

**File Ref.: THB(T)CR 1/16/581/99**

**Legislative Council Panel on Transport  
Subcommittee on Matters relating to Railways**

**Design and Site Investigation for  
the Hong Kong Section of  
Guangzhou-Shenzhen-Hong Kong Express Rail Link**

**Purpose**

This paper seeks Members' support for a funding application to be made to the Public Works Subcommittee (PWSC) and the Finance Committee (FC) for the design and site investigation for the proposed Hong Kong section of the Guangzhou- Shenzhen-Hong Kong Express Rail Link (XRL).

**Background**

2. At the meeting of the Executive Council on 22 April 2008, the Council advised and the Chief Executive ordered, inter alia, that -

- (a) MTR Corporation Limited (MTRCL) should be asked to proceed with the further planning and design of the Hong Kong section of the XRL on the understanding that it would be invited to undertake the Hong Kong section of the XRL under the concession approach; and
- (b) further negotiation should be carried out with the MTRCL on the implementation details of XRL.

3. We plan to commence the design work for the Hong Kong section of the XRL in June 2008 so that construction of it can commence in late 2009 after the authorization of the railway scheme under the Railways Ordinance.

**Project Scope and Nature**

4. The Hong Kong section of the XRL is intended to comprise an approximately 26-km long rail link enclosed in an underground tunnel from the West Kowloon terminus to the boundary at Huanggang. Boundary crossing facilities will be included in the West Kowloon terminus.

5. The scope of the project (52TR) we now propose to upgrade to Category A comprises –

- (a) the design work for the Hong Kong section of the XRL including railway works, the reprovisioning, remedial and improvement works (RRIW) and the essential public infrastructure works (EPIW) in connection with the Hong Kong section of the XRL;
- (b) the associated site investigations, works supervision and geotechnical studies;
- (c) impact assessments on the environment, traffic, marine, ecology, heritage and other related aspects;
- (d) preparation of tender documents and assessment of tenders;
- (e) consultant's fee for vetting the MTR Corporation Limited (MTRCL)'s design and assessing the project cost estimate prepared by MTRCL; and
- (f) services provided by Electrical and Mechanical Services Trading Fund in respect of checking MTRCL's submissions on all Electrical and Mechanical (E&M) installations and advising the Government on the technical aspects of all E&M works and their impacts on the project.

6. Funding for the construction works will be sought separately at a later stage.

### **Justifications**

7. Detailed justifications of the Hong Kong section of the XRL project are given in the Legislative Council Brief issued on 22 April 2008.

### **Financial Implications**

8. Under the concession approach, the Government will be responsible for providing, at its cost, the necessary railway infrastructure of the Hong Kong section of the XRL. Upon completion of the Hong Kong section of the XRL, the MTRCL will be granted a service concession for the operation of the railway and the Government will receive service concession payment from

MTRCL. Hence, the Hong Kong section of the XRL will be implemented as a Public Works Project with funding for the design and construction to be arranged by the Government.

9. The current proposed work covers the design of the railway works, the RRIW and EPIW, including all civil, architectural, building services, E&M, signalling and control works. We will also carry out impact assessments on the environment, traffic, marine, ecology, heritage and other related aspects, in order to identify the impacts and the mitigation measures required. We shall entrust the proposed work to the MTRCL. We will employ independent consultants to vet the MTRCL's design and establish checking and control procedure on the capital cost estimate of this project, including the on-cost.

10. The current estimated cost of the design and site investigation works, including the overheads and management expenses of the MTRCL, is \$2,782.6 million (in MOD prices). Details are given in the draft Paper for Public Works Sub-committee at **Annex A**.

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## **Way Forward**

11. We plan to consult the Public Works Sub-committee at its meeting on 4 June 2008 and will seek the approval of the Finance Committee on 20 June 2008.

## **Advice Sought**

12. Members are invited to support the above funding proposal to cover the design and site investigation of the proposed Hong Kong section of the XRL project.

**Transport and Housing Bureau**  
**April 2008**

**For discussion  
on [to be confirmed]**

**PWSC(2008-09)XX**

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 706 – HIGHWAYS**

#### **Transport – Railways**

#### **52TR – Hong Kong Section of Guangzhou–Shenzhen–Hong Kong Express Rail Link – design and site investigation**

Members are invited to recommend to Finance Committee the upgrading of **52TR** to Category A at an estimated cost of \$2,782.6 million in money-of-the-day prices for the design and site investigation for the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link.

