LegCo Panel on Transport

Summary of major concerns raised by Members on Shenzhen Western Corridor (SWC), Deep Bay Link (DBL) and Route 10

Major concerns	The Administration's response
Reliability of traffic forecasts Incorrect traffic forecasts from the Third Comprehensive Transport Study (CTS-3) are used to justify the provision of Route 10 as according to Route 3 Company, Route 3 would have spare capacity up to 2016 to accommodate the additional traffic generated from SWC/DBL.	The current set of traffic data for future planning is derived from CTS-3 which examined an envelope of growth scenarios including Low, Medium and High in assessing future transport needs. Taking into account CTS-3's recommendation, the Administration has instituted the annual Strategic Highway Project Reviews (SHPR) to ensure that transport infrastructure can be provided in a timely manner to meet demands. Hence, the latest traffic forecasts are based on the most updated assumptions and realistic scenarios. The latest traffic forecasts for the roads in question, set at two decimal points, are given at **Annex**. They indicate a need for Route 10 Southern Section by 2007/2008 and the Northern Section in 2010/2011. The plan to advance the northern section to 2007/08 is mainly in response to local demand to provide a further safeguard for Tuen Mun Road (TMR), as well as changing economic circumstances. According to such forecasts, Route 3 will become saturated by 2010/11. It is appropriate to point out that in terms of transport management planning, the main concern is to avoid congestion at peak hours and hence daily total traffic, while relevant, is of lesser importance.

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<u>Need, alignment and timing for Route 10</u> Taking into account such factors as the slowdown in future traffic growth, worldwide economic recession, reduced growth in population in North West New Territories (NWNT), the opening of West Rail in 2003, the Government's announced rail-based transport policy, there may be a case to defer the implementation of Route 10 to a later stage. Route 10 should facilitate the development of the logistics industry in Hong Kong. However, given the uncertainty about the timing and location of new container terminal facilities, as well as the lack of realistic assessments on the impact of China's accession to the World Trade Organization on cargo flow, it may be too early to make a decision on Route 10. As both the need and timing for its provision have given rise to much controversy, the overall planning for Route 10 should be reviewed, taking into account the views of the Hong Kong Logistics Development Council (LOGSCOUNCIL) and the Steering Committee on Logistics Development. In this connection, the Administration may consider using a design and build contract for the project to cut down on construction cost and save time. However, another view has also been raised that SWC/DBL and Route 10 should be implemented as a	The Administration's latest traffic forecasts have already taken into account the latest changes in circumstances and projections of growth in various aspects, including economic growth, the latest projections of population and port throughputs from the Port Development Strategy Review, as well as the opening of West Rail. Route 10 is required to cater for currently anticipated demand arising from cross-boundary activities and population growth in NWNT and Lantau, and not just the development of the logistics business. The need for additional road infrastructure would be considered when plans for the further development of the logistics industry are available. In this connection, the Administration will maintain close liaison with the LOGSCOUNCIL. A paper on transport infrastructure to facilitate logistics development has been provided to the P-logistics Project Group of LOGSCOUNCIL for its meeting on 24 January 2002. According to the Administration's forecast, only less than 5% of the freight traffic from SWC would head for Lantau, including the airport, the Hong Kong Disneyland and the development in North Lantau. The destinations for the remaining 95% are expected to be the Kwai Chung Container Port and the urban areas. The latest traffic forecast indicates that Route 3 will be saturated by 2010/11. Without Route 10 Northern Section, the peak volume to capacity ratios for TMR Sham Tseng Section and Route 3 will be 1.31 and 1.15 by then during the morning peak. By that time, Route 10, as a new north-south road link, will be required to relieve the traffic conditions at TMR and Route 3. Without Route 10, Hong Kong would suffer an

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package. Without Route 10, the existing road network will not be able to cope with the additional traffic generated from SWC/DBL. Further planning mistakes that may create additional congestion problem for residents in Tuen Mun and Yuen Long should be avoided. Without Route 10, SWC/DBL will also not be supported. In that case, planning for the provision of the fourth cross-boundary land crossing and its connections with local road network should be reviewed. One alternative may be to expand the cross-boundary facilities in Lok Ma Chau to make use of the spare capacity of Route 3, hence avoiding overloading the road network in Tuen Mun and Yuen Long.	economic loss of $120 billion in a 20-year planning horizon as a result of the congestion and increase in travelling time. It is a fallacy to assume that because Route 3 presently has spare capacity, there is no need to plan for Route 10. With the rapid development of cross-boundary traffic, the need for this link is becoming more pressing. By 2005/2006 when SWC and DBL are expected to be completed, there will be about 65 000 vehicles a day at the four boundary crossings and this will increase to 83 000 by 2010/2011. Expanding the existing crossings is not possible because they are located within the city centre of Shenzhen. Over 80% of the cross-boundary traffic has to go through the main roads within the Shenzhen city centre causing serious traffic congestion and environmental impacts. The Administration believes that the currently proposed Route 10 alignment is the most sensible alignment for the new north-south road link. To the north, it connects with SWC/DBL. To the south, it connects with North Lantau at Tsing Lung Tau where the width of the channel is the shortest. With such an alignment, Route 10 can perform many functions, namely to provide a convenient alternative access to Lantau and the airport, to facilitate the movement of traffic from the boundary to the urban areas and the Kwai Chung Container Port and to provide relief to TMR. Under the SHPR system, the Administration will again update the traffic forecasts and review the appropriate completion date for Route 10 Northern Section having regard to the completion dates of SWC/DBL before seeking funds for construction. In order to have the flexibility of

