

**For discussion
on 23 May 2003**

Legislative Council Panel on Transport

New Boundary Bridge between Lok Ma Chau and Huanggang

PURPOSE

This paper seeks Members' views on our proposal to construct a new boundary bridge linking the Lok Ma Chau (LMC) Control Point and Huanggang (HG) Control Point, alongside the existing boundary bridge.

PROJECT SCOPE

2. The scope of the project includes :
 - (a) construction of a new dual two-lane boundary bridge between the LMC and HG Control Points, which includes -
 - (i) a 90 m long main bridge over the Sham Chun River to connect with the new boundary bridge to be built within the boundary of the Mainland; and
 - (ii) approach viaducts about 250 m in length;
 - (b) construction of road connections between the proposed and existing boundary bridges and the LMC Control Point including ramps, ground level roads and an overbridge;
 - (c) diversion of the existing Ha Wan Nullah, which runs along the proposed alignment of the approach viaducts mentioned in (a)(ii) above;
 - (d) ancillary civil, structural, landscaping and drainage works, traffic control and surveillance system (TCSS), and electrical and mechanical (E&M) works; and
 - (e) provision of lane change-over facilities to accommodate the different traffic configurations in Hong Kong and the Mainland.

A site plan is at **Enclosure**.

BACKGROUND AND JUSTIFICATION

3. The existing boundary bridge between LMC and HG has two traffic lanes in each direction. One traffic lane is designated for goods vehicles and the other for passenger vehicles.

4. The recent years have seen rapid growth in cross-boundary traffic of both goods vehicles and passenger vehicles through the Lok Ma Chau crossing. The average daily goods vehicle traffic increased from 14 180 in 1997 to 18 120 in 2002, representing a 28% growth. On busy days, the number can reach 24 500 a day. For private cars, the average daily traffic has risen from 1 001 in 1997 to 4 400 in 2002, representing a surge of 339%. With Hong Kong's growing economic integration with the Pearl River Delta Region, the upward trend is likely to continue.

5. Because of the substantial growth in cross-boundary traffic in recent years, the capacity of the LMC crossing is quickly reaching saturation. Congestion occurs at the goods vehicle lanes during peak hours. To cope with the traffic situation, opening of the passenger vehicle lane to goods vehicles has been introduced on an ad-hoc basis. However, this has resulted in delays to public transport services and other passenger vehicles, and is not recommended to be adopted as a regular measure. It is expected that the traffic situation at the LMC Control Point during peak hours will deteriorate before the Shenzhen Western Corridor (SWC) comes into operation. Even after the commissioning of the SWC, the vehicular traffic through the LMC crossing will continue to be maintained at a relatively high level given its central location on the Hong Kong/Shenzhen boundary. Current statistics show that around 50% of the goods vehicles have destinations in Shenzhen, many of which are likely to continue to use the LMC crossing after the opening of the SWC.

6. To effectively cope with the growing demand for cross-boundary traffic, the Hong Kong Special Administrative Region Government (HKSARG) and the Shenzhen Municipal People's Government (SMPG) plan to build a new boundary bridge to the east of and immediately adjacent to the existing boundary bridge. The new bridge will have four traffic lanes, two in each direction. Apart from increasing traffic throughput, the provision of the new bridge will also facilitate temporary closure of traffic lanes for maintenance works.

7. To further enhance traffic management and taking into account the locations for cargo and passenger clearance, the new bridge would be designated for goods vehicles and the existing bridge for passenger vehicles, allowing for a total segregation of the freight and non-freight traffic.

8. The HKSARG and SMPG aim to start work in the dry season this year and to complete the construction of the new boundary bridge by the end of 2004.

9. The main bridge described in paragraph 2(a)(i) above will run over the Sham Chun River up to the Hong Kong/Shenzhen boundary, where it will connect

with the Shenzhen part of the new boundary bridge. We would entrust the design of the main bridge to the SMPG to ensure compatibility of design.

10. As the foundations and associated temporary cofferdams of the main bridge have to be built into the river beds during the dry season, i.e. from November to March, construction by a single party will allow better control over the phasing of the works and the number of piling plants and working vessels in the river to minimise the disruption to navigation on the Sham Chun River. Having considered the issues of site accessibility and management of the Sham Chun River, we intend to entrust the construction of the main bridge to the SMPG. Such an arrangement would avoid technical and interface problems and minimise impacts on the Sham Chun River.

FINANCIAL IMPLICATIONS

11. The cost of the project is estimated to be HK\$335.7 million in money-of-the-day (MOD) prices made up as follows -

	\$ million
(a) Main bridge (to be entrusted to the SMPG)	50.9
(i) Construction cost	46.7
(ii) On-cost ¹ payable to the SMPG	4.2
(b) Approach viaducts	86.9
(c) Overbridge	20.5
(d) Ramps	49.1
(e) Ground level road works	23.9
(f) Nullah diversion	21.5
(g) Ancillary works including civil, structural, drainage and landscaping works, TCSS and E&M works	16.5

¹ An on-cost, estimated at 9% of the construction cost, will be payable to the SMPG for project management and construction supervision of the entrusted works.

