

避風塘面積需求評估 Assessment of Typhoon Shelter Space Requirements

本地船隻諮詢委員會
LVAC Meeting
(14.6.2017)

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本地船隻涵蓋範圍 Coverage of Local Vessels

本地持牌船隻

- 第IV類別船隻 → 分開評估
- 第I、第II 和第III類別船隻

內地訪港船隻(內地註冊的內河船隻及沿岸船隻)

Locally licensed vessels

- Class IV vessels → Separately assessed
- Class I, II and III vessels

Mainland visiting vessels (River trade vessels & coastal vessels registered in the Mainland)

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本地船隻涵蓋範圍 Coverage of Local Vessels

- 避風泊位面積是為**所有有需要的**本地船隻提供
- **包括**運作牌照有效期已屆滿不超過12個月，並經常佔用本港避風泊位面積的本地船隻
(不包括經常在本港以外、乾泊位、魚類養殖區或船廠等的船隻)
- Provision of sheltered space for **all** local vessels **in need**
- **Including** locally licensed vessels with Operating Licences expired within 12 months, and usually taking up sheltered space in HK waters
(Vessels usually staying outside Hong Kong, in dry berths, inside fish culture zones and shipyards, etc. are not included)

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推算方法 Projection Methodology

面積需求：

- 第 I 至 III 類別及內地訪港船隻
 $\text{船長} \times \text{船寬} \times 2 \times (4/3)$

航道和隔火通道

- 第IV類別船隻
遊艇會最高容量時的
平均船隻面積

分隔船隻、錨鏈和船尾繫泊範圍、護舷設備等所需的面積

Space requirement:

- Classes I-III and Mainland visiting vessels
 $\text{Vessel length} \times \text{Vessel breadth} \times 2 \times (4/3)$
- Class IV vessels
Average vessel space in marinas at full capacity

Passage area & fire-lane

Area allowed for vessel separation, fender, and scope for anchor chain and stern mooring etc.

推算方法 Projection Methodology

類別 Class	分類 Group
I	
II	非自航駁船 Dumb lighters
	其他 Others
III	漁船舢舨和運魚船 Fishing sampans & fish carriers
	漁船 Fishing vessels
	舷外機開敞式舢舨 Outboard open sampans
	機械輔助帆船 Auxiliary powered yachts
IV	遊樂船 Cruiser
	開敞式遊樂船 Open cruisers
內地訪港船隻 Mainland visiting vessels	

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推算模型 Projection Model

船隻分類 Vessel group	說明 Description	模型 Model
1	第I類別船隻 Class I vessels	迴歸模型 ：運用本地生產總值變動百分率 Regression model: Using GDP growth rate
2	第II類別船隻，運載危險貨物 船隻和非自航駁船除外 Class II vessels except dangerous goods carriers & dumb lighters	時間序列模型 ：「自迴歸—求和—移動平均」方法 Time series model: Autoregressive integrated moving average (ARIMA) model
3	非自航駁船（類型E） Dumb lighters (Sub-Class E)	平均增長率 Average growth rate method
4	漁船舢舨和運魚船（類型A及B） Fishing sampans & fish carriers (Sub-Classes A and B)	平均增長率 Average growth rate method
5	漁船（類型C） Fishing vessels (Sub-Class C)	時間序列模型 ：「自迴歸—求和—移動平均」方法 Autoregressive integrated moving average (ARIMA) model
6	舷外機開敞式舢舨（類型D） Outboard open sampans (Sub- Class D)	時間序列模型 ：「自迴歸—求和—移動平均」方法 Autoregressive integrated moving average (ARIMA) model

推算模型 Projection Model

船隻分類 Vessel group	說明 Description	模型 Model
7	機械輔助帆船 (類型A) Auxiliary powered yachts (Sub-Class A)	時間序列模型：「自迴歸—求和—移動平均」方法 Autoregressive integrated moving average (ARIMA) model
8	遊樂船 (類型B) Cruiser (Sub-Class B)	時間序列模型：「自迴歸—求和—移動平均」方法 Autoregressive integrated moving average (ARIMA) model
9	開敞式遊樂船 (類型C) Open cruisers (Sub-Class C)	時間序列模型：「自迴歸—求和—移動平均」方法 Autoregressive integrated moving average (ARIMA) model
10	內地訪港船隻 Mainland visiting vessels	三年移動平均數 3-year simple moving average

