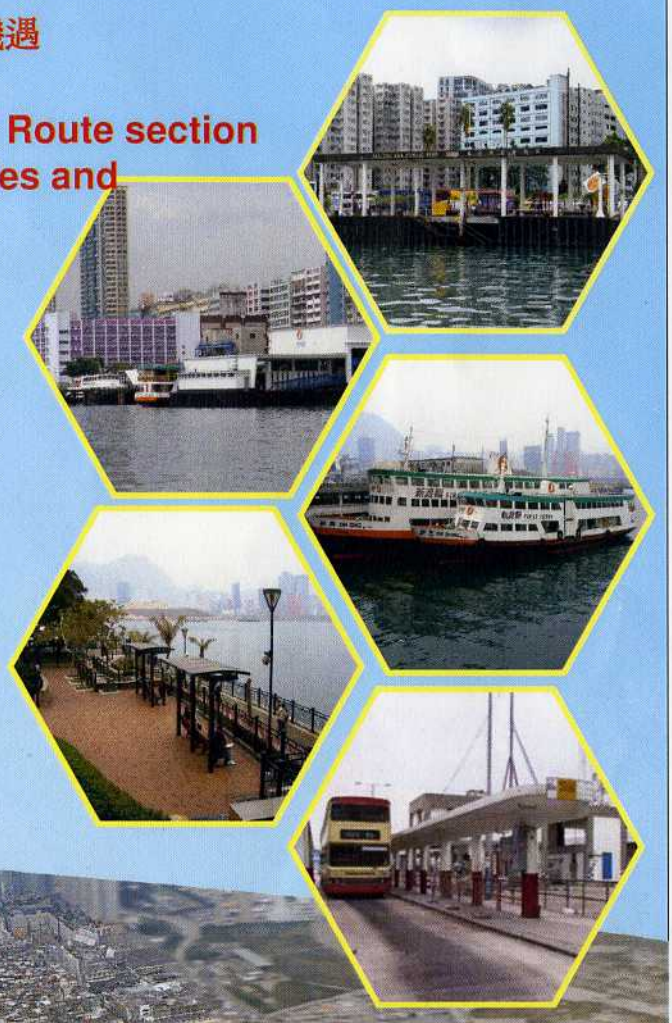
中九龍幹線 公 眾 論 壇

Central Kowloon Route Public Forum

專題討論-
中九龍幹線九龍灣段的工程、設施重置及優化機遇

Specific Issues –
The construction of the Central Kowloon Route section at Kowloon Bay, reprovisioning of facilities and enhancement opportunities



目的:	討論中九龍幹線九龍灣段的工程、設施重置及優化機遇
Objective:	To discuss the construction of the Central Kowloon Route section at Kowloon Bay, reprovisioning of facilities and enhancement opportunities
日期 Date:	2009年2月7日 (星期六) 7 February 2009 （Saturday)
時間 Time:	下午2時半至5時半 2:30pm to 5:30 pm
地點 Venue:	聖匠小學(土瓜灣貴州街十四號) Holy Carpenter Primary School (14 Kwei Chow Street, To Kwa Wan)

MMHJV

THE KADOORIE INSTITUTE 嘉道理研究所

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Please register in advance to facilitate arrangement. For enquiries or registration, please call 2859 0101 or e-mail to ckr@meinhardt.com.hk

公眾論壇 專題討論-
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Public Forum Specific Issues -
The construction of the Central Kowloon Route section at Kowloon Bay, reprovisioning of facilities and enhancement opportunities

(2009.02.07)

程序
Programme

大會主持：何小芳女士
Main Facilitator: Ms. Betty S.F. HO

時間 Time	程序 Programme	演講者 Speakers
14:00 – 14:30	登記 及 參觀相片展覽 Registration & Photograph-display	
14:30 – 14:55	簡介 Introduction	何小芳女士 Ms. Betty HO
	嘉賓致詞 Speech by Guest	李蓮議員 九龍城區議會交通及運輸事務委員會主席 Ms Li Lin Traffic and Transport Committee Chairman, Kowloon City DC
	工作進度匯報 Reporting on Progress	何小芳女士 Ms. Betty HO
	工程背景 Project Background	蔡榮興高級工程師 路政署 Ir. W. H CHOI, Brian Senior Engineer, HyD
14:55 – 15:10	答問環節 Q&A	
15:10 – 16:50	小組討論及實地考察 Group Discussion and Walking Tour ▪ 可持續發展原則及地區關注 Sustainability Development Principles & Local Concerns ▪ 馬頭角實地考察 Ma Tau Kok Walking Tour ▪ 馬頭角海濱願景 Vision on Ma Tau Kok Harbourfront	
17:00 – 17:20	小組匯報 Group Reporting	
17:20 – 17:30	總結及前瞻 Way Forward	何小芳女士 Ms. Betty S.F. HO
	致謝 Acknowledgements	周進華總工程師 Ir. C.W. CHOW Chief Engineer, HyD

中九龍幹線-公眾論壇
Central Kowloon Route-Public Forum

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中九龍幹線 Central Kowloon Route

工程背景

擬建的中九龍幹線是一條三線雙程分隔主幹道，道路橫跨九龍中部，連接西九龍與九龍灣道路網及擬建啓德發展區。

十多年前已預計有需要建造一條連接東西九龍的主要幹道，方便直接貫通東西九龍，同時紓緩中九龍的地面交通擠塞。隨着近年交通增長和西九龍、九龍灣及將軍澳的發展，九龍區更應有一條連貫東西的公路。未來的交通需求，相信亦會因應啓德和西九龍文娛中心等發展繼續增加。

中九龍幹線將會是一條快速公路，除了應付交通物流需求，亦大大拉近不同社區的距離，加强各區連繫。市民可更快或更方便到其他地區上班上學、探望親友、娛樂消費或享用文康設施。

