

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT New Territories West Development Transport – Roads 743TH – Tsuen Wan Road upgrading

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **743TH**, entitled “Tsuen Wan Road upgrading – site investigation and preliminary design” to Category A at an estimated cost of \$43.3 million in money-of-the-day prices; and
- (b) the retention of the remainder of **743TH** in Category B.

PROBLEM

The existing Tsuen Wan Road (TWR) between Tuen Mun Road and Kwai Tsing Interchange cannot cope with the anticipated growth in demand both from the local traffic in Tsuen Wan and the traffic between the north west part of the New Territories and the urban area.

/PROPOSAL

PROPOSAL

2. The Director of Territory Development (DTD), with the support of the Secretary for Transport, proposes to upgrade part of **743TH** to Category A at an estimated cost of \$43.3 million in money-of-the-day (MOD) prices for carrying out site investigation, environmental impact assessment (EIA) study and preliminary design for the proposed upgrading of TWR.

PROJECT SCOPE AND NATURE

3. The scope of **743TH** comprises –

- (a) upgrading and widening of a 2.8-kilometre part of TWR from its junction with Tuen Mun Road to Kwai Tsing Interchange;
- (b) provision of environmental mitigation measures; and
- (c) associated civil, structural, drainage, geotechnical and landscaping works, traffic control and surveillance systems, traffic aids and street lighting works.

4. The part of the project we now propose to upgrade to Category A comprises –

- (a) site investigation works;
- (b) EIA study; and
- (c) preliminary design for the engineering works described in paragraph 3 above.

————— A site plan is at Enclosure 1.

5. We plan to start the site investigation, EIA study and preliminary design for the project in May 2002 for completion by November 2003. We will then proceed with the detailed design of the proposed works in December 2003 for completion by August 2005. We intend to commence construction works in late 2005 for completion by late 2009. The costs of the project are estimated to be around \$1.5 billion.

/JUSTIFICATION

JUSTIFICATION

6. TWR is a dual three-lane strategic trunk route connecting Kwai Chung Road and Tuen Mun Road. It also provides local links to the road network within Tsuen Wan via the Tai Chung Road Interchange, and to Tsing Yi via the Tsuen Tsing Interchange and Kwai Tsing Interchange.

7. To meet growing traffic demand resulting from developments in the north west part of the New Territories, the commissioning of West Rail and its associated property developments as well as other planned developments in Tsuen Wan, we need to upgrade TWR to cater for the increase in through traffic as well as for local access to the Tsuen Wan and Tsing Yi areas. We propose to widen TWR by one/two lanes¹ in each direction along its existing viaduct.

8. The feasibility study for TWR upgrading completed in August 1998 established that the existing TWR would be over-saturated in 2011. The Strategic Highway Project Review conducted by the Transport Department in November 2001 indicates that TWR will be operating at critical volume/capacity (V/C) ratios² during the peak hours in 2011 if no upgrading works are carried out. The V/C ratios of the road in 2011 and 2016, with and without the proposed upgrading works, are as follows –

/TWR

¹ The feasibility study completed in 1998 by Territory Development Department recommended that TWR be widened by one lane between Kwai Tsing Interchange and Tsuen Tsing Interchange and between Tai Chung Road Interchange and Tuen Mun Road, and two lanes between Tsuen Tsing Interchange and Tai Chung Road Interchange in each direction along its existing viaduct. We will ascertain the part of the existing viaduct to be widened by one or two lanes in the preliminary design of the project.

² Volume to capacity (V/C) ratio is an indicator which reflects the performance of a road. A V/C ratio equal to or less than 1.0 means that a road has sufficient capacity to cope with the volume of vehicular traffic under consideration and the resultant traffic will flow smoothly. A V/C ratio above 1.0 indicates the onset of congestion; that above 1.2 indicates more serious congestion with traffic speeds progressively deteriorating with further increase in traffic.

TWR	Year		
	2001	2011	2016 ³
Without proposed upgrading works	1.0	1.2	1.2
With proposed upgrading works	-	0.8	0.8

9. We need to proceed with the preliminary design study to ascertain the general layout and land requirements for the project, refine the project scope, and formulate the strategy for implementing the project. Due to insufficient in-house resources, we propose to employ consultants to plan and supervise the site investigation works and to carry out the EIA study and preliminary design works.

FINANCIAL IMPLICATIONS

10. We estimate the cost of the project to be \$43.3 million in MOD prices, made up as follows –

	\$ million	
(a) Site investigation	25.0	
(b) Consultants' fees for	14.2	
(i) preliminary design	10.0	
(ii) EIA study	3.0	
(iii) supervision of site investigations	1.2	
(c) Contingencies	3.9	
Sub-total	43.1	(in September 2001 prices)
		/(d)

³ The V/C ratios, with the proposed upgrading works, remain the same for both 2011 and 2016 because the traffic model runs show that some traffic flow will utilise existing parallel major roads in the area, such as Kwai Fuk Road and Castle Peak Road.

