

**For discussion
on 17 January 2002**

Legislative Council Panel on Transport

Route 10

PURPOSE

This paper provides further information on the Route 10 project subsequent to the Panel meeting on 11 January 2002.

RESPONSE TO THE VIEWS RAISED BY DEPUTATIONS

2. This paper recapitulates the main issues raised by Members and sets out the Administration's latest position. Our comments on other key issues raised in the various deputations are collated in **Annex A** for Members' reference.

TRAFFIC FORECASTS

3. There was some concern about the reliability of traffic forecasts.

4. Our current set of traffic data for future planning is derived from the Third Comprehensive Transport Study (CTS-3). CTS-3 examined an envelope of growth scenarios including Low, Medium and High in assessing our future transport needs. A range of possible infrastructure requirements was produced corresponding to the different growth scenarios. CTS-3 also recommended the setting up of a review mechanism so that any future changes in the input assumptions could be taken into account in a timely manner when deciding on the actual infrastructure requirements.

5. By conducting annual Strategic Highway Project Reviews (SHPR), we are able to take on board the latest changes in circumstances and projections of growth in various aspects. For instance, we can adopt the latest set of land use planning data including updated projections and distributions of population, employment, and school places. We can

adjust the fleet size projections based on the most recent trends of growth in the goods and private vehicle fleet. We can also take into account the latest projections of port throughputs from the Port Development Strategy Review, as well as air passengers, freight throughputs and economic growth.

6. With the introduction of the SHPR, we have a more current forecast of the future traffic demands and the related new infrastructure requirements.

7. Our latest traffic forecasts for the roads in question, set at two decimal points, are given at **Annex B**. They are hence based on the most updated assumptions and realistic scenarios. In this latest review exercise, we have adopted Planning Department's Scenario II land use planning data issued in September 2001. The population is generally lower than that of the CTS-3 Medium Growth Scenario. Regarding the private car fleet size, the latest forecast is between the previous Low and Medium projections while the goods vehicle fleet size is slightly lower than the CTS-3 Low projection. Regarding the GDP growth rate, the new figure is between the CTS-3 Low and Medium estimates. For the cross boundary traffic, the forecasts adopted in the latest review are similar to those adopted in the CTS-3 Medium scenario.

NEED, ALIGNMENT AND TIMING FOR ROUTE 10

8. The main thrust of the debate is on the need, alignment and timing for Route 10, particularly the Northern Section.

9. Our traffic forecast indicates that Route 3 Country Park Section (Route 3) will be saturated by 2010/11. Without Route 10 Northern Section, the peak volume to capacity ratios for Tuen Mun Road 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 Tuen Mun Road and Route 3. Without Route 10, Hong Kong would suffer an economic loss of \$120 billion in a 20-year planning horizon as a result of the congestion and increase in travelling time. We therefore originally proposed to complete Route 10 Northern Section in 2010/11. However, in view of the concern of the District Councils and the local community, we are prepared to advance the completion to 2007/08 to provide a further safeguard for Tuen Mun Road.

10. We believe 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 the Shenzhen Western Corridor (SWC) and Deep Bay Link (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 Tuen Mun Road.

11. Under the SHPR system, we 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 completing the Route 10 Northern Section between 2007/08 and 2010/11, we propose to start the detailed design of the Northern Section of Route 10 in mid 2002 for completion in end 2003. In other words, we are proposing to proceed with the detailed design for Route 10 Northern Section now and to put forward a definitive construction programme when we seek funds for construction.

12. We plan to seek the funding approval from the Public Works Subcommittee for the detailed design of Route 10 Northern Section on 30 January 2002, together with the deferred item for the detailed design of SWC/DBL. A copy of each of the draft PWSC papers is at **Annex C**.

ACCESS ROAD TO THE EAST FROM SWC/DBL

13. There have been suggestions from Members for an additional more direct link between DBL and the existing road network, including Route 3, to the east.

14. In order to facilitate motorists heading east after landing at Ngau Hom Shek, we agree to include in the scope of detailed design an additional access road which connects SWC/DBL to existing road system in the east. We have considered three proposals (as shown at **Annex D**) from various parties on the possible alignment of this access –

- (a) Tin Shui Wai North – This alternative links the DBL at Ngau Hom Shek and the interchange between Yuen Long Highway and Route 3. The alignment passes through the north of Tin Shui Wai and Yuen Long Industrial Estate. It will provide a

direct link from DBL to Route 3 bypassing Yuen Long Highway and an additional link to Route 3 from Tin Shui Wai. It does not affect the proposed Hung Shui Kiu New Development Area. However, it may affect the Deep Bay coast and there may be environmental concerns owing to the proximity of the route to wetlands at Tin Shui Wai, Mai Po and Kam Tin.

- (b) Tin Shui Wai West – This alternative links the DBL at Ngau Hom Shek and Yuen Long Highway at Tin Shui Wai West Interchange. The alignment follows existing Tin Shui Wai local roads including Tin Wah Road, Tin Ying Road and Hung Tin Road although widening may be required. It will provide an additional link from DBL to Yuen Long Highway east of Lam Tei and does not affect the proposed Hung Shui Kiu New Development Area. However, the widening of existing roads and interchange may have adverse effect on local road network, land and environment. The alignment may also affect the Deep Bay coast.
- (c) Hung Shui Kiu – This alternative also links the DBL at Ngau Hom Shek and Yuen Long Highway at Tin Shui Wai West Interchange. The alignment however follows proposed distributor roads in the Hung Shui Kiu New Development Area under planning. It will provide an additional link from DBL to Yuen Long Highway east of Lam Tei. It will however adversely affect the “green town” concept of the proposed Hung Shui Kiu New Development Area.

15. We will further examine the alignment options in the 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.

PROPOSAL TO SET UP A TUNNEL AND BRIDGE AUTHORITY

16. The Administration has received a proposal to set up a Tunnel and Bridge Authority. The proposal is now being examined. We believe that this is a major policy issue which would have ramifications on the utilization and management of all existing tunnels.

THE WAY FORWARD

17. We plan to submit our funding application for the detailed design of SWC/DBL and Route 10 Northern Section to the Public Works Sub-Committee of the Finance Committee on 30 January 2002.

Transport Bureau
January 2002

LegCo Panel on Transport
Summary of views on Shenzhen Western Corridor (SWC),
Deep Bay Link (DBL) and Route 10

Name of organizations / individuals	Major views on SWC/DBL and R10	The Administration's Response
1. Tuen Mun District Council (TMDC)	<ul style="list-style-type: none"> ● Supported the SWC/DBL and Route 10 projects in principle. ● The whole of Route 10 should be synchronized with SWC/DBL to provide relief on Tuen Mun Road (TMR). ● A more direct road link should be provided from DBL to Yuen Long Highway and Route 3 (CPS). ● Other concerns included the acquisition of land, compensation and re-housing arrangements and grave 	<ul style="list-style-type: none"> ● We welcome TMDC's support. ● We have put forward the idea of advancing the completion of Route 10 Northern Section to ensure better interface among the project. In any case, our projection is that the problem will not be serious during the first few years after SWC/DBL are completed. As illustrated over the past few years, Route 3 will divert traffic from TMR. But a real problem will arise when even Route 3 is saturated in 2010/2011. ● We will pursue this in the detailed design of SWC/DBL. ● We will closely liaise with the local community on these arrangements.

