

**LegCo Panel on Transport  
Subcommittee on matters relating to railways**

**Sheung Shui to Lok Ma Chau Spur Line  
Essential Public Infrastructure Works**

**Purpose**

This paper seeks Members' support of the funding proposal for the essential public infrastructure works (EPIW) for the Sheung Shui to Lok Ma Chau Spur Line (Spur Line) at an estimated cost of \$656.5 million in money-of-the-day (MOD) prices.

**Background**

2. The Spur Line was originally included in the 1994 Railway Development Strategy as part of the West Rail (Phase II). In order to cope with the upsurge of cross-boundary traffic since 1996 and to relieve the increasing congestion at the Lo Wu crossing, the Government decided that the Spur Line should be taken forward ahead of the rest of the West Rail (Phase II) with a view to providing a second rail boundary crossing at Lok Ma Chau (LMC). The railway scheme of the Spur Line was authorised by the Chief Executive-in-Council on 11 June 2002.

3. The Kowloon-Canton Railway Corporation (KCRC) estimated that the cost of the Spur Line would be \$10 billion (in 2002 prices) which will be wholly funded by KCRC through its internal resources and commercial borrowing, and expected that the railway would be completed by mid-2007. To complement the Spur Line, we need to provide the EPIW including the cross-boundary clearance and control facilities at the LMC Terminus, passenger linkage facilities connecting the LMC Terminus with the Huanggang Station on the Shenzhen side, and an access road for the LMC Terminus.

**Project Scope**

4. The scope of the EPIW comprises –

- (a) provision of fitting-out<sup>1</sup>, fixtures and furniture and equipment for cross-boundary facilities for the Government portion of the LMC Terminus, including immigration and customs counters, facilities for maintaining order and security, quarantine check and port health control;
- (b) construction and provision of the passenger linkage facilities between the LMC Terminus and the Huanggang Station, which include -
  - (i) a 124-m long, 16.5-m wide double-deck passenger bridge (the Passenger Bridge) up to the boundary of the Hong Kong Special Administrative Region (HKSAR), with travelators, air-conditioning as well as security surveillance and electrical and mechanical (E&M) equipment; and
  - (ii) a 15-m long, 16.5-m wide double-deck link bridge (the Link Bridge) to connect the Passenger Bridge to the LMC Terminus, with two emergency staircases, air-conditioning and E&M equipment; and
- (c) widening and upgrading of an existing access road from a single lane carriageway to a two-lane carriageway with 1.6-m wide footpath to serve as an emergency access to the LMC Terminus. The access road comprises-
  - (i) a 700-m section of LMC Road between Chau Tau Tsuen and the Closed Area Boundary;
  - (ii) a 1.1-km long village road between the Closed Area Boundary and Border Road; and

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<sup>1</sup> The fitting-out excludes finishes and ceiling of the arrival hall and departure hall, which will be carried out by KCRC as part of the construction for the LMC Terminus building.

- (iii) a 700-m section of Border Road between the village road and the LMC Terminus including a 70-m long vehicular bridge.

A site plan and the typical sections of the EPIW are at the Enclosure.

5. We plan to commence the construction of the EPIW in February 2003 for completion by mid-2007 to tie in with the commissioning of the Spur Line. We estimate that the project will create some 246 jobs comprising 54 professional/technical staff and 192 labourers, totalling about 8 659 man-months.

### **Justification**

6. Lo Wu boundary crossing is hitherto the only rail-passenger boundary crossing between the HKSAR and the Mainland, handling about 83% of the land based passenger traffic, and is becoming saturated. The congestion at Lo Wu is particularly acute during weekends and festive periods. The average daily patronage from January to October 2002 reaches 260 000 on weekdays. The figure could reach 340 000 or above during weekends and festive days. Due to closer social and economic ties of the HKSAR with the Mainland, the cross-boundary passenger traffic demand is expected to continue to grow in the near future.

7. As short-term relief measures, the Administration has installed a pair of escalators at the departure and arrival halls to allow contra-flow operation to improve passenger circulation. However, physical constraints make any substantial expansion of Lo Wu boundary crossing handling capacity impracticable.

