

For discussion
on 8 May 2002

PWSC(2002-03)18

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 - HIGHWAYS

Transport – Railways

47TR – East Rail Extension – essential public infrastructure works for Ma On Shan to Tai Wai Rail Link – public transport interchanges at Tai Wai Station and Wu Kai Sha Station

Members are invited to recommend to Finance Committee the upgrading of **47TR** to Category A at an estimated cost of \$92.1 million in money-of-the-day prices.

PROBLEM

We need to provide two public transport interchanges (PTIs) at Tai Wai Station and Wu Kai Sha Station of the Ma On Shan to Tai Wai Rail Link (MOS Rail) to facilitate the public to interchange between road-based transport and the railway.

PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport, proposes to upgrade **47TR** to Category A at an estimated cost of \$92.1 million in money-of-the-day (MOD) prices for the design and construction of two PTIs at Tai Wai Station and Wu Kai Sha Station of the MOS Rail.

PROJECT SCOPE AND NATURE

3. **47TR** comprises the detailed design and construction of –
- /(a)
- (a) a PTI to serve the future integrated Tai Wai Station of the existing East Rail and the MOS Rail; and
 - (b) a PTI to serve Wu Kai Sha Station of the MOS Rail.

Site plans of the PTIs at Tai Wai Station and Wu Kai Sha Station are at Enclosures 1 and 2 respectively.

4. The Kowloon-Canton Railway Corporation (KCRC) commenced construction of the MOS Rail in November 2000. Subject to funding approval, detailed design of **47TR** will proceed for works to start in January 2003 and complete by end of 2004 to tie in with the commissioning of the MOS Rail.

JUSTIFICATION

5. To develop railways as the backbone of Hong Kong's transport system and to coordinate public transport services to maximise efficiency, convenient PTI facilities will be provided at railway stations where necessary to facilitate provision of feeder services for passengers.

6. To tie in with the commissioning of the MOS Rail, we need to construct two proposed PTIs to provide interchange facilities for buses, green minibuses, taxis and other vehicles. The PTIs will serve as major transit points for commuters to interchange between road-based transport and the railway.

7. The alignment of MOS Rail is drawn along densely populated areas with the majority of population living within walking distance of the stations. There is no substantial need for new interchange facilities save at Tai Wai and Wu Kai Sha Stations of the MOS Rail.

8. The new PTI at Tai Wai Station would replace the existing bus terminus which could not cope with the expected increase in the demand for transport interchange after the commissioning of the MOS Rail. With further population growth in Tai Wai area, new feeder services will also need to be provided to link up with the railway station in future. This PTI will have an area of about 11 600 m² with eight sawtooth bus bays plus bus stacking bays, three green minibus bays, one taxi bay and three general loading/unloading bays.

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9. The new PTI at Wu Kai Sha Station would provide new interchange facilities necessary for the ride-in demand from the hinterland of Wu Kai Sha Station, including Sai Kung, Sai Sha Road and the future new developments in Whitehead. This PTI will have an area of about 14 400 m² with six sawtooth bus bays plus bus stacking bays, two green minibus bays, one bay each for urban taxis and New Territories taxis and one general loading/unloading bay.

10. We plan to provide the PTIs at ground level beneath the property developments at Tai Wai Station and Wu Kai Sha Station. Subject to funding approval, we intend to entrust the design and construction of the PTIs to KCRC as part of the conditions of land grants for the property developments to enhance interface and coordination between the railway and the PTI projects and to ensure timely completion of the proposed PTIs to tie in with the commissioning of the MOS Rail.