Name of organizations / individuals	Major views on SWC/DBL and R10	The Administration's Response
	<p>removal.</p> <ul style="list-style-type: none"> • Toll charges should not be imposed on Route 10. 	<ul style="list-style-type: none"> • The toll level will be decided nearer the time of completion of Route 10 taking into account various factors including affordability of the public, the need for traffic diversion and the toll level of any alternative route.
2. Yuen Long District Council (YLDC)	<ul style="list-style-type: none"> • Supported the SWC/DBL and Route 10 projects in principle. • A direct road link from Ngau Hom Shek to Route 3 (CPS) via Tin Shui Wai should be provided to meet the additional traffic generated. • Access roads should be provided to local areas to benefit the residents of Tin Shui Wai and Yuen Long. • Suitable rehousing and compensation arrangements should be made for the affected residents. 	<ul style="list-style-type: none"> • We welcome YLDC's support. • We will pursue this in the detailed design of SWC/DBL. • Access roads to the Ha Tsuen/Hung Shui Kiu areas will be provided. • We will liaise closely with the affected residents on the arrangements.
3. Miss YUNG Wing-sheung, Islands District Council Member	<ul style="list-style-type: none"> • Supported the strategic need of the project for providing an alternative access to cater for the developments on Lantau. 	<ul style="list-style-type: none"> • We welcome Miss Yung's support.

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4. The Hong Kong Institution of Engineers	<ul style="list-style-type: none"> • The need of Route 10 to meet the expected traffic demand up to 2007 and beyond was supported. • Funding approval should be given for the detailed design of the southern and northern sections of Route 10. • The use of toll at the northern section of Route 10 (i.e. Lam Tei Tunnel) to regulate traffic flow among Route 3, Route 10 and TMR and achieve maximum utilization of transport facilities was supported. 	<ul style="list-style-type: none"> • We welcome the support. • We are pursuing to seek the funding approval for the detailed design of the northern section of Route 10. Funding for detailed design for southern section has been approved. • The toll level will be decided nearer the time of completion of Route 10 taking into account various factors including affordability of the public, the need for traffic diversion and the toll level of any alternative route.
5. The Association of Consulting Engineers of Hong Kong (ACEHK)	<ul style="list-style-type: none"> • ACEHK supported SWC/DBL because the infrastructure link between Hong Kong and the Mainland would be strengthened. • ACEHK supported Route 10 as it would help relieve traffic congestion along TMR, in Tuen Mun and all of NWNT. 	<ul style="list-style-type: none"> • We welcome the support. • We welcome the support.

Name of organizations / individuals	Major views on SWC/DBL and R10	The Administration's Response
<p>6. The Chartered Institute of Logistics and Transport in Hong Kong (CILTHK)</p>	<ul style="list-style-type: none"> • The Administration should provide comparable cost-benefit data for DBL and Route 10. • CILTHK was concerned about the gap between the completion of SWC/DBL and Route 10 causing congestion on TMR. 	<ul style="list-style-type: none"> • SWC is expected to generate net benefit of \$175 billion over a 20-year planning horizon, with an Economic Internal Rate of Return of about 20%. DBL is required to connect SWC to the local road network and the two are therefore inextricably linked. Route 10 is expected to generate a net benefit of about \$120 billion, with an Economic Internal Rate of Return of also about 20%. • We propose to advance the completion of Route 10 Northern Section of 2007 to ensure better interface among the project. In any case, our projection is that the problem will not be serious during the first few years after SWC/DBL are completed. As illustrated over the past few years, Route 3 will divert traffic from TMR. But a real problem will arise when even Route 3 is saturated in 2010/2011.

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	<ul style="list-style-type: none"> Concurring with the strategic function of the Tsing Lung Bridge as a crucial link and alternative overland route to HKIA in emergency situations, this bridge should be expedited as far as possible for safety reasons. 	<ul style="list-style-type: none"> We are now undertaking the detailed design for the bridge. The construction of the bridge will be completed in 2008.
7. Ha Tsuen Rural Committee (HTRC)	<ul style="list-style-type: none"> HTRC supported SWC and DBL in principle. Strong objection for the proposed tunnel section of DBL at Hung Shui Kiu to be built under Permitted Burial Ground YL/55 on fung-shui grounds. Access roads should be provided to local areas and improvements be made to existing local roads. 	<ul style="list-style-type: none"> We welcome HTRC's support. We have replaced the tunnel section with a viaduct and understand that the HTRC accepts this new alignment. Access roads to the Ha Tsuen/Hung Shui Kiu areas will be provided.
8. The Advisory Council on the Environment	<ul style="list-style-type: none"> General concerns were expressed regarding the joint environmental monitoring programme between the Mainland and Hong Kong, the scale of reclamation in Shekou, the visual design of the bridge, and the overall ecological well-being of Deep Bay Construction of Route 10 southern section would not commence until the Environmental Impact Assessment (EIA) report of the northern section was completed and endorsed. 	<ul style="list-style-type: none"> These issues will be addressed when preparing the Environmental Impact Assessment (EIA) report of the project. We will not start the construction of the southern section without the agreement of ACE and approval of DEP.

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9. Sir Gordon WU, Chairman of Port and Maritime Board	<ul style="list-style-type: none"> • Tsing Lung Bridge was not an effective solution for connecting NWNT to HKIA as a much longer and circuitous route was involved. A direct tunnel-bridge link between Tuen Mun and Chep Lap Kok should be built instead. 	<ul style="list-style-type: none"> • Tuen Mun – Chek Lap Kok Link (TM – CLK Link) does not obviate the need for Route 10 which serves different functions – <ul style="list-style-type: none"> (a) TM – CLK Link only connects the airport with Tuen Mun. The catchment of Route 10 is much wider. 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) only less than 5% of the freight traffic from SWC would head for the airport. Most traffic would still use Route 3 or Route 10 to gain access to the container port the urban areas; and (c) TM – CLK Link will not help relieve traffic from Tuen Mun Road and Route 3. (d) TM-CLK Link will be needed in the longer term in addition to

