屯門至赤鱲角北面連接路
Tuensun Mun-Chek Lap Kok Link Northern Connection

Go Straight
Go Forward
屯門至赤鱲角連接路由北面連接路和南面連接路組成。南面連接路已於2018年10月通車。北面連接路全長5.5公里，其中約5公里為屯門-赤鱲角隧道，是連接屯門南和港珠澳大橋香港口岸人工島的海底行車隧道，將於本年12月27日（星期日）通車。

屯門至赤鱲角連接路連接新界西北、港珠澳大橋、北大嶼山和香港國際機場。整條連接路通車後，可提供更直接的路線往來新界西北與大嶼山，大幅縮短行車路程，往返屯門南和香港國際機場可節省約20分鐘行車時間。

The Tuen Mun-Chek Lap Kok Link (TM-CLKL) comprises the Northern Connection and Southern Connection. The Southern Connection was open to traffic in October 2018. The Northern Connection is 5.5km long, of which about 5km is the Tuen Mun-Chek Lap Kok Tunnel, a sub-sea road tunnel connecting Tuen Mun South and the Hong Kong-Zhuhai-Macao Bridge (HZMB) Hong Kong Port. The Northern Connection will be open to traffic on 27 December 2020 (Sunday).

The TM-CLKL connects the Northwest New Territories, the HZMB, North Lantau and the Hong Kong International Airport (HKIA). Upon the commissioning of the entire TM-CLKL, it offers a more direct route of much shorter driving distance between the Northwest New Territories and Lantau. The journey time from Tuen Mun South to the HKIA will be reduced by about 20 minutes.
香港第一條以隧道掘進機在海底興建的行車隧道。與傳統的沉管方法比較，以隧道掘進機建造海底隧道可減少挖掘和棄置約1,100萬立方米的淤泥，相當於4,900個標準游泳池的容量，大幅減低工程對環境的影響。採用隧道掘進機建造方法可減少對附近的海洋生態，以及減低在工程施工期間對龍鼓水道繁忙海上交通的影響，同時也避免對現時供電予香港國際機場的海底電纜進行改道。

This is the first sub-sea road tunnel in Hong Kong constructed by Tunnel Boring Machine (TBM) method. As compared with the conventional immersed tube method, the use of TBM for the sub-sea tunnel construction can reduce the amount of dredging and disposal of some 11 million cubic metres of marine sediment, equivalent to the capacity of about 4,900 standard swimming pools, thus significantly reducing the environment impacts. The adoption of TBM minimises the ecological impact on the nearby waters. In addition, it also reduces the impact on the heavy marine traffic along the Urmston Road during construction, and avoids the need to divert the existing submarine power cables serving the HKIA.
在屯門內河碼頭旁的新填海區隧道段，北行管線近隧道出入口的一段因需要供三線行車，故此採用了一部直徑達17.6米的隧
道掘挖機興建（名叫“秦良玉”），其直徑相當於一座約6層高的樓宇的高度，是在建造時世界上最大的隧道掘挖機。採用大型隧
道掘挖機不但可以縮短施工時間，而且可以減低對環境的影響。

At the northern landfall of the sub-sea tunnel section near the River Trade Terminal in Tuen Mun, a 17.6m diameter TBM (named “Qin Liangyu”), being the largest TBM in the world at the time of construction, was deployed for the road tunnel section with a 3-lane configuration. This TBM is as tall as a 6-storey building. Adopting this enormous TBM not only shortens the construction time but also reduces the environmental impacts.
17.6米直径的隧道掘进机 — "秦良玉"
17.6m diameter TBM — "Qin Liangyu"
High water pressure was encountered in the course of excavation underneath the seabed, necessitating the use of compressed air of up to about 6 bar for carrying out excavation works. To cope with the frequent and time-consuming maintenance works under high water pressure during the construction of the Tuen Mun-Chek Lap Kok Tunnel, the project team introduced the saturation technique and a pressurised living chamber. Technicians lived in the pressurised habitat in a 28-day work cycle, thus substantially reduced the frequency of decompression operation during the cycle and the risk of decompression sickness. The health of technicians was well protected.
隧道内共设有57条（即每100米设有一条）穿管通道连接两条隧道管道，为道路使用者提供安全的紧急逃生通道。在接近6倍大气压力下的海底建造穿管通道别具挑战，工程团队研发了利用特殊顶管技术进行施工，亦是世界上首次使用泥浆加固式小型管顶推机（直径3.6米）进行施工。这项创新施工技术大大缩短了施工时间，同时亦大幅降低地基引致的风险。

