

Route 3 (CPS) Company Limited

**LegCo Panel on Transport meeting on 17 January 2002
Shenzhen Western Corridor, Deep Bay Link and Route 10**

15 January 2002

Honourable Chairman and members of the LegCo Panel on Transport,

Route 3 (CPS) Co. Ltd. strongly opposes the alignment and timing of Route 10 as proposed by Government. Not only would it be detrimental to Route 3 CPS, but also it would not be in the interest of Hong Kong as a whole.

As a good corporate citizen, we support fully the Shenzhen Western Corridor (SWC). We believe that it would be in the public interest to have this built, and that detailed designs should go ahead.

As for the Deep Bay Link (DBL), we also believe that it must be linked up with the road network in the northwest New Territories for use by traffic from SWC. The question is how and where. We propose that in addition to the present alignment proposed by Government, there should be an expressway (the Western Highway) linking SWC to Route 3 CPS via Yuen Long Highway so that road users of SWC will be offered the choice of using Route 3 CPS, a modern highway already in existence with spare capacity. This would help to balance the traffic flow, while making good use of existing road resources at the same time.

Government has mentioned the provision of an additional local link between DBL and Route 3 CPS. But this would not be of any help. In our view, the Western Highway should be designed and built **at the same time** as the alignment to Lam Tei proposed by Government, if not earlier, as it would link up with a road that is already in existence, providing immediate relief to the logistics industry and other road users of SWC. It would also help to relieve the traffic situation during the time gap between completion of the DBL and Route 10.

The Western Highway would not be of much help if it would not be used. We propose that Government should adopt measures to encourage the usage of this link road. There are ways and means of doing this, and our Company would be glad to cooperate with Government to work on it.

As a Company, we have to safeguard the interests of our shareholders. Fast tracking Route 10 would cause irreparable damage to Route 3 CPS, and Government does have a moral obligation to ensure our Company "a reasonable but not excessive return", according to our tender documents. We are very disappointed that the Government has refused to accept this fact, and appears to be unwilling to work with us to find a solution.

Even leaving aside the interests of our Company, as a good corporate citizen, we are of the view that fast tracking Route 10 at a cost of HK\$22 billion would not be in the public interest. Even the Secretary for Transport himself has said repeatedly that on traffic grounds, Route 10 northern section would not be needed until after 2010/2011. Indeed he has stated that Government is proposing fast tracking only because of the demands of the local residents, although he has at the same time chosen to ignore their equally strong demand that Route 10 should be toll free.

There is clearly no urgency for this road. In the light of changed planning parameters and uncertainties - the economic situation, the location of the Container Port, the effects of the West Rail etc. - and Sir Gordon Wu's proposal, we are of the view that Government should commission a comprehensive comparative study before deciding on the need, the alignment and the timing of Route 10.

ENGINEERS
PLANNERS
ECONOMISTS

Letterhead of Wilbur Smith Associates

Legco Panel on Transport — January 17 2002

Route 10

Comments on Government Papers

1. The Government's quoted AM peak hour v/c ratio of 0.8 only applied to 6 August 2001 when a major traffic accident occurred on Tuen Mun Road. The average figure for 2001, even excluding public holidays and weekends, was 0.66.
2. Government has revised population and economic forecasts in the last year or so. However, Government forecasts of vigorous traffic growth to 2006 and 2011 continue to assume rapid economic and population growth and significant increases in cross-boundary traffic volumes. Similar growth forecasts made in 1997 led to forecast 2001 traffic volumes being significantly over-predicted.
3. The Ting Kau Bridge volumes and v/c ratios are more than 30% higher than Route 3 CPS. Even with the conversion of the hard shoulder to a through lane the v/c ratios will be similar to Route 3 CPS. The Government's proposal would connect Route 10 to the Ting Kau Bridge through the existing interchange at the south end of Route 3 CPS. If the Government's traffic forecasts are correct, this Route 3 CPS interchange, the Ting Kau Bridge and the North West Tsing Yi Interchange will all be over-saturated.
4. It appears that the major justification for constructing Route 10 before it is required on traffic capacity grounds is to relieve traffic congestion on Tuen Mun Road. This objective can be achieved at significantly less expense and effort by providing an "express" connection from the Deep Bay Link to Route 3 CPS and by toll management strategies to achieve a balanced traffic distribution between Tuen Mun Road and Route 3 CPS.

