kowloon sides.

4.3 Summary

Through our research and observation, we have recommended detour routes around most inaccessible waterfronts such previously isolated waterfront promenades are now connected by walking routes away from the water. In general, detours take the most direct path along roads between promenades unless a safer or more enjoyable route was available. For areas that would require large detours, such as the Kai Tak construction site, no detour is recommended due to the walking time required to circumnavigate the area.

For these routes to be successful, improved signage is necessary in order to direct pedestrians around areas with no promenade. Several construction projects are expected to be finished in the next five years, but the waterfront in many areas of the harbour will remain inaccessible. Evidently, however, the general public feels waterfront accessibility is a significant part of their enjoyment of Victoria Harbour. We estimate that within the legal boundaries of Victoria Harbour, 27 kilometers of the waterfront is currently accessible by pedestrians based on our walking and map data. Research also indicates that approximately 2.8 kilometers of the inaccessible waterfront will become accessible by the year 2021, leaving approximately 43 kilometers of waterfront inaccessible. Many proposals for improving the waterfront are contingent upon funding, resolving property ownership problems, and legal approvals.

Therefore, implementing signed detour routes would allow pedestrians to continuously access existing promenades for most of Victoria Harbour.

5. Conclusions and Recommendations

Based on a thorough analysis of our findings, our group has determined there are a number of recommendations that can be made beyond the detours, signage fixes, and development plans that we have indicated in the previous chapter. Currently harbourfront development and maintenance belongs to various different authorities and property owners. While some sections of the waterfront are beautiful and accessible, other sections of the harbourfront are saddled with many detours and stretches of area that are inaccessible. Often times these sections are right next to each other as each section of the waterfront is developed independently without consideration of the harbourfront as a whole. Thus our group recommends that the Hong Kong government develop a master harbourfront continuity plan and create a supporting agency that has complete authority to implement that master plan in an efficient manner. Currently in Hong Kong there is a proposal to establish a Harbourfront Authority in Hong Kong (Harbourfront Commission, 2016). This authority would be responsible for the planning, design and construction, operation and management of future harbourfront enhancement. In this chapter, we make numerous overarching recommendations for the improvement of the continuity and walkability of Victoria Harbour. These recommendations are general recommendations for either the future Harbourfront Authority or the appropriate authorities and current landowners to consider.

5.1 Continuous Harbour Path

In Chapter 4 we recommended numerous detours, both temporary and permanent, to increase the continuity of each individual section of the harbourfront by connecting existing promenades. For each detour we recommend placing appropriate visible signage, but more importantly we recommend that each individual detour be marked with the same type of signage,

such as shown in Figure 4.4. By using the same type of signage along the harbourfront, it establishes path familiarity and gives the impression of organized continuity. This signage could be easily and quickly added to all detour routes, especially if mobile sign posts such as those in Figure 5.1 are used.



Figure 5.1: Examples of mobile sign posts. On the left is a drum filled with concrete to support a traffic light in a construction site and on the right is a mini bus signpost

These types of moveable signposts, with the appropriate detour signage attached, can be used to mark a detour route, and can be moved easily as the detour route changes. In addition, we recommend that the detours be centrally recorded and maintained by one organization so that overall detour consistency is maintained, rather than have some detours be current while others

are out of date. Official endpoints should also be established and maintained by the same organization as the continuity of the path increases or decreases because of harbourfront development. The continuous harbor front path should also have appropriate signage directing the pedestrian to the appropriate destination endpoints on both sides. An appropriate visual of such signage is shown in Figure 5.2.

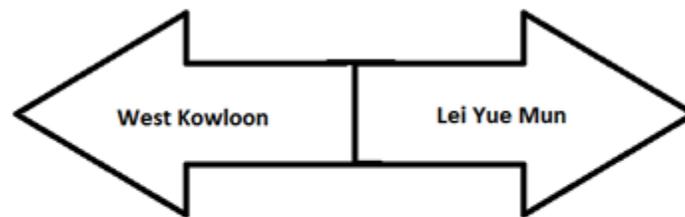


Figure 5.2: Potential signage for a continuous harbour promenade

This appropriate signage will help to improve the image of a continuous harbourfront as well as help the harbourfront visitor find and follow a continuous waterfront path. In addition having a recognizable logo and color scheme on any official route, detour route, and any other harbourfront signage is necessary to help increase the branding of a continuous harborfront promenade. Victoria Harbour currently does have a logo, as can be seen in Figure 5.3, and this logo can be seen on some waterfront promenade signs as seen in Figure 5.4. In addition there is a blue and pink color scheme that some signs use alongside the harbour logo.



Figure 5.3: Victoria Harbour Logo



Figure 5.4: Signage for the Quarry Bay Promenade

Our group noticed that this logo is not used to often, and in talking with HBF members ,they noted that the logo does not relate to the harbour as well as it should. We recommend that future research into a harbourfront logo be done to determine the most effective logo to aid in public recognition of a continuous harbourfront.

5.2 Development Plans

Multiple areas, approximately 46 kilometers within Victoria Harbour, currently do not have waterfront access. However, about 19 kilometers of these areas currently have development plans to create access; we have listed these as temporary detours. While plans or proposals for these areas are on record, only 2.8 kilometers have a timeline with a completion date. The chart in Appendix E summarizes project plans and proposals along the waterfront. The map in Appendix D shows an overview of waterfront access. Areas with plans or proposals are marked as temporarily inaccessible waterfronts. There are various different issues delaying these projects, varying from lack of funding to requiring the appropriate government approval. We recommend that a single government entity, such as the proposed Harbourfront Authority, be given control of the planning, development, and funding approval, so that a continuous harbourfront plan can be established and a completion date for a continuous harbourfront set.

This recommendation will help to reduce the bureaucratic red tape, speed up the development process for some areas, and use resources more efficiently. The remaining 27 kilometers of the Victoria Harbour without plans will also benefit from this recommendation, as the creation of plans and subsequent development could also happen at a faster pace.

5.3 Additional Research

While conducting our research our group noted areas where further research could and should be conducted. These areas for additional research could be conducted are as follows:

1. How to enable dogs and their owners to travel on waterfront promenades.
2. How to create cycling and jogging paths along waterfront promenades.
3. How and where to allow mobile food trucks and food stands on waterfront promenades.
4. How to make universal access to the waterfront from public transportation easier.
5. How much public support is there for the development of a continuous harbourfront.

Research conducted on these five topics would help promote an increased use of the waterfront promenades, increase accessibility for all, and more accurately determine public support for the development of a continuous harbourfront. Additional research into the best way to enable dogs to be able to be walked on waterfront promenades is especially important as dog access is sporadic and dependent on the current ownership of the promenade. In such a dense urban environment, places for dog owners to walk their dogs are sporadically located. People are not going to give up their dogs, so addressing the needs of dogs and their owners is important. This research should also determine the public's opinions on dog access, how the maintenance of current areas that allow dogs is handled, and the feasibility of alternative options to dog access on promenades.

5.4 Conclusion

Victoria Harbourfront is a beautiful and integral part of Hong Kong's identity and history, and deserves to be experienced as one continuous experience. In the harbourfront's current discontinuous state, the pedestrian's enjoyment is limited as many times along the harbor the pedestrian is taken away from the waterfront. Instead of walking and enjoying the harbor leisurely, they have think of ways around breakpoints and how to navigate through often unmarked streets to try and find little bits of the harbourfront that exist. Our group believes that the recommendations we have given will help our sponsors, the government, and other appropriate agencies increase the length of the continuous harbourfront promenade in the short term, as well as give them direction for long term planning. By increasing the length of the waterfront available, harbourfront visitors can experience more of the beauty of Victoria Harbour, and by having better direction for long term planning further, harbourfront promenades will become available faster.

