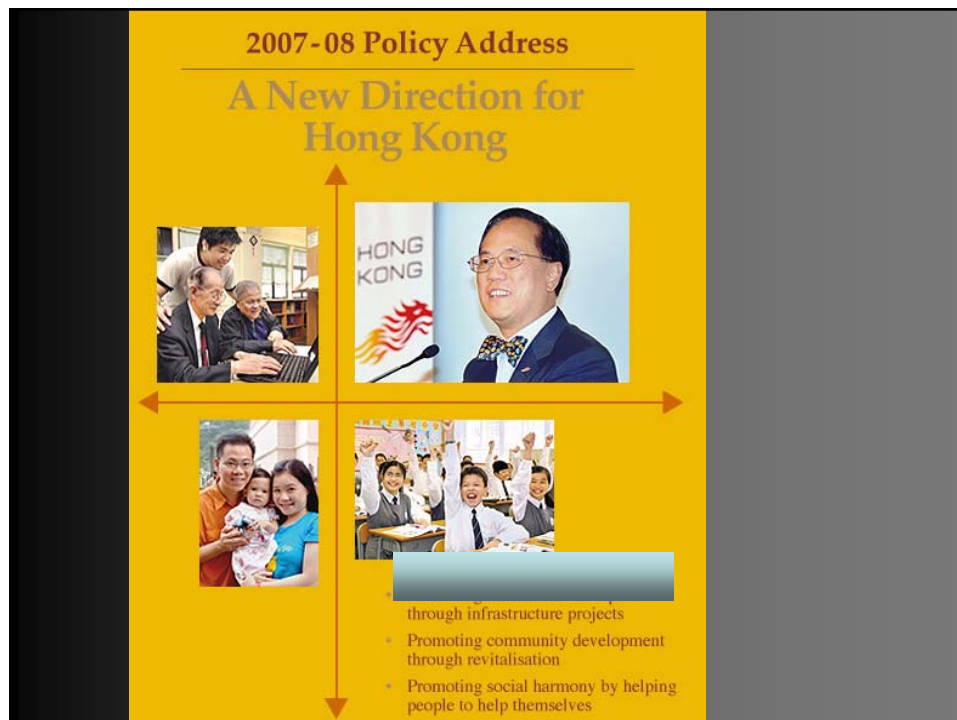
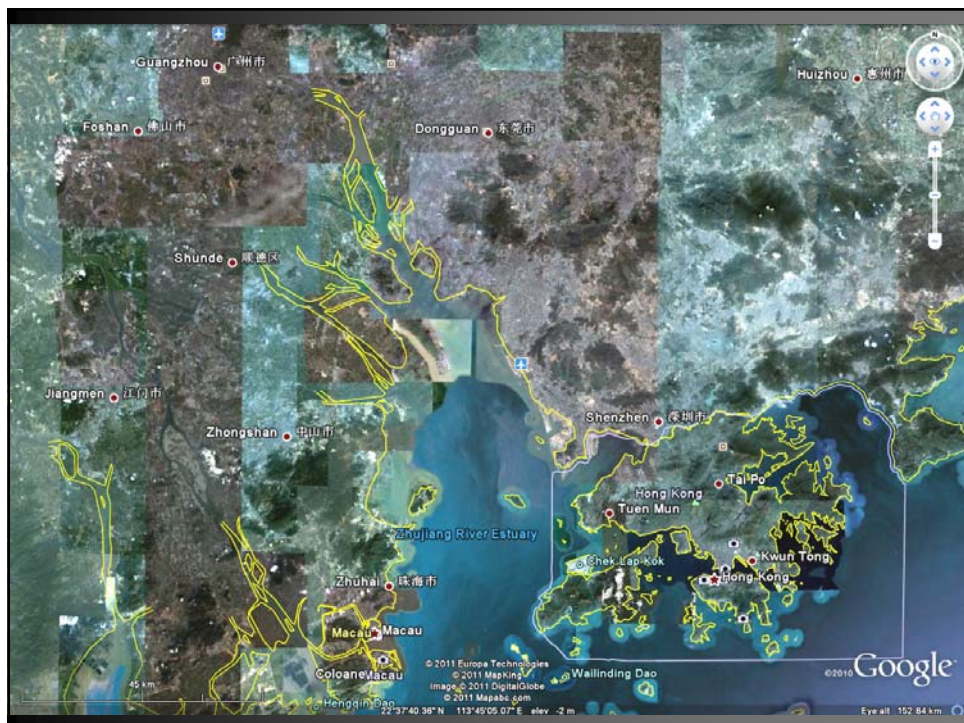
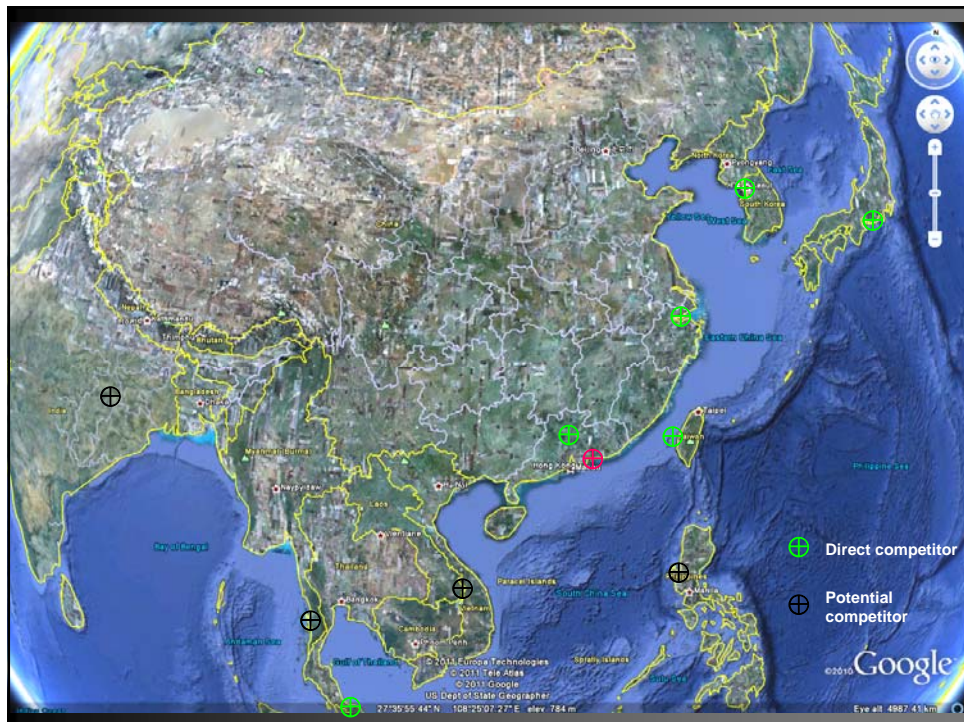


10 major infrastructure projects for
Hong Kong's economic growth undertaken
in the 2007-2008 Policy Address
announced by Chief Executive of HKSAR in
early October 2007

The Highlights

Presentation by Raymond Wong
City University of Hong Kong
December 2011





Ten Major Infrastructure Projects to Boost Our Economy

Preamble

To keep pace with the latest developments in the region, Hong Kong needs to accelerate our infrastructure development. To boost our economy in the next five years, we will accord higher priority to the development of industries that already enjoy a competitive advantage. Our aim is to maintain Hong Kong's status as an international centre of financial services, trade and shipping, as well as to develop on fronts such as financial services, logistics, tourism and information services.

The economic benefits brought about by accelerated infrastructure development are apparent. In the 1970s and 1990s, various large-scale infrastructure projects provided the momentum for Hong Kong to develop into a cosmopolitan city. Cross-boundary projects which strengthen our linkage with the Mainland and the region will further enhance Hong Kong's competitiveness on a global scale. Embarking on major infrastructure developments also creates ample employment opportunities and boosts our Gross Domestic Product.

In promoting economic development, our top priority is to consolidate Hong Kong's status as an international centre of financial services, trade and shipping. With the ardent support of the [REDACTED] we are confident of achieving this goal. The commencement of various infrastructure projects will also reinforce Hong Kong's leading position in tourism, creative industries, logistics as well as aviation and maritime services.

The 10 major infrastructure projects

Transportation Infrastructure

1. West Island Line and South Island Line
2. Sha Tin to Central Link
3. Tuen Mun Western Bypass & Tuen Mun-Chek Lap Kok Link

Cross-boundary Infrastructure Projects

4. Guangzhou-Shenzhen-Hong Kong Express Rail Link
5. HK-Zhuhai-Macao Bridge
6. HK-Shenzhen Airport Co-operation
7. HK-Shenzhen Joint Development of Lok Ma Chau Loop

New Urban Development Areas

8. West Kowloon Cultural District
9. Kai Tak Development Plan
10. New Development Areas

Transportation Infrastructure

Other than the coming projects as targeted in the 2007 Policy Address, a significant number of highway and railway projects were completed in the 2000s. These included the Route 8, Route 5, Castle Peak Road Extension, Deep Bay Link, the Shenzhen-Hong Kong Western Corridor, and other large-scale road improvement projects.

Railway projects being completed during the period include the West Rail, Tseung Kwan O Extension Line, Ma On Shan Line, East Rail Extension Line, Lok Ma Chau Line and the Kowloon Southern Link.

In the following slides it gives a brief review of the infrastructure projects being completed before the announcing of the recent 10 Major Infrastructure projects in 2007.

10 Airport Core Projects in 1990s for the construction of the new airport at Chek Lap Kok





Development of
North Lantau

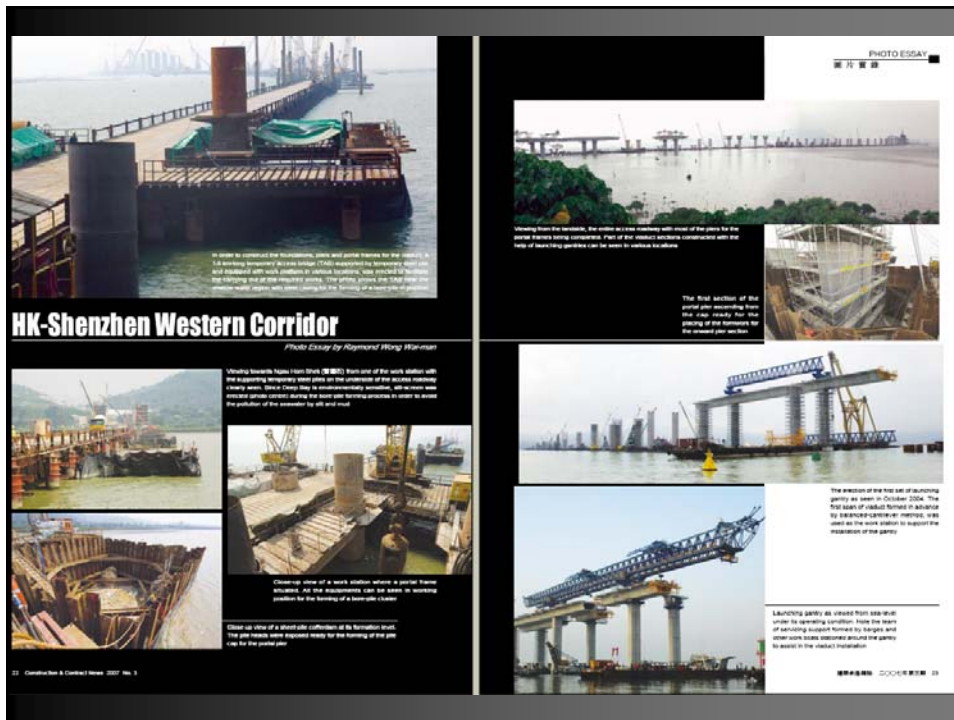


Central Reclamation in 1995









South Island Line

Population including Southern and Western HK is about 0.32m.
There is a strong demand to provide a new metro line to serve the District.

The Executive Council has given the approval to the MTR Corporation Limited for the construction of the South Island Line. Construction of the 7 Km rail line will start in 2011 and cost more than \$7 billion.

Other data regarding Western Island Line:

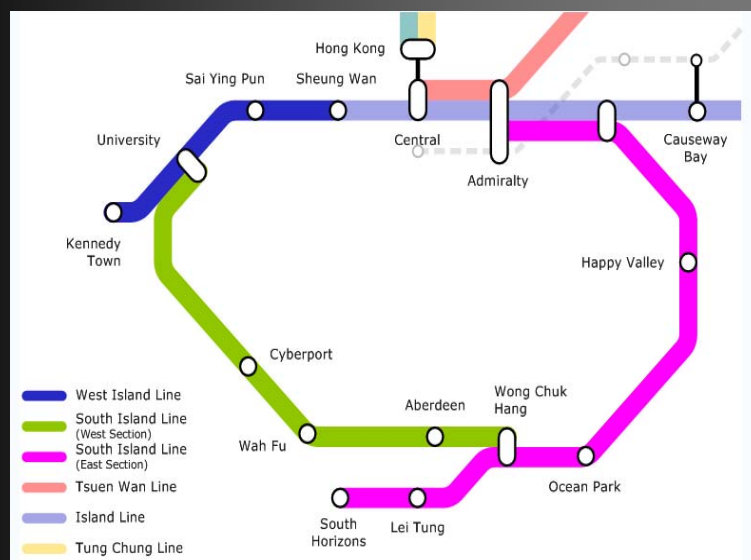
Obtain approval from government – October 2007

Expect time to obtain the final authorization under Railway Ordinance and other legislation procedure – early 2010

