ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND HEAD 708 - CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT

Transport Department New Subhead "Expansion of Speed Enforcement Camera System, Phase 2"

Members are invited to approve a new commitment of \$32.18 million for expanding the speed enforcement camera system to other strategic or trunk roads.

PROBLEM

Speeding is a serious offence that can bring about grave consequences. It endangers not only the driver and passengers of the vehicle concerned, but also other road users.

PROPOSAL

- 2. The Commissioner for Transport, with the support of the Secretary for Transport and Housing, proposes to acquire additional digital speed enforcement cameras (SECs) and camera housings¹, at a total estimated cost of \$32.18 million, as set out below
 - (a) to procure 20 digital camera units of not lower than 4 million-pixels and ancillary equipment (two to replace the existing wet-film cameras; eight to replace the existing 1.3 million-pixel cameras; and ten additional camera units);

/(b)

The existing SEC system comprises the following –

	No. of cameras	No. of housing sites
Wet-film	2	10
Digital	8	75
Total	10	85

(b) to install 25 digital camera housings (two to replace the existing wet-film camera housings²; and 23 at new housing locations); and

(c) to upgrade the Police's backend computer system for processing the prosecution cases.

JUSTIFICATION

- Speeding is a common traffic offence in Hong Kong. In the past three 3. years³, the average number of prosecutions instituted against speeding was 220 150 per year. During the same period, the average number of traffic accidents and casualties involving vehicle speeding was 387 and 509 per year respectively. Speeding is therefore a prevailing problem. To further combat and deter speeding, we see the need to further enhance our enforcement actions by expanding the SEC system.
- 4. The first fixed SEC system was introduced in early 1999. It consists of two wet-film cameras operating on a rotational basis at ten camera housings installed at Tolo Highway and Fanling Highway. A digital SEC system consisting of eight digital cameras and 75 housings was installed at various locations in the territory and has been in operation since 2004. Currently, there are in total ten SECs operating at 85 camera housings on a rotational basis. The locations of the

Encl. 1 existing SEC housings are at Enclosure 1.

/5.

Accident and prosecution figures involving vehicle speeding for the past three years are as follows -

Year	No. of Accidents	No. of Casualties	No. of
			Prosecutions
2005	419	560	227 308
2006	358	460	216 198
2007	383	506	216 945
Average	387	509	220 150

Out of the existing ten wet-film SEC housings, two will be demolished and replaced by new digital cameras housings in this project. Replacement of the remaining eight wet-film housings will be carried out under a separate project involving the widening of Tolo Highway/Fanling Highway project which is scheduled for completion in early 2013.

5. Both overseas experience and a local study have shown that automatic SEC system is an effective enforcement means in deterring speeding. There are findings showing that with the installation of the SEC system, there were reductions in speeding activities, the average speed on roads and the number of speed-related accidents⁴.

- 6. There is also a need to enhance the existing SEC system because the existing wet-film cameras are approaching the end of their life span and should be replaced by new digital models. In respect of the existing eight digital cameras, they only have a resolution of about 1.3 million pixels. Upgrading the photograph resolution will enhance the legibility of the vehicle registration marks captured by the cameras and the effectiveness in processing the data for prosecution. It is expected that the overall efficiency and effectiveness of the prosecution process will also be enhanced with the adoption of the latest digital technology and computer system.
- 7. The SEC system operates with a portable digital camera and radar unit, a camera pole with housing and a police central computer system. The camera pole with housing is installed on the verge of a road or highway. The camera unit will take photographs of speeding vehicles. The photographs, together with the violation data, will be stored in the storage device of the cameras. Such data will then be downloaded onto the police central computer system for identification of the offending vehicles and responsible drivers, and follow-up prosecution actions including fixed penalty tickets or summons applications.
- 8. The following criteria are used in determining the SEC housing locations
 - (a) accident records with particular emphasis on accidents caused by vehicle speeding;
 - (b) prevalence of speeding activities observed by the Police;

/(c)

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A study in the United Kingdom in 2000-2002 showed that the number of vehicles exceeding the speed limit dropped by 67% and traffic accidents fell by 65% after the installation of the SECs. Similarly, a study conducted by Transport Department in 1999 also revealed that after installing ten SECs along Tolo Highway and Fanling Highway in 1999, there was a marked reduction of over 50% in the number of speeding vehicles (in excess of the speed limit by 15 kilometres per hour) and 40% in the number of traffic accidents involving injuries.