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	completing the Route 10 Northern Section between 2007/08 and 2010/11, the Administration proposes to start the detailed design of the Northern Section of Route 10 in mid 2002 for completion in end 2003. Subject to detailed design, a definitive construction programme will be proposed when seeking funding for construction.
<u>Cost-effectiveness of Route 10</u> Given the $22 billion construction cost and in view of the budget deficit, the cost-effectiveness of the Route 10 project should be carefully considered. In this connection, the projected vehicle composition and utilization must be ascertained, taking into account the implication on West Rail.	SWC and Route 10 are expected to generate net benefit of $175 billion and $120 billion respectively over a 20-year planning horizon, both with an Economic Internal Rate of Return of about 20%. Route 10 caters for traffic from SWC which is expected to have a high goods vehicle composition (80%) as well as other traffic generated in NWNT. The proportion of goods vehicles and passenger vehicles in 2011 would be 50/50 in the a.m. peak. Although freight traffic is predominant at the existing three boundary crossings, the situation may change with Route 10. With more infrastructure provided, the Administration will be in a better position to meet the suppressed demand in terms of cross-boundary passenger traffic.
<u>Gap between completion of SWC/DBL and Route 10 creating worsening congestion on TMR</u> With the present proposal, DBL's connection with the existing local road network is provided at Lam Tei which will naturally lead traffic to the already congested TMR. Furthermore, there will be unacceptable congestion on TMR during the gap between SWC/DBL's opening in	In order to facilitate motorists from DBL heading east after landing at Ngau Hom Shek, an additional access road which connects SWC/DBL to existing road system in the east would be included in the scope of detailed design of SWC/DBL with a view to identifying a feasible alignment, taking into account traffic impact, environmental impact, drainage impact and land impact assessments. The additional cost for detailed design of this access road is estimated to be about $20 million.

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2005 and Route 10's completion in 2007/2008. In order to divert cross-boundary traffic from DBL away from TMR and maximize the use of existing road/tunnel resources, better connections between DBL and the local road network should be provided. Subject to detailed design, the easterly access road should be completed at the same time as SWC/DBL to provide relief to TMR.	Three possible alignment options would be examined: via Tin Shui Wai North, Tin Shui Wai West or Hung Shui Kiu. The easterly access road will be constructed to synchronize with the opening of SWC/DBL.
<u>Maximizing the use of existing road and tunnel resources</u> Concerns have been raised about the impact of Route10's tolling strategy on the utilization of TMR and Route 3. As a tolled road, Route 3 cannot divert traffic from TMR. Hence, the Administration should consider using pecuniary measures to achieve diversion from TMR and maximize utilization of Route 3. Another suggestion has also been put forward for the Government to buy back the ownership of Route 3 and put it under a Tunnel and Bridge Authority. The Government's stance on the financial difficulty faced by Route 3 Company may deter private sector initiative in developing and financing future transport	The toll level for Route 10 Northern Section will be decided nearer the time of completion taking into account various factors like public acceptance and affordability, the need for traffic diversion and the toll level of any alternative route. The Route 3 Company has made a commercial decision to build and operate Route 3. All commercial decisions carry risks. The Administration does not see any justification to use public funds to subsidize certain users of Route 3. Road users should make their own choice and the important thing is to offer road users a choice of a quicker albeit more expensive route. In fact, diversion of traffic from TMR has happened. While the daily traffic for Route 3 and TMR taken together increased by 39% over the past three years, the traffic on TMR itself fell by 5%. The traffic at Route 3 is growing at an average rate of about 20% per year over the past

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infrastructure.	three years. With the completion of improvements at the three existing land crossings and SWC/DBL, this trend should continue. From past experience, the operation of "Build-Operate-Transfer" (BOT) tunnels will take several years to achieve a return. Compared with its design capacity of 118 000, the Administration estimates that the traffic volume of Route 3 will be 82 000 in 2006 with the opening of SWC and further increased to 89 000 in 2008 even with Route 10. By 2011, it is expected to reach 95 000. Hence, there will be a stable and substantial growth in the throughput of Route 3 in the coming years. The Administration has received a proposal to set up a Tunnel and Bridge Authority. The proposal is now being examined. Most of the $100 billion required for the development of road and highway infrastructure in the next 10 years will come from public finance. The use of BOT arrangement will be considered on a case-by-case basis.
<u>Alternatives to Route 10</u> A direct link from Tuen Mun to Chek Lap Kok has been proposed.	The Administration has a similar long-term plan for a direct link from Tuen Mun to Chek Lap Kok (i.e. the Tuen Mun-Chek Lap Kok Link) (TM-CLK Link). Such a link was identified in the CTS-3 as a third link to Lantau and the airport. Planning for this link takes into account further development of the logistics industry in Lantau, a possible fifth land crossing to the western shore of the Pearl River Delta and the future location of the new container terminal facilities. However, it does not obviate the need for Route 10 which serves different functions: (a) TM – CLK Link only connects the airport with Tuen Mun. The

