

# **Promoting Diversification Along Victoria Harbourfront: A Case Study of the Fung Mat Road Waterfront**



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# Promoting Diversification Along Victoria Harbourfront: A Case Study of the Fung Mat Road Waterfront

An Interactive Qualifying Project  
submitted to the Faculty of  
WORCESTER POLYTECHNIC INSTITUTE  
in partial fulfilment of the requirements for the  
degree of Bachelor of Science

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Date:  
28 February 2019

Report Submitted to:

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*This report represents work of WPI undergraduate students submitted to the faculty as evidence of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review. For more information about the projects program at WPI, see <http://www.wpi.edu/Academics/Projects>.*

## **Abstract**

In collaboration with Designing Hong Kong and Harbour Business Forum, our team worked at the WPI Hong Kong Project Center to help promote waterfront diversification. We focused on the Fung Mat Road waterfront to determine amenities and design features that would make it unique from other areas on Victoria Harbour. By observing and surveying people at the Fung Mat Road waterfront, as well as observing other areas on the Victoria Harbourfront, we have created suggestions to enhance the enjoyment of visitors. We recommend keeping the industrial aesthetic on the cargo pier and adding more unique design features on the promenade at Fung Mat Road waterfront.

## **Acknowledgments:**

We would like to thank the following individuals and companies for their guidance and support throughout this project.

### **Designing Hong Kong and Harbour Business Forum:**

Thank you to our liaisons, Paul Zimmerman, Margaret Brooke, and Jackson Hui for your encouragement and advice during our time in Hong Kong. It was a pleasure working with you and we appreciate all your feedback and knowledge. Also, thank you to Terry Ma for arranging our weekly meetings.

### **Worcester Polytechnic Institute:**

Thank you for providing us with the opportunity to study abroad in Hong Kong. A special thank you to our ID2050 professor, Creighton Peet, and our project advisors, Alex Smith and Gu Wang. We appreciate the time that you put into reading our reports and giving us great feedback.

## **Executive Summary**

Hong Kong's Victoria Harbourfront is a big attraction for locals and tourists due to its spectacular views, as it is located between the Kowloon Peninsula and Hong Kong Island. Consequently, the harbourfront draws millions of visitors each year. However, the city has taken a similar approach when developing many of its waterfronts, resulting in a lack of diversity. The government of Hong Kong can investigate and redevelop its waterfronts to provide visitors with unique experiences. We looked at Fung Mat Road specifically because the environment of the cargo pier is unlike any other waterfront in Hong Kong. As the focus of our project, we provided recommendations for the further development of the Fung Mat Road waterfront.

Our goal is promoting diversification of waterfront design and providing recommendations for the development of the Fung Mat Road waterfront. We have identified four major objectives to help us achieve our goal.

1. Determine the current state, facilities, and uses of the waterfront, as well as in other popular areas on Victoria Harbour
2. Identify waterfront visitor demographics
3. Identify desirable waterfront uses and design features to promote waterfront diversification
4. Determine whether developers should add railings to the Fung Mat Road waterfront

**Methodology:** To achieve our objectives, we used the following methodologies.

1. Observed and photographed the amenities at the Fung Mat Road waterfront to identify the space that is available for development
2. Identified attractions at popular sub-districts on Victoria Harbourfront to gather ideas about what types of amenities visitors like

3. Observed visitors' actions, ages, genders, and who they arrive with to determine who visits the Fung Mat Road waterfront
4. Surveyed the locals and tourists at the Fung Mat Road waterfront to gauge their preferences of amenities

**Results:** After surveying and observing visitors to the Fung Mat Road waterfront, as well as exploring the entirety of Victoria Harbour, we have synthesized several key results.

1. Waterfronts on Victoria Harbour lack diversification. Although we found several interesting design features throughout the waterfronts on Victoria Harbour, we found many waterfronts to be very basic with a lack of amenities. Therefore, while walking along the harbourfront, one gets a very similar and uneventful experience at many different waterfront sections.
2. The left and right side of Fung Mat Road waterfront are drastically different. By observing the Fung Mat Road waterfront, we found that its two sides offer completely different experiences for visitors. The left cargo pier offers a very unique industrial aesthetic, while the right side promenade mirrors many other sections of the Victoria Harbourfront.
3. People with different demographic characteristics go to different sides of the Fung Mat Road waterfront. Both our observation and survey data showed that the two sides of the waterfront attracted different types of people. Teenagers, young adults, and groups of friends preferred the cargo pier while elderly, adults, and families visited the newly renovated promenade. Therefore, we see visitors make choices that are related to their demographic characteristics.
4. Not having railings is a unique feature of the cargo pier. Based on our observations of other Victoria Harbour waterfronts, as well as our survey results at Fung Mat Road, we

found that the lack of railings on the cargo pier is a very unique feature. Our surveys indicated that a majority of the visitors did not want railings on the left side of the waterfront, where 66% responded that “railings ruin views,” and 56% liked the uniqueness of not having railings.

**Recommendations:** We came up with five recommendations to enhance the Fung Mat Road waterfront and help promote waterfront diversification on the Victoria Harbourfront.

1. Keep the Fung Mat Road waterfront unique. Maintaining the rare aspects of Fung Mat Road will differentiate it from the rest of Victoria Harbour, which lacks diversity.
2. Keep the industrial aesthetics on the left side pier by continuing cargo operations. The industrial environment that the cargo work provides has created a great place for visitors to take unique pictures. Thus, the left side has earned the famous name of “Instagram Pier.”
3. Do not add railings to the cargo pier. Not only is the lack of railings a unique feature on the waterfront, but it also allows for clear views of Victoria Harbour.
4. If the cargo pier at the Fung Mat Road waterfront becomes open to the public, developers should preserve the industrial aesthetic by keeping the shipping containers and pallets on the pier. Additionally, they should build a clear railing along the outside of the pier and a stair slope on the inside of the pier to act as barriers from the drop into the water.
5. Developers should add amenities to the right side of the Fung Mat Road waterfront, especially on the three empty piers.

## **Authorship**

### **Edited and revised by all members**

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## **1. Introduction**

Traditionally, city centers have developed around harbours due to commerce and shipping. As transportation has changed from bulk to container shipping, manufacturing has moved to lower-cost, landlocked cities, resulting in a large amount of unused space at waterfronts (Ryckbost, 2005). Governments have redeveloped these vacant lots in recent decades. Today, many harbours have become tourist attractions for coastal cities. They serve the needs of people with diverse demographics (Yang, 2015). Urban planners decide which competing uses of space to implement based on what would appeal to the majority. With people with different demographics and interests in every city, each waterfront around the world is unique in its nature and attractions.

For the past eight years, Hong Kong has been the most visited city in the world, and its harbourfront is one of the primary attractions (Meng, 2017). Redevelopment of Hong Kong's waterfront has been occurring for the past several decades. The ideal waterfront provides resources for tourists, locals/residents, businesses, and the government. However, there is a tension between pursuing economic interests and satisfying the leisure and recreational needs of visitors (Cheung, 2015). As Victoria Harbour evolves from having a focus on shipping and commerce, the development of its waterfront has become important to better serve all the waterfront visitors and nearby residents. However, not all parts of the waterfront have achieved that goal.

Most harbour developments turn industrial areas into tourist attractions (Kaya, 2017). As such, research into harbour development is focused on updating areas from industrial roots into attractive destinations for visitors. Singapore, Sydney, and Baltimore have all taken time to develop their harbours in this way. For instance, Singapore constructed the first ever helix

bridge, which serves as a popular spot for tourists (Singapore Travel Hub, 2018). Similar to Singapore, Sydney, and Baltimore, Victoria Harbour was once a containerized shipping area, but it has since become a massive attraction (Thomson, 2017). For all these locations, there is significant research on how to attract tourists, and locals.

While the Hong Kong government has provided a wealth of resources for developing the Fung Mat Road waterfront into a standard tourist attraction, planners have not sufficiently considered how to make the remaining structures from the former uses of these areas enticing to visitors. The left side of the Fung Mat Road waterfront, famously known as “Instagram Pier,” provides visitors with unique industrial backdrops for photos, as it is a working cargo dock (National Geographic, 2017). In the waterfronts that we previously mentioned (Singapore, Sydney, and Baltimore) the government planned and constructed brand new tourist attractions, rather than using the existing industrial allure. Considering that people do visit this industrial area on the waterfront, understanding the interest in commercial settings could bring valuable insights into how urban planners can further develop this waterfront area. The Fung Mat Road waterfront is also the only area that people visit on Victoria Harbour without a barrier, as it offers undisturbed views (Forsomethingmore, 2018). Due to the lack of railings, however, we must conduct research regarding barriers or alternative railing designs, because safety is a crucial element in any public space. In addition to industrial appeal and the concern of no railings, we also want to keep the Fung Mat Road waterfront unique from the other sub-districts of Victoria Harbour and provide a valuable addition to the harbourfront.

Our goal is promoting diversification of waterfront design and providing recommendations on further developing the Fung Mat Road waterfront. To achieve our goal, we identified the following research objectives: determine the current state of waterfronts in Victoria



Harbour, identify waterfront visitor demographics, identify desirable waterfront uses and design features to promote waterfront diversification, and determine whether developers should add railings to the Fung Mat Road waterfront. To achieve our objectives, we surveyed visitors and observed the Fung Mat Road waterfront as well as other popular areas of Victoria Harbourfront. We recorded these data in field notes, graphs, charts, and photos. It is important to make these waterfronts a special area for the locals and tourists to enjoy and take pride in. The development of the Fung Mat Road waterfront will contribute to the growth and appeal of Victoria Harbourfront.

## **2. Background**

Waterfronts around the world are changing to adapt to many new uses and conflicting interests. In this chapter, we highlight core themes related to waterfront development. First, we discuss the historical uses of waterfronts and how they have changed over time. Then we examine the activities and characteristics of Victoria Harbour's visitors. Finally, we provide an overview of the location that is the focus of our project, the Fung Mat Road waterfront.

### **2.1 Uses of a waterfront**

Many of the world's largest cities are located adjacent to bodies of water, which provide many benefits to the cities' development. "Watercourses underlay the development of most significant European cities, and up till now they are their inseparable parts" (Hradilová, 2012, p. 261). According to a study conducted by United States National Library of Medicine, the world's urban population lives within three kilometers of a body of water (Kummu, Moel, Ward and Varis, 2011). Waterfronts provide people with economic gains through the commercial activities that occur there. This includes trade, shipping and fishing, in addition to serving as an attraction for many recreational uses.

#### **2.1.1 Historical uses**

Acting as the bridge between land and water, waterfronts provide access to transportation. Historically, most cities have relied on connectivity to other places to survive and prosper (Dwarakish, Salim, 2015). When there is a lack of expeditious land transportation, ports play a big role in the daily functions of many societies. Furthermore, a waterfront allows for an increase in trade. During the beginning of the Industrial Revolution in the late 18th century,

many port cities developed into sites for industrial manufacturing (Ryckbost, 2005). These factories created more jobs and expanded commerce. Today, shipping remains the dominant method of transporting goods for trade. “Maritime transport is essential to the world’s economy as over 90% of the world’s trade is carried by sea. It is... the most cost-effective way to move en masse goods and raw materials around the world” (business.un.org, 2018, para 1). It is for this reason that waterfronts will remain essential interfaces in the world’s economy.

### **2.1.2 Present-day uses**

While the economic value of trade passing through harbours remains large, there has been a change in focus towards tourism and recreation along the water’s edge in recent years (Ryckbost, 2005). “As transportation moved from bulk to container shipping and manufacturing moved out of cities (for various reasons), old industrial waterfronts became large swaths of unused property” (para 1). These unused properties have been the focal point of projects around the world to give the land new purpose.

## **2.2 Attractions on waterfronts**

Buildings with stores and restaurants are very common on waterfronts, as they “provide a seamless interaction between inside and outdoors” (Project for Public Spaces, 2009). Restaurants with outdoor decks provide views of the water, while stores make it convenient for visitors by having entrances on opposite sides of the store: one leading out to the city street and another leading to the harbour. Fast food restaurants, bakeries, ice cream stores, and other cafe-like establishments allow visitors to get food and bring it out to the waterfront. Benches and tables are very common, as they serve as a place for social interaction, eating, resting, and taking in the

views. These attractions provide people with areas to work, live, and play (Seattle's Waterfront Design Collaborative, 2012). They produce a "place that contributes to the quality of life in all of its aspects - economic, social, and cultural" (para. 2).

