For discussion **FCR(2013-14)22**
on 21 June 2013

ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND
HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT
Transport Department
New Subhead "Replacement/Reprovisioning of Toll Collection Systems at Lantau Toll Plaza and Ma Wan Toll Plaza in Tsing Ma Control Area"

Members are invited to approve a new commitment of $81,300,000 for the replacement/reprovisioning of toll collection systems at Lantau Toll Plaza and Ma Wan Toll Plaza in Tsing Ma Control Area.

PROBLEM

We need to replace the toll collection systems (TCSs) for the manual toll lanes at the Lantau Toll Plaza and the Ma Wan Toll Plaza in the Tsing Ma Control Area (TMCA), reprovide the toll collection facilities[1] at the airport-bound carriageways of the Lantau Toll Plaza and replace the toll booths at the two toll plazas in order to ensure the reliable and efficient operation of toll collection facilities in TMCA and tie in with the completion and commissioning of the Hong Kong-Zhuhai-Macao Bridge (HZMB) and the Tuen Mun-Chek Lap Kok (TM-CLK) Link.

PROPOSAL

2. The Commissioner for Transport, with the support of the Secretary for Transport and Housing, proposes to replace the TCSs for the manual toll lanes at the Lantau Toll Plaza and the Ma Wan Toll Plaza in TMCA, reprovide the toll collection facilities at the airport-bound carriageways of the Lantau Toll Plaza and replace the toll booths at the two toll plazas at an estimated cost of $81,300,000.

/**JUSTFICATION** …..

[1] Toll collection facilities to be reprovided includes installation of Autotoll System and reinstatement of transport facilities such as toll booths, traffic islands, traffic signs and road markings.

JUSTFICATION

3. TCS for the manual toll lanes at the Lantau Toll Plaza of the Lantau Link has been in operation since May 1997. According to the Electrical and Mechanical Services Trading Fund (EMSTF), most of the components of the system are reaching the end of their 15-year serviceable life and the system is also showing signs of aging. Since the equipment and components are obsolete, it has become increasingly difficult to procure the spare parts required in the market and maintain the aged equipment. Should the replacement project be delayed and if there is any malfunctioning of individual parts, the toll collection at the Lantau Link and the traffic at the toll plaza will be affected. Due to the complexity of TCS, it is estimated that the replacement of the entire system will take about three years. As such, we need to start the replacement work in 2013 so that the project can be completed in time in 2016 to tie in with the completion and commissioning of HZMB and other traffic facilities.

4. TCS for the manual toll lanes at the Ma Wan Toll Plaza has commenced operation since December 2002. The server manufacturer has indicated that the operating system of the server is already out of production and thus they could only render annual maintenance support on the server until 2016. If TCS is not replaced in time, any breakdown of the server upon cessation of the maintenance support will disrupt the toll collection. The design of the two new systems mentioned above can also accommodate the installation of other e-payment facilities to the system in future.

5. On the other hand, with the completion and commissioning of HZMB and TM-CLK Link from end 2016 to 2018, the Lantau Link will no longer be the only road access to the Lantau Island. Under the existing one-way toll collection arrangement[2], there may be scenarios in which we cannot collect tolls from some motorists using the Lantau Link while some motorists will actually be charged twice of the single journey toll. To avoid such situations, there is an imminent need to change the current one-way toll collection arrangement at the Lantau Link to a two-way arrangement before the end of 2016 so that motorists will have to pay their tolls at the Lantau Toll Plaza for each journey on the Lantau Link in either direction. To tie in with the implementation of the two-way toll collection arrangement, we need to install Autotoll System; reinstate the traffic islands removed, traffic signs and road markings; and reprovide the toll booths at the airport-bound carriageways. As the existing toll booths at the Lantau Toll Plaza and the Ma Wan Toll Plaza have worn out after years of operation, all of them will also be replaced at one go in this exercise.

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[2] Under the one-way toll collection arrangement at the Lantau Link, motorists do not need to stop for toll payment on their journeys to the airport. The TMCA operator will collect from them the tolls for using the road twice at the Lantau Toll Plaza on their return trips. To tie in with this toll collection arrangement, two traffic islands and five toll booths at the airport-bound carriageways of the Lantau Toll Plaza were removed in October 1999 so that motorists can drive right through without stopping.

6. In view of the situation and reasons detailed above, as well as the long lead time for tendering, delivery, installation and commissioning, we consider it necessary to start the replacement project as soon as possible.

FINANCIAL IMPLICATIONS

Non-recurrent Expenditure

7. We estimate the capital cost of the project to be $81,300,000, with the breakdown as follows –

		$ '000
(a)	Replacement of TCSs for the manual toll lanes at the Lantau Toll Plaza and the Ma Wan Toll Plaza; installation of Autotoll System at the airport-bound carriageways of the Lantau Toll Plaza	51,000
(b)	Reinstatement of traffic facilities at the airport-bound carriageways of the Lantau Toll Plaza and reprovisioning/replacement of all toll booths at the Lantau Toll Plaza and the Ma Wan Toll Plaza	15,490
(c)	EMSTF project management charges	8,160
(d)	Contingency [about 10% of items (a) and (b) above]	6,650
	Total	81,300

8. Regarding paragraph 7(a) above, the estimated cost of $51,000,000 is for the design, supply, installation, testing and commissioning of the new TCSs, toll booth equipment (including toll lane processors for the control and monitoring of all field equipment, toll collector terminals, the card readers for access control, intercoms, foot-operated emergency alarms, security switches and beacons) and the necessary interfacing devices with the Autotoll System.