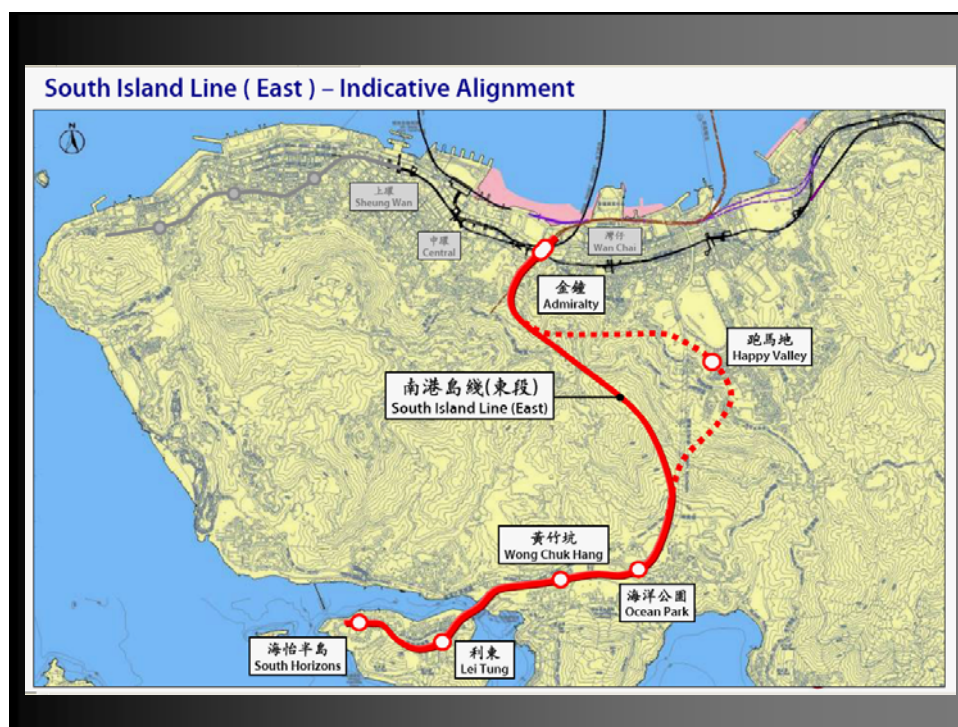
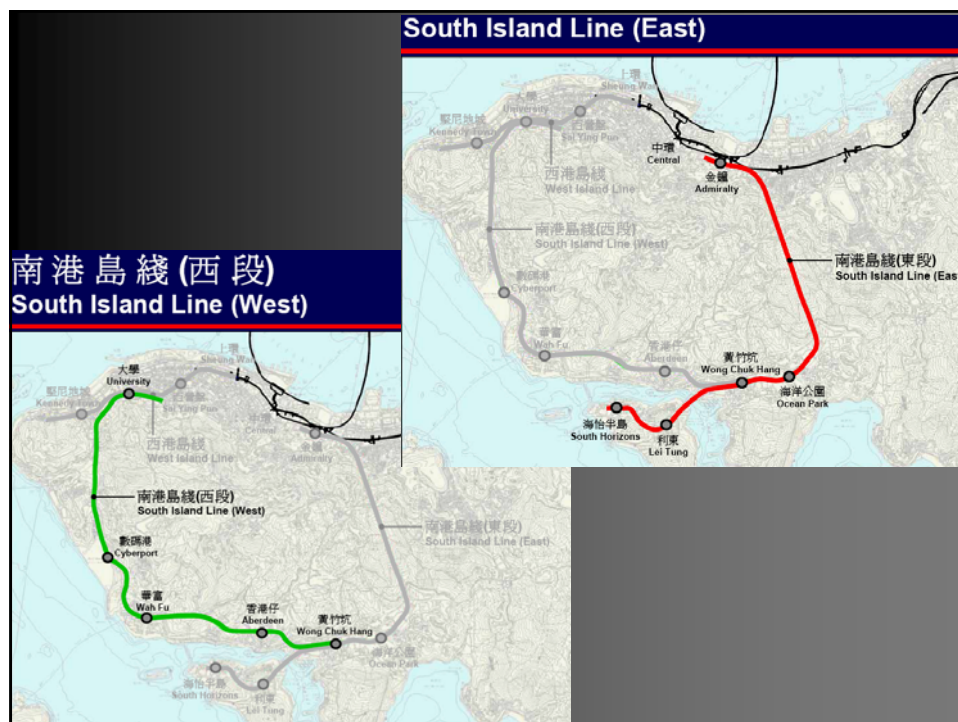
Commence detail design – 2009-2011

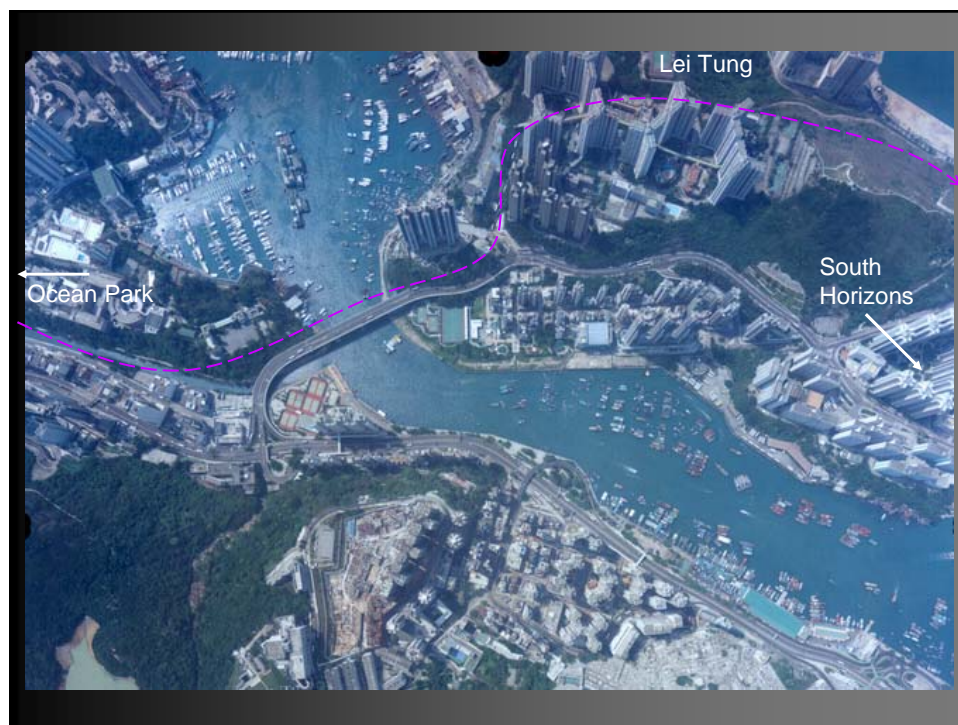
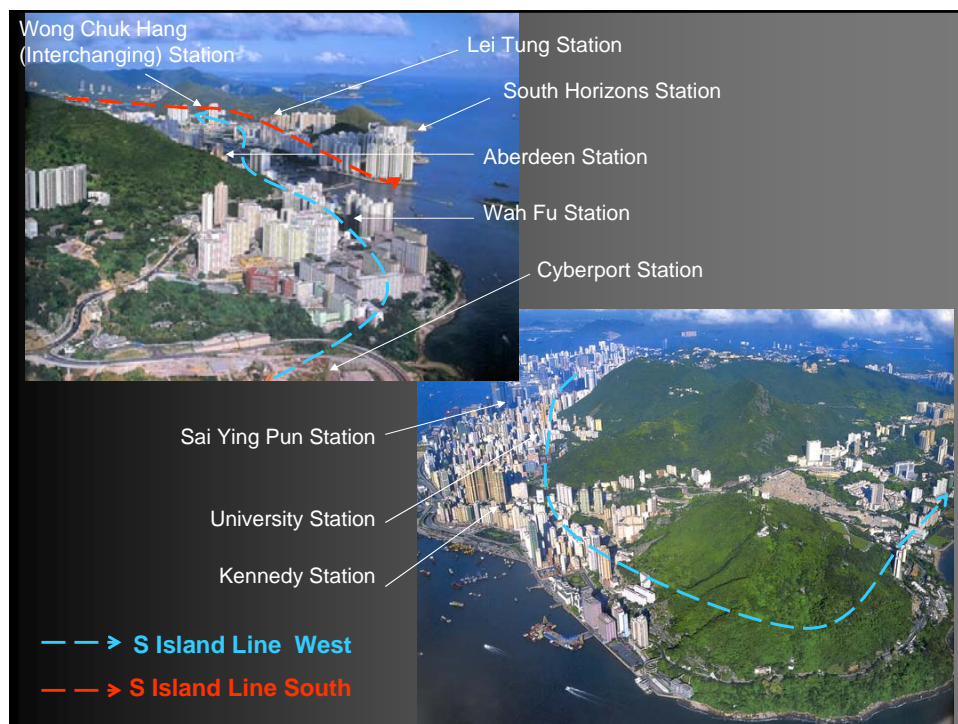
Commencement of construction – 2010

Completion for operation – late 2014

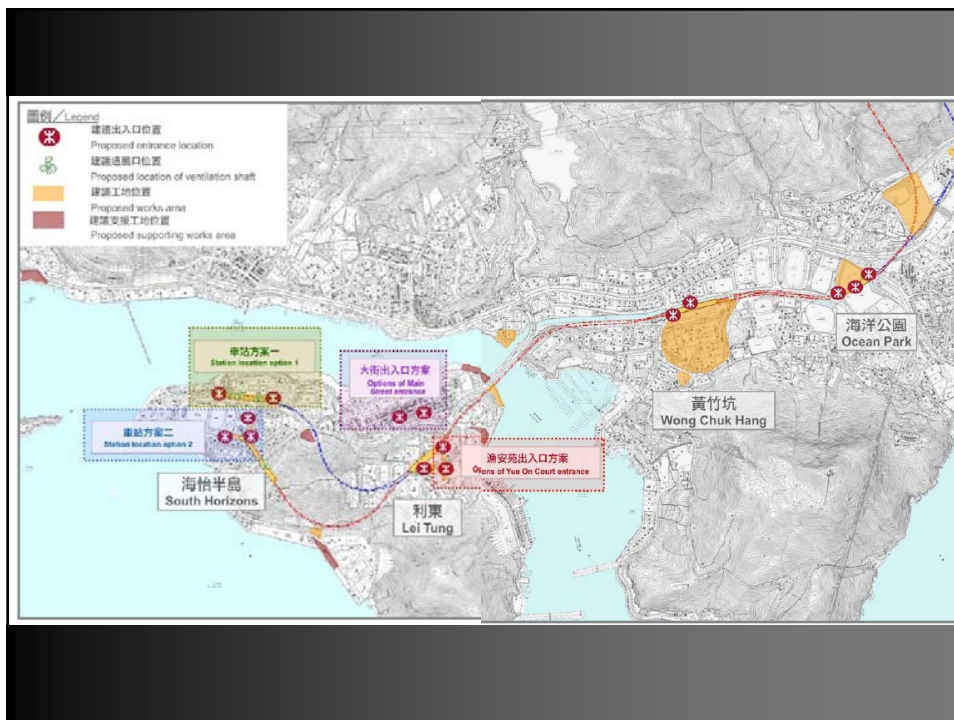
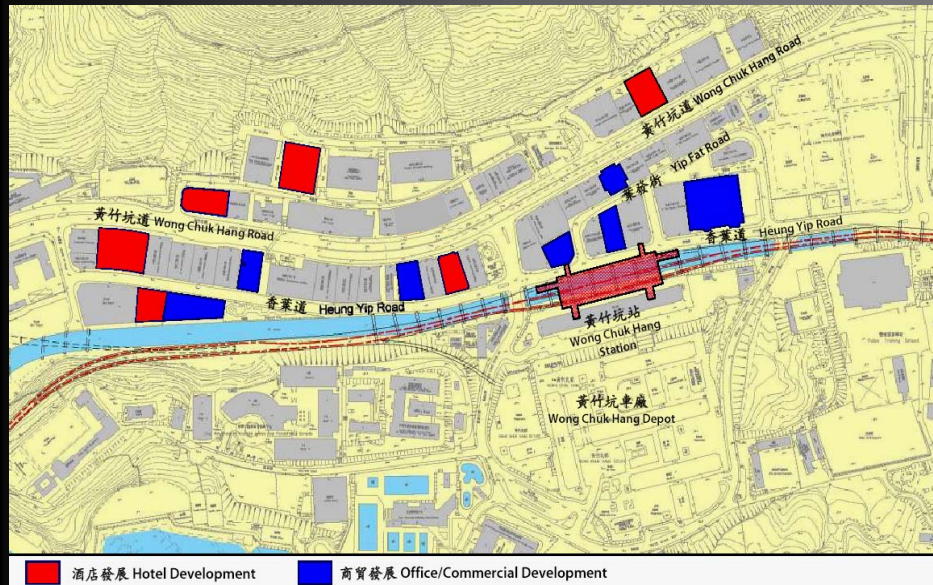


MTR West Island Line and South Island Line (2005 proposal)





Alignment of South Island Line at Wong Chuk Hang

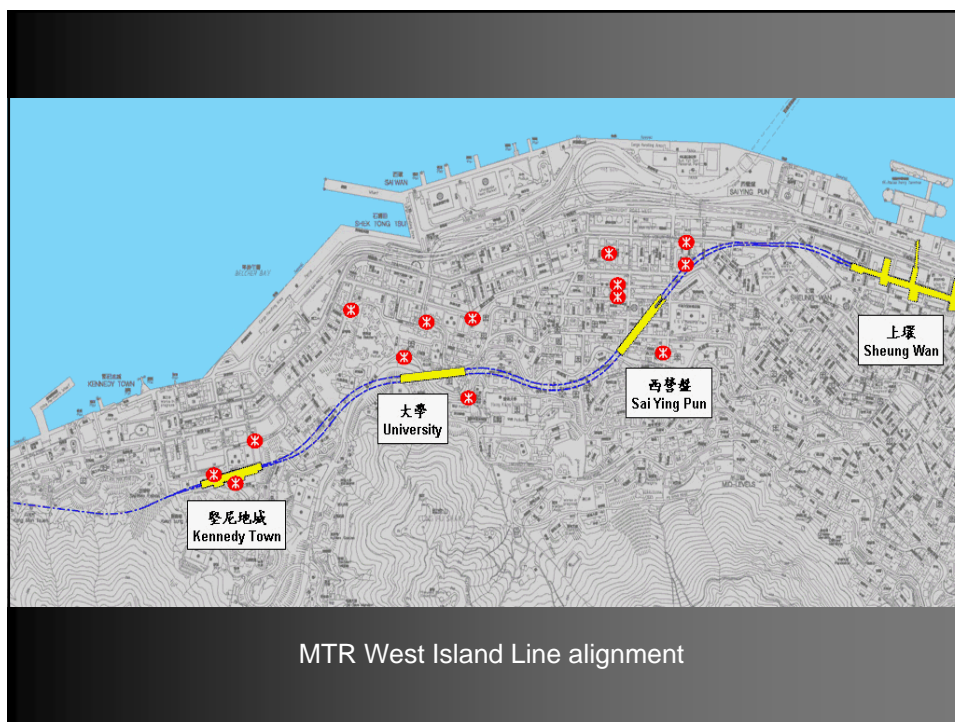






Special features of the South Island Line project

- No reclamation required
- Medium capacity system with 3 to 6-car train
- Facilitate tourism development such as for Ocean Park, Aberdeen Waterfront, Fish Market and Cyber Centre
- Enhance urban renewal process – Southern HK is a slow development district since 1980s due to insufficient transportation link.
- Funding by granting the rights for property development to MTR



The Western District of Hong Kong from satellite map



West Island Line runs across the densely populated areas of Western District on the Hong Kong Island. It is so designed that over 90% of the residents can access to the new railway stations on foot when the line being completed.