References

- Abley, Steve. (2005). *Walkability Scoping Paper*. Christchurch, New Zealand: Land Transport New Zealand.
- Alamuddin, H. (1987). *Waterfront developments in the Middle East case study: The Golden Horn Project, Istanbul, Turkey*. DSpace. MIT, 115. Retrieved November 22, 2015, from <http://dspace.mit.edu/handle/1721.1/71062>
- Aspinall, P., Fitzsimons, C., Millington, C., Mutrie, N., Nelson, N., Rowe, D., & Ward Thompson, C. (2009). Development of the Scottish Walkability Assessment Tool (SWAT). *Health & Place*, 15(2), 474-481.
- Audi, M., Byorkman, K., Couture, A., & Najem, S. (2010). *Measurement and Analysis of Walkability in Hong Kong* (Undergraduate Interactive Qualifying Project No. E-project-030311-131133). Retrieved from Worcester Polytechnic Institute Electronic Projects Collection: <https://www.wpi.edu/Pubs/E-project/Available/E-project-030311-131133/>
- Augustin-Jean, L. (2005). Urban Planning in Hong Kong and Integration with the Pearl River Delta: A Historical Account of Local Development. *GeoJournal*, 62(1-2), 1–13. doi: 10.1007/s10708-004-4101-9
- Ayres, T. J., & Kelkar, R. (2006). Sidewalk potential trip points: A method for characterizing walkways. *International Journal of Industrial Ergonomics*, 36(12), 1031–1035. doi: 10.1016/j.ergon.2006.09.004
- Baccarat Hong Kong. (2014, October 6). Paul Zimmerman @ Designing Hong Kong [Blog]. Retrieved from <http://www.baccarat-magazine.com/paul-zimmerman-designing-hong-kong/>
- Bernard, B., Fallon, J., Lora, S., Muir, A., Rosendahl, L. S., Wong, A., & Yang, B. (2010). *Designing Victoria Harbour: Integrating, Improving, and Facilitating Marine Activities* (Undergraduate Interactive Qualifying Project No. E-project-031110-171139). Retrieved from Worcester Polytechnic Institute Electronic Projects Collection: <https://www.wpi.edu/Pubs/E-project/Available/E-project-031110-171139/>
- Bmore Media. (2009, October 6). *Baltimore Inner Harbor receives Urban Land Institute's Heritage Award*. Retrieved November 21, 2015, from <http://www.bmoremedia.com/devnews/ulihheritagewavemaker100609.aspx>
- Carroll, J. M. (2007). *A Concise History of Hong Kong*. Lanham: Rowman & Littlefield.

- Cervero, R., & Radisch, C. (1996). Travel choices in pedestrian versus automobile oriented neighborhoods. *Transport Policy*, 3(3), 127–141. doi: 10.1016/0967-070X(96)00016-9
- Chan, K. W. (2009) *Development and Validation of Objective Measures to Study the Effects of the Built Environment on Residents' Walking*. (Unpublished Master's Thesis). University of Hong Kong, Pokfulam, Hong Kong.
- Chew, V. (2009). Urban planning framework in Singapore. *Singapore Infopedia*. Retrieved 13 November 2015, from http://eresources.nlb.gov.sg/infopedia/articles/SIP_1565_2009-09-09.html
- Depot, J., Goldberg, B., Nadeau, E., & Rodriguez B. (2010). *Hong Kong Maritime Museum Relocation Project* (Undergraduate Interactive Qualifying Project No. E-project-030410-221335). Retrieved from Worcester Polytechnic Institute Electronic Projects Collection: <https://www.wpi.edu/Pubs/E-project/Available/E-project-030410-221335/>
- Designing Hong Kong 創建香港,. (2015a). *Founder*. Retrieved 7 December 2015, from <http://www.designinghongkong.com/v4/founder/>
- Designing Hong Kong 創建香港,. (2015b). *Mission*. Retrieved 7 December 2015, from <http://www.designinghongkong.com/v4/sample-page/>
- Esri.com. (2015). *What is GIS?*. Retrieved 22 November 2015, from <http://www.esri.com/what-is-gis/howgisworks>
- Goh, J. (2012, April 20). Witness Tanjong Pagar Transformation into the next Waterfront City. Retrieved November 8, 2015, from <http://www.eonatshenton.com/>
- Gwee, J. (2012). *Case studies in public governance: Building institutions in Singapore*. Abingdon, Oxon: Routledge.
- Harbour Business Forum. (2008). *Harbourfront Connectivity Study - Connecting "Forgotten" Waterfronts*. Hong Kong: Harbour Business Forum.
- Harbour Business Forum. (2015). *About Us (English US)*. Retrieved 23 November 2015, from <http://www.harbourbusinessforum.com/en-us/about>
- Harbourfront Commission. (2011). Overview of Commercial Port Operations & Facilities in Victoria Harbour. Retrieved November 23, 2015, from http://www.hfc.org.hk/filemanager/files/paper_no_hc_06_2011.pdf

- Hoedl, S., Oja, P., & Titze, S. (2010). The Bikeability and Walkability Evaluation Table: Reliability and Application. *American Journal of Preventive Medicine*, 39(5), 457-459.
- Hong Kong, China, Protection of the Harbour Ordinance, Cap 531 § 3 (1999).
- Hong Kong Tourism Bureau. (2015). Research and Statistics of Travel Industry. Retrieved November 23, 2015, from http://partnernet.hktb.com/en/research_statistics/index.html
- Hung, W., Manandhar, A., & Ranasinghege, S. (2015). *A Walkability Survey in Hong Kong*. Hong Kong: The Hong Kong Polytechnic University. Retrieved from http://www.researchgate.net/publication/228802307_A_Walkability_Survey_in_Hong_Kong
- Hyde, M.C., Seymour, S.W., Tennant, D.W. & Truong, M.H. (2008). *Four Tourists and Hong Kong's Harbour Front: A Survey of the Waterfront of Victoria Harbour* (Undergraduate Interactive Qualifying Project No. E-project-022808-101640). Retrieved from Worcester Polytechnic Institute Electronic Projects Collection: <https://www.wpi.edu/Pubs/E-project/Available/E-project-022808-101640/>
- Kelly, C. E., Tight, M. R., Hodgson, F. C., & Page, M. W. (2011). A comparison of three methods for assessing the walkability of the pedestrian environment. *Journal of Transport Geography*, 19(6), 1500–1508. doi: 10.1016/j.jtrangeo.2010.08.001
- Kostopoulou, S. (2013). On the Revitalized Waterfront: Creative Milieu for Creative Tourism. *Sustainability*, 4578-4593. doi:10.3390/su5114578
- Krambeck, Holly. (2006). The Global Walkability Index. Unpublished Master's Thesis. Cambridge, MA: Massachusetts Institute of Technology.
- Marinabayresidences.com. (2008, September 17). *Waterfront Promenade*. Retrieved November 20, 2015, from <https://marinabayresidences.wordpress.com/tag/waterfront-promenade/>
- MVA Hong Kong LTD. (2008). *Balancing the Need to Travel with the Need to Improve Our Quality of Life*. Hong Kong: Harbour Business Forum. Retrieved from <http://www.harbourbusinessforum.com/download/Sustainable%20Transport%20Opportunity%20Full%20Report%20Final.pdf>
- NG, M. K. (2010). Hong Kong: Place-making battlefields: Three empty reclaimed sites in Victoria Harbour. *disP - The Planning Review*, 46(180), 6–15. <http://doi.org/10.1080/02513625.2010.10557059>