		\$ million	
	(d) Provision for price adjustment	0.2	
	Total	43.3	(in MOD prices)

A breakdown by man-months of the estimate for the consultants' fees is at Enclosure 2.

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

Year	\$ million (Sept 2001)	Price adjustment factor	\$ million (MOD)
2002 - 2003	10.0	0.99700	10.0
2003 - 2004	24.0	1.00398	24.1
2004 - 2005	9.1	1.01101	9.2
	43.1		43.3

12. We have derived the MOD estimates on the basis of the Government's latest forecast trend labour and construction prices for the period 2002 to 2005. We will award the proposed consultancy on a lump-sum basis, with provision for price adjustments as the consultancy period will exceed 12 months. We will tender the site investigation works under a standard re-measurement contract because the quantities of works involved may vary depending on actual ground conditions. This contract will not provide for price adjustments as the contract period will not exceed 21 months.

13. The proposed site investigation works and consultancy have no recurrent financial implications.

/PUBLIC

PUBLIC CONSULTATION

14. We consulted the Traffic and Transport Committee of the Kwai Tsing District Council on the project on 22 June 2001. The Committee gave in-principle support to the project. We also circulated a paper on the project to the Traffic and Transport Committee of the Tsuen Wan District Council in June 2001. Members of the Committee had no objection to the project. We will consult the Kwai Tsing District Council, Tsuen Wan District Council and the Advisory Council on the Environment when we have completed the EIA study and finalised the preliminary design of the road scheme.

15. We circulated a paper on the proposal to Legislative Council Panel on Transport on 14 December 2001. Members of the Panel had no objection to the proposal.

ENVIRONMENTAL IMPLICATIONS

16. We completed a Preliminary Environmental Review for the project in April 1999. The proposed consultancy for site investigation works and engineering design will not cause any adverse environmental implications.

17. The project is a designated project under Schedule 2 of the EIA Ordinance (Cap. 499). An environmental permit is required for the project. A project profile was submitted to the Director of Environmental Protection on 5 August 1999 and a study brief was issued on 14 September 1999. We will carry out an EIA study to meet the requirements of the EIA Ordinance. We will incorporate all the measures recommended in the EIA study report into the detailed design and relevant works contract, and will apply for an environmental permit before the project construction work commences.

18. The proposed site investigation works and consultancy will only generate a minimal amount of construction and demolition (C&D) materials. We will require the consultants to plan and design the works to minimize the generation of C&D materials during the construction phase and to reuse/recycle C&D materials as much as possible.

LAND ACQUISITION

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

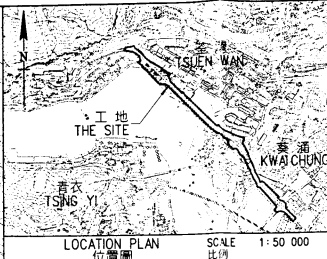
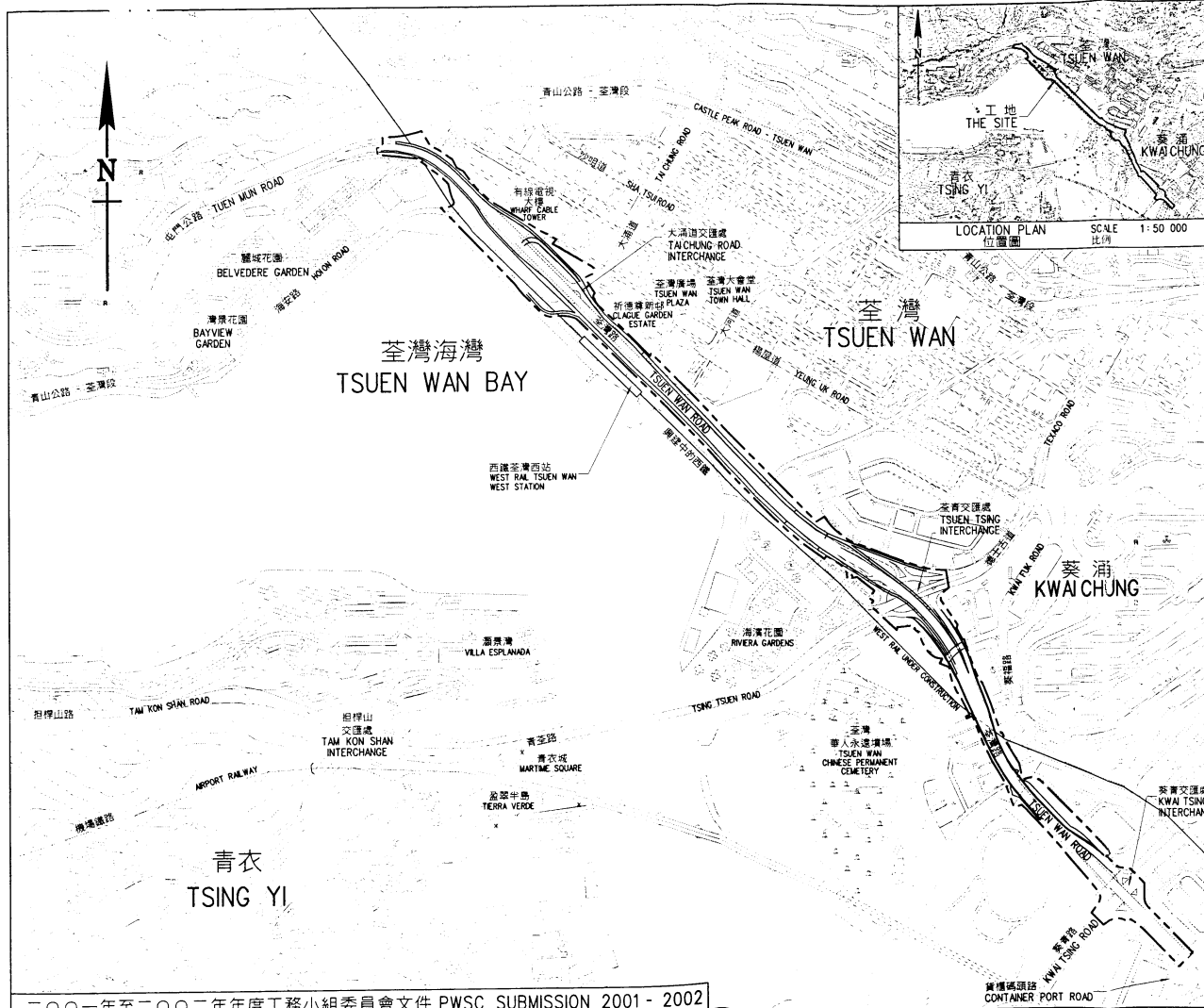
BACKGROUND INFORMATION

