

## **LEGISLATIVE COUNCIL BRIEF**

### **MASS TRANSIT RAILWAY WEST ISLAND LINE FUNDING ARRANGEMENT**

#### **INTRODUCTION**

At the meeting of the Executive Council on 26 May 2009, the Executive Council ADVISED and the Chief Executive ORDERED that

- (a) approval should be given to provide the MTR Corporation Limited (MTRCL) a capital grant of \$12.7 billion (Net Present Value (NPV) at June 2009) with funding from Head 708 – Capital Subvention and Major Systems and Equipment under the Capital Works Reserve Fund (CWRF) for the MTRCL to implement the WIL project; and
- (b) the “claw-back” mechanism on over estimation, if any, of the project cost as proposed in paragraphs 27 and 28 should be endorsed.

#### **BACKGROUND**

2. The WIL is one of the railway projects recommended in the Railway Development Strategy 2000 for implementation. It will extend the existing MTR Island Line from Sheung Wan via Sai Ying Pun and HK University to Kennedy Town, thereby providing a fast and reliable railway service to the Western District.

3. In June 2005, the Executive Council decided that the MTRCL should be invited to proceed with preliminary planning and design of the WIL. The MTRCL subsequently submitted a Revised Project Proposal of the WIL to the Administration in August 2006. On 23 October 2007, the Council decided that:-

- (a) the MTRCL should be asked to proceed with further planning and detailed design of the proposed WIL project;

- (b) the ex-Upper Level Police Station site at High Street should be used for the reprovisioning of the facilities of the existing David Trench Rehabilitation Centre currently located at Bonham Road;
- (c) the funding gap of the WIL project should be bridged by a capital grant with funding from Head 708 – Capital Subvention and Major Systems and Equipment under the CWRP; and
- (d) a two-stage approach should be adopted for seeking funding from the LegCo to cover the design phase expenditure and subsequently the funding gap arising from the construction, operation and maintenance of the WIL.

We briefed the Legislative Council Panel on Transport's Subcommittee on Matters Relating to Railways (the Railways Subcommittee) on 9 November 2007.

4. We consulted the Public Works Sub-committee at its meeting on 22 November 2007 and obtained the approval of the Finance Committee on 14 December 2007 to upgrade part of **8011YD** to Category A at an estimated cost of \$400.0 million in money-of-the-day (MOD) prices to provide funding support to the MTRCL to cover the design phase expenditure up to scheme authorization.

5. The WIL scheme was gazetted under the Railways Ordinance (Cap. 519) on 26 October 2007. To accommodate the detailed design development and to address some of the concerns expressed in the objections received, amendments to the scheme were gazetted on 12 September 2008. To make clear that the existing piles and foundations of most of the buildings covered by the scheme will be excluded from the underground strata resumption required for the construction of the railway, corrections to the scheme were gazetted on 9 January 2009. The Council authorised the scheme with amendments on 10 March 2009. We briefed the Railways Subcommittee on 31 March 2009.

## **Financing Arrangement**

### **(A) Project Cost**

6. In November 2007, we briefed the Railways Subcommittee that the then estimated capital cost for the project was \$8.9 billion (January 2006 prices). The WIL would not be financially viable based on fare and non-fare revenue alone. The funding support to the MTRCL required for the implementation of the project was estimated to be \$6 billion (NPV at January 2007).

7. With detailed design for the project nearing completion and the scope of the works more clearly defined, the MTRCL submitted the latest financial proposal for the WIL in February 2009. The revised estimate, as compared with that in November 2007, is listed below:

Item	Estimate in LegCo Brief in Oct 2007	Latest Estimate in Feb 2009
(a) Capital Cost	\$8.9B (Jan 2006 prices)	\$15.4B (Dec 2008 prices)
(b) Funding Gap	\$6.0B (NPV at Jan 2007)	\$12.7B (NPV at Jun 2009)

8. The increase in the capital cost of \$6.5 billion (\$15.4 billion - \$8.9 billion) is attributed to \$2.2 billion due to increase in the scope of the works for the railway and \$4.3 billion due to price escalation within the construction sector over the 3 year period covered by the estimating dates.