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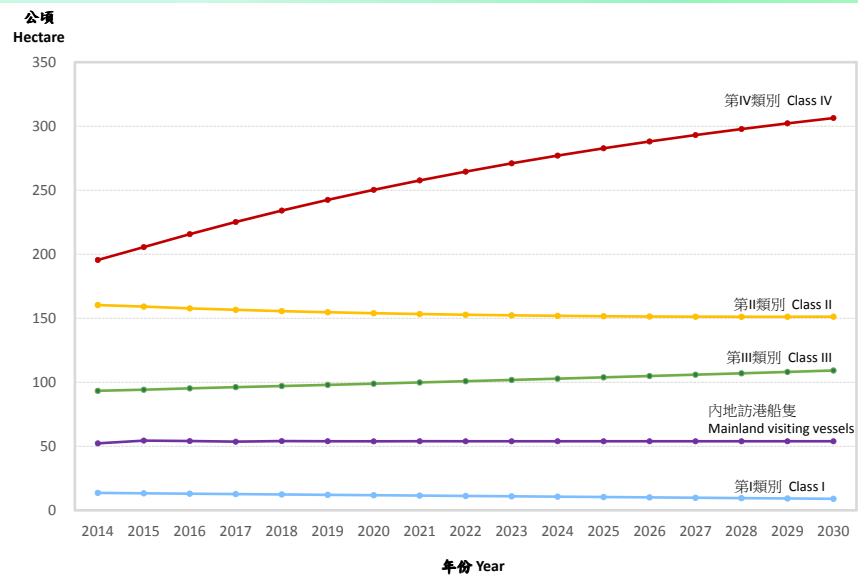
船隻數目平均按年變動率 Average Annual Rate of Change of Number of Vessels

	本地持牌船隻 Locally licensed vessels				內地訪港 船隻 Mainland visiting vessels	總計 Total
	第I類別 Class I	第II類別 Class II	第III類別 Class III	第IV類別 Class IV		
實際 Actual						
1995 – 2007	[-3.4%]	[-3.3%]	[-1.5%]	+1.7%	+1.9%	-0.6%
2007* – 2014	-1.0%	-0.9%	+2.7%	+6.6%	-3.8%	+3.8%
預測 Projection						
2014 – 2030	-2.7%	-0.8%	+0.7%	+2.9%	+0.2%	+1.7%

註：《商船（本地船隻）條例》在2007年生效。方括號內數字是根據後向估計數列。
Note: *Merchant Shipping (Local Vessels) Ordinance* was enacted in 2007. Figures in square brackets are based on the backcast series.

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不同類別船隻避風泊位面積的需求 Demands from Different Classes for Sheltered Space



不同類別船隻避風泊位面積的需求 Demands from Different Classes for Sheltered Space

	公頃 Hectares				
	實際 Actual	預測 Projection			平均每年變動 Average annual change
	2014	2020	2025	2030	2014-30
第I至第III類別及內地訪港船隻 Classes I to III & Mainland visiting vessels	319.5	318.4	319.4	323.3	+0.2
第I類別 Class I	13.6	11.8	10.3	9.0	-0.3
第II類別 Class II	160.3	153.9	151.6	151.2	-0.6
第III類別 Class III	93.3	98.9	103.8	109.2	+1.0
內地訪港船隻 Mainland visiting vessel	52.3	53.8	53.9	53.9	+0.1
第IV類別 Class IV	195.5	250.3	282.7	306.4	+6.9 ↑

避風泊位面積供應量 - 第I至III類別及內地訪港船隻
Supply of Sheltered Space -
Classes I to III & Mainland Visiting Vessels

公頃 Hectares

	實際	預測		
	Actual	Projection		
	2014	2020	2025	2030
第I至III類別及內地訪港船隻 Classes I to III & Mainland visiting vessels	402.4	405.4	405.5	405.5
避風塘 ⁽¹⁾⁽²⁾ Typhoon shelters	381.3	382.3	382.4	382.4
避風碇泊處 ⁽¹⁾ Sheltered anchorages	21.1	23.1	23.1	23.1

- (1) 因中環灣仔繞道和東區走廊連接路工程計劃而有所變動
 Changes due to Central-Wanchai Bypass & Island Eastern Corridor Link Project
- (2) 因沙田至中環線計劃而有所變動 Changes due to Shatin - Central Link Project

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避風泊位面積供求的對比 - 第I至III類及內地訪港船隻
Matching of Demand and Supply of Sheltered Space -
Classes I to III and Mainland Visiting Vessels