### **PROBLEM**

We need to undertake the design and site investigation for the proposed Hong Kong section of the Guangzhou–Shenzhen–Hong Kong Express Rail Link (XRL).

### **PROPOSAL**

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade **52TR** to Category A at an estimated cost of \$2,782.6 million in money-of-the-day (MOD) prices for the design and site investigation for the Hong Kong section of the XRL.

### **PROJECT SCOPE AND NATURE**

3. The scope of **52TR** comprises –
- (a) the design work for the Hong Kong section of the XRL including railway works, the reprovisioning, remedial and improvement works

(RRIW) and the essential public infrastructure works (EPIW) in connection with the Hong Kong section of the XRL;

- (b) the associated site investigations, works supervision and geotechnical studies;
- (c) impact assessments on the environment, traffic, marine, ecology, heritage and other related aspects;
- (d) preparation of tender documents and assessment of tenders;
- (e) consultant's fee for vetting the MTR Corporation Limited (MTRCL)'s design and assessing the project cost estimate prepared by MTRCL; and
- (f) services provided by Electrical and Mechanical Services Trading Fund (EMSTF) in respect of checking MTRCL's submissions on all Electrical and Mechanical (E&M) installations and advising the Government on the technical aspects of all E&M works and their impacts on the project.

4. We plan to commence the design work in June 2008, and to commence construction of the Hong Kong section of the XRL in late 2009 for completion in 2014 or 2015. We intend to seek funding at the earliest possible time for construction of the XRL to ensure that the project can be completed within the above time frame.

## JUSTIFICATION

5. The Hong Kong section of the XRL is one of the priority railways recommended for implementation in the Railway Development Strategy 2000<sup>1</sup>. It is one of the ten major infrastructure projects announced in the 2007 Policy Address. As pledged in the 2007 Policy Address, we aim to complete further planning and design for the Hong Kong section of the XRL in 2008 and commence construction in 2009. The Hong Kong section of the XRL will connect Hong Kong with Guangzhou, with intermediate stations at Futian, Longhua and Humen. The XRL will form part of the National high-speed railway network. With the completion of the XRL, the travelling time between Hong Kong and Guangzhou will be reduced to about 48 minutes. Through connection with other National high-speed railways, the XRL will also provide direct high-speed train service to major cities outside Guangdong, such as Beijing, Shanghai

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<sup>1</sup> The Railway Development Strategy 2000 maps out the preferred railway network expansion plan for Hong Kong up to 2016.

etc. Through interchange with the Pearl River Delta (PRD) Rapid Transport Railway, the XRL will also facilitate easy access to PRD cities.

6. The Hong Kong section of the XRL is intended to comprise an approximately 26-km long rail link enclosed in an underground tunnel from the West Kowloon terminus to the boundary at Huanggang. Boundary crossing facilities will be included in the West Kowloon terminus. A plan showing the proposed alignment of the Hong Kong section of the XRL is at Enclosure 1.

7. On 22 April 2008, the Executive Council (ExCo) decided, among other things, that the MTRCL should be asked to proceed with the further planning and design of Hong Kong section of the XRL on the understanding that it would be invited to undertake the Hong Kong section of XRL under the concession approach. Under the concession approach, the Government will fund under the Capital Works Reserve Fund the construction of the railway and its ancillary infrastructures. Upon completion of the railway, the MTRCL will be granted a service concession for the operation of the railway and the Government will receive service concession payment from MTRCL. Hence, the Hong Kong section of the XRL will be implemented as a public works project.

8. The current proposed work covers the design of the railway works, the RRIW and EPIW, including all civil, architectural, building services, E&M, signalling and control works. We will also carry out impact assessments in respect of the environment, traffic, marine, ecology, heritage and other related aspects, in order to identify the impacts and the mitigation measures required. We shall entrust the proposed works to the MTRCL.

9. Under the principles agreed between Government and the MTRCL to be applied to such entrustments, the Entrustor (i.e. the Government in this project) will pay the actual costs based on prices established from verifiable procurement processes. Services to be provided by the Entrustee (the MTRCL in this project) for management and supervision of the Hong Kong section of the XRL will be covered by an on-cost. The on-cost for the design work as shown in item (a)(IV) of paragraph 11 is a provisional figure. This sum will be off-set in the final on-cost payable to the MTRCL for the design and construction of the whole project which will be based on the actual expenditure of the design and construction works undertaken.

10. We will employ independent consultants during the detailed design stage to establish checking and control procedure on the capital cost estimate of this project, including the on-cost.

