Panel on Transport
Subcommittee on Matters Relating to Railways

Special meeting on 17 June 2011

Information note on funding arrangements of railway projects

To facilitate members' discussion on the funding arrangements of the Kwun Tong Line Extension and the South Island Line (East) projects at the special meeting on 17 June 2011, relevant information on the funding arrangements of other recent railway projects as set out below is attached for members' reference -

West Island Line

(a) extract from the Administration's paper on "West Island Line – funding support" (LC Paper No. PWSC(2009-10)50).

Shatin to Central Link

(a) extract from the Administration's supplementary information paper (LC Paper No. PWSC(2010-11)34).

Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link

(a) extract from the Legislative Council Brief on "Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link – funding arrangement and special rehousing package"; and

(b) extract from the Administration's paper on "Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link – Patronage forecast, economic benefit and operational viability" (LC Paper No. CB(1)503/09-10(02)).

Council Business Division 1
Legislative Council Secretariat
10 June 2011

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Extract

For discussion **PWSC(2009-10)50**
on 10 June 2009

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT
Subventions – Miscellaneous
1QR – West Island Line – funding support

Members are invited to recommend to Finance Committee the upgrading of **1QR** to Category A at an estimated cost of $12,252 million (in June 2009 Net Present Value (NPV)[1] which is equivalent to $12,252 million in money-of-the-day prices) to provide the second stage funding support for West Island Line.

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FINANCING ARRANGEMENT

(A) **Funding arrangement**

11. The Government has in the past mainly relied on granting property development rights as the means for providing financial support to

[1] Net present value is defined as the total present value on a given date of a series of future cash outflows minus inflows, adjusted by a discount rate to reflect the time value of money.

bridge the funding gap for most of the railway projects under the ownership approach. However, due to the lack of suitable sites along or adjacent to the WIL alignment for property development, alternative methods to provide the funding would have to be considered. For the WIL, Government proposes to provide a capital grant as financial support. The grant is intended as an upfront payment to lower the capital costs of the project in order to provide the incentive for the MTRCL to embark on the project which it would otherwise not undertake at all given the financial non-viability.

12. In establishing the capital grant to MTRCL which is a listed company operating under commercial principles, we adopt the following criteria for non-government projects under which capital grants can be provided to profit-oriented organisations –

(a) the capital subvention should be given for the purpose of inducing the organisation in question to undertake a project which it would otherwise not undertake;

(b) the project in question should be a major infrastructure which is expected to bring about significant social and economic benefits to the public in line with the policy objectives of the Government, but is projected to be financially not viable to the organisation in question;

(c) the Government should have given due consideration to the availability of other alternative organisations that are capable of undertaking the project without the capital subvention, as well as all other viable means for causing the project to be undertaken, and have come to the view that the capital subvention is the most appropriate means; and

(d) requests for such capital subvention, if supported by the Government, should be approved by the FC of LegCo before the capital grant can be released.

13. The funding support to MTRCL is being provided in two stages. The first stage covers the design phase expenditure of the WIL project up to authorisation under the Ordinance. The second stage covers the remainder of the funding gap for the WIL project.

14. The MTRCL commenced the detailed design in February 2008 after receiving the first stage funding support (see paragraph 52 below). Upon receipt of the second stage funding support, the MTRCL will

commence construction for the WIL project. The MTRCL will bear all the commercial risks associated with the operation of the railway line in future. To illustrate, should the patronage and the corresponding fare revenue arising from the WIL turn out to be substantially lower than those assumed in determining the funding gap amount, the Government has no obligation to provide any further financial support to the MTRCL.

(B) Project cost and funding gap

15. The estimated capital cost of the WIL is $15,400 million (in December 2008 prices), including the costs for design and construction of the railway works, procurement of rolling stock, the RRIW and land costs except compensation due to loss of redevelopment potential.

16. Highways Department (HyD) engaged an independent engineer consultant (IEC), which is not engaged in any current consultancies with MTRCL, to conduct an assessment to ascertain the construction costs and operation costs of the WIL estimated by the MTRCL based on the scheme design developed by the MTRCL. This is to ensure that the MTRCL has come up with a reasonable estimate of the costs and the funding support required. After completion of the assessment, the IEC considered that MTRCL's estimate was generally in order. To be prudent and to safeguard against overpayment to the MTRCL, we have proposed to introduce a claw-back mechanism in case the actual tender prices turn out to be lower than the estimated project cost (see paragraph 22 below).