(c) the need for an even distribution of SEC housing locations to provide an area-wide deterrent effect;

- (d) strategic or trunk roads with higher traffic speed and traffic flow; and
- (e) geological and environmental factors surrounding the sites.
- 9. Based on the above criteria, we have selected 23 new camera housing locations as shown at Enclosure 2. Following the serious coach accident in the Nam Pin Wai roundabout at Sai Kung on 1 May 2008, the Transport Department is conducting a territory-wide review on long steep roads with a view to identifying necessary improvement measures, including the installation of SECs at certain long steep road sections as appropriate, to reduce the risk of the occurrence of similar accidents. We will report the findings of the review to the Legislative Council (LegCo) Panel on Transport at its meeting on 27 June 2008. In order not to delay the commencement of the proposed Phase 2 Expansion Project, we would like to seek approval for funding at this juncture, and to accommodate the findings and recommendations of the review by adjusting the list of SEC housings at Enclosure 2 as necessary when the review is completed.
 - 10. If the proposal in paragraph 2 above is approved and upon completion of the project, there will altogether be 20 digital cameras at 100 housings, representing 100% increase in the number of cameras and 18% increase in camera housings. The camera-to-housing ratio will be increased from the current 1:8.5 to 1:5. The enhanced SEC system will put the concerned road sections under close surveillance and hence strengthen the deterrent effect and enforcement capabilities substantially. The automatic fixed SEC system will continue to be supplemented by Police's ad-hoc manual and mobile enforcement operations, in order to achieve the best results in deterring and combating speeding over the territory.

FINANCIAL IMPLICATIONS

Non-recurrent Expenditure

11. We estimate that the proposed expansion of the SEC system will cost about \$32.18 million, with the breakdown as follows –

	\$ million
(a) Procurement of 20 digital camera units and ancillary equipment	9.80
(b) Procurement of new camera housings, camera poles power cubicles	and 5.50
(c) On-site installation (including civil works), testi commissioning, training and expert report	ng, 7.90
(d) Upgrading of the Police backend computer systems software and ancillary equipment	em, 2.71
Subte	otal <u>25.91</u>
(e) Electrical and Mechanical Services Trading Fund (EMSTF) project management charges	3.68
(f) Contingencies (10% of items (a) to (d))	2.59
То	otal 32.18

- 12. On paragraph 11(a) above, the estimate of \$9.80 million is for the procurement of 20 digital camera units and ancillary equipment. For 12 of the 20 units, each will include a camera, a radar and a flash. For the remaining 8 units, each will include a camera with upgraded pixels only.
- 13. On paragraph 11(b) above, the estimated cost of \$5.50 million is for the procurement of 25 camera housings and camera poles to accommodate and support the camera units, and 25 power cubicles to house the electrical devices for power supply.
- 14. On paragraph 11(c) above, the estimated cost of \$7.90 million is for the demolition of existing housings and installation of new housings and ancillary equipment including the camera poles and power cubicles; laying of cable ducting; testing and commissioning of the expanded camera system after installation; training of Police staff for the operation of the system and engagement of an independent expert to provide expert reports on the accuracy and reliability of the system prior to implementation.

15. On paragraph 11(d) above, the estimated cost of \$2.71 million is for the enhancement of the central computer system currently used by the Police for the processing of electronic prosecution against speeding.