- Parks, J. R., & Schofer, J. L. (2006). Characterizing neighborhood pedestrian environments with secondary data. *Transportation Research Part D: Transport and Environment*, 11(4), 250–263. <http://doi.org/10.1016/j.trd.2006.04.003>
- Safe Routes (2015) *Walkability Checklist*. (1st ed.). Washington, District of Columbia. Retrieved from <http://www.saferoutesinfo.org/sites/default/files/walkabilitychecklist.pdf>
- Transport Research Laboratory. (2010). PERS (Pedestrian Environment Review System). Retrieved 12/2/2015, From http://www.trl.co.uk/software/software_products/environment/pers_pedestrian_environment_review_system.htm.
- United Nations Secretariat for the Convention on the Rights of Persons with Disabilities. (2015) *Disability, Accessibility and Sustainable Urban Development: (1st ed., pp. 1-2)*. Retrieved from http://www.un.org/disabilities/documents/Disability_and_Urban_development.pdf
- Wallis, K. (2013, February 17). Harbour protection pioneer warns of reclamation threat. Retrieved November 23, 2015, from <http://www.scmp.com/news/hong-kong/article/1152033/harbour-protection-pioneer-warns-reclamation-threat>
- Walk Score. (2015). Find Apartments for Rent and Rentals - Get Your Walk Score. Retrieved 22 November 2015, from <https://www.walkscore.com/>
- Yee, C., & Ng, B. (2007, April 2). *Marina Bay: The Shape of Things to Come*. Retrieved November 20, 2015, from [https://www.cscollege.gov.sg/Knowledge/ethos/Issue 2 Apr 2007/Pages/Marina-Bay-The-Shape-of-Things-to-Come.aspx](https://www.cscollege.gov.sg/Knowledge/ethos/Issue%20Apr%202007/Pages/Marina-Bay-The-Shape-of-Things-to-Come.aspx)

Appendices

Appendix A: Sponsor Description

A1. Designing Hong Kong

Designing Hong Kong (DHK), created in 2003, is a nonprofit organization focused on intervening in instances in Hong Kong where it believes bad planning is present (Baccarat 2014).

Designing Hong Kong aims to develop public awareness and help build Hong Kong into a sustainable city as well as a beautiful one. The organization has six main objectives:

- To promote the health, safety, convenience and the general, social, and economic welfare of the community of Hong Kong today, without compromising the future;
- To identify ways and means of enhancing the quality and sustainability of Hong Kong's living environment for the health, safety, convenience and welfare of residents and visitors;
- To undertake research and studies into the design and development of Hong Kong's living environment;
- To educate and raise the awareness among the community on the need to protect and enhance the living environment of Hong Kong, and the ways and means to do so;
- To form alliances among members of the community with a common interest(s) in protecting and enhancing the living environment of Hong Kong;
- To undertake any and all lawful acts and deeds which are necessary and conducive to attaining the objects of the Company (Designing Hong Kong 2015b)

The greatest amount of work done in DHK is done by volunteers with a core management staff including Paul Zimmerman, the CEO (Designing Hong Kong 2015a). The organization is primarily funded by donations from individuals as well as those from outside

organizations such as the government. In addition, many of the members of DHK are involved in local politics as well as other like-minded organizations.

CEO Paul Zimmerman is a district councilor representing the Pokfulam constituency of the Southern District. As such, he translates the needs and objectives of this organization into political action which provides awareness, legal support, and funding for projects that support the goals of DHK, HBF, and similar organizations.

Paul Zimmerman himself is involved with multiple other organizations in Hong Kong such as the Society for Protection of the Harbour, Coalition on Sustainable Tourism, Heritage Watch, Save The Street Market, Conservancy Association, ProCommons, Business Environment Council, Harbour Business Forum, and Clear the Air.

A2. Harbour Business Forum

The Harbour Business Forum (HBF) (2015) is an alliance of businesses, founded in 2005, having 122 business members, meaning this umbrella organization is really the collective voice and power of individual businesses in the harbour area. Their goal is to “engage with relevant stakeholders and the Government in order to agree upon, and implement, a common vision for the harbour.” (para. 2). The HBF’s main interest is Victoria Harbour, and the majority of its funding goes toward projects to try to influence government policy to make improvements in and around harbourfront areas.

HBF (2015) is organized into various committees each with their own specific function. There is a Patrons Committee, which is basically the group responsible for direction and oversight of the organization. In terms of resources that they may bring to bear on a problem, the HBF has an Executive Committee, which is responsible for overseeing project funding. The Best Practices Committee includes professional members, such as service firms, engineers, planners,

and consultants. Overall, in the HBF there are “10 Patron Members, 30 Corporate Members, 53 Professional Members and 29 Supporting Members from business chambers and professional associations.” (para. 1)

Appendix B: Interview with Suzanne LaPage

B1. Interview Protocol

Introduction:

Good morning Professor LePage. I'm Emily, I'm Brandon, I'm Alex, and I'm Xander. We are going to Hong Kong next term for IQP to complete a project on the topic of pedestrian accessibility along Victoria Harbour. We have some questions that could be answered with your expertise.

Interview Questions:

- Looking at the background sources, what does it mean to be walkable?
- This is our definition “the extent to which characteristics of the built environment and land use may or may not be conducive to the residents in the area walking for either leisure, exercise or recreation, to access services, or travel to work” Do you have any thoughts on our definition? Can you give us a definition?
- What are some challenges/qualities to walkability in large cities?
 - ex. pavement, crosswalks, path widths.
- From your knowledge of civil engineering, what do you see the challenges being in this ultra-dense city?
- Do you have any recommendations for increasing recreational space along a waterfront?
- Further resources that will be helpful to us?

Thank you & follow up:

We thank you for your time. Would you mind if we emailed you if we had any further questions about walkability and our project?

B2. Interview Transcript

Interviewee: Worcester Polytechnic Institute Civil Engineering Professor Suzanne LePage

Monday, November 30th, 1:00 PM, WPI Kaven Hall 209A

Xander: We are the IQP Designing Hong Kong Ltd. (DHK) and (Harbour Business Forum) HBF team. I'm Xander, this is Emily, this is Brandon, and Alex. Our project is working with improving walkability and accessibility of the harbour front of Hong Kong. There was a 2008 IQP similar along those lines, and part of our project is going back to review their work. The HBF also did their own report in 2008 reviewing accessibility of 6 waterfront areas, so that's what our project is focused on. More specifically, we are wondering if you can provide us some advice in or information on what it means to be walkable, since are backgrounds are not quite in urban design or planning, and we are kind of looking for advice on that.

So our definition we have, which is from a 2015 paper, I believe, on the walkability of Hong Kong, which says: "Walkability is the extent to which characteristic of the built environment and land use, may or may not be conducive to the residents in the area or walking for either leisure, recreation, exercise, services or travel work. " And we felt that definition fit our work in Hong Kong. The study is focused on Hong Kong, and also give specifics. Do you think that's a definition of walkability? Or what would your definition of walkability be?

Alex: Is it okay if we record you?

LePage: Yup.

Xander: Do you wish to remain anonymous?

LePage: It doesn't matter. Umm... that sounds reasonable. I'd probably be, I don't know if I'd have any actual definition, I guess I'd have to think about it, but I'd probably come up with the

things, the degree to which it's easy and safe to walk, I don't know if safe is in that definition, but that would be..