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	<ul style="list-style-type: none"> The Government should purchase road capacity from Route 3 (CPS) to achieve traffic diversion from TMR and benefit the logistics industry. 	<p>Route 10.</p> <ul style="list-style-type: none"> The Route 3 (CPS) company has made a commercial decision to build and operate Route 3. All commercial decisions carry risks. We do not consider it appropriate to use public funds to address the risks involved in a commercial situation.
10. Professor Richard WONG	<ul style="list-style-type: none"> The gap between the completion of SWC/DBL and Route 10 would result in traffic congestion on the already over-utilized TMR. Route 10 did not provide a satisfactory solution for connecting cross-boundary traffic into the urban areas. 	<ul style="list-style-type: none"> We propose to advance the completion of Route 10 Northern Section of 2007 to ensure better interface among the project. In any case, our projection is that the problem will not be serious during the first few years after SWC/DBL are completed. As illustrated over the past few years, Route 3 will divert traffic from TMR. But a real problem will arise when even Route 3 is saturated in 2010/2011. We have thoroughly reviewed the planning of Route 10 and maintain that it is needed and the currently

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	<ul style="list-style-type: none"> ● Tsing Lung Bridge could be constructed as a stand-alone project. ● Route 10 represented poor planning in view of the correct current emphasis on developing Hong Kong's role as the logistics hub in southern China. 	<p>proposed alignment is the most sensible alignment, linking most directly the boundary traffic from SWC to their main destinations of the urban areas and the Kwai Chung Container Port. TM-CLK Link will provide a more direct link to the airport and is required in addition to Route 10.</p> <ul style="list-style-type: none"> ● Route 3 will be saturated in 2010/11. Route 10 Northern Section is required to meet forecast traffic demand generated by cross boundary activities and to meet anticipated population and employment growth in North West New Territories and to relieve traffic on Tuen Mun Road. ● Route 10 is required to cater for currently anticipated demand arising from cross boundary activities and population growth in the North West New Territories and Lantau and not just the development of the logistics

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	<ul style="list-style-type: none"> With the adoption of “shadow tolls”, Route 3 with its low utilization rate could be a more cost-effective short-term solution for connecting DBL and relieving congestion at TMR. 	<p>business. The need for additional road infrastructure would be considered when plans for the further development of the logistics industry are available.</p> <ul style="list-style-type: none"> The Route 3 (CPS) company has made a commercial decision to build and operate Route 3. All commercial decisions carry risks. We do not consider it appropriate to use public funds to address the risks involved in a commercial situation.
11. The Hong Kong Institute of Planners (HKIP)	<ul style="list-style-type: none"> The purpose of and need for Route 10 were not clearly identified or justified. A very narrow process of assessment had been adopted with no apparent consideration of its relationship to land use planning, environmental impacts of the northern section, and no consideration of sustainable development criteria. If Route 10 was tolled, it would also be subject to under-utilization. 	<ul style="list-style-type: none"> We have thoroughly reviewed the planning of Route 10 and maintain that it is needed and the currently proposed alignment is the most sensible alignment. The toll level will be decided nearer the time of completion of Route 10 taking into account various factors including affordability of the public,

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	<ul style="list-style-type: none"> • The best use of existing transport infrastructure should be assured before further expenditure was committed. 	<p>the need for traffic diversion and the toll level of any alternative route.</p> <ul style="list-style-type: none"> • Route 3 (CPS) would be saturated in 2010/11 and we have therefore proposed to complete Route 10 Northern Section in 2010/11. It was to address the concerns of the District Councils on the traffic impact on Tuen Mun Road that we subsequently proposed to complete Route 10 Northern Section earlier.
12. Hong Kong Logistics Association Ltd.	<ul style="list-style-type: none"> • Supported SWC/DBL as the projects would facilitate cargo flow. • Objected to the construction of Route 10 could not immediately help the logistics business. 	<ul style="list-style-type: none"> • We welcome the support. • Route 10 is required to cater for currently anticipated demand arising from cross boundary activities and population growth in the New Territories and not just the logistics business. The need for additional road infrastructure would be considered when plans for further development of the logistics industry are available (e.g. TM-

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	<ul style="list-style-type: none"> Government should subsidize users of Route 3. Further infrastructural development to facilitate logistics business should be referred to LOGSCOUNCIL for discussion. 	<p>CLK Link).</p> <ul style="list-style-type: none"> The Route 3 (CPS) company has made a commercial decision to build and operate Route 3. All commercial decisions carry risks. We do not consider it appropriate to use public funds to address the risks involved in a commercial situation. We will maintain close liaison with the LOGSCOUNCIL on major infrastructural developments relevant to the logistics business (e.g. TM-CLK Link).
13. Route 3 (CPS) Company Limited	<ul style="list-style-type: none"> An alternative Western Highway proposal for connecting DBL to Ting Kau was proposed with completion in 2005 to tie in with the opening of SWC/DBL at an estimated cost of about \$3 billion. The Government should subsidize the users of Route 3 (CPS) to achieve traffic diversion from TMR. 	<ul style="list-style-type: none"> We will pursue an access connecting SWC/DBL to the east. We will examine various alignments of such a link in the detailed design of SWC/DBL with a view to identifying a feasible alignment. The company has made a commercial decision to build and operate Route 3. All commercial

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	<ul style="list-style-type: none"> <li data-bbox="577 528 1464 692">• The strongest objection was expressed to the Government's proposal to proceed immediately with the whole of Route 10 which would be in direct competition with Route 3 (CPS). <li data-bbox="577 1129 1464 1385">• Route 10 should be planned in the context of Hong Kong's need for future container terminal facilities and a direct all-weather alternative link to the Hong Kong International Airport (HKIA), as well as the requirements for the proper development of Hong Kong's logistics industry. 	<p data-bbox="1536 312 2092 475">decisions carry risks. We do not consider it appropriate to use public funds to address the risks involved in a commercial situation.</p> <ul style="list-style-type: none"> <li data-bbox="1487 528 2092 1082">• Route 3 (CPS) would be saturated in 2010/11 and we had therefore originally proposed to complete Route 10 Northern Section in 2010/11. It was to address the concerns of the District Councils on the traffic impact on Tuen Mun Road that we subsequently proposed to complete Route 10 Northern Section earlier. The need for an additional north-south road link besides Route 3 (CPS) was identified in mid-90's. <li data-bbox="1487 1129 2092 1425">• Route 10 is required to cater for currently anticipated demand arising from cross boundary activities and population growth in the New Territories. The need for additional road infrastructure would be considered when plans for future

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		container terminal facilities and the further development of the logistics industry are available (e.g. TM-CLK Link).
14. Action Group Against Siu Lam Works (Route 10)	<ul style="list-style-type: none"> • The group was concerned about the gap between the completion of SWC/DBL and Route 10 aggravating the congestion of TMR. • Without an appropriate tolling strategy for Route 10, traffic would not be diverted off TMR. • A direct road link from DBL to Route 3 (CPS) through 	<ul style="list-style-type: none"> • We propose to advance the completion of Route 10 Northern Section to ensure better interface among the projects. In any case, our projection is that the problem will not be serious during the first few years after SWC/DBL are completed. As illustrated over the past few years, Route 3 will divert traffic from TMR. But a real problem will arise when even Route 3 is saturated in 2010/2011. • The toll level will be decided nearer the time of completion of Route 10 taking into account various factors including affordability of the public, the need for traffic diversion and the toll level of any alternative route. • We will pursue an access connecting

