



通告 Message

在過去的通訊，我們曾提及中九龍幹道將會以三種不同的隧道建築形式興建，分別是深層鑽挖隧道、明挖回填式隧道及沉管式隧道。在今期通訊，我們會提供明挖回填式隧道的資料。

In the previous issues, we have mentioned CKR will consist of 3 different kinds of tunnel construction, namely, bored tunnel, cut-and-cover tunnel and immersed tube tunnel. More detailed information regarding the construction of cut-and-cover tunnel will be discussed in this issue.

明挖回填式隧道 Cut and Cover Tunnel

中九龍幹線，其中兩段隧道，將會以明挖回填式的方法興建，即彌敦道以西至海泓道及土瓜灣道以東至九龍城碼頭海旁的兩段隧道。

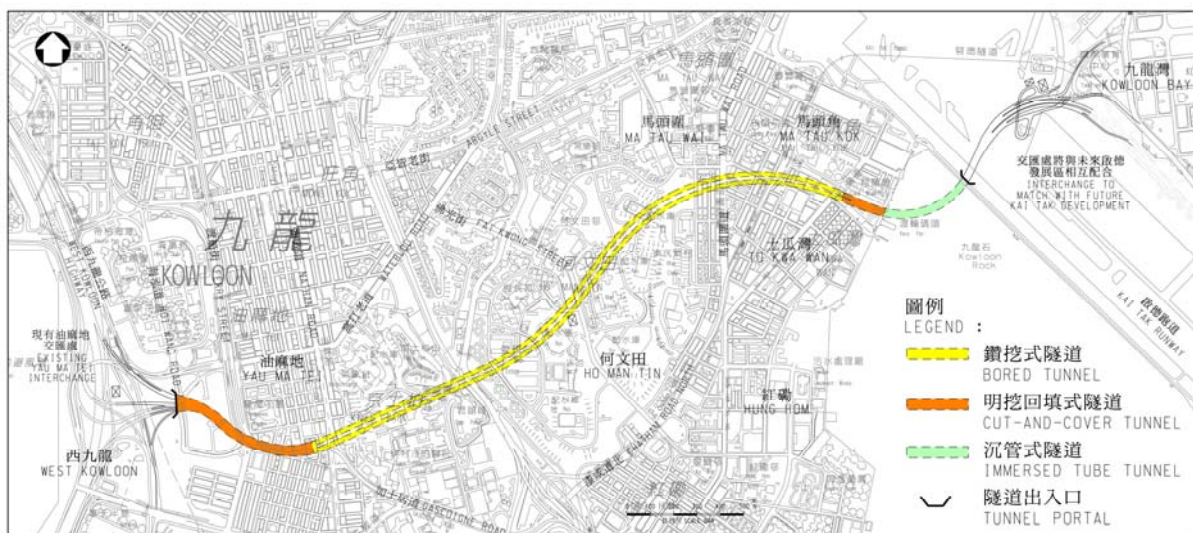
有公眾人士建議彌敦道以西的幹線隧道，繼續維持於地底石層內以便使用深層鑽挖的隧道建築方法。若隧道延遲往地面爬升，則須要在油麻地避風塘進行填海工程，以提供足夠土地興建道路和天橋將仍處於深層的中九龍幹線隧道連接高架段的西九龍快速公路。在避風塘填海再建天橋，會影響現時海上活動的運作及須大幅度改建西九龍快速公路，亦有違「保護海港條例」。

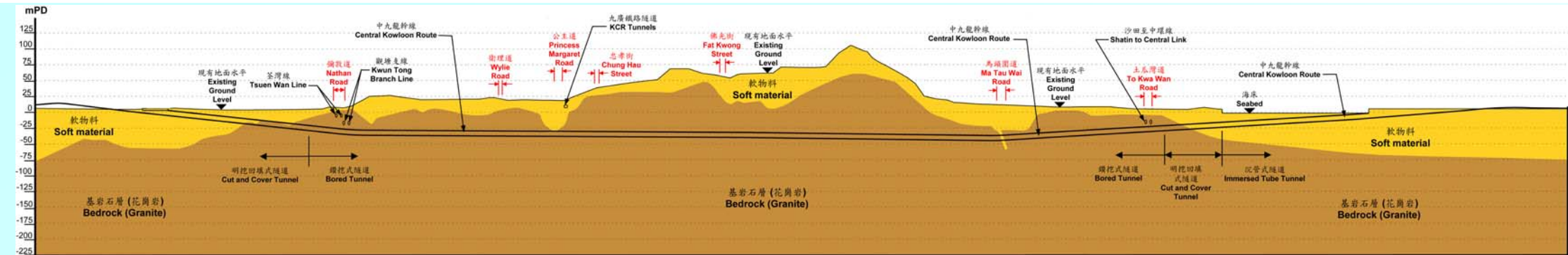
根據初步的地質勘測結果，在中九龍幹線兩端的地區，堅固的地底石層出現在離地面較深的位置，約地下二十多米。為了符合隧道公路的安全斜度規格，中九龍幹線隧道自彌敦道以西便須開始往地面爬升，以便接駁現有西九龍快速公路近油麻地的高架道路。同樣，中九龍幹線隧道自土瓜灣道以東便須開始往地面爬升，以便接駁九龍灣現有及擬建的道路網絡。因此，這兩部份的幹線隧道須要在較接近地面的軟土層內興建。軟土層跟石層性質不同，本身並無足夠結構承托力，故此不適合在內裏以「鑽挖」方法建造管道。