幹線大部份將會用隧道形式興建，減低對地面環境影響。有市民關注工程計劃對社區或環保方面的影響，我們會在勘測研究中處理各方面的環境影響。

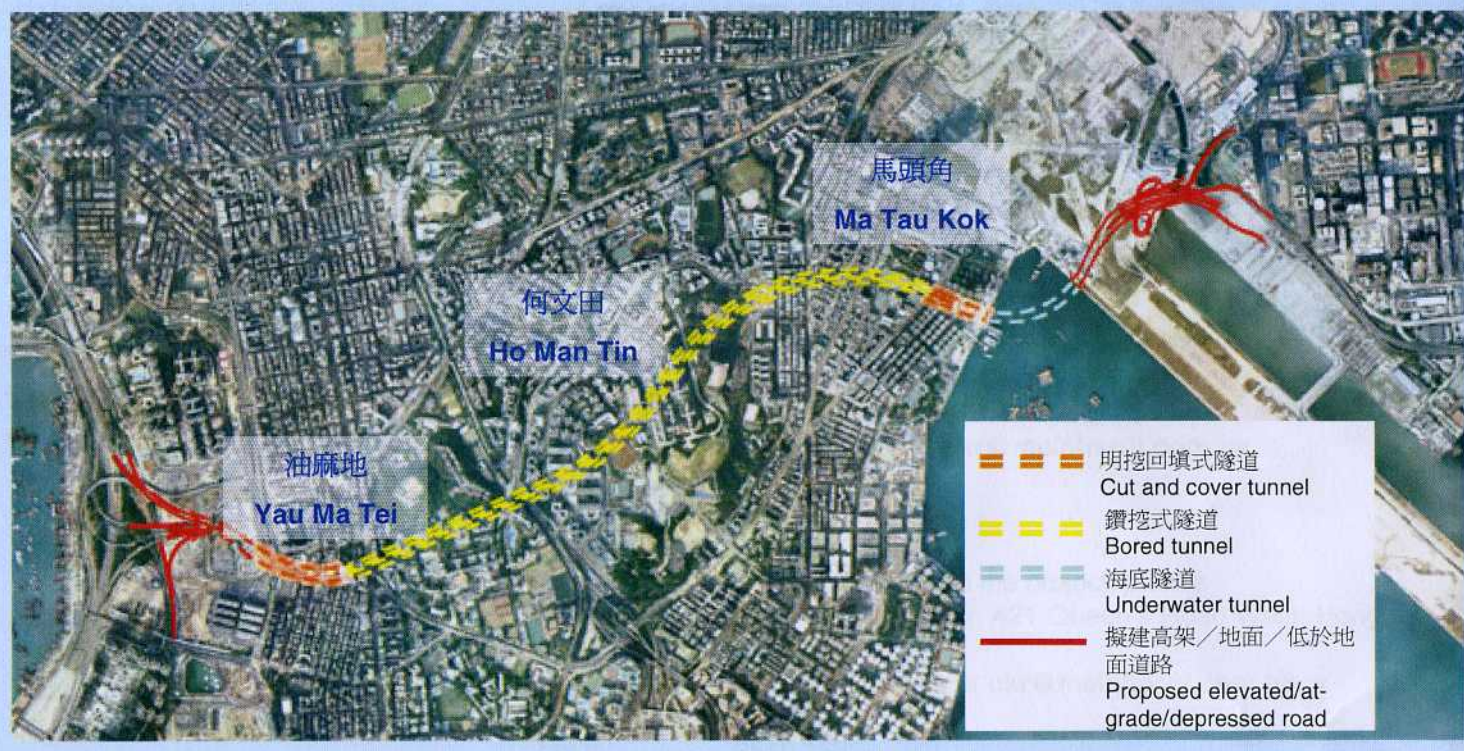
Project Background

The proposed Central Kowloon Route is a dual 3-lane trunk road crossing the central Kowloon. It connects the West Kowloon with the road network at Kowloon Bay and the proposed Kai Tak Development Area.

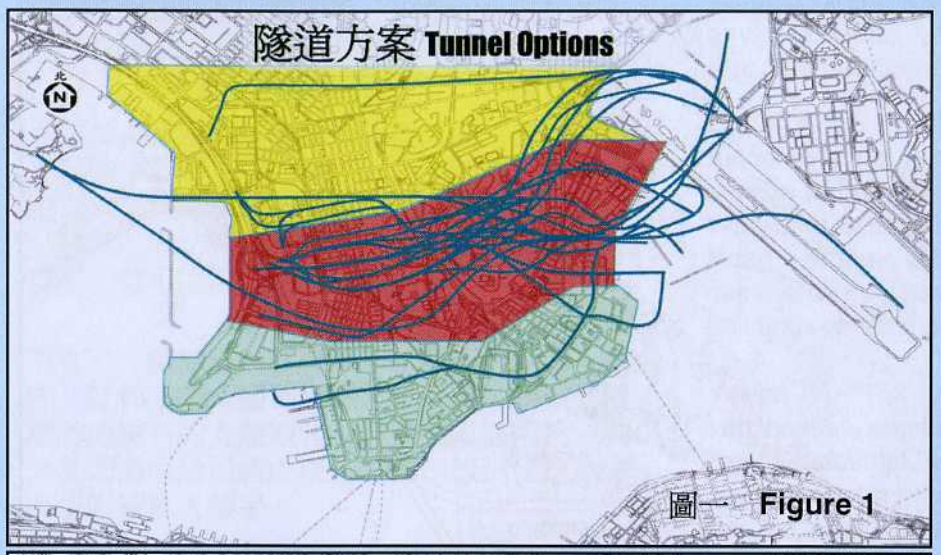
The need to construct a direct traffic route linking east and west Kowloon was identified over 10 years ago to cater for the cross-Kowloon traffic demand and to relieve the congestion on the existing routes in central Kowloon. In the intervening years, traffic volume has grown and cross-Kowloon traffic demand increased as a result of development in West Kowloon, Kowloon Bay and Tseung Kwan O. The need for a direct route across Kowloon has intensified. The proposed Kai Tak Development and the West Kowloon Cultural District will no doubt further increase the demand for such a link.