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	<p>Tin Shui Wai should be built.</p> <ul style="list-style-type: none"> • The Administration should review the overall planning for Route 10 to take into account its strategic function of serving new container terminal facilities in Hong Kong. • A direct road link should instead be built from Tuen Mun to Chep Lap Kok in tunnel form to provide an alternative access to HKIA. 	<p>SWC/DBL to the east. We will examine various alignments of such a link in the detailed design of SWC/DBL with a view to identifying a feasible alignment.</p> <ul style="list-style-type: none"> • We have thoroughly reviewed the planning of Route 10 and maintain that it is needed to cater for known planning parameters and the currently proposed alignment is the most sensible alignment. Further development of container terminal facilities will require other transport infrastructure. • The Tuen Mun – Chek Lap Kok Link cannot perform the functions of Route 10 who is not just for logistics development. It is on our drawing board but commands a lower priority to Route 10.
15. Mr Richard YU, Planning Consultant	<ul style="list-style-type: none"> • Given their similar functions, Route 10 was not justified with the presence of TMR and Route 3 (CPS). 	<ul style="list-style-type: none"> • Route 3 (CPS) would be saturated in 2010/11. Route 10 is required in

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	<ul style="list-style-type: none"> The alignment of Route 10 was not conducive to logistics development. A tunnel linking Tuen Mun to HKIA would be a more efficient option with reference to the “time-distance differences” among different road networks. 	<p>any case.</p> <ul style="list-style-type: none"> The Tuen Mun – Chek Lap Kok Link cannot perform the functions of Route 10 and not just for the logistics business. It is on our drawing board but commands a lower priority to Route 10.
16. 屯門掃管笏老青山村居民聯會	<ul style="list-style-type: none"> Strong opposition was raised on Route 10 because of the serious livelihood problems, fung-shui implications and environmental impact arising out of the project. The section along So Kwun Wat should be built in tunnel form and the alignment be shifted to the northern valley to minimize disturbance if the project was to go ahead. 	<ul style="list-style-type: none"> There are a number of constraints at So Kwun Wat which dictate the alignment of the link road. While we believe that the gazetted alignment represents a compromised solution in view of the constraints involved, we will continue to explore the possibility of further minimising the impact of the link road on the villages and shifting the alignment if possible.
17. Save Our Shorelines Society (SOSS)	<ul style="list-style-type: none"> SOSS was generally concerned about the planning, process and policy perspectives of the projects. 	<ul style="list-style-type: none"> The Third Comprehensive Transport Study (CTS-3) has provided a blueprint for the planning of transport infrastructure. However,

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	<ul style="list-style-type: none"> • The whole concept of Route 10 should be reviewed due to major changes in planning. • The project as currently designed was not justified on both economic and environmental grounds. 	<p>we will still review the programme of individual projects having regard to latest traffic projections as well as other socio-economic changes. We are therefore confident on the set of basic assumptions used upon which we can base for updating our predictions on the future traffic demands and the recommendations on new infrastructure requirements.</p> <ul style="list-style-type: none"> • We have thoroughly reviewed the planning of Route 10 and maintain that it is needed and the currently proposed alignment is the most sensible alignment. • Our assessment is that Route 10 will have an Economic Internal Rate of Return of about 20% per annum. The environmental impact of the project will be addressed in the EIA report.

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	<ul style="list-style-type: none"> • The under-utilized Route 3 should be maximized through pecuniary measures. • The Government should conduct more in-depth multi-disciplinary analysis on the future demand of freight capacity. 	<ul style="list-style-type: none"> • The company has made a commercial decision to build and operate Route 3. All commercial decisions carry risks. We do not consider it appropriate to use public funds to address the risks involved in a commercial situation. • Route 10 is required to cater for currently anticipated demand arising from cross boundary activities and population growth in the New Territories. The need for additional road infrastructure would be considered when plans for future container terminal facilities and the further development of the logistics industry are available.
18. World Wide Fund for Nature Hong Kong (WWF)	<ul style="list-style-type: none"> • The total impacts arising from the construction and operation of SWC and the cumulative impacts from the whole SWC project on the Deep Bay ecology might not be properly assessed as only the section of SWC in Hong Kong was subject to EIA study. • WWF was generally concerned about the environmental 	<ul style="list-style-type: none"> • The 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. • These issues will be addressed in

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	<p>and ecological impacts of the projects.</p> <ul style="list-style-type: none"> • The cumulative impacts from both the northern and southern sections of Route 10 should be properly assessed. • Partial endorsement of the EIA of the southern section should not be used to justify the construction of the northern section and other connecting links in the future. 	<p>the EIA report.</p> <ul style="list-style-type: none"> • These will be properly assessed during the EIA process. • We will not use this to justify the construction of northern section and other link roads.
19. Friends of the Earth	<ul style="list-style-type: none"> • Gravely concerned about the lack of holistic transport planning and the environmental impacts of SWC and its related projects. • Failure to relieve the traffic generated by SWC would aggravate the problem of traffic congestion on TMR which would in turn create serious noise and air pollution. 	<ul style="list-style-type: none"> • A holistic approach has been adopted when planning SWC/DBL and Route 10. • We propose to advance the construction of Route 10 Northern Section to provide additional safeguard to the traffic conditions at Tuen Mun Road. This will ensure better interface among the project. In any case, our projection is that the problem will not be serious during the first few years after SWC/DBL are completed. As illustrated over the past few years, Route 3 will divert traffic from

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	<ul style="list-style-type: none"> Concerned about the lack of convincing traffic data to justify the project. A tolled Route 10 might defeat its function of regulating the traffic flow between SWC and Hong Kong. 	<p>TMR. But a real problem will arise when even Route 3 is saturated in 2010/2011.</p> <ul style="list-style-type: none"> We have presented comprehensive traffic forecast to the Panel to justify our case. The toll level will be decided nearer the time of completion of Route 10 taking into account various factors including affordability of the public, the need for traffic diversion and the toll level of any alternative route.
20. The Hong Kong Bird Watching Society	<ul style="list-style-type: none"> Due to poor funding and execution of EIA work, insufficient survey had been conducted to establish the types of birds which were using the site, as well as the potential impact of both the construction and operational phases of Route 10 on these birds. 	<ul style="list-style-type: none"> These issues have been addressed in the Route 10 Southern Section EIA report approved by DEP.
21. Tuen Mun Rural Committee (TMRC)	<ul style="list-style-type: none"> Seriously concerned about the adverse impact caused by the passing of Route 10 through So Kwun Wat Tsuen. 	<ul style="list-style-type: none"> There are a number of constraints at So Kwun Wat which dictate the alignment of the link road. While we believe that the gazetted

Name of organizations / individuals	Major views on SWC/DBL and R10	The Administration's Response
	<ul style="list-style-type: none">• General concerns were expressed about compensation and rehousing arrangements.	<p>alignment represents a compromised solution in view of the constraints involved, we will continue to explore the possibility of further minimising the impact of the link road on the villages and shifting the alignment if possible.</p> <ul style="list-style-type: none">• We will liaise closely with the affected residents on the arrangements.
22. 屯門鄉郊區	<ul style="list-style-type: none">• General concerns were expressed about the acquisition of land, compensation and rehousing arrangements.	<ul style="list-style-type: none">• We will liaise closely with the affected residents on the arrangements.

