For discussion **PWSC(2004-05)22**
on 9 June 2004

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS
Transport – Interchanges and bus termini
75TI – Public transport interchange at Lok Ma Chau Terminus of the Sheung Shui to Lok Ma Chau Spur Line

Members are invited to recommend to Finance Committee the upgrading of **75TI** to Category A at an estimated cost of $93.1 million in money-of-the-day prices for the design and construction of a public transport interchange at the Lok Ma Chau Terminus of the Sheung Shui to Lok Ma Chau Spur Line.

PROBLEM

The Sheung Shui to Lok Ma Chau Spur Line (Spur Line) is planned to commence operation by mid-2007. We need to provide a public transport interchange (PTI) at the Lok Ma Chau (LMC) Terminus to facilitate the operation of other public transport modes at the new boundary control point at the LMC Terminus.

PROPOSAL

2. The Director of Highways, with the support of the Secretary for the Environment, Transport and Works (SETW), proposes to upgrade **75TI** to Category A at an estimated cost of $93.1 million in money-of-the-day (MOD) prices for the design and construction of a PTI at the LMC Terminus of the Spur Line.

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PROJECT SCOPE AND NATURE

3. The scope of **75TI** comprises the detailed design and construction of –

(a) a PTI of 6 200 square metres (m^2) for the operation of franchised bus, public light bus (PLB) and taxi services, containing –

(i) two bays for franchised buses and/or PLBs;

(ii) one bay for taxis; and

(iii) one taxi stacking area which can accommodate about 50 taxis;

(b) passenger connection facilities to the departure and arrival halls of the LMC Terminus building, including two sets of escalators and staircases, a lift, a two-level elevated walkway, together with the associated interfacing works in the LMC Terminus building; and

(c) environmental mitigation measures which include the provision of an ecological compensation area and a wildlife underpass, together with the installation of low guide barrier.

A site plan showing the PTI and passenger connection facilities is at the Enclosure.

4. The Kowloon-Canton Railway Corporation (KCRC) commenced construction of the Spur Line in October 2002. We plan to commence the construction works of the PTI in October 2004 for completion by mid-2007 in tandem with the commissioning of the Spur Line.

JUSTIFICATION

5. When we consulted the Subcommittee on matters relating to railways of the Legislative Council Panel on Transport on 27 November 2002 on **46TR**[1] "East Rail Extension – essential public infrastructure works for the Sheung

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[1] We upgraded **46TR** "East Rail Extension – essential public infrastructure works for the Sheung Shui to Lok Ma Chau Spur Line" to Category A at an estimated cost of $656.6 million in MOD prices in February 2003.

Shui to Lok Ma Chau Spur Line", Members suggested that facilities be provided at the LMC Terminus to allow the operation of other public transport modes including franchised buses, PLBs and taxis. We have carefully considered the suggestion having regard to the land, traffic, environmental and security constraints, in particular the location of the LMC Terminus in the vicinity of the environmentally sensitive areas. Since rail is the most efficient and environmentally friendly transport mode, we consider that the Spur Line should be the major transport service serving the new boundary crossing, which is itself located in a conservation area. We agree that as long as the environmental concerns, access and space constraints can be effectively addressed, we may facilitate the operation of a limited number of other public transport modes at the LMC Terminus to cater for the demands of the public. The provision of the PTI will allow cross-boundary travellers to access the new boundary crossing by franchised buses, PLBs and taxis. The PTI will also serve as a transit point for passengers to interchange between road-based transport and the railway.

6. As with the LMC Terminus, the proposed PTI is located in a conservation area. We have to design the PTI carefully and implement suitable environmental mitigation measures to keep the environmental impact to an acceptable level. We plan to construct an open PTI of 6 200 m^2 at the ground level on the east side of LMC Terminus building. This size was determined having regard to the need for efficient and effective operation of the public transport services at the LMC Terminus and the need to protect the adjacent environment. The PTI will accommodate different public transport modes, including franchised buses, PLBs and urban and New Territories taxis, and will be provided with a taxi stacking area. The area separating the main portion of the PTI and the taxi stacking area is an internal road for KCRC's use and an emergency assembly area for passenger evacuation. The construction of this area is funded by KCRC under the Spur Line project and does not form part of **75TI**. Access to the PTI from San Tin Highway and Castle Peak Road will be via the LMC Road, a village road and the Border Road. These roads are being widened under **46TR**.

7. The LMC Terminus building, together with the boundary control facilities funded under **46TR** to be housed therein, is currently under construction by KCRC. We will provide one set of escalator and staircase for each direction of passenger flow, a lift and a two-level elevated walkway from the PTI to the departure hall at Level 1 and the arrival hall at Level 2 of the LMC Terminus building.