8. To meet the growing cross-boundary passenger demand and to ease the congestion at Lo Wu, the KCRC will construct and operate the Spur Line, a rail extension of 7.4 km, to connect the existing Sheung Shui Station of the East Rail to a new boundary crossing at LMC to serve as the second rail passenger boundary crossing point. A package of EPIW has to be put in place so that the railway boundary crossing could become functional. The proposed cross-boundary facilities can cater for a daily two-way passenger flow of 150 000 and greater passenger volume during weekends and festive periods.

## Cross boundary facilities at LMC Terminus

9. KCRC will fund and build the LMC Terminus building including portions for use by the Government, and the Government will provide the facilities for cross-boundary control and immigration and customs clearance at LMC Terminus. The arrival hall will accommodate 56 immigration counters and 26 customs counters whereas the departure hall will accommodate 56 immigration counters and 14 customs counters. To meet greater demand during peak periods, half of the immigration counters in the arrival hall or the departure hall can be converted for contra-flow operation, thereby increasing the maximum handling capacity in one direction by 50%. In addition, facilities for maintaining order and security, quarantine check and port health control will be provided at the LMC Terminus.

10. With a view to improving the interface and co-ordination between the railway project and the EPIW, we intend to entrust the design and construction of the fitting-out, fixtures and furniture and equipment for the Government portion that are integrated with the LMC Terminus building to KCRC. We will design, procure and supervise other fitting-out works and furniture and equipment<sup>2</sup> for the Government portion.

## Huanggang – LMC passenger linkage facilities

11. To provide passenger linkage facilities connecting the LMC Terminus and the Huanggang Station, we intend to build the double-deck Passenger Bridge<sup>3</sup> jointly with the Shenzhen Municipal Government to connect the two stations. To improve throughput and passenger comfort, we will equip the Passenger Bridge with travelators and air-conditioning. On the HKSAR side, a 15-m long Link Bridge will connect the Passenger Bridge to the LMC Terminus. We will provide two staircases, one on each side of the Link Bridge, leading to ground level as emergency escapes.

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<sup>2</sup> These include office furniture, audio-visual equipment for the conference room and briefing room, x-ray baggage checker and other operation equipment. We will separately seek funding under **Head 710 - Computerisation** for the immigration clearance computer systems at the LMC Terminus in due course.

<sup>3</sup> The whole passenger bridge between LMC Terminus and the Huangguang Station is 243 m long, with 124 m within the HKSAR territory.

12. The Passenger Bridge will cross over Shenzhen River where marine traffic has to be maintained at all times. To maintain the hydraulic flow of the river and to ensure unimpeded marine traffic during construction, we adopt a cable-stayed footbridge structure with only one bridge pier located in the waterway. As the cables straddling across the boundary must be constructed as an integral unit for the supporting of the entire Passenger Bridge (for both HKSAR's and the Shenzhen Municipal Government's portion), erection of the bridge has to be carried out by a single party. With due regard to the site accessibility, operational control and management of the Shenzhen River, we have entrusted the design of the civil works of the Passenger Bridge to the Shenzhen Municipal Government in July 2000 and intend to entrust the construction of the Passenger Bridge structure to the Shenzhen Municipal Government once funding is secured. Under such arrangement, the cost of the civil works will be shared by the two governments according to the length of structure within their respective territories. We will install surveillance equipment to monitor the security of the Passenger Bridge on the HKSAR side during construction and operation.

13. As regards the design, procurement and installation of the travelators, air-conditioning and E&M works of the HKSAR portion of the Passenger Bridge, we intend to entrust it to KCRC to ensure integration of the equipment and E&M works with those for the Government facilities in the LMC Terminus.

14. As regards the Link Bridge, we intend to entrust both the civil and E&M works to KCRC for implementation in conjunction with the LMC Terminus to minimise conflicts with the railway project.

### **Access road to LMC Terminus**

15. The existing access to the proposed LMC Terminus via LMC Road, a village road and Border Road is very narrow and mainly serves the local villagers. In order that fire engines can access the terminus during emergencies and stranded passengers can be transported out by coaches when the Spur Line is out of service, we have to widen these roads including a vehicular bridge at Border Road from a single lane to a two-lane carriageway to form an emergency access to the LMC Terminus. Same as the current arrangement, access to a 1.9-km section of the widened access road (consisting of Border Road and the village road within the Closed Area Boundary, and a 100-m stretch of LMC Road) will be restricted to holders of a Closed Area Permit after completion. The remaining 600 m of LMC Road

will remain open to the general public. We will ensure smooth traffic operation during construction through implementation of temporary traffic management schemes.

