

ITEM FOR FINANCE COMMITTEE

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

Transport Department

New Subhead "Expansion of Red Light Camera System, Phase 3"

Members are invited to approve a new commitment of \$86.34 million for expanding the red light camera system at more signalised road junctions.

PROBLEM

Red light jumping 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, especially pedestrians.

PROPOSAL

2. The Commissioner for Transport, with the support of the Secretary for the Environment, Transport and Works¹, proposes to acquire additional digital red light cameras and camera housings, at a total estimated cost of \$86.34 million, as set out below –

- (a) to install 75 camera housing sites with ancillary equipment (51 to replace the existing wet-film camera housings² and 24 at new housing sites); and
- (b) to procure 75 digital red light camera units (16 to replace the existing wet-film cameras; 35 to be installed at existing wet-film camera housings which are to be replaced by digital ones; and 24 to be installed at new housing locations).

/JUSTIFICATION

¹ The Secretary for the Environment, Transport and Works mentioned here refers to the Secretary for Transport and Housing upon the reorganisation of the Government Secretariat with effect from 1 July 2007.

² Wet-film and digital camera housings are different in configurations.

JUSTIFICATION

3. Red light jumping has been a significant problem in Hong Kong. To enhance road safety and strengthen the deterrent effect on red light jumping, legislative amendments were passed in July 2005 to increase the driving-offence points for red light jumping from 3 to 5 and the fixed penalty from \$450 to \$600. The new penalties took effect on 1 January 2006. In July 2005, we also secured funding from the Finance Committee (FC) for the Phase 2 expansion of the red light camera system (FCR(2005-06)29). With the completion of the expansion project in late 2006, there are now 131 signalised junctions installed with camera housings, with 96 cameras operating on a rotational basis³.

4. The new penalties and the expansion of the red light camera system have proven to be effective in combating red light jumping, resulting in a reduction in the number of traffic accidents. In 2006, the number of traffic accidents involving drivers disobeying traffic signals was 256, representing a reduction of over 23% when compared with 331 in 2005. The number of casualties involved in these accidents also dropped by nearly 29%, from 608 in 2005 to 434 in 2006⁴. However, the number of prosecutions against red light jumping remains high. We consider that there is still a need to further expand the red light camera system to enhance the deterrent effect.

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³ After the expansion of the system in 2004, there were 111 red light camera housings with 28 cameras operating on a rotational basis. Under the Phase 2 expansion project in 2005-06, we procured 68 additional cameras and installed camera housings at 20 new junctions, making a total of 96 cameras and 131 housing sites. The present red light camera system comprises the following –

	No. of cameras	No. of housing sites
Wet-film	16	51
Digital	80	80
Total	96	131

⁴ Accident and prosecution figures for the past three years are as follows –

Year	No. of accidents	No. of casualties	No. of prosecutions
2004	355	675	39 376
2005	331	608	41 743
2006	256	434	42 916 *

* It is worth noting that the number of prosecutions in 2006 reflected the combined effect of increased penalties and the phased completion of the Phase 2 expansion project. The total number of prosecutions in the first six months of 2006 was 14 014, representing a decrease of nearly 30% when compared with that of 19 845 in the same period in 2005, indicating the impact of increased penalties. However, with the phased completion of the Phase 2 expansion project resulting in more than a twofold increase in the number of red light cameras in the 4th quarter of 2006, the number of prosecutions increased.

5. If the proposal in paragraph 2 above is approved, there will altogether be 155 cameras at 155 housings, representing 61% increase in the number of cameras and 18% increase in camera housings. The camera-to-housing ratio will reach 1 to 1, putting all the relevant signalised junctions under 24-hour surveillance. In addition, the wet-film camera system will be fully replaced by the digital camera system, resulting in better quality of the data collected and more efficient data collection and processing. Moreover, the proportion of electronic prosecution⁵, which currently stands at about 88% of all prosecutions relating to red light jumping, is expected to increase to over 95% after the installation of all the proposed cameras.

Encl. 6. The locations of the existing and proposed future camera housings are at the Enclosure. The following criteria are used in selecting these locations –

- (a) accident records with particular emphasis on accidents caused by red light jumping;
- (b) prevalence of red light jumping activities at the junctions;
- (c) the need for an even distribution of red light camera housing locations to provide an area-wide deterrent effect; and
- (d) site conditions.