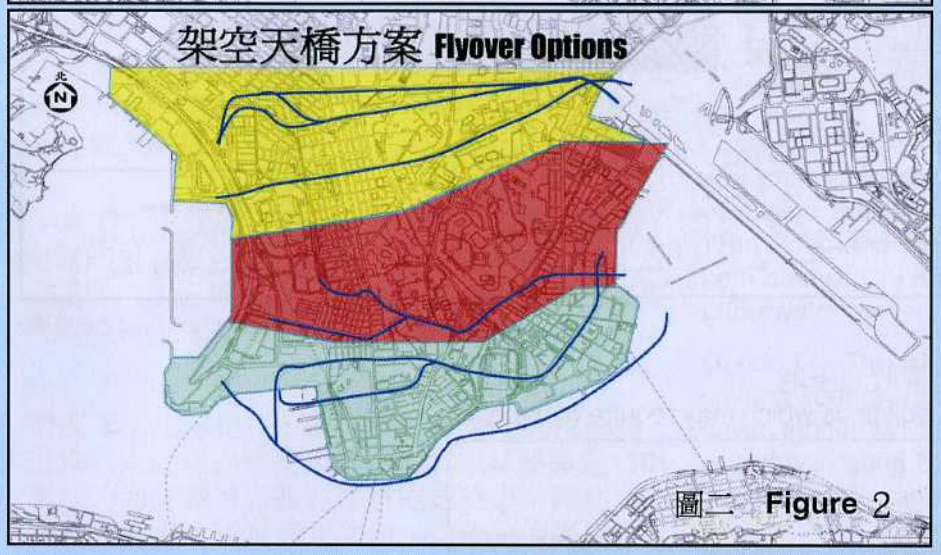
The Central Kowloon Route will be a high-speed road. Apart from meeting traffic and logistical needs, this network will help to bring together and strengthen the linkage among various communities in different districts. It will take shorter travel time and be more convenient in traveling to other districts to work or to school, to visit relatives and friends, for entertainment or to take part in leisure or cultural activities.

The Central Kowloon Route will be mainly constructed as a tunnel to reduce ground level impact. Nevertheless, there are concerns about the community or environmental impacts of the project. We will address various environmental impacts in the Investigation Study.



走線研究 Alignment Study





工程顧問已考慮超過40條先前走線方案，其中包括隧道及天橋方案。是次研究覆蓋九龍半島大部份地區，包括北至界限街的隧道及天橋方案，及南至尖沙咀的跨海天橋方案。圖一示隧道方案；圖二示架空天橋方案。

綜合走線設計、交通、環境及土地影響等各方面因素，研究發現貫穿九龍半島中部的隧道方案獲得最高評分，並提議採用位於九龍半島中部地區的隧道方案(紅色部份)。

及後考慮到環境、社會及土地用途的影響、交通連通性和工程可行性，制定14個可行方案作更詳細的考慮。最後得出首選走線方案，並得到立法會及相關的區議會支持。

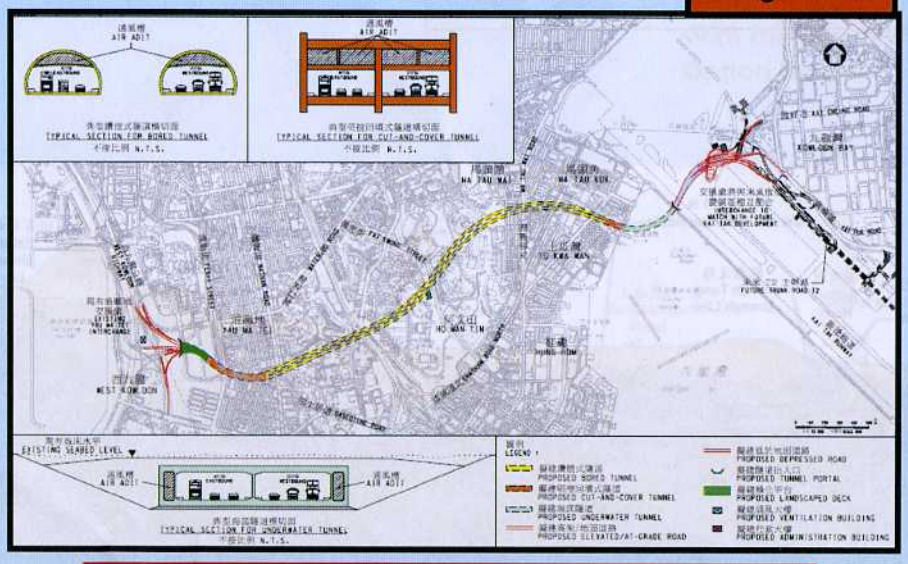
The consultants have reviewed over 40 previous alignment options, including tunnel and flyover options. They covered most of Kowloon Peninsula, and included tunnel and flyover options as far north as Boundary Street and a flyover option across the harbour around the southern tip of Tsim Sha Tsui. The tunnel options are shown in Figure 1, and the flyover options are shown in Figure 2.

The review found that the tunnel options across the central part of the peninsula scored the highest marks overall on consideration of environmental impacts, land impacts, traffic implications, and geometric design, and recommended to adopt a tunnel option in the Central Kowloon corridor (in red).