### **2.3 Availability and accessibility of transportation on waterfronts**

Public transport is an efficient way of bringing people to waterfronts. Buses and trains make waterfronts more accessible. According to "CityLab," many cities are beginning to eliminate parking areas, as they are seen as a waste of space (Goodyear, 2014). Therefore, public transportation will be heavily relied on to bring visitors to destinations in the city, such as waterfronts.

Walking and cycling also serve as basic modes of transportation, as well as enjoyable activities in waterfront areas (Hradilová, 2012, p. 265). Waterfronts can provide riders with a serene view, while also providing paths to areas on the waterfront that are easier to access on a bike than in a car. Hradilová (2012) indicates that waterfronts thrive when there are ways to access them without vehicles. All popular waterfronts around the world include pedestrian boulevards and bike trails, as accessibility by foot and bike are critical.

### **2.4 Waterfronts around the world**

Many cities around the world have taken different approaches to developing their waterfronts. Singapore, Sydney, and Baltimore are cities that have improved and provided great attractions for visitors to their harbours. By examining these three waterfronts, we hope to gather insights into what makes a waterfront successful.

### **2.4.1 Singapore**

Singapore's Marina Bay, pictured in figure 2.1, is a fantastic place to do financial and business work, but it cannot continue fulfilling these jobs without constantly expanding (Yee and Ng, 2007). To this end, the government has been attempting to grow the Central Business District onto the waterfront. From 1969 to 1992, the government reclaimed 360 hectares of land, and quickly began turning it into the waterfront seen today.

In order to develop Marina Bay, the government instituted sophisticated development strategies, like a grid pattern (Yee and NG, 2007). This pattern splits the waterfront into a grid of plots, and allows for each square to be planned separately. This gave the urban planners a flexible development strategy, which resulted in a multipurpose waterfront with areas appealing to businesses, tourists, and locals. Additionally, to ensure that these multiple purposes do not interfere with each other, Singapore's government has put guidelines in place that restrict the height of buildings and keep them in the same aesthetic. Due to these guidelines, the views of the waterfront have stayed intact, even through significant development. Finally, the government has designed the waterfront to allow easy transportation to and within it. The Bay is tied directly into the city's public transport system, and it is only a 20-minute drive from the airport. For pedestrians, there is a 3.5 km walking path with strategically placed pedestrian bridges for easy on-foot access to any part of the waterfront (Visiting Singapore, 2018). Using all these development strategies, Marina Bay has become a beautiful, accessible, and multi-purposed waterfront.



Figure 2.1, Singapore's Marina Bay viewed from Marina Bay Sands Hotel (Zairon, 2015)

#### **2.4.2 Sydney, Australia**

Sydney's East Darling Harbour is already a world renowned waterfront. It is known for its stunning tourist attractions and great business opportunities (Meerona, 2013). Despite these successes, it must keep expanding to stay relevant in this fast-paced world. To this end, Sydney's government began a project in 2003 to redevelop it (Barangaroo Delivery Authority, 2017d). Urban planners suggested many development plans, but in the end the Barangaroo plan, shown in figure 2.2, won.

The Barangaroo plan initially aimed to develop 22 hectares of land into valuable business, residential, and retail spaces (Barangaroo Delivery Authority, 2017a). When the project finishes in 2024, the government plans to have generated 23,000 jobs and accommodated 3,500 residents, while being an attractive destination for locals and tourists alike. To achieve all these goals, developers split Barangaroo into 3 parts. The first part, Headland Park, is 6 hectares of mostly parks along the waterfront (The Urban Developer, 2014). Opened in 2015, the park

provides visitors with a diverse collection of plant life and a stunningly crafted sandstone shore (Barangaroo Delivery Authority, 2017b). These attractions, combined with the classic waterfront views, have created an attractive and popular tourist destination. On the other hand, South Bangaroo will become 7.5 hectares of business space (The Urban Developer, 2014). This should provide a generous boost to the economy and more much needed office space. In its partially opened state, it already has 13,000 office workers, demonstrating the effectiveness of the design (Barangaroo South, 2018). Finally, the third area is Central Barangaroo (The Urban Developer, 2014). Central Barangaroo is a 5.2 hectare site which will be the cultural and retail center of the project. This will hopefully be a massive tourist destination, while also attracting locals to enjoy and contribute to the culture. A comprehensive public transport system will connect all these locations, with an additional focus on walkability (Barangaroo Delivery Authority, 2017e). Splitting the project into three distinct areas allowed the designers to more effectively plan for each use of the land. In the current design, this will allow each area to be a perfect fit for a specific goal. With the addition of the public transport system, it will become easy and efficient to travel between each area. This will allow visitors to effectively explore all the waterfront has to offer, providing them with an enjoyable experience.



Figure 2.2, Barangaroo development aerial picture (Barangaroo Delivery Authority, 2017c)

### 2.4.3 Baltimore, Maryland

Baltimore's Inner Harbor was initially a bustling shipping hub. Unfortunately, in 1904 the Great Baltimore Fire ripped through the port, and decimated it (Kostopoulou, 2013). Until 1959, there was an unsuccessful attempt to continue the harbour's operation as a port, but its earlier setback combined with advances in technology rendered it obsolete. In 1959, the government recognized the wasted space in the harbour and sought a redevelopment plan to properly use the harbour space. A decade later, the city collaborated with public investors to construct a basic mix of residential spaces, office buildings, and a city center. (Millspaugh, 2003). To make space for the city center, they opened the shoreline and added a 35 foot wide promenade along the shore. This made the area easily walkable and visually attractive. On top of this, the city began investing in floating attractions, like a boat converted to a restaurant and a World War II submarine. The government only attended these to attract locals, but they were wildly popular, with 1.5 million people visiting during the weekend long Baltimore City Fair. These investments



brought even more visitors to the area and convinced the city to bring in more attractions. They chose to bring in and dock 8 traditional wooden sailing vessels known as Tall Ships (figure 2.3), that were very popular. On land they built a convention center, an aquarium, a hotel, and a shopping center. This construction prompted more companies to bring their offices to the area, sparking significant office building construction, and making the area a commercial powerhouse as well (Kostopoulou, 2013). As one of the first construction projects of its kind, Baltimore's successful redevelopment cannot be understated. Through impressive planning and foresight, the city was able to turn a derelict area into an incredibly popular tourist destination in just a few decades. Overall, the area serves as a great example of what can be achieved through redevelopment and will provide valuable insight into any harbour development process.



Figure 2.3, Tall ships in Baltimore's harbour (Tall Ships in Baltimore's Harbor, 2017)

## **2.5 Victoria Harbour**

Victoria Harbour is located between Hong Kong Island and the Kowloon Peninsula. On the Kowloon side its border spans from Ting Kau Village to Ma Wan Village, and its Hong Kong border runs from Mount Davis to Lei Yue Mun. This great positioning allows for the spectacular views and sightseeing which the harbour is known for (Next Stop Hong Kong, 2018). The waterfront plays an important part in Hong Kong's history and its future growth. Several attractions built for both locals and tourists on the Victoria Harbourfront contributed to making Hong Kong the most visited city in the world for eight consecutive years, through 2017 (Meng, 2017).

### **2.5.1 History**

Under British rule, which began in 1841, what was once called Hong Kong Harbour became Victoria Harbour, named after Queen Victoria, the then monarch of Britain (Thomson, 2017). In 1844, only 538 ships were docked in the harbour. However, by 1931, millions of tons of cargo were shipped through Hong Kong. In the 1950s and 60s, Hong Kong became a huge manufacturing center (Hinsbergh, 2018). This, combined with the growth of containerized shipping, transformed the harbour into a global center for trade. Its deep waters allow for several tonne ships to enter and exit the harbour at any time of the day (Keegan, 2017). The harbour processed several million containers of cargo every year, which made Hong Kong a major international trading gateway to China. Around 1971, Hong Kong underwent a big economic boom, attracting a large population of people on cargo ships looking to make a living there (Thomson, 2017). In the 1990s, Victoria Harbour was one of the biggest global container ports. Today, it is still ranked the top 10 busiest container ports in the world. Consequently, after

several decades of growth, Hong Kong and its waterfront have become very developed, crowded, and space-starved.

### **2.5.2 Current attractions for tourists**

As one of the busiest cities in the world, Hong Kong and its waterfront have become huge tourist attractions (Keegan, 2017). Hong Kong is home to the most skyscrapers of any city in the world, making views of the city from the harbourfront spectacular. Ferries take people on a tour of the harbour and to different destinations along it, providing great views of the city from the water. The government has developed docks and piers on Victoria Harbour to provide different attractions for tourists. A major attraction at Victoria Harbour is the Symphony of Lights festival, a daily light show (Keegan, 2017). It is the largest permanent light and sound show on the planet according to the Guinness Book of World Records (Laservision, 2006). Buildings light up in different colors, and laser beams are positioned on top of the skyscrapers in the city, creating a beautiful and vibrant display at 8 pm every night. The Avenue of Stars is also an example of a developed spot on the harbourfront that attracts many people. There are handprints of famous people from Hong Kong movies, along with statues of movie stars, such as Bruce Lee (Hinsbergh, 2018). The Avenue of Stars is located right near the Star Ferry Terminal, the Hong Kong Museum of Art, the Hong Kong Cultural Center, and the Space Museum. All these attractions make this area on the waterfront one of the most visited in Hong Kong.

Another example of a developed area on Victoria Harbour is Kai Tak. In 1998, Kai Tak Airport was closed and the government began a plan to redevelop the land, as well as the areas around it. The Kai Tak Development plan “is a huge and highly complex development project spanning a total planning area of over 320 hectares covering the ex-airport site together with the

adjoining hinterland districts of Kowloon City, Wong Tai Sin and Kwun Tong.” (CEDD, 2018A, para. 1) The plan attempts to use the land to provide for the needs of the citizens, while adding more attractions for tourists (CEDD, 2018B). To support the locals, the government added 15 domestic blocks of public rental housing, two primary schools, and a secondary school to Kai Tak. In addition to these, both locals and tourists will get to enjoy the harbourfront parks, commercial areas, and a planned sports park. Tourists specifically will benefit from the cruise terminal, which provides a convenient docking area for cruise ships. All these developments have transformed Kai Tak into an ever-improving attractive destination for all demographics.

### **2.5.3 Tourism**

Tourism acts as one of the biggest contributions to Hong Kong’s economy, attracting an estimated 26.6 million visitors in 2017 (Meng, 2017). Victoria Harbour, connecting the Kowloon Peninsula and Hong Kong Island, is a world-renowned attraction. It is thought that one has not been to Hong Kong if one has not been to Victoria Harbour (Next Stop Hong Kong, 2018). In the past decade, Hong Kong extended and reclaimed the harbour. The Hong Kong government has also built amenities to suit the needs of tourists. According to Hong Kong’s Chief Executive Carrie Lam (2018), the government is enhancing the supporting facilities at piers with a view to strengthening the development of Hong Kong’s eco-tourism.

### **2.5.4 Demographics and activities**

According to a survey conducted by the Hong Kong Business Forum (2010), people with varying demographic characteristics visit the harbour every day. In the day time, people often spend time exercising near the harbour. The elderly, especially, use the exercise equipment on

the waterfronts that the government specifically built for them (Leisure and Cultural Services Department, 2018). At the same time, teens can be found studying near the waterfront. In the evening, there are people walking, and chatting with their friends. Parents also bring their children to waterfronts, as it is an area for kids to play on playgrounds and ride their bikes and scooters.

In addition to the physical activities that the waterfronts provide to the public, these areas also contain cafes, restaurants, bars, and other social and shopping areas (Hong Kong Traveler, 2019). Exciting events occur on the waterfronts during special occasions. For example, the AIA Great European Carnival and the Hong Kong Pulse Light Festival were open in early 2019 on the Central Harbourfront in honor of the holidays. The amenities on the Victoria Harbour waterfronts appeal to a large and diverse assortment of people.

