

**For discussion
on 15 March 2013**

Legislative Council Panel on Transport

Installation of “Stop-and-go” e-Payment Facilities at Manual Toll Booths of Government Tolled Tunnels and Roads

PURPOSE

This paper seeks Members' views on the Administration's proposal to install “stop-and-go” e-payment facilities at all manual toll booths of government tolled tunnels and roads.

BACKGROUND

2. At present, there are five government tolled tunnels (i.e. Aberdeen Tunnel, Cross-Harbour Tunnel, Lion Rock Tunnel, Shing Mun Tunnels and Tseung Kwun O Tunnel) and two government tolled roads (i.e. Lantau Link and Tsing Sha Highway). Motorists using government tolled tunnels and roads may stop their vehicles at manual toll booths to pay the tolls by means of cash or pre-paid toll tickets; alternatively, they may drive through autotoll booths without stopping and auto-pay the tolls using autotoll tags attached to the windscreen of the vehicles. With the development of technology, the use of e-payment by contactless smart cards has become increasingly popular in the retail and transport sectors. Examples include payment of public transport fares and car parking fees. There have been suggestions from members of the public for using contactless smart cards at tolled tunnels and roads to pay the tolls. To address public requests and enhance the convenience of motorists, we propose to introduce “stop-and-go” e-payment facilities at the manual toll booths of government tolled tunnels and roads.

PROPOSAL

3. We propose to provide new “stop-and-go” e-payment facilities at all manual toll booths of government tolled tunnels and roads at an estimated cost of \$45,530,000.

4. Under the proposal, e-payment facilities accepting contactless smart cards will be installed at a total of 72 manual toll booths¹ of the seven government tolled tunnels and roads. Motorist using e-payment facilities have to stop their vehicles at the manual toll booths to pay the tolls by waving their contactless smart cards over the card reader. After installation of the new system, motorists may choose to pay by contactless smart cards, cash or pre-paid toll tickets.

5. According to the existing operation of the manual toll collection system, the toll collector has to ascertain and input the vehicle class to the control console inside the manual toll booth before the motorist settles the payment. This is to ensure that correct tolls are charged for different vehicle classes at differentially-tolled tunnels and roads and the utilisation by different vehicle classes is recorded for statistical and other purposes. It is proposed that this mode of operation be maintained at the manual toll booths to be installed with “stop-and-go” e-payment facilities accepting contactless smart cards.

6. Currently, motorists can freely choose between two types of toll lanes, i.e. autotoll lane and manual toll lane, at the toll plazas of government tolled tunnels / roads. If the manual toll lane is to be further divided into two types, i.e. one lane only accepting cash or pre-paid toll tickets and the other only accepting “stop-and-go” e-payment by contactless smart cards, more lane cutting activities will be induced at the toll plazas. To avoid adverse impact to the traffic at the toll plazas and road safety, we propose to install “stop-and-go” e-payment facilities accepting contactless smart cards at all manual toll lanes for the selection and use by motorists.

¹ There are currently a total of 65 manual toll booths at the seven government tolled tunnels and roads. Upon the opening of Hong Kong-Zhuhai-Macau Bridge by late 2016, the existing one-way toll payment arrangement of Lantau Link will be converted to a two-way one and we will seek funding approval from the Finance Committee for installation of the relevant facilities separately. By then, there will be seven additional manual toll booths at Lantau Link which increases the number of manual toll booths at the seven government tolled tunnels and roads to 72.

JUSTIFICATIONS

7. Introducing “stop-and-go” e-payment facilities at the manual toll booths of government tolled tunnels and roads provides an additional means of payment for motorists, and the use of contactless smart cards has the following advantages:

- (a) user-friendly;
- (b) no need to remove card from wallet or insert card into reader;
- (c) easy to reload value;
- (d) multi-purpose (e.g. public transport fare payment, retail payment);
- (e) light and handy; and
- (f) no need to prepare cash for payment and change.