7. The red light camera system operates with a portable digital camera unit, a camera pole with housing and a police central computer system. The camera pole with housing is installed on the footpath of a road at about 15 metres upstream of the junction, with detection devices laid on the carriageway near the stop line. The camera unit will take photographs of red light jumping 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 issue of fixed penalty tickets or making of summons applications.

/FINANCIAL

⁵ Electronic prosecution refers to prosecution using evidence from the red light camera system as against Police's manual operations. The use of red light cameras would be able to capture red light jumping offences at a junction round the clock so that considerable police manpower can be released for actions against other undesirable driving behaviour.

FINANCIAL IMPLICATIONS

Non-recurrent Expenditure

8. We estimate that the proposed expansion of the red light camera system will cost about \$86.34 million, broken down as follows –

	\$ million
(a) Camera system with housing and ancillary equipment	41.52
(i) digital camera units	30.00
(ii) camera poles and housings	8.47
(iii) power cubicles	3.05
(b) Computer system, software and ancillary equipment	2.32
(c) On-site installation (including civil works), testing, commissioning and training	24.10
(d) Electrical and Mechanical Services Trading Fund (EMSTF) project management charges	10.55
	<i>Subtotal</i> <u>78.49</u>
(e) Contingency (10% of items (a) to (d))	7.85
	Total <u>86.34</u>

9. On paragraph 8(a)(i) above, the estimate of \$30.00 million is for the procurement of 75 digital red light camera units, each of which consists of a camera and a microprocessor for processing and storage of data.

10. On paragraph 8(a)(ii) above, the estimate of \$8.47 million is for the procurement of 77 housings and camera poles (including two spare sets) which are used to accommodate the camera units and to support the camera housings to appropriate elevated positions on site.

11. On paragraph 8(a)(iii) above, the estimate of \$3.05 million is for the procurement of 77 power cubicles (including two spare sets) which are used for storage of electrical devices for power supply.

12. On paragraph 8(b) above, the estimate of \$2.32 million is for the enhancement of the central computer system currently used by the Police for the processing of electronic prosecution against red light jumping.

13. On paragraph 8(c) above, the estimate of \$24.10 million is for the demolition of existing housings and installation of new housings and ancillary equipment including poles and power cubicles; laying of detector devices on carriageways and cable ducting and associated concrete boxes underneath the footpaths; testing and commissioning of the expanded camera system after installation; and training of Police staff for the operation of the system.

14. On paragraph 8(d) above, the estimate of \$10.55 million is for payment to EMSTF for providing services in tendering, site supervision and testing and commissioning of electrical and mechanical works.

15. The estimated cash flow is as follows –

Year	\$ million
2007-2008	7.51
2008-2009	12.33
2009-2010	43.86
2010-2011	16.05
2011-2012	6.59
Total	86.34

Recurrent Expenditure

16. We will hand over the camera sites to the Police for operation and future maintenance. We estimate that the recurrent expenditure arising from the project is \$14.08 million per annum –

	\$ million
(a) Equipment maintenance	6.13
(b) Staffing resources	7.95
Total	14.08

17. On paragraph 16(a) above, the estimated annual expenditure of \$6.13 million is for the maintenance of equipment, hardware and software.

18. On paragraph 16(b) above, the estimated annual expenditure of \$7.95 million is for engaging a total of 35 staff, comprising two Inspectors of Police, four Police Sergeants, 24 Police Constables and five clerical staff in the Hong Kong Police Force to carry out investigation and prosecution of red light jumping cases generated by the 59 additional digital camera units.

IMPLEMENTATION PLAN

19. We propose to implement the expansion of the red light camera system according to the following timetable –

Activity	Target Date
(a) Tendering exercise	January to July 2008
(b) Contract commencement	August 2008
(c) Commissioning of 1 st batch of 30 cameras and 30 replaced housings	August 2009
(d) Commissioning of 2 nd batch of 30 cameras, 21 replaced housings and 9 new housings	March 2010
(e) Commissioning of the remaining 15 cameras and 15 new housings	August 2010

PUBLIC CONSULTATION

20. We issued an information paper on the present proposal to the Members of the Panel on Transport on 4 June 2007. Members have not raised any comment on the proposal.

BACKGROUND

21. The red light camera system was first introduced in Hong Kong in the 1990s to deter red light jumping. Over the years, FC has approved funding to expand the system for two times. Currently, there are 131 signalised junctions installed with camera housings, with 96 cameras operating on a rotational basis.