## **2.6 Fung Mat Road**

The Fung Mat Road waterfront is located in Sai Wan, northwest of Hong Kong Island. It has only one access point, where people can either turn left or right (DHK, 2018). The right side of the waterfront was renovated recently by the government, and is located in front of a local wholesale food market. Along the promenade there are several outstretched piers. Children's playgrounds, elderly-friendly workout equipment, and several benches are present on this side of the promenade as well.

The left side of the waterfront includes an active cargo working area, which is not open to the public. There are warnings, given out by the Marine Department of Hong Kong to keep tourists out of the working area, which state that trespassers will be fined. Despite all the admonition, hundreds of visitors enter the cargo pier each day to enjoy the scenery and take

photos. The industrial area has become famously known as “Instagram Pier,” and attracts many locals and tourists, especially during sunsets (Laurent, 2017). Figure 2.4 displays both the right side promenade and the left side cargo pier.

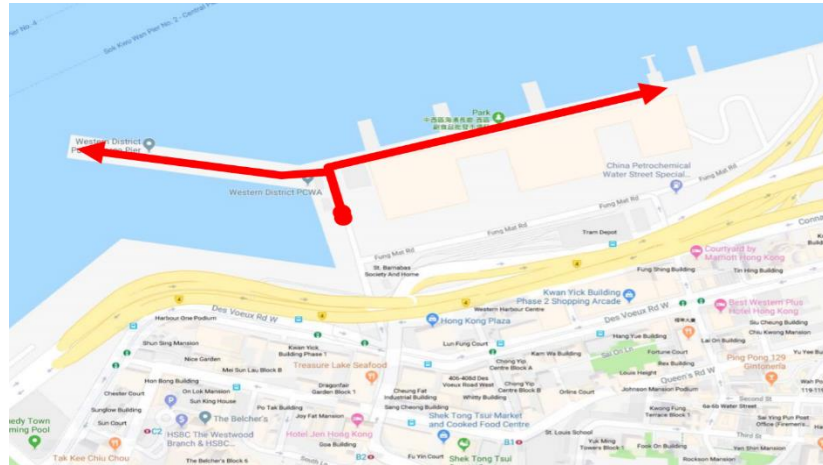


Figure 2.4, Fung Mat Road waterfront, Hong Kong (DHK, 2018)

## 2.6.1 Sai Wan

Sai Wan is the suburb containing the Fung Mat Road waterfront and is composed of four sub-districts: Kennedy Town, Sai Ying Pun, Shek Tong Tsui and Belcher Bay. Historically, Sai Wan did not have enough connectivity to the commercial center of Hong Kong to develop rapidly (Lai, 2018). However, in 2014, Sai Wan began to change with the introduction of subway stations. While still retaining its traditional charm, Sai Wan is now home to some of the best restaurants and art galleries in Hong Kong.

## 2.6.2 Railings and safety

In all public spaces, safety is a primary concern for both visitors and owners of the area. On the Fung Mat Road cargo pier there are no barriers, which poses a significant concern as people can easily fall into the water and get injured. According to the Hong Kong government, barriers are required if there is a drop of 1.2 meters or greater into the water (P. Zimmerman,

personal communication, 2019). Therefore, if the Fung Mat Road cargo pier is to become a legal open area for the public, it will need railings. Unfortunately, the addition of railings to this side of the Fung Mat Road waterfront would disturb the great views and the backgrounds of photos. Furthermore, it would take away one of the waterfront's unique characteristics.

Alternative railing design options do exist. For example, at the West Kowloon Cultural District on Victoria Harbour, a slope of rocks stretching into the water has replaced railings in the area. Another example is the Wynyard Quarter waterfront in Auckland, New Zealand, which consists of stairs that slope into the water (Lily 2011). Figures 2.5 and 2.6 display the rock and stair slopes. Overall, every waterfront must compromise between public safety and aesthetic demands.



Figure 2.5, Rock slope at West Kowloon



Figure 2.6, Stair slope at Wynyard Quarter (Lily, 2011)

## 2.7 Summary

A large and diverse group of people visit Hong Kong's waterfront. To meet all visitors' preferences, we must consider many different ideas for development. In the next chapter, we explain the methods that we used to create recommendations for the Fung Mat Road waterfront.

### **3. Methodology**

Our goal was promoting diversification of waterfront design and providing recommendations for the further development of the Fung Mat Road waterfront. In order to achieve this goal we had the following four objectives:

- Determine the state of waterfronts along Victoria Harbour;
- Identify waterfront visitor demographics;
- Identify desirable waterfront uses and design features to promote waterfront diversification;
- Determine whether developers should add railings to the left side of the Fung Mat Road waterfront.

In this chapter, we explain the methods that we used to achieve these objectives.

#### **3.1 Determine the current state of waterfronts along Victoria Harbour**

In order to determine what makes Victoria Harbour waterfronts attractive, we identified the existing infrastructure and observed popular attractions on the harbour. Based on recommendations from our sponsors, as well as a past Hong Kong IQP team that we interviewed (see Appendix F), we explored every sub-district on Victoria Harbour to observe uses and design features. We marked each of these areas on a map in Appendix C. The different design features at each of these areas helped us understand the best uses of space, as well as ideas for entertainment. We used photography to show the amenities that we found interesting and unique.

After the visits to other waterfronts on Victoria Harbour, we began work on the Fung Mat Road waterfront. This is a unique area that, with further development, will add to the diversity and appeal of Victoria Harbour. To obtain data about the Fung Mat Road waterfront, we directly



observed the area and performed a systematic evaluation of each amenity (Appendix G). We recorded which amenities visitors used the most, where these amenities were located, what condition they were in, and what space was open for potential development. We also ranked each amenity, based on its relative popularity. These evaluations helped us to recommend improving, adding, or eliminating amenities on the Fung Mat Road waterfront. We input these records in organized charts, where each amenity has a row consisting of the categories from the checklist, as well as a photograph.

### **3.2 Identify visitor demographics**

We used direct observation to identify the visitor demographics at the Fung Mat Road waterfront. The Fung Mat Road waterfront has one main entrance, where visitors can turn left or right. At this access point, we observed and recorded the number of visitors that entered the waterfront, who they arrived with (friends, family, alone), whether they turned left or right, their ages (child, teenager, young adult, adult, senior), and genders. We determined a visitor's age and relation to others that they arrived with to our best judgement. The age ranges are as follows: children are under 13, teens/young adults are between 13 and 23, adults are between 24 and 64, and elderlies are above 64. We recorded this information by hand, using field books. We then entered the observations into a spreadsheet and generated charts and graphs to display our findings. Our observations of this waterfront were full-day processes and occurred on both weekdays and weekends. We completed these observations in teams of two. The entire process took three weeks. Appendix H displays the days and times we spent observing at Fung Mat.

### **3.3 Identify desirable waterfront uses and design features to promote waterfront diversification**

To identify amenities that would improve the Fung Mat Road waterfront, we used direct and participatory observation to see what drew specific age groups and crowds to the area. By watching the tendencies of people to use certain amenities or engage in activities such as fishing or photography, we were able to get a better understanding of what visitors enjoy on this waterfront. We also immersed ourselves in the environment at the Fung Mat Road waterfront by participating in popular attractions and testing the workout and restroom facilities. These actions helped us to better understand and connect with the visitors to the area.

In addition to observing, we also gathered information by surveying individuals at the waterfront. We surveyed a stratified convenience sample, where we asked visitors to take our questionnaire based on convenient accessibility. We surveyed around 50 people each day that we were on site and attempted to survey people of all demographics. This included parents with children, elderly people, teenagers and/or young adults, and adults. With this sample, we obtained feedback about current amenities and got suggestions for new amenities from people of different genders and of all ages. We also conducted the surveys at different times of each day to capture busy and quiet time periods. We surveyed on 2 days of the week and both days of the weekend. To achieve this objective, we approached visitors first in English, then, if they did not understand, in Mandarin. If they responded and showed interest in us, we asked them to take the survey in Appendix D. This paper survey included specific and broad questions in English and traditional Chinese that were easy and quick to answer. For each question, we provided answer choices that the subjects could check off. We asked people if they were locals or tourists, how often they came to the Fung Mat Road waterfront, if they were going left or right upon arrival,

what drew them to the area, and if they had any suggestions for new amenities. For some of the questions, we allowed participants to check more than one answer choice. This allowed us to gather information regarding the preferences and needs of visitors at this waterfront. Input from people with diverse demographics improved our ability to provide recommendations of amenities that will benefit the most people.

We used the first full day in our schedule from Appendix H on the Fung Mat Road waterfront (Tuesday, January 15, 2019) as a trial day. We wanted to confirm we were capturing the characteristics of the waterfront visitors with our observation procedure. We evaluated the information we received from our surveys, assessed our surveying technique, and checked how long the surveys took to complete. We also wanted to ensure that the people who took our survey were a representative sample size of the waterfront's visitors. After this trial day, we made adjustments to the order of survey questions to be more intuitive.

### **3.4 Determine whether developers should add railings to the left side of the Fung Mat Road waterfront**

As we explained in our background chapter, the right side of the Fung Mat Road waterfront has railings, whereas the left side does not. In order to determine whether to add railings to the left side of the Fung Mat Road waterfront, we gathered input from the waterfront's visitors. As part of our survey, we asked whether the population would like railings, their reasoning, and which railing design they preferred (Appendix D). To help the participants understand each railing design, we provided descriptive pictures. After entering the responses from the surveys into a spreadsheet, we used sorting algorithms to identify the relationships between people's preferences about railings and their demographic characteristics. Categories

that we considered for these comparisons included whether people turned left or right, their ages and with whom people arrived.

In addition to surveying the public, we observed popular activities on the waterfront, and determined how railings could benefit enjoyment, or impede on entertainment. By walking the entirety of the Victoria Harbourfront, as stated in section 3.1, we noted some unique barrier options that helped us come up with feasible alternative designs to railings.

### **3.5 Summary**

Our team has identified four objectives to achieve our overall goals of promoting diverse waterfront development and recommending ideas for different railing designs at the Fung Mat Road waterfront. By visiting other popular areas on the waterfront, we gathered ideas for potential new amenities, as well as alternatives to railings. We also observed the land and people at the Fung Mat Road waterfront and conducted surveys to gain an understanding about the public's opinions on railings and existing amenities. From these findings, we were able to suggest innovative design features for the waterfront, as well as the best railing option. The development of this waterfront will help further Victoria Harbour's growth and create a unique and entertaining sub-district on the waterfront.

## **4. Results and Findings**

This chapter presents our results, based on our observations and surveys on the Fung Mat Road waterfront, and our observation of other waterfronts on Victoria Harbour. The results are divided by our four objectives. For each section, we discuss the information we gathered and further analyzed its significance for our project. The key points we found were that many of Victoria Harbour's waterfronts were similar, Fung Mat Road attracts a diverse population, and most of the visitors of the Fung Mat Road waterfront do not want railings on the cargo pier. To ensure our data were accurate, our team also investigated the limitations of our findings and potential sources of error.

### **4.1 Determine the state of waterfronts on Victoria Harbour**

We observed the amenities on the Fung Mat Road waterfront. The chart in Appendix J display an evaluation of the attractions and facilities on both sides of the Fung Mat Road waterfront, as we mentioned in our Methodology chapter. The chart shows pictures of each amenity, states their conditions, ranks them against the other amenities, and provides comments about each.

The right side of the waterfront is much more developed than the left side, as displayed by figure 4.1. At the entrance there is a small coffee shop named "The All Blue Coffee Promenade." However, it does not serve food or alcoholic beverages. Further into the promenade, there are shaded benches, and workout equipment along the side. There are four different piers stretching into the harbour. The first contains a popular children's playground. The next three piers are empty with very little seating or shade.



Figure 4.1, Picture of the right side promenade on the Fung Mat Road waterfront

The left side of the Fung Mat Road waterfront has little to no amenities, as shown in figure 4.2. However, it is a very popular destination for Hongkongers and tourists. This cargo dock offers a great view due to a lack of railings and a unique industrial aesthetic. These features make it the perfect destination for photography and sightseeing. This left side of the waterfront makes Fung Mat different from all other areas on Victoria Harbour. As we mentioned in our Background chapter, the Fung Mat Road waterfront only has one entrance point, prompting visitors to either go left or right upon arrival. Each side allows for a completely different experience.