Subsequently, taking into account environmental, social and land-use impacts, traffic connectivity and engineering feasibility, 14 options were developed out for more in-depth consideration. Finally, a preferred alignment had been identified and it was supported by Legislative Council and relevant District Councils.

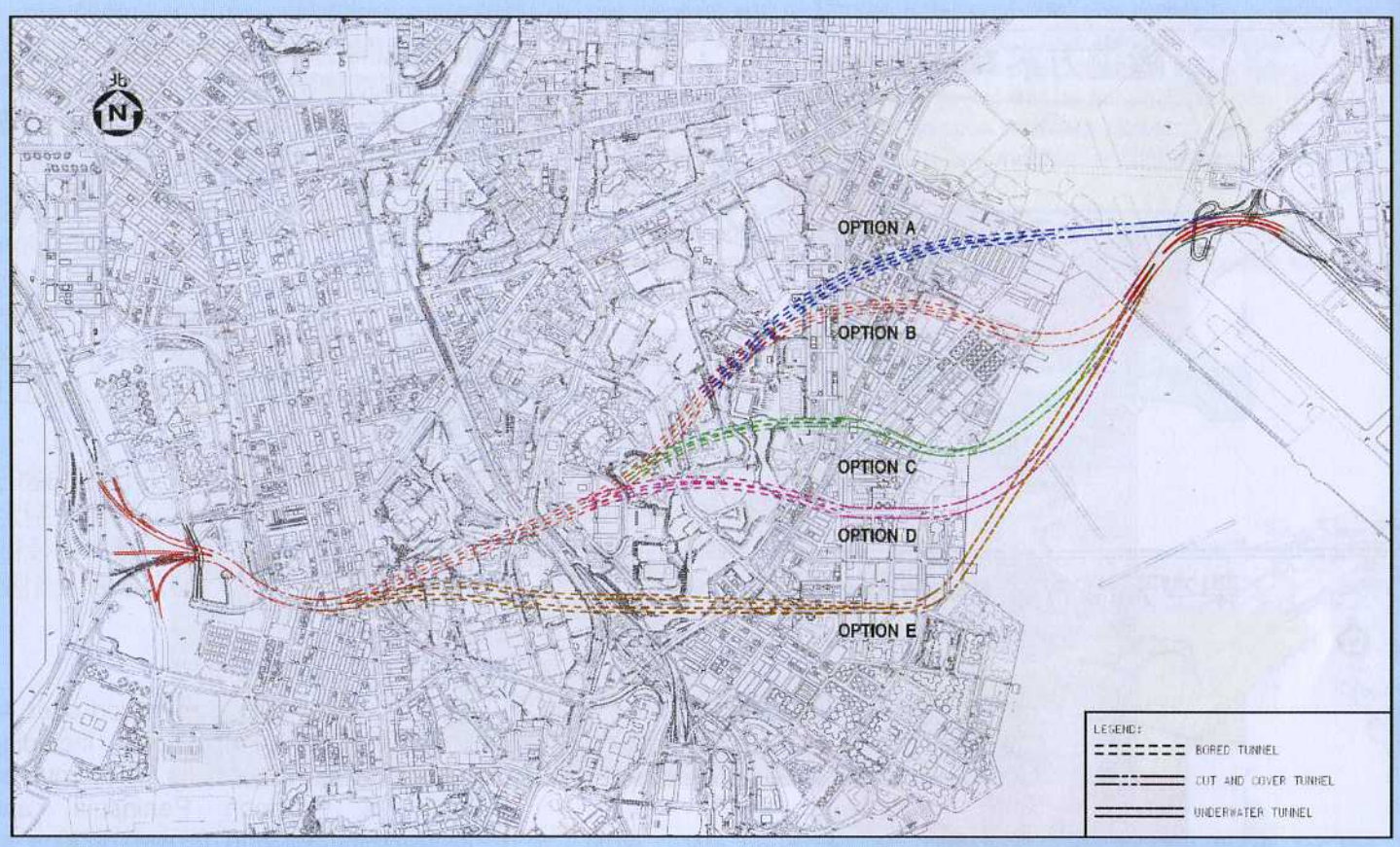
首選走線

Preferred Alignment



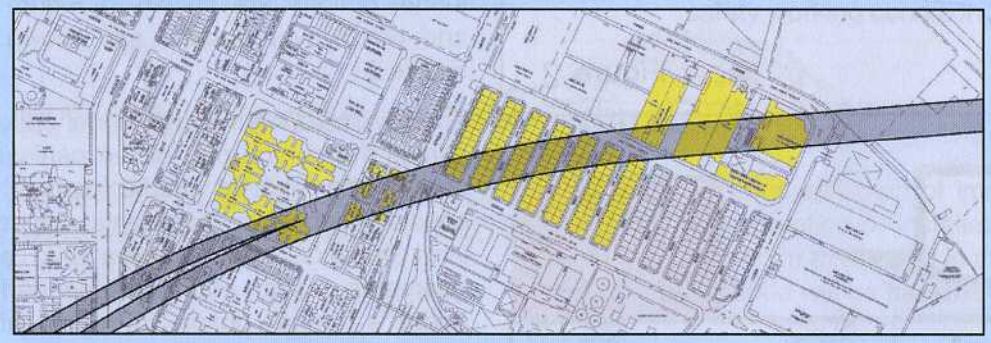
- 方案得到立法會及相關的區議會支持
- Scheme supported by Legislative Council and relevant District Councils