Xander: Ok. Now, for larger cities, I know that you teach Urban Planning and design and some other civil engineering courses, what have you come across on planning or teaching for walkability challenges in larger cities? Such as pavement, crosswalks and pathways. What do you find to be the most challenging aspect to get around when planning for pedestrian travel?

LePage: We don't cover that much detail in my courses, because all my courses are general planning so we don't get down to designing for pedestrians as much as we do safe for some components of vehicles. Umm, there's a lot of good information if you look at anybody's, actually Mass UT has a good, they have a project development design guidebook and it's about designing roads for all users so it has some criteria for pedestrians, and I believe there is an image in that source that has sort of the size of the pedestrian, you know that they take up on the side walk. So in some cases in urban areas, crowds are the issue, safety and allowing for enough time for them to make crossings and conflict vehicles from signal timing issue that could be a problem. And when you say accessibility do you mean ADA accessibility? That's usually how I would take that word in context, like is it accessible for people in wheelchairs or use walking canes?

Xander: It's a little bit of both, so in addition to disability, like how can pedestrians of disability access it, it's also HK has a unique situation, they kept building, building, and building, and oh there's a waterfront, now that's a permanent waterfront, and people don't quite know how to get to it, so our definition in addition to that...

LePage: You mean, literally getting access to?

Xander: Yeah, of the waterfront, that sort of accessibility. Uhh, I guess anything to add off of that...

Brandon: Do you have any experience with large city, or how a large city might be different from what we're used to in having regular sidewalks or stuff like that in some urban environment maybe?

LePage: Uhh, personally experience, no. But there are another resource of the American Planning Association (APA), you might be able to go through their website and look through some of their resources for planning for walkability. They've done some case studies that might be helpful.

Brandon: Definitely.

LePage: I thought I had a book on, that's kind of dated, I think it's at home.. (going through bookshelf) I just got this one in.. (reading) Yeah what I would do is I would, you should probably look into a couple things: One, LEAD has some information too, Lead for neighborhood development talks about access and pedestrians, and LEAD specifically has points given to location and accessibility and things like that. And if you go through there, there's a lot of good images of designing criteria that you should include and a lot of that has to do with walkability, and that might be a way, it's sort of a rubric that's already setup for you that you could actually access some of the neighborhood that you're looking at now, and then that could also give you clues as to ways to improve it, so things they are not scoring points on they could. So definitely look at that.

The other thing, I think this journal is available.. you guys have met with the research librarian yet? There's a study for walkability on the journal of the APA (JAPA) is another one that has technical studies on looking at cities' walkability, if they've been done, from more of an accurate

perspective. The other resource is the Planning Magazine, this one is the more, I think, if not I can get archives. They might have it once in a while articles on walkability. (looking through the magazines) So, this is from a Danish architect again talking about, so this has some, again this is more general, it's more of a practitioner's magazine, um, but this has some walkability discussion of sort of global city, so that might be helpful. What I can do is, I can actually get this online and just send you the PDF. And this one here, um, this one's got a bit more detail on safety and walkability. So I can probably get this one PDF as well. You can try with the library, I don't know, I feel like I asked them to subscribe to this so you should be able to search through WPI serves, or the archives, if not, I'm a member, so I can do a search. So let me get those for you. So those would be sort of best practices of cities have done some walkability on improvements.

Brandon: That would be great.

LePage: So what are you actually going to be task with?

Brandon: It's primarily evaluation of progress since the previous reports have been done, both the IQP report and the HBF report. Because, I don't know if you're familiar with HK or not, but they had a really bad habit of reclaiming land from the harbour, so they'd just keep growing their harbourfront and kind of closing the harbour. But they, in the late 90s, they made a proclamation that you can't do that anymore. So any planned project would be finished, but since that the waterfronts now more permanent and because of its history, its been growing as an economical center, they kind of just threw buildings anywhere they could and high-rises, whatnot. So the waterfront is really just kind of roads or buildings and most parts, and some there are pedestrian parks or walkways and stuff. So our report's there to give recommendations on how they can make it more pedestrian friendly all around, so can they build cantilevered signs off the roads on

the harbourfront, can they provide public access in private business lands, stuff like that. We are really just going into kind of numerically access the changes and see how well they've done.

And based on what they haven't done, we write a new set of goals for upcoming years.

Xander: And HK specifically is now, because, it used to be a huge industrial shipping port, and now a lot of the shippings are moving out to Guangdong province and further up the coast, and New Territories. So HK really has an opportunity to focus on recreation aspect of their harbourfront now, and part of our project is just looking to increase tourism and recreation to the waterfronts as well. Because the path might exist, but there might be a huge building or like a fire station, and also when people get there they really have nothing to enjoy there. There's really few benches, and the HK Parks and Recreation Department their ideas, well, if we don't have as many facilities to maintain on the waterfront, we don't have to maintain them. So, like there's not bathrooms so we have to analyze what if that would be helpful. And also, come up with some ideas to maybe bring people to the waterfront, like increase park space to play in, or bring restaurants to the parks down on the harbourfront.

LePage: So that's kind of the thought after I said, after I asked the definitions of walkability, you know, it should be safe for it, but also there should also be space for recreation. That makes sense.

Xander: Um, now, reading from your biography on the website, it says you have walked the waterfronts of many different areas around Massachusetts. What was a typical, in Mass, what's a good waterfront area, in which you've walked and really enjoyed as a pedestrian on foot perhaps?

LePage: Um, do I say waterfronts? I think I mean walking downtown generally.. North Hampten is a really good walking town, but don't have a waterfront there. A good waterfronts... It's

tough, because most cities, their walkable areas are not necessarily along the water, like parts of New Hampshire are waterfront cities, but most of the walking is not along the water because the buildings are along the water. Same for Boston, Portland Maine..

When I was in Chicago they had a nice area you could walk along, but it wasn't necessarily.. there's some walking areas that are kind of separate, like you go there you could do a bike or walk, but it's not necessarily connected to anything.

I guess sort of ocean broad walks, beach is kind of cool in that respect, and similar to Ogunquit, a little bit more of a walkable, but again, not necessarily along the water.

Xander: Yeah, I think we covered everything we wanted to cover for the interview.

Brandon: The reading sources are definitely very helpful, helps us to narrow down to where to look.

Xander: When we are doing researches a lot of the walkability articles tie into health, like walking is good for health.. Our project kind of focuses on where you're walking, rather than why you should be walking. And that was hard in that aspect to find resources that's not attached to the health aspect. So these are some pretty good sources.

LePage: Another option is to look at cities that are known to be pretty walkable, and what they have for design standards. Austin, TX maybe, they are a little newer, so they probably adopted some newer standards. But yeah, road design standards are what you're looking for not necessarily the why, the how. Ask the research librarian to help you find more government sources of design standards. Another resource to look at is Complete Street. But I'll download those two article about walkability, because I'm not sure if you can get through it from the library.

Xander: Well, we thank you for your time, and would you mind if we email you if we have anymore questions in the next three weeks?

LePage: Sure.

Team: Thank you

Appendix C: Pedestrian Questionnaire

Harbourfront Access Survey / 關於使用維港的調查問卷

1. How important is it for the community to have a continuous waterfront walkway along Victoria Harbour?

1. 在維港邊擁有聯通的行人通道對公眾有多重要？

- a. Very important / 非常重要
- b. Somewhat important / 重要
- c. Neutral / 一般
- d. Somewhat unimportant / 不重要
- e. Not important / 非常不重要

2. Do you agree that “A continuous pedestrian pathway from Quarry Bay to Causeway Bay is necessary for the public to fully enjoy the waterfront.”