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8. As the PTI is within the site area of the LMC Terminus, we intend to entrust the design and construction of the PTI to KCRC for implementation. We believe that this would improve the interface and co-ordination between the Spur Line project and the PTI project.

FINANCIAL IMPLICATIONS

9. We estimate the cost of the project to be $93.1 million in MOD prices (see paragraph 10 below), made up as follows –

			$ million	
(a)	PTI		17.5	
(b)	Passenger connection facilities and associated interfacing works		53.2	
	(i) civil works	49.2		
	(ii) building works	4.0		
(c)	Environmental mitigation measures		5.0	
(d)	On-cost[2] payable to KCRC		12.5	
(e)	Contingencies		8.8	
		Sub-total	97.0	(in September 2003 prices)
(f)	Provision for price adjustment		(3.9)	
		Total	93.1	(in MOD prices)

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[2] An on-cost at 16.5% of the project base cost for engineering works (i.e. items (a), (b)(i) and (c) of paragraph 9) and 15.9% of the project base cost for building works (i.e. item (b)(ii) of paragraph 9) will be payable to KCRC for undertaking the technical studies, design and construction supervision of the PTI and associated facilities.

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

Year	$ million (Sep 2003)	Price Adjustment Factor	$ million (MOD)
2004 – 2005	15.0	0.97150	14.6
2005 – 2006	30.0	0.95450	28.6
2006 – 2007	33.0	0.95450	31.5
2007 – 2008	14.0	0.96643	13.5
2008 – 2009	5.0	0.98455	4.9
	97.0		93.1

11. We have derived the MOD estimate on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period from 2004 to 2009. We intend to entrust the proposed works to KCRC under their ongoing lump-sum contracts with remeasurement items without price adjustments.

12. We estimate the annual recurrent expenditure upon completion of the project to be $2.7 million.

PUBLIC CONSULTATION

13. We gazetted the proposed PTI as an amendment to the Spur Line railway scheme under the Railways Ordinance on 12 December 2003 and received no objection. SETW authorised the project under the Ordinance on 23 February 2004 and the notice of authorisation was gazetted on 27 February 2004.

14. We consulted the Traffic and Transport Committee (T&TC) of the Yuen Long District Council on our proposal to provide a PTI on 22 July 2003 and 13 May 2004. The T&TC supported the provision of a PTI at the LMC Terminus but requested that the PTI be enlarged to cater for more passenger flow and that private cars be allowed 24-hour access to the LMC terminus.

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15. We consulted the San Tin Rural Committee (STRC) on 29 April 2004. The STRC expressed similar views as the T&TC. In addition, some STRC Members asked for 24-hour operation at the PTI, while others proposed to use the service road along the eastern main drainage channel at San Tin as vehicular access to the PTI. Some had concern about the potential noise nuisance and heavy traffic which might arise from the operation of the PTI.

16. We consulted the Subcommittee on matters relating to railways of the Legislative Council Panel on Transport on the PTI project on 7 May 2004. Members generally agreed to the need to provide a PTI at the LMC Terminus. Some Members were concerned that the PTI might not be large enough to meet the passenger demand. Other Members were of the view that the capacity of the access road might limit the scale of public transport services to be provided.

17. As mentioned in paragraph 6 above, the size of the proposed PTI was determined having regard to the need for efficient and effective operation of the public transport services at the LMC Terminus and the need to protect the adjacent environment. Further enlargement of the PTI would take up a larger part of the conservation area, and would require a new environmental assessment which would delay the whole project. It will also pose constraints to the future expansion of the LMC Terminus building.

18. As regards the design capacity of the PTI, it must be noted that the environmental permit (see paragraph 22 below) was amended on the assumption that there will be 304 public transport vehicles entering and leaving the PTI per hour (i.e. 12 franchised buses, 20 PLBs and 120 taxis per hour per direction). The PTI is capable of accommodating the traffic flow and resultant passenger flow (2 360 passengers per hour per direction) under this assumption. As for the capacity of the passenger connection facilities, the part with the smallest throughput capacity is the elevated walkway which can allow the circulation of about 6 000 passengers per hour per direction. We will carefully plan the public transport services to be provided to ensure that the passenger demand will be met in an effective way that is in compliance with the conditions set out in the environmental permit.

19. On access to the PTI by vehicles other than public transport modes, we have to carefully consider the impact of the increased traffic on the environment, with due regard to the conditions set out in the environmental permit, as well as the impact on the operation of public transport services.