走線研究 Alignment Study

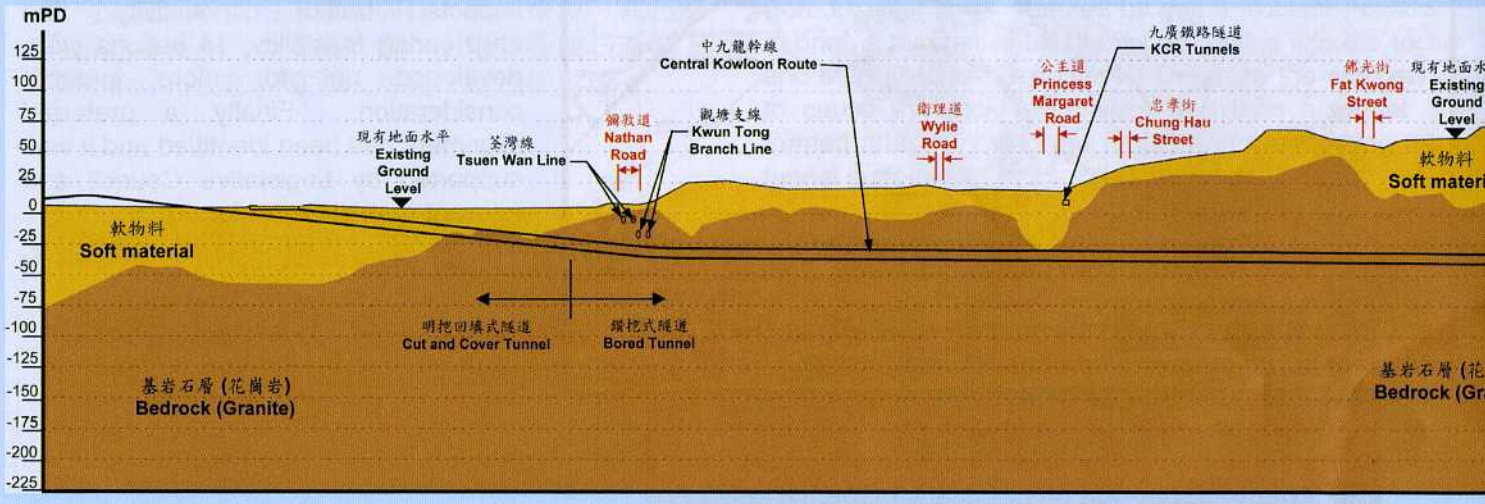


方案A影響很多私人樓宇，有可能需要收回土地

Option A will affect a number of private buildings which may require resumption.



受影響樓宇 **Affected buildings**



在詳細的工程檢討中，再檢討東端的5個初步走線方案，考慮有關工程、土地、交通及環境的影響和工程造價及時間表等。東端的5個初步走線方案如下：

方案A：此走線以不需填海爲原則。鑽挖隧道將會經過土瓜灣一帶建築物的底下，有足夠的石層覆蓋，直至新山道。由新山道開始需要使用明挖回填式的方法興建隧道。這個方案影響很多私人樓宇，有可能需要收回土地。

方案B：鑽挖隧道將會沿著新山道，經過土瓜灣道、紅棉工業大廈和幸福工業大廈，明挖回填式隧道由現有的九龍城公共交通交匯處開始。**400米**長的海底隧道將由現有的海岸線到啓德跑道。不會影響私人樓宇。

方案 C：走線是將走線方案 B的東端向南移動，走線的東端經過浙江街。明挖回填式隧道由土瓜灣道開始，影響現有浙江街兩旁的建築物和需要興建較長的海底隧道。

方案 D：走線是將走線方案 C的東端向南移動，走線的東端經過庇利街。明挖回填式隧道由土瓜灣道開始，影響現有庇利街兩旁的建築物和需要興建較長的海底隧道。

方案 E：走線是將走線方案 D的東端向南移動，走線的東端經過佛光街及民裕街和需要興建**1100米**長的海底隧道直接連接鑽挖式隧道。雖然此方案於民裕街興建鑽挖式隧道，但仍可能影響現有維港中心1及2期。

經過詳細的工程研究,認爲方案B是走線東端的首選走線。

5 initial alignment options for east end were further considered in the detailed engineering review taken into account of engineering aspects, impacts on land, traffic and environment as well as cost and programme for the project. The 5 initial alignment options were listed below.

Option A - This alignment is based on the principle that the tunnel will not encroach into the sea. The bored tunnel section will run underneath the existing buildings at To Kwa Wan with adequate rock cover until it reaches San Shan Road where the cut-and-cover tunnel construction commence. This option will affect a number of private buildings which may require resumption.