2. 請選擇您對以下陳述的認可程度：“沿銅鑼灣至鰂魚涌海濱的一條聯通的行人通道是讓公眾充分享用維港所必要的。”

- a. Strongly agree / 非常認可
- b. Somewhat agree / 認可
- c. Neutral / 一般
- d. Somewhat disagree / 不認可
- e. Strongly disagree / 非常不認可

3. Are you aware of the proposed boardwalk underneath the Island Eastern Corridor?

3. 您對「東區走廊下之行人板道」有了解嗎？

- a. Yes / 有
- b. No / 沒有

4. Do you support the construction of a boardwalk under the Island Eastern Corridor?

4. 您支持「東區走廊下之行人板道」的提案嗎？

- a. Yes / 支持
- b. No / 不支持
- c. Neutral / 無所謂

Thank you for your participation / 感謝您的參與



WPI





(English) We are students working with Designing Hong Kong and the Harbour Business Forum to gather the public opinion on the establishment of the Boardwalk Underneath Island Eastern Corridor. The proposed Boardwalk underneath Island Eastern Corridor (IEC) will be a pedestrian walkway with the option of a cycleway. It aims to provide a continuous pedestrian connection along the Island East harbourfront, which is currently not accessible due to the presence of private lots immediately abutting the harbour. The proposed boardwalk will be about 2km long. It will be a bridge structure mainly constructed on top of the existing foundations of the IEC. The boardwalk will be connected to the future open space north of Oil Street at the western end and to the promenade at Hoi Yu Street in Quarry Bay at the eastern end. The proposed alignment of the boardwalk is shown on the map above.

(中文) 我們是來自美國的大學生，為『創建香港』和『海港商界論壇』收集公眾對東區走廊下之行人板道建設的意見。擬建的東區走廊下之行人板道（下稱「行人板道」）將是一條供行人使用通道，並預留加入單車徑的可行性。行人板道旨在為港島東海濱提供一條連貫的行人通道，讓現時由於私人地段而令公眾無法享用的港島東海濱得以連貫起來。擬建的行人板道約 2 公里長，主要為加建於現有東區走廊基礎之上的橋樑結構。擬建行人板道將把北角油街以北將來的休憩空間(西端)與鰂魚涌海裕街(東端)連接起來。擬建行人板道的走綫如上圖所示。