Figure 4.2, Picture of the cargo pier side of Fung Mat Road waterfront

In addition to examining the different amenities on the Fung Mat Road waterfront, our team walked the entirety of Victoria Harbour (map in Appendix C) to observe a variety of amenities that contribute to the uniqueness of their respective waterfront. We have described and photographed these waterfronts in Appendix C.1. We found waterfronts as exciting and developed as the Avenue of Stars in Tsim Sha Tsui, and as bland as the Hung Hom Promenade. An amenity that stood out to us that was present on several of the waterfronts was free WiFi. We also found that shaded seating, playgrounds, and workout equipment were available on many of the developed waterfronts. Furthermore, three waterfronts with features that inspired ideas for new design features on the Fung Mat Road waterfront were Tsim Sha Tsui, Kwun Tong, and the West Kowloon Cultural District.

Tsim Sha Tsui includes the Avenue of Stars, which is a huge tourist attraction in Hong Kong. We observed that specific attractions such as statues and handprints of Hong Kong celebrities inspired the name “Avenue of Stars.” It is the fame associated with the name “Avenue of Stars” that we hope to emulate at “Instagram Pier,” the cargo pier on the Fung Mat Road waterfront. At Kwun Tong, we noted several mini-shops and cafes that served as convenient places for visitors to get beverages and snacks while enjoying the waterfront. This is a feature that is lacking on the Fung Mat Road waterfront. Lastly, the West Kowloon Cultural District had a rock slope into the water, rather than railings. This was an interesting barrier alternative that we implemented in our surveys.

#### **4.2 Waterfront diversification, and unique design features**

During our time at Fung Mat Road, we observed the most common uses of the waterfront. On the left, cargo pier, we found that the main activity is photography. We observed

several groups of friends taking pictures in front of shipping containers and pallets. We also saw several models with suitcases full of clothes doing photoshoots on the cargo pier. On this side of the waterfront, people also enjoy walking their dogs, jogging, biking, fishing, watching the sunset, and taking in the views of Hong Kong. Although few amenities exist here, the pier offers a unique environment for its visitors. On the right side promenade, we found that the popular amenities are the playground, workout equipment, and shaded seating. This side of the waterfront provides no unique amenities compared to the other areas on Victoria Harbour.

To come up with recommendations to further develop the waterfront, we surveyed 212 people at Fung Mat Road. We received 43 suggestions for the waterfront, as shown in figure 4.3. We have provided a full list of these in Appendix I. Of the 43 suggestions, 32 were for amenities. The most popular suggestions that we received were regarding food, drinks, and seating. Of our responses, over a third were related to food and drinks, and more than 15% were for seating. These suggestions came from visitors of all ages. The late opening of the coffee shop at 3:30 PM combined with the waterfront's lack of accessibility leaves visitors with no convenient options for food or drink. We used this information to provide further recommendations for the development of Fung Mat.



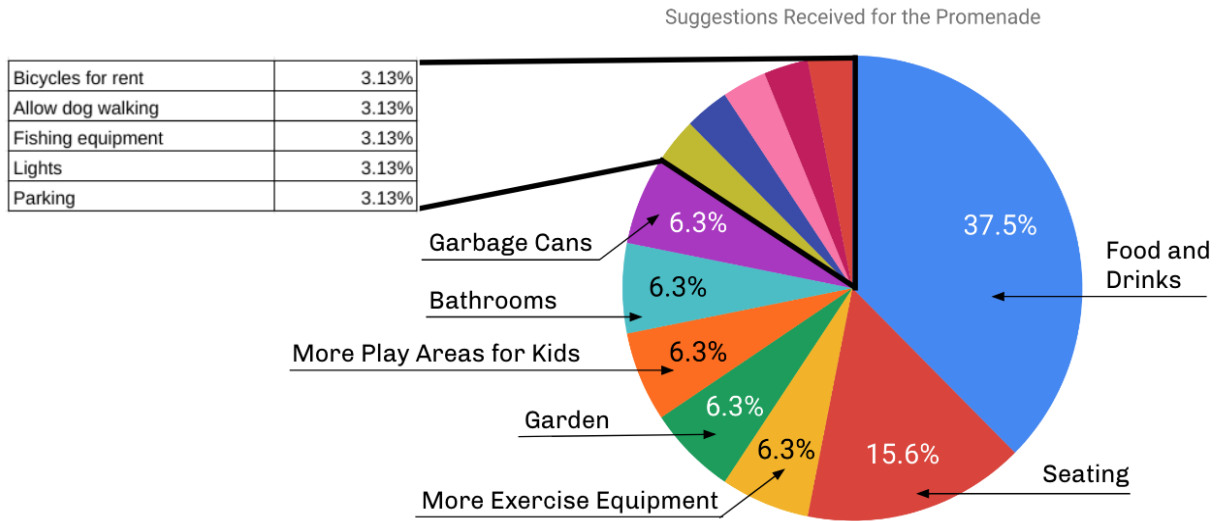


Figure 4.3, Pie graph of amenity suggestions

### 4.3 Visitor demographics

To further our understanding of the waterfront, we surveyed visitors and observed their actions. This helped us to recognize who goes to each side and why they make that choice. From our observations on the Fung Mat Road waterfront, we found that there is a very large discrepancy in which direction people with certain demographics choose, as seen in figure 4.4. Our data showed that 56.6% of Teens and Young Adults went only left, while 34.8% went only right. Additionally, 37.7% of adults solely chose the left side and 52.5% just chose the right. Finally, 30.4% of the elderly went only to the left, and 64.4% of the elderly exclusively went to the right. These data show that people with different age groups prefer different sides of the waterfront.

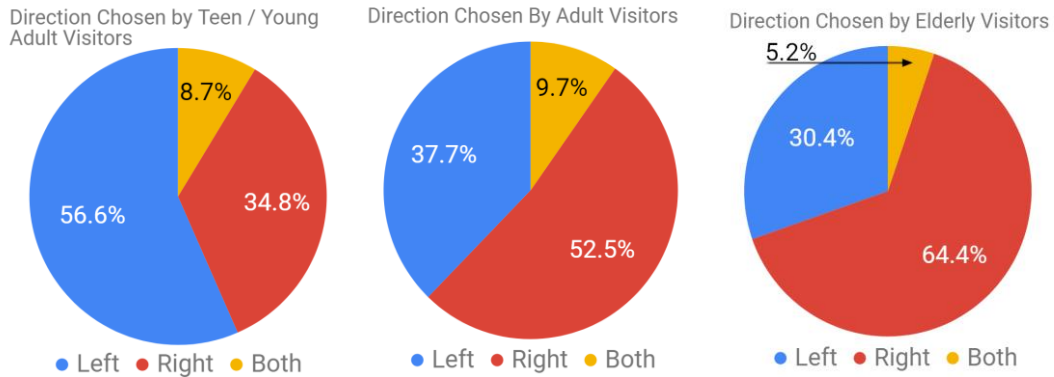


Figure 4.4, Pie charts depicting the directions chosen by different age groups

We also recorded which direction visitors traveled, based on who they arrived with, as shown in figure 4.5. The graphs display how 42.1% of friend groups just went to the right and 48.2% just went to the left. People who were alone tended to go to the right, as 51.2% solely visited the right, and 38.7% solely visited the left. Finally, families strongly preferred the right, with 69.4% exclusively going right and 25.2% exclusively going left. These data support our hypothesis that different waterfronts attract different demographics of people.

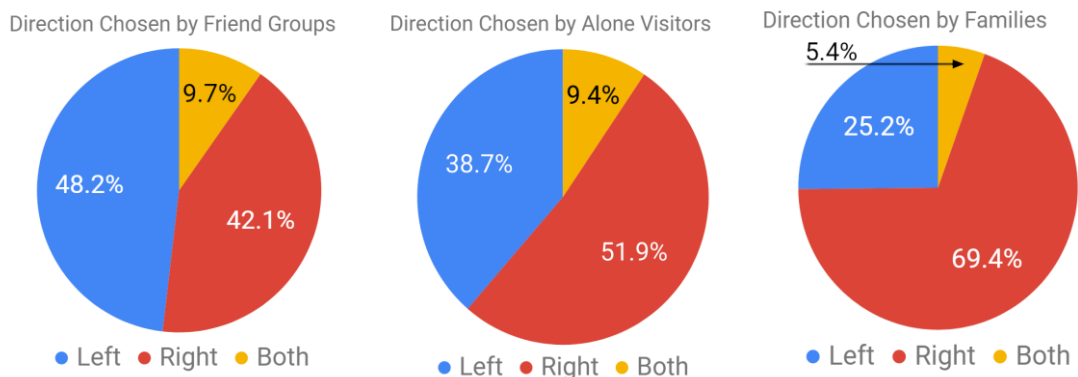


Figure 4.5, Pie charts depicting the directions chosen by different groups

Our observations show that the types of visitors vary by time of a day. During our study, we observed an average of 919 visitors daily. The most popular visiting times were between 2 to 5 PM, where 462 of the 919 people arrived. Between the hours of 10 AM to 3 PM, almost 60% of the waterfront's visitors were adults, whereas children, teens and elderly each accounted for around 13%. During the second half of the day, between 3 to 8 PM, 45% of the visitors were

adults, while nearly 30% were young adults, 16% were elderly and 7% were children. Roughly 40% of visitors arrive with friends and the remaining 60% was split evenly between arriving with family and alone. Figure 4.6 displays times throughout the day that different age groups arrived at the waterfront.

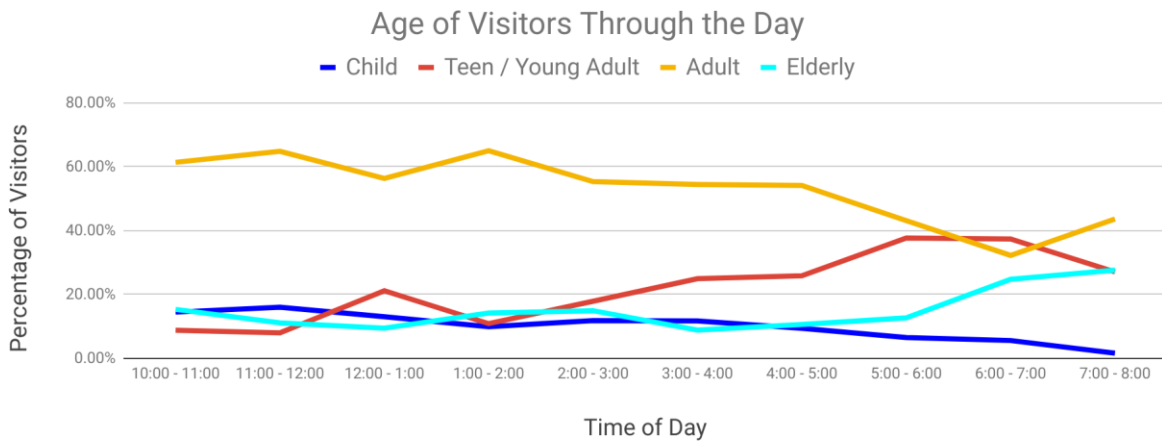


Figure 4.6, Graph showing percentage of visitors by age throughout the day

To display a contrast in visitor demographics, we performed observations of people who visited the Hung Hom Promenade, an area that offers a waterfront experience typical to Victoria Harbour. At Hung Hom, only 1.6% of the visitors were teens or young adults, and only 6.5% were children. Adults and elderly held the clear majority of visitors at Hung Hom, where 69.0% of the visitors were adults and 22.9% were elderly. Of these people, 62.2% were alone, 17.1% were with family, and 20.7% were with friends. Along with our observation data, these percentages further exemplify Fung Mat’s diverse base of visitors.

The most prevalent source of error in our statistics is likely our own human error while observing the visitors. It was sometimes difficult to determine the age of visitors, who they were with, and whether they were visiting just one side of the waterfront or both. During busy times, it was also difficult to keep track of how many people were coming into the waterfront. Another limitation in our findings includes the difficulty in surveying certain age groups. The elderly was

much more hesitant to take a survey in comparison to the younger demographics. To address this problem, we spent an extra day at the waterfront surveying the elderly to make our sample size a more accurate representation of the population of visitors.