**(a) Scope Changes**

9. The increase in the scope of the works amounts to \$2.2 billion (December 2008 prices) made up of the following:

Scope changes for Reprovisioning, Remedial and Improvement Works (RRIW)	\$0.2B
Scope changes for railway works	\$1.3B
Changes in construction methods	\$0.2B
Additional electrical and mechanical works	\$0.4B
Additional rolling stock	\$0.1B
Total.....	\$2.2B

*Reprovisioning, Remedial and Improvement Works*

10. The major RRIW includes the reprovisioning of the David Trench Rehabilitation Centre (DTRC) and the Kennedy Town Swimming Pool (KTSP).

11. The DTRC will be demolished to make way for the Bonham Road entrance to the Sai Ying Pun Station, and will be re-located to the heritage building at the ex-Upper Level Police Station (ex-ULPS) nearby. The facade and major architectural features of the ex-ULPS building will have to be retained which imposes constraints on the design. More detailed investigation of the existing building has revealed a need for a greater extent of structural modifications. To accommodate additional user requirements allowing for an anticipated expansion of service, additional accommodation in a new wing next to the ex-ULPS will also be required.

12. Kennedy Town Station will be located at the existing KTSP, instead of the original proposal near Forbes Street where there are precious tree walls. The KTSP will be reprovisioned near the Western waterfront. Additional wall cladding, external ceiling and maintenance walkway, additional air conditioning and E&M provisions are necessary for the new swimming pool to suit the latest design and maintenance standards.

13. All the above have led to an increase of about \$0.2 billion.

#### *Railway Works*

14. Changes to the design are also necessary to meet the latest requirements of the Environmental Protection Department, Buildings Department (BD) and Fire Services Department (FSD). These include:

- (a) University and Sai Ying Pun Stations & associated tunnels - Lengthened and enlarged passenger adits including the provision of moving walkways, provision of additional temporary supports during construction, additional tree transplanting, additional fire safety provisions and adjustments to more accurately reflect the difficult access provisions.
- (b) Sheung Wan Station to Sai Ying Pun Station tunnels - Modification to the existing Island Line turnback and overrun tunnel, provision of additional temporary noise enclosures to meet Environment Impact Assessment requirements, allowance for additional ground treatment and more extensive building protection measures to satisfy BD requirements and allowance for 24-hrs standby teams to satisfy FSD requirements for compressed air working.
- (c) Additional slope stabilization works – As a result of the severe rainstorm in May 2008, additional slope protection works were found to be necessary.
- (d) Kennedy Town Station & overrun tunnels – Modifications to the tunnel linings to accommodate more adverse ground conditions, provision of additional ventilation plantrooms to meet FSD requirements, additional provisions at harbour side works areas and additional barging points.
- (e) Underground Magazine and Ex-Abattoir Site in Kennedy Town – Additional grouting to tunnels and increased floor areas to accommodate more adverse ground conditions and revised FSD

requirements respectively.

- (f) Sheung Wan Station – Further modifications to the central concourse to improve passenger circulation.
- (g) Additional ground investigation works.

All the above have led to an increase of about \$1.3 billion.

#### *Construction Methods*

15. During the design development for the project and upon further ground investigation, it was found necessary to change some of the construction methods to cater for more difficult geotechnical conditions in the soft ground areas. These include: allowance for night works at Sheung Wan Station; addition of a slurry tunnel boring machine for the Sheung Wan to Sai Ying Pun tunnels; use of ground freezing methods for construction of entrances at Sai Ying Pun Station; change from secant piles to bored piles at Kwun Lung Lau and associated ground treatment; and extended soft ground tunneling at the magazine site. All these have resulted in an increase of about \$0.2 billion.

#### *Additional E&M Works*

16. Additional E&M works were found to be required in various railway E&M systems during the design stage to accommodate changes to the scope of the civil works, improved customer service requirements or revised FSD provisions. These include additional modifications to the Island Line signalling system, other changes to the tunnel environmental control system, platform screen doors, power supply system, track side auxiliaries, main control system, communications and radio system, auto fare collection system, additional lifts and escalators and modifications of the existing Island Line railway system. All these have resulted in an increase in cost of about \$0.4 billion.