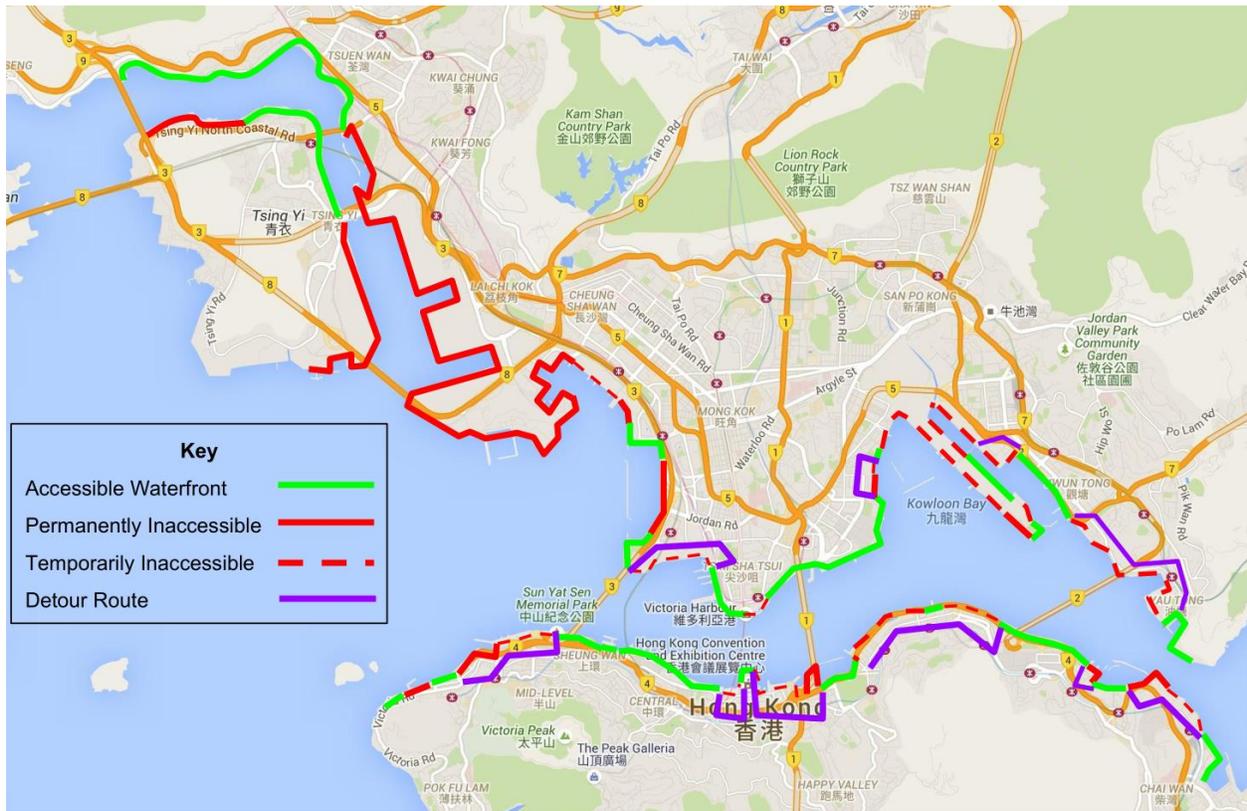


Current / 現狀



Proposed / 提案

Appendix D: Continuity Overview Map of Victoria Harbour



Appendix E: Victoria Harbour Waterfront Promenades and Projects

Key on Map	Location	Start / End	Approx Distance (m)	Current Promenade				Future Promenade				Completion	Project / Area Ownership	Remarks	Information
				Waterfront	Detour	BFA	Dogs	Waterfront	BFA	Dogs	Completion				
K1 to K2	Ting Kau	Ting Kau Bridge to end of Ting Kau Beach	412	Yes	No	No	No	Yes	No	No	Complete	Transport Department (TD) / Highways Department (HyD) / Leisure and Cultural Services Department (LCSD)	Pedestrian pavement / beach		
K2 to K3	Ting Kau	Ting Kau Beach to Yau Kom Tau Pier	1754	Yes (elevated)	No	No	Yes	Yes (elevated)	No	Yes	Complete	TD / HyD	Plan to add cycling path	Advance works of Cycle Track between Tsuen Wan and Tuen Mun, Refurbishment of the Waterfront Promenade at West Rail Tsuen Wan Station TW5 Bayside Property Development	
K3 to K4	Tsuen Wan West	Bayview Garden to Southeast Industrial Building	671	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	TD / HyD	Plan to add cycling path	Advance works of Cycle Track between Tsuen Wan and Tuen Mun, Refurbishment of the Waterfront Promenade at West Rail Tsuen Wan Station TW5 Bayside Property Development	
K4 to K5	Tsuen Wan West	Southeast Industrial Building to Tsing Yi North Bridge	1754	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD	Plan to add cycling path	Advance works of Cycle Track between Tsuen Wan and Tuen Mun, Refurbishment of the Waterfront Promenade at West Rail Tsuen Wan Station TW5 Bayside Property Development	
K5 to K6	Lai King	Tsing Yi North Bridge to Hing Wah Street	17300	No	Permanent	No	Yes	No	No	Yes	N/A	MD, Private	Mainly container port, public cargo working area and port-related uses		
K6 to K7	Sham Shui Po	Hing Wah Street to Yen Chow Street	887	No	Temporary	No	Yes	Yes / No	Yes	Undetermined	Undetermined	Planning Department (PlanD) / Agriculture, Fisheries and Conservation Department (AFCD)	Preparing planning brief for the two comprehensive development sites / partly Cheung Sha Wan Wholesale Food and Fish Markets	Cheung Sha Wan Wholesale Food Market	
K7 to K8	Tai Kok Tsui	Yen Chow Street to Hoi Fan Road	142	No	Permanent	No	Yes	No	No	Yes	N/A	Private	Private storage and berth		
K8 to K9	Tai Kok Tsui	Hoi Fan Road to Marine Police Operation Base end	76	No	Permanent	No	Yes	No	No	Yes	N/A	Police Force	Marine police operation base		
K9 to K10	Tai Kok Tsui	Marine Police Operational Base to Hampton Place	85	No	Permanent	No	Yes	No	No	Yes	N/A	Water Services Department (WSD) / MTR Corporation Limited (MTRCL)	Pumping stations		
K10 to K11	Tai Kok Tsui	Hampton Place to The Long Beach	100	No	Permanent	No	Yes	No	No	Yes	Complete	Private	Private waterfront promenade without public access		
K11 to K12	Tai Kok Tsui	The Long Beach to One Silver Sea	374	Yes	No	Yes	No	Yes	Yes	No	Complete	Private	Private managed public waterfront promenade		
K12 to K13	Tai Kok Tsui	One Silver Sea to Olympic MTR	430	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD			
K13 to K14	Tai Kok Tsui	Northeast corner of shelter to Harbour Patrol Section Marine Dept	186	No	Temporary	No	No	Yes	No	Undetermined	2021	Drainage Services Department (DSD)	Planned dry weather flow intercepted and waterfront promenade		
K14 to K15	Tai Kok Tsui	Harbour Patrol Section to end of Hoi Fai Road	283	No	Permanent	No	Yes	No	No	Yes	N/A	MD	New Yau Ma Tei Public Cargo Working Area		
K15 to K16	West Kowloon	End of Hoi Fai Road to Jordan Road	789	No	Permanent	No	Yes	No	No	Yes	N/A	MD	Iditto		
K16 to K17	West Kowloon	Jordan Road to West Kowloon Cultural District	1280	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	West Kowloon Cultural District Authority (WKCD)	West Kowloon Cultural District (WKCD)		
K17 to K18	West Kowloon	Cultural District sign to Tsim Sha Tsui fire station	1173	No	Temporary	No	Yes	Yes	Yes	Undetermined	2020	WKCD	Currently under construction	Progress Update on the West Kowloon Cultural District	
K18 to K19	Tsim Sha Tsui	Tsim Sha Tsui fire station to China Ferry pier	210	No	Permanent	No	Yes	No	No	Yes	N/A	Private	No waterfront access		
K19 to K20	Tsim Sha Tsui	China Ferry pier to Star Ferry pier	504	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	Private	Walk along mall by piers		
K20 to K21	Tsim Sha Tsui	Star Ferry Pier to Kowloon Public Pier	188	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	TD / HyD			
K21 to K22	Tsim Sha Tsui	Star Ferry Pier to Avenue of Stars	418	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD			
K22 to K23	Tsim Sha Tsui	Avenue of Stars	579	No	Temporary	No	Yes	Yes	Yes	Undetermined	2018	Private	Private managed public waterfront promenade	The Avenue of Stars and Salisbury Garden Revitalisation Plan	
K23 to K24	Tsim Sha Tsui	Avenue of Stars to Mody Road Garden	383	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD		The Avenue of Stars and Salisbury Garden Revitalisation Plan	
K24 to K25	Hung Hom	Mody Road Garden to Harbourfront Horizon	653	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	TD / HyD	Need clarification for signs leading to footbridge	Hung Hom District Study (2008)	
K25 to K26	Hung Hom	Harbourfront Horizon Hung Hom Ferry pier	515	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD		Hung Hom District Study (2008)	
K26 to K27	Hung Hom	Hung Hom Ferry Pier to Whampoa Gardens	270	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	TD / HyD		Hung Hom District Study (2008)	
K27 to K28	Hung Hom	Whampoa Gardens to Tai Wan Salt Water pumping station	457	Yes	No	Yes	No	Yes	Yes	No	Complete	Private	Private managed public waterfront promenade	Hung Hom District Study (2008)	
K28 to K29	Hung Hom	Tai Wan salt water pumping station to Laguna Verde	290	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD		Hung Hom District Study (2008)	
K29 to K30	Hung Hom	Dyer Avenue to Hok Cheung Street	500	Yes	No	Yes	No	Yes	Yes	No	Complete	Private	Private managed public waterfront promenade	Hung Hom District Study (2008)	
K30 to K31	To Kwa Wan	Hok Cheung Street to Hilder Center	137	No	Permanent	No	Yes	No	No	Yes	N/A	Private	Subject to private initiative		
K31 to K32	To Kwa Wan	Hilder Center to Bailey Street	122	No	Permanent	No	Yes	No	No	Yes	N/A	DSD	To Kwa Wan Preliminary Treatment Works		
K32 to K33	To Kwa Wan	Bailey Street to Chi Kiang St	252	No	Temporary	No	Yes	Yes	Yes	No	Undetermined	LCSD	Hoi Sum Park extension	Hoi Sham Park Extension for Waterfront Promenade and Re-provisioning of Tennis Courts from Ko Shan Road Park	
K33 to K34	To Kwa Wan	Chi Kiang St to Shun Fung St	134	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD		Hoi Sham Park Extension for Waterfront Promenade and Re-provisioning of Tennis Courts from Ko Shan Road Park	
K34 to K35	To Kwa Wan	Shun Fung St to Kwei Chow St	177	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD		Urban Renewal Plan for Kowloon City (2014)	
K35 to K36	To Kwa Wan	King Wan Street to Kowloon City Ferry Pier	114	No	Temporary	No	Yes	Yes	Yes	Yes	Complete	Kowloon City District Council		Urban Renewal Plan for Kowloon City (2014), Central Kowloon Route- Kai Tak and Ma Tau Kok, and Central Kowloon Route-Landscape Deck in Yau Ma Tei	
K36 to K37	Ma Tau Kok	Kowloon City Ferry Pier to Grand Waterfront Towers	88	Yes	No	Yes	Yes	Yes	Yes	Undetermined	Complete	Highway Dept	Central Kowloon Route	Urban Renewal Plan for Kowloon City (2014), Central Kowloon Route- Kai Tak and Ma Tau Kok, and Central Kowloon Route-Landscape Deck in Yau Ma Tei	
K37 to K38	Ma Tau Kok	San Ma Tau Street toward Ma Tau Kok Rd	69	No	Permanent	No	No	No	No	No	N/A	Private - Towngas		Urban Renewal Plan for Kowloon City (2014), Central Kowloon Route- Kai Tak and Ma Tau Kok, and Central Kowloon Route-Landscape Deck in Yau Ma Tei	
K38 to K39	Kai Tak	Ma Tau Kok Rd to Kwun Tong Promenade (through the future Metro Park)	2575	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	Highways Dept / LCSD	Central Kowloon Route	Kai Tak Development Progress Report as of July 2015	
K39 to K40	Kwun Tong	Kwun Tong Promenade	1164	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD		Kai Tak Development Progress Report as of July 2016	
K40 to K41	Kwun Tong	Driving Test Center to Hoi Bun Industrial Bldg	216	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	EKEO	Part of the Kai Tak Fantasy Project area subject to further study	Kai Tak Development Progress Report as of July 2017	
K41 to K42	Kwun Tong	Sewage Treatment Plant	146	No	Temporary	No	Yes	No	No	No	N/A	DSD		Kai Tak Development Progress Report as of July 2018	
K42 to K43	Kwun Tong	Kwun Tong Bypass to Living Grace Lutheran Church	641	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined		Subject to the completion of decommissioning and reinstatement works of the ex-PCWA	Proposed Tsui Ping River Park detour is too far from the Harbourfront	
K43 to K44	Cha Kwo Ling	Living Grace Lutheran Church to Yau Tong	475	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined		Subject to the completion of decommissioning and	Currently owned by Marine Dept	
K44 to K45	Yau Tong	Tin Hau Temple to Tung Yuen St	1302	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	Private	Yau Tong Bay private residential development	Planning Review on Development of Ex-Cha Kwo Ling Kaolin Mine Site, Proposed Minor Revision to the Approved Scheme (Planning Application No. A/K15/96) For the Yau Tong Bay Comprehensive Development Area, Yau Tong, Kowloon	
K45 to K46	Yau Tong	Ko Fai Rd to Hsin On Godown	108	No	Permanent	No	Yes	No	No	Undetermined	N/A	DSD, Private	Yau Tong Sewage Pumping Station, private	Proposed Minor Revision to the Approved Scheme (Planning Application No. A/K15/96) For the Yau Tong Bay Comprehensive Development Area, Yau Tong, Kowloon	
K46 to K47	Yau Tong	Hsin On Godown to Ready Mixed Concrete Ltd	46	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	Private	Private residential development	Proposed Minor Revision to the Approved Scheme (Planning Application No. A/K15/96) For the Yau Tong Bay Comprehensive Development Area, Yau Tong, Kowloon	
K47 to K48	Yau Tong	Kwun Tong Fish market	106	No	Permanent	No	Yes	No	No	Yes	N/A	AFCD	Kwun Tong Wholesale Fish Market	Proposed Minor Revision to the Approved Scheme (Planning Application No. A/K15/96) For the Yau Tong Bay Comprehensive Development Area, Yau Tong, Kowloon	
K48 to K49	Yau Tong	Shung Wo Path to Tai-pen-yusen Wharf	54	No	Permanent	No	Yes	No	No	Undetermined	N/A	Private	Subject to private initiative	Proposed Minor Revision to the Approved Scheme (Planning Application No. A/K15/96) For the Yau Tong Bay Comprehensive Development Area, Yau Tong, Kowloon	

