

WPI Research Project - February 2010

Designing a “Living” Victoria Harbour: A Marine User’s Perspective

Introduction

The following is a progress update of the research of marine use and land/water interfaces in Victoria Harbour.

The project team comprises eight students and two advisors from Worcester Polytechnic Institute in Massachusetts, USA. We are working with our sponsors, Designing Hong Kong Limited and the Harbour Business Forum, supported by the Harbour Unit of the Development Bureau and the Harbourfront Enhancement Committee, to complete this study by March 5th.

The research objectives

1. The goals of this study were to develop a set of recommendations for a ‘living harbour’ which enables the development of marine uses and users. The objectives employed to reach this goal were (1) to locate and describe the existing marine infrastructure present in the harbour and (2) to forecast the change in marine activities and infrastructure requirements over the next 5, 10, and 15 years.

Audit existing marine infrastructure

2. Victoria Harbour was divided into twenty-two action areas adopted by the Harbourfront Enhancement Committee to categorize the data collected.
3. The first step was to locate and describe the existing marine infrastructure present in the harbour. In order to determine the current situation of Victoria Harbour, the project team audited each site along the harbour front. Utilizing a standardized rubric the team recorded the marine activities, facilities, and events associated with each harbourfront action area. To support and explain the findings, the team photographed every land/water interface found.
4. A brief summary of the data collected during this phase of the project can be found in **Annex 1**. These maps depict each land/water interface, categorized by type of interface. For each interface, the figures present the area in which it is located and the type of interface.
5. Upon completion, an on-line database will be made readily available using Google Earth maps and software on the Harbour Business Forum’s website.

The forecast of marine activities and land/water interfaces required

6. The second phase of this project involves forecasting the changing marine activities and infrastructure requirements over the next 5, 10, and 15 years. This involves desk research and interviews with key individuals and organizations. In order to properly forecast the changing face of Victoria Harbour, data is gathered regarding past trends, predictions by experts, and approved future plans for the waterfront.
7. To validate findings, a Stakeholders' Conference was organized involving approximately 25 marine-related stakeholders. Opinions on the future users of the harbour and the necessary facilities were gathered. The stakeholders commented on four different topics, including: predictions for future marine users, future marine facilities, obstacles in the way of waterfront development, and potential solutions for the problems in Victoria Harbour.
8. The stakeholders which have participated to-date are listed in **Annex 2**. Major statistics collected are highlighted in **Annex 3**.

Ongoing plans for the development of the harbourfront

9. The team has reviewed the available information on the development plans for the harbourfront, and the plans for any changes to the marine users and uses which have been incorporated. We are determining the effect of each plan on the marine user groups, as well as assessing the ability of each plan to meet the projected needs of future users.

Safeguarding a 'living harbour full of life'

10. Victoria Harbour, one of the world's most beautiful natural harbours, was instrumental in Hong Kong's growth from a small fishing village to an international trading center. As a central point of maritime trading activities in the region, Hong Kong serves vessels from all parts of the world. Additionally, Victoria Harbour's spectacular views and natural beauty draw visitors from around the globe to witness the impressive skyline along the harbour.
11. Vast land reclamations have reduced the size of the harbour, causing great concern amongst the citizens of Hong Kong. The Protection of the Harbour Ordinance ensured that Victoria Harbour's waterfront would remain the same for 999 years, barring the demonstration of a "public overriding need" for further reclamation. The question in recent years, however, has become: "What demonstrates a public overriding need?"

12. The Protection of the Harbour Ordinance dramatically increased the importance of comprehensive waterfront planning. The increasing demand for waterfront land, coupled with the vast array of competing uses for the remaining space, limits the provision of adequate land/water interfaces and marine supporting land uses.
13. Our findings show that marine users – a major stakeholder in Victoria Harbour – are neglected in the planning and use of the waterfront. With the changing nature of land and associated marine uses, primarily the reduction of cargo handling in Hong Kong as this trails the move of manufacturing capacity westward up the Pearl River Delta, there is a need to carefully consider new and alternative marine supporting and water dependent land uses immediately adjacent to Victoria Harbour.
14. Although the size of Victoria Harbour may now be safeguarded, without marine users the value and attractiveness of the harbour as an economic asset will diminish rapidly.

