Planning and Development of the Ma On Shan to Tai Wai Link and the KCRC Extension to Tsimshatsui

BACKGROUND

The Ma On Shan to Tai Wai Rail Link (MOS Rail) together with the extension of the Kowloon-Canton Railway from Hung Hom to Tsimshatsui (TST Extension) form one of the priority projects recommended under the 1994 Railway Development Strategy. Both projects are essential for improving access to Ma On Shan and to facilitate further development of the region. The two railway sections are complementary in nature. With the TST Extension, MOS Rail passengers going to Tsim Sha Tsui can stay on the KCR, thereby relieving the pressure on the MTR, in particular the interchange at Kowloon Tong Station and MTR Nathan Road Corridor.

In November 1995, an engineering feasibility study on these two projects was commissioned by Highways Department and the study was completed in 1997.

On the MOS Rail project, the engineering feasibility study recommended a domestic passenger line with nine stations from Tai Wai to Ma On Shan and a depot at Tai Wai, and the system should be designed to allow a future extension into the urban area. On the TST Extension project, the engineering feasibility study has examined a few alignment options, including the Salisbury Road and the Middle Road options, with the latter recommended in the engineering scheme.

In December 1997, the Executive Council in Council decided that approval in principle be given for the proposed engineering schemes for MOS Rail and TST Extension and KCRC should be invited to submit proposals for the implementation of both projects as a package. In June 1998, KCRC submitted the proposal for implementation of both projects.

MOS RAIL

The railway scheme and amendments to scheme were gazetted under Railways Ordinance in March 1999 and January 2000 respectively. The Chief Executive in Council authorised the railway scheme and imposed some modifications, and the gazette of the Authorisation was published on 27 October 2000.

Project Description

KCRC's proposal provides an approximately 11.4-km long electrified double-track railway system connecting Tai Wai in Sha Tin and Wu Kai Sha in Ma On Shan for the provision of domestic passenger service (Figure 1). Nine stations (Tai Wai, Che Kung Temple (Figure 2), Sha Tin Wai, City One, Shek Mun, Tai Shui Hang, Heng On, Ma On Shan and Wu Kai Sha) and a depot in Tai Wai are proposed. It generally follows the alignment in our recommended engineering scheme. There were, however, a number of design modifications proposed by KCRC including cross-platform interchange at Tai Wai, the use of island platforms (Figure 3), a closed ticketing system and a multi-plenum noise attenuation system on viaduct (Figure 4).

Major Design Considerations

The MOS Rail will pass through residential centres and about 70% (8.2 km) of the railway will be on viaduct structure. The major issue is on the environmental aspects including the noise and visual impact.

KCRC have proposed multi-plenum noise attenuation system similar to those adopted in West Rail to reduce the noise generated from train movement on the viaduct section. The design aims to absorb noise emitted at source.

In accordance with the Environmental Impact Assessment Ordinance (EIAO), KCRC have completed an Environmental Impact Assessment Report. The Director of the Environmental Protection (DEP) has approved the Report and issued the Environment Permit (EP) on 15 January 2000. Subsequently KCRC have submitted an application for variation of an EP and DEP has issued an amended EP.

TST EXTENSION

The railway scheme was gazetted under Railways Ordinance in April 1999.

Having considered the views expressed by hotels and

the then Yau Tsim Mong Provisional District Board on the pedestrian access for Tsim Sha Tsui, amendments to the scheme were gazetted in October 1999 to extend the associated subway network across Chatham Road South to Tsim Sha Tsui East.

Following a value engineering review undertaken by KCRC, amendments were made to shift part of the railway alignment and station box slightly southwards to avoid cutting Signal Hill and to improve the station design. The associated subway network was also extended to include a new subway along Middle Road to facilitate pedestrian access from Nathan Road. These amendments were gazetted in March 2000. The gazetted railway scheme and the related amendments were subsequently authorized by the Chief Executive in Council.

Project Description

The authorized railway scheme includes a 1-km extension running southward from the existing East Rail terminus at Hung Hom and crossing over the Cross Harbour Tunnel structure to the business / commercial area of Tsim Sha Tsui (Figure 5). It runs underground below Salisbury Road, along the East Tsim Sha waterfront to a new station located under Wing On Plaza Garden and Middle Road Children's Playground (Figure 6) . It will provide a second interchange with the MTR, which will relieve congestion at the existing interchange at Kowloon Tong station when MOS Rail becomes operational.