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	catchment of Route 10 is much wider than the TM – CLK Link. Other than providing a direct connection for traffic from Yuen Long and Tuen Mun, it will also be attractive to motorists from Tsuen Wan, Kowloon and Northeast New Territories; (b) According to the Administration's forecast, only less than 5% of the freight traffic from SWC would head for the airport. Therefore, most traffic would still use Route 3 or Route 10 to gain access to the container port; and (c) TM – CLK Link will not help relieve traffic from TMR and Route 3. As much planning has already been done on Route 10, it is possible to complete the project by 2008. TM – CLK Link is still at it conceptual stage and therefore it could not be completed earlier that Route 10. The Administration's policy is to plan transport infrastructure in accordance with changing social and economic circumstances. A link from Tuen Mun to the airport and Route 10 are not mutually exclusive. If developments demand a direct link from Tuen Mun to Chek Lap Kok, it would no doubt be pursued.

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Environmental impacts of SWC, DBL and Route 10 General concerns have been raised about the environmental and ecological impacts of the three projects.	The Environmental Impact Assessment (EIA) study of SWC/DBL will take into account the cumulative impact of the works of both Hong Kong and Shenzhen sides on Deep Bay. The environmental and ecological impacts of these two projects will be addressed in the EIA report. The cumulative impacts from both the northern and southern sections of Route 10 will be properly assessed during the EIA process.

Legislative Council Secretariat
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Traffic Forecasts for R10, Sham Tseng Tunnel (STT), R3, Tuen Mun Road, Ting Kau Bridge, Lantau Link, Yuen Long Highway (YLH) and Tolo Highway

Year	Scenarios	Route 10		STT	R3	Tuen Mun Road		Ting Kau Bridge	Lantau Link	YLH	Tolo Highway
		S/S	N/S			TM Town	Sham Tseng				
Capacity per hour in passenger car unit		*5400*	*5400*	*3600*	*5400*	*3600*	*5400*	*5400 / 7200*	*5400*	*3600 / 5400*	*5400 / 7200*
2001	Existing	-	-	-	0.56	0.87	1.09	0.90	0.39	0.97	1.26
		-	-	-	(0.84)	(0.96)	(1.07)	(1.12)	(0.34)	(1.09)	(1.34)
2006	without SWC	-	-	-	0.76	0.89	1.11	0.71	0.79	0.76	0.97
		-	-	-	(0.94)	(1.00)	(1.10)	(0.84)	(0.74)	(0.85)	(1.02)
2006	with SWC	-	-	-	0.85	0.92	1.20	0.79	0.83	0.94	0.90
		-	-	-	(1.04)	(1.03)	(1.19)	(0.94)	(0.78)	(1.04)	(0.95)
2008	with R10	0.31	0.32	0.95	0.71	0.97	0.85	0.79	0.63	0.77	0.90
		(0.29)	(0.34)	(1.05)	(0.86)	(1.00)	(0.87)	(0.91)	(0.61)	(0.86)	(0.95)
2011	without R10	-	-	-	1.00	1.03	1.27	0.88	1.01	1.04	0.97
		-	-	-	(1.15)	(1.08)	(1.31)	(0.98)	(0.97)	(1.14)	(1.02)
2011	with R10	0.36	0.35	0.99	0.81	0.98	0.92	0.84	0.70	0.96	0.94
		(0.34)	(0.37)	(1.08)	(0.94)	(1.01)	(0.94)	(0.93)	(0.69)	(1.07)	(0.99)
2016	without R10	-	-	-	1.19	1.14	1.35	0.97	1.18	1.34	1.06
		-	-	-	(1.26)	(1.13)	(1.43)	(1.06)	(1.16)	(1.42)	(1.12)
2016	with R10	0.43	0.60	1.04	0.96	0.99	0.95	0.92	0.81	1.28	1.03
		(0.43)	(0.61)	(1.11)	(1.06)	(1.03)	(0.97)	(1.04)	(0.81)	(1.36)	(1.09)

Remark : 0.66 - PM Peak v/c ratio

(0.66) - AM Peak v/c ratio

Ting Kau Bridge and Tolo Highway are assumed to be widened from dual 3-lane to dual 4-lane before 2006.

Yuen Long Highway is assumed to be widened from dual 2-lane to dual 3-lane before 2006.

The toll level of R10 N/S is assumed to be the same as charged for R3.