- 16. On paragraph 11(e) above, the estimated cost of \$3.68 million is for payment to EMSTF for providing project management services including the whole process of investigation, design, tendering, installation, testing, commissioning, and monitoring till the end of the defect liability period.
- 17. The estimated cash flow is as follows –

Year	\$ million
2008-2009	0.39
2009-2010	13.42
2010-2011	18.37
Total	32.18

Recurrent Expenditure

18. We will hand over the camera sites to the Police for operation and future maintenance. We estimate that the additional recurrent expenditure arising from the project is \$13.80 million per annum from 2012-13 to 2013-14. This will be partly offset by the annual savings of \$0.24 million from 2014-15 onwards after the phasing out of the wet-film system in 2013. The breakdown is as follows –

	2012-13 to 2013-14	2014-15 onwards
	\$ m	illion
(a) Equipment maintenance	3.34	3.10
(b) Staffing resources	10.46	10.46
Total	13.80	13.56

19. On paragraph 18(a) above, the estimated annual expenditure of \$3.10 million is for the maintenance of cameras and housings, IT equipment and consumables.

20. On paragraph 18(b) above, the estimated annual expenditure of \$10.46 million is for engaging 43 number of staff, comprising three Inspectors of Police, five Police Sergeants, 29 Police Constables and six clerical staff in the Hong Kong Police Force to carry out investigation and prosecution of speeding cases generated by the ten additional digital camera units.

IMPLEMENTATION PLAN

21. We propose to implement the expansion of the SEC system according to the following timetable –

	Activity	Target Date
(a)	Tendering exercise	October 2008 to February 2009
(b)	Contract commencement	March 2009
(c)	Commissioning of 1 st batch of ten housings and six new cameras	March 2010
(d)	Commissioning of the remaining 15 housings and 14 new cameras	August 2010

PUBLIC CONSULTATION

- 22. We issued an information paper on the present proposal to the LegCo Panel on Transport on 23 April 2008. Members raised no objection to the proposal.
- As mentioned in paragraph 9 above, a territory-wide review on long steep roads is underway and we will report the findings of the review to the LegCo Panel on Transport on 27 June 2008. We will revise the housing locations at Enclosure 2 in the light of the findings if necessary.

BACKGROUND

24. In 1999, the first SEC system was installed along Tolo Highway as an initial trial scheme to deter speeding. In the same year, the Finance Committee approved a commitment of \$25.16 million for expanding the SEC system to other strategic road sections over the territory. Currently, there are totally ten camera units operating in 85 camera housings on a rotational basis.

Transport and Housing Bureau June 2008

Existing Speed Enforcement Camera Housing Locations

	Road	No. of Housings	
Digital SEC Housings			
1	Tuen Mun Road	16	
2	Fanling Highway	8	
3	Tolo Highway	8	
4	North Lantau Highway	7	
5	San Tin Highway	5	
6	Tai Po Road	5	
7	Castle Peak Road	4	
8	Island Eastern Corridor	4	
9	Shatin Road	3	
10	Ting Kok Road	3	
11	Aberdeen Praya Road	2	
12	Hoi On Road	2	
13	Lion Rock Tunnel Road	2	
14	Lung Fu Road	2	
15	Gloucester Road	1	
16	Kwai Chung Road	1	
17	Pok Fu Lam Road	1	
18	Yuen Shin Road	1	
Wet-film SEC Housings			
19	Tolo Highway	5	
20	Fanling Highway	4	
21	Castle Peak Road	1	
	Total	85	

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Proposed New Speed Enforcement Camera Housing Locations

	Road	No. of Housings
1	Kong Sham Western Highway	4
2	Yuen Long Highway	4
3	Lung Cheung Road	3
4	North Lantau Highway	3
5	Ching Cheung Road	2
6	Princess Margaret Road	2
7	Tate's Cairn Highway	2
8	Wan Po Road	2
9	Tseung Kwan O Road	1
	Total	23