A subway network connecting the new KCR station to the existing MTR Tsim Sha Tsui Station and the area west of Nathan Road will also be built along Blenheim Avenue, Mody Road and Middle Road to facilitate the interchange function and to enhance the pedestrain facilities in the Tsim Sha Tsui area. For the subway section along Blenheim Avenue and Mody Road which serves as the main interchange route, travelators will also be provided to enhance passenger's comfort.

Major Design Considerations

The planning of the railway alignment has taken into consideration the following major design considerations:-

- the need to build the extension underground as the alignment falls in built-up areas;
- the objective to minimize impact on Signal Hill, a place of historical significance;
- the need to minimize impact on existing developments in the areas including the Mariners' Club, Hermes Houses, Middle Road Multi-storey Car Park Building and International Mail Centre;
- the need to provide public pedestrian subway network for the new Tsim Sha Tsui Station which include a link to the MTR Tsim Sha Tsui Station for interchange purpose;
- the vertical alignment is constrained by the Cross Harbour Tunnel structure. The bored tunnel method is technically not feasible due to inadequate cover depth;
- interface with the planned Salisbury Road Underpass;
- interfaces with the existing underground facilities, such as cooling water mains, storm drains and sewers; and
- interface with the completed Hung Hom Bypass.

PROGRAMME AND PROGRESS

MOS Rail

The construction was included in four main contracts. The first three contracts, TCC200 for the section from Tai Wai to Shek Mun, TCC300 for the section from Shek Mun to Wu Kai Sha and TCC400 for the Tai Wai Station has commenced in November 2000, and TCC 500 for the Tai Wai Depot was also commenced in February 2001.

The project is scheduled for completion in end 2004.

TST Extension

Construction of the railway and subway works were included in four main contracts. The first contract (HCC400) on the Hung Hom Station modification had commenced in end November 2000. The other three contracts (HCC300, HCC301 and HCC302) on the station, tunnel and subway works respectively also commenced in March 2001.

Completion of works and opening of the TST Extension are scheduled for end August 2004.