#### 4.4 Whether to add railings on the cargo pier

By surveying the population at the Fung Mat Road waterfront, we were able to get a better understanding of people’s opinions regarding railings on the industrial side. Overall, the majority of people do not want railings to be added. However, the results vary depending on the people’s characteristics. While most teenagers, young adults, and adults responded “No” to railings, 67.9% of the elderly indicated that they wanted railings, shown in figure 4.7. Besides age, the results varied depending on which side the respondents went to, as seen in figure 4.8. Of visitors who turned left, 68.3% opposed railings. In contrast, 65.0% of the people who went to the right side of the waterfront were in favor of a barrier. After asking if visitors were interested in railings, we asked respondents for their reasonings; 66.1% said that “railings ruin views,” and 55.7% said that no railings was a unique feature.

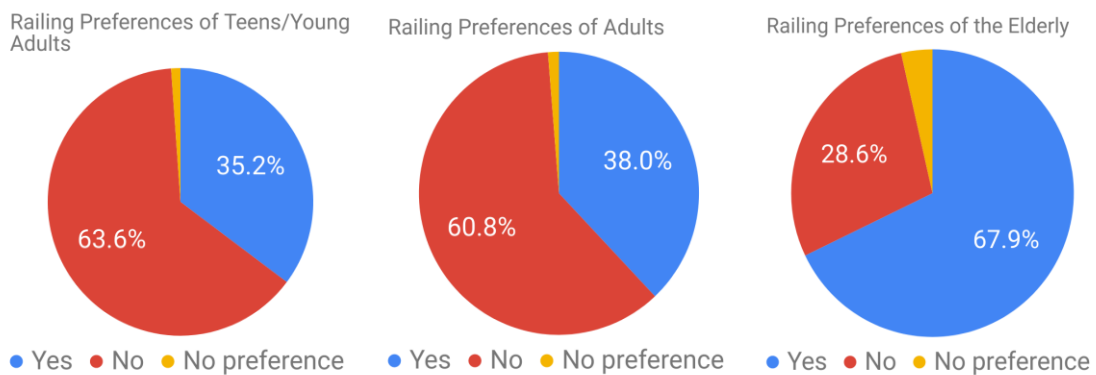


Figure 4.7, Pie charts displaying the relation between railing preference and age

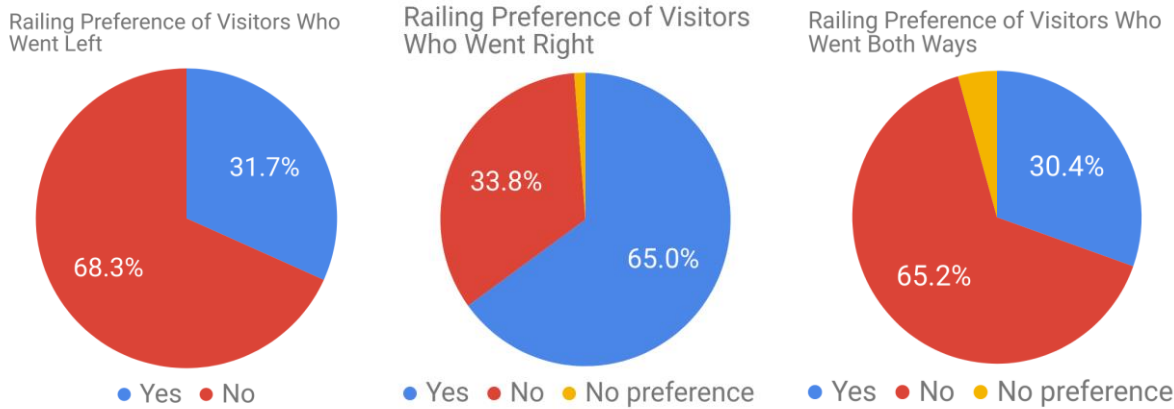


Figure 4.8, Pie charts displaying the relation between railing preference and the direction visitors chose

In addition to determining whether people want railings on the left side of the Fung Mat Road waterfront, we also considered alternative railing options, including clear railings, a rock slope, and a stair slope. We found that 43.4% of our surveyees were in favor of clear railings, while only 14.2% chose rock slope and 12.3% wanted stair slope. Interestingly, 40.8% of the population who picked “no railing” still chose an alternative railing design, which contributed to these percentages. Furthermore, many people we surveyed expressed concerns regarding cost and feasibility. For example, one response we received was “please do not spend money on useless amenities.” We also received several surveys with the suggestion to keep the left side of the waterfront unchanged.

Overall, we have seen more benefits of having no railings on the left, industrial side of Fung Mat. From our observations, the open edge allows people to command the whole view of the water. During sunset, the scenery gets even more enchanting. We also observed that several visitors gravitate to the edges of the pier, as shown in figure 4.9 below. It is also easier for people to fish without poles, since there is no barrier.



Figure 4.9, “No Railing” appeal of the cargo pier

## **5. Conclusions and Recommendations**

Our goal was promoting waterfront diversification on Victoria Harbour by making recommendations for the continued development of Fung Mat Road. Ultimately, we established five recommendations that will improve the Fung Mat Road waterfront, some of which are also applicable to other sections on Victoria Harbour. Before we explain our recommendations, however, we want to summarize the key results that led us to these conclusions.

### **5.1 Key Results**

After completing our observations and surveys on the Fung Mat Road waterfront, as well as walking all accessible sections along Victoria Harbour, we obtained several results. We concluded that most of the waterfronts on Victoria Harbour were very similar to each other, as they lacked a lot of useful amenities. Additionally, the most common amenities found were shaded seating, playgrounds and workout equipment, but these were not ubiquitous. Furthermore, a majority of these waterfronts shared very similar railing designs. Specific to the Fung Mat Road, we found that each side of the waterfront attracted different kinds of visitors. The age of visitors and who they arrived with correlated with the direction that they decided to go. We also found that people's railing preferences were influenced by their age and choices of direction. Moreover, we received several suggestions for amenities on the Fung Mat Road waterfront from our survey results. With this key information, we have made several recommendations that will further benefit both the Fung Mat Road waterfront and Victoria Harbourfront overall.

## **5.2 Recommendation 1: Keep Fung Mat unique**

After walking the entirety of Victoria Harbour, we have concluded that the Fung Mat Road waterfront is unique from every other area on Victoria Harbour. Not only does Fung Mat Road have two completely different sides, but its cargo pier also offers an aesthetic like no other. Two big factors contributing to the uniqueness of the Fung Mat Road waterfront is the industrial appeal and the fact that there are no railings. Having varying waterfront designs on Victoria Harbour caters to a larger demographic of people. Therefore, the diverse features on the Fung Mat Road waterfront will help make Victoria Harbour an even bigger attraction in Hong Kong.

## **5.3 Recommendation 2: Keep industrial aesthetics on the cargo working area**

Based on our results, one of the key things that draws people to the left side of the Fung Mat Road waterfront is the industrial aesthetic. After walking the entire Victoria Harbourfront, there is no other waterfront with the same environment, making the scenery of the cargo pier very unique. This claim is supported by the fact that 85% of the teens and young adults who went only left said they were drawn to the waterfront due to the scenery. Additionally, the draw of this industrial setting has earned the waterfront its name, “Instagram Pier.” The unique background of the waterfront is a common part of these pictures and contributes to its popularity.

We suggest keeping the waterfront as an active cargo working area to preserve the authentic industrial aesthetic. If the pier is shut down and there is an attempt to artificially replicate the industrial atmosphere, the result may seem disingenuous. For example, when the right side promenade was under construction, developers left a decommissioned crane on the third pier. The resulting environment feels artificial and is not a prominent attraction. If the cargo area is treated similarly, it may lose its appeal and no longer attract the same types of visitors.



While it is possible to replicate the industrial aesthetic, keeping the cargo area in use will ensure an authentic experience for visitors.

### **5.4 Recommendation 3: Keep railings off the cargo pier**

There are more benefits than potential drawbacks to having no railings on the cargo pier. To implement this, we suggest the addition of safety equipment. Firstly, life-buoys should be available along the cargo pier. Secondly, warning labels, similar to figure 5.1, can be prominently displayed by the edges of the pier. These signs should be large, easy to read, and visible at night. Thirdly, developers should build more ladders on the side walls of the cargo pier, as suggested by our survey respondents. Currently, there are only three locations where one can climb up if they fall into the water. Overall, these are inexpensive and easy-to-install features that would help to ensure the safety of the waterfront's visitors.



Figure 5.1, Picture of caution sign (Wu Xing Pi Fa Bu, 2019)

Out of all waterfronts we visited on Victoria Harbour, the cargo pier of the Fung Mat Road waterfront is the only one with such an open space and an incredible view of the water with no barrier. As Victoria Harbour become more developed and better connected, we are striving to keep this feature on the Fung Mat Road waterfront untouched for future generations to enjoy.

**5.5 Recommendation 4:** Plan B: If the cargo pier opens to the public, add signage and barrier

If the pier is eventually opened to the public and cargo work stops, we have several suggestions for further developing the waterfront. First, we recommend preserving the industrial aesthetic on the pier by keeping the shipping containers and pallets. We also suggest setting up multiple signs for the cargo pier, between the Hill Road exit of the HKU subway station and Fung Mat Road. We believe that this waterfront already speaks for itself with its unique attractions, and as we put more effort in advertising the waterfront, it can become increasingly popular and receive more recognition.

Due to Hong Kong's laws requiring barriers at public waterfronts, we are suggesting clear railings on the north edge, as shown in figure 5.2. Because the water on the north side is turbulent, adding clear railings is the most reasonable solution. However, the west and south sides of the pier are sheltered from the harbour allowing for a more creative barrier design. We recommend implementing a stair slope, as it would be a unique spot for people to watch the sunset and relax.



Figure 5.2, Railing designs of the cargo pier (Google, 2019a)

## **5.6 Recommendation 5:** Add amenities on the right side promenade

Our results showed that the newly renovated area of the Fung Mat Road waterfront can be further developed to best fit the needs of its visitors. While the first pier on the right side promenade has a children's playground, the three other piers offer few amenities. By investigating the visitor demographics and survey suggestions, we were able to determine what specific features address and satisfy the needs of the waterfront's visitors.

During our surveys we received numerous suggestions that helped us to determine three changes that would further the public's happiness. First, we recommend the addition of amenities related to food and drink, as requested by more than a quarter of the suggestions we received from our surveys. While the waterfront does have water fountains and a coffee shop, food is unavailable and drink options are limited. Without establishing a full restaurant on the waterfront, viable options to satisfy visitors would include vending machines, food stands or an improvement in the coffee shop's menu. By providing food and drinks, visitors may be more inclined to spending more time on the waterfront.

The second most suggested item we received from surveying was an increase of seating. Similar to food and drink, seating was suggested by people of all ages. The first and third piers each have two shaded benches which are almost always occupied throughout the day. The playground on the first pier attracts many families with children, and during busy hours many parents do not have a place to sit and relax. It is not uncommon to see parents standing next to the benches, as if in queue to sit. Therefore, adding shaded seating around the playground should be prioritized. The second, third, and fourth piers provide even less seating options, most of which remains unshaded. To add covered seating to each pier would be an easy and relatively cheap task which would benefit visitors.

The third and final item that should be added to the waterfront is more workout equipment. This recommendation is provided on behalf of the elderly. According to our observation data, more than 200 senior citizens visit the waterfront daily. Furthermore, our survey results display that nearly one in every three elders visit the waterfront to workout. We recommend this addition because the current equipment provided is composed of only a few different types of machines, all of which are present in low numbers. Compared to other waterfronts, the variety of equipment is minimal, and the number of machines is often too few. Figure 5.3 shows other workout equipment that we have found not currently available at Fung Mat Road.



Figure 5.3, Pictures of workout equipment

We selected these recommendations from a list of over 20 suggestions from surveys. They provide a quick and easy way to address some of the waterfront's imperfections, while simultaneously representing the needs of every age group. We want to ensure that the area remains as an attractive destination for everyone. Furthermore, as we mentioned in our results section, several waterfronts along the harbour are quite barren, as they lack amenities and shade.

The three recommendations for the Fung Mat Road waterfront would also be applicable to these other waterfront areas on Victoria Harbour.