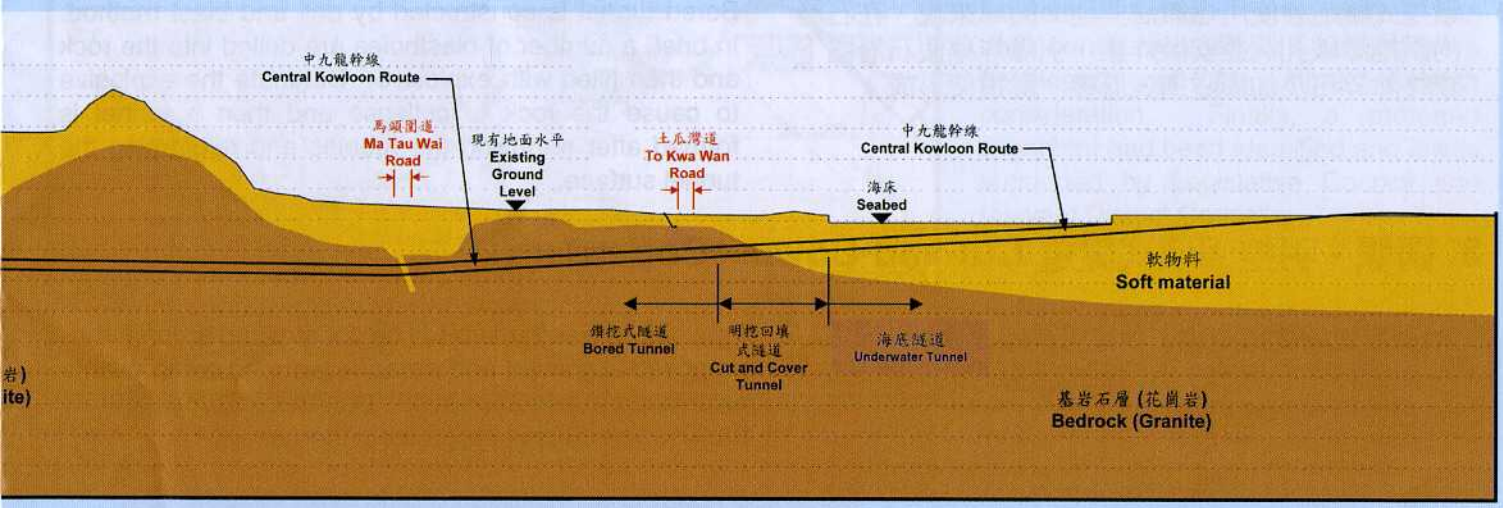
Option B – The bored tunnel runs along San Shan Road and passes underneath To Kwa Wan Road and then the Kapok Industrial Building and Lucky Building. The Cut-and-cover tunnel method of construction will mainly confine in the existing Kowloon City Public Transport Interchange. Underwater tunnel about **400m** long will start from the existing shoreline to the Kai Tak Runway. No private buildings will be affected.

Option C - The alignment is based on the alignment Option B with shifting southwards to run along Chi Kiang Street at the east side. The cut-and-cover tunnel will start from To Kwa Wan Road and thus conflict with the existing buildings along both side of Chi Kiang Street and involve a longer length of underwater tunnel.

Option D - This alignment is based on Option C with further shifting southwards to run along Bailey Street. The cut-and-cover tunnel will start from To Kwa Wan Road and conflict with the existing buildings along both sides of Bailey Street and involve a longer length of underwater tunnel.

Option E - This alignment is based on Option D with further shifting southwards to run along Fat Kwong Street and Man Yue Street with **1100m** long underwater tunnel directly connect to the bored tunnel. Although this option allow bored tunnel under the existing buildings along both sides of Man Yue Street, it may still affect Harbour Centre Tower 1 and 2.

With the detailed engineering review, it is considered that Option B to be the preferred alignment for east end.



九龍灣段的工程 Construction at Kowloon Bay section

在中九龍幹線的東端，隧道途經馬頭圍道及土瓜灣道，到達九龍城渡輪碼頭附近海濱，爲避免影響現有樓宇及居民，隧道會建於地底30米以下。在九龍城渡輪碼頭與啓德跑道之間的一段幹線，會是建於九龍灣海床下的海底隧道。

東面出口位於九龍灣，接通九龍灣道路網和擬建的啓德發展區。

At the east end of Central Kowloon Route, the tunnel runs under Ma Tau Wai Road and To Kwa Wan Road, then reaches the harbour front at Kowloon City Ferry Pier. To avoid affecting the buildings and residents at ground level, the tunnel will be constructed more than 30 meters below ground. The section between Kowloon City Ferry Pier and Kai Tak Runway will be an underwater tunnel underneath the seabed in Kowloon Bay.

The east end of the Central Kowloon Route is in Kowloon Bay and connects with the Kowloon Bay road network and proposed Kai Tak Development.

我們就環境保護、對現有設施的影響、安全工作環境等方面，研究不同的建築方法以興建在九龍城渡輪碼頭與啓德跑道之間的一段長約400米的海底隧道。

We have studied various construction methods for the section of about 400m underwater tunnel between Kowloon City Ferry Pier and Kai Tak Runway, in terms of environmental protection, disturbance to existing facilities, safety working condition, etc.

1. 沉管式隧道 Immersed Tube Tunnel

沉管式隧道的興建方法是先在海床挖出坑道，再在坑內建造或沉放預製的隧道構件，完成後海床會回填至原來的海床水平。

The construction of immersed tube tunnel involves the construction or installation of the tunnel sections inside a trench excavated in the seabed. After construction the seabed will be backfilled to the original seabed level.

2. 鑽挖式隧道 Bored Tunnel

鑽挖式隧道會使用爆鑽法興建。簡單來說，在石層內鑽挖爆破孔洞並安裝炸藥，引爆炸藥使石層塌下，經移除碎石及加固隧道表層後，隧道便形成。

Bored tunnel is constructed by drill and blast method. In brief, a number of blastholes are drilled into the rock and then filled with explosive. Detonate the explosive to cause the rock to collapse and then a tunnel is formed after removing the rubbles and reinforcing the tunnel surface.