#### *Additional Rolling Stock*

17. In addition to the changes in the above categories, one additional train is required to meet the latest standard in passenger comfort level and train service frequency. This will cost about \$0.1 billion.

### **(b) General Price Escalation**

18. MTRCL's estimate for general price escalation in the construction sector is \$4.3 billion for the three year period from January 2006 to December 2008 representing an increase of about 48%.

19. The Architectural Services Department (ArchSD) collates the Building Works Tender Price Index (BWTPI). This has been chosen as the reference for our review of the price escalation on tender prices and is a direct measurement of cost increases on Government works already tendered. The BWTPI at 1Q 2006 (the \$8.9 billion original cost estimate was based on January 2006 prices) and at 3Q 2008 was 714 and 1401 respectively, representing an increase of 96% in the cost of tender prices between these two periods. The data for 4Q 2008 onward has yet to be published by ArchSD. We therefore consider that the MTRCL's estimate of price escalation for railway works is reasonable, even after taking into account the possible fall in tender prices after the financial tsunami in late 2008.

### **(c) Employment of External Consultant**

#### *Checking of cost estimates*

20. In September 2008 the Highways Department (HyD) commissioned an independent engineering consultant (IEC) to check the cost estimates prepared by the MTRCL. This is to ensure that the MTRCL has not grossly over-estimated the costs and the funding support required. IEC completed the checking in January 2009 and considered that MTRCL's estimate was generally in order. To be prudent and to safeguard against the overpayment of the MTRCL, we have proposed to introduce a claw-back mechanism in case the project cost is overestimated as compared with the actual tender prices (see paragraphs 27 and 28 below).

#### *Checking of contingency and project management*

21. Contingency sum will cater for unforeseen costs including variations and claims (e.g. due to unforeseen ground conditions) attributable to change of scope of works during construction which are not envisaged when the project agreement is signed. The MTRCL has proposed project contingency to be 13% of the estimated construction costs. IEC has checked MTRCL's cost database on different risk elements and contingency allowances on different categories of works. In addition, it has looked at the unforeseen additional expenditure on the past railway projects, namely Tseung Kwan O Extension, Disneyland Resort Line, East Rail Extension and West Rail and such expenditure ranged from 12% to 25% of the tendered prices. This reflects the additional risks on railway works in substantial underground construction in densely populated urban areas. The 13% proposed by the MTRCL is considered reasonable.

22. At the time of grant of the funding support to the MTRCL, the contingency provision will be calculated on the basis of 13% of the estimated capital expenditure. The MTRCL has further agreed that since the actual project cost is subject to review upon project completion, the

amount of contingency provision will also be reassessed as 13% of the actual capital expenditure.

23. MTRCL's project management cost for the WIL, estimated at \$1.25 billion (December 2008 prices), are staff costs for the project team, project headquarters and other support services. The project team provides support for the detailed design, project management, project planning, design management and construction supervision; the project headquarters team provides support for the project control, planning and programming and procurement and contracts etc. Other support services cover human resources, legal, public relations, finance and information technology etc. IEC has also checked these cost items and considers that they are in order given the scale and complexity of the project.

24. As the sum for contingency will be reassessed based on the actual capital expenditure and project management costs will not vary with the construction contract tender prices, they will not be subject to the proposed claw back mechanism described in paragraphs 27 and 28 below.

## **(B) Funding Cap and Claw-back**

### **(a) Increase in Funding Gap**

25. The funding gap is the difference between the estimated capital cost and the revenue over a 50-year period of the WIL project. The estimated capital cost was significantly increased from \$8.9 billion (January 2006 prices) to \$15.4 billion (December 2008 prices) as mentioned in paragraphs 9 to 19 above. The estimated revenue in the operation stage has dropped as compared with the projections made at the time of our previous ExCo submission because the train fare has remained the same for the past few years. The increase of the funding gap from \$6 billion to \$12.7 billion is basically due to the increase of capital cost from \$8.9 billion to \$15.4 billion.