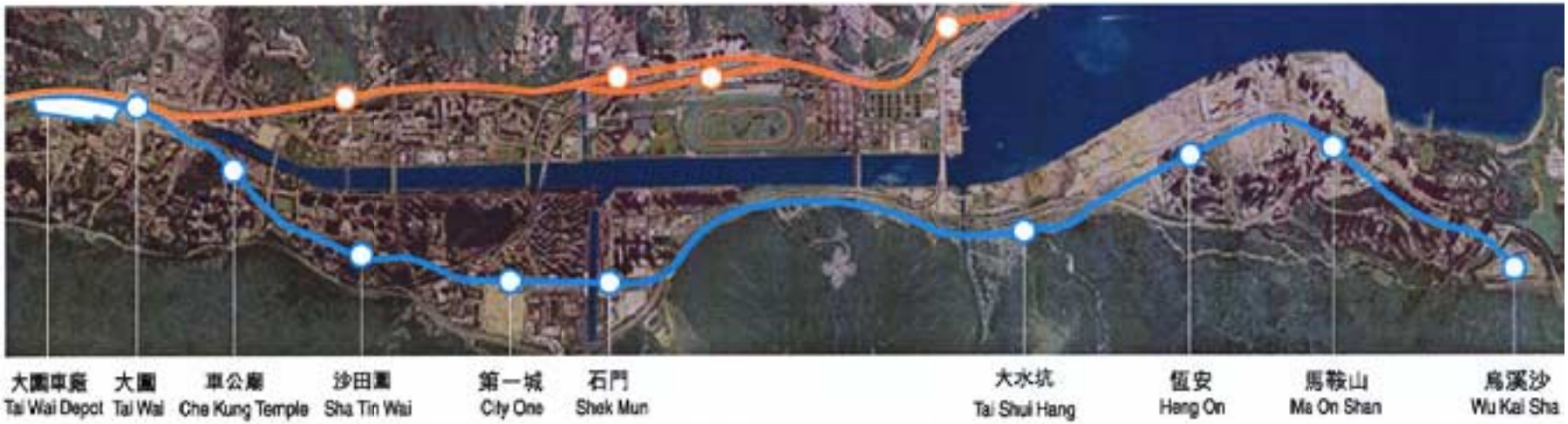


Figure 1

馬鞍山鐵路定線
MOS Rail Alignment

Figure 2

車公廟站
Che Kung Temple Station

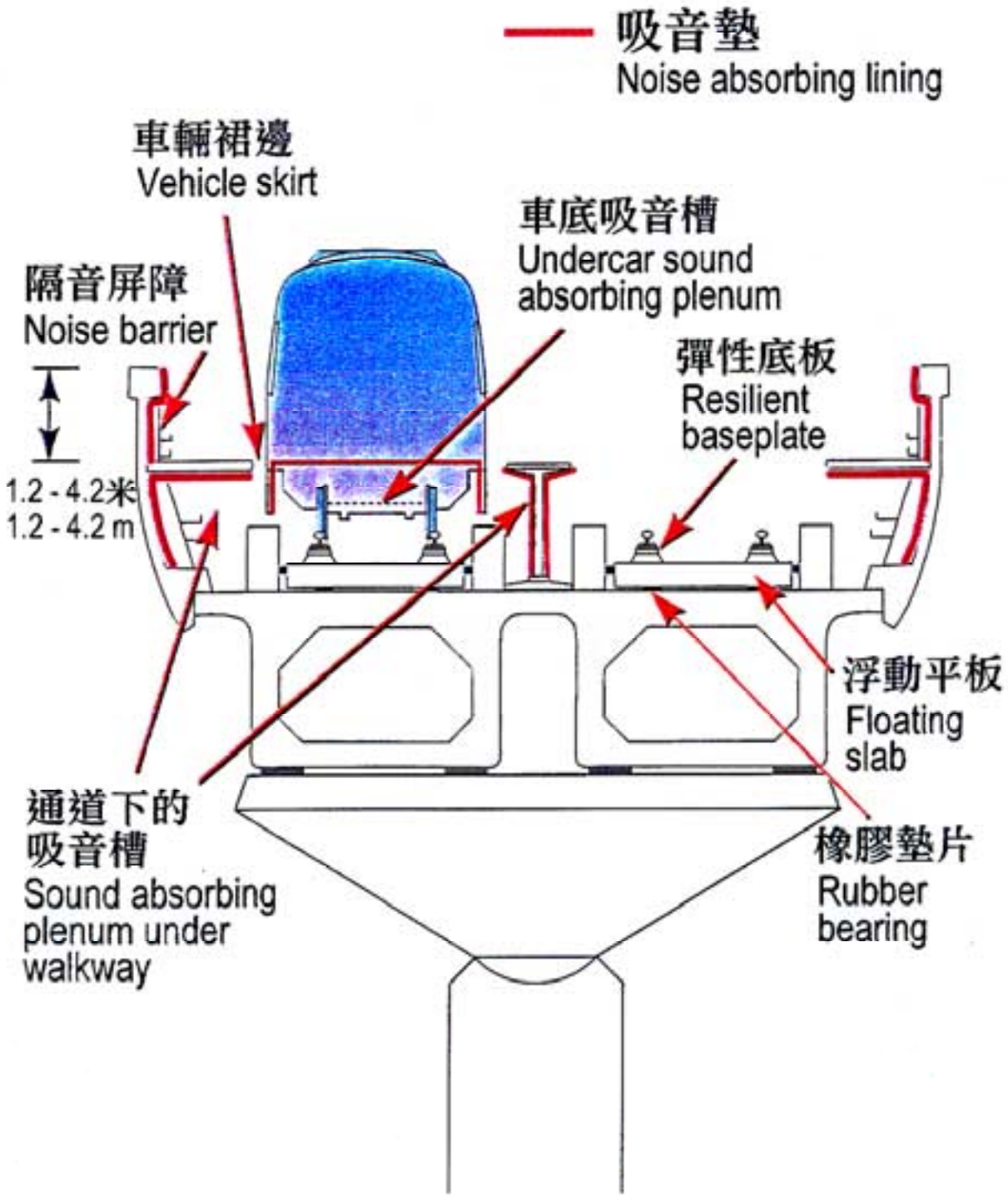
Figure 3

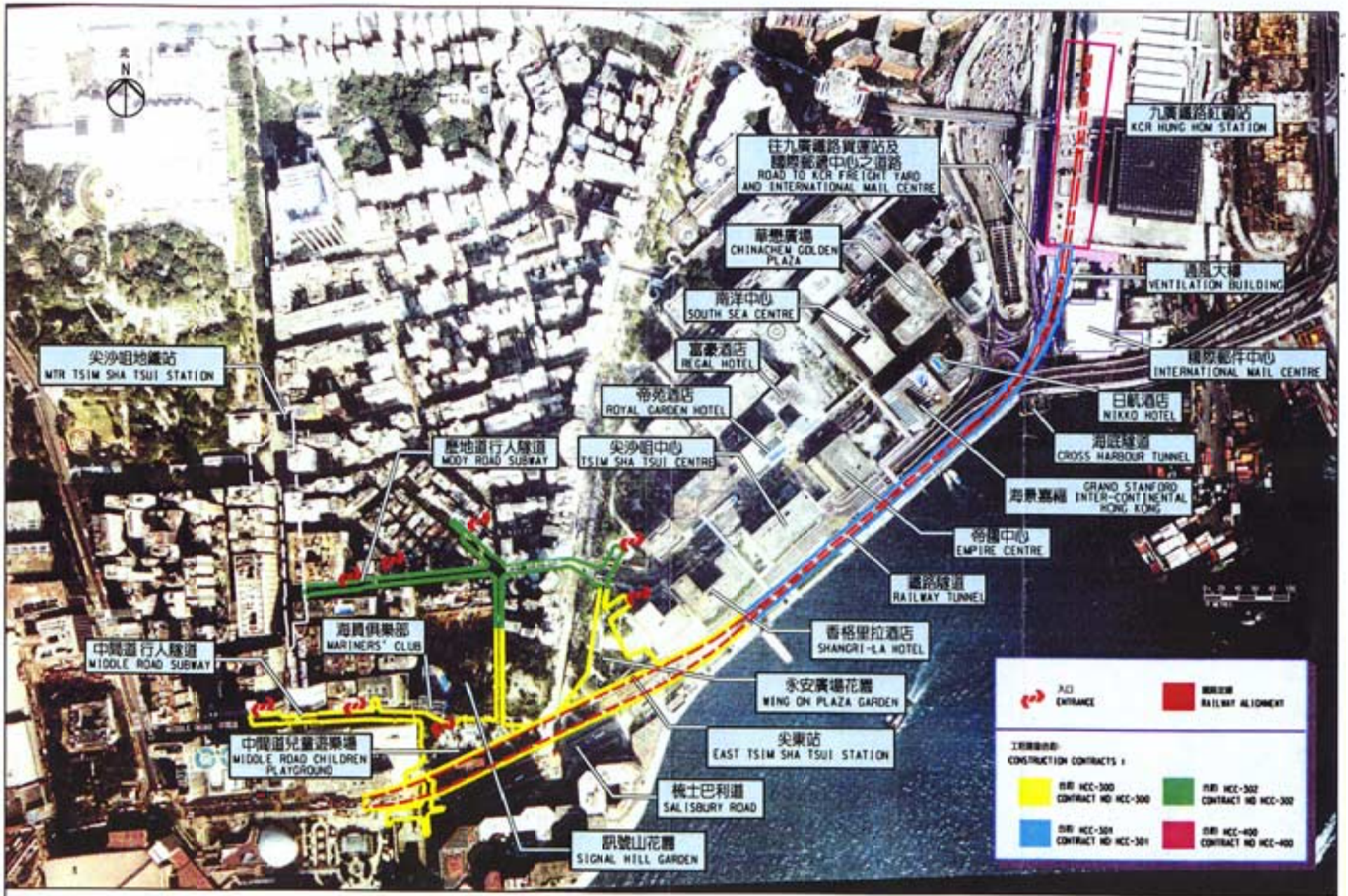
島式月台設計
Island Platforms Design

Figure 4

高架軌道多重隔音系統

Multi-Plenum Noise Attenuation System for Viaduct





紅磡至尖沙咀東鐵路定線及工程建造合約圖　Figure 5

HONG KONG TO EAST TSIM SHA TSUI RAILWAY ALIGNMENT AND CONSTRUCTION CONTRACT PACKAGES

Figure 6
尖東站中間道入口
Middle Road Entrance of East Tsim Sha Tsui Station