Environment, Transport and Works Bureau
June 2007

Red Light Camera Housing Locations

Hong Kong Island

Existing wet-film camera housings (to be replaced by digital ones)

1. Hennessy Road / Fleming Road
2. Java Road / Tong Shui Road
3. King's Road / Healthy Street Central
4. King's Road / Cheung Hong Street
5. King's Road / Tin Chiu Street
6. House No. 126 Pokfulam Road
7. House No. 137 Pokfulam Road
8. Pokfulam Road / Victoria Road

Existing digital camera housings

9. Chai Wan Road / Sun Yip Street
10. Connaught Road Central / Hillier Street
11. Des Voeux Road West (Wing Lok Street) / Connaught Road West
12. Gloucester Road / Cleveland Street
13. Hing Fat Street / Victoria Park Road
14. King's Road / Healthy Street East
15. King's Road / Hong On Street
16. Queen's Road East / Queensway
17. Shing Sai Road / Sai Cheung Street North
18. Wing Hing Street / Electric Road

Proposed new digital camera housings

19. Garden Road / Queensway
20. Morrison Hill Road / Sports Road

Kowloon

Existing wet-film camera housings (to be replaced by digital ones)

21. Austin Road / Nathan Road
22. Boundary Street / La Salle Road
23. Boundary Street / Nathan Road
24. Boundary Street / Tai Hang Tung Road
25. Chatham Road South / Austin Road
26. Chatham Road / Granville Road
27. Cheung Sha Wan Road / Butterfly Valley Road
28. Cheung Sha Wan Road / Tonkin Street
29. Hip Wo Street / Yuet Wah Street (lower junction)
30. Lai Chi Kok Road (eastbound) / Tonkin Street
31. Nathan Road / Argyle Street
32. Nathan Road / Dundas Street
33. Nathan Road / Gascoigne Road
34. Nathan Road / Humphreys Avenue
35. Nathan Road / Jordan Road
36. Nathan Road / Mongkok Road
37. Nathan Road (northbound) / Waterloo Road
38. Prince Edward Road West / Sai Yee Street
39. Princess Margaret Road / Argyle Street
40. Shanghai Street / Kansu Street
41. Tai Kok Tsui Road / Pok Man Street
42. Wang Chiu Road / Sheung Yee Road
43. Waterloo Road / Junction Road

Existing digital camera housings

44. Argyle Street / Lomond Road
45. Argyle Street / Tin Kwong Road
46. Argyle Street / Sai Yee Street
47. Berwick Street / Nam Cheong Street

48. Cha Kwo Ling Road / Lei Yue Mun Road
49. Canton Road / Kansu Street
50. Chatham Road / San Lau Street
51. Cherry Street / Hoi Wan Road
52. Cheung Sha Wan Road / Cheung Wah Street
53. Cheung Sha Wan Road / Mei Lai Road
54. Cheung Sha Wan Road / Wong Chuk Street
55. Choi Hung Road / Sze Mei Street
56. Choi Hung Road / Tseuk Luk Street
57. Clear Water Bay (lower) / New Clear Water Bay Road
58. Hong Ning Road / Shung Yan Street
59. Hung Hom Road / Tak Man Street
60. Jordan Road / Cox's Road
61. Jordan Road / Shanghai Street
62. Kowloon Park Drive / Canton Road
63. Kwun Tong Road / Elegance Road
64. Lai Chi Kok Road (westbound) / Tonkin Street
65. Lei Yue Mun Road / Wai Fat Street
66. Ma Tau Chung Road / Fu Ning Street
67. Ma Tau Wai Road / Chi Kiang Street
68. Ma Tau Wai Road / Tam Kung Road
69. Nam Cheong Street / Un Chau Street
70. Nathan Road / Austin Road
71. Nathan Road / Granville Road
72. Nathan Road / Prince Edward Road West
73. Nathan Road (southbound) / Waterloo Road
74. New Clear Water Bay Road / Clear Water Bay (lower)
75. Po Kong Village Road / Fung Tak Road
76. Po Kong Village Road / Lung Cheung Road (near Shek On Building)
77. Prince Edward Road West / Junction Road
78. Prince Edward Road West / Lai Chi Kok Road

