

## Legislative Council Panel on Transport

### Traffic Implications of Tunnel Toll Increases

#### Purpose

This paper gives an account of the traffic implications of the recent tunnel toll increases, and the measures to promote access and utilisation of the tunnels.

#### Background

2. Three tunnels have implemented toll increases over the last 12 months. The details are given below.

Tunnel	Operation Start Date	Date of Toll Increase	Design Daily Capacity	Average Daily Utilization (1 <sup>st</sup> week of Dec. 2000)
Tate's Cairn Tunnel (TCT)	26-6-1991	2-1-2000	78,500 (2 lanes per tube)	62,300
Tai Lam Tunnel (TLT)	25-5-1998	1-4-2000	118,000 (3 lanes per tube)	45,100
Western Harbour Crossing (WHC)	30-4-1997	3-12-2000	118,000 (3 lanes per tube)	41,990

3. TCT, TLT and WHC are all Build, Operate and Transfer (BOT) projects under 30 year franchises granted by the Government. There is separate legislation governing the franchising, operation and maintenance of these tunnels. Government's role is ensure that the tunnel operators maintain safe and smooth operation of their tunnels in compliance with the

respective franchise terms and ordinances.

4. The tolls of TCT may be varied by agreement between the Chief Executive in Council and the Company. The tolls of TLT and WHC are subject to a specified adjustment mechanism stipulated in their respective legislation. The current toll levels of the three tunnels are shown at Annex 1.

### **Traffic Impact of Toll Increases**

5. The Transport Department closely monitors the traffic impact of each toll increase.

#### **(a) The TCT Toll Increase on 2 January 2000**

6. The TCT tolls were increased on 2 January 2000 as shown in Annex 2. Comparing the traffic six months before and after the toll increase, TCT experienced a reduction of daily traffic throughput by 3,200 vehicles (-4.9%) from 65,700 to 62,500 vehicles. On the other hand, the daily traffic volume of Lion Rock Tunnel increased by 3,200 vehicles (+3.7%) from 87,400 to 90,600 vehicles. By September 2000 the daily traffic of TCT recovered to its pre-toll increase level. The toll increase of TCT had no significant traffic impact on Shing Mun Tunnel and Tai Po Road.

#### **(b) The TLT Toll Increase on 1 April 2000**

7. The TLT tolls were increased on 1 April 2000 as shown in Annex 3. The daily traffic of TLT dropped by 1,800 vehicles (-3.9%) from 46,400 vehicles to 44,600 vehicles in April 2000 but traffic had picked up gradually since then. By June 2000 the daily traffic recovered to the pre-toll increase level whilst the daily throughput in September 2000 exceeded the pre-toll increase level. Comparing the average traffic level six months before and after the toll increase, daily traffic throughput increased by 1,300 vehicles (+3%) from 43,700 to 45,000 vehicles. For Tuen Mun Road and Tolo Highway, no significant traffic impact was observed as a result of the toll increase of TLT.

(c) The WHC Toll Increase on 3 December 2000

8. The WHC toll increase was implemented on 3 December 2000 and the details are shown at Annex 4. During the first week after the toll increase, WHC lost about 3,240 vehicles (-7.2%) from 45,230 to 41,990 vehicles a day to the Cross Harbour Tunnel and the Eastern Harbour Crossing. It is however premature to draw any meaningful conclusions on the traffic implication as the traffic pattern will take some time to settle.

**Measures for Maximising Utilisation**

9. For the above three toll increases, the resultant reduction of tunnel traffic is generally mild. Based on past experience, most tunnels would experience a drop in traffic in the first few months, but the throughput would gradually recover when users' resistance to the toll increase becomes diluted.

10. Traffic management measures are effective means to promote access and utilisation of our tunnels. The Transport Department maintains close liaison with the tunnel operators to devise appropriate traffic management measures to enhance accessibility and throughput of the tunnels. These include a wide range of measures as set out below.

11. On the part of the Government, additional and modified traffic signs and road markings have been erected to direct traffic to the tunnels. These are particularly effective for newly opened tunnels where motorists may be less familiar with the approach roads to the tunnels. In monitoring the tunnel traffic volume and traffic queuing situation, we would consider adjustments to the traffic signals at critical road junctions to smoothen traffic flow in the vicinity of the tunnels.