8. In recent years, we have from time to time received public requests for installation of Octopus facilities² at government tolled tunnels and roads. In respect of payment by smart cards, besides Octopus cards, there are other emerging contactless transaction payment cards in Hong Kong, including Visa Paywave and MasterCard Paypass cards. As far as we know, there were over one million Visa Paywave cards in circulation within Hong Kong as at December 2012 while MasterCard International Incorporated plans to introduce Paypass cards in Hong Kong by mid-2013. It is also known to us that China Union Pay and Autotoll Limited are developing their own contactless smart cards.

9. The Administration welcomes operators of Octopus cards and other contactless smart cards to participate in this project of providing contactless smart card e-payment facilities. To accommodate different contactless smart cards, we are prepared to use a common card reader or to install different card readers. After consulting Members, we will invite Expression of Interest (EOI) from prospective providers of e-payment

² Currently, there are more than 20 million Octopus cards in circulation within Hong Kong.

facilities and service after which we will conduct an open tender exercise. We will select suitable providers having regard to factors such as popularity of their smart cards, equipment cost and transaction fees.

FINANCIAL IMPLICATIONS

10. We estimate the capital cost of the proposal to be \$45,530,000, with the breakdown as follows:

	\$ '000	\$ '000
(a) Equipment and implementation cost		36,140
(i) Modification of manual toll collection system	10,100	
(ii) Procurement of e-payment facilities	22,540	
(iii) Installation of e-payment facilities	3,500	
		5,780
(b) Electrical and Mechanical Services Trading Fund (EMSTF) project management charges		3,610
(c) Contingency (10% of item (a))		
	Total	45,530

11. Regarding paragraph 10(a) above, the estimated cost of \$36,140,000 will cover modification of the existing manual toll system at the tolled tunnels and roads as well as procurement and installation of e-payment facilities. As regards paragraph 10(b) above, the estimated cost of \$5,780,000 is for meeting the EMSTF project management charges for the project, which includes preparing system specification, designing and overseeing the tendering process; supervising the modification work of the existing manual toll system; supervising installation, testing and commissioning of e-payment facilities; and monitoring the operation of e-payment facilities and defect rectification work.

12. We intend to phase the expenditure as follows –

Year	\$ '000
2013-14	4,000
2014-15	13,000
2015-16	18,000
2016-17	10,530
Total	45,530

13. The proposal will incur recurrent cost for the transaction fees charged by the card issuing companies or clearing companies which is estimated to be around \$15,000,000 per year.

IMPACT ON FEES AND CHARGES

14. Under the existing policy, the operating cost of Government tolled tunnels and roads should be recovered through the toll charges. Since the additional recurrent costs and depreciation cost of the proposal is part of the operating costs of the tolled tunnels and roads, they will be taken into account in setting the toll charges for those tolled tunnels and roads in future.

IMPLEMENTATION PLAN

15. We plan to start the project in June 2013 for completion by May 2016. Depending on the progress of the project, it is expected that the e-payment facilities can be put into use at certain tolled tunnels by May 2013 or earlier. A work programme is set out below:

Activity	Target Completion Date
(a) Work on EOI invitation	August 2013
(b) Tendering exercise to select provider(s) of e-payment facilities and service	November 2013

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|-----|---|-------------|
| (c) | Tendering exercise to select works agent(s) to carry out modification of manual toll collection system and service integrator(s) for procurement and installation of e-payment facilities | August 2014 |
| (d) | Modification of manual toll collection system and installation of e-payment facilities | March 2016 |
| (e) | Testing and commissioning of e-payment facilities | May 2016 |

WAY FORWARD

16. Subject to Members' support for the proposal, we will seek funding approval from the Finance Committee to proceed with the project as soon as possible.

ADVICE SOUGHT

17. Members are invited to comment on and support the proposal to provide "stop-and-go" e-payment facilities at all manual toll booths of government tolled tunnels and roads.

**Transport and Housing Bureau
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