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 (0.84)	0.87 (0.96)	1.09 (1.07)	0.90 (1.12)	0.39 (0.34)	0.97 (1.09)	1.26 (1.34)
2006	without SWC	- -	- -	- -	0.76 (0.94)	0.89 (1.00)	1.11 (1.10)	0.71 (0.84)	0.79 (0.74)	0.76 (0.85)	0.97 (1.02)
2006	with SWC	- -	- -	- -	0.85 (1.04)	0.92 (1.03)	1.20 (1.19)	0.79 (0.94)	0.83 (0.78)	0.94 (1.04)	0.90 (0.95)
2008	with R10	0.31 (0.29)	0.32 (0.34)	0.95 (1.05)	0.71 (0.86)	0.97 (1.00)	0.85 (0.87)	0.79 (0.91)	0.63 (0.61)	0.77 (0.86)	0.90 (0.95)
2011	without R10	- -	- -	- -	1.00 (1.15)	1.03 (1.08)	1.27 (1.31)	0.88 (0.98)	1.01 (0.97)	1.04 (1.14)	0.97 (1.02)
2011	with R10	0.36 (0.34)	0.35 (0.37)	0.99 (1.08)	0.81 (0.94)	0.98 (1.01)	0.92 (0.94)	0.84 (0.93)	0.70 (0.69)	0.96 (1.07)	0.94 (0.99)
2016	without R10	- -	- -	- -	1.19 (1.26)	1.14 (1.13)	1.35 (1.43)	0.97 (1.06)	1.18 (1.16)	1.34 (1.42)	1.06 (1.12)
2016	with R10	0.43 (0.43)	0.60 (0.61)	1.04 (1.11)	0.96 (1.06)	0.99 (1.03)	0.95 (0.97)	0.92 (1.04)	0.81 (0.81)	1.28 (1.36)	1.03 (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.

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.

DRAFT

**For discussion
on 30 January 2002**

PWSC (2001-02) XX

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 - HIGHWAYS

Transport - Roads

519TH - Route 10 - North Lantau to Yuen Long Highway

Members are invited to recommend to the Finance Committee -

- (a) the upgrading of part of **519TH**, entitled "Route 10 - North Lantau to Yuen Long Highway - detailed design of the northern section" to Category A at an estimated cost of \$133.7 million in money-of-the-day prices; and
- (b) to retain the remainder of **519TH** in Category B.

PROBLEM

There is no alternative external road link to Lantau in the event of closure of the Lantau Link. Also, the existing road network between the North West New Territories (NWNT) and the urban areas will not be able to cope with future traffic demand generated by the anticipated population growth in NWNT and Lantau as well as by cross-boundary activities.

2. The Director of Highways, with the support of the Secretary for Transport, proposes to upgrade part of **519TH** to Category A at an estimated cost of \$133.7 million in money-of-the-day (MOD) prices to employ consultants to undertake detailed design of the proposed Route 10 from North Lantau to Yuen Long Highway (Route 10 (NLYLH)) section between So Kwun Wat and Yuen Long Highway ("Northern Section"), and to carry out the associated site investigation.

PROJECT SCOPE AND NATURE

3. The scope of works of **519TH** includes -

(a) Southern Section (Section between North Lantau and So Kwun Wat) -

(i) construction of about seven-kilometre of carriageway from North Lantau to So Kwun Wat, which includes Tsing Lung Bridge, Tai Lam Chung Tunnel, and link roads connecting to Tuen Mun Road; and

(b) Northern Section (Section between So Kwun Wat and Yuen Long Highway) -

(i) construction of a 4.5-kilometre dual three-lane carriageway from So Kwun Wat to Yuen Long Highway near Lam Tei, which includes a four-kilometre dual three-lane Lam Tei Tunnel, a toll plaza at Lam Tei Quarry and associated interchanges to connect with other necessary access roads.

(c) For both Southern and Northern Sections

(i) associated civil, geotechnical, landscape, road and drainage works, ancillary buildings, toll facilities, electrical and mechanical installations, and environmental mitigation measures; and

(ii) traffic control and surveillance system (TCSS).

4. The part of the project we now propose to upgrade to Category A comprises -

- (a) detailed design of all the proposed works described in paragraph 3 (b) and (c)(i) above for the Northern Section;
- (b) associated site investigation and supervision; and
- (c) preparation of tender documents and assessment of tenders.

A site plan and a typical cross section of Lam Tei Tunnel are at Enclosures 1 and 2 respectively. The alignment may be modified in the course of detailed design subject to further study and views of the public when the scheme is gazetted.

JUSTIFICATION

5. At present the only external road access for Lantau and the Hong Kong International Airport at Chek Lap Kok is the Lantau Link. In the event of the closure of the Lantau Link, there will be no road access between Lantau and the rest of the territory. Therefore, we have proposed Route 10 (NLYLH) as an alternative road link. We also need to construct Route 10 (NLYLH) to meet the forecast traffic demand generated by the anticipated population growth in NWNT and Lantau as well as by cross-boundary activities.

6. In the light of committed developments under existing plans and strategic growth under the Territorial Development Strategy Review, we envisage that the population in NWNT will increase from 800 000 in 1996 to 1 400 000 by 2011. In addition, the population in North Lantau will increase from 48 000 in 2000 to 401 000 in 2006. Route 10 (NLYLH) is necessary to cope with the increasing traffic demand generated from these developments.

7. In addition, cross-boundary vehicular traffic between Hong Kong and the Mainland has been growing at a rapid rate due to the rapid economic development of the Pearl River Delta Region. Together with the proposed Shenzhen Western Corridor (SWC) and Deep Bay Link (DBL), Route 10 (NLYLH) will form part of the strategic road network to accommodate the increasing cross-boundary traffic. We are striving to complete SWC and DBL at the target date of end 2005. Hence, we need to complete our road network to connect these future roads to adequately cater for the cross-boundary traffic flow.

