

**For Discussion  
on 1 August 2003**

**Legislative Council Panel on Transport<sup>6</sup>**

**Northwest New Territories Traffic and Infrastructure Review**

**PURPOSE**

This paper informs Members of the preliminary outcome of the Northwest New Territories (NWNT) Traffic and Infrastructure Review (the Review).

**BACKGROUND**

2. At the meeting of the LegCo Panel on Transport held on 20 December 2002 when discussing LC Papers No. CB(1)527/02-03(04) and CB(1)527/02-03(05) on the projects on Widening of Yuen Long Highway (YLH) and Shenzhen Western Corridor (SWC) and Deep Bay Link (DBL) respectively, Members noted that the Administration was conducting an overall review to assess the long term needs for transport infrastructure development in NWNT and Lantau.

**THE REVIEW**

**The Purpose**

3. The purpose of the Review is to develop a long-term strategy for the development of highway infrastructure in the NWNT and North Lantau region (the Strategy). In formulating the Strategy, our first priority is to develop a Highway Network Development Plan (the Plan) which combines the existing highway network with possible future extensions. The main focus of this paper is on the Plan.

4. A development sequence of new highway infrastructure projects identified in the Plan and their implementation timeframe will be developed later taking into account the planning parameters (such as population/economic growth, new developments and cross boundary traffic) so that the projects can be implemented in a timely manner to meet forecast demands.

#### Planning Parameters

5. In conducting the Review, we have taken into account the impact of major projects in NWNT and Lantau now under construction or under planning. These include the SWC, the DBL, the Lok Ma Chau Spur Line, West Rail and the Hong Kong Disneyland Phase I. We have also assumed that the cross boundary link between Hong Kong and Pearl River West (HK – PRWL) will be built. However, the impact of initiatives for new tourism and logistics development in Lantau needs to be assessed further when a more definite plan for these emerges.

#### The Forecast Demands

6. The Review has identified that arising from different scenarios of economic and tourism development and highway expansion, the pressure on the future highway network will mainly be in the following four areas :

- (a) new demands in the NWNT arising from the SWC;
- (b) new demands on Lantau arising from the HK - PRWL;
- (c) need to relieve Tuen Mun Road (TMR); and
- (d) need to provide a second connector to link Lantau with the NWNT and the urban areas.

7. The magnitude of the forecast demands in these identified areas are affected by economic and population developments in Hong Kong and the Pearl River Delta Region. The forecast demands will have to be continuously reviewed to take account of new circumstances and planning assumptions.

However, demands in different areas are inter-related and are dependent on the implementation timeframe of new key transport infrastructure projects, such as the HK - PRWL.

### The Highway Development Packages

8. We have summarized below four proposed packages of highway projects to meet the above demands. A plan showing the proposed packages is at **Enclosure 1**. The rough estimated costs are at **Enclosures 2 to 5**.

#### Package A – The Lantau-Urban Link

9. The study by the Institute of Comprehensive Transportation (ICT) on “Transport Linkage between Hong Kong and Pearl River West” jointly commissioned by the National Development and Reform Commission and HKSAR Government is completed. The ICT study has identified the need, urgency and economic significance of a link between Hong Kong, Macau and the Pearl River West, and points to a need to expedite environmental and hydrology studies to confirm its technical feasibility. The way forward will require a formal procedure of endorsement by the Central People’s Government and the participating provincial, city and HKSAR Governments. This will then be followed by detailed feasibility study to confirm the form, alignment and cost, before a timeframe of the HK - PRWL can be established.

10. At this stage, our view is that with the completion of the HK – PRWL, the transport network on the northern shore of Lantau as well as the network connecting Lantau and the urban areas will need to be enhanced. To this effect, we have identified the following possible road works which can be grouped into the “Lantau – Urban Link” package :

- (A1) a tunnel link connecting the HK – PRWL and the North Lantau Highway (NLH);
- (A2) Lantau Road P1 between Tung Chung and Yam O so as to provide additional capacity to the NLH;

- (A3) a Tsing Yi-Lantau Link (TY-LL) to cater for traffic demand between Lantau and the urban areas so as to relieve pressure on Lantau Link. Subject to engineering feasibility, the TY-LL may join with Route 9 to form a connection to the northeast New Territories; and
- (A4) the Pa Tau Kwu section of the Chok Ko Wan Link Road (CKWLR) to connect the Penny's Bay section of CKWLR with the proposed TY-LL.

#### Package B – Tuen Mun Road Bypass

11. With the commissioning of the West Rail later this year and the implementation of SWC, DBL, YLH Widening and Castle Peak Road improvements by 2005, the Review anticipates that the total capacity provided by existing roads and committed projects will be capable of catering for the peak period traffic demand generated in the area (including traffic from the SWC) until well after 2011. The Review has also identified that the reconstruction and improvement of TMR will be essential for the NWNT transport network. With these in mind, the Review proposes a strategic link, the Tuen Mun Road Bypass, to meet long term traffic needs. The package consists of two road segments :

- (B1) a So Kwun Wat Link Road; and
- (B2) Sham Tseng Tunnel Link Road.