17. In the PWSC(2007-08)59 paper, the estimated capital cost of the WIL is $8,900 million (in January 2006 prices) and the corresponding funding gap is about $6,000 million (January 2007 NPV). Based on the MTRCL's estimate, the capital cost is increased to about $15,400 million (in December 2008 prices) and the corresponding funding gap is increased to $12,700 million (in June 2009 NPV). The above increases are mainly attributed to the increase in the scope of the works for the railway and the price escalation for the construction sector since January 2006 as described in paragraph 18 below.

18. The increase in the capital cost of $6,500 million ($15,400 million minus $8,900 million) from January 2006 to December 2008 is attributed to –

(a) Increase in the scope of works of about $2,200 million –

$ million

			(Dec 2008 prices)
(i)	Scope change for RRIW		200
(ii)	Scope change for railway works		1,300
(iii)	Changes in construction methods		200
(iv)	Additional electrical and mechanical works		400
(v)	Additional rolling stock		100
		Total	2,200

Details of the increase in scope of works are at Enclosure 3.

(b) MTRCL's estimate for general price escalation in the construction sector is $4,300 million for the three year period from January 2006 to December 2008 representing an increase of about 48%.

The Architectural Services Department (ArchSD) Building Works Tender Price Index (BWTPI) has been chosen as the reference for our review of the price escalation on tender prices which is a direct measurement of cost increases on Government works already tendered. The BWTPI at 1Q of 2006 (the $8,900 million original cost estimate was based on January 2006 prices) and 3Q of 2008 (being the latest available figures) are 714 and 1 401 respectively, representing an increase of 96% in the cost of tender prices between these two periods. The data for 4Q of 2008 onward has yet to be published by ArchSD. We consider that the MTRCL's estimate of price escalation is reasonable, even after taking into account the possible fall in tender prices after the financial tsunami in late 2008. A graph showing the trend of the BWTPI is at Enclosure 4.

19. In the computation of the second stage funding support in paragraph 2 above, we have made some assumptions in the inflation factors, included as Enclosure 5.

20. The funding gap of the WIL project is calculated by discounting and summing the estimated cost and revenue cash-flows of MTRCL arising from the WIL project over a 50-year period. The discount

rate adopted for the discounting equals to 1% above MTRCL's Weighted Average Cost of Capital (WACC)[2]. The Financial Services and the Treasury Bureau (FSTB) has engaged an independent financial adviser to assess MTRCL's WACC and the funding gap for the WIL project. The financial adviser concluded that a funding gap of $12,700 million in June 2009 NPV should be acceptable. The Government and MTRCL then agreed that the funding gap should be $12,700 million in June 2009 NPV which is equivalent to $12,700 million in MOD prices.

(C) Funding cap and claw-back

21. 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 MTRCL before the construction works begin. To safeguard the Government's interest, we propose to introduce a claw-back mechanism such that any over payment of capital expenditure, escalation costs and land costs will be reimbursed to the Government with interest. In other words, the funding gap represents the maximum commitment of the Government financial support to the MTRCL for the WIL project.

22. 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), actual land cost payments (paid by the MTRCL for compensation, land resumption and administrative costs) and adjusted contingency sum (see paragraph 24 below), 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 21 above, if there is a shortfall instead of excess, the MTRCL will be required to meet such shortfall.

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[2] The WACC is the rate that a company is expected to pay to finance its assets. It is the minimum return that a company must earn on existing asset base to satisfy its creditors, owners, and other providers of capital. It is calculated taking into account the relative weights of each component of the capital structure.

(b) Interest accruing period

The interest accruing period will be the period between the payment date of the capital grant 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 at the discount rate in assessing the funding gap. 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 sufficiently 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. However, the MTRCL is aware that any amount, once refunded to Government, is irreversible.

23. The 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.

24. 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.

25. MTRCL's project management cost for the WIL, estimated at $1,250 million (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.

26. 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.

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Extract

Enclosure 4 to PWSC(2010-11)34

Supplementary Information requested by Subcommittee on Matters Relating to Railways at the Meeting held on 6 December 2010

At the meeting of the Subcommittee on Matters Relating to Railways (Subcommittee) held on 6 December 2010, we sought Members' support for submitting funding applications to the Public Works Subcommittee (PWSC) and the Finance Committee (FC) for the advance railway works and non-railway works of the Shatin to Central Link (SCL). At the meeting, Members requested supplementary information from the Administration. This paper sets out the relevant supplementary information, including –

(A) Financing arrangement for the SCL project;

(B) Factors for increase in cost estimate of the SCL and information on individual items; and

(C) Estimation of the on-cost payable to the MTR Corporation Limited (MTRCL).