Future connection of the South Island Line (at the rear of Victoria Peak)

Existing Island Line

The approximate alignment of the West Island Line

The approximate location of the underground stations (from left to right, the connecting station, Sai Ying Pun, University and Kennedy Town stations)



Typical urban environment where the West Island Line cutting through



The playground and swimming pool as seen in 2008 before their removal for the construction of the Kennedy Town Station



Tunnel coming from University Station



Swimming pool being removed and handed over for construction works in early 2011



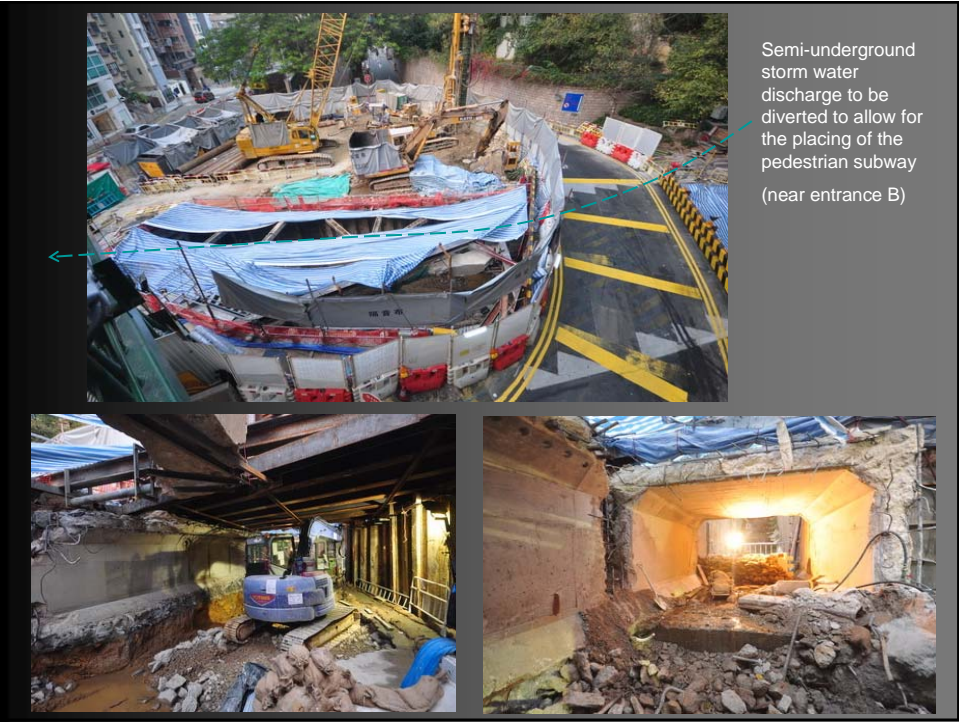
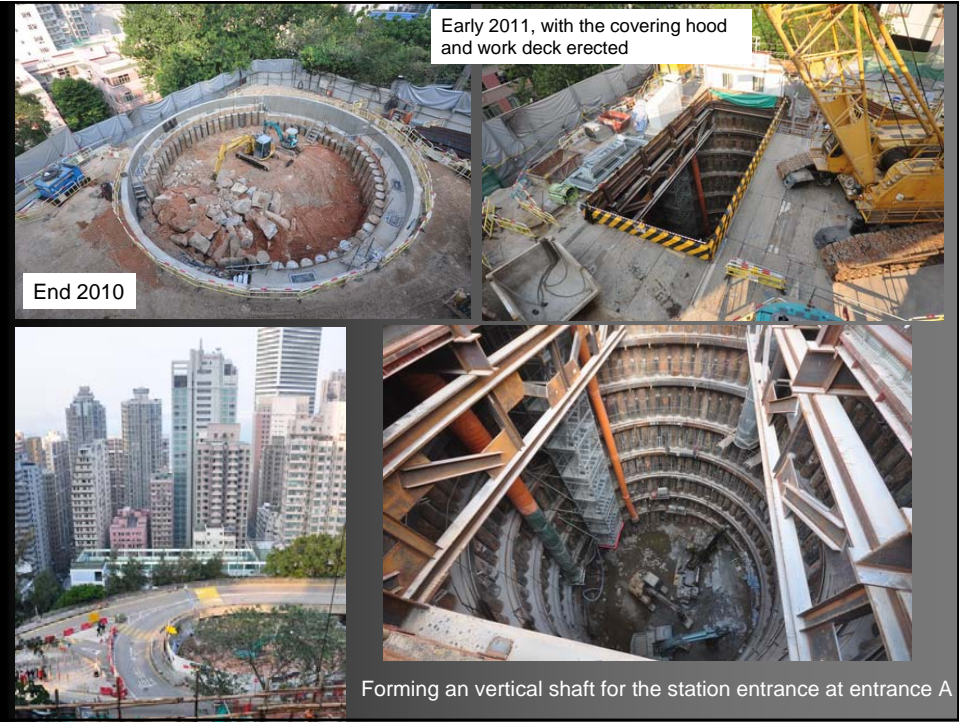


Overview of the station portion on the previous swimming pool site



Physical constraints of the site includes a significant amount of slope stabilization before the carrying out of work in full scale.







Forming an vertical shaft for the station entrance at entrance C.
Extremely challenging work environment at spot can be seen.

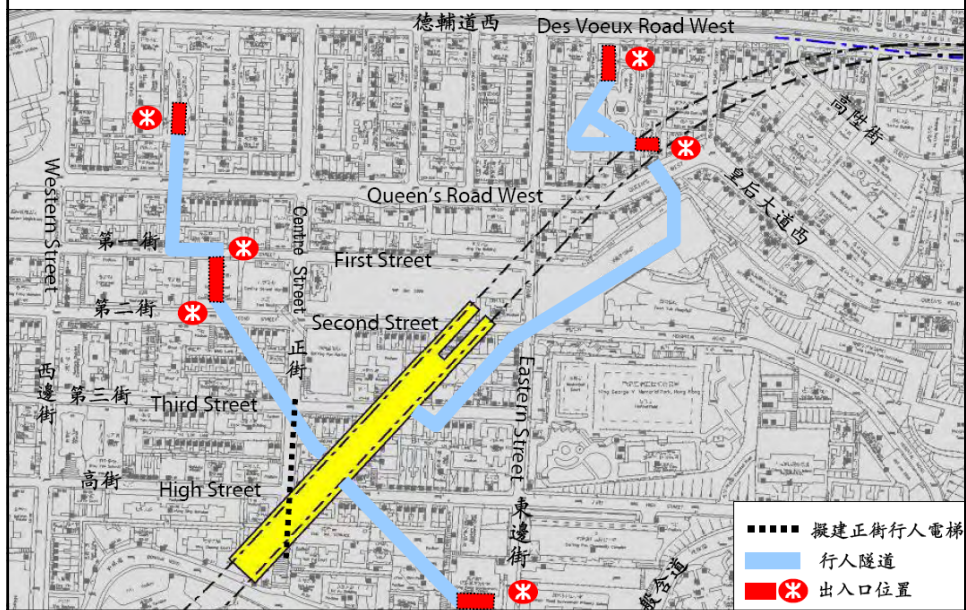


Forming an vertical shaft for the station entrance at entrance C.
A covering deck has been erected to minimize public disturbance.

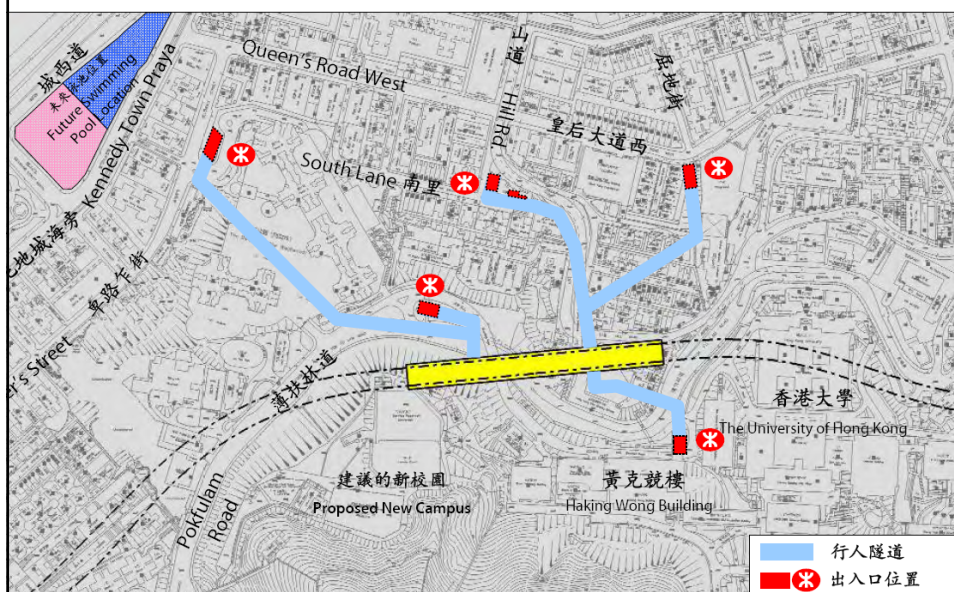
Urban environment of
HK Western district



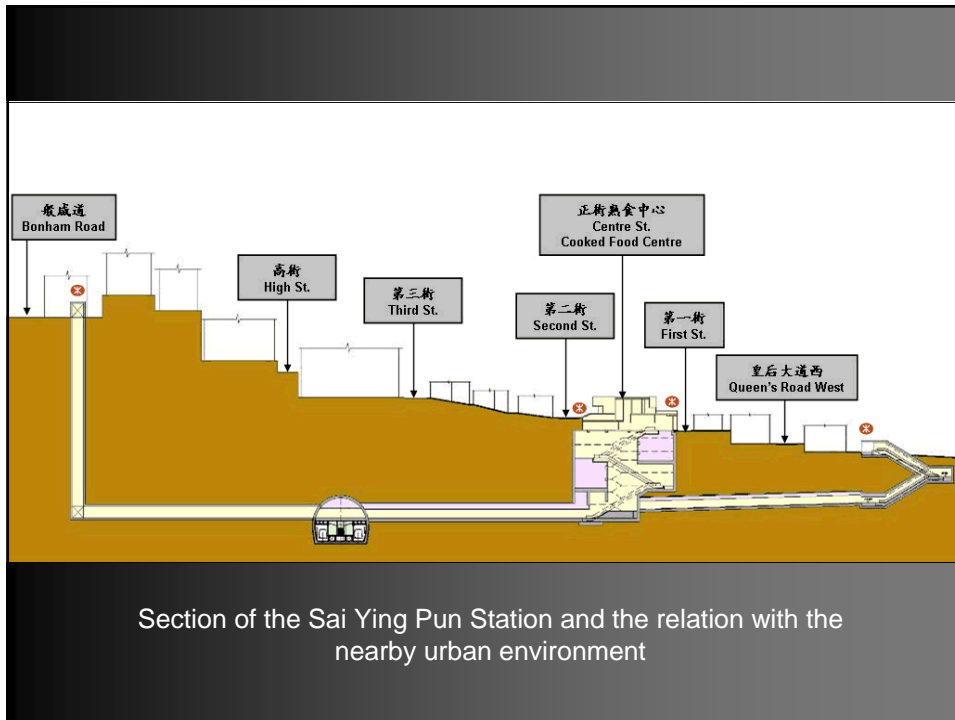
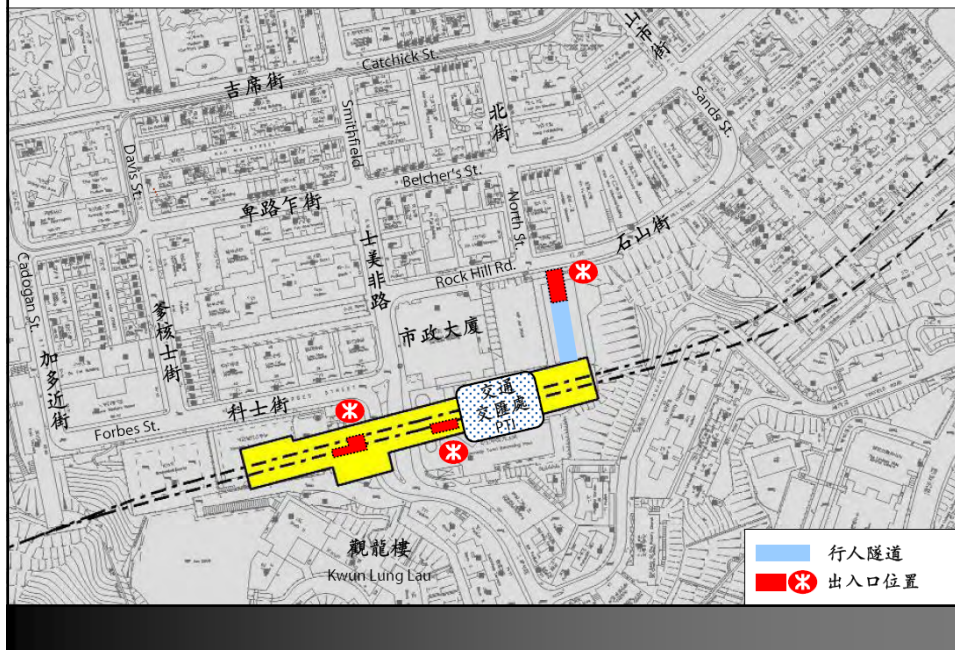
Sai Ying Pun Station