#### Package C – Strategic North-South Link (East)

12. In anticipation of the long term demand that goes beyond 2011 under the current population projection, the Review has identified the traffic loadings on TMR and Route 3 CPS connecting NWNT with the urban areas as well as the road links to Lantau will reach their respective capacity limits. The Review proposes Package C as a North-South strategic link with the emphasis to provide relief to TMR and Route 3 and to further improving access to Lantau and the Airport. Package C comprises the following road works :

- (C1) the Lam Tei Tunnel between DBL at Lam Tei and So Kwun Wat Interchange near Tai Lam;
- (C2) So Kwun Wat Interchange;

- (C3) the Tai Lam Chung Tunnel between Tai Lam and Tsing Lung Tau;
- (C4) the Tsing Lung Bridge and Interchanges at Tuen Mun Road and NLH; and
- (C5) a “Coastal Road” from Ting Lung Bridge and an interchange with the TY-LL.

#### Package D – Strategic North-South Link (West)

13. The Review has also considered the long term need to improve the connectivity between the NWNT, the Airport and the HK-PRWL. The Review has identified Package D, a strategic north-south link between DBL and Chek Lap Kok which in the long term would expedite journey times between SWC and the Airport and enhance the connectivity between SWC and the HK - PRWL. Package D comprises the following possible road works :

- (D1) the Tuen Mun Western Bypass from DBL at Hung Shui Kiu to south Tuen Mun near Butterfly Beach; connecting with
- (D2) the Tuen Mun to Chek Lap Kok Link.

#### The Strategy Formulation

14. The four packages together represent the maximal network for the Plan. The various packages identified will be subject to continuous review to suit changing circumstances and planning assumptions. In terms of timing, the relative priority and implementation timeframe of the projects will need to be assessed in the light of findings of studies underway and the growth in cross boundary traffic. We are reviewing these packages as part two of the Review and a continuation of the development of the Strategy.

15. In the interim, and as part of the Strategy, we are also looking into short to medium term measures to improve traffic flow in the NWNT. These measures include :

- (a) diversion of traffic from TMR to Route 3 (we will report to Members separately on this); and
- (b) temporarily converting Ting Kau Bridge to dual 4-lane operation by adapting the existing hard shoulders to an additional traffic lane

in each direction.

## **WAY FORWARD**

16. The Review has completed the first step of developing a Highway Network Development Plan. The next step will involve establishing implementation timeframe and relative priorities. Further development of the route alignments will also be undertaken. The whole Strategy has to be a continuous process to cater for changing circumstances. We will report to Members as soon as there are major developments.

## **ADVICE SOUGHT**

17. Members are invited to note the content of this paper.

Environment, Transport and Works Bureau  
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**NWNT Traffic and Infrastructure Review**  
**Estimated Costs of Possible New Road Works**

**Package A : HK - PRWL to Tsing Yi**

| <b>Road Works</b>  | <b>Estimated Costs<br/>(\$Million)</b> |
|--|--|
| A1 Tunnel link connecting the HK – PRWL and the North Lantau Highway (Dual 3-lane) | 10,000                                 |
| A2 Lantau Road P1 between Tung Chung and Yam O (Dual 2 lane)                       | 3,450                                  |
| A3 Tsing Yi – Lantau Link (Dual 2-lane)  | 15,000                                 |
| A4 Pa Tau Kwu section of Chok Ko Wan Link Road (Dual 3-lane)                       | 1,735                                  |
| <b>Total :</b>   | <b>30,185</b>                          |

**NWNT Traffic and Infrastructure Review**  
**Estimated Costs of Possible New Road Works**

**Package B : Tuen Mun Road Bypass**

| <b>Road Works</b>   | <b>Estimated Costs<br/>(\$Million)</b> |
|---|--|
| B1 So Kwun Wat Link Road (included So Kwun Wat Interchange [part])<br>(Dual 2-lane) | 1850                                   |
| B2 Sham Tseng Tunnel Link Road<br>(Dual 2-lane)                                     | 3,500                                  |
| <b>Total :</b>  | <b>5,350</b>                           |

**NWNT Traffic and Infrastructure Review**  
**Estimated Costs of Possible New Road Works**

**Package C : Strategic North-South Link (East)**

| <b>Road Works</b>   | <b>Estimated Costs<br/>(\$Million)</b> |
|---|--|
| C1 Lam Tei Tunnel<br>(Dual 3-lane)  | 4,000                                  |
| C2 So Kwun Wat Interchange (part)<br>(Dual 3-lane)  | 1,000                                  |
| C3 Tai Lam Chung Tunnel<br>(Dual 3-lane)  | 1,500                                  |
| C4 Tsing Lung Bridge and Interchanges at Tuen Mun<br>Road and North Lantau Highway (Dual 3-lane)            | 6,500                                  |
| C5 “Coastal Road” from Tsing Lung Bridge and an<br>interchange with Tsing Yi – Lantau Link<br>(Dual 2-lane) | 600                                    |
| <b>Total :</b>  | <b>13,600</b>                          |

**NWNT Traffic and Infrastructure Review**  
**Estimated Costs of Possible New Road Works**

**Package D : Strategic North-South Link (West)**

| <b>Road Works</b> |  | <b>Estimated Costs<br/>(\$Million)</b> |
|-------------------|--|--|
| D1                | Tuen Mun Western Bypass<br>(Dual 2-lane)       | 4,400                                  |
| D2                | Tuen Mun to Chek Lap Kok Link<br>(Dual 2-lane) | 11,500                                 |
| <b>Total :</b>    |  | <b>15,900</b>                          |