16. As the access road has to remain open for the construction traffic to LMC Terminus, we intend to entrust the design and construction of the road widening works to KCRC to enhance interface to ensure their commissioning in parallel with the LMC Terminus.

### Financial Implications

17. We estimate the cost of the project to be \$656.5 million in MOD prices made up as follows –

	<b>\$ million</b>
(a) Cross boundary facilities for the Government portion at the LMC Terminus	168.5
(i) fitting-out works, fixtures and furniture and equipment <sup>4</sup> (to be entrusted to KCRC)	135.4
(ii) remaining fitting-out works & furniture and equipment (to be carried out by the Government)	33.1
(b) Passenger linkage facilities	222.2
(i) civil works for the Passenger Bridge (to be entrusted to the Shenzhen Municipal Government )	126.2

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<sup>4</sup> Furniture and equipment include closed circuit television (CCTV) system, integrated public address (PA) system and integrated telephone (PABX) system, the installation of which are integral to other installation works undertaken by KCRC.

(ii) civil works of the Link Bridge and E&M works for both the Passenger Bridge (Hong Kong portion) and the Link Bridge including air-conditioning and travelators (to be entrusted to KCRC)	90.6
(iii) security surveillance equipment for the Passenger Bridge (to be carried out by the Government)	5.4
(c) Access road to LMC Terminus	138.6
(i) road widening works (to be entrusted to KCRC)	127.1
(ii) bridge widening works at Border Road (to be carried out by the Government)	11.5
(d) On-cost <sup>5</sup> payable to KCRC	58.3
(e) On-cost <sup>6</sup> payable to the Shenzhen Municipal Government	11.4
(f) Electrical and Mechanical Services Trading Fund (EMSTF) charges <sup>7</sup>	2.2

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<sup>5</sup> An on-cost at 16.5% of the project base cost (i.e. items (a)(i), (b)(ii) and (c)(i) in paragraph 17) will be payable to KCRC for undertaking the technical studies, design and construction supervision of the EPIW.

<sup>6</sup> Subject to further negotiation with the Shenzhen Municipal Government, an on-cost estimated at 9% of the project base cost (i.e. item (b)(i) of paragraph 17) will be payable to the Shenzhen Municipal Government for project management and construction supervision of the entrusted works.

<sup>7</sup> Since the establishment on 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) installations provided by EMSD. The services rendered for this project include project and contract administration for the provision and installation of X-ray baggage checkers, CCTV, intercom and other E&M works.

(g) Contingencies	60.1
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Sub-total (at September 2002 prices)	661.3
(h) Provision for price adjustment	(4.8)
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Total (in MOD prices):	656.5
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### **Public Consultation**

18. In conjunction with KCRC, we consulted the then Yuen Long Provisional District Board (YLPDB) on 9 September 1999 on the Spur Line including the EPIW. In response to YLPDB's request, we have agreed to provide travelators in the Passenger Bridge. We also consulted the San Tin Rural Committee (STRC) on 16 July and 25 October 1999, village representatives of LMC Tsuen, Ha Wan Tsuen and Chau Tau Tsuen in December 1999, and the Yuen Long District Council (YLDC) on 1 February 2000. All parties have no adverse comments on the proposed EPIW. We held further consultation and site inspection on 30 April and 12 May 2000 with the STRC and the concerned village representatives. In response to their requests, we have agreed to reprovision the existing village tracks to the widened access road.

19. After the adoption of the bored tunnel approach for the section of the railway between Sheung Shui and Chau Tau, we consulted the YLDC again on 11 October 2001 and the STRC on 8 October 2001, 12 December 2001 and 30 April 2002. Both parties have no adverse comments on the proposed EPIW. The YLDC was consulted specifically again on the EPIW on 22 August 2002 and no adverse comments were received.

### **Environmental Implications**

20. The proposed EPIW together with the Spur Line is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance and an environmental permit is required for the construction and operation of the project. The Director of Environmental Protection (DEP) subsequently approved KCRC's EIA report on 11 March 2002 and issued the Environmental Permit under the EIA Ordinance on 6 April 2002.