### **(b) Claw-back Mechanism**

26. Estimating project cost is not an easy task and the granting of a capital grant to fill the funding gap for the WIL under the ownership approach is quite different from providing funding for public works projects. For the latter, funding is only drawn out from the relevant account when the expenses are incurred. Hence, any unspent portion will rest with the Government. If the actual spending turns out to be higher than the project estimate, a funding application will have to be made to seek the LegCo's approval for an increase in the approved project estimate.

27. For the WIL, the funding support which is to be provided by the Government in the form of a capital grant, is calculated on the basis of a set of project cost estimates. It will be granted to the MTRCL before the construction works begin. To ensure the proper use of public money and safeguard the Government's interest, a claw-back mechanism is proposed to be introduced such that any over estimation of capital expenditure, escalation costs and land costs will be reimbursed to the Government with interest. On the other hand, if the capital grant is not sufficient for meeting the project cost, the MTRCL will have to bear the additional cost. In other words, the funding gap represents the maximum commitment of the Government financial support to the MTRCL for the WIL project.

28. The construction of the WIL will take place from 2009 to 2014. Most of the contracts will be let by the MTRCL from 2009 to 2011. The framework for the claw-back mechanism is as follows:

(a) *Methodology for calculation of the claw-back amount*

A reassessment of the funding gap will be made, within about two years after commencement of operation of the WIL, on the basis of the actual contract award prices, actual fluctuation payments (actual payment to contractors for adjustment according to contract provisions), and actual land cost payments (paid by the MTRCL for compensation, land resumption and administrative costs) and adjusted contingency sum, adopting the same methodology as the estimated funding gap is derived currently. The excess of the original funding support over this reassessed amount will be returned to the Government, with interest. As mentioned in paragraph 27, if there is a shortfall instead of excess, the MTRCL will be required to meet such shortfall.

(b) *Interest accruing period*

The interest accruing period will be the period between the payment date of the capital grant (July/August 2009 subject to LegCo's funding approval) and the date(s) of refund of the respective sum(s) of the excessive capital grant by the MTRCL.

(c) *Interest rate on claw-back amount*

We have agreed with the MTRCL that the interest should be charged on the amount(s) to be refunded to the Government. The interest to be adopted should be calculated on a yearly basis and based on the average rate of return of the Exchange Fund's investment portfolio over the immediately preceding six years for a particular year, subject to a cap of 1% above Weighted Average Cost of Capital (WACC). In other words, the interest rates to be applied on the amount(s) to be refunded would equal the rates of



return on the Government's fiscal reserves placed with the Exchange Fund during the interest-accruing period.

(d) *Option for staged refund of excess capital grant*

If after return of tenders for the major civil engineering contracts and the MTRCL is aware that the tender prices have turned out to be lower than the estimated cost, the MTRCL may propose partial refund at an earlier stage. Such condition of refund is considered reasonable. From the Government's point of view, we welcome the early return of any excessive funding support given to the MTRCL which may be used to fund other infrastructure projects for which LegCo's funding approval is given. However, the MTRCL is aware that any amount, once refunded to Government, is irreversible.

## **FINANCIAL AND CIVIL SERVICE IMPLICATIONS**

29. The total funding support to MTRCL is \$12.7 billion (NPV at June 2009). The first stage funding support of \$400 million (equivalent to about \$448 million in NPV at June 2009) was already paid to MTRCL in February 2008 for the design phase of the WIL project. The remaining funding support to MTRCL is therefore about \$12.3 billion (NPV at June 2009) (equivalent to about \$11.9 billion in September 2008 prices) and funding has been earmarked for this funding support.

30. As discussed in paragraphs 25 to 28, the level of Government funding support to the MTRCL will be reassessed and excessive funding support provided to the MTRCL by way of the above capital grant will be returned to Government with interest in accordance with the agreed claw-back mechanism.

