

ITEM FOR FINANCE COMMITTEE

HEAD 186 – TRANSPORT DEPARTMENT

Subhead 603 Plant, vehicles and equipment

New Item “Procurement of specialised vehicles for Route 8 Control Area”

Members are invited to approve a new commitment of \$53.66 million for procuring 21 specialised vehicles for use in the Route 8 Control Area.

PROBLEM

We need specialised vehicles to manage, operate and maintain the Route 8 Control Area (R8CA).

PROPOSAL

2. The Commissioner for Transport, with the support of the Secretary for the Environment, Transport and Works, proposes to purchase 21 specialised vehicles, comprising seven heavy recovery vehicles, eight medium light recovery vehicles, three tunnel wall cleansing vehicles and three water tankers, at an estimated cost of \$53.66 million to cater for the day-to-day operation and maintenance needs of R8CA.

JUSTIFICATION

3. Route 8 is a new expressway under construction and is about 15 km in length. Upon its completion in 2008, it will link up Tai Wai in Sha Tin and the Tsing Ma Control Area (TMCA) at Tsing Yi. For more effective and efficient traffic control and incident management, Route 8 will be managed and operated as a controlled area, i.e. R8CA.

4. We need the 21 specialised vehicles to enhance smooth traffic flow, ensure effective and efficient incident management and provide a clean road and tunnel environment to the motorists. The functions of each type of specialised vehicles are as follows –

(a) **Heavy Recovery Vehicles**

These vehicles are for recovering and towing medium goods vehicles, heavy goods vehicles, buses, articulated vehicles or any vehicles of a permitted gross vehicle weight exceeding 5.5 tonnes. Having regard to the operating standards adopted in TMCA and government tunnels, a heavy recovery vehicle has to arrive at the incident spot inside a tunnel and on the open highway within three minutes and ten minutes respectively. A total of seven heavy recovery vehicles are needed.

(b) **Medium Light Recovery Vehicles**

These vehicles are for recovering and towing motorcycles, cars, light goods vehicles, light buses or any vehicles of a permitted gross vehicle weight up to 5.5 tonnes. Having regard to the operating standards adopted in TMCA and government tunnels, a medium light recovery vehicle has to arrive at the incident spot inside a tunnel and on the open highway within two minutes and six minutes respectively. A total of eight medium light recovery vehicles are needed.

(c) **Tunnel Wall Cleansing Vehicles**

Route 8 comprises several tunnels i.e. an enclosed section in Tai Wai, the Sha Tin Heights Tunnel, the Eagle's Nest Tunnel and the Nam Wan Tunnel. To maintain a clean environment and to ensure a good level of illumination inside the tunnels, regular tunnel wall cleansing will be required. Due to their site-specific conditions such as the route alignment and geological factors, the tunnels have different design features. Hence, specific tunnel wall cleansing vehicles with tailor-made booms and brushes to suit specific needs are required. A total of three^{Note} tunnel wall cleansing vehicles are needed.

/(d)

^{Note} The same contractor undertakes the construction together with the detailed design of the enclosed section in Tai Wai and the Sha Tin Heights Tunnel. The design features of the two tunnels are similar and hence one tunnel wall cleansing vehicle is required.

(d) **Water Tankers**

As no fire mains can be provided at the Stonecutters Bridge, it would be necessary to station a water tanker with a capacity of 15 000 litres at each end of the Bridge to supply water for fire-fighting operations on the Bridge. In addition, a spare water tanker would be needed when any of the two water tankers is under routine servicing and maintenance. To maintain the pumping equipment in good working conditions at all times, the water tankers will also be deployed in street-washing activities and fire drills. A total of three water tankers are needed.

Encl. 5. The 21 specialised vehicles will be stationed at seven control points along the expressway and at the administration buildings at both ends of the route so as to ensure the most efficient deployment. The alignment of R8CA and the deployment of the 21 specialised vehicles are shown at the Enclosure. The proposed number of each type of specialised vehicles is the absolute minimum, given the length of R8CA, the distribution of control points and the need for short response time in handling traffic incidents. We have taken into account the experiences gained in the management of TMCA and government tunnels in formulating the proposal.