3. 圍堰 - 明挖回填式隧道 Cut-and-Cover - Cofferdam

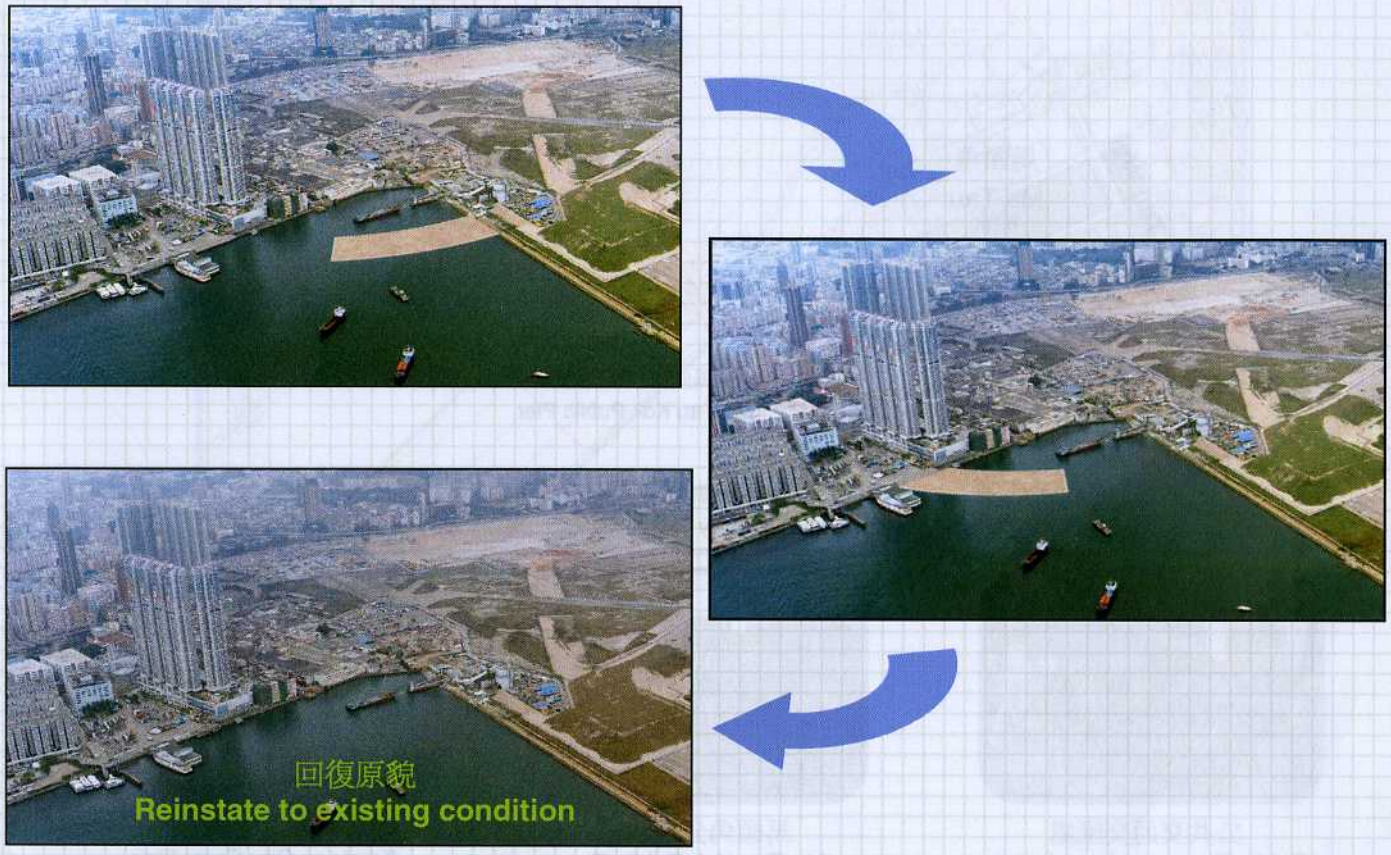
沿著擬建的隧道走線，興建管樁牆式圍堰，然後泵走圍堰內的海水，進行明挖至擬定的平整水平，以在圍堰內興建海底隧道。

Pipe pile wall cofferdam will be constructed around the proposed alignment and water be pumped out to enable excavation to formation level. Underwater tunnel will then be constructed inside the cofferdam.

4. 垂直隔牆 - 明挖回填式隧道 Cut-and-Cover - Diaphragm wall

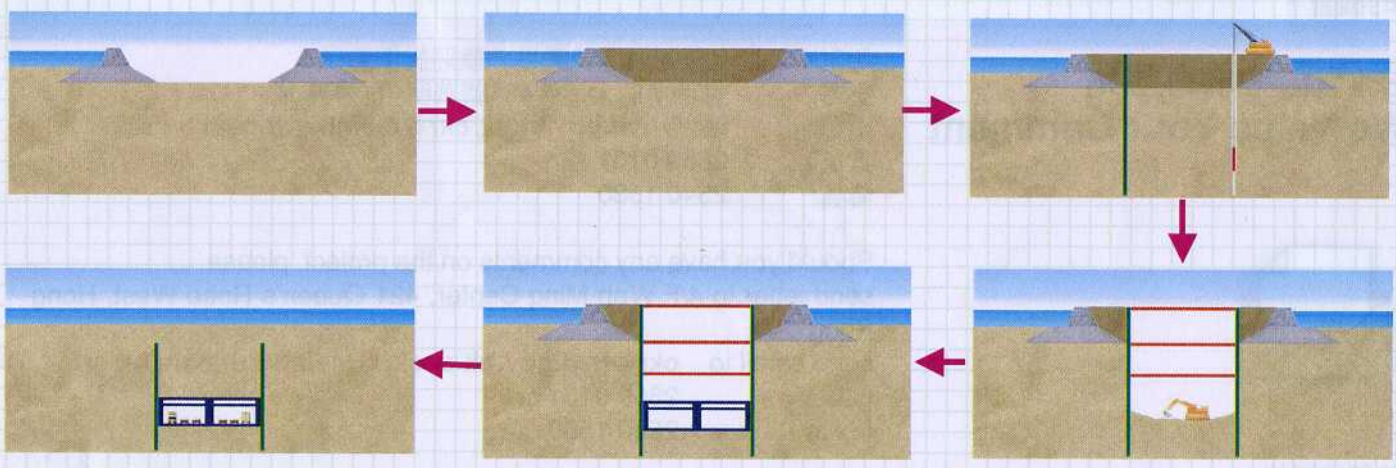
方法是首先在海中建造臨時工地，再建築隔牆以築成圍欄 ，接著挖走在隔牆內的泥土直到隧道的底部。在隧道建築完成後，在隧道上的空間將會回填至原來的海床水平。

A working platform will be formed first by temporary reclamation. Diaphragm walls will then be constructed to form an enclosure. The soil inside the diaphragm walls will be excavated to the bottom level for construction of tunnel. Upon completion, the space above the tunnel will then be backfilled to the original seabed level.