31. As a result of resumption of the underground strata of land, the future redevelopment potential of some private redevelopments may be affected. However such claim will arise when redevelopment is proposed and will span over in the long term future. This cost for loss of development potential has been taken out of the funding gap computations and will be separately borne by Government.

32. Essential Public Infrastructure Works (EPIW) for the WIL is to provide a safe, convenient and barrier free access to the WIL through enhancement of pedestrian and transport links to the railway line. The fund required for the EPIW for the WIL will be sought separately from the Finance Committee.

33. Additional civil service posts have been supported for the bureau/department concerned in past Resource Allocation Exercises to

take forward a number of railway projects, including WIL. In the past few years, recurrent consequences for operating the WIL have been earmarked for various bureaux/departments.

## **ENVIRONMENTAL IMPLICATIONS**

34. The WIL is a designated project under the Environmental Impact Assessment (EIA) Ordinance and an Environmental Permit (EP) is required for the construction and operation of the WIL. In accordance with the EIA Ordinance, the MTRCL completed a detailed EIA study on this project and submitted an EIA report to EPD. The EIA report was made available for public inspection from 14 October to 12 November 2008. A total of 33 sets of comments comprising 273 submissions from the public were received during the public inspection period. They mainly raised concerns about the impacts due to ventilation shafts, landscape and visual impacts, blasting issue as well as noise, air quality and vibration impacts during the construction and operation stages. The EIA report was subsequently endorsed by the Advisory Council on the Environment (ACE) on 15 December 2008.

35. Having considered the views of the ACE and the public, the Director of Environmental Protection approved the EIA report with conditions on 23 December 2008 and issued an EP with conditions to the MTRCL for the WIL project on 12 January 2009. The MTRCL will implement all recommended mitigation measures in the approved EIA report and comply with the conditions in the EP and other statutory requirements for environmental protection.

## **ECONOMIC IMPLICATIONS**

36. The WIL, as one of the rail projects recommended in the RDS-2000 for implementation, is essential for meeting the transport needs of the community and to serve the continuing economic and social development in Hong Kong. We estimated that WIL would generate net economic benefits including time saving over 50 years of operation of the WIL of about \$62 billion in 2007 prices. The economic benefits include time savings to road users, operating cost savings for operators and safety benefits. The Economic Internal Rate of Return (EIRR) of the WIL is about 5 % per annum.

37. Apart from the direct economic benefits mentioned above, the provision of mass transit mode of transport should help elevate overall economic efficiency (e.g. reliability, connectivity, comfort, cleanliness, air quality, etc) and revitalise old areas in the Western District, thereby bringing along other indirect benefits.

## **SUSTAINABILITY IMPLICATIONS**

38. According to our sustainability assessment, the proposed WIL should help improve mobility and air quality in the long term through enabling more commuters to switch from road to rail transport. The implementation of the project would inevitably cause some adverse impacts on the environment, including the noise during construction and operation, air pollution from works sites, disruption to existing public open space and waste generated from tunnel excavation. Proper measures and temporary traffic arrangement will be implemented to reduce the adverse impact as far as possible. The differing concerns and views from various stakeholders should also be handled with care.

## **PUBLIC CONSULTATION**

39. The Administration and the MTRCL have carried out extensive consultation on the WIL in the past few years. We have been staying in very close touch with the Central and Western District Council (C&WDC) on the progress of the project, and representatives of Transport and Housing Bureau, Highways Department and Transport Department have attended a series of public fora with the local residents that were organized by the C&WDC members and various political parties. The C&WDC has all along been urging for the early implementation of the project.

40. We have also been keeping the Legislative Council Panel in the picture. The Subcommittee on Matters relating to Railways of the Legislative Council Panel on Transport also expresses the wish to see the early implementation of the WIL.

41. Before the commencement of the WIL works, the MTRCL will set up community liaison groups to enable direct dialogue with the local community including affected owners and residents and to handle enquiries and complaints.

## **SUBJECT OFFICER**

42. The subject officer is Mr. Henry Chan, Principal Assistant Secretary for Transport and Housing (Transport), (Tel: 2189 2187).

**Transport and Housing Bureau**

**26 May 2009**