Conclusions

Ahead of our final report, the team has made the following major conclusions:

15. Victoria Harbour lacks a balance of diverse marine activities; and no over-arching plan for the future development of marine uses in the harbour;
16. Little priority is given to marine supporting and water dependent uses of the harbourfront, especially the harbourfront of sheltered waters;
17. Sheltered water is an extremely vital asset in Victoria Harbour and is not currently recognized as such;
18. The quality and accessibility of existing land/water interfaces including landing steps, piers, pontoons and other supporting facilities is inadequate for both current and future users;
19. Future plans do not give sufficient consideration to combining marine uses and recreation in the development of waterfront areas.

Recommendations

20. Increase in the amount of sheltered water available in Victoria Harbour to meet the demand for both shelter during typhoons and year-round mooring facilities.
21. Move the breakwaters in the Causeway Bay and To Kwa Wan typhoon shelters to increase the amount of sheltered water available in Victoria Harbour for both moorings as well as shelter during typhoons.
22. Prioritize land around sheltered water for marine users. Sheltered water is crucial for the safe mooring of smaller vessels and the waterfront should be designed to be able to cater to and support marine users accordingly.
23. Recognize the industrial marine uses in Yau Ma Tei, Tai Kok Tsui and Stonecutters, and provide adequate land, access and modern permanent facilities. The conglomeration of marine services, from cargo handling to repairs, guarantees the industry can operate efficiently and cost-effectively, and support Hong Kong as a maritime and shipping hub.
24. Use the sheltered water in Yau Tong Bay for public marinas to promote community leisure uses of the harbour.
25. Utilize the To Kwa Wan typhoon shelter to provide moorings for the tourism-supporting marine users, including harbour tours and water taxis.
26. Use the Central-Wanchai Bypass and Sha Tin Central Link construction to improve and expand the Causeway Bay typhoon shelter and adjacent ex-PCWA. Improvements include: enlarge the shelter, improve the mooring system with pontoons, ensure cleaner water, increase the water depth, and ensure access and amenities for community, leisure and watersport uses.
27. Use the Kai Tak Approach Channel and Typhoon Shelter for community, leisure and water sports.
28. With the development of the West Kowloon Cultural District, Kai Tak, and all other waterfronts, there will be an increase in demand for harbour-based tourism, leisure, and transport. In response to these growing numbers, new piers and landing steps should be created in development areas in order to ensure access to the waterfront.

29. Improve the design of piers and landing steps throughout the harbour in the following five categories:

- a. **Land access** – roads, walkways, or other forms of land-based transportation allow water-based transportation to become a viable option for travelers.
- b. **Signage** – Landing steps and public piers that are used frequently for passenger transport, harbour tour pick-up, or other frequent services should be given signs to identify their location and intended purpose.
- c. **Ticketing/information** – Space and facilities must be provided at piers to display information on sailing schedules, ticketing, cost and contact information of marine services providers
- d. **Lighting** – Many of the landing steps in Victoria Harbour lack any kind of lighting, making it nearly impossible for transportation or commercial services to make use of these areas after sun set.
- e. **Shelter** –Covered waiting areas would provide an area for passengers to wait, protected from the weather. These areas are significantly lacking in the harbour.
- f. **Safety** –These areas can become quite dangerous as passengers are forced to step off of rocking vessels. Safety should be a strong consideration in the development of landing steps. Additionally, this team has found that the situation in Lei Yue Mun is extremely dangerous – all of the life buoys are made of metal. Real life buoys should be provided.

30. Consider a more liberal policy permitting mooring and berthing of larger vessels along the shoreline adjacent to promenades and pleasure grounds.

Further research is required

31. Given the broad scope and limited time, our findings must be considered preliminary. Given the wide ranging implications of our findings on waterfront land use planning, reclamation, the design and management of land/water interfaces, we urge all stakeholders to undertake further research in the value of Victoria Harbour as a marine resource, and to develop and validate our findings.

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