University Station

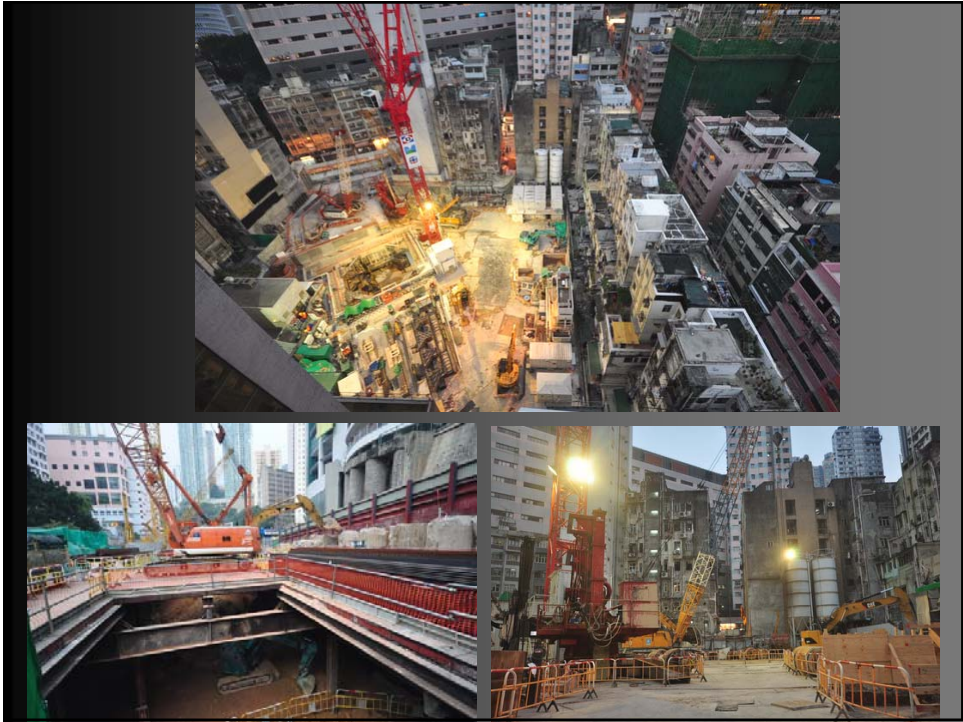
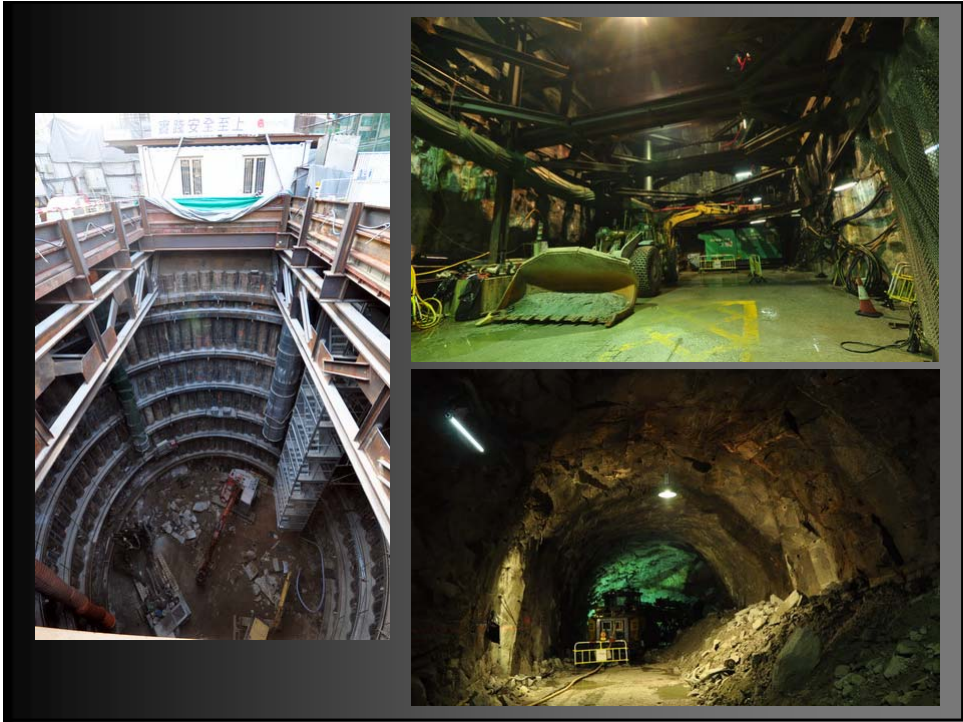


Kennedy Town Station



Section of the Sai Ying Pun Station and the relation with the nearby urban environment





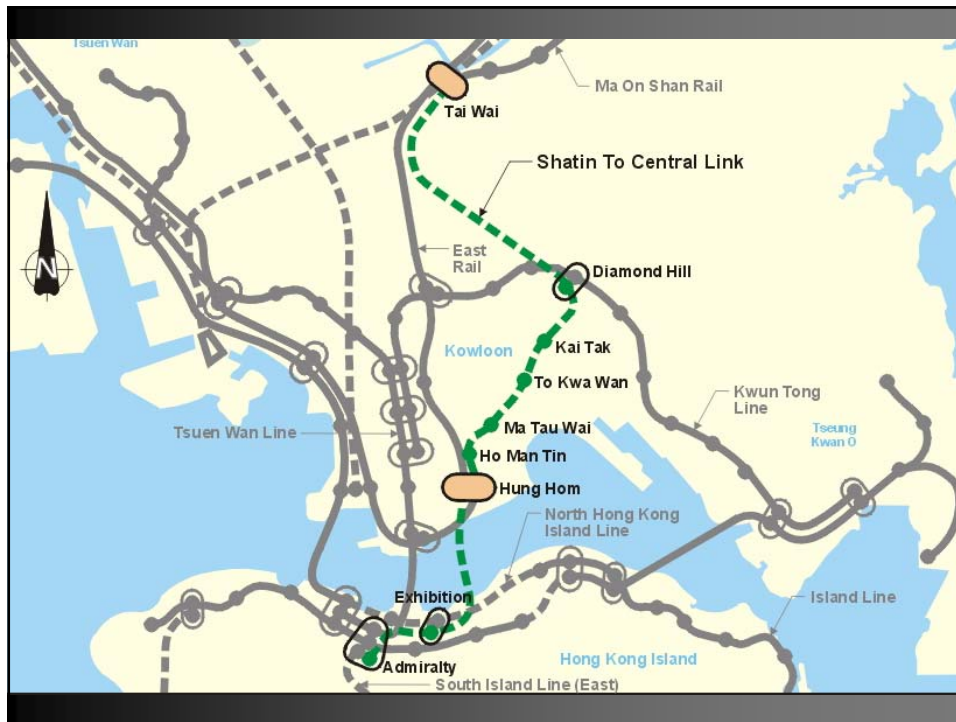


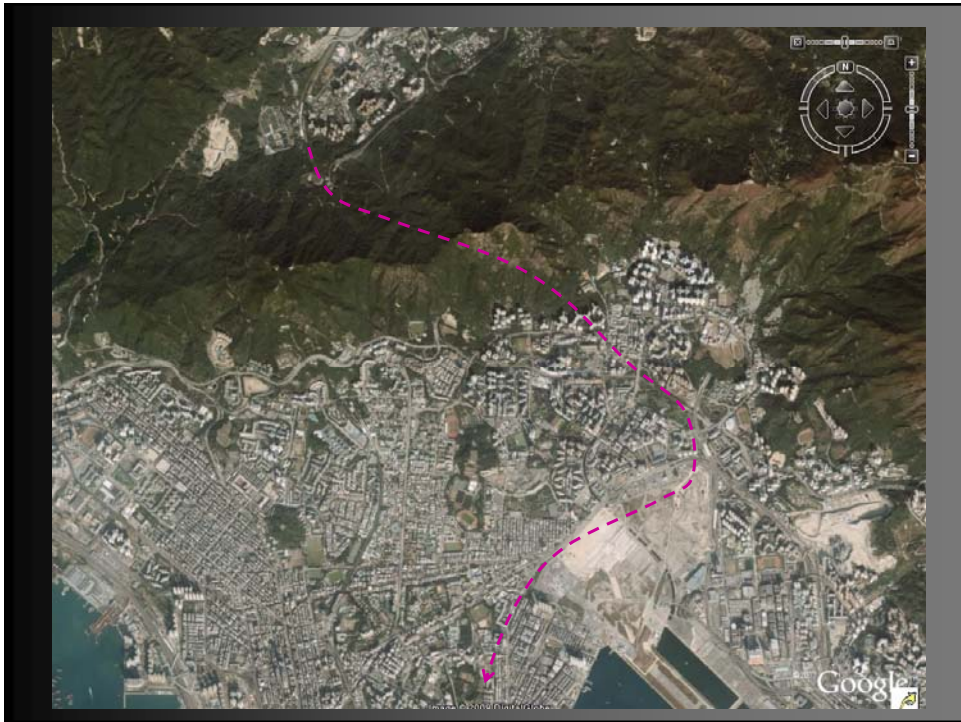
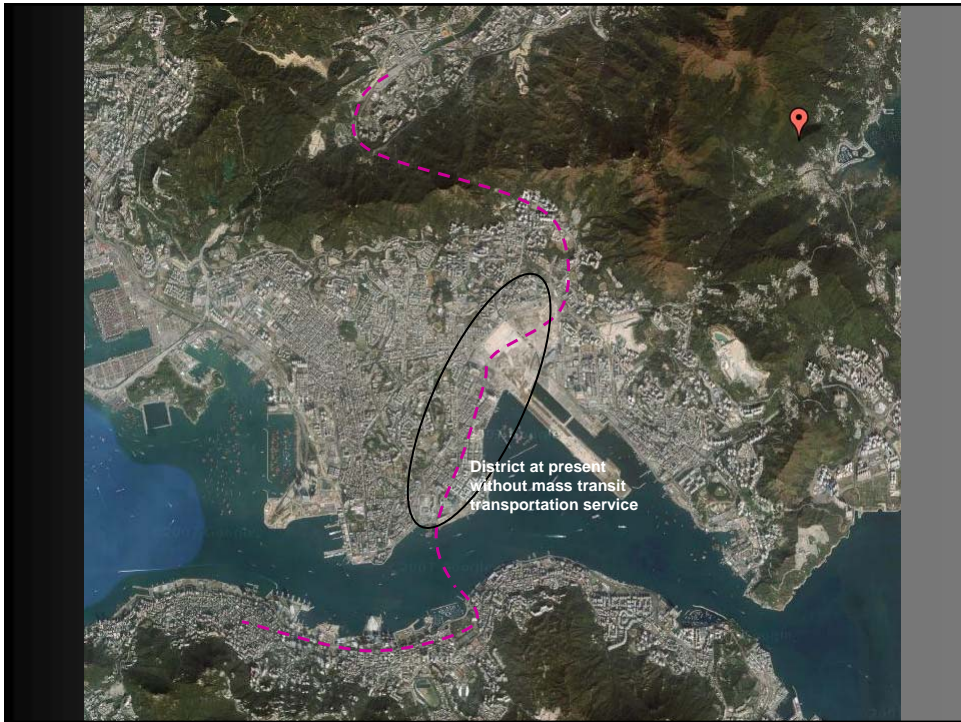
Tunnel construction using
tunnel boring machine (TBM)

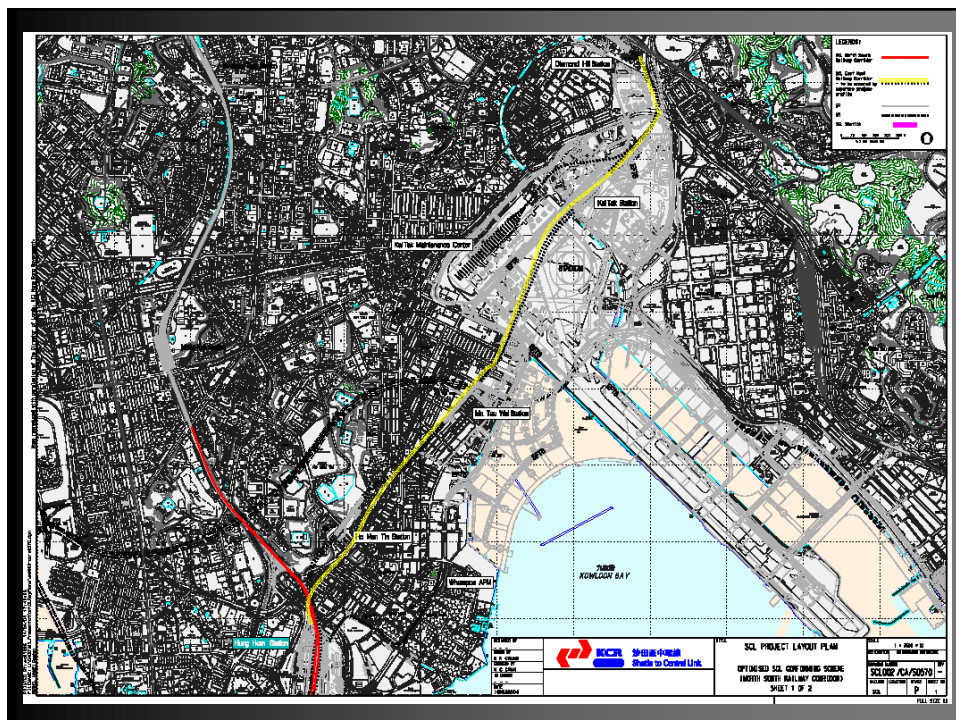
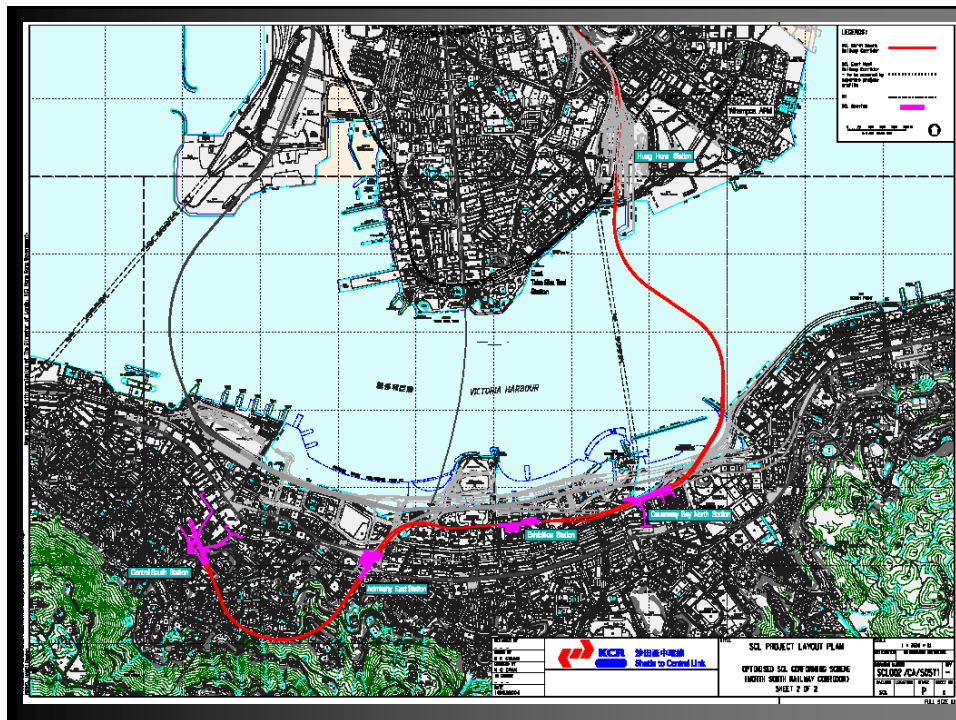


The Sha Tin to Central Link

The Sha Tin to Central Link will connect the Northeast New Territories and Hong Kong Island via East Kowloon. Detailed plan is under preparation and will be ready for public consultation in early 2008. Construction work is expected to start in 2010 for commissioning in 2014 or 2015.







