

For Discussion
23 April 2004

Legislative Council Panel on Transport

Reconstruction and Improvement of Tuen Mun Road

PURPOSE

This paper seeks Members' views on our proposal to upgrade part of **746TH** – Reconstruction and Improvement of Tuen Mun Road (TMR) (the Project) to Category A to carry out the detailed design and associated site investigation works.

PROJECT SCOPE

2. The latest scope of the Project includes –
 - (a) reconstruction of the at-grade sections of TMR;
 - (b) improvement of the road design of TMR to current expressway standards as far as practicable including widening of traffic lanes, provision of hard shoulders and improvement of sight lines, gradients, road curvature, super-elevation, etc;
 - (c) replacement of barriers at the central median with current standard concrete profile barriers and modification of the edge parapets on bridges/viaducts and the roadside barriers along the at-grade sections;
 - (d) lengthening of the merging/diverging lanes at the interchanges at Sham Tseng and Siu Lam;
 - (e) upgrading of the traffic control and surveillance system (TCSS);

- (f) retrofitting of noise barriers at locations currently exposed to traffic noise levels exceeding the limit of 70dB (A) L_{10} (1 hour)¹ where practicable; and
 - (g) associated civil, structural and slope upgrading works, and works on environmental mitigation, drainage, road lightings, water mains, and traffic aids.
3. The part of the Project we now propose to upgrade to Category A comprises –
- (a) the detailed design of the works described in paragraph 2 above;
 - (b) associated site investigations and works supervision; and
 - (c) preparation of tender documents and assessment of tenders.

A plan showing the proposed works is at the **Enclosure**.

4. We plan to start the detailed design of the proposed works in August 2004 for completion in August 2005. We intend to commence the construction works in end 2005 for completion by phases between 2009 and 2010.

JUSTIFICATIONS

5. The existing section of the TMR between Tsuen Wan and Sam Shing Hui is a dual three-lane carriageway of about 15.5 km long comprising about 13.9 km at-grade and 1.6 km bridge structures. The road has been in service for more than 20 years. Most of the at-grade sections have already reached the end of their service life² and are now beyond economical repair.

¹ L_{10} (1 hour) is the noise level exceeded for 10% of a one-hour period, generally used for road noise at peak traffic flow. The noise level standard of 70dB (A) for residential premises stipulated in the Hong Kong Planning Standards and Guidelines is adopted as the administrative guideline for retrofit works identified under the new noise policy.

² The design service life of at-grade road pavement is 20 years while that for highway bridge structures is 120 years.

6. The annual maintenance cost per square metre (m²) for the TMR is about \$50 which is nearly 37% higher than that for the adjacent Yuen Long Highway and San Tin Highway. Maintenance works for the TMR have become more frequent. There were on average 387 lane closures per annum on the TMR for road resurfacing works in the past three years as compared with 39 and 24 on Yuen Long Highway and San Tin Highway respectively. The dilapidated carriageway renders frequent ad-hoc repairs necessary which reduces the capacity of TMR. Reconstruction of the at-grade sections of the highway will minimise repair works and the associated traffic disruption and also curb the escalating maintenance costs.

7. As TMR was built over 20 years according to design standards of the time, its design is not totally in line with the current expressway standard. While the safety of the motorists is assured³, to improve traffic flow and to enhance road safety, we propose to upgrade TMR to current expressway standard as far as practicable as part of the reconstruction programme, including widening of the lane widths to the current standard, provision of hard shoulders, improvement of sight lines, gradients, road curvature, super-elevation etc.

8. In order to provide better vehicle containment and also enhance road safety, we will replace the barriers along the central median of TMR with standard concrete profile barriers and modify, where practicable, the edge parapets at bridges/viaducts and the roadside barriers along the at-grade sections.

9. The merging/diverging lanes of the existing interchanges at Sham Tseng and Siu Lam are too short to meet current traffic engineering standards. We will lengthen the merging/diverging lanes at these two interchanges, which will enable motorists to enter and exit TMR via the interchanges more smoothly and safely.

10. The existing TCSS consists of a closed circuit television (CCTV) system and the Tuen Mun Road Traffic Congestion Indicators. We will take

³ The Report on Enhancement of Highway Safety issued by the Independent Expert Panel on Tuen Mun Road Incident in December 2003 stated that :

“Having examined the past accident statistics, the Panel considers that Tuen Mun Road is intrinsically safe as seen by its accident rates, which are about average for all expressways...” (Page vii, para. 20)

“The Panel considers that the marginally lower standards of Tuen Mun Road at a few locations, due to changes in standards over time, mainly affect the comfort of motorists but not their safety...” (Page 118, para. 10.22)

the opportunity to carry out upgrading works for the TCSS under the Project to enhance efficient and effective traffic and incident management.