公頃 Hectares

	實際	預測		
	Actual	Projection		
	2014	2020	2025	2030
供應 Supply	402.4	405.4	405.5	405.5
需求 Demand	319.5	318.4	319.6	323.3
差異 Variance	+82.9	+87.0	+85.9	+82.2

避風泊位面積有剩餘供應
 Surplus of sheltered space

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避風泊位面積供應量 - 第IV類別船隻 Supply of Sheltered Space - Class IV vessels

公頃 Hectares

	實際 Actual	預測 Projection		
	2014	2020	2025	2030
第IV類別船隻 Class IV vessels	186.9	224.1	227.6	230.9
避風塘 ⁽¹⁾ Typhoon shelters	33.5	35.7	36.0	36.0
避風碇泊處 ⁽²⁾⁽³⁾ Sheltered anchorages	122.7	157.7	160.9	160.9
遊艇會 ⁽⁴⁾ Marinas	30.7	30.7	30.7	34.0

- (1) 因中環灣仔繞道和東區走廊連接路工程計劃，以及沙田至中環線計劃而有所變動
Changes due to Central-Wanchai Bypass & Island Eastern Corridor Link Project, and Shatin-Central Link Project
- (2) 因搬遷西貢污水處理廠可行性研究而有所變動
Changes due to feasibility study of Relocation of Sai Kung Sewage Treatment Works
- (3) 加入船灣海、長沙欄及稔樹灣避風碇泊處
Inclusion of sheltered anchorages in Shuen Wan Hoi, Cheung Sha Lan and Nim Shue Wan
- (4) 加入擬議中的東涌遊艇會 Inclusion of a proposed marina in Tung Chung

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避風泊位面積供求的對比 - 第IV類別船隻 Matching of Demand and Supply of Sheltered Space - Class IV vessels

公頃 Hectares

	實際 Actual	預測 Projection		
	2014	2020	2025	2030
供應 Supply	186.9	224.1	227.6	230.9
需求 Demand	195.5	250.3	282.7	306.4
差異 Variance	-8.6	-26.2	-55.1	-75.5

避風泊位面積供不應求
Shortfall in sheltered space

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避風泊位面積供求總對比 Overall Balance of Demand and Supply of Sheltered Space

差異 Variance	實際 Actual	預測 Projection		
	2014	2020	2025	2030
第I至III類及內地訪港船隻 Classes I to III & Mainland visiting vessels	+82.9	+87.0	+85.9	+82.2
第IV類別船隻 Class IV vessels	-8.6	-26.2	-55.1	-75.5
本地船隻 (總計) Local vessels (Total)	+74.4	+60.8	+30.7	+6.7

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避風泊位面積評估結果 Result of Assessment of Sheltered Space

- 避風塘和避風碇泊處都按**先到先得**形式開放給所有類別的本地船隻使用
- 避風泊位面積預計供應**足以應付**至2030年本地船隻的全港性預計需求
- Typhoon shelters and sheltered anchorages are open to all classes of local vessels on a **first-come-first-served** basis
- Projected supply of sheltered space can **adequately meet** the demand from local vessels on a territory-wide basis up to 2030

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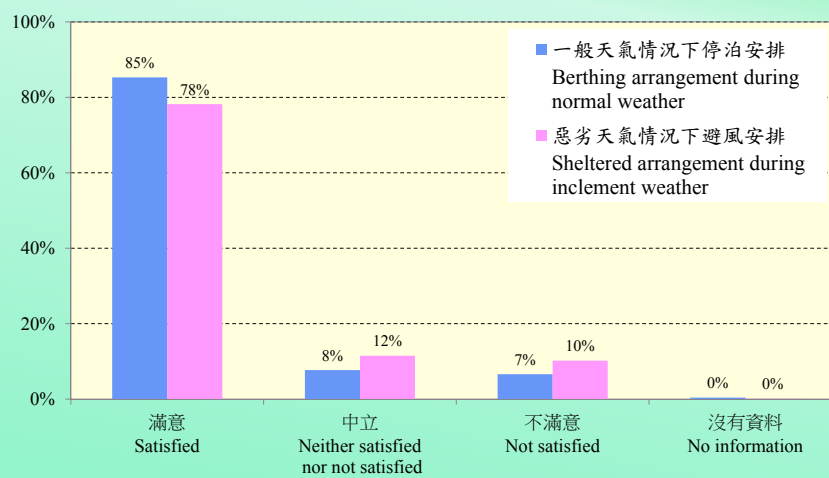
檢討結果