(h) Electrical and Mechanical Services Trading Fund (EMSTF) charges ²	0.6	
(i) Lane change-over facilities	58.1	
(j) Contingencies	32.0	
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Sub-total	360.0	(in September 2002 prices)
(k) Provision for price adjustment	(24.3)	
	<hr/>	
Total	335.7	(in MOD prices)

12. We have included in the project cost a provision for the lane change-over facilities. The facilities are necessary because of the different traffic configurations in Hong Kong and the Mainland. Owing to site constraints on the Hong Kong side, the lane change-over facilities, in the form of viaducts, will be provided at Huanggang. As the facilities would serve the needs of both Hong Kong and Shenzhen, it is proposed that the cost be equally shared by the two sides. The total cost of the facilities, as estimated by the SMPG, is around RMB 116.2 million. Pending further discussion with the SMPG over the layout design and the detailed cost sharing arrangement, we have included an estimate of HK\$ 58.1 million in the total project cost, which is one half of the cost of the lane change-over facilities as estimated by the SMPG.

13. The annual recurrent expenditure arising from the proposed works within HKSAR is estimated to be \$1.8 million. It is expected that 334 jobs, comprising 55 professional/technical staff and 279 labourers, will be generated during the construction stage.

PUBLIC CONSULTATION

14. We have issued an information paper to the Traffic and Transport Committee of the Yuen Long District Council and received no adverse comments so far. In response to a letter from the San Tin Rural Committee, a briefing was conducted on 6 May 2003 for their members to explain the details of the project and to address their concerns.

² Upon its establishment on 1 August 1996 under the Trading Funds Ordinance, the EMSTF charges government departments for design and technical consultancy services for E&M installations. The services rendered for this project include checking contractor's submissions on all E&M installations and providing technical advice to the government on all E&M works and their impacts on the project.

15. We gazetted the project under the Roads (Works, Use and Compensation) Ordinance on 11 April 2003. The objection period will expire on 10 June 2003. Up to now, we have received 3 objections. Two have been withdrawn unconditionally and we are in the process of resolving the remaining one. We will submit the project and objections received to the Chief Executive in Council for consideration if necessary.

ENVIRONMENTAL IMPLICATIONS

16. The new boundary bridge is classified as a designated project under Schedule 2 to the Environmental Impact Assessment Ordinance (Cap. 499). We have completed a project profile and the environmental impact is found to be minimal.

17. On air quality, proper site management practices will be adopted to minimise the generation of dust from construction activities and keep it within statutory limit. An air quality impact assessment has been conducted and the findings revealed that the level of pollutants will remain below the statutory limit when the new bridge is open to traffic.

18. On noise impact, quiet construction plants and temporary movable noise barriers will be used during construction. To lower traffic noise, concrete parapets will be installed at the edges of the new bridge and the approach ramps. A road traffic noise assessment has been carried out to assess the noise level after the commissioning of the new boundary bridge. The results show that the noise level at the closest noise sensitive receiver, based on the maximum traffic volume within the design years, would be lower than the current level with the provision of the concrete parapets.

19. Cofferdams will be used to construct bridge foundation and piers within the Sham Chun River. This method provides a confined environment to facilitate dredging operation and minimise impact on water quality. Proper drainage and sewerage treatment facilities will be provided to dispose of site run-offs. All sub-structural works will be carried out during the dry season to minimise the effect on the hydrology of the Sham Chun River. As the piers of the new bridge will be of similar size, form and location as those of the existing bridge at the immediate downstream, no long-term effect on the hydrology of the Sham Chun River is expected.

20. The Environmental Protection Department granted permission to the Highways Department to directly apply for an Environmental Permit for the project on 14 May 2003. The application was submitted on the same day.