## **5.7 Limitations**

For our project we were not able to do significant work in determining the feasibility of our recommendations. We would need to thoroughly investigate and understand the laws regarding development on a public waterfront and how it differs from those of an active cargo working area. Additionally, we would need to consider the construction cost and potential benefit that each recommendation would have. We found that the economic and legal evaluations fell beyond the scope of our project.

## **5.8 Paths for Future Work**

In addition to our recommendations, we have recognized several paths for future work. To implement any of our recommendations, future researchers must determine their feasibility. For example, we advise that people explore options for food and drinks along the waterfront. Because there are many ways to implement this, future researchers must investigate problems regarding licensing, waste management and what kinds of food would be most popular. Additionally, most of the railings on Victoria Harbour are basic steel designs, leading to a rather standard appearance. We recommend that designers introduce new barrier features that are unique to each specific area along the harbour. Lastly, we believe our recommendations for new amenities are applicable to other waterfronts on Victoria Harbour. However, future researchers must determine which specific waterfronts can implement them.

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## **Appendix A: Sponsor description**

### **1. Designing Hong Kong**

Designing Hong Kong (DHK) (2018) is a Hong Kong based organization, founded in 2003 by Paul Zimmerman, Marcus Shaw, Peter Wong, and Christine Loh. It is a nonprofit organization that is primarily funded by outside donors (Hong Kong Harbour District, 2009). Its mission is:

- 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 (DHK, 2018, para. 1).

To achieve its objectives Designing Hong Kong (2018) works with volunteers and non-governmental and non-profit organizations. The organization also backs projects and programs

that support its objectives. For instance, Designing Hong Kong is a member of the Citizens Task Force on Land Resources (Tang, 2017). Additionally, it has joined with other groups like WWF-Hong Kong and Green Power to promote extending the Tung Chung River Nature Park (Ng, 2016).

Designing Hong Kong's (2018) founders and leaders also support the organization with their variety of great skills. Paul Zimmerman is a business administrator with impressive experience in design and investment companies. Today, in addition to being CEO of DHK, Paul Zimmerman is also involved with many similarly aligned organizations in Hong Kong, including Hong Kong Harbour District and Coalition on Sustainable Tourism. Markus Shaw is a lawyer, with great experience in investment management and portfolio companies. Other organizations that he is involved in are his family's investment office, the Worldwide Fund for Nature (WWF) and the Hong Kong's Government Advisory Council on the Environment. Peter Wong is an accountant and consultant who specializes in environment, social, health, and economic fields. He is also involved in Global Reporting Initiative, Business and Professionals Federation of Hong Kong, Greater Pearl River Delta Business Council, and Commission on Strategic Development. Lastly, Christine Loh is an expert in sustainable development, urban planning, and constitutional development.

## **2. Harbour Business Forum (HBF)**

HBF (2010a) is a driving force behind Hong Kong's waterfront development projects. Its 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) It focuses on gathering inputs from local

businesses and the general public. Its mission is “to see Hong Kong's harbour... become a genuinely vibrant, accessible and sustainable world-class asset” (para. 2).

HBF's Objectives and Achievements are:

- The creation of an overarching agency for the harbour
- To promote integrated planning and coordination of projects related to the long term economic, social and environmental interests of Hong Kong's harbour
- To support the Harbour Planning Principles and their application to all future harbour developments (para. 3).

HBF (2010b) has 122 business members with 10 Patron Members who are business leaders in companies such as Henderson Land Development, CITIC Pacific, and HSBC. There are 30 Corporate Members, including Analogue Holdings, Aqua Restaurant Group, and Brunswick Group. They also have 53 Professional Members who are engineers, architects, planners, and business consultants from companies such as Aedas, Clifford Chance, and Dragages Hong Kong. Finally, HBF has 29 Supporting Members, business organizations and Chambers of Commerce, including American Chamber of Commerce, British Chamber of Commerce, and Dutch Chamber of Commerce. All 122 members come from business chambers or professional associations. The organization is primarily funded by its business members, with the Patron Members specifically being expected to pledge funding.

With these numbers, HBF (2010a) is a big organization that intensively researches the development of the harbour based on the wishes of the people. To promote harbour issues the organization holds informative events on the harbour. Additionally, to gain insight on the public's interest in Victoria Harbour it holds public “Design Competitions” (para. 4). Using all of

this gathered information, the organization supports proper harbour development by funding projects such as the Victoria Harbour database and interactive map (HBF, 2011).



## **Appendix B: IQP description**

An Interactive Qualifying Project, or IQP, is one of the defining features of Worcester Polytechnic Institute's curriculum and a requirement for graduation. Through the IQP, WPI students tackle problems of societal importance (Worcester Polytechnic Institute, 2018). Every IQP requires a team of students to relate science, engineering or technology to a societal problem. Many IQPs are sponsored by companies or organizations where "...students collaborate with faculty advisors, sponsors, and community members..." to complete important projects (para 6).

Our project qualifies as an IQP because we will use provide recommendations to our sponsors on how to best develop specific portions of Victoria Harbour by using urban planning techniques and statistical analysis. To solve this societal problem, we must collect data through various research techniques, such as stratified convenience sampling, surveying, and mapping to derive a recommendation that best reflects the visitors of the waterfront.

## Appendix C: Waterfront observation locations

Protocol: Below is the name of each waterfront section on Victoria Harbour. Each number corresponds with the location of the number on the map. In figure C, the blue dots represent the boundaries of each waterfront, and the red represents areas on the waterfront that we are not able to access due to construction or cargo work.

### Locations:

- |                                   |                       |
|-----------------------------------|-----------------------|
| 1. Lei Yue Mun                    | 12. Tsing Yi          |
| 2. Kwun Tong                      | 13. Shau Kei Wan      |
| 3. Kai Tak                        | 14. Quarry Bay        |
| 4. To Kwa Wan                     | 15. North Point       |
| 5. Hung Hom East                  | 16. Wan Chai East     |
| 6. Hung Hom West                  | 17. Wan Chai West     |
| 7. Tsim Sha Tsui East             | 18. Central           |
| 8. Tsim Sha Tsui West             | 19. Sheung Wan        |
| 9. West Kowloon Cultural District | 20. Fung Mat Road     |
| 10. Cheung Sha Wan                | 21. Kennedy Town East |
| 11. Tsuen Wan                     | 22. Kennedy Town West |

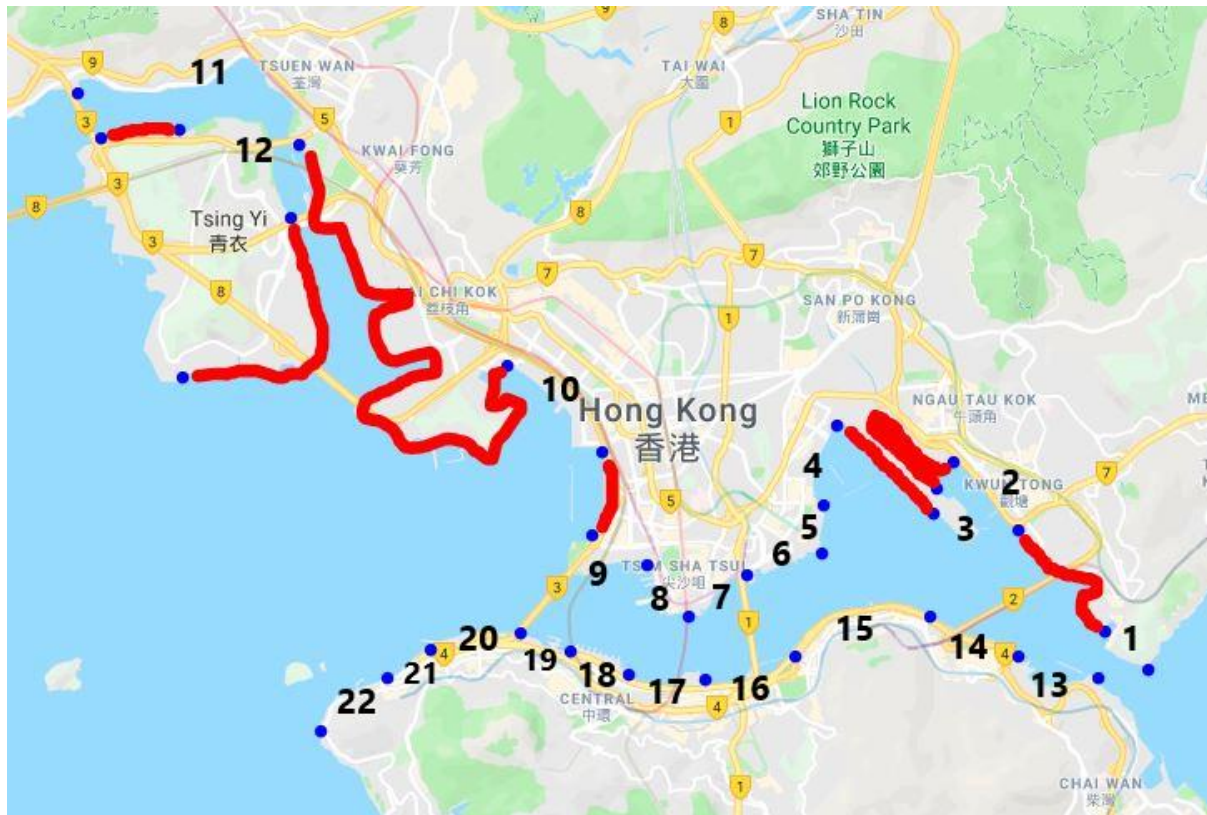


Figure C, Map of waterfront locations we observed (Google, 2019b)

## Appendix C.1: Description of waterfronts on Victoria Harbour

The sections below describe each waterfront we visited on Victoria Harbour. The numbers of each location correspond to the numbers on the map in appendix C.

### 1. Lei Yue Mun

Lei Yue Mun, shown in figures C.1 and C.2, was much less developed than the other waterfronts, which made it interesting to explore. At the Lei Yue Mun Rest Garden, there is a nice beach that leads down to the water. Behind this is a simple park with shaded benches, a children's playground, and a multi-use court. Past this park, the waterfront is mostly undeveloped. Depending on the area, the waterfront can either have a simple metal railing behind a breakwater, or an unused beach. The area as a whole has a very rural catch basin and is almost entirely residential. The waterfront is overall very unusual with a very rural surrounding area.



Figures C.1 & C.2, Pictures of the Lei Yue Mun waterfront

### 2. Kwun Tong

Kwun Tong was a great space, with a wide range of amenities, including free WiFi. It also contained several benches, both shaded and in the sunlight. The area had shaded cabanas overlooking the waterfront, as shown below figure C.4. There are several mini-shops and cafes on the promenade, such as the one in figure C.3. These serve as great places to get beverages and snacks. Additionally, the waterfront provided workout equipment designed for full body workouts for demographics other than the elderly and children (figure C.5). The Kwun Tong

promenade provides visitors with different activities which are attractive to a large demographic making it a great example of a developed waterfront on Victoria Harbour.



Figures C.3, C.4 & C.5, Pictures of the Kwun Tong waterfront

### 3. Kai Tak

We also visited the Kai Tak Runway Promenade, which is located at the end of the old Kai Tak Airport Site. The main attraction of this promenade is the large pet friendly park it surrounds (figure C.7). This park is mainly composed of a nice grassy field, with an airplane at one end as a throwback to the area's roots. Around this field is a brick walkway, with a multitude of distinct, shaded benches, shown in figure C.6. Finally, all this is bounded by a white railing, made of horizontal white bars and a wooden top.

Next to this park is the Kai Tak Cruise Terminal. This is still currently being renovated, but it still has a few open stores and restaurants for visitors. The top of the cruise terminal is entirely covered by the Kai Tak Cruise Terminal Park, pictured in figure C.8. The park is almost entirely composed of grassy islands, which have a wide variety of colorful flowers and interesting trees growing on them. Surrounding this rooftop is a clear railing, and a great view of the harbour. To round off the experience, the park also has multiple restrooms and water fountains, helping to keep the visitors comfortable during their visit.