FINANCIAL IMPLICATIONS

11. We estimate the cost of the proposed works to be \$92.1 million in MOD prices, made up as follows –

Estimate for PTI at Tai Wai Station	\$ million
(a) Construction cost	33.9

(b)	Design and supervision cost	5.6	
	Sub-total	<u>39.5</u>	
(c)	Electrical and Mechanical Services Trading Fund (EMSTF) charges ¹	0.2	
(d)	Provision for closed circuit television (CCTV) electrical and mechanical (E&M) equipment	0.8	
			/Sub-total
	Sub-total	1.0	(in September 2001 prices)
(e)	Provision for price adjustment for (c) and (d)	0.0	
	Total:	<u>40.5</u>	(in MOD prices)

\$ million

**Estimate for PTI at Wu Kai Sha
Station**

(f)	Construction cost	43.6
(g)	Design and supervision cost	7.2
	Sub-total	<u>50.8</u>
(h)	EMSTF charges ¹	0.2
(i)	Provision for CCTV E&M equipment	0.6

¹ Upon its establishment from 1 August 1996 under the Trading Funds Ordinance, the EMSTF charges government departments for design and technical consultancy services for electrical and mechanical (E&M) installation. The services rendered for this project include checking consultants' submissions on all E&M installations and providing technical advice to the Government on all E&M works and their impacts on the project. The figure above is based on estimates provided by Electrical and Mechanical Services Department (EMSD).

	Sub-total	0.8	(in September 2001 prices)
(j)	Provision for price adjustment for (h) and (i)	0.0	
	Total:	51.6	(in MOD prices)

12. Under the conditions of land grants for the property developments at Tai Wai Station and Wu Kai Sha Station, we will require KCRC to provide the two proposed PTIs, with Government's contribution capped at a ceiling of \$39.5 million and \$50.8 million in MOD prices respectively. Upon completion of the works, the Government will reimburse KCRC the actual construction, design and supervision cost of each PTI, or the respective ceiling figure, whichever is less. KCRC will bear any additional cost above the ceiling figure for the works stated in the conditions of land grants including inflation adjustments.

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13. We will implement separately the E&M works of the CCTV system for the proposed PTIs. The CCTVs at the two PTIs will be connected to the main central equipment being installed for the control and monitoring of the outstation CCTVs at 14 new PTIs along MTR Tseung Kwan O Extension (TKE) and West Rail (WR). EMSD has been entrusted to undertake the design and E&M works for the main control equipment and outstation CCTVs at the PTIs for TKE and WR. We intend to appoint EMSD to undertake the design and administration of the E&M works contract for the two PTIs for MOS Rail to ensure compatibility and integration with the whole CCTV system.

14. Subject to approval, we will phase the expenditure for items (c), (d), (h) and (i) in paragraph 11 as follows -

Year	Price		\$ million (MOD)
	\$ million (Sep 2001)	Adjustment Factor	
2002 – 2003	0.1	0.98625	0.1
2003 – 2004	0.1	0.98378	0.1
2004 – 2005	1.6	0.98378	1.6
	1.8		1.8

15. We have derived the MOD estimate for items (c), (d), (h) and (i) in paragraph 11 on the basis of the Government's latest forecast of trend labour and construction prices for the period 2002 to 2005. Payment to KCRC for the construction of the two PTIs would be made in 2005-06 financial year upon completion of the project.

16. We estimate the additional annual recurrent expenditure arising from the project to be \$9.5 million.

PUBLIC CONSULTATION

17. We gazetted the proposed roadworks under **47TR** together with the MOS Rail project under the Railways Ordinance on 26 March 1999 and received no objection to the proposed PTIs.

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18. The Chief Executive in Council authorized the MOS Rail scheme together with the essential public infrastructure works (EPIW) under **47TR** and the notice of authorization was gazetted on 27 October 2000.

19. The Subcommittee on matters relating to the implementation of railway development projects of the LegCo Panel on Transport discussed the EPIW projects for the MOS Rail and Tsim Sha Tsui Extension on 4 January 2001. The Members advised that two PTIs of the MOS Rail should be carefully designed to ensure adequate provision of height, ventilation and lighting. Taking

into account Members' comments, we will require KCRC to design the PTIs to meet the latest standards on headroom, ventilation and lighting. We circulated a paper on the proposed PTIs to the LegCo Panel on Transport on 26 April 2002 and Members noted the proposal at the meeting. Members are considering whether they have any questions to raise on the project. Such questions, if any, would be further discussed at a special meeting of the Panel on 6 May 2002. In the meantime, Members agreed that the project should be submitted to the PWSC for consideration on 8 May 2002 as scheduled.