11. A new policy to address the noise impact of existing roads on neighbouring residents was introduced in November 2000, under which direct engineering solutions by way of retrofitting of barriers and enclosures, and resurfacing with low noise material, should be implemented where practicable on existing roads where the noise level exceeds the limit of 70dB (A) L₁₀ (1 hour). We plan to take the opportunity to install, where practicable, noise barriers at those locations along the TMR concerned which are subject to excessive traffic noise.

12. We completed the investigation and preliminary design (I&PD) for the project in April 2004. We need to proceed with the detailed design stage to refine the findings and recommendations of the I&PD assignments and to carry out detailed design of the works. We will also have to carry out additional site investigation works to collect the necessary site data for the detailed design. As the Highways Department does not have the necessary in-house resources, we need to employ consultants to undertake the detailed design and the associated site investigation works.

FINANCIAL IMPLICATIONS

13. We estimate the cost of this part of the project to be \$65.6 million in MOD prices, made up as follows -

	\$ million
(a) Consultants' fees	48.8
(i) review of the findings of the I&PD assignments, detailed design, preparation of tender documents and assessment of tenders	47.9
(ii) supervision of site investigations	0.9
(b) Site investigations	13.2

(c) Contingencies	6.2	
Sub-total	68.2	(at September 2003 prices)
(d) Provision for price adjustment	(2.6)	
Total	65.6	(in MOD prices)

14. The proposed detailed design and site investigations will not give rise to any annual recurrent expenditure. It is expected to create about 120 jobs (25 for labourers and another 95 for professional/technical staff) providing a total employment of 1 460 man-months.

ENVIRONMENTAL IMPLICATIONS

15. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We have carried out an environmental study covering construction noise impact, waste management, landscape and visual impact, ecology, construction air quality and construction water quality impact for the project. The study has concluded that the project will not cause long-term environmental impact.

16. The proposed detailed design will not give rise to any adverse environmental implications and the proposed site investigations will only generate a negligible amount of construction and demolition materials. The detailed mitigation measures for the project will be formulated during the detailed design stage. We will also require the consultants to take into consideration the need for tree preservation and will also incorporate tree planting proposals, where possible, when the project is implemented.

PUBLIC CONSULTATION

17. We consulted the Tuen Mun (TM) District Council (DC), Tsuen Wan DC and Yuen Long (YL) DC on 22 March, 30 March and 15 April 2004 respectively on the Project. Members of the DCs generally had no objection to the project and urged for its early completion. Some Members of the TM and YL DCs suggested that the whole section of TMR covered in the Project be widened to dual four-lane. We explained to them that we have examined the

feasibility and practicability of widening TMR to dual four-lane but the physical constraints would not make it practical. There would also be significant environmental and land resumption implications for such a proposal.

LAND ACQUISITION

18. The proposed detailed design and site investigations do not require any land acquisition. However, land acquisition is likely required for the construction of the project. Details and scope of land acquisition will be ascertained in the detailed design stage.