Figures C.6, C.7, & C.8, Pictures of the Kai Tak waterfront

#### 4. To Kwa Wang

To Kwa Wang's waterfront is almost entirely enclosed by Hoi Sham Park. This park offers plenty of shaded seats, as well as a variety of interesting amenities. Visitors will have access to the multi-use artificial soccer field, children's playground, outdoor theater, and bathrooms. Along the waterfront, they will see a brick road, with a green fence with vertical bars, pictured in figure C.10. This has lots of shaded benches, and a very interesting pagoda-like structure (figure C.9) that juts out above the water. The park as a whole provides a lot of valuable amenities for its visitors, and a nice waterfront as well.



Figures C.9, & C.10, Pictures of the To Kwa Wang waterfront

#### 5 & 6. Hung Hom

The Hung Hom promenade, displayed in figures C.11, C.12, and C.13, is a long, flat, paved area between the Hung Hom Ferry pier and the overpass, as shown in the images below. There is a bland white metal railing lining the water, and a well maintained grassy area on the other side of the walking path. While there are plenty of benches, they do not get much use due

to a lack of shade. Besides these benches, there are no other amenities. This waterfront is a stark contrast to several of the waterfronts on Victoria Harbour, in terms of its lack of amenities.



Figures C.11, C.12, C.13, Pictures of the Hung Hom waterfront

## **7 & 8. Tsim Sha Tsui**

Tsim Sha Tsui is a long waterfront has a wide variety of attractions for both tourists and locals. One of the main features on this waterfront is the Avenue of Stars. Recently reopened, the Avenue of Stars displayed handprints and statues of famous Hong Kong celebrities (figures C.14, C.15, C.16, and C.17), which attracted huge crowds with people of all demographics. In addition to the statues and handprints, several kiosks are located along the walking path, as well as a variety of benches and shaded areas. Out of all the waterfronts that we visited, this was the most developed with great accommodations, and an entertaining theme throughout.



Figures C.14, C.15, C.16, & C.17, Pictures of the Tsim Sha Tsui waterfront

### 9. West Kowloon Cultural District

Although it is still under construction, the West Kowloon Cultural District presented a few aspects that were unique from other waterfronts on Victoria Harbour. Rather than railings, the area had a rock slope, as shown in figure C.19. This waterfront also contained a long break water that was popular for fishing and exploring, shown in figure C.18. Since the Cultural District was still in the process of development, there were not as many amenities.



Figures C.18 & C.19, Pictures of the West Kowloon Cultural District waterfront

### 10. Cheung Sha Wan

The waterfront of Cheung Sha Wan is a basic area, located off of Hoi Fai Road, behind the One Silver Sea Towers. It consists of 2 parts, separated by the corner of the waterfront. The part closer to Hoi Fai Road has a plain metal railing with vertical bars, which are placed about 3 feet from the water. Behind this, it has a tan diagonal brick pattern, and a few simple gardens.

These gardens are surrounded by a cement bench, which is nicely shaded by the garden's plants. The most unusual part of the waterfront are the multiple gaps in the railing. These allow waterfront visitors to easily walk in front of the railings and sit along the water.

The other side of the waterfront, however, does not have these gaps. Its railing is 3 large metal rods, placed horizontally on the water. This side is paved with a grey brick pattern, and it has some simple grass areas behind the walkway. This grass is also bounded by a cement bench, but there is no natural shade and only a few awnings, making it much less shaded. This side's main attraction are a few bars and restaurants that open up towards the waterfront and give visitors some options for food and drinks.

## 11. Tsuen Wan

The Tsuen Wan waterfront is a long, flat stretch of land that is very popular among joggers. It also has several benches, play areas for kids, and a lot of open space, which made it a great place to bike and to bring dogs. Fishing was also a very common activity, and there was even a dock that stretched out to the water, as shown in figure C.22 below. This waterfront was very simple, yet quaint as shown in figures C.20 and C.21. Although there were no outstanding amenities, it attracted several visitors throughout the day.



Figures C.20, C.21, & C.22, Pictures of the Tsuen Wan waterfront



## 12. Tsing Yi

The Tsing Yi promenade is located right outside of the Tsing Yi mall and MTR station. Like many of the other waterfronts on Victoria Harbour, it had free WiFi. It was very spacious and flat, making it ideal for running and biking. Joggers can enjoy the track that stretched down the waterfront as shown in figure C.23, while bikers and skateboarders can take advantage of the bike path and skate park (figure C.24). There were also several elderly workout areas as well as many playgrounds and child friendly amenities. Furthermore, the promenade contained several seating areas with and without shade, and even offered an interesting water feature as shown in figure C.25.



Figures C.23, C.24, & C.25, Pictures of the Tsing Yi waterfront

## 13. Shau Kei Wan

The Aldrich Bay Promenade is located along the Shau Kei Wan Typhoon Shelter on the north-east side of Hong Kong Island. At the waterfront entrance on Oi Lai Street, trees line the side of the walkway providing shade to the benches underneath. Behind the row of trees on either side, there are basketball courts with stands for spectators. The promenade is a half a kilometer long stretch of land divided between a tiled walkway and garden, as seen in figure C.26. Throughout the waterfront, there are four workout stations, each containing a different piece of equipment. Additionally, a children's playground and a tai chi court are located near the entrance. When we visited this waterfront, it was under construction, however, the off-limits

areas contained a stage. One potential use would be for performances of the Aldrich Bay Government Primary School, which is located just south of the waterfront.

The district of Aldrich Bay is considered to be a housing area. The waterfront itself was lined with apartment complexes. Many boats, ranging from small dinghies to towering sailboats, are docked in the water. While this negatively affects the view from the waterfront, it could be seen as an attraction for sailors who need a place to dock. Overall, this waterfront did not stand out because it provided many amenities common to waterfronts around Victoria Harbour.



Figure C.26, Picture of the Shau Kei Wan waterfront

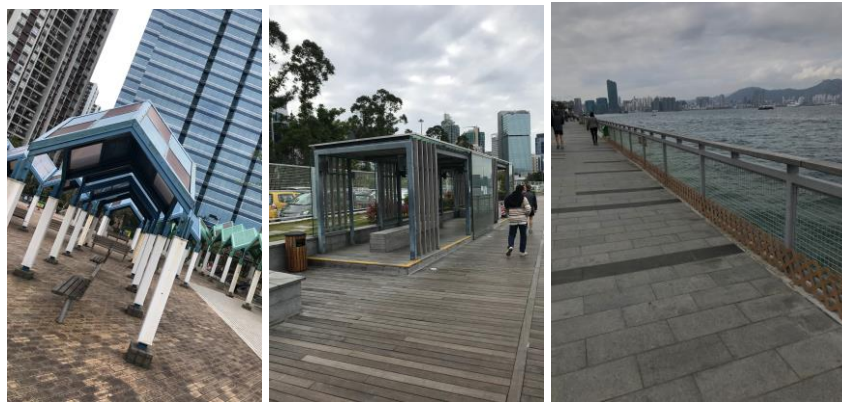
#### **14. Quarry Bay**

The Quarry Bay waterfront has some interesting themes throughout. For example, we can see two types of tent like shading areas in multiple places, shown by figures C.27 and C.28. They add characteristics to the waterfront, but they are not heavily used.

The promenade has a pet-friendly section, and a section where pets are strictly banned. The pet-friendly section, also known as the “Pet Garden,” provides multiple feces collectors. There is also a banner saying that jogging in this section is not advised. Fishing is also banned in this section of the waterfront.

As for the railing designs on the Quarry Bay Promenade, there are two distinct types. The first type is a steel railing with a net in the middle as shown in figure C.29. The second type is a low, steel type railing. These railings use cheaper material compared with the railings on the right side of the Fung Mat Road waterfront. As for safety equipment, there are several life-buoys attached to the railings.

Another interesting amenity on this waterfront is a distance sign. They indicate how far one has traveled from the beginning of the promenade on the east side. This is helpful for joggers.



Figures C.27, C.28, & C.29, Pictures of the Quarry Bay waterfront

## 15. North Point

The North Point Ferry Concourse Promenade sits in this area. No dogs, cycling or skateboards are allowed on this promenade, as we can see from figure C.30. It is also a fairly short promenade. The Harbour North mall and the VIC hotel are located to the west of the promenade. We can see steel railings on the side of the promenade., as shown in figure C.31. There is also a tennis court near the west entrance.



Figures C.30 & C.31, Pictures of the North Point waterfront

### 16 & 17: Wan Chai

The east side of Wan Chai waterfront is mostly under construction, as we can see from figure C.32. Most of it cannot be accessed by pedestrians. The Wan Chai Ferry Terminal is located in the middle. There is a big sightseeing platform on the top of the terminal. We can get a clear view of the water and see the entire Tsim Sha Tsui waterfront, as shown in figure C.33. The Central and Western District Promenade is located on the west of the terminal. The majority of travellers go to the west after they get off the ferry.



Figures C.32 & C.33, Pictures of the Wan Chai waterfront

## 18. Central

The Central waterfront contains a very busy promenade. It is well-maintained with lots of amenities, such as a ferris wheel and sculptures. There was also a light festival when we visited, which served as a popular spot for many teenagers and young adults shown in figure C.35. A fair was being held next to the light festival as well, as shown in figure C.34. We went to this waterfront the first week we arrived in Hong Kong because it is such a big tourist attraction. The central piers are located at the center of the promenade. They provide shaded benches for people to sit on. There were also statues of pigs to celebrate the Year of the Pig when we visited.



Figures C.34 & C.35, Pictures of the Central waterfront

## 19. Sheung Wan

Sheung Wan is located on the north side of Hong Kong Island. As we walked along the waterfront, we identified two areas that stood out. The Central and Western District Promenade is found just west of the Hong Kong - Macau Ferry Terminal. A wide, stone walkway is present along the water with palm trees planted through the middle. Shaded seats are also available on the path. Behind the walkway was a garden where visitors could walk through to enjoy a more natural environment.



The second location in Sheung Wan was the Sun Yat Sen Memorial Park. Upon entering the park, you are greeted by a large, smooth, rock stone path with a gate above it. After passing through the gates, you can see the park's main feature, a large statue of Sun Yat Sen. This statue is surrounded by a well maintained grass park, which butts up against the waterfronts walking path. This path has a nice stone pattern, and a large active fountain right behind the main park. Even with the lack of shaded seating, the waterfront is still a unique and interesting attraction.

## **20. Fung Mat Road**

See background section.

## **21. Kennedy Town East**

We have identified two important locations in Kennedy Town's eastern waterfronts. The first area is the Temporary Playground at Xining Street, located slightly to the west of Kennedy Town's center. Here the waterfront walkway is very narrow with three benches shaded by overhanging plants, as shown in figure C.36. Adjacent to the water's edge, this public park has two soccer fields and a basketball court. While providing an area for visitors to exercise and play sports, the small brick path along the water is in need of renovation.

The second waterfront which stood out is a small area adjacent to the Kennedy Town bus terminal. It is also just west of the Western District Public Cargo Working Area. On this brick path, there was a line of alternating benches and trees. When we visited this waterfront, we found every seat had been taken. Despite not being advertised as a promenade, we speculated that this areas popularity stemmed from its location. Across the street from the west end of the waterfront was a line of nice restaurants, bistros and coffee shops. Overall, this waterfront was not well developed and offered only benches, but retained a good visitorship.



Figure C.36, Picture of the Kennedy Town East waterfront

## 22. Kennedy Town West

Majority of the waterfront west of Kennedy Town was not developed nor accessible to the public. However, the Sai Wan Swimming Shed provided a very unique experience. On the sidewalk of the busy Victoria Road, the entrance is a small gap in the chain link fence with two small signs overhead, both written in Chinese characters. Cement stairs weave through the forest and down the hillside towards the harbour. At the end of the stairs lies a single, narrow dock as shown by figure C.37. Many people were waiting in line at the bottom of the staircase for their turn (figure C.38). While not technically a waterfront, this small dock was a great example of how important aesthetics is to attract visitors.