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20. On the request for 24-hour operation of the PTI, we need to further examine its feasibility having regard to the operating hours of the control point, which have to be agreed with the Mainland authorities, as well as traffic, environmental and security considerations. In particular, we note that this would generate noise nuisance in the quiet hours, which is also the concern of some STRC Members.

21. The access road to the PTI, being widened under item **46TR**, should be sufficient to cater for the traffic permitted under the environmental permit. As regards the suggestion to use the service road along the eastern main drainage channel as the vehicular access to the PTI, our assessment is that the proposed road may not be suitable because it is only 3.5 metres wide and is meant to be used mainly by maintenance vehicles of the Drainage Services Department. If we were to turn it into a proper access road to the PTI, this would entail extra works and land resumption and would have environmental impact on the nearby wetland.

ENVIRONMENTAL IMPLICATIONS

22. The Spur Line project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap.499). The Director of Environmental Protection (DEP) approved KCRC's EIA report for the Spur Line project on 11 March 2002 and issued an environmental permit under the EIA Ordinance on 6 April 2002. KCRC conducted an environmental assessment of the inclusion of a PTI in the project. The environmental assessment concluded that with appropriate mitigation measures, the impact of the operation of the PTI in the LMC Terminus and the associated traffic could be kept at an acceptable level. The key findings of the environmental assessment were presented to the EIA Subcommittee of the Advisory Council on the Environment on 23 July 2003. Members of the EIA Subcommittee were in general disappointed with the provision of road-based transport to take commuters to the LMC Terminus, as it would compromise the objective of the Spur Line to provide an efficient and environmentally friendly mode of cross-boundary transport. In response to KCRC's application on 19 December 2003, DEP amended the environmental permit to include the PTI in the Spur Line project on 15 January 2004.

23. To mitigate the ecological impact of the project and to comply with the requirements in the environmental permit, we will enhance two fishponds with a total area of 3.5 hectares (ha) comprising 2.6 ha for wetland loss and 0.9 ha for

replacement of a small portion of the planned Spur Line ecological compensation area now redesigned as reedbed and marshland. In addition, we will mitigate the fragmentation impact on habitats due to increased traffic using the access road by the provision of a wildlife corridor, including an underpass beneath the access road, together with the installation of low guide barrier to facilitate east-west movements of mammals in the LMC area. The traffic noise impact on the affected dwellings along the access road would be satisfactorily mitigated by standard 800 millimetres high roadside concrete parapets provided along the access road under item **46TR**.

24. As far as the impact during the construction stage is concerned, the environmental assessment concluded that the construction of the PTI will not result in any material difference or increase in the construction phase environmental impact as compared with the approved Spur Line project.

25. During the planning and design stages, we have considered ways to reduce the generation of construction and demolition (C&D) materials as far as practicable. We will require the contractors to submit waste management plans (WMPs) for approval. The WMPs will include appropriate mitigation measures such as identification of designated area for waste segregation prior to disposal. We will ensure that the day-to-day operations on site comply with the approved WMPs. We will separate public fill from C&D waste for disposal at appropriate locations and sort the C&D materials by category on-site to facilitate reuse/recycling, and will reuse/recycle C&D materials on-site to reduce waste generation. We will control the disposal of C&D waste to landfills through a trip-ticket system. We will record the disposal, reuse and recycling of C&D materials for monitoring and auditing purpose. To further minimise the generation of C&D materials, we will encourage the contractor to use non-timber formwork and recyclable materials for temporary works.

26. We estimate that the project will generate about 400 cubic metres (m^3) of C&D materials. Of these, we will reuse about 100 m^3 (25%) of inert C&D materials on site and dispose of the remaining 300 m^3 (75%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be $37,500 for this project (based on a notional unit cost[3] of $125/$m^3$).

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[3] This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90/$m^3$), nor the cost to provide new landfills (which are likely to be more expensive) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

LAND ACQUISITION

27. As the proposed PTI is within the gazetted boundary of the Spur Line scheme, no additional land is required for the construction of the PTI. However, we will have to clear two fishponds of a total area of 3.5 ha on Government land. The land acquisition will not affect any household. We will charge the land acquisition and clearance costs, estimated to be $1.9 million, to **Head 701** – "Land Acquisition" **Subhead 1100CA** – **"**Compensation and ex-gratia allowances in respect of projects in the Public Works Programme".

BACKGROUND INFORMATION

28. We upgraded **75TI** to Category B in November 2003.

29. The proposed PTI and associated works will not involve any tree removal or planting proposals.

30. We estimate that the proposed works will create about 90 jobs (70 labourers and 20 professional/technical staff) providing a total employment of 1 900 man-months.

Environment, Transport and Works Bureau
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