Railway construction within congested urban area can be very complicated. This series of photos shows the works along the Kowloon Southern Link from Tai Kok Tsui to Jordan in October 2007.



Tunnel construction using cut-and-cover method





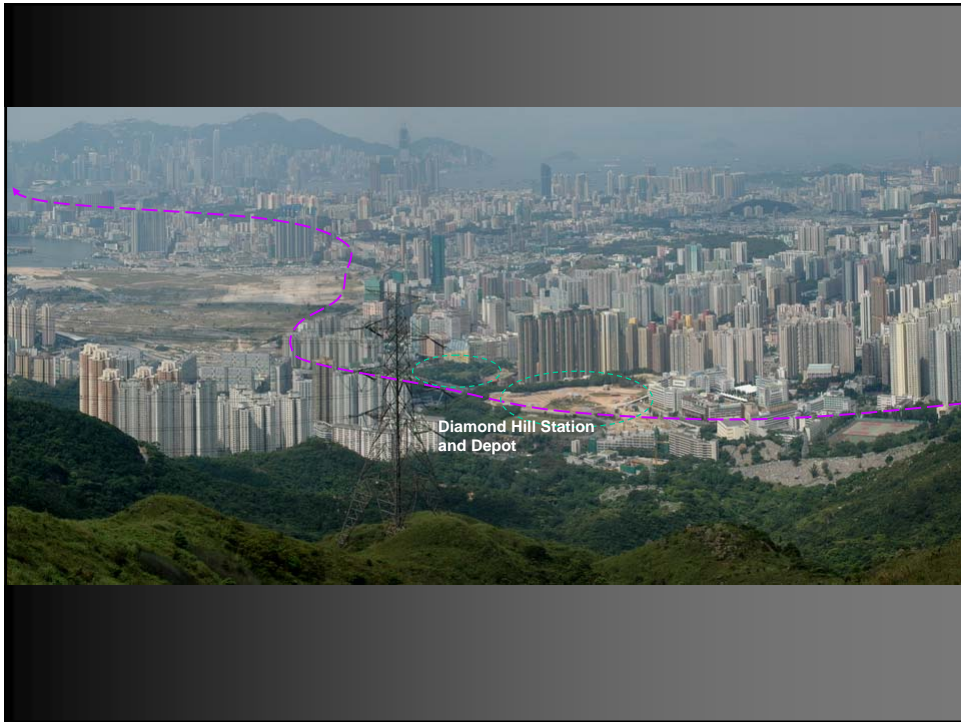
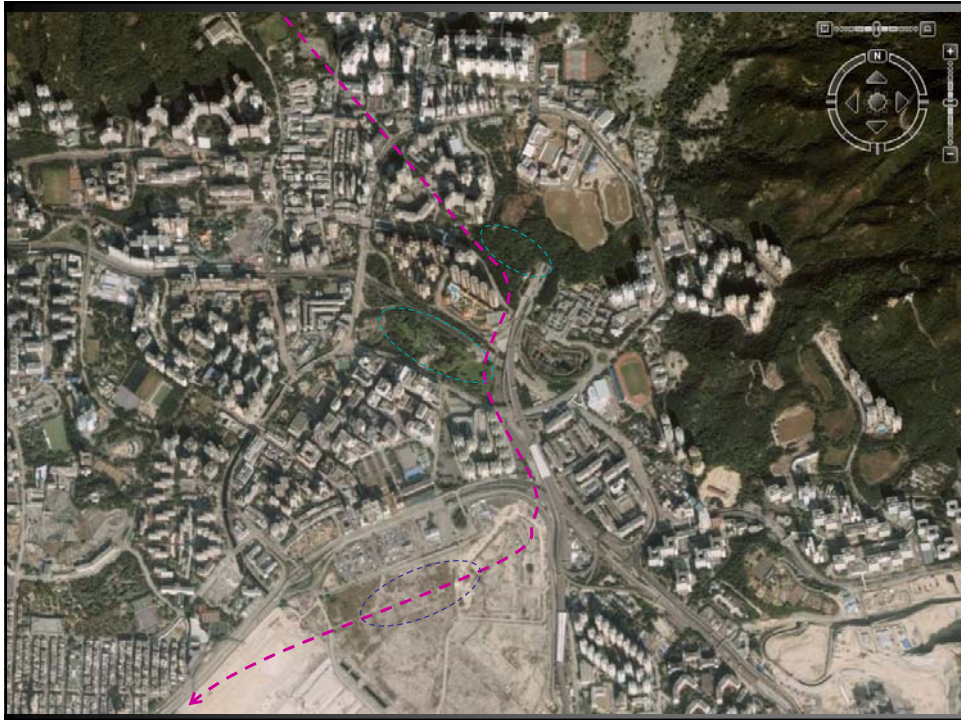
Special features of the Shatin to Central Link

- Total length of the line is about 17 km.
- All the track alignment are constructed underground
- Construction of a 3.5 km tunnel running from Tai Wai to Diamond Hill
- Construction of one 1.5 km harbour-crossing tunnel (using immerse tube method) running from Hung Hom to Causeway Bay
- Kwun Tong Line will also be extended from Yau Ma Tei Station to provide rail service for Whampoa area, with an intermediate station at Homantin.
- Interchanging provisions will be allowed for future connection to East Rail at Tai Wai and Hung Hom; to Kwun Tong Line at Diamond Hill, to the future North Hong Kong Island Line at Causeway Bay and the rail network to the Southeast Kowloon redevelopment (former Kai Tak).
- Expedite urban renewal process for East Kowloon along Hung Hom, To Kwa Wan, Kowloon City and San Po Kong

Operation and Schedule

- A 'service concession approach' will be adopted for the funding of construction cost (HK\$37.4bn) directly and leasing the line to MTR under a 50-year operating concession valued at about HK\$92bn. This allows the government to retain control of the property development rights,
- Works will start in 2010 and scheduled for completion by late 2015.
- In the light of future railway service demands, and in consideration of the interfaces between the SCL and the various development plans and infrastructure projects along its alignment, the Government intends to have the SCL completed in phases, with the **Tai Wai to Hung Hom section by 2015 and the cross harbour section by 2019.**





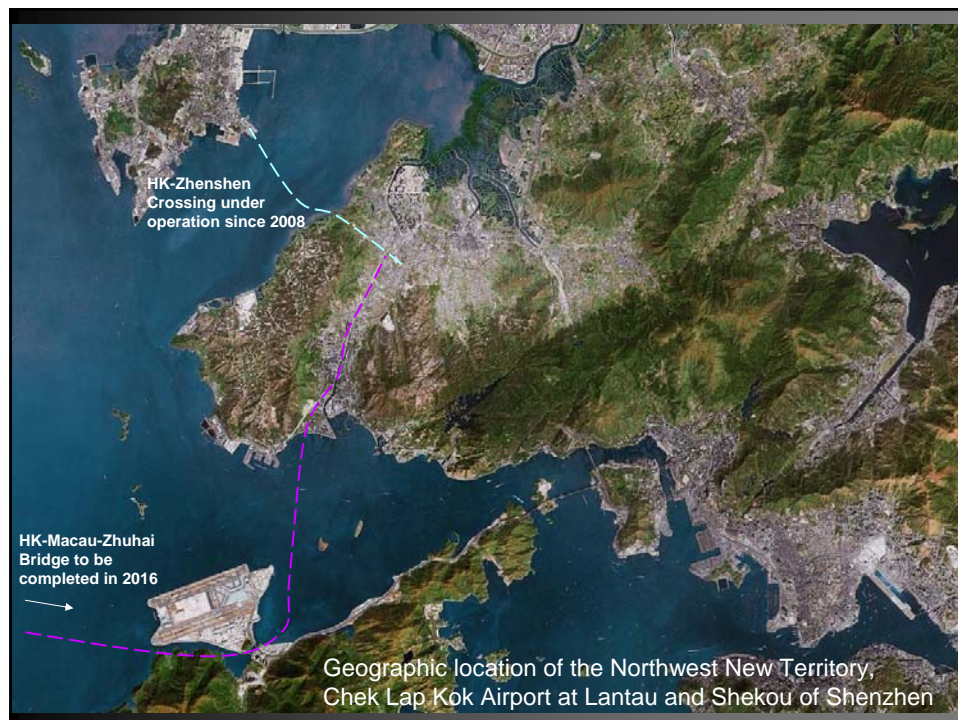


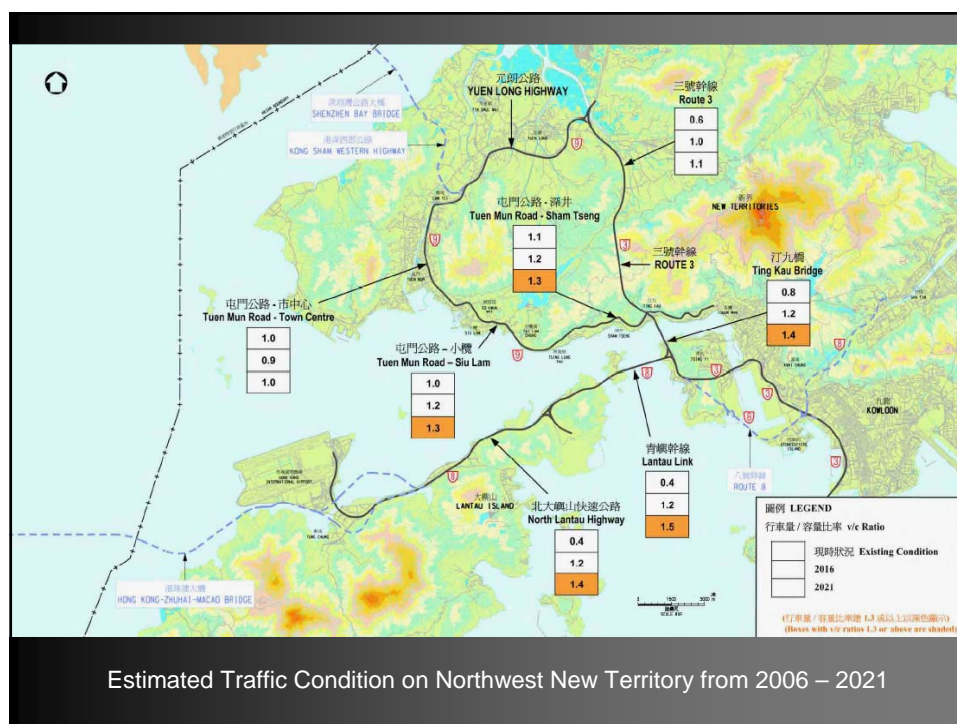
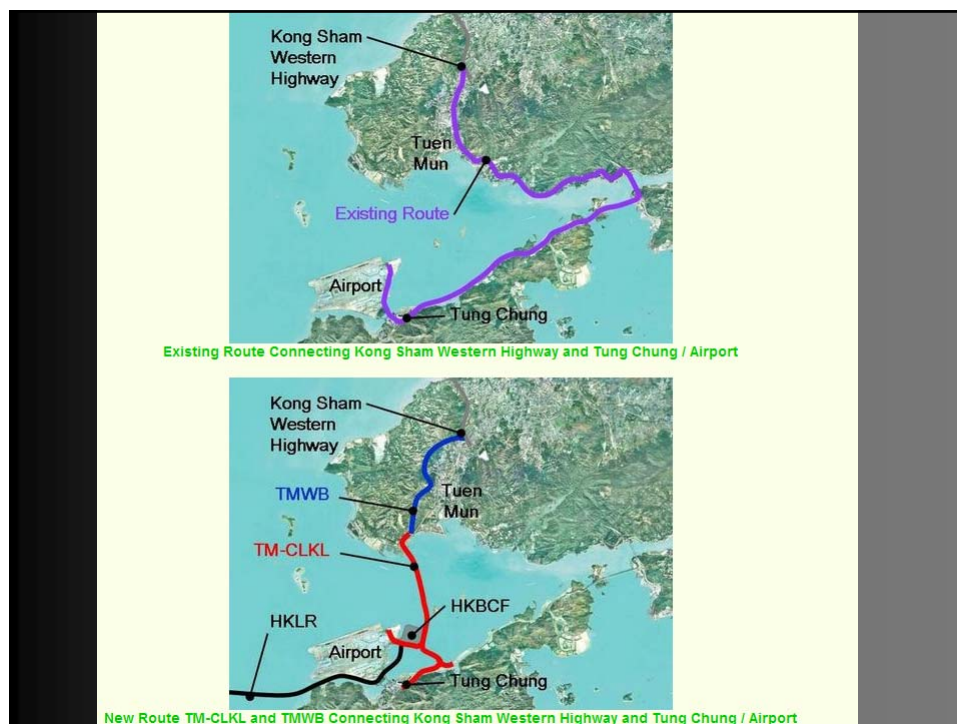
The Tuen Mun Western Bypass and Tuen Mun-Chek Lap Kok Link

To meet future traffic demand for the Northwest New Territories and Lantau, a plan to develop the Tuen Mun Western Bypass (9 km) and the Tuen Mun-Chek Lap Kok Link (4 km in immersed-tube) at a cost of over \$20 billion is proposed.

