

**For information**

## **LEGISLATIVE COUNCIL PANEL ON TRANSPORT**

### **Replacement of Field Traffic Equipment (Lane Control Signals and Variable Speed Limit Signs) of Traffic Control and Surveillance System in the Tsing Ma Control Area**

#### **PURPOSE**

This paper informs Members of our proposal to replace the lane control signals (LCS) and variable speed limit signs (VSLS) of the traffic control and surveillance system (TCSS) in the Tsing Ma Control Area (TMCA)<sup>1</sup>.

#### **BACKGROUND**

2. LCS and VSLS are two key components of the field traffic equipment of a TCSS to manage traffic on expressways, control areas or tunnels. LCS provide real-time indication of lane status (e.g. whether the lane is in operation or closed) of the road and control traffic by guiding motorists to use the suitable lanes. VSLS regulate the speed of vehicles by indicating the speed limit applicable to a road section, which could be varied according to changes in traffic conditions.

3. Effective functioning of LCS and VSLS is critical to the safety and management of expressways, control areas or tunnels. We need to replace the existing LCS and VSLS in TMCA as they are approaching the end of their economic serviceable life, to ensure the safe operation of TMCA.

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<sup>1</sup> TMCA comprises North Lantau Highway (section between Lantau Toll Plaza and Yam O), Tsing Ma Bridge, Kap Shui Mun Bridge, Ting Kau Bridge, Cheung Tsing Highway and Tsing Kwai Highway.

## **PROPOSAL**

4. We propose to replace the LCS and VSLS of TCSS in TMCA at an estimated cost of \$56.750 million.

## **JUSTIFICATION**

5. The LCS and VSLS installed at TMCA have been in service for more than 14 years since the opening of the control area in 1997 and are approaching the end of their economic serviceable life. The existing LCS and VSLS are fibre optic type illuminating signs based on a technology of more than 14 years old. Owing to ageing problem, the displays of these existing LCS and VSLS have become dimmer.

6. According to the Electrical and Mechanical Services Trading Fund (EMSTF), the existing fibre optic type LCS and VSLS are now phased out of the market and it has become increasingly difficult to maintain them in good working condition due to lack of certain spare parts in the market. They should be replaced before the end of their economic serviceable life to ensure the safe operation of TMCA and to facilitate future maintenance of the equipment.

7. New Light Emitting Diode (LED) type LCS and VSLS, which have significantly wider viewing angle and are much brighter, will be procured. The new signs will provide a clearer display of signals / information to motorists. Moreover, LED displays will consume much less electricity, have a longer service life and are more reliable, and therefore more environmentally friendly than the existing ones.

## **FINANCIAL IMPLICATIONS**

8. We estimate the capital cost of the project to be \$56.750 million, with the breakdown as follows –

	<b>\$ million</b>
(a) Replacement of	
(i) 448 Lane Control Signals	40.858
(ii) 60 Variable Speed Limit Signs	4.182
(b) EMSTF project management charges	7.206
(c) Contingency [10% of (a)]	4.504
<b>Total</b>	<u><u><b>56.750</b></u></u>

9. As regards paragraph 8(a)(i) and (ii) above, the estimated costs of \$40.858 million and \$4.182 million are respectively for the replacement of 448 LCS and 60 VSLS, including dismantling and disposal of the existing signs and the supply, installation, testing and commissioning of the new LED type signs with associated local controller, interface equipment, cables and accessories.

10. As regards paragraph 8(b) above, the estimated cost of \$7.206 million is for meeting the charges of EMSTF for managing the replacement project which includes carrying out engineering study and detailed site survey; preparing the specifications, design and project programme; overseeing the tendering process; undertaking site inspection; supervising the installation works; arranging for testing and commissioning of the new signs; and monitoring the operation of the new signs and defect rectification work.

11. We intend to phase the expenditure as follows –

<b>Year</b>	<b>\$ million</b>
2012 – 2013	3.000
2013 – 2014	23.000
2014 – 2015	20.000
2015 – 2016	10.750
<b>Total</b>	<u><u><b>56.750</b></u></u>

12. The proposed replacement will not incur any additional recurrent expenditure.

13. Under the current policy, the depreciation cost of the proposal will be taken into account in determining the toll charges and other charges of TMCA as appropriate. The estimated impact on the toll for using the Lantau Link in TMCA is immaterial.

#### **IMPLEMENTATION PLAN**

14. We plan to start the project in July 2012 and complete it in 38 months. The first 15 months are for preparatory work including system engineering study and detailed site survey, detailed design and tendering. The remaining 23 months are for equipment manufacture, installation, testing and commissioning. A work programme is set out at the Enclosure.

**Transport and Housing Bureau  
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