(A) <u>Financing Arrangement for the SCL</u>

1. The financing arrangement for the SCL has been discussed by the Legislative Council (LegCo) many times. During the Rail Merger consultation, the Administration briefed the LegCo on the two financing approaches (i.e. the ownership and concession approaches) of new railway projects. There were detailed discussions on this subject by the Panel on Transport and the Panel on Financial Affairs in April 2006, followed by discussion by the Bills Committee on the Rail Merger Bill. In June 2007, when the LegCo resumed Second Reading debate on the Bill, the concession approach and the reasons for adopting it were

explained. Relevant papers were also issued to the LegCo for Members' reference (Paper No.: CB(1)1291/05-06(01) and File Ref.: ETWB(T) CR 1/986/00). In 2008, when the Administration reported to the LegCo that it decided to proceed with the SCL, the Administration had explained in detail the considerations for adopting the concession approach in the implementation of the SCL (Paper no. THB(T)CR10/1016/99).

2. Before the Rail Merger in December 2007, all railway projects were financed under the ownership approach. Under this approach, the railway corporations were responsible for the funding, design, construction, operation and maintenance of a railway, and ultimately owned it. Since the two railway corporations operated on commercial principles, they would not take up financially non-viable railway projects unless some form of financial support was provided by the Government. At present, forms of financial assistance previously provided by the Government included the granting of property development rights and provision of a lump sum capital grant. The form of funding support for each railway project is considered on a case-by-case basis.

3. Since the Rail Merger, the MTRCL has been granted a service concession by the Kowloon-Canton Railway Corporation (KCRC) to operate the existing and new KCRC railway lines under construction. The MTRCL is now responsible for the operation, maintenance and improvement of the Kowloon-Canton Railway (KCR) system, including the replacement of the concession assets, during the concession period. It exercises control over all the operational arrangements of the KCR network in addition to its own network and is responsible for the performance of the whole system. Upon expiry or termination of the service concession, the MTRCL would be required to return to the KCRC an operating KCR system that meets the prevailing operating standards. In other words, the KCRC is not disposing of the railway system to the MTRCL, and the MTRCL is not acquiring the KCRC's railway assets (except for certain low value items such as spare parts and consumables) under this arrangement.

4. When the Administration updated Members on the SCL project in 2008, it was stated that at the Executive Council meeting on 31 March 2008, the Administration had proposed financing the SCL project using the concession approach, and had explained the factors considered for adopting such an approach. The SCL will comprise extensions of the Ma On Shan Line, the West Rail Line and the East Rail Line of the existing KCR system. It has been agreed under the Rail Merger framework that the KCRC will grant to the MTRCL the right to access, use and operate all these existing railways under the concession approach. Therefore,

there would be merits in implementing the operation of the SCL under the same approach. When the 50-year service concession period for the existing KCR network expires, we will have to negotiate with MTRCL or a new operator on the extension of the service concession. The ownership of the SCL by the Government will facilitate the negotiation with the MTRCL. Furthermore, under this arrangement, the KCRC will retain beneficial ownership of the SCL and the MTRCL will need to return an operating SCL as part of the whole KCR system to the KCRC upon the expiry or termination of the service concession.

5. Under the service concession approach, the Government will provide for the railway facilities of a new railway and the MTRCL will be granted a service concession to operate it. Service concession payments will be paid by the MTRCL to the owner of the railway in exchange for the right of operation. The service concession payment for the SCL payable by the MTRCL will be calculated according to the mechanism established by the Merger Agreement. In a nutshell, under the Operating Agreement made between the Government and the MTRCL during the Railway Merger, the service concession payment payable by the MTRCL will be 90% of the net present value of the revenue from the SCL (i.e. net present value of revenue from operation minus net present value of MTRCL's cost in operating the railway and cost in capital replacement). This structure of service concession payment is the same as the charging model stipulated in the service concession agreement for the existing KCR network (including the East Rail Line, Ma On Shan Line and the West Rail Line). In other words, the MTRCL has to make a fixed service concession payment and a variable service concession payment [1] annually. Since the Government is the only shareholder of KCRC, the Government will benefit from receiving the service concession payments.