6. As in the present arrangement with TMCA and government tunnels, we intend to outsource the management, operation and maintenance (MOM) of the R8CA through open tendering. Notwithstanding such arrangement, the ownership of the specialised vehicles will remain with the Government. This will ensure smooth and flexible changeover from one contractor to another upon expiry or termination of a MOM contract, as the outgoing contractor will not have to dispose of the vehicles and the incoming contractor will not have to purchase a new fleet. Even if these vehicles were to be purchased by the contractor, the relevant cost would still be factored in the tender bids submitted for the MOM contract.

FINANCIAL IMPLICATION

Non-recurrent expenditure

7. We estimate that the procurement of the specialised vehicles will require a total non-recurrent expenditure of \$53.66 million, broken down as follows –

(a)

	Quantity	Unit cost (\$M)	Total (\$M)
(a) Procurement of			
(i) heavy recovery vehicles	7	3.90	27.30
(ii) medium light recovery vehicles			
- with car carrier function	2	0.95	1.90
- without car carrier function	6	0.90	5.40
(iii) water tankers	3	2.85	8.55
(iv) tunnel wall cleansing vehicles	3	2.85	8.55
	—		—
<i>Subtotal</i>	21		51.70
(b) Electrical and Mechanical Services Trading Fund (EMSTF) project management charge			1.96
			—
Total			<u>53.66</u>

8. On paragraph 7(a)(i) above, the estimate of \$27.3 million is for procuring seven heavy recovery vehicles, installed with hydraulic lifting booms and under lift, dual deck winches on rear body and winch at front bumper.

9. On paragraph 7(a)(ii) above, the estimate of \$7.3 million is for procuring eight medium light recovery vehicles, two of which are with car carrier function. The vehicles are installed with hydraulic lifting booms and under lift and winch.

10. On paragraph 7(a)(iii) above, the estimate of \$8.55 million is for procuring three water tankers, installed with engine-driven water pump and water spray nozzle, and quick pump drive unit for fire-fighting.

11. On paragraph 7(a)(iv) above, the estimate of \$8.55 million is for procuring three tunnel wall cleansing vehicles, installed with hydraulic booms, fixed rotating brushes and water spray nozzles.

12. On paragraph 7(b) above, the estimate of \$1.96 million is for payment to the EMSTF for the preparation of the tender specifications and tender documents, evaluation of the tender submissions, overseeing the vehicle procurement and delivery process, attending factory acceptance tests, undertaking inspection and commissioning tests, and providing training to the contractor managing R8CA on the operation and maintenance of the specialised vehicles.

13. The estimated cash flow is as follows –

Year	\$ M
2005-2006	0.90
2006-2007	31.53
2007-2008	<u>21.23</u>
Total	<u>53.66</u>

Recurrent expenditure

14. We estimate that the recurrent expenditure for operating and maintaining the proposed specialised vehicles is \$2.67 million per annum, which will form part of the fee to the contractor of R8CA. The breakdown is as follows –

	\$ M
(a) Operating costs	1.51
(b) Maintenance costs	1.12
(c) EMSTF monitoring fee	<u>0.04</u>
Total	<u>2.67</u>

15. On paragraph 14(a) above, the estimated annual expenditure of \$1.51 million is for the costs of fuel and insurance to be taken out for the vehicles.

16. On paragraph 14(b) above, the estimated annual expenditure of \$1.12 million is for the maintenance of the vehicles, including spare parts and staff cost.

17. On paragraph 14(c) above, the estimated annual expenditure of \$0.04 million is for payment to EMSTF for monitoring the vehicle maintenance performed by the contractor through annual vehicle inspection.