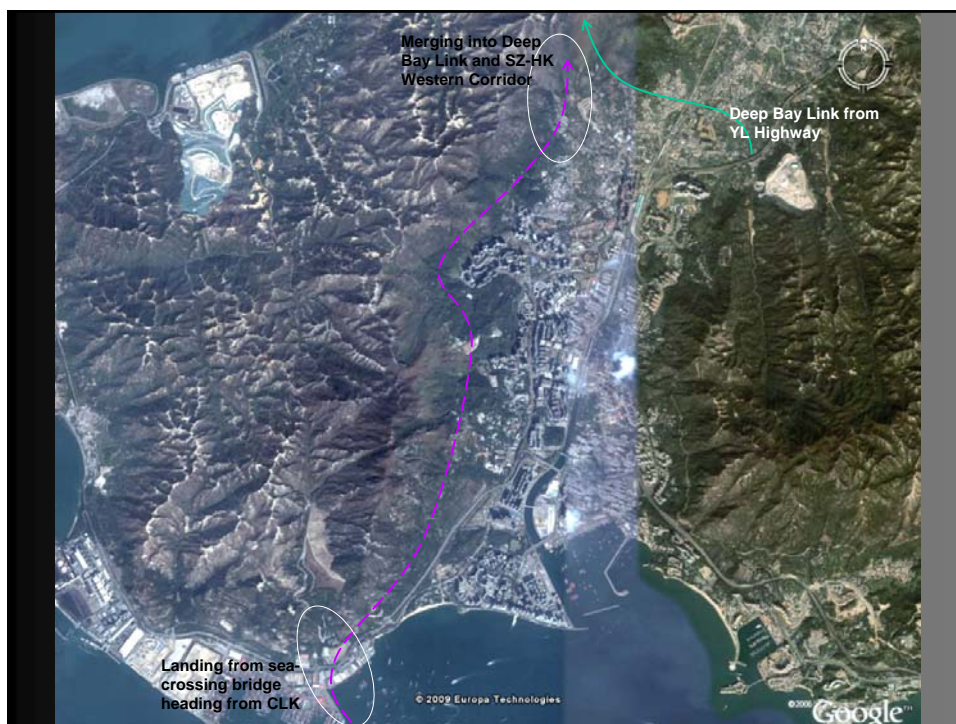
The proposed TM-CLKL and TMWB is a north-south trunk route between North West New Territories (NWNT) and Lantau. It provides the most direct route linking the Shenzhen Bay Bridge, Kong Sham Western Highway, NWNT and Tuen Mun to the Airport and Lantau; and the proposed HZMB. Compared to the existing corridor, traffic between NWNT and Lantau can save a travelling distance by as much as 22 km. In addition, it provides an alternative route to the Airport independent from the existing Lantau Link and North Lantau Highway.

Upon completion of the project in 2016, it will integrate into the proposed HK-Zhuhai-Macao Bridge. The network will create an important traffic hub serving the nearby areas along the Pearl River Delta.





Estimated Traffic Condition on Northwest New Territory from 2006 – 2021



Interchanging the new roadway to the existing network



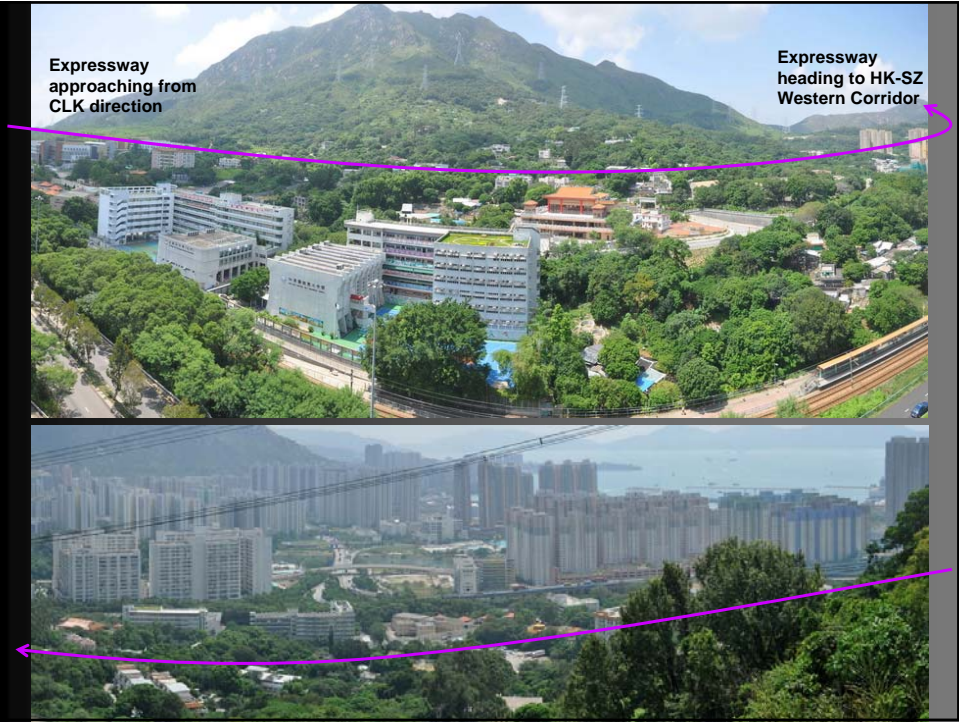
Indicative Connection to Kong Sham Western Highway (Location A)



Indicative Alignment of TMWB



Indicative Connection to Tsing Tin Road (Location B)

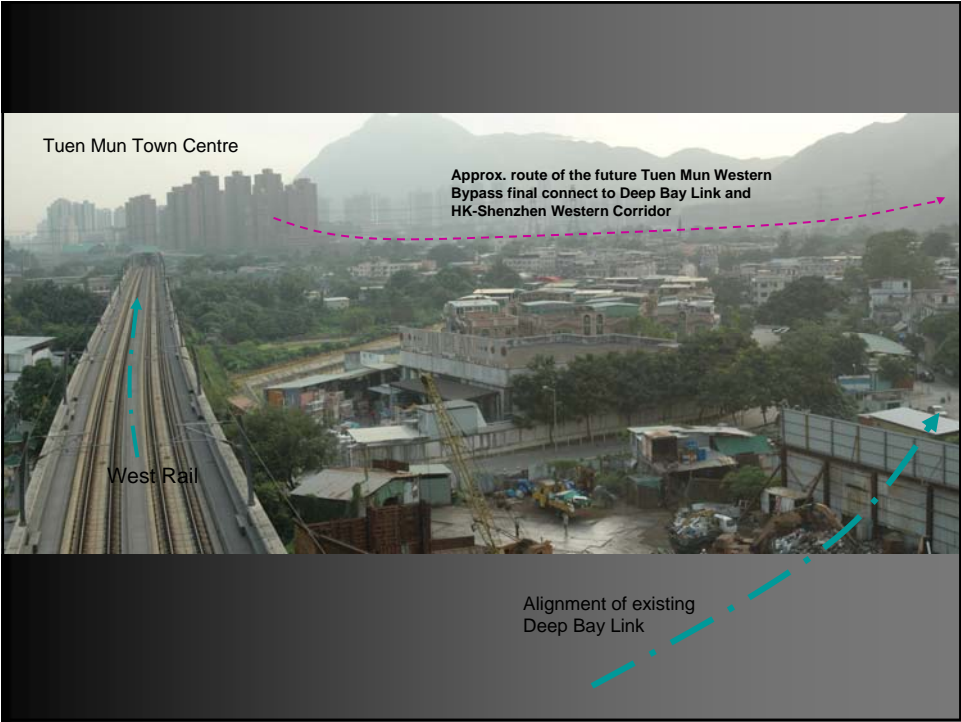


TM-CLK Link landing location

TUEN MUN - CHEK LAP KOK LINK (TM-CLKL)



Landing location of the Tuen Mun-Chek Lap Kok Link at Tai Ho



Location and Scale of the Project

The location of the project is shown on the attached drawing no. HZMN05004-SP0012. The tentative study envelope for the possible alignments covers Tuen Mun Area from north to south, all within the HKSAR boundary.

The scope of the TMWB is to provide a proposed highway and the associated interchanges connecting the Kong Sham Western Highway and the proposed TMCLKL, which is divided into two sections:

TMWB – Southern Section, which comprises the followings:

- (i) a toll plaza near Lung Mun Road and about 2.7km land tunnel continuing from TMCLKL running through Castle Peak and emerging at the south of the Tuen Mun North Freshwater Service Reservoir at Por Lo Shan;
- (ii) about 1.1km viaduct emerging from the northern portal of (i) running between the Freshwater Service Reservoir and Saltwater Service Reservoir, which then turns northward to the western hillside of Leung King Estate, to connect to TMWB - Northern Section; and
- (iii) about 1km link roads bifurcating from (ii) near the Service Reservoirs, to connect to Tsing Tin Road to allow traffic movement to/from Tuen Mun East.

TMWB – Northern Section, which comprises the followings:

- (i) about 2.7km long land tunnel continuing from TMWB - Southern Section at the west of Leung King Estate through Castle Peak encroaching upon the Tsing Shan Firing Range and emerging at the north of Villa Pinada;
- (ii) about 0.4km short viaduct continuing from the northern portal of (i) above, spanning across the valley at the north of Villa Pinada and ending at the western side of Chung Shan;
- (iii) about 0.4km short tunnel through Chung Shan and emerging at the east of Chung Shan; and
- (iv) about 1.7km viaduct and associated slips roads bifurcating to connect with Kong Sham Western Highway at both the northern side towards Shenzhen Bay Bridge (formerly known as Shenzhen Western Corridor) and the southern side towards Yuen Long Highway.

The above proposed structural forms are all tentative at this stage and subject to review. Other structural forms will be investigated if necessary.

There will be refinement of the highway alignment within the tentative study envelope. Selection of the alignment will be dependent on a variety of factors such as environmental impacts, construction programme and cost, planning and engineering considerations, traffic implications, land resumption requirements, etc.

Cross-boundary Infrastructure Projects

Guangzhou-Shenzhen- HK Express Rail Link

The Guangzhou-Shenzhen-HK Express Rail Link (ERL) is an express rail line connecting HK, Shenzhen and Guangzhou. It aims at providing a fast and convenient railway service linking the three places.

With the ERL, the journey time between HK and Guangzhou will be reduced from about 100 minutes as at present to within an hour. The proposed Mainland section will be connected to the Beijing-Guangzhou Passenger Line and the Hangzhou-Fuzhou-Shenzhen Passenger Line which are part of the national railway system. Hence, through this rail link, HK can be connected directly with major Mainland cities, such as Beijing and Shanghai. Passengers using the ERL can also reach other major cities in the PRD via the Intercity Rapid Rail.

Upon its completion, the ERL will help promote Hong Kong as the gateway to the Pearl River Delta area, further strengthen the economic ties and cooperation between Hong Kong and the Mainland, promote mutual economic prosperity and development, and raise the competitiveness of the region as a whole.

Provision of a common immigration and customs clearance system is proposed to increase passenger flow. Planning and design processes is target to be completed within 2008 and will commence construction in late 2009.

Present status:

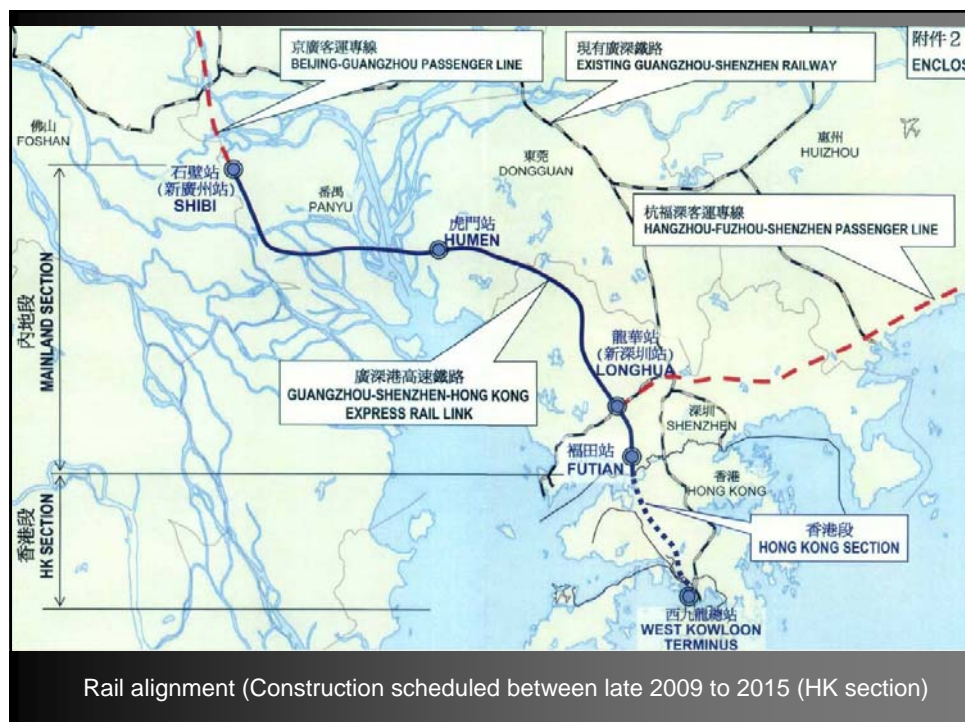
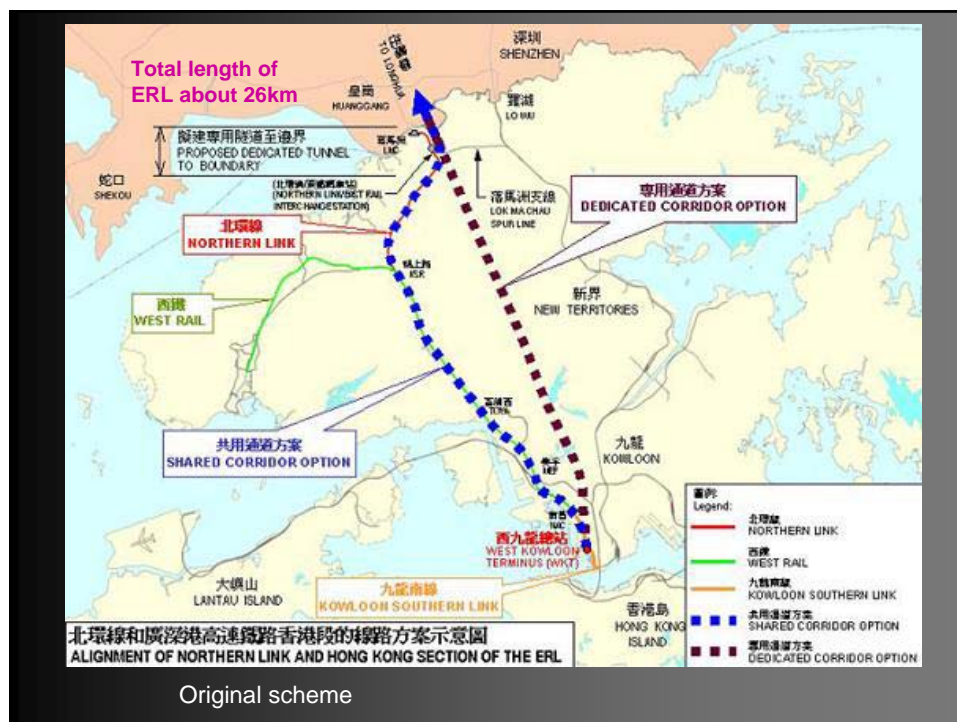
A joint expert group co-led by the Ministry of Railway of the Central Government and the HKSAR Government has been pressing ahead with the advance planning for the ERL, and agreement has been reached regarding the alignment of the Mainland section.