6. At its meeting on 6 December 2010, the Subcommittee was also concerned that upon the commissioning of the SCL, passengers could interchange for rail lines of not only the KCR network but also the MTR network, thereby increasing the patronage of the MTRCL rail lines and generating additional fare revenue for the MTRCL. In fact, after the Rail Merger, passengers can interchange between the former MTR and KCR

[1] For the existing KCRC network, the annual fixed service concession payment payable by the MTRCL is $750 million, while the variable service concession payment which is payable from the third year after the Rail Merger (i.e. 2 December 2010) will be based on the annual revenue and calculated according to the progressive percentages listed below:

Fare Revenue of the KCRC Network	Variable Service Concession Payment
First $2.5 billion	0%
$2.5 billion - $5 billion	10%
$5 billion - $7.5 billion	15%
Above $7.5 billion	35%

networks without going through ticket gates, and the fare revenue of the trips are shared between the two corporations according to the terms of the Operating Agreement. This arrangement facilitates interchanging between the rail networks and savings on second boarding charge. It is also a win-win arrangement for both corporations, and enables them to provide more efficient railway services. Upon the commissioning of the SCL, passengers will be able to interchange for different rail lines, benefitting both rail networks, and the fare revenue of the trips will also be shared according to the existing mechanism.

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Extract

LEGISLATIVE COUNCIL BRIEF

HONG KONG SECTION OF GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK

FUNDING ARRANGEMENT AND SPECIAL REHOUSING PACKAGE

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Funding Approach

57. The Executive Council decided on 22 April 2008 that the MTRCL should be asked to proceed with the further planning and design of the project on the understanding that it would be invited to undertake the Hong Kong section under the concession approach; and further negotiation should be carried out with the MTRCL on the implementation details of the Hong Kong section of the XRL.

58. Under the concession approach, the Government will fund under the Capital Works Reserve Fund the construction of the railway and its ancillary infrastructure, and ultimately owns the railway. To proceed with the project further, the MTRCL would be entrusted with the construction, testing and commissioning of the Hong Kong section of the XRL. HyD will spare no effort in supervising the project implementation. A Project Supervision Committee, to be chaired by a HyD officer at Government Engineer level or above, will monitor the procurement activities, and post tender award cost control and resolution of contractual claims.

59. Upon completion of the railway, the Government may vest the Hong Kong section of the XRL in or lease it to the Kowloon Canton

Railway Corporation (KCRC) for a nominal amount, and the KCRC will in turn incorporate the Hong Kong section of the XRL into its service concession agreement with the MTRCL executed in the context of the railway merger, or negotiate with the MTRCL a new service concession, for the latter to operate and maintain the railway.

60. The recurrent cost of the Hong Kong section of the XRL during the concession period will be borne by the MTRCL. The KCRC may receive service concession payments from the MTRCL in accordance with the terms agreed in the context of the Railway Merger in 2007, subject to the Service Concession Agreement and any Supplemental Service Concession Agreement to be entered into for the purposes. Government as the sole shareholder of the KCRC will benefit indirectly from these payments through future dividends.

61. Entrusting the Hong Kong section of the XRL project to the MTRCL will be consistent with HKSARG's obligations under the Government Procurement Agreement (GPA) of the World Trade Organisation (WTO) particularly as the MTRCL, being one of the entities covered by the WTO GPA, will be obliged to comply with the WTO GPA in procuring the necessary services and equipment for the delivery of the Hong Kong section of the XRL.

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LC Paper No. CB(1)503/09-10(02)

For Information

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

The Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link

Patronage Forecast, Economic Benefit and Operational Viability

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Financial Contribution to the Government

57. The Government will fund the construction of the XRL and its ancillary infrastructures, and ultimately own the railway. Under the current understanding, upon completion of the railway, the MTRCL would be granted a service concession for the operation. The Government will receive service concession payment accordingly, which is dependent on the fare prices, actual patronage and non-fare revenues after the XRL has come into operation. The amount in the Base Case is estimated to be about $28.1 billion (in MOD terms) for 50 years. Upon the end, expiry or termination of the service concession, the MTRCL will have to return an operating railway to the Government. The residual value of the railway should be quite substantial (around $31.0 billion). In addition, the XRL will facilitate growth in other sectors, which will also increase the tax revenue to the Government.

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