There are 2 sections of cut-and-cover tunnel for the Central Kowloon Route, namely section between west of Nathan Road and Hoi Wan Road and section between east of To Kwa Wan Road and the seaside near Kowloon City Ferry Pier.

There is suggestion from the public that the section of the tunnel at west of Nathan Road should be constructed within the layer of underlying rock stratum where the deep bored tunnel construction method can be used. If the tunnel section at west of Nathan Road is not aligned with upwards gradient, this will require reclamation works to be carried out at Yau Ma Tei Typhoon Shelter (YMTTS) area to provide sufficient land for the construction of roads and viaducts to connect the proposed CKR and the existing West Kowloon Highways (WKH). The construction works near YMTTS will not only affect the marine operations and road networks of WKH, but also breach the Harbour Protection Ordinance.

According to the preliminary results of ground investigation, the layer of underlying rock stratum is more than 20m below the existing ground level at both ends of the CKR. However, in order to meet the safe gradient requirement for a tunnel, the proposed CKR has to be aligned upwards from west of Nathan Road in order to connect the existing viaduct of WKH near Yau Ma Tei at the West end. Similarly, CKR has to be aligned upwards from east of To Kwa Wan Road to connect the existing and proposed road network at Kowloon Bay. Therefore, these 2 sections of CKR will be constructed in the layer of soft material located nearer to the ground level. The deep bored tunnel construction method cannot be applied in soft underground materials which cannot provide adequate structural supporting capacity.





中九龍幹線沿線的地質剖面 Geological Profile along Central Kowloon Route Alignment

中九龍幹線明挖回填式隧道的興建

Cut-and-Cover Tunnel Construction of CKR

爲了減低在工期對附近環境及交通的影響，路政署正研究採用「由上至下建築方法」建造明挖回填隧道。

「由上至下建築方法」：

先挖掘淺型坑道來建造隧道頂部，待隧道頂部工程完成後，路面將會被即時復修，並重新開放給行人及車輛使用。此方法除了可大大減低對路面交通的影響外，復修的路面還可覆蓋在地底進行的隧道工程。情況類似現時漢口道和梳士巴利道地底工程的做法，雖然港鐵九龍南線和延伸中間道行人隧道涉及大量地底工程，但卻不會對環境及交通造成太大滋擾。

我們會詳細研究以上的初步構思，確認其技術的可行性及安全。此外，在工程施工期間，我們亦會實施嚴謹的環境監控措施，以減低工程對公眾的影響。



漢口道地底工程
Underground construction works in Hankow Road



覆蓋在地底進行的隧道工程
Covering the underground construction works

In order to minimise the impacts on the environment and existing traffic adjacent to the construction site, Highways Department are now studying the construction of the tunnel from top down in the cut-and-cover tunnel works.

For the top down construction method :

A shallow excavation is made to allow the tunnel roof to be constructed. Once the tunnel roof is completed, the road surface is then reinstated. This not only allows early reinstatement of roadways, so that the disturbance to public will be minimised, but the reinstated roadways also act as a cover for the construction works underground. Similar underground construction works are used in Hankow Road and Salisbury Road for MTR works. Although MTR Kowloon Southern Link and pedestrian subway along Middle Road involve extensive underground works, impact on the environment and existing traffic is not significant.

We will further study the above preliminary concepts and evaluate their technical feasibility and safety. Besides, we will implement stringent environmental control and monitoring measures to minimise the impacts to the public during construction.