**FINANCIAL IMPLICATIONS**

11. We estimate the cost of the design and site investigation of the Hong Kong section of the XRL to be \$2,782.6 million in MOD prices (see paragraph 12 below), made up as follows –

		<b>\$ million</b>
(a)	Entrustment to the MTRCL	2,325.0
(I)	design of railway works, RRIW, and EPIW	1,753.0
(i)	civil works for tunnel, terminus, emergency rescue station, tunnel accesses and ventilation shafts, etc.	1,064.0
(ii)	architectural works for the above	167.0
(iii)	building services for the above	100.0
(iv)	E&M works including traction power system, trackworks and rolling stock, etc.	300.0
(v)	signalling & control for railway operation and communication	72.0
(vi)	other studies (including fire engineering, operation and EIA studies)	50.0
(II)	site investigation and geotechnical studies for tunneling and foundation works	86.0

(III) consultancies to assist in land administration	156.0	
(IV) On-cost payable to the MTRCL for project planning and management, overheads and management expenses of the MTRCL	330.0	
(b) Consultant's fees	57.0	
(I) vetting the MTRCL's design, assessing the project cost estimate and to establish checking and control procedure on the capital cost estimate	33.0	
	24.0	
(II) EMSTF charges		
(c) Contingencies	235.5	
Sub-total:	2,617.5	(in September 2007 prices)
(d) Provision for price adjustment	165.1	
Total:	2,782.6	(in MOD prices)

12. Subject to approval, we will phase the expenditure as follows –

Year	\$ million (Sep 2007)	Price adjustment factor	\$ million (MOD)
2008 – 2009	610.3	1.02575	626.0
2009 – 2010	1,464.4	1.06293	1,556.6
2010 – 2011	542.8	1.10545	600.0
	<u>2,617.5</u>		<u>2,782.6</u>

13. We have derived the MOD estimate for the period 2008 to 2011 on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output. We will engage consultants to undertake the work described in paragraph 11(b)(I) above on a lump sum basis with the provision for price adjustment as the duration of the consultancy agreements will exceed 12 months.



14. The proposed design and site investigation works for the Hong Kong section of the XRL will not give rise to any annual recurrent expenditure.

## **PUBLIC CONSULTATION**

15. We consulted the Subcommittee on Matters relating to Railways (the Subcommittee) of the Legislative Council Panel on Transport on 2 May 2008. Members did not raise any objection to the proposed design and site investigation for the project. [To be confirmed]

## **ENVIRONMENTAL IMPLICATIONS**

16. The Hong Kong section of the XRL is a designated project under Schedule 2 of the EIA Ordinance (Cap. 499) and an environmental permit is required for the construction and operation of the project. The MTRCL will carry out an EIA study to address the potential environmental impacts of the project in detail. The MTRCL will submit the EIA report to the Director of Environmental Protection for approval under the EIA Ordinance, including making the EIA report available for comments by the public and the Advisory Council on the Environment.

17. The proposed site investigation works and design will only generate very little construction waste. We will require the MTRCL to fully consider measures to minimize the generation of construction waste and to reuse/recycle construction waste as much as possible in the future implementation of the construction projects for the Hong Kong section of the XRL.

## **HERITAGE IMPLICATIONS**

18. The proposed design and site investigation works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office. As for whether the Hong Kong section of the XRL will affect any heritage site, we will investigate this in the design and site investigation study.

## **LAND ACQUISITION**

19. The proposed design and site investigation works do not require any land acquisition.

**BACKGROUND INFORMATION**

20. On 5 January 2007, we briefed the Subcommittee on the latest progress of the proposed Hong Kong section of the XRL. We informed the Subcommittee that following the decision of the Executive Council in January 2006, we had asked KCRC to proceed with further planning of the proposed Hong Kong section of the XRL. In addition, we informed the Subcommittee that the KCRC would examine the latest patronage forecast, financial viability and economic implications, and preliminary site investigation with a view to submitting the study report on the proposed Hong Kong section of the XRL to the Government in 2007.

21. The decision of adopting the Dedicated Corridor Option for the Hong Kong section of the XRL was announced by the Chief Executive after the Tenth Plenary of the Hong Kong / Guangdong Co-operation Joint Conference on 2 August 2007.

22. The Executive Council decided on 22 April 2008 that the MTRCL should be asked to proceed with the further planning and design of the project on the understanding that it would be invited to undertake the Hong Kong section of the XRL under the concession approach. The further planning and design of the project will be funded by Government.