Tai Wai Station PTI

20. We consulted the Traffic and Transport Committee (T&TC) of the Sha Tin District Council (STDC) on 11 September 2001, and the STDC on 21 November and 13 December 2001 on the proposed Tai Wai Station PTI. Taking into account the STDC members' comments, we have revised the layout of the PTI to increase the number of loading/unloading bays for green minibuses and for general loading/unloading activities, to widen the ingress to the PTI and to provide an additional ingress taper-lane and emergency exits to the PTI. In addition, the number of public parking spaces at the development above the Tai Wai Station will be increased from 170 to a range of 250 to 300. Moreover, 330 bicycle parking spaces will be provided next to the station. The public parking spaces and the bicycle parking spaces are outside the scope of the PTI and will be provided separately by KCRC as part of the land grant conditions. The STDC endorsed the design of the PTI at the meeting on 13 December 2001.

Wu Kai Sha Station PTI

21. We consulted the T&TC of the STDC on 11 September 2001 and the Owners' Committee of Monte Vista on 6 July and 8 August 2001 on the design of the proposed Wu Kai Sha Station PTI. The former endorsed the proposed works with minor layout revisions, including an additional vehicular access point for emergency vehicles to Sha On Street through the proposed /emergency emergency vehicular access of the station, shifting the egress for buses away from the entrance of Monte Vista and revised road layout and junction design. In addition, in response to the request from the Owners' Committee of Monte Vista

for a footbridge connecting the podium level of Monte Vista to the Wu Kai Sha Station, we proposed to provide an at-grade crossing at Sha On Street under a separate project to be carried out by KCRC as part of the land grant conditions. We have not received any further comments from the residents of Monte Vista.

ENVIRONMENTAL IMPLICATIONS

22. The proposed project is not a designated project under the Environmental Impact Assessment Ordinance. We completed a Preliminary Environmental Review (PER) of the project to the satisfaction of the Director of Environmental Protection who has agreed that additional environmental studies would not be necessary.

23. The PER concluded that the operation of PTIs would not cause insurmountable environmental impacts. We will maintain adequate noise control and provide mechanical ventilation systems to maintain the air quality inside the PTIs in accordance with the guidelines and requirements stipulated in Environmental Protection Department (EPD)'s Practice Notes for Professional Persons on "Control of Air Pollution in Semi-Confined Public Transport Interchanges".

24. The PER also concluded that the environmental impacts during construction of the PTIs could be controlled to within established standards and guidelines through implementation of suitable environmental mitigation measures in the work contracts. These measures include frequent cleaning and watering of the site, wheel washing facilities, the use of silenced plant and noise screening and other procedures as recommended in EPD's Recommended Pollution Control clauses. A comprehensive environmental monitoring and audit programme for the construction works will be prepared and carried out under KCRC's contracts.

25. During the planning stage, we considered optimising the formation level of the two PTIs so as to reduce the generation of construction and demolition (C&D) materials as much as possible. KCRC shall require the contractors to submit Waste Management Plans (WMPs) for approval before commencement of construction. The WMPs will set out appropriate mitigation measures, including

the allocation of an area for waste segregation. KCRC shall ensure that the day-to-day operations on site comply with the approved WMPs. They shall control the

/disposal

disposal of public fill and C&D waste to designated public filling facilities and landfills respectively through a trip-ticket system. We estimate that about 22 500 m³ of C&D materials will be generated from the project. Of these, we will reuse about 7 100 m³ (32%) on site, 3 500 m³ (15%) in other part of the MOS Rail project, and 11 700 m³ (52%) as fill in public filling areas² and will dispose of 200 m³ (1%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$25,000 for this project (based on a notional unit cost³ of \$125/m³). KCRC shall record the disposal, reuse and recycling of C&D materials for monitoring and auditing purposes.