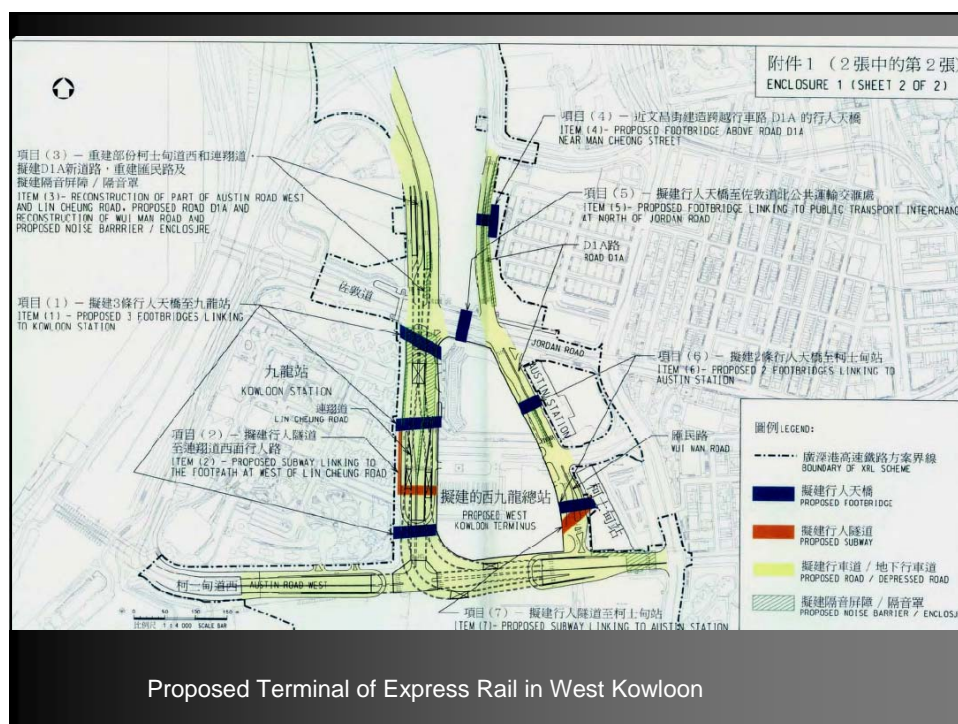
The Mainland section of the ERL will start from Shibi (石壁) in Guangzhou, run through Humen (虎門) in Dongguan and Longhua (龍華) in Shenzhen, and then cross the boundary through Huanggang (皇崗) into Hong Kong. The construction of the Mainland section from Shibi to Longhua has already started, and arrangements will be made to synchronize the construction of the section from Longhua in Shenzhen to the boundary with the project programme of the Hong Kong section. The HKSAR and Shenzhen Municipal Governments are exchanging views on the connection between the Mainland and the Hong Kong sections. The common goal of both sides is to build a rail that can cater for the need of passengers to and from Hong Kong.

For the Hong Kong section, the Executive Council has given green light to its further planning and the Government has invited the Kowloon-Canton Railway Corporation to proceed with further planning work of the project. The 30-km long Hong Kong section of the ERL will have its terminus at West Kowloon.

The 26-km Express Rail Link (XRL) runs from the terminus in West Kowloon to Shenzhen. There will be no intermediate station within the Hong Kong territory. The alignment runs beneath Yau Tsim Mong, Sham Shui Po, Kwai Tsing, Tsuen Wan and Yuen Long Districts. The Express Rail Link will operate entirely in dedicated tunnels.







Proposed Alignment and Method of Construction

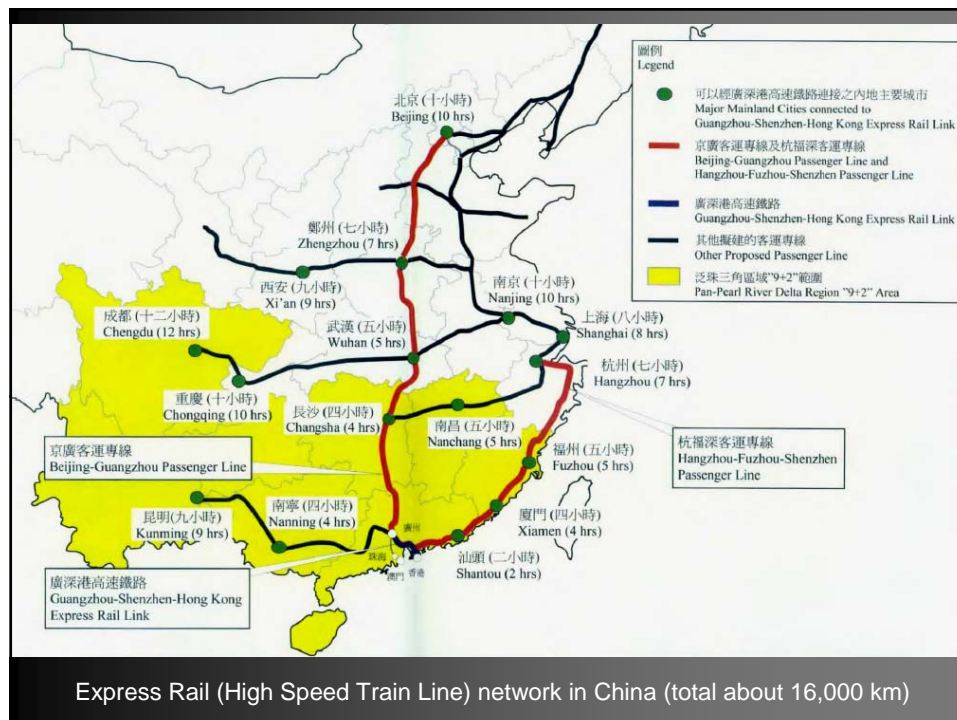
The XRL passes beneath Jordan Road and Hoi Wang Road from WKT by cut and cover tunnel construction to a construction shaft located adjacent to Cherry Street.

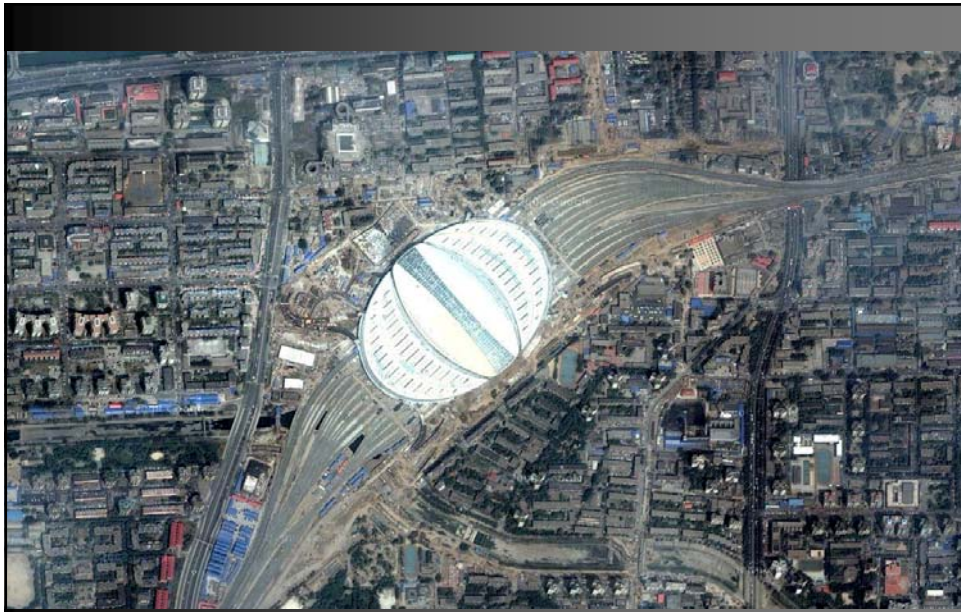
The tunnel continues northwards and passes beneath Tai Kok Tsui, Sham Shui Po, Shek Kip Mei, Shing Mun Country Park and Tai Mo Shan Country Park towards Shek Kong. This section will be constructed using tunnel boring machines (TBM) in soft ground and drill and blast techniques in rock strata. Ventilation buildings/shafts and emergency access points are provided at Tai Kok Tsui, So Uk and Shek Yam. Adits will be constructed to connect the ventilation buildings in So Uk and Shek Yam with the main tunnels.

An emergency rescue station will be constructed by cut and cover method at Shek Kong. The tunnel proceeds northwards and passes beneath the Lam Tsuen Country Park towards Ngau Tam Mei. The section between Tai Mo Shan and Lam Tsuen Country Park will be constructed using TBM techniques, while the section beneath Lam Tsuen Country Park will be constructed using drill and blast techniques. Ventilation buildings and emergency access points will be located at Lui Kung Tin, Tsat Sing Kong, Ngau Tam Mei and Wo Shang Wai.

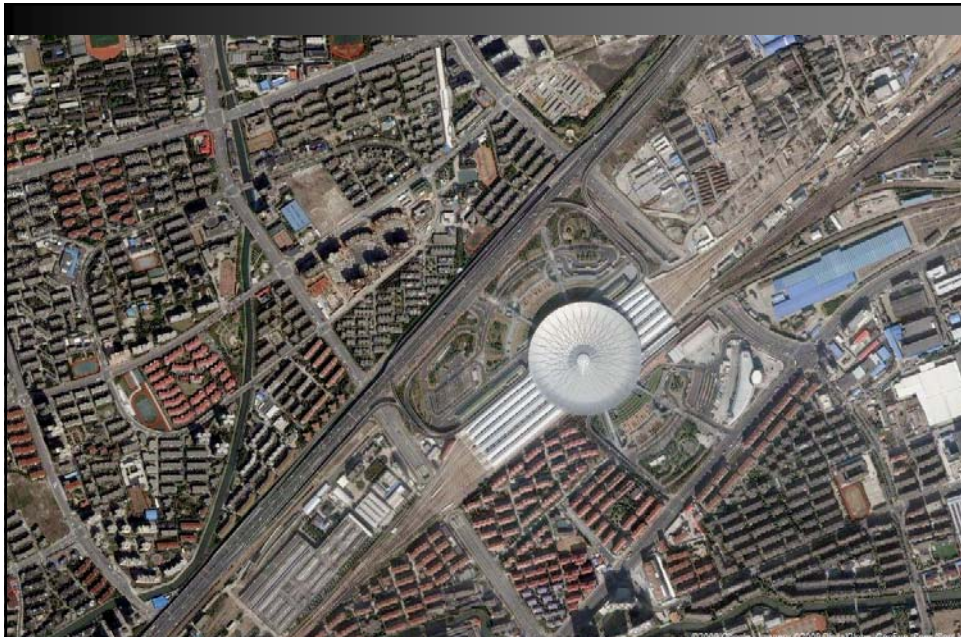
North of Ngau Tam Mei, the alignment will pass beneath San Tin and Mai Po wetlands to connect to the Mainland reception/access shaft located north of the Shenzhen River. For the cross-boundary section, TBMs will be used for tunnel construction beneath the wetlands. A ventilation building will be constructed at Wo Shang Wai.

China is one of the countries in the world that has a most developed railway system since 1950. In the recent 20 years, the expansion of the railway network is developed in an un-precedent rapid way due to the improvement in overall economy. Every bigger city in China has her own central railway station that can connect to almost everywhere inside China.