To provide a safe means of egress for road users in case of an emergency, a total of 57 cross passages linking the two tunnel tubes were provided at a 100m interval. The construction of cross passages was particularly challenging as they had to be built under the sea at a pressure of up to about 6 bar. The project team developed an innovative pipe-jacking method using a "mini" slurry TBM (3.6m diameter) for the construction. This application was the first time in the world. This leading-edge solution reduced the construction time and minimised the geological risks.
為善用隧道行車道下方的空間，行車道下方設有公用設施走廊以裝置公用及其他機電設施。走廊內的維護設施包括排水管道、消防喉管、供電及訊號系統設置等，讓部分日常維護工作可在隧道行車期間同時進行，日常維護排程會更有彈性。同時，因緊急維修而需要封閉隧道的風險亦大大減少。走廊亦設有電動車，以提高檢查和維修管轄設施的效率。

To make good use of the space under the tunnel carriageway, a service gallery was provided under the carriageway to accommodate public and other electrical and mechanical facilities. Drainage pipes, fire mains, power supplies and control systems for some of the tunnel facilities were installed in the service gallery, so that part of the daily maintenance works can be carried out at the same time during the tunnel operation. This arrangement allows more flexibility for regular maintenance and greatly reduces the risk of tunnel closure due to emergency repairs. Besides, electric vehicles are provided for commuting inside the service gallery to improve the efficiency of regular maintenance of the utilities.
The project team adopted the largest caterpillar diaphragm wall structure in Hong Kong. It resisted the lateral pressure, transferring the force to the heavy duty "Y- Panels" as temporary lateral supports. As compared with the conventional diaphragm wall, the caterpillar diaphragm wall reduced large amount of temporary supports, maximised unobstructed construction space and minimised the need for ground treatment works.
北面填海：於望后石的內河碼頭旁闢設約16.5公頃的土地
Northern reclamation: About 16.5ha of land formation at Pillar Point adjacent to the River Trade Terminal

南面填海：於港珠澳大橋香港口岸東面開拓約20公頃的土地
Southern reclamation: About 20ha of land formation to the east of the HZMB Hong Kong Port

於龍鼓水道航道部分（其海床水平為主水平基準以下21米）提供最少760米闊的通航通道
A minimum navigable width of 760m is provided at the deep draught channel (seabed level at about -21mPD) of the Urnston Road

約4.5公里的海底隧道以隧道管挖掘建造
About 4.5km of the tunnel was constructed by tunnel boring machines

隧道壁預製組件的總數為42,756件
Total number of precast tunnel linings is 42,756

公用設施走廊預製組件的總數為6,387件
Total number of precast modules for the service gallery is 6,387

中層隧道護欄預製組件的總數為9,357件
Total number of precast road parapets is 9,357

上方排風管道面板預製組件的總數為5,115件
Total number of precast slabs for the overhead ventilation ducts is 5,115

隧道內共有57個跨道通道
Total number of cross passages is 57

隧道內共設有3,682個活動閘板
Total number of sliding plate dampers is 3,682

隧道內共設有1,687個電動散熱風扇
Total number of motorised fire and smoke dampers is 1,687

隧道內共設有45個緊急出口通往公用設施走廊
Total number of access hatches to the service gallery is 45

公用設施走廊內設有7輛雙向電動車
There are 7 bi-directional electric vehicles for the service gallery

隧道內分別有5,273組隧道基本照明系統和702組隧道加強照明系統
Total number of tunnel base lights and tunnel reinforcement lights is 5,273 and 702 respectively

隧道內的天花設有線性熱能探測器
Linear heat detection cables are provided along the tunnel ceiling

隧道內共設有12組空氣質量（包括二氧化氮、一氧化碳及能見度等）監測系統
Total number of air quality (including NO2, CO and visibility etc) monitoring systems is 12

隧道內共設有12組超遠程監攝器
Total number of speed enforcement cameras is 12

隧道內共設有343個消防設備
Total number of niches for fire services equipment is 343

隧道內設有隔熱防火層，最高能在1小時內承受攝氏1,350度的高溫
Thermal barriers are installed inside the tunnel and can provide fire protection for 1 hour at a maximum temperature of 1,350°C

長約1.6公里的海上高架道路及約1.9公里的陸上高架道路，連接港珠澳大橋香港口岸和北大嶼山
About 1.6km sea viaduct and 1.9km land viaduct connecting the HZMB Hong Kong Port with North Lantau

提供110米闊的可航行通道及提供達到主水平基準以上21米的通航淨高
A clear navigable width of 110m and a maximum air draft of +21mPD are provided respectively

大口徑路面的總數為289支
Total number of large diameter piles is 289

鐵路預製組件的總數為2,648件
Total number of precast bridge deck segments is 2,648
工程網址及電郵
Project Website and Email

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