20. We included **743TH** in Category B of the Public Works Programme in September 2000.

21. In August 1998, we engaged consultants to carry out a feasibility study for upgrading TWR. We completed the feasibility study in December 1999 and charged the cost of \$3 million to the block allocation **Subhead 7100CX** “New towns and urban area works, studies and investigations for items in Category D of the Public Works Programme”.

22. We estimate that the proposed site investigation works and consultancy will create some 70 jobs comprising 20 professional/technical staff and 50 labourers, totalling 500 man-months.

Transport Bureau
January 2002



備註 Notes:

圖例 Legend:

- 工程範圍 PROJECT LIMIT
- ▭ 擬改善的道路 UPGRADING WORKS

修訂 no.	日期 date	內容 description	檢核 checked	日期 date
修訂 REVISION				
繪圖 drawn	姓名 name	簽署 initial	日期 date	
	Y. L. CHAU	SIGNED	19.12.01	
核對 checked	C. T. TSE	SIGNED	19.12.01	
核實 approved				
SIGNED (K.M.LAU) 19.12.01				
蓋上印號 chief engineer 日期 date				
工程編號 project no. 743 TH				
檔案編號 file no.				
合約編號 contract no.				
圖則名稱 drawing title				
荃灣路改善工程 TSUEN WAN ROAD UPGRADING				
圖則編號 drawing no.			比例 scale	
NTW 1368			1 : 10 000	
辦事處 office				
新界西拓展處 NEW TERRITORIES WEST DEVELOPMENT OFFICE				
拓展署 TERRITORY DEVELOPMENT DEPARTMENT				

Enclosure 2 to PWSC(2002-03)

743TH – Tsuen Wan Road upgrading

Breakdown of the estimate for consultants' fees

Consultants' staff costs		Estimated man - months	Average MPS* salary point	Multiplier factor	Estimated fees (\$ million)
(a) Preliminary design	Professional	45	38	2.4	6.5
	Technical	75	14	2.4	3.5
(b) EIA study	Professional	12	38	2.4	1.7
	Technical	28	14	2.4	1.3
(c) Supervision of site investigations	Professional	7	38	1.7	0.7
	Technical	15	14	1.7	0.5
Total consultants' staff costs					14.2

* MPS = Master Pay Scale

Notes

1. A multiplier of 2.4 is applied to the average MPS point to arrive at the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. A multiplier of 1.7 is applied to the average MPS point in the case of resident site staff supplied by the consultants. (As at 1.4.2001, MPS pt. 38 = \$60,395 per month and MPS pt. 14 = \$19,510 per month)
2. The figures given above are based on estimates prepared by the Director of Territory Development. We will know the actual man-months and fees only when we have selected the consultants through the usual competitive lump-sum fee bid system.