K49 to K50	Yau Tong	Taipen-yusen Wharf to Yan Yue Wai Rd	81	No	Permanent	No	Yes	No	No	Undetermined	N/A	Private	Subject to private initiative	Proposed Minor Revision to the Approved Scheme (Planning Application No. A/K15/96) For the Yau Tong Bay Comprehensive Development Area, Yau Tong, Kowloon
K50 to K51	Yau Tong	Yan Yue Wai Rd to Shung Shun St	112	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	LandsD	Subject to land sale and future private development	Proposed Minor Revision to the Approved Scheme (Planning Application No. A/K15/96) For the Yau Tong Bay Comprehensive Development Area, Yau Tong, Kowloon
K51 to K52	Yau Tong	Sam Ka Tsuen Typhoon Shelter	351	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD	Yau Tong Industrial Area (2015)	Proposed Minor Revision to the Approved Scheme (Planning Application No. A/K15/96) For the Yau Tong Bay Comprehensive Development Area, Yau Tong, Kowloon
K52 to K53	Lei Yue Mun	Lei Yue Mun	917	Yes	No	No	No	Yes	No	No	N/A	Private	Lei Yue Mun Village	Proposed Minor Revision to the Approved Scheme (Planning Application No. A/K15/96) For the Yau Tong Bay Comprehensive Development Area, Yau Tong, Kowloon
HK1 to HK2	Kennedy Town	Sai Ning Street to Huncilf Court	160	Yes	No	Yes	No	Yes	Yes	No	Complete	PlanD, LCSD	Amendments to Outline Zoning Plan proposed under Land Use Review on the Western Part of Kennedy Town	Land Use Review on the Western Part of Kennedy Town Planning and Design Intent of the Waterfront Area.
HK2 to HK3	Kennedy Town	China Merchants Warf Pier	656	No	Permanent	No	No	No	Yes	Undetermined	N/A	PlanD, Private	Amendments to Outline Zoning Plan proposed under Land Use Review on the Western Part of Kennedy Town, and subject to private initiative	Land Use Review on the Western Part of Kennedy Town, Land Use Review on the Western Part of Kennedy Town Planning and Design Intent of the Waterfront Area, Conceptual Master Plan for the Western Harbourfront
HK3 to HK4	Kennedy Town	China Merchants Warf Pier to Cadogan Street	300	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	PlanD, Civil Engineering and Development Department (CEDD)	Amendments to Outline Zoning Plan proposed under Land Use Review on the Western Part of Kennedy Town, and subject to decontamination works	Land Use Review on the Western Part of Kennedy Town, Land Use Review on the Western Part of Kennedy Town Planning and Design Intent of the Waterfront Area, Conceptual Master Plan for the Western Harbourfront
HK4 to HK5	Kennedy Town	Cadogan Street to Smithfield Rd	200	Yes	No	Yes	Yes	No	Yes	Yes	N/A	TD / HyD	Walk on sidewalk across street that is on waterfront	
HK5 to HK6	Kennedy Town	Smithfield Rd to Western PCWA Landing	124	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	TD / HyD	Permanent waterfront promenade development subject to relocation of public transport interchange to a site at Cadogan Street	
HK6 to HK7	Shek Tong Tsui	Western PCWA Landing to Western Wholesale Food Market	802	No	Permanent	No	Yes	No	No	Yes	N/A	MD	Western Public Cargo Working Area	
HK7 to HK8	Sai Wan	Western Wholesale Food Market	447	No	Temporary	No	Yes	Yes	Yes	Undetermined	2017	Home Affairs Department (HAD)	Harbourfront Enhancement and Revitalisation at the Western Wholesale Food Market	Signature Project in Central & Western District: Harbourfront Enhancement and Revitalisation at the Western Wholesale Food Market
HK8 to HK9	Sai Ying Pun	Western Wholesale Food Market to Sun Yat Sen Memorial Park	487	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	LCSD	Proposed Open Space at Eastern Street North Sai Ying Pun	Central & Western District Council CLSAC Paper No. 24/2015
HK9 to HK10	Sheung Wan	Sun Yat Sen park to HK Macau Ferry	780	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD	Public passage through private development	Central & Western District Council CLSAC Paper No. 24/2016
HK10 to HK11	Sheung Wan	Central Western District Promenade to Man Kwong Street	320	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	Private	Public passage through private development	
HK11 to HK12	Central	Central Piers and New Central Harbourfront	3040	Yes	No	Yes	No	Yes	Yes	No	Complete	TD / HyD, LCSD	Central Pier Waterfront and Central and Western District Promenade (Central Section)	
HK12 to HK13	Central	New Central Harbourfront to Expo Drive	757	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	PlanD, CEDD	Wan Chai Urban Design Study / Wan Chai Development Phase II project	Urban Design Study for the New Central Harbourfront
HK13 to HK14	Wan Chai	Along Expo Drive	507	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD, Private	Wan Chai Temporary Promenade and Golden Bauhinia Square	Urban Design Study for the New Central Harbourfront
HK14 to HK15	Wan Chai	Expo Drive to Tonnochy Rd	1530	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	PlanD, CEDD	Wan Chai Urban Design Study / Wan Chai Development Phase II project	Wan Chai Urban Design Project study / Central Wan Chai Bypass project
HK15 to HK16	Causway Bay	Tonnochy Rd to Yacht Club	324	No	Permanent	Yes	Yes	No	Yes	Yes	N/A	Private	Royal Hong Kong Yacht Club	Wan Chai Urban Design Project study / Central Wan Chai Bypass project
HK16 to HK17	Causway Bay	Yacht Club to Noon Day Gun	244	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	PlanD, HyD	Wan Chai Urban Design Study / Shatin to Central Link	Wan Chai Urban Design Project study / Central Wan Chai Bypass project
HK17 to HK18	Causway Bay	Noon Day Gun to Tung Lo Wan Fire station	831	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	PlanD, TD / HyD	Wan Chai Urban Design Study	Wan Chai Urban Design Project study / Central Wan Chai Bypass project
HK18 to HK19	North Point	Tung Lo Wan Firestation to Power Street	1270	No	Temporary	Yes	Yes	Yes	Yes	Undetermined	Undetermined	PlanD, HyD	Wan Chai Urban Design Study / Central-Wan Chai Bypass project	Hong Kong Island East Harbour-front Study-Feasibility Study, Proposed Comprehensive Development for Residential and Commercial Uses at Java Road and Tin Chiu Street, North Point, Hong Kong, Scheme Options of the Proposed Comprehensive Development for Residential and Commercial Uses at Java Road and Tin Chiu Street, North Point, Hong Kong, Design of the Public Transport Interchange at Inland Lot No. 9027 an Adjoining Government Land at J/O Java Road and Tin Chiu Street, North Point, Hong Kong, Design of the Western Part of Proposed Comprehensive Development at Inland Lot No. 9027 and Adjoining Government Land at J/O Java Road and Tin Chiu Street, North Point, Hong Kong
HK19 to HK20	North Point	Power Street to Shu Kuk Street	913	No	Temporary	Yes	Yes	Yes	Yes	Undetermined	Undetermined	CEDD	Subject to study on proposed boardwalk underneath Island Eastern Corridor	Hong Kong Island East Harbour-front Study-Feasibility Study, Proposed Comprehensive Development for Residential and Commercial Uses at Java Road and Tin Chiu Street, North Point, Hong Kong, Scheme Options of the Proposed Comprehensive Development for Residential and Commercial Uses at Java Road and Tin Chiu Street, North Point, Hong Kong, Design of the Public Transport Interchange at Inland Lot No. 9027 an Adjoining Government Land at J/O Java Road and Tin Chiu Street, North Point, Hong Kong
HK20 to HK21	North Point	Shu Kuk Street to Kam Hong Street	443	No	Temporary	Yes	Yes	Yes	Yes	Undetermined	2018	Private	Private hotel and residential development under progress	Hong Kong Island East Harbour-front Study-Feasibility Study, Proposed Comprehensive Development for Residential and Commercial Uses at Java Road and Tin Chiu Street, North Point, Hong Kong, Scheme Options of the Proposed Comprehensive Development for Residential and Commercial Uses at Java Road and Tin Chiu Street, North Point, Hong Kong, Design of the Public Transport Interchange at Inland Lot No. 9027 an Adjoining Government Land at J/O Java Road and Tin Chiu Street, North Point, Hong Kong
HK21 to HK22	North Point	Kam Hong Street to Hoi Yu Street	883	No	Temporary	Yes	Yes	Yes	Yes	Undetermined	Undetermined	CEDD	Subject to study on proposed boardwalk underneath Island Eastern Corridor	Hong Kong Island East Harbour-front Study-Feasibility Study, Proposed Comprehensive Development for Residential and Commercial Uses at Java Road and Tin Chiu Street, North Point, Hong Kong, Scheme Options of the Proposed Comprehensive Development for Residential and Commercial Uses at Java Road and Tin Chiu Street, North Point, Hong Kong, Design of the Public Transport Interchange at Inland Lot No. 9027 an Adjoining Government Land at J/O Java Road and Tin Chiu Street, North Point, Hong Kong
HK22 to HK23	Quarry Bay	Hoi Yu Street to Quarry Bay Promenade	184	No	Permanent	No	Yes	No	No	Yes	N/A	WSD, Private	Quarry Bay Sale Water Pumping Station, private lot	Quarry Bay Development Plan
HK23 to HK24	Aldrich Bay	Quarry Bay Promenade to Marine Police Harbour	1510	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD	Partial pet garden	Hong Kong Island East Harbor-front Study-Feasibility Study
HK24 to HK25	Aldrich Bay	Marine Police Harbour Division HQ to Tai On Street	260	No	Temporary	Yes	Yes	Yes	Yes	Undetermined	Undetermined	The Police	Subject to relocation of Marine Police Operation Base	Hong Kong Island East Harbor-front Study-Feasibility Study
HK25 to HK26	Aldrich Bay	Aldrich Bay Promenade	658	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD		Hong Kong Island East Harbor-front Study-Feasibility Study
HK26 to HK27	Shau Kei Wan	Aldrich Bay Promenade to Coastal Defense Museum	727	No	Permanent	No	Yes	No	No	Yes	N/A	DSD, Private, AFCD	Shau Kei Wan Sewage Screening Plant, shipyards and Shau Kei Wan Wholesale Fish Market	Hong Kong Island East Harbor-front Study-Feasibility Study