LAND ACQUISITION

26. The project does not require any land acquisition.

BACKGROUND INFORMATION

27. The MOS Rail is one of the priority railway projects recommended under the 1994 Railway Development Strategy. This rail link is essential to improve access to Ma On Shan and to facilitate further development of the area.

28. We upgraded **47TR** to Category B in January 2000.

² A public filling area is a designated part of a development project that accepts public fill for reclamation purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering.

³ This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90/cubic metres), nor the cost to provide new landfills (which are likely to be more expensive) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

29. On 26 May 2000, Finance Committee (FC) approved an equity injection of \$8.5 billion from the Capital Investment Fund to KCRC for construction of the MOS Rail and the TST Extension. We also informed FC that the Government would need to carry out EPIW in the order of \$1.8 billion in 1999 prices, including public transport interchanges, pedestrian subways and footbridge, which are necessary for the operation of both the MOS Rail and the TST Extension.

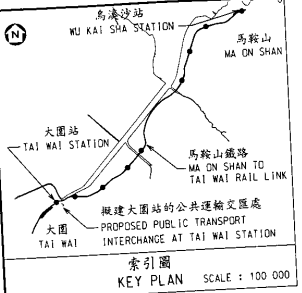
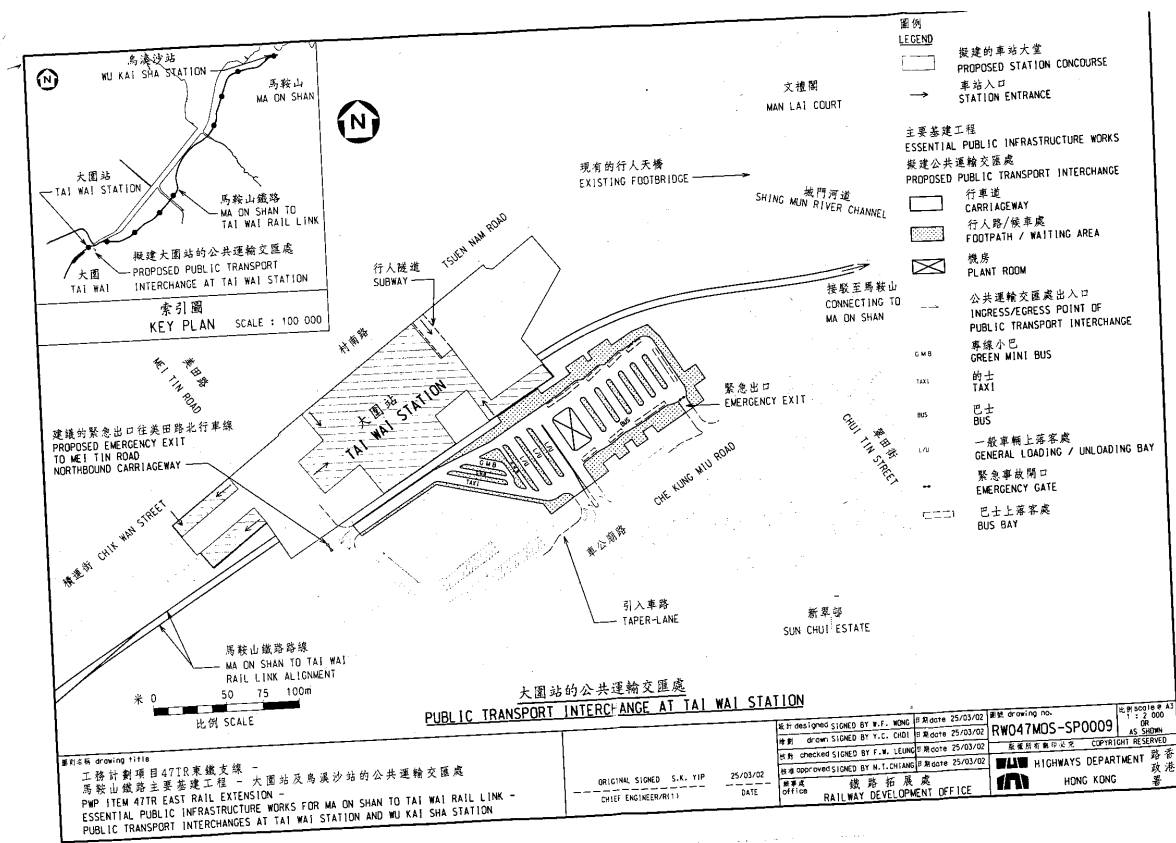
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30. On 9 March 2001, FC approved the upgrading of part of **47TR** to Category A as **49TR** "East Rail Extension – essential public infrastructure works for Ma On Shan to Tai Wai Rail Link – subways and footbridge" at an estimated cost of \$117.9 million in MOD prices for the construction of part of the EPIW for MOS Rail, comprising four subways at Tai Wai Station, Che Kung Temple Station, Tai Shui Hang Station and Heng On Station respectively, and one footbridge connecting to City One Station. We started the works in March 2001 for completion in December 2004.