8. According to the latest traffic forecast, the morning peak hour volume/capacity¹ (V/C) ratios at critical sections of the nearby road links, with and without Route 10 (NLYLH) are as follows -

Strategic Routes	V/C Ratio				
	2001	2006		2011	
		Without SWC	With SWC	Without Route 10	With Route 10
Route 10 (NLYLH) Southern Section	-	-	-	-	0.34
Route 10 (NLYLH) Northern Section	-	-	-	-	0.37
Route 3 (Country Park Section)	0.84	0.94	1.04	1.15	0.94
Tuen Mun Road (Sham Tseng Section)	1.07	1.10	1.19	1.31	0.94

- Notes** (1) The figures in the above tables show the critical AM peak V/C ratios (Urban Areas bound) on various traffic corridors.
- (2) A dash in the above table represents the non-provision of the relevant section of the proposed road.

In the absence of Route 10 (NLYLH) Northern Section, Tuen Mun Road, in particular the Sham Tseng section, would be operating at a high V/C ratio of about 1.31 in 2011 and Route 3 Country Park Section (Route 3) would also be saturated. With the opening of Route 10 (NLYLH) Northern Section, we would be able to contain the traffic of both Tuen Mun Road and Route 3 to a manageable V/C ratio of 0.94.

9. We commenced the Investigation and Preliminary Design (I&PD) Assignment of the Northern Section in May 1999. We have already completed the I&PD Assignment and established a preferred alignment together with the associated land, environmental, drainage, traffic and other impacts on the affected areas. We now propose to undertake the detailed design of the Northern Section. As we do not have the necessary in-house resources, we need to employ consultants to undertake the detailed design and to supervise the associated site investigation works.

1 The capacity here refers to the design capacity of the road. A V/C ratio equal to or less than 1.0 means that the road has sufficient capacity to cope with the volume of vehicular traffic under consideration. A V/C ratio above 1.0 indicates the onset of mild congestion; above 1.2 indicates more serious congestion with traffic speeds progressively deteriorating with further increase in traffic.

FINANCIAL IMPLICATIONS

10. We estimate the cost of this part of the project to be \$133.7 million in MOD prices (see paragraph 11 below) made up as follows -

		\$ million	
(a)	Consultants' fees for	93.6	
	(i) review of I&PD, carrying out detailed design, preparation of tender documents and assessment of tenders	87.7	
	(ii) supervision of site investigation	1.2	
	(iii) Electrical and Mechanical Services (EMSD) and Office of Telecommunication Authority (OFTA) Trading Funds charges	4.7	
(b)	Site Investigation	30.0	
(c)	Contingencies	10.0	
	Sub-total	133.6	(in September 2001 prices)
(d)	Provision for price adjustment	0.1	
	Total:	133.7	(in MOD prices)

A breakdown by man-months of the estimate for consultants' fees is at Enclosure 3.

11. Subject to approval, we will phase the expenditure as follows -

Year	\$ million (Sep 2001)	Price Adjustment Factor	\$ million (MOD)
2002-2003	59.6	0.99700	59.4
2003-2004	72.0	1.00398	72.3
2004-2005	2.0	1.01101	2.0
	<hr/> 133.6 <hr/>		<hr/> 133.7 <hr/>

12. We have derived the MOD estimate on the basis of Government's latest forecast trend of labour and construction price increases for the period 2002 to 2005. We will employ consultants on a lump sum basis with provision for price fluctuation because the duration of the detailed design will exceed 12 months. The consultants will supervise the site investigation works under contracts to be awarded through the normal competitive tendering process.

13. The proposed detailed design and site investigation have no additional annual recurrent financial implications.

PUBLIC CONSULTATION

14. We consulted the Tuen Mun Rural Committee (TMRC), the concerned village representatives (VRs) and local residents on the proposed alignment of the Northern Section and ground investigation works at an interchange at Lam Tei between September 1999 and July 2000. At these consultative meetings we provided details of the project and explained the reasons for selecting the proposed location of the interchange. Upon TMRC's request, we investigated alternative alignments and the possibility of relocating the proposed interchange to the existing Lam Tei Upper Quarry on the southern side of Yuen Long Highway. Based on town planning, environmental, engineering, construction cost, as well as impacts on local residents, we concluded that the proposed alignment was the most preferable option and relocating the interchange was not viable from technical and environmental points of view. We conveyed these findings to TMRC and VRs. TMRC and VRs generally accepted the proposed location of the interchange. They requested the Administration to review the relevant policies to resolve the issues of land resumption, compensation and re-housing arrangements prior to finalising the alignment. These would be handled according to statutory procedures.

15. We consulted the Tuen Mun District Council (TMDC) on the Route 10 project between November 2000 and November 2001. TMDC had no in-principle principle objection to the project and for the detailed design of the Northern Section to proceed. However, TMDC requested the Administration to address the concerns of local residents related to land resumption, compensation and re-housing. A working group was formed to follow up on these issues. The group supported the project but requested the Administration to review the relevant policies to properly resolve the land resumption, compensation and re-housing issues. We are examining these issues and will address them according to statutory procedures. When consulted on the SWC/DBL projects in August and September 2001, TMDC was concerned about the traffic impact on Tuen Mun Road. Members passed a motion that the Administration should complete Route 10 (NLYLH) as soon as possible to cater for the traffic from SWC and DBL. Taking into account the time required for the preparatory and construction works, the completion of Route 10 (NLYLH) could be advanced to 2007/08 the earliest.

16. When consulted on the SWC/DBL projects in September 2001, the Traffic and Transport Committee of the Yuen Long District Council (YLDC) also expressed concerns about the traffic impact on Tuen Mun Road. At the YLDC meeting in December 2001, members passed a motion that the Council welcomed the construction of DBL and Route 10 (NLYLH), but requested the Government to minimise the impact during construction, to provide connections to the local areas in Yuen Long and to resolve the land resumption and rehousing issues.

17. When consulted on SWC/DBL in October 2001, the Legislative Council Panel on Transport raised concern that the SWC and DBL traffic, upon opening, would cause unacceptable congestion at Tuen Mun town centre and Tuen Mun Road, and considered that the planning of the supporting infrastructure, especially the northern section of Route 10 (NLYLH), should be co-ordinated with the SWC and DBL programme. At the same time, Panel members had received comments from various bodies and members of the public regarding Route 10. The Panel discussed the Route 10 project on 23 November 2001 and organized a public hearing together with the concerned parties on 8 November 2001, 17 December 2001 and 11 January 2002. The Panel would further discuss the project on 17 January 2002.

ENVIRONMENTAL IMPLICATIONS

18. The Route 10 (NLYLH) project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and an environmental permit is required for the construction and operation of the project. We will submit the EIA report to the Director of Environmental Protection for approval under the EIA Ordinance and will follow the statutory

procedures and make the EIA report available for comments by the public and the Advisory Council on the Environment. We have to obtain an environmental permit for the project prior to the commencement of construction.