21. The key environmental concerns of the EPIW include water quality impact due to the Passenger Bridge construction and other constructional run-off, and noise impact due to access road construction. We will implement the measures recommended in the approved EIA report. The key measures include installation of temporary noise barriers and the control of noise, dust, and water quality to within established standards and guidelines through the implementation of pollution control measures. We have included in the project estimates the cost to implement these mitigation measures during construction.

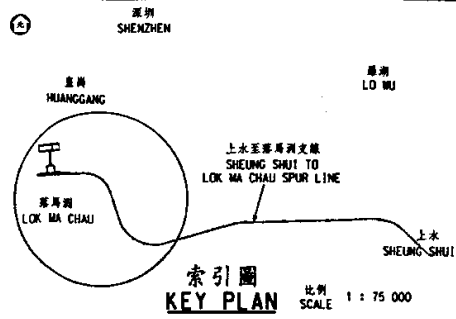
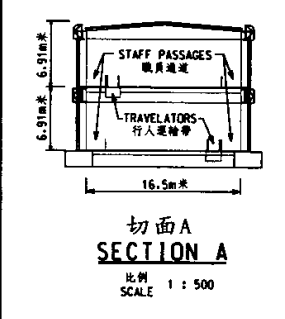
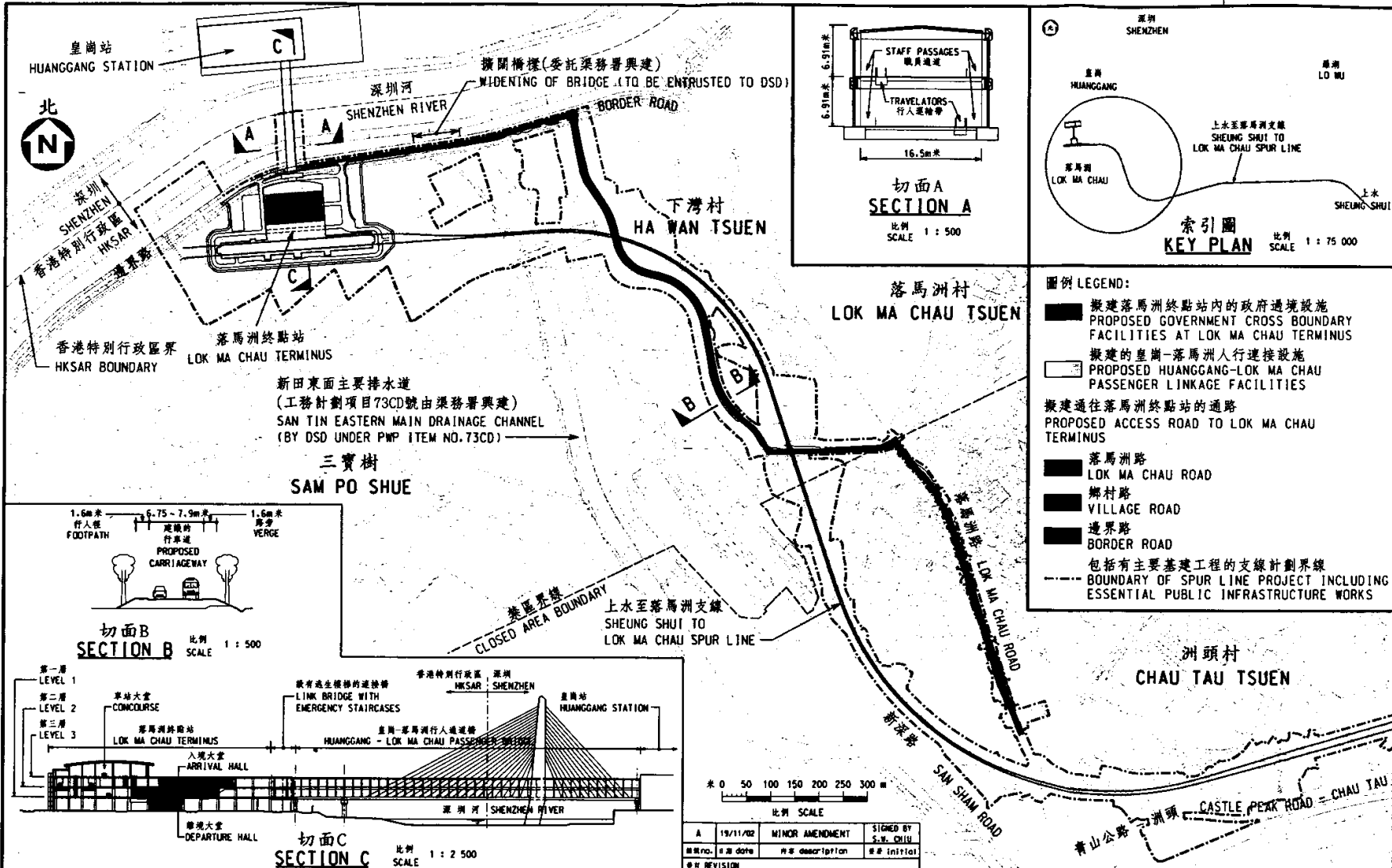
### **Way Forward**