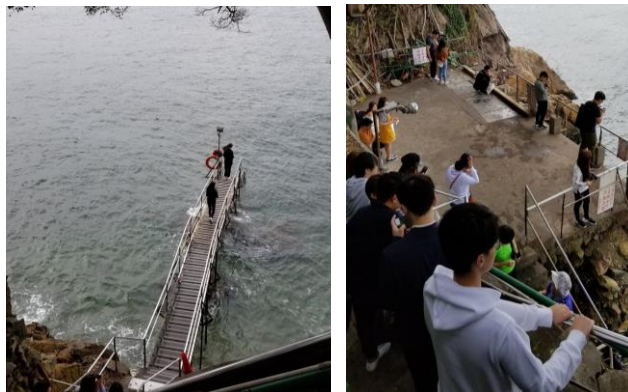


Figure C.37 & C.38, Pictures of the Kennedy Town West waterfront





## Appendix D: Survey questionnaire



### Waterfront Survey 海港建設調查問卷

Please Check (✓) Your Answers 請圈出您的選項

1. Which area do you come from? 請問您從哪裏來?  
 Sai Wan / Kennedy Town 西環 / 堅尼地城  
 Other Areas of Hong Kong 香港其他地區  
 Outside of Hong Kong (overseas / tourist) 香港以外地區 / 遊客
2. How often do you come to this waterfront? 您平時來這片海濱的次數是?  
 Rarely (Less than once per month) 很少 (小於壹月壹次)  
 Sometimes (Once per month) 有時候 (壹月壹次)  
 Often (Once a week or more) 經常 (大於壹周壹次)
3. What side of the waterfront are you going to (Check both if applicable)?  
您要去左邊還是右邊? (可雙選)  
 Left (Industrial Pier) 左 (工業碼頭)  Right (Promenade) 右 (走廊)
4. What draws you to this waterfront? 請問這個海濱吸引您的是?  
 Family Activities 家庭活動  Scenery 景觀  Open Space 空地  
 Workout 鍛煉  Photography 攝影  Fishing 釣魚  Other 其他 \_\_\_\_\_
5. Do you want railings on the left side of the waterfront? 請問您希望在左邊地區加護欄嗎?  
 Yes 是  No 否
6. If yes, why do you want railings?  
如果您希望裝護欄, 您的原因是?  
 Safety 安全問題  
 Other 其他 \_\_\_\_\_
7. If no, Why do you not want railings?  
如果您不希望裝護欄, 您的原因是?  
 Railings ruin views 護欄影響景色  
 It is unique 沒有欄桿很獨特  
 Other 其他 \_\_\_\_\_
8. Which design would you prefer? 請問您喜歡哪種護欄設計?  

			
<input type="checkbox"/> Rock Slope 石階	<input type="checkbox"/> Clear Railing 玻璃欄桿	<input type="checkbox"/> Stairs Slope 臺階	<input type="checkbox"/> No Railing 無欄桿
9. Please give suggestions to new amenities that you like to be added to the waterfront!  
您希望在這個海濱有什麼新的設施嗎? 請給出您的建議!

Thank you so much for your time and your valuable input! 非常感謝您的配合!



## Appendix E: Interview protocol

### Interview Protocol

Emily Han, Yifan Liu, Alex Osler, Daniel Yunakov

Interviewee: Harbour IQP Team 2018: Daniela Baez, Josie Bradshaw, Marco Interlandi, Connor McNamara

The goal of this project is to provide recommendations for the development of the Fung Mat Road waterfront and the Hung Hom Ferry Pier. We would like to learn more about your IQP experience and interactions with our sponsors.

Transition into interview:

- Could you tell us a little bit about your project? (e.g. purpose, objectives)
- Do you guys have any questions for us before we start?
- How close did you work with the sponsors and what were interactions like?
  - Did they have certain preferences as to how you communicated and did surveys?
  - Did you work with both sponsors equally?
  - Are there certain ways you would suggest to survey the population?
    - Different ways for certain ages, locals, tourists?
- Based on your experience last year on the waterfront, can you give us a preview of what Victoria Harbourfront is like?
- How were you treated by locals?
  - What were their reactions to surveys?
- Are there any other methodologies you could suggest for us?
- Were there any issues with not knowing language?

## **Appendix F: Interview response**

Emily Han, Yifan Liu, Alex Osler, Daniel Yunakov

Interviewee: Harbour IQP Team 2018: Daniela Baez, Josie Bradshaw, Marco Interlandi, Connor McNamara

The goal of this project is to provide recommendations for the development of the Fung Mat Road waterfront and the Hung Hom Ferry Pier. We would like to learn more about your IQP experience and interactions with our sponsors.

Transition into interview:

**a. Could you tell us a little bit about your project? (e.g. purpose, objectives)**

Trying to implement taxi system. Would people use it? Did research into if a water taxi was desired and how it would be supplied (Funded). Created multiple options for water taxis with different requirements and future development plans.

**b. Do you guys have any questions or advice for us before we start?**

Potentially rotate group members on the pier for surveying and spend more time than expected on pier. If we feel overwhelmed be honest.

**c. Are there certain ways you would suggest to survey the population?**

**i. What were their reactions to surveys?**

**ii. Are there any other methodologies you could suggest for us?**

**iii. Were there any issues with not knowing language?**

Surveys were done by locals through writing or by getting people to point at their answers. 5-10 survey questions with lots of visuals and quick(easy) questions. Ask what they want to do on waterfront to provide quantity. Balance easiness for tourists and information received. Try out different surveys, be open to changing questions. Around Chinese New Year, demographic is disrupted, don't do surveys and interviews during the time. Approach sponsors about setting up interview while in HK (Preferably after collecting all the data). On the first day, visit the harbours and begin looking at locations and do work (start fast). Must be very extroverted while surveying. Provide surveys in many relevant languages. Try speaking English and if they understand. Have observers count total ppl and compare to # of surveys. In the office once per week for a couple hours. Communicated through email very often. Surveys should be time stamped and the time of the day needs to provide information.

Prepare a list of popular public spaces to see what makes a location successful. Use list from their IQP (trim out a few). Many public parks have weird machines for working out (outdoor gym). Many parks are tailored for elderly. TST, central, Causeway Bay, Sai Kung, etc. Photography. Used focus group: people that were interested (stakeholder from different organizations) and presented their preferences and adjusted them to create a plan. If doing a focus group, do one meeting with people from different organizations, instead of approaching individuals. Create a general survey for people not on the waterfront (General. Asks people what they want to have on a waterfront). They didn't look at cost as much, but deferred it to boat operators. Economic view of amenities is not as important to the project. It may be dropped later on. They felt the same way about the project being disorganized. Leave economics out, if the sponsors bring it up, we can discuss it, but it should not be an important aspect of the project.

Be realistic about can be done. If something does not work, be open to changing the focus. Longer work days give you more free time on the weekends. Start off strong again. Be prepared before getting to HK. Reach out to advisors again, just to connect and get to know them better before we go. Helps to know them before getting to know them. Many projects have big pivots, try to understand the project before changing it.

## Appendix G: Waterfront checklist

### Waterfront Checklist:

This checklist will be expanded on at each waterfront we visit. The format follows highlights amenities on each waterfront and their conditions. “Popularity Rank of Amenity” refers to how popular each amenity in this specific waterfront is, relative to the other amenities on the waterfront.

Amenity:  
Condition:            Good                            Fair                            Poor  
Popularity Rank of Amenity:  
Other comments:

Amenity:  
Condition:            Good                            Fair                            Poor  
Popularity Rank of Amenity:  
Other comments:

Amenity:  
Condition:            Good                            Fair                            Poor  
Popularity Rank of Amenity:  
Other comments:

Amenity:  
Condition:            Good                            Fair                            Poor  
Popularity Rank of Amenity:  
Other comments:

Amenity:  
Condition:            Good                            Fair                            Poor  
Popularity Rank of Amenity:  
Other comments:

Amenity:  
Condition:            Good                            Fair                            Poor  
Popularity Rank of Amenity:  
Other comments:

## **Appendix H: Waterfront schedule**

This is the schedule of days that we visited certain waterfronts on Victoria Harbour. Based on the schedule, we completed surveys and visits in 2 weeks.

Tuesday, 8 January 2019: ½ day at Fung Mat Road Waterfront, ½ day at Hung Hom Waterfront

Wednesday, 9 January 2019: ½ day at West Kowloon Cultural District, ½ day at Tsing Yi

Friday, 11 January 2019: ½ day at TST, ½ day at Kwun Tong

Tuesday, 15 January 2019: Full-day at Fung Mat Road Waterfront

Friday, 18 January 2019: Full-day at Fung Mat Road Waterfront

Saturday, 19 January 2019: Full-day at Fung Mat Road Waterfront

Sunday, 20 January 2019: Full-day at Fung Mat Road Waterfront

Tuesday, 22 January 2019: Full-day at Hung Hom Waterfront




Wednesday, 23 January 2019: Full-day at Hung Hom Waterfront





## Appendix I: Survey suggestions

<b>Recommendation</b>	<b>Times Suggested</b>	<b>Percentage of Total</b>	<b>Percentage of Suggestions</b>
OVERALL	43	20.28%	100.00%
Food and Drink	12	5.66%	27.91%
Seating	5	2.36%	11.63%
Bathroom	2	0.94%	4.65%
Garbage Cans	2	0.94%	4.65%
Ladders	2	0.94%	4.65%
Play area for kids	2	0.94%	4.65%
Workout equipment	2	0.94%	4.65%
Bicycles	1	0.47%	2.33%
Connect to Central	1	0.47%	2.33%
Connect to Garden	1	0.47%	2.33%
Develop left	1	0.47%	2.33%
Dog walking	1	0.47%	2.33%
Extend the waterfront	1	0.47%	2.33%
Fishing equipment	1	0.47%	2.33%
Garden	1	0.47%	2.33%
Lights	1	0.47%	2.33%
No pollution	1	0.47%	2.33%
No smoking label	1	0.47%	2.33%
Continue old government plan	1	0.47%	2.33%
Parking	1	0.47%	2.33%
No Railings	1	0.47%	2.33%
Road signs	1	0.47%	2.33%
Shower Facilities	1	0.47%	2.33%



## Appendix J: The Fung Mat Road waterfront: evaluation of amenities on the right side

This chart displays each amenity present on the right side promenade of the Fung Mat Road waterfront. Each row contains a picture of an amenity, the condition of it (good, fair, poor), its popularity rank (1=barely used, 3=moderately used, 5=frequently used), and lastly, other comments about the amenity.

Amenity	Condition	Popularity Rank (1-5)	Other Comments
<p>Figure J.1, Workout equipment for the elderly</p> 	Good	4	<ul style="list-style-type: none"> <li>• 5/8 pieces of workout equipment on the waterfront are exercise bikes</li> </ul>
<p>Figure J.2, Children's playground</p> 	Good	5	<ul style="list-style-type: none"> <li>• Most popular amenity on the right side promenade</li> </ul>
<p>Figure J.3, Seating Areas</p> 	Good	4	<ul style="list-style-type: none"> <li>• Most benches were shaded</li> <li>• Popular places for people to eat and talk with friends</li> </ul>

<p>Figure J.4, Cafe</p> 	<p>Good</p>	<p>3</p>	<ul style="list-style-type: none"> <li>● Hours: 3:30 pm - 8:30 pm</li> <li>● Only sells non-alcoholic beverages</li> <li>● Does not sell food</li> </ul>
<p>Figure J.5, Bathroom</p> 	<p>Good</p>	<p>5</p>	
<p>Figure J.6, Water Fountain</p> 	<p>Good</p>	<p>1</p>	
<p>Figure J.7, Pier 2</p> 	<p>Good</p>	<p>2</p>	<ul style="list-style-type: none"> <li>● Large open space</li> <li>● Opportunity for development or events on this pier</li> <li>● Not used frequently <ul style="list-style-type: none"> <li>○ Mostly fishers</li> </ul> </li> <li>● Minimal seats</li> <li>● No shade</li> </ul>



<p>Figure J.8, Pier 3</p> 	<p>Fair</p>	<p>1</p>	<ul style="list-style-type: none"> <li>● Large field of grass is meant for a picnic area, but is very rarely used</li> <li>● Decommissioned crane sits at the end of it</li> </ul>
<p>Figure J.9, Pier 4</p> 	<p>Good</p>	<p>1</p>	<ul style="list-style-type: none"> <li>● Skinnier than the other piers</li> <li>● Rarely used</li> <li>● Little seating and shade</li> </ul>