Findings of the Review

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對停泊安排和避風安排的滿意程度

Level of Satisfaction with Berthing and Sheltered Arrangement



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選擇停泊位置時主要考慮因素

Major factors affecting choice of berthing location

- 容易安全地停泊
- 泊位數量足夠
- 陸路交通接駁方便
- 有足夠支援設施，如廢物處理、油站和供水設備
- Ease of mooring vessel safely
- Availability of berthing space
- Accessibility to land transport
- Availability of support facilities such as waste disposal, fuel and water supply

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改善停泊和避風安排的主要建議

Major Suggestions for Improving Berthing and Sheltered Arrangements

- 確保停泊地點有足夠的支援設施，如廢物處理、油站和供水設備
- 避風塘應根據不同船隻類別而劃分指定的區域
- 改善接駁至較偏遠的停泊地點的交通配套
- Ensure berthing locations to have adequate support facilities such as waste disposal, fuel & water supply
- Set up designated zones in typhoon shelters for different classes of vessels
- Improve road access to remote berthing locations

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其他檢討結果 Other Findings of the Review

- 在正常天氣情況下，預料**停泊位是足夠的**，因本地船隻可以停泊於任何適當的水域（禁止及限制區域除外）
- 地區性評估方面，避風泊位面積需求大於供應有港島南、港島西和大嶼山北。
- 預料第IV類別船隻會對避風泊位面積有龐大需求，爭用避風塘泊位面積的情況**勢將加劇**。
- **Sufficient berthing space** during normal weather as local vessels can moor in suitable waters (excepted prohibited or restricted areas)
- Regional demand of sheltered space would exceed supply in HK Island South, HK Island West & Lantau Island North
- **Increasing competition** for typhoon shelter space, particularly due to anticipated large demand from Class IV vessels..

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白沙灣避風碇泊處 Pak Sha Wan (Hebe Haven) Sheltered Anchorage

- 採用單點繫泊方法導致靠泊量偏低
- Low berthing capacity due to single mooring method



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避風塘使用率 Occupancy Rates of Typhoon Shelters

避風塘 Typhoon Shelter	最高使用率 Max. Occupancy Rate		
	2014	2015	2016
屯門 Tuen Mun	100%	100%	100%
藍巴勒海峽 Rambler Channel	100%	100%	100%
新油麻地 New Yau Ma Tei	91%	90%	100%
土瓜灣 To Kwa Wan	55%	70%	100%
筲箕灣 Shau Kei Wan	62%	62%	90%
香港仔西 Aberdeen West	94%	82%	79%
香港仔南 Aberdeen South	78%	76%	75%
觀塘 Kwun Tong	48%	25%	70%
三家村 Sam Ka Tsuen	45%	50%	65%
銅鑼灣 Causeway Bay	45%	60%	52%
船灣 Shuen Wan	50%	51%	51%
長洲 Cheung Chau	36%	65%	45%
喜靈洲 Hei Ling Chau	4%	4%	11%
鹽田仔 Yim Tin Tsai	23%	13%	6%

使用情況
偏低
Low
utilisation

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建議措施 Recommended Measures

- 改善避風塘的使用情況
- 增加靠泊量
- 觀塘避風塘指定繫泊區
- 擴展私人繫泊區
- Enhancing the utilisation of typhoon shelters
- Increasing berthing capacity
- Designation of mooring area within Kwun Tong Typhoon Shelter
- Expansion of private mooring areas

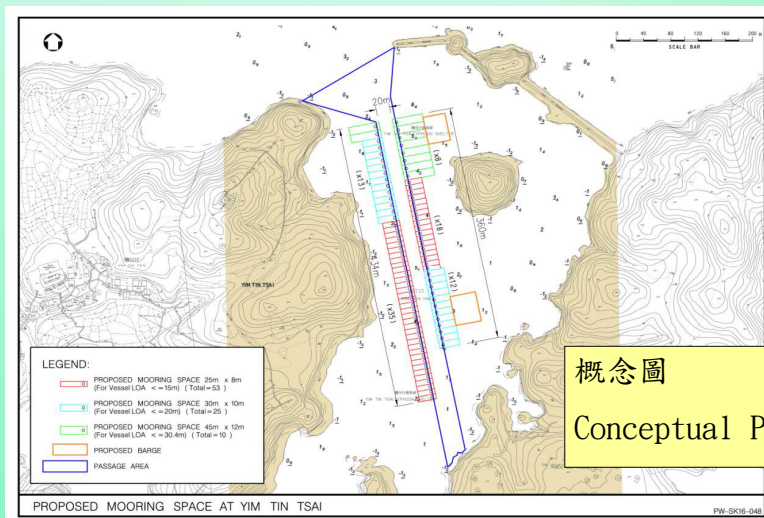
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改善避風塘的使用情況 Enhancing the utilisation of typhoon shelters