19. The proposed detailed design will not give rise to any adverse environmental implications. We will implement standard environmental pollution control measures to manage the environmental impacts of the associated site investigation. The site investigation will only generate a very small amount of construction and demolition material (C&DM). We will require the detailed design consultants to fully consider measures to minimise the generation of C&DM and to recycle/reuse C&DM as much as possible in the future implementation of construction contracts.

LAND ACQUISITION

20. The proposed detailed design and site investigation do not require any land acquisition.

BACKGROUND INFORMATION

21. We upgraded **519TH** to Category B in August 1997. We upgraded part of **519TH** to Category A in December 1997 as **715TH** "Route 10 - North Lantau to Yuen Long Highway - Investigation and Preliminary Design Assignment" at an estimated cost of \$353.8 million in MOD prices to undertake investigation and preliminary design of Route 10 (NLYLH). We completed the preliminary design for the Southern Section in September 1999 and upgraded part of **519TH** to Category A in December 1999 as **738TH** "Route 10 - North Lantau to Yuen Long Highway - detailed design of the southern section" at an estimated cost of \$454.5 million in MOD prices to undertake the detailed design of the Southern Section. For the Northern Section, we plan to start the detailed design in mid 2002 for completion in end 2003.

22. We estimate that the project will create 85 jobs comprising 55 professional/technical staff and 30 labours totalling 1 220 man-months.

DRAFT

**For discussion
on 30 January 2002**

PWSC(2001-02)xx

ITEM FOR PUBLIC WORKS SUBCOMMITTEE

HEAD 706 - HIGHWAYS

Transport - Roads

759TH - Shenzhen Western Corridor

736TH - Deep Bay Link

Members are invited to recommend to Finance Committee-

- (a) the upgrading of part of **759TH**, entitled "Shenzhen Western Corridor - detailed design and associated site investigations" to Category A, at an estimated cost of \$66.1 million in money-of-the-day prices;
- (b) the upgrading of part of **736TH**, entitled "Deep Bay Link - detailed design and associated site investigations" to Category A, at an estimated cost of \$60.8 million in money-of-the-day prices; and
- (c) the retention of the remainder of **759TH** and **736TH** in Category B.

PROBLEM

The capacity of the existing vehicular boundary crossings between the Hong Kong Special Administrative Region (HKSAR) and Shenzhen is insufficient to cope with the present and expected future traffic demand between the two areas.

PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport, proposes to upgrade part of **759TH** and **736TH** to Category A at an estimated cost of \$66.1 million and \$60.8 million respectively in money-of-the-day (MOD) prices to employ consultants to undertake the detailed design and associated site investigation works for the proposed Shenzhen Western Corridor (SWC) and Deep Bay Link (DBL).

PROJECT SCOPE AND NATURE

3. The scope of works of **759TH** includes -

- (a) a 3.2-kilometre dual three-lane carriageway spanning across Deep Bay from Ngau Hom Shek in the north west part of the New Territories of the HKSAR to the HKSAR's boundary of SWC;
- (b) traffic control and surveillance system (TCSS); and
- (c) associated civil, structural, E&M, marine, geotechnical, landscape and drainage works, fire services, environmental mitigation measures, street lighting, traffic aids and directional signs.

4. The part of **759TH** that we now propose to upgrade to Category A comprises -

- (a) detailed design of the proposed works described in paragraph 3 above;
- (b) associated site investigations and supervision; and

- (c) preparation of tender documents and assessment of tenders.

/A

———— A site plan and the typical sections of SWC are at Enclosures 1 and 2 respectively.

5. The scope of works of **736TH** includes -

- (a) a 5.4-kilometre dual three-lane carriageway, linking SWC at its landing point in Ngau Hom Shek with the Yuen Long Highway (YLH) at Lam Tei;
- (b) interchange to connect with other necessary access roads;
- (c) an easterly link between DBL and the existing transport network to facilitate traffic heading east;
- (d) access roads to the Hung Shui Kiu and Ha Tsuen Areas;
- (e) turnaround facilities with weighing station and vehicle recovery base;
- (f) TCSS; and
- (g) associated civil, structural, electrical and mechanical (E&M), geotechnical, landscape and drainage works, fire services, environmental mitigation measures, street lighting, traffic aids and directional signs.

6. The part of **736TH** that we now propose to upgrade to Category A comprises

-

- (a) detailed design of the proposed works described in paragraph 5 above;
- (b) associated site investigations and supervision; and
- (c) preparation of tender documents and assessment of tenders.

———— A site plan and the typical sections of DBL are at Enclosures 3 and 4 respectively.

7. The exact alignment of SWC and DBL may need to be adjusted in the course of detailed design and to address any objections that may be lodged after the gazetting of the road scheme.

8. We plan to start the detailed design of SWC and DBL in early 2002 and will then proceed with the tendering exercises for the construction works. We intend to commence construction of SWC and DBL in mid 2003 and strive to complete at the target date of end 2005, if possible. The current project estimate for SWC and DBL are \$2.8 billion and \$6.4 billion (in September 2001 prices) respectively.

JUSTIFICATION

9. The three existing vehicular boundary crossings at Lok Ma Chau, Man Kam To and Sha Tau Kok are nearly saturated. The average total daily vehicular traffic using the three boundary crossings in 2001 was 34 300, representing a 41% growth over the past five years and an average annual growth of 7%. We expect that the traffic flow will exceed their handling capacity within the next five years. The estimated average daily two-way traffic demand in 2001, 2006, 2011 and 2016, assuming SWC can be commissioned in 2005/2006, are as follows -

Cross Boundary	2001	2006	2011	2016
Points	(two-way vehicle/day)			
Lok Ma Chau	24 100	24 800	24 700	25 000
Man Kam To	7 800	9 700	9 800	10 000
Sha Tau Kok	2 400	2 200	2 400	2 300
SWC	-	28 400	46 100	80 000
Total	34 300	65 100	83 000	117 300

The Governments of both Shenzhen and the HKSAR recognise the need to remove these potential bottle-necks to trade and traffic. However, there are difficulties in further expanding the facilities in these existing crossings because they are located near the city centre of Shenzhen City. Over 80% of the cross-boundary traffic have to go through the main roads within the city centre of Shenzhen City, causing serious traffic congestion and environmental problems. On the Hong Kong side, the congested situation at the crossings has resulted in tailbacks at San Sham Road, Man Kam To Road and Sha Tau Kok Road during peak hours. During peak seasons, the vehicular queues from the Lok Ma Chau crossing have extended to Fanling Highway and San Tin Highway.