22. We plan to consult the Public Works Sub-committee at its meeting on 18 December 2002 and will seek the approval of the Finance Committee on 24 January 2003.

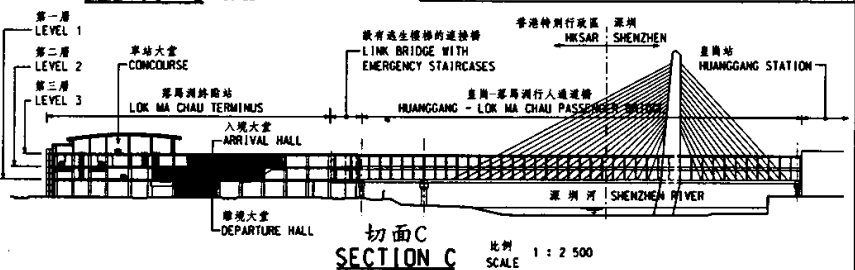
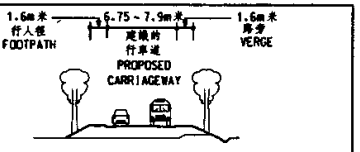
### **Advice Sought**

23. Members are invited to support the funding proposal for the EPIW for the Spur Line project.

Environment, Transport and Works Bureau  
November 2002



- 圖例 LEGEND:
- 擬建落馬洲終點站內的政府過境設施  
PROPOSED GOVERNMENT CROSS BOUNDARY FACILITIES AT LOK MA CHAU TERMINUS
  - 擬建的皇崗-落馬洲人行連接設施  
PROPOSED HUANGGANG-LOK MA CHAU PASSENGER LINKAGE FACILITIES
  - 擬建通往落馬洲終點站的通路  
PROPOSED ACCESS ROAD TO LOK MA CHAU TERMINUS
  - 落馬洲路  
LOK MA CHAU ROAD
  - 鄉村路  
VILLAGE ROAD
  - 邊界路  
BORDER ROAD
  - 包括有主要基建工程的支線計劃界線  
BOUNDARY OF SPUR LINE PROJECT INCLUDING ESSENTIAL PUBLIC INFRASTRUCTURE WORKS



比例 SCALE 0 50 100 150 200 250 300 m

A	19/11/02	MINOR AMENDMENT	SIGNED BY S.W. CHIU
編號no.	日期 date	描述 description	簽署 initials
*#* REVISION			

圖則名稱 drawing title  
工務計劃項目46TR號 東鐵支線 - 上水至落馬洲支線的主要基建工程  
PWP ITEM NO.46TR EAST RAIL EXTENSION -  
ESSENTIAL PUBLIC INFRASTRUCTURE WORKS FOR  
SHEUNG SHUI TO LOK MA CHAU SPUR LINE

ORIGINAL SIGNED BY C.S. CHUNG 04/10/02  
总工程师/鐵路(2)(專理) 日期  
CHIEF ENGINEER(R/2)(Ag)

設計 designed SIGNED BY S.W. CHIU 日期 date 04/10/02  
繪圖 drawn SIGNED BY T.C. CHOI 日期 date 04/10/02  
核對 checked SIGNED BY F.W. LEUNG 日期 date 04/10/02  
核准 approved SIGNED BY P.T. LEUNG 日期 date 04/10/02  
辦事處 office 鐵路拓展處  
RAILWAY DEVELOPMENT OFFICE

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