79. Sai Yee Street / Mong Kok Road
80. Sau Mau Ping Road / Sau Ming Road
81. Shun Lee Tsuen Road / Sau Mau Ping Road
82. Tai Po Road / Castle Peak Road
83. To Kwa Wan Road / Chi Kiang Street
84. To Kwa Wan Road / Lok Shan Road
85. To Kwa Wan Road / Mok Cheong Street
86. Tong Mei Road / Mong Kok Road
87. Wai Yip Street / Shun Yip Street
88. Wang Chiu Road / Cheung Yip Street (Hoi Bun Road)
89. Wuhu Street / Gillies Avenue South
90. Waterloo Road / Lancashire Road
91. Waterloo Road / Reclamation Street
92. Waterloo Road / Rutland Quadrant

Proposed new digital camera housings

93. Argyle Street / Shanghai Street
94. Argyle Street / Tung Choi Street
95. Argyle Street / Yim Po Fong Street
96. Austin Road / Chatham Road South
97. Austin Road / Canton Road
98. Boundary Street / Sai Yeung Choi Street North
99. Cheung Sha Wan Road / Tai Nan West Street
100. Cheung Sha Wan Road / Yen Chow Street
101. Ferry Street / Waterloo Road
102. Hip Wo Street / Wan Hon Street
103. Jordan Road / Lin Cheung Road
104. Lin Cheung Road / Wui Cheung Road
105. Ma Tau Chung Road / Sung Wong Toi Road
106. Nam Cheong Street / Cheung Sha Wan Road
107. Nathan Road / Public Square Street
108. Nathan Road / Salisbury Road

- 109. New Clear Water Bay Road / Lee On Road
- 110. Prince Edward Road West / Waterloo Road
- 111. Prince Edward Road West / Yuen Ngai Street

New Territories West

Existing wet-film camera housings (to be replaced by digital ones)

- 112. Castle Peak Road / Hung Shui Kiu Main Street
- 113. Castle Peak Road / Ma Wang Road / Wang Tat Road
- 114. Castle Peak Road / On Lok Road
- 115. Castle Peak Road / Ping Ha Road
- 116. Castle Peak Road / San Hui Path
- 117. Castle Peak Road / Tai Chung Road
- 118. Castle Peak Road (Castle Peak Bay) / Tuen Hing Road
- 119. Jockey Club Road / Lung Sum Avenue
- 120. Lung Mun Road / Access to San Shek Wan Village
- 121. Lung Mun Road / Wu Chui Road
- 122. Ming Kum Road / Shan King Estate Road
- 123. Ming Kum Road / Ting King Road / Tsing Tin Road
- 124. Pui To Road / LRT Reserve (near Nullah)
- 125. Tin Shui Road / Tin Wing Road
- 126. Tsing Lun Road / Fu Tei Roundabout
- 127. Tsing Wun Road / Hing Choi Street
- 128. Tsing Wun Road / Ming Kum Road / Pui To Road
- 129. Tsun Wen Road / Tai Fong Street / Tsing Chung Koon Road
- 130. Tuen Mun Heung Sze Wui Road / Hoi Chu Road
- 131. Wu Shan Road / Wu King Road

Existing digital camera housings

- 132. Castle Peak Road - Castle Peak Bay / Hoi Wing Road
- 133. Castle Peak Road - Tai Lam / Lok Chui Street
- 134. Chuen Lung Street / Sha Tsui Road
- 135. Hing Fong Road / Wing Fong Road

- 136. Lei Muk Road / Wo Yi Hop Road
- 137. Sha Tsui Road / Ham Tin Street
- 138. Sha Tin Wai Road / Sha Tin Road
- 139. Wang Tat Road / Ma Miu Road

Proposed new digital camera housings

- 140. Cheung Wing Road / Castle Peak Road
- 141. Sha Tsui Road / Tai Ho Road
- 142. Tin Shui Road / Tin Sau Road

New Territories East

Existing digital camera housings

- 143. Ma On Shan Road / On Chiu Street / Sai Sha Road
- 144. Nam Wan Road / Tai Po Tai Wo Road
- 145. Ngan Shing Street / Chap Wai Kon Street
- 146. Po Lam Road North / Yau Yue Wan Village Road
- 147. Po Hong Road / Wan Hang Road
- 148. Po Shek Wu Road / Po Wan Road
- 149. Po Yap Road / Tong Chun Street
- 150. Sha Tin Road / Tai Chung Kiu Road
- 151. Tai Chung Kiu Road / On Lai Street
- 152. Tai Chung Kiu Road / Sha Tin Wai Road
- 153. Tai Chung Kiu Road / Siu Lek Yuen Road
- 154. Ting Kok Road / Dai Kwai Street
- 155. Ting Kok Road / Ting Tai Road