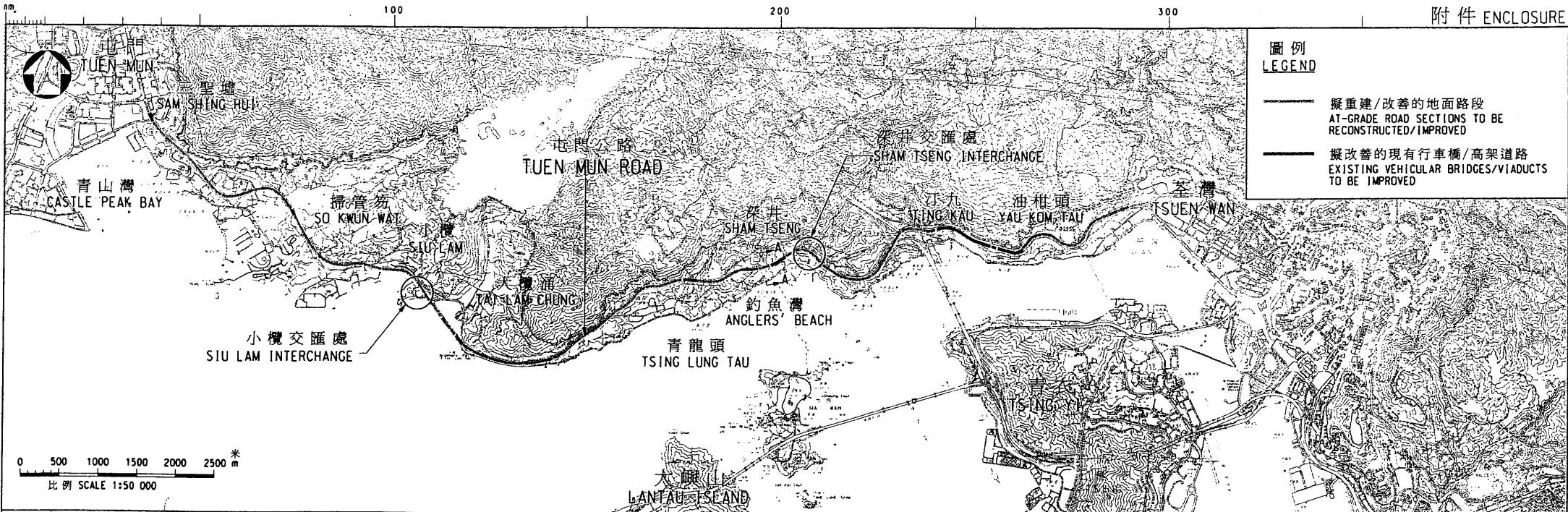
THE WAY FORWARD

19. We intend to submit the Project to the Public Works Subcommittee and Finance Committee of the Legislative Council on 19 May and 11 June 2004 respectively for partial upgrading of the Project to Category A. Subject to funding approval, we plan to commence the detailed design of the proposed works in August 2004 for completion in August 2005. We intend to commence the construction works in end 2005 for completion in phases between 2009 and 2010.

ADVICE SOUGHT

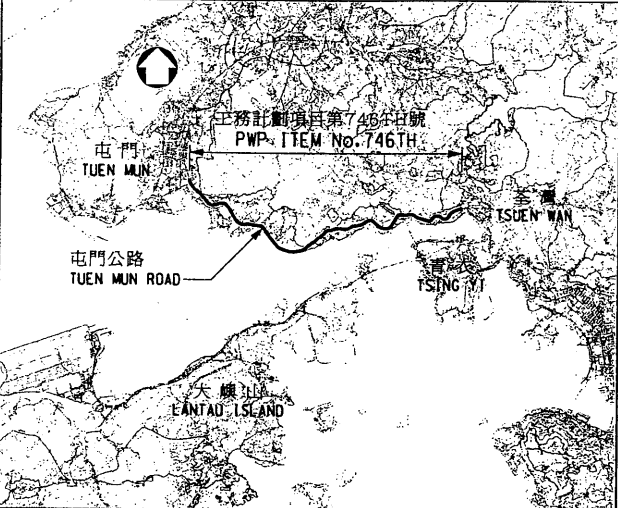
20. Members are invited to comment on this paper.

Environment, Transport and Works Bureau
April 2004
ETWB(T)4/6/147(04)Pt.14

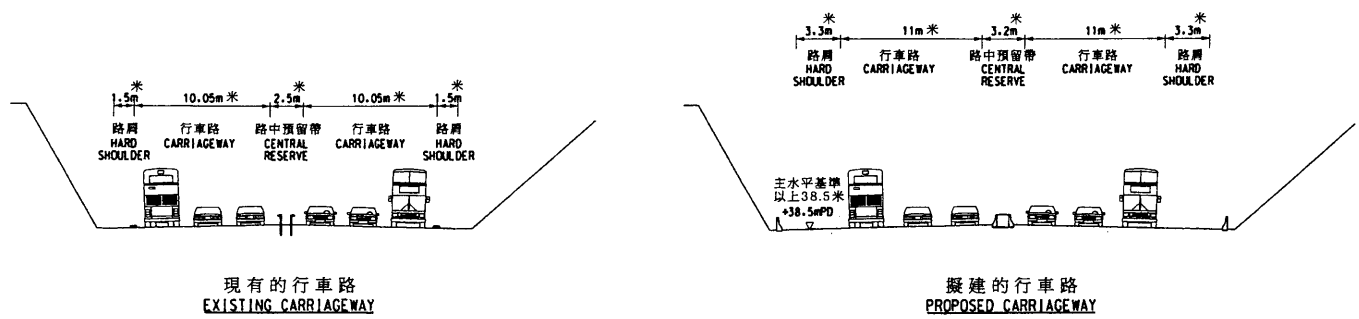


圖例 LEGEND

- 擬重建/改善的地面路段
AT-GRADE ROAD SECTIONS TO BE RECONSTRUCTED/IMPROVED
- 擬改善的現有行車橋/高架道路
EXISTING VEHICULAR BRIDGES/VIADUCTS TO BE IMPROVED



索引圖
KEY PLAN
比例 SCALE 1:250 000



橫切面 A-A
CROSS - SECTION A-A
不按比例 NOT TO SCALE

圖則名稱 drawing title	設計 designed S.C. WONG	繪圖 drawn W.K. CHIU	圖則編號 drawing no. HMW6746TH-SP0002	比例 scale 圖示 AS SHOWN
工務計劃項目第746TH號-屯門公路重建及改善工程 PWP ITEM No.746TH - RECONSTRUCTION AND IMPROVEMENT OF TUEN MUN ROAD	覆核 checked S.C. WONG	批准 approved S.C. WONG	© 版權所有 COPYRIGHT RESERVED	HIGHWAYS 路 DEPARTMENT 政 HONG KONG 署 香
	主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE			

C:\CDMS\MW\dms01798\HMW6746TH-SP0002.dgn