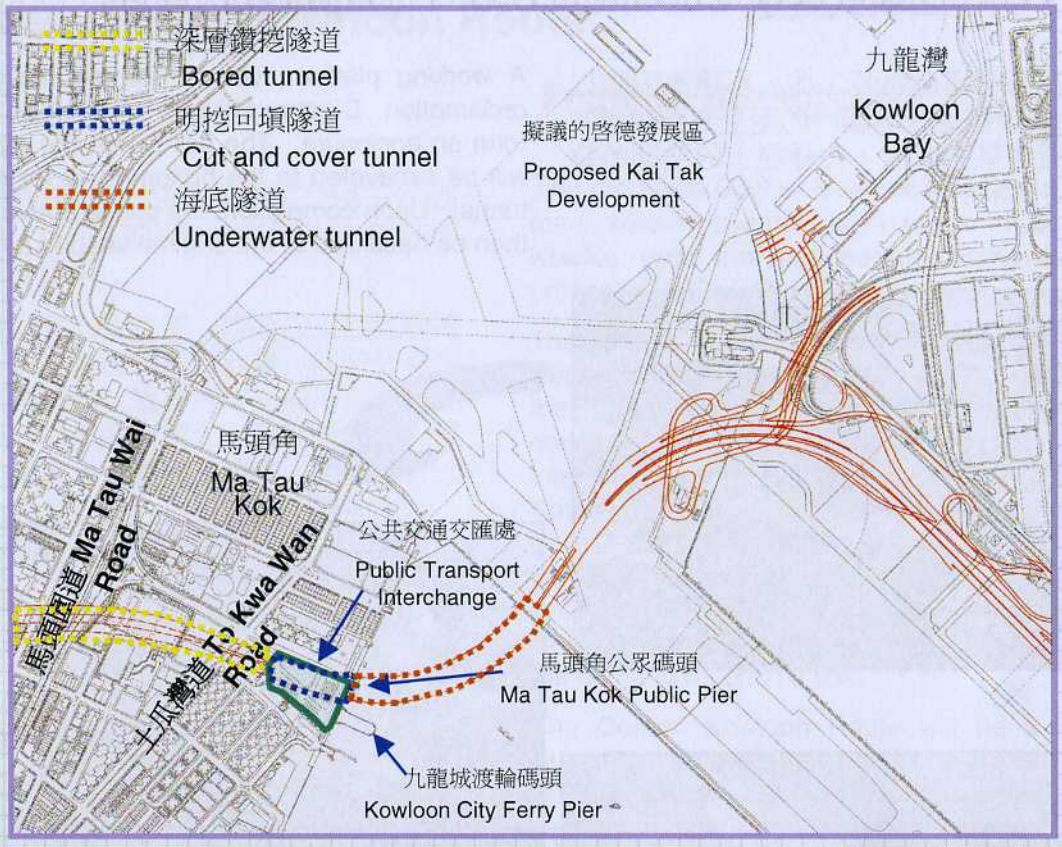


考慮各種海底隧道的建造方法的工程可行性、技術、環境影響及對公眾的影響，認爲明挖回填配合隔牆技術方法是最爲適合於興建中九龍幹線九龍灣段的海底隧道部分。興建方法的資料如下：

Taking into consideration of engineering feasibility, technical, environmental impacts and disturbance to the public of various underwater construction methods. It is considered that the cut-and-cover method using the diaphragm wall is considered more appropriate for the construction of the underwater tunnel for the CKR at Kowloon Bay section. The details for construction are shown below:



馬頭角段擬建的工程 Proposed works at Ma Tau Kok



公共交通交匯處
Public Transport Interchange

馬頭角公眾碼頭
Ma Tau Kok Public Pier

九龍城渡輪碼頭
Kowloon City Ferry Pier

中九龍幹線的東端在新碼頭街的一段隧道將以明挖回填的方式興建。所以，在工程進行期間，現時在新碼頭街的公共交通交匯處以及附近的公眾碼頭將會受到臨時影響。我們現正研究相關的臨時重置安排，以維持正常的公共服務，希望將對市民的影響減至最小。

此外，由於工程需要臨時重置現有的交通交匯處及現有的碼頭設施，藉此亦提供了優化現有海濱的機會。

At the East End of CKR, there will be a section of cut and cover tunnel in the area of San Ma Tau Street. Therefore, the existing public transport interchange (PTI) at San Ma Tau Street and the public pier in the vicinity will be temporary affected during the construction stage. To maintain the public services and minimize the impacts to the residents, we are investigating the associated temporary reprovisioning arrangement ·

Besides, since the construction of the tunnel requires temporary reprovision of existing PTI and pier facilities, this also provides an opportunities for enhancing the existing harbour front.

我們重視你的意見
We Value Your Comment

如對本工程有任何疑問及意見，歡迎提供意見

郵寄	香港皇后大道西421號華明中心4樓 或
電郵	**ckr@hyd.gov.hk** 或 **ckr@meinhardt.com.hk** 或
致電	2859 0101 或
傳真	2540 1580

Should you have any comments on the project, please

send letter to	4/F Wah Ming Center, 421 Queen's Road West, Hong Kong
send email to	**ckr@hyd.gov.hk** or **ckr@meinhardt.com.hk** or
call	2859 0101 or
fax to	2540 1580

我們的網站
Our website : **http://www.central-kowloon-route.com.hk**