LAND ACQUISITION

21. The project does not require resumption of private land within the boundary of the HKSAR.

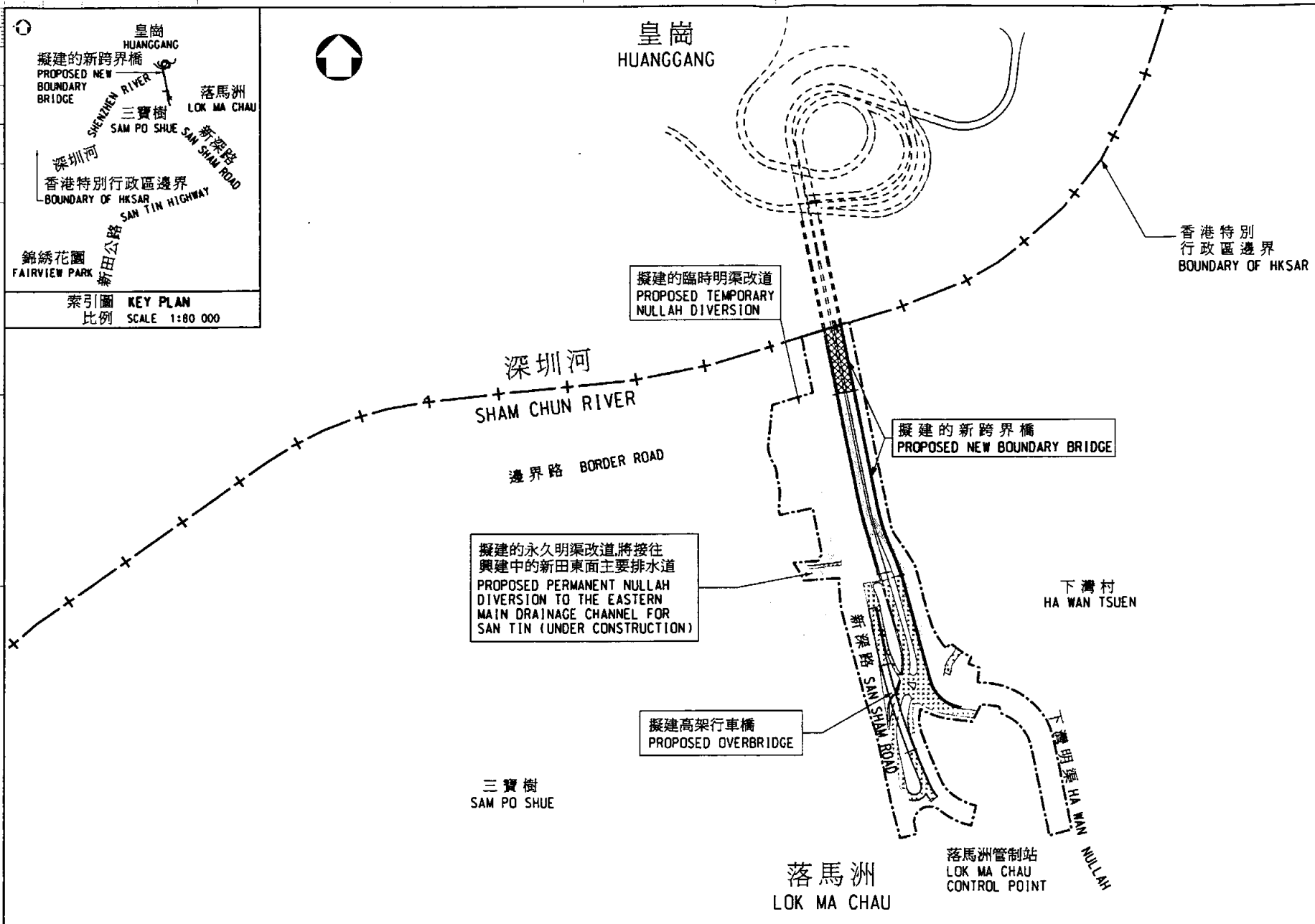
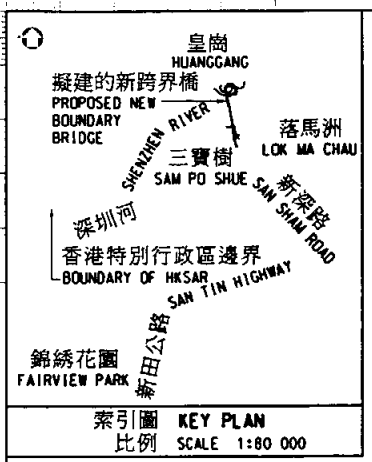
THE WAY FORWARD

22. We intend to submit the project to the Public Works Sub-Committee (PWSC) in June 2003 and the Finance Committee in July 2003 to seek funding approval. Subject to funding approval, we plan to implement the project under a design-and-build contract and start construction works in November 2003 for completion in December 2004.

ADVICE SOUGHT

23. Members' views are sought on the project.

Environment, Transport and Works Bureau
May 2003



圖例 LEGEND:

- 現有橋樑/道路 EXISTING BRIDGE / ROAD
- 現有明渠 EXISTING NULLAH
- 工地界限 LIMIT OF WORKS AREA
- 擬建高架引橋/行車天橋 PROPOSED APPROACH VIADUCT/OVERBRIDGE
- 擬建斜路/地面道路 PROPOSED RAMP/GROUND LEVEL ROAD
- 擬委託深圳市人民政府設計及興建的主橋 PROPOSED MAIN BRIDGE TO BE ENTRUSTED TO THE SHENZHEN MUNICIPAL PEOPLE'S GOVERNMENT FOR DESIGN AND CONSTRUCTION

圖則名稱 plan title

落馬洲至皇崗的新跨界橋 - 工地平面圖
NEW BOUNDARY BRIDGE BETWEEN LOK MA CHAU AND HUANGGANG - SITE PLAN

設計 designed S.C.LOK 19/05/03	繪圖 drawn S.H.CHENG 19/05/03	圖則編號 plan no. HMWP033TH-SPO001	比例 scale 1:5 000 或如圖示 OR AS SHOWN
覆核 checked S.C.LOK 19/05/03	批准 approved P.K.LEE 19/05/03	© 版權所有 COPYRIGHT RESERVED	
主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE		HIGHWAYS DEPARTMENT HONG KONG	