HK27 to HK28	Shau Kei Wan	Coastal Defense Museum to Shing Tai Road	432	No	Permanent	No	Yes	Yes	Yes	Undetermined	N/A	LCSD	Natural shoreline, subject to technical study on the proposed skytrail
Kai Tak 1 to Kai Tak 2	Kai Tak	Shing Fung Rd bridge to cruise terminal	900	Yes	No	Yes	Yes	Yes	Yes	Yes	Complete	LCSD	
Kai Tak 2 to Kai Tak 3	Kai Tak	End of Shing Fung Rd to Runway Park	650	No	Temporary	No	Yes	Yes	Yes	Undetermined	Undetermined	EKEO	Subject to further study under the Kai Tak Fantasy project
Kai Tak 3 to Kai Tak 4	Kai Tak	Extents of Runway Park	300	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD	
Kai Tak 4 to Kai Tak 5	Kai Tak	Runway Park to north end of cruise terminal	1000	Yes (elevated)	No	Yes	No	Yes (elevated)	Yes	No	Complete	Private	
		Undeveloped runway sections	2700	No	Temporary	No	No	Yes	Yes	Undetermined	Undetermined	Largely LCSD	
Tsing Yi 1 to Tsing Yi 2	Tsing Yi	End of Tam Kon Shan Rd to Tsing Yi Northeast Park	745	No	Permanent	No	Yes	No	No	Yes	N/A	Private	Shipyard and concrete plants
Tsing Yi 2 to Tsing Yi 3	Tsing Yi	Tsing Yi Northeast Park to Cheung Tsing Bridge	2840	Yes	No	Yes	No	Yes	Yes	No	Complete	LCSD, Private	
Tsing Yi 2 to Harbour limit	Tsing Yi	Cheung Tsing Bridge through port to harbour limit	3925	No	Permanent	No	Yes	No	No	Yes	N/A	Private	Container port, port related uses and oil depots