IMPLEMENTATION PLAN

18. To meet the commissioning of the route section between Sha Tin and Cheung Sha Wan in late 2007, the first batch of 13 specialised vehicles, comprising five heavy recovery vehicles, six medium light recovery vehicles and two tunnel wall cleansing vehicles, is to be delivered to Hong Kong in mid 2007. Delivery of the remaining eight vehicles (two heavy recovery vehicles, two medium light recovery vehicles, one tunnel wall cleansing vehicle and three water tankers) is scheduled for early 2008 to tie in with the opening of the remaining route section between Cheung Sha Wan and Tsing Yi in mid 2008. The proposed implementation plan is as follows -

Activity	Target completion date
(a) Tender invitation	September 2005
(b) Award of tenders	March 2006
(c) Placing order for the first batch of vehicles	April 2006
(d) Placing order for the second batch of vehicles	January 2007
(e) Delivery of the first batch of vehicles	May 2007
(f) Delivery of the second batch of vehicles	February 2008

BACKGROUND INFORMATION

19. Route 8 will link up Tai Wai in Sha Tin with the TMCA at Tsing Yi. It is about 15 km in length and comprises –

- (a) An enclosed section in Tai Wai;
- (b) Sha Tin Heights Tunnel;

/(c)

- (c) Eagle's Nest Tunnel;
- (d) Lai Chi Kok Viaduct;
- (e) Ngong Shuen Chau Viaduct;
- (f) the cable-stayed Stonecutters Bridge;
- (g) East and West Tsing Yi Viaducts; and
- (h) Nam Wan Tunnel.

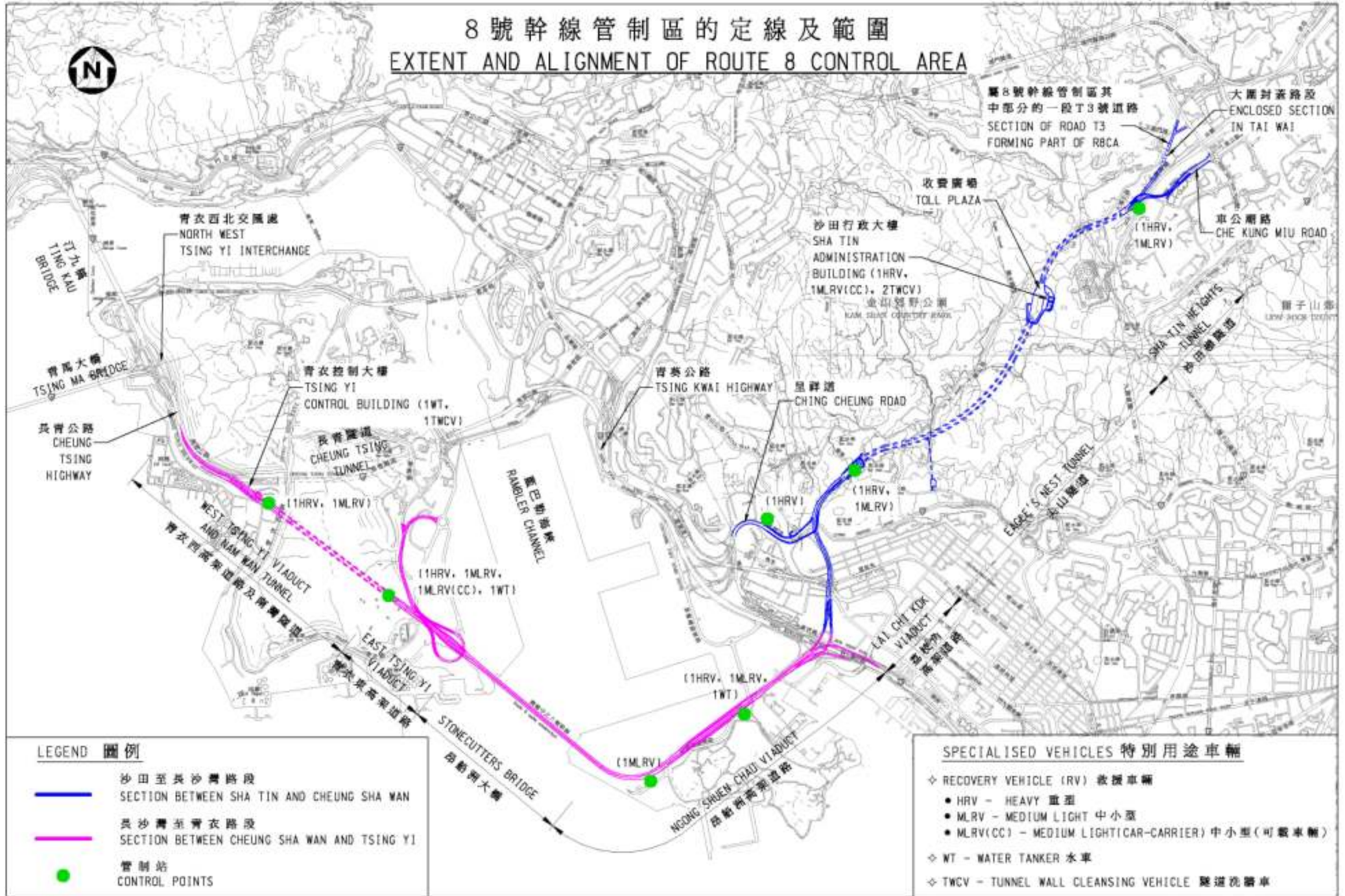
Works started in April 2002 and due for completion in phases as from late 2007 to mid 2008, the new expressway will provide additional road capacity to cope with the increasing traffic demand along Route 3 Tsing Yi and Kwai Chung sections (viz., the Cheung Tsing Highway, the Cheung Tsing Tunnel and the Tsing Kwai Highway), the Lion Rock Tunnel, the Tate's Cairn Tunnel and the Shing Mun Tunnels. Moreover, it will provide a direct road link from the Northeast New Territories to the Container Terminals, Lantau Island, the Airport, West Kowloon and Hong Kong Island West.