12. We would also implement appropriate traffic management schemes such as bus only lanes on tunnel approaches to give priority to mass carriers in accessing the tunnels. At heavily utilised tunnels, we may consider tidal flow operation during the peak periods to provide short-term relief to traffic congestion. The feasibility of tidal flow operation depends on the availability of a time "window" when the traffic volume of one direction exceeds the capacity of its traffic lanes, while the

opposite bound traffic could be accommodated within the capacity of a single lane traffic. Otherwise, tidal flow may cause extensive traffic queues and congestion.

13. In addition, road improvement schemes such as road widening works and provision of direct road link between tunnel approaches and major road corridors would be considered to increase the capacity and accessibility of the approach roads to tunnels. In some cases, we would consider building new roads or grade-separated interchanges to separate local traffic from the main traffic approaching the tunnels and thereby help relieve traffic congestion.

14. We also encourage the tunnel companies to devise marketing strategy and measures to boost their patronage. The tunnel companies have, from time to time, organised promotional campaigns giving away free tunnel tickets, fuel coupons, discount coupons to selected vehicles, or offered concessionary tolls to attract traffic. Some companies strive to improve customer service in their operation of the tunnel, stressing immediate attendance to broken down vehicles, provision of route maps and toll tables to motorists. Others would advertise and erect banners along the routes to the tunnels to promote the image of the tunnels and highlight the convenience of using their routes.

### **Advice Sought**

15. Members are invited to note this paper.

Transport Bureau  
December 2000

**Annex 1****Toll levels of TCT, TLT and WHC**

<b>Vehicle type</b>	<b>TCT</b>	<b>TLT</b>	<b>WHC</b>
Motorcycles	\$10	\$15	\$20
Private cars and taxis	\$10	\$20	\$40 (\$35)
Public and private light buses	\$17	\$45	\$50 (\$45)
Light goods vehicles	\$17	\$45 (\$25)	\$60 (\$50)
Medium goods vehicles	\$20	\$55 (\$35)	\$85 (\$70)
Heavy goods vehicles	\$20	\$75 (\$40)	\$125 (\$100)
Public and private single-decked buses	\$20	\$45	\$50
Public and private double-decked buses	\$20	\$60	\$70
Each additional axle in excess of two	\$13	\$25 (free)	\$40 (\$30)

Note: Figures in bracket are concessionary tolls currently offered by the tunnel companies.

**Details of the TCT Toll Increase**

<b>Vehicle type</b>	<b>Previous toll level</b>	<b>Current toll level</b>
Motorcycles	\$8	\$10
Private cars and taxis	\$8	\$10
Public and private light buses	\$13	\$17
Light goods vehicles	\$13	\$17
Medium goods vehicles	\$20	\$20
Heavy goods vehicles	\$20	\$20
Public and private single-decked buses	\$20	\$20
Public and private double-decked buses	\$20	\$20
Each additional axle in excess of two	\$7	\$13

### Details of the TLT Toll Increase

<b>Vehicle type</b>	<b>Previous toll level</b>	<b>Current toll level</b>
Motorcycles	\$10	\$15
Private cars and taxis	\$15	\$20
Public and private light buses	\$30	\$45
Light goods vehicles	\$30 (\$23)	\$45 (\$25)
Medium goods vehicles	\$40 (\$30)	\$55 (\$35)
Heavy goods vehicles	\$60 (\$30)	\$75 (\$40)
Public and private single-decked buses	\$30	\$45
Public and private double-decked buses	\$45	\$60
Each additional axle in excess of two	\$20 (free)	\$25 (free)

Note: Figures in bracket are concessionary tolls currently offered by the tunnel company.

### Details of the WHC Toll Increase

<b>Vehicle type</b>	<b>Previous toll level</b>	<b>Current toll level</b>
Motorcycles	\$15	\$20
Private cars	\$30	\$40 (\$35)
Taxis	\$30	\$40 (\$35)
Public and private light buses	\$40	\$50 (\$45)
Light goods vehicles	\$45	\$60 (\$50)
Medium goods vehicles	\$65	\$85 (\$70)
Heavy goods vehicles	\$95	\$125 (\$100)
Public and private single-decked buses	\$40	\$50
Public and private double-decked buses	\$55	\$70
Each additional axle in excess of two	\$30	\$40 (\$30)

Note: Figures in bracket are concessionary tolls currently offered by the tunnel company.