

## **Legislative Council Panel on Transport**

### **The Provision and Operation of Tunnels and Tollways – Mainland and Overseas Experience**

#### **Purpose**

This paper briefs members on the findings of a consultancy study on the Mainland and overseas experience in the provision and operation of tunnels and tollways and the implications for Hong Kong.

#### **Background**

2. The Panel has discussed on a number of occasions ways to improve the distribution of traffic amongst the three road harbour crossings in Hong Kong, namely, the Cross Harbour Tunnel, Eastern Harbour Crossing and Western Harbour Crossing. To assist the Administration in exploring ways to optimise the utilisation of the road harbour crossings in Hong Kong, we commissioned a consultant to conduct a study on Mainland and overseas experience in the provision and operation of tunnels.

3. The study covers five cities (i.e. Shanghai, Guangzhou, Nanjing, Wuhan and Chongqing) in the Mainland and a number of countries in North America, Europe and the Asia Pacific region. Particular focus has been placed on the Mainland experience as the Mainland has a high concentration of tolled facilities, many of which are directly competing facilities, similar to the harbour crossings in Hong Kong.

#### **Operation of Tunnels and Tollways**

##### Study Findings

4. There are basically two types of tunnels and tollways – facilities built and run by the Government and those built and run by the private sector. The main revenue for both types of facilities are the tolls. Public sector operators usually endeavour to keep toll rates as low as possible whereas private sector operators tend to set rates to maximise profits.

5. The level of tolls has a direct impact on the traffic flow. The tolling strategy hence plays a critical role in meeting specific traffic targets. For Government run facilities, tolls are generally set at a level to recover the

construction costs and to pay for its operation and maintenance. For privately run tunnels, the tolls are set to achieve a targetted rate of return and to meet the conditions of loans from lenders if necessary. Privatisation programmes in most overseas countries attempt to regulate the rates of return for investment instead of directly regulating toll rates.

6. Our study of the experience in North America and Europe reveals that the vast expanse of the territory of these countries makes the existence of directly competing tolls facilities a rarity. A study of the Mainland, on the other hand, shows that many Mainland cities have a high number of tolled infrastructure built over a number of years serving similar purposes. Distribution of traffic between these facilities is often imbalanced. We will hence focus on the Mainland experience which shares similar concerns as our harbour crossings.

*Optimising the Use of Tolled and Untolled Facilities – the Mainland Experience*

7. Toll roads in the Mainland are generally divided into two categories in terms of their nature : business or non-business. Business toll facilities are those operated by the investors under an agreement with the municipal government and the tolls collected form the return on investment. On the other hand, the tolls collected on non-business tolled facilities are used only for repaying loans for the construction of the facility. Once the loans are repaid, no more tolls can be collected on these facilities and the toll collection agency has to be withdrawn.

8. Most of the tolled facilities in the Mainland were constructed and opened at different times by different investors in the last two decades. Tolls of different tolled facilities in the same city might vary because of the differences in construction costs, negotiated rates of return and length of concessionary periods. The road users would usually choose the facilities with lower tolls. This has given rise to problems including –

- (i) imbalance of traffic among tollways and tunnel facilities;
- (ii) imbalance of land prices, i.e. the property prices on the side of the bridge adjoining the city centre were much higher than those on the other side; and
- (iii) delay caused by too many tolling points.

9. To address the problems, the municipal governments have started to reform the tolled facilities in their cities in recent years. Nanjing has introduced toll adjustment in order to balance the traffic. The other four cities covered in the study (i.e. Shanghai, Guangzhou, Wuhan and Chongqing) have eliminated toll collection at tolled facilities and introduced annual or monthly passage fees on vehicles<sup>1</sup>. Under the new arrangement, passage fees are collected from vehicles registered in the city on an annual or monthly basis and from vehicles registered outside the city on each entry. A management authority has been set up under the municipal government to manage the facilities and collect the annual/monthly vehicle passage fees<sup>2</sup>.

10. Most of the agreements reached before 1998 between investors of the business tolled facilities and the local authorities included a clause of contracted return, which guaranteed a minimum return on the investment. With the elimination of toll collection at the tolled facilities, the investors were either paid based on a discounted contracted return or compensated with a negotiated amount by the authorities as a buy-out of the tolled facilities.

#### *Effectiveness of the Mainland Approach*

11. The introduction of the annual/monthly vehicle passage fees has proved to be generally effective in balancing the traffic flow amongst the tolled and untolled facilities and relieving the problem of traffic congestion at the previously heavily-used facilities. With the abolition of toll collection at tollways, the manpower and other costs arising from operating the toll booths could be saved. The improved traffic conditions also help to enhance the city environment and stimulate the economic growth of some previously less developed areas.

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<sup>1</sup> Vehicles which provide essential Government services such as fire-engines, ambulances, police vehicles, rescue vehicles are exempted from the passage fees.

<sup>2</sup> Before toll elimination, the tunnels and bridges in Shanghai, Guangzhou, Wuhan and Chongqing were managed (including collection and use of tolls) either by a relevant Government authority or a private company which has the operating right of the particular tunnel or tollway. After toll elimination, all these tunnels and bridges are now managed centrally by a Government authority with some modification on its job duties. For example, instead of collecting tolls at the toll booths, the concerned Mainland authority needs to collect annual fees from different vehicle types and liaise with concerned parties on the appropriate level of annual fee.

12. It is however noted that the overall traffic flow increased after the elimination of tolls on tolled facilities in some Mainland cities. The increase, if significant, could have negative impact on the traffic conditions. Appropriate transport policies would therefore need to be devised to minimise unnecessary induced traffic.

### Implications of Applying the Mainland Approach to Hong Kong

13. The findings revealed that the Mainland approach may offer a possible way forward for our three harbour crossings. We have hence explored the concept's application to Hong Kong and our assessment is set out below.

14. The arrangement currently adopted in the four Mainland cities is similar to an earlier suggestion by Members to establish a Tunnels and Bridges Authority (TBA) in Hong Kong. The TBA is expected to own and operate all tunnels and bridges. To achieve this, the Government will first have to buy back the ownership of all Build-Operate-Transfer (BOT) tunnels. Such a move will, however, involve enormous capital spending. Given our budget deficit and the need to contain government expenditure, it is questionable whether such a course of action can be justified.

15. Moreover, as the day-to-day management of tunnels and bridges in Hong Kong has already been contracted out to the private management contractors, the establishment of a TBA will produce little efficiency gain. The proposed TBA will also constitute a further expansion of the public sector which runs contrary to the Government declared policy of a small government.

16. Instead of Government buying back the tunnels, an alternative option is to identify one "common owner" of the three cross-harbour tunnels from the private sector. If the three tunnels are owned by one single party, the toll levels could be adjusted to achieve a more balanced traffic distribution among the tunnels. However, as two of the three cross-harbour tunnels are in private hands, the willingness of the operators to participate in the negotiations and the ability to arrive at buy-back formulas which are acceptable to all parties are commercial decisions which the Government cannot dictate.

17. We have hence approached the two BOT harbour crossing companies to explore the possibility of a "common owner" approach. Neither, however, indicated any interest in the proposal.

18. The “common owner” approach will only work if the other two BOT harbour crossings are ready to come to the table. As a Government which believes firmly in leaving commercial decisions to the private sector, and which will under no circumstances coerce any party into entering into any agreement which it does not subscribe to, we conclude that the “common owner” approach cannot be pursued at this point.

**Advice Sought**

19. Members’ views are invited on the content of the paper.

Environment, Transport and Works Bureau  
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