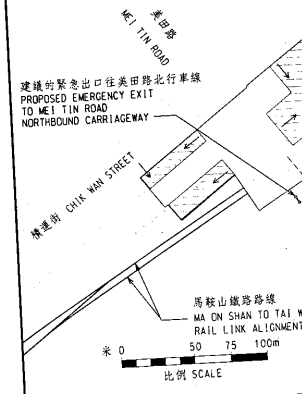
31. We estimate that the proposed works will create some 85 jobs comprising 20 professional/technical staff and 65 labourers, totalling 1 830 man-months.

Transport Bureau
May

2002



- 圖例**
LEGEND
- ▭ 擬建的車站大堂
PROPOSED STATION CONCOURSE
 - 車站入口
STATION ENTRANCE
- 主要基建工程**
ESSENTIAL PUBLIC INFRASTRUCTURE WORKS
- ▭ 擬建公共運輸交匯處
PROPOSED PUBLIC TRANSPORT INTERCHANGE
 - ▭ 行車道
CARRIAGEWAY
 - ▨ 行人路/候車處
FOOTPATH / WAITING AREA
 - ⊠ 機房
PLANT ROOM
 - 公共運輸交匯處出入口
INGRESS/EGRESS POINT OF PUBLIC TRANSPORT INTERCHANGE
 - 專線小巴
GREEN MINI BUS
 - 的士
TAXI
 - 巴士
BUS
 - 一般車輛上落客處
GENERAL LOADING / UNLOADING BAY
 - 緊急事故開口
EMERGENCY GATE
 - 巴士上落客處
BUS BAY



大圍站的公共運輸交匯處
PUBLIC TRANSPORT INTERCHANGE AT TAI WAI STATION

工務計劃項目 4718 東鐵支線 -
馬鞍山鐵路主要基建工程 - 大圍站及馬漢沙站的公共運輸交匯處
PWP ITEM 4718 EAST RAIL EXTENSION -
ESSENTIAL PUBLIC INFRASTRUCTURE WORKS FOR MA ON SHAN TO TAI WAI RAIL LINK -
PUBLIC TRANSPORT INTERCHANGES AT TAI WAI STATION AND WU KAI SHA STATION

原設計 DESIGNED BY W.F. WONG	日期 DATE 25/03/02	圖號 DRAWING NO. RW047MOS-SP0009	比例 SCALE AS SHOWN
繪圖 DRAWN BY T.C. CHOI	日期 DATE 25/03/02	校核 CHECKED BY M.L. CHANG	日期 DATE 25/03/02
工程師 ENGINEER S.K. YIP	日期 DATE 25/03/02	主任工程師 CHIEF ENGINEER (R1)	

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