(for detailed analysis on v/c ratio and traffic operations, please refer to additional information attached)

(Additional information)

Legco Panel on Transport — January 17 2002

Route 10

Analysis of Traffic Operations

The Government's paper uses volume/capacity ratios (v/c) as the basis for analysis of traffic conditions on Route 3, Tuen Mun Road and the proposed Route 10. The use of v/c as the basis for assessing traffic operations is consistent with international practice. However, it is unclear what lane capacity is assumed by government for these calculations.

Our forecast volumes would suggest that the Government calculations have adopted a value of **1800 pcu per lane per hour** as the capacity of Route 3 and Route 10. Based on the existing and forecast traffic mix on these highways, this represents a volume of approximately **1225 vehicles per lane per hour**.

1800 pcu/lane is, however, generally accepted as the "design volume" of motorway or freeway lanes not the capacity. The "design volume" represents the upper limit of stable uncongested operations. Once hourly volumes exceed this value, traffic congestion will lead to some delay being occurred by some traffic. This delay increase as the traffic volume increases towards capacity which occurs as average vehicle speeds are constrained to the 50-60 km/h range.

Internationally, the *Highway Capacity Manual (HCM)* prepared and distributed by the *US Transportation Research Board* is probably the most commonly used and widely accepted manual for traffic analysis. Much of the data on which the HCM is based was gathered before the significant update of analysis procedures detailed in the 1986 update of the Manual. This reported freeway flows of up to **2900 vehicles per lane per hour** with many examples in the 2500 to **2600 vehicles per lane per hour** range. On this basis, to allow for a wide range of driver behaviour, the HCM suggests a capacity for freeway standard lanes of **2000 vehicles per hour**. Highway capacities have edged upwards in recent years and this trend appears likely to continue with improvements in vehicles and in the ongoing development of advanced (intelligent) vehicle control technology.

In our analysis, we have adopted a value for capacity of **2300 pcu per lane per hour** (approximately **1560 vehicles per lane per hour** at the observed traffic mix). This is widely accepted as the typical saturation flow for highway lanes and is consistent with peak hour traffic volumes in many cities throughout the world. On this basis, our traffic forecasts show v/c ratios in the AM peak hour for Route 3 of 0.92 in 2011. This forecast volume occurs in the southbound direction only and does not apply in either direction in the PM peak hour. Forecast volumes at all other times of the day are below even the adopted design standard volume of 1800 pcu per hour per lane.

It is important to note that because the Government has not released its revised assumptions, our forecasts are based on out-dated population and economic forecasts and on the assumption of container terminals on Lantau Island. Rerunning these forecasts with the Government's revised forecasts would clearly further reduce forecast traffic volumes.

Given that the forecasts made as recently as 1997 for 2001 have proved to be unrealistically high and that the forecast input assumptions for the 2011 forecasts appear somewhat optimistic, it would appear prudent to delay investment decisions until there is a clear indication that population and economic growth will recover vigorously from the current prolonged downturn.

Moreover, it is unusual in international practice, to undertake major capital expenditures on infrastructure merely to solve problems occurring only in peak hours. The practice in most cities and other jurisdictions is to require major transport projects to satisfy stringent economic criteria and to meet specific benefit/cost targets. Notwithstanding the somewhat speculative nature of the underlying population, development and economic forecasts underlying the forecasts of vigorous traffic growth in the Northwest New Territories, it is difficult to accept the claim that the proposed project would yield a 20% per annum rate of economic return arising from travel time and cost savings. This suggests that the user benefits would exceed maintenance and operating costs by some \$4.4B. With forecast volumes by 2016 reaching approximately 75% of Route 3(CPS) 2001 volumes, annual volumes would be in the **11.8M** vehicles range and an average saving of **\$370 per trip** would be required to generate the benefits claimed.