20. The Finance Committee approved a total funding of \$17.9 billion (money-of-the-day prices) for the construction works of Route 8 on four items in 2001 and 2002.

21. We issued an information paper on the present proposal to Members of the Legislative Council Panel on Transport on 23 May 2005. Members noted the proposal and raised no questions at the Panel Meeting on 27 May 2005.

8號幹線管制區的定線及範圍

EXTENT AND ALIGNMENT OF ROUTE 8 CONTROL AREA



第8號幹線管制區其中部分的一段T3號道路
SECTION OF ROAD T3 FORMING PART OF RBCA

大圍封禁路段
ENCLOSED SECTION IN TAI WAI

車公廟路
CHE KUNG MIU ROAD

沙田行政大樓
SHA TIN ADMINISTRATION BUILDING (1HRV, 1MLRV(CC), 2TWCV)

金山郊野公園
KAM SHUI COASTAL PARK

收費廣場
TOLL PLAZA

星祥道
CHING CHEUNG ROAD

沙田隧道
SHA TIN TUNNEL

沙田繞道
SHA TIN BYPASS

獅子山郊
LION ROCK TUNNEL

- LEGEND 圖例**
- 沙田至長沙灣路段
SECTION BETWEEN SHA TIN AND CHEUNG SHA WAN
 - 長沙灣至青衣路段
SECTION BETWEEN CHEUNG SHA WAN AND TSING YI
 - 管制站
CONTROL POINTS

- SPECIALISED VEHICLES 特別用途車輛**
- ◇ RECOVERY VEHICLE (RV) 救護車輛
 - HRV - HEAVY 重型
 - MLRV - MEDIUM LIGHT 中小型
 - MLRV(CC) - MEDIUM LIGHT(CAR-CARRIER) 中小型(可載車輛)
 - ◇ WT - WATER TANKER 水車
 - ◇ TWCV - TUNNEL WALL CLEANSING VEHICLE 隧道洗滌車