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改善避風塘的使用情況 Enhancing the utilisation of typhoon shelters

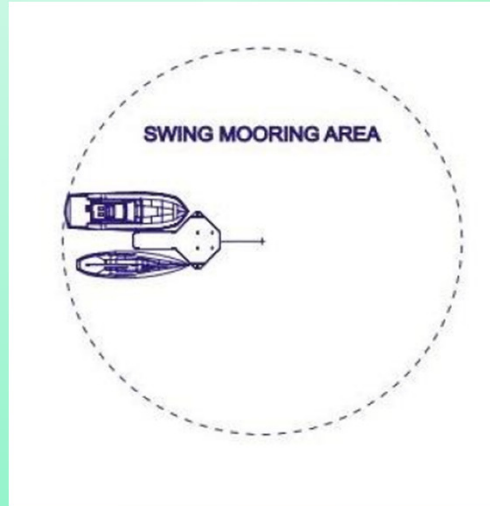


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增加靠泊量
Increasing berthing capacity

採用雙泊位浮躉
繫泊設備

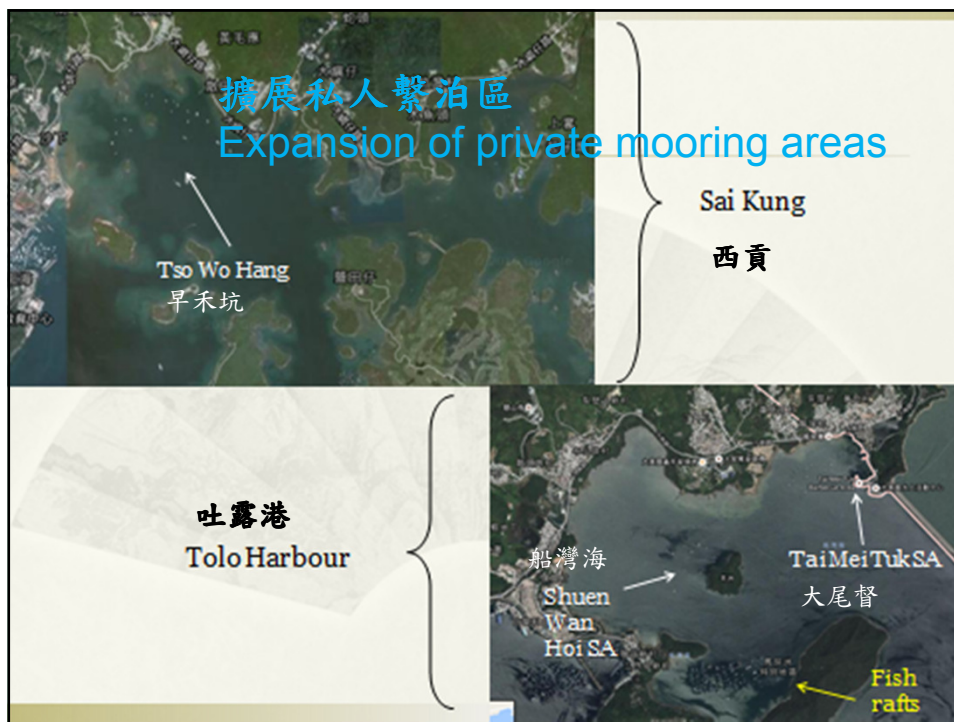
Adopt double-berth
pontoon moorings



在避風塘內指定繫泊區
Designation of mooring area within typhoon shelter

概念圖
Conceptual Plan





未來路向 Way Forward

- 向港口行動事務委員會簡介
- 就建議措施諮詢持份者
- 制訂實施計劃
- Brief Port Operations Committee
- Consult Stakeholders on Recommended Measures
- Formulate Implementation Plan

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多謝委員聆聽
Thanks for Members' Attention

歡迎委員提出意見
Members' views are welcome

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