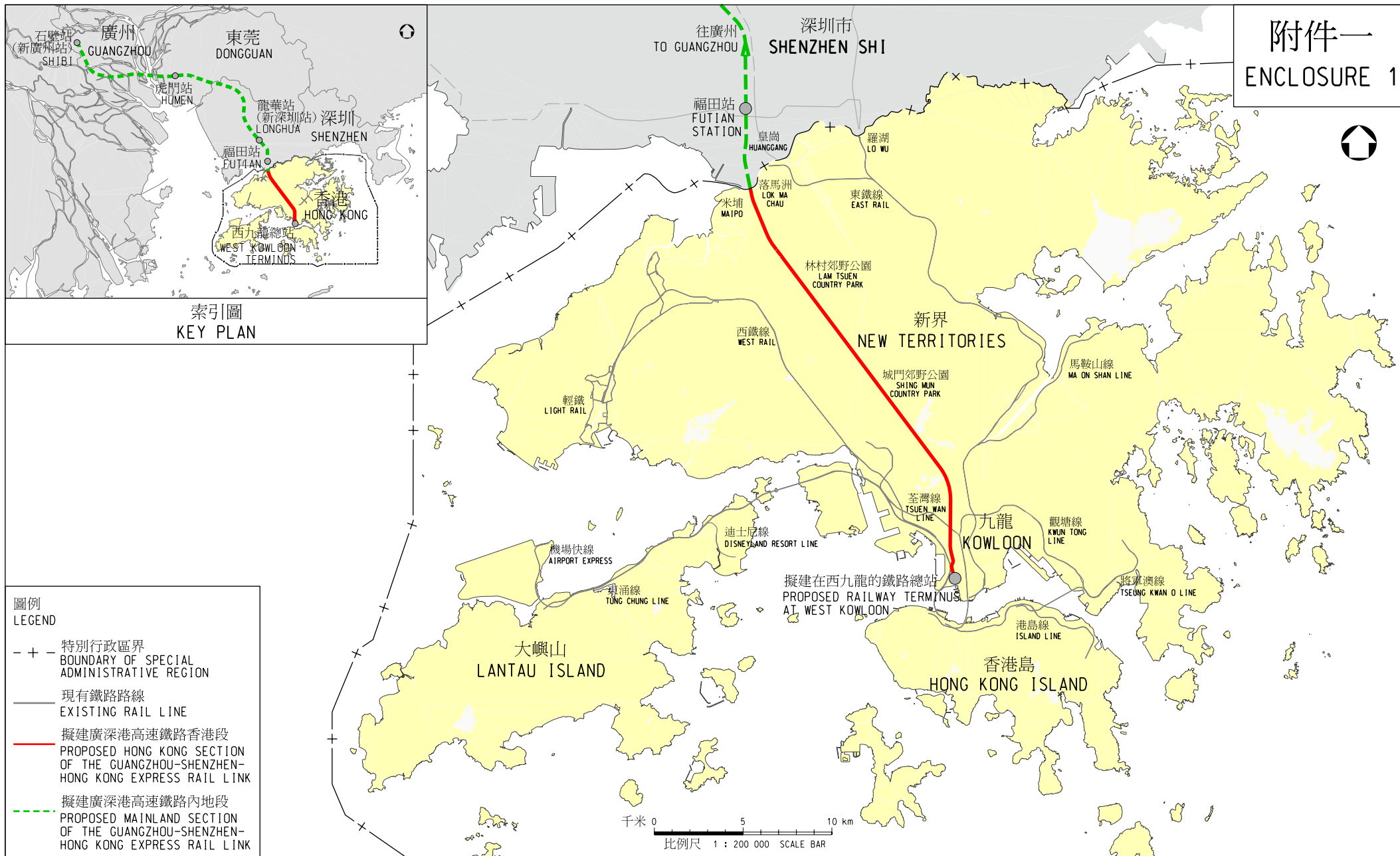
23. We upgraded **52TR** to Category B in April 2008.

24. The proposed design and site investigation works will not involve any tree removal or planting proposals.

25. We estimate that the works in paragraph 3 will create about 810 jobs (120 for labourers and 690 for professional/technical staff) providing employment of a total of 14 500 man-months.

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Transport and Housing Bureau  
June 2008



圖則名稱 drawing title

工務計劃項目第52TR號  
廣深港高速鐵路香港段 - 設計及地盤勘測工程

PWP ITEM NO. 52TR  
HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK - DESIGN AND SITE INVESTIGATION

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