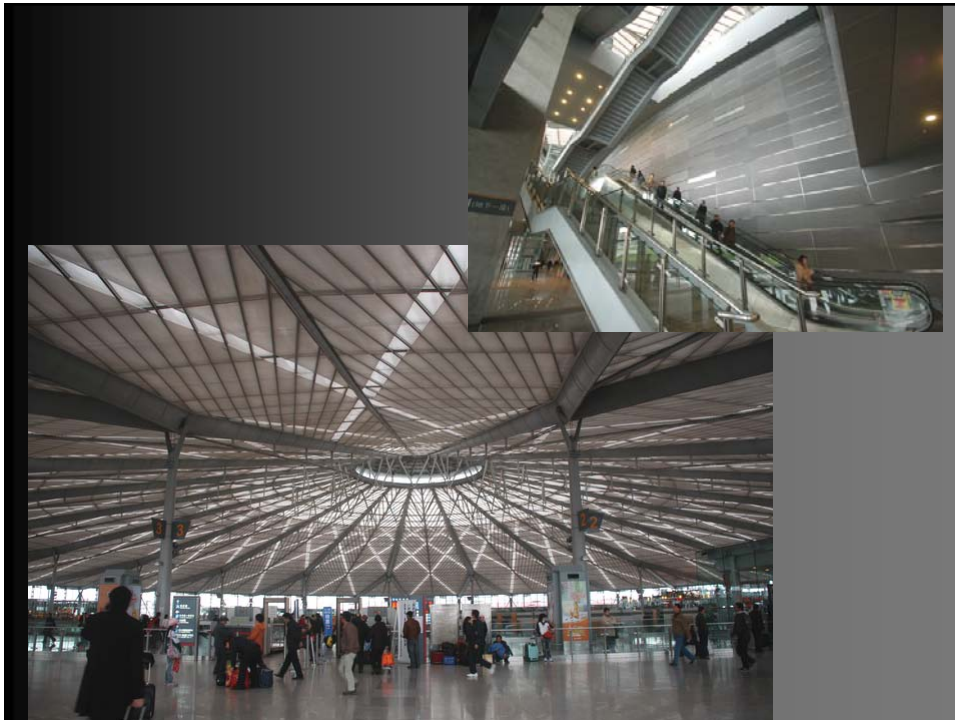
New Beijing Railway Station

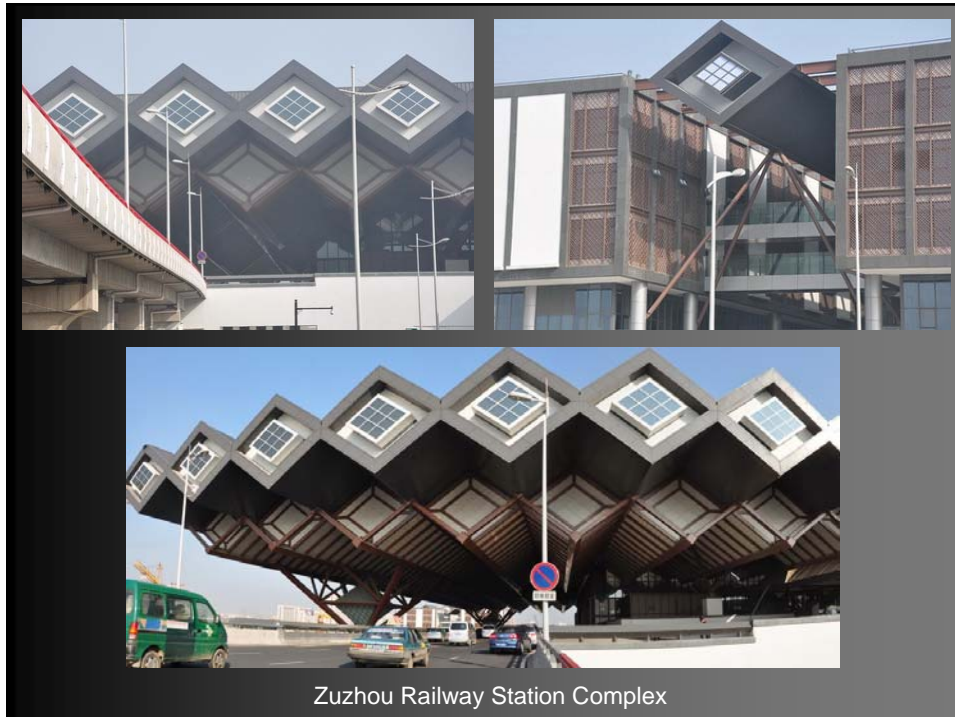


New Shanghai South Railway Station

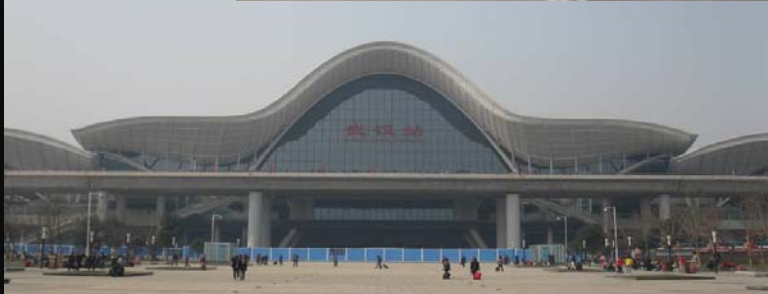
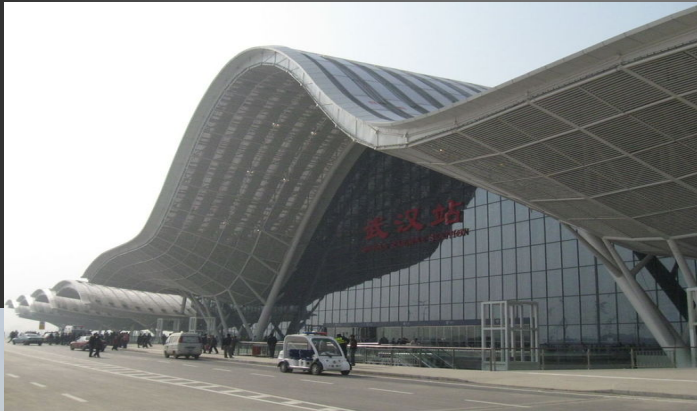


New Shanghai South
Railway Station Complex

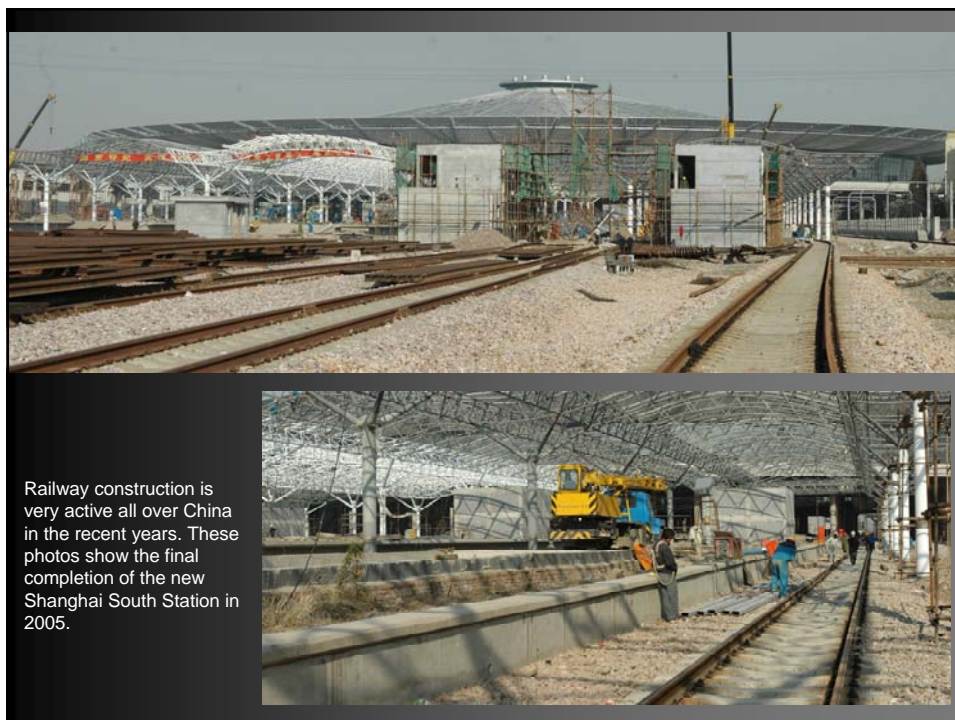




Wuhan Railway
Station Complex



The Station Platform



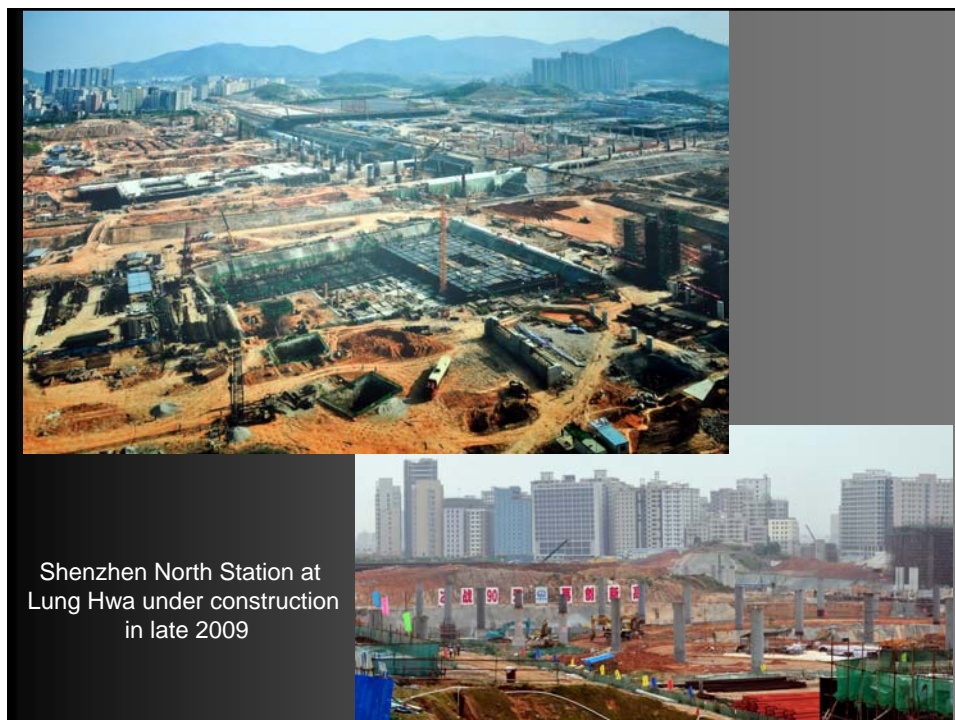
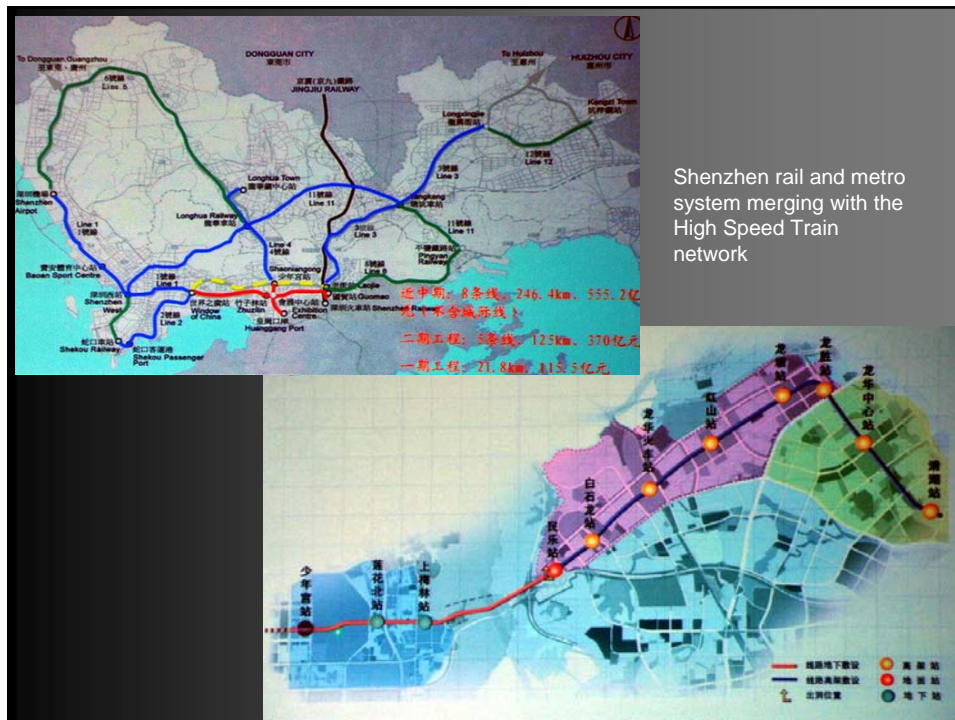


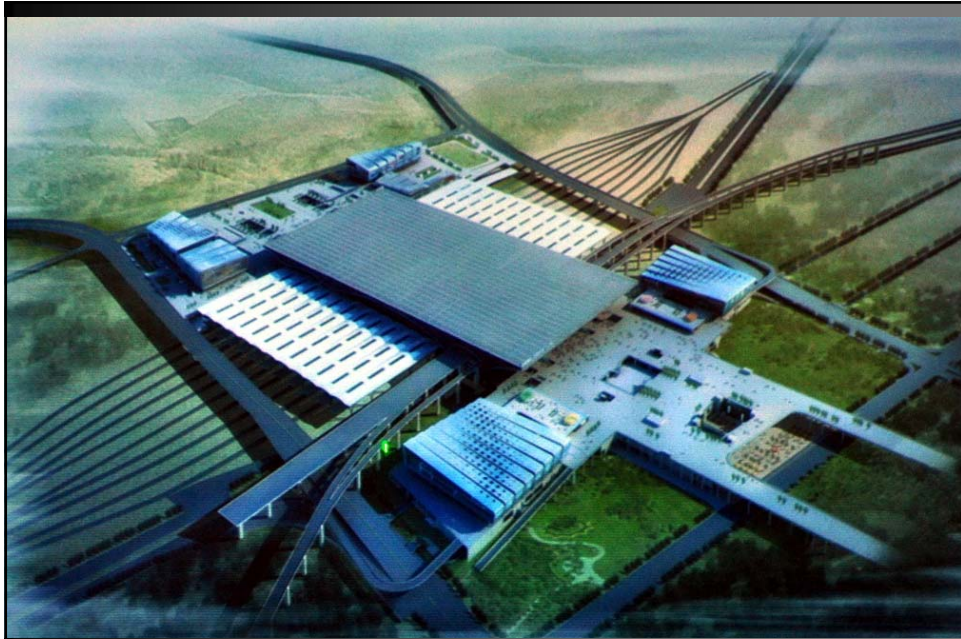
Tracks leading into the
Guangzhou Station



Tibet Quighai Railway







Shenzhen North Station at Lung Hwa under construction in late 2009

High Speed Rail Guangzhou North Station



Opening of the High Speed Rail Wuhan Station
by the end of December 2010