9. Regarding paragraph 7(b) above, the estimated cost of $15,490,000 is for the reinstatement of traffic facilities (including traffic islands, traffic signs and road markings) at the airport-bound carriageways of the Lantau Toll Plaza and reprovisioning/replacement of all toll booths at the two toll plazas. This includes reprovisioning five toll booths at the airport-bound carriageways of the Lantau Toll Plaza and replacing the existing 25 toll booths at the two toll plazas.

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10. Regarding paragraph 7(c) above, the estimated cost of $8,160,000 is for meeting the charges of EMSTF for managing the project, which includes preparing system specifications, designing and overseeing the tendering process of TCSs and electrical and mechanical facilities; supervising site inspections, installation, testing and commissioning; and monitoring the operation of TCS facilities and defect rectification work during the defect liability period.

11. The estimated cash flow requirement is as follows –

Year	**$ '000**
2013-14	2,000
2014-15	20,000
2015-16	40,000
2016-17	19,300
Total	**81,300**

Recurrent Expenditure

12. It is estimated that the recurrent expenditure of the above proposal is about $3,100,000 from the total amount which the Government pays out to the TMCA operator every year. It will be offset by the recurrent expenditure of the existing systems. Such requirements will be reflected in the Estimates of relevant years.

Impact on Fees and Charges

13. Under the existing policy, the operating costs of government tolled roads should be recovered through the toll charges. As the depreciation cost of the proposal is part of the operating costs of the Lantau Link, it will be taken into account in setting the toll charges of the Lantau Link in future.

IMPLEMENTATION PLAN

14. We plan to proceed with the project in July 2013 for completion by August 2016. The work programme is detailed as below –

/**Activity** …..

	Activity	Target Completion Date
(a)	Site investigation and tender preparation	March 2014
(b)	Tendering exercise and selection of contractor	October 2014
(c)	System design by contractor	June 2015
(d)	Procurement and installation of toll booths and the associated equipment	December 2015
(e)	Testing, commissioning and changeover of the system	April 2016
(f)	Reinstatement of traffic facilities at airport-bound carriageways of the Lantau Toll Plaza	August 2016

15. During the implementation of the project, we will minimise the impact on traffic as far as possible. All installation work will be arranged to be carried out during non-peak hours or in the early hours such that the normal operation of TMCA will not be affected. We shall replace the equipment lane by lane and divert traffic to other lanes in operation.

PUBLIC CONSULTATION

16. We consulted the Legislative Council Panel on Transport on 24 May 2013 regarding the proposal. While the Panel generally supported the proposal, some Members asked whether there would be an adjustment in the Lantau Link toll level upon completion of the replacement work and what the economic implication would be if the toll payment by motorists for using the Lantau Link was abolished. Currently, the tolls of government tolled roads are determined based on the "user-pays" principle, with a view to recovering in full the cost of providing, operating and maintaining the roads. The proposal will increase both the asset cost and depreciation cost of the Lantau Link. In determining or adjusting the Lantau Link toll level, the Government will take into account a basket of factors including operating costs (such as depreciation cost and recurrent expenditure), impact on the traffic flow and the economy as well as public affordability and acceptability. If toll adjustment is considered necessary, we will consult the Panel and implement the

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adjustment by amending the Tsing Ma Control Area (Tolls, Fees and Charges) Regulation. As regards the economic implication of the Lantau Link toll, the abolition of toll payment for using the Lantau Link will not have significant impact on inflation as toll expenses payable for using tolled roads constitute only a very small share in the Consumer Price Index (CPI). Tolls of tolled roads and tunnels, together with motor vehicle licences, insurance, instructor's fees and parking fees, account for 1.58% of the Composite CPI, among which the contribution from the Lantau Link is minimal.

17. In addition, some Members asked about the manpower arrangement upon the implementation of two-way toll collection at the Lantau Link. Since the new arrangement will not take effect until the commissioning of HZMB or TM-CLK Link, we expect that additional manpower will only be required upon completion and commissioning of HZMB in end 2016. By then, the TMCA operator will recruit 20 to 25 more toll collectors to collect tolls at the Lantau Toll Plaza for journeys via the Lantau Link in either direction.

BACKGROUND

18. The components of TCSs for manual toll lanes at the Lantau Toll Plaza (Kowloon-bound) and the Ma Wan Toll Plaza are either obsolete or reaching the end of their serviceable life, thus making maintenance difficult and not economical. Replacement is thus considered necessary. Given that the Lantau Link is the only road access to the Lantau Island and motorists travelling to and from the airport must go through the Lantau Toll Plaza, the existing one-way toll collection arrangement has been adopted at the Lantau Link for the convenience of motorists and streamlining airport-bound traffic. To tie in with this toll collection arrangement, two traffic islands and five toll booths at the airport-bound carriageways of the Lantau Toll Plaza were removed in October 1999 so that motorists can drive right through without stopping. With the commissioning of HZMB and TM-CLK Link, the Lantau Link will no longer be the only road access to the Lantau Island. Therefore, we need to change the existing toll collection arrangement at the Lantau Link and implement a two-way toll collection arrangement.

Transport and Housing Bureau
June 2013