10. The Crosslinks Further Study completed in March 2001 has assessed the future cross-boundary traffic demand and confirmed the need for constructing the fourth land boundary crossing of SWC together with the connecting road, DBL, to satisfy the future demand. The SWC would alleviate the situation at the nearly saturated existing land boundary crossings, facilitate the further development of the container port of Hong Kong, enhance trade between Hong Kong and Southern China, facilitate further economic development particularly in areas of finance, logistics and tourism, and strengthen the position of Hong Kong as the hub of the Pearl River Delta area. The SWC can be expected to bring about substantial economic benefits to Hong Kong. The Study estimates that the net benefit of SWC would be \$175 billion (in 1998 prices) over a 20-year planning horizon from 2000 to 2020.

11. SWC and DBL would be connected to the YLH at Lam Tei, where traffic could gain access to Route 3 Country Park Section (Route 3 (CPS)) to the east and Tuen Mun Road to the west. We are now planning for Route 10 from Lam Tei to North Lantau to provide an alternative expressway to motorists. Strategically speaking, the four boundary crossings, namely Sha Tau Kok, Man Kam To, Lok Ma Chau and SWC would be served by four north-south road links, i.e. Tolo Highway, Route 3 (CPS), Route 10 and Tuen Mun Road to form a comprehensive network as shown at Enclosure 5.

12. We assessed Route 3 (CPS) and Tuen Mun Road together would be able to cope with the increased traffic in the initial years of commissioning of SWC although they would be operating close to or slightly above capacity in the peak periods. The Yuen Long and Tuen Mun District Councils (TMDC) are concerned about the traffic impact on Tuen Mun Road and strongly urge for the early implementation of Route 10 northern section which links DBL to Sham Tseng. To address such concerns and to provide further safeguard against congestion on Tuen Mun Road, we have put forward a plan to bring forward the completion of the Route 10 northern section to 2007. The southern section will be completed in 2008.

13. We commenced the Investigation and Planning (I&P) for SWC in August 2001 and have established a conceptual design on its preferred alignment. The associated land, marine, drainage and environmental impact assessment studies on the affected areas are on-going for completion by the end of 2002. As for DBL, we are carrying out the Investigation and Preliminary Design (I&PD) and have established its alignment. We are finalising the impact assessments associated with land, environment, drainage and traffic for the project.

14. The detailed design for SWC and DBL requires a variety of specialist inputs. The scope comprises -

- (a) the design of the main viaduct with a bridge over a navigation channel and the drainage and geotechnical engineering design of foundations;
- (b) traffic engineering input to develop traffic management measures including lane change-over requirements to accommodate the different traffic configuration in the Mainland;
- (c) TCSS; and
- (d) environmental assessment input for the implementation of the recommended environmental mitigation measures.

Furthermore, we need to conduct site investigation works to provide additional geotechnical information for the detailed design works. As we do not have the necessary in-house resources, we need to engage consultants to undertake the detailed design and to supervise the associated site investigation works.

FINANCIAL IMPLICATIONS

15. We estimate the cost of these parts of the projects of **759TH** and **736TH** to be \$66.1 million and \$60.8 million in MOD prices respectively, made up as follows -

Estimate for 759TH (Shenzhen Western Corridor)

		\$ million
(a)	Consultants' fees	37.0
	(i) review of investigation and planning, carrying out detailed design, preparation of tender documents and assessment of tenders	33.6

(ii)	supervision of site investigations	1.8	
(iii)	Electrical and Mechanical Services Trading Fund (EMSTF) charges	1.6	
(b)	Site investigations	23.3	
(c)	Contingencies	6.0	
	Sub-total	66.3	(in September 2001 prices)
(d)	Provision for price adjustment	(0.2)	
	Total:	66.1	(in MOD prices)

Estimate for 736TH (Deep Bay Link)**\$ million**

(e)	Consultants' fees	43.4	
(i)	review of investigation and preliminary design, carrying out detailed design, preparation of tender documents and assessment of tenders	40.9	
(ii)	supervision of site investigations	1.0	
(iii)	EMSTF charges	1.5	
(f)	Site investigations	12.0	

(g)	Contingencies	5.5	
	Sub-total	60.9	(in September 2001 prices)
(h)	Provision for price adjustment	(0.1)	
	Total:	60.8	(in MOD prices)

———— A breakdown by man-months of the estimate for consultants' fees is at Enclosure 6.

16. Subject to approval, we will phase the expenditure as follows -

Estimate for 759TH

Year	\$ million (Sep 2001)	Price Adjustment Factor	\$ million (MOD)
2001-2002	0.1	1.00000	0.1
2002-2003	53.7	0.99700	53.5
2003-2004	10.5	1.00398	10.5
2004-2005	2.0	1.01101	2.0
	66.3		66.1

Estimate for 736TH

Year	\$ million (Sep 2001)	Price Adjustment Factor	\$ million (MOD)
2001-2002	1.7	1.00000	1.7
2002-2003	47.8	0.99700	47.7
2003-2004	9.4	1.00398	9.4

/2004

2004-2005	2.0	1.01101	2.0
	<hr/> 60.9 <hr/>		<hr/> 60.8 <hr/>

17. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices for the period 2001 to 2005. We will employ consultants on a lump-sum basis with provision for price fluctuation as the duration of the detailed design will exceed 12 months. The consultants will supervise the site investigation works under contracts to be awarded through a competitive tendering process.

18. The proposed detailed design and site investigations for SWC and DBL have no annual recurrent financial implications.

PUBLIC CONSULTATION

19. We consulted the Tuen Mun Rural Committee and TMDC on 31 August 2001 and 3 September 2001 respectively. They supported the SWC and DBL projects in principle but raised the following concerns -

- (a) Without additional connecting roads in place, such as Route 10 from North Lantau to Yuen Long Highway (NLYLH), that are capable of absorbing the additional traffic generated by both projects, the opening of DBL and SWC would increase traffic demand on Tuen Mun Road, resulting in unacceptable traffic congestion along Tuen Mun Road and local roads in Tuen Mun district. TMDC members passed a motion that the Administration should complete Route 10 (NLYLH) as soon as possible to cater for the traffic from SWC and DBL.
- (b) They also raised various issues relating to the acquisition of land, compensation and re-housing arrangements and grave removal. We agreed that we would look into the above in connection with the established government policies in land clearance, resumption and re-housing. Also, we would refine the designs of the projects with a view to further reducing the impacts.

- (c) They also raised concern over the environmental impacts arising from the construction and operation of the projects to Tuen Mun residents. We undertook to carry out Environmental Impact Assessment (EIA) studies and would incorporate the recommended mitigation measures in the detailed design to meet the requirements of the EIA Ordinance.

20. We consulted the Ha Tsuen Rural Committee (HTRC) and the Traffic and Transport Committee of the Yuen Long District Council (YLDC/T&TC) in September 2001 respectively. They supported the SWC and DBL projects but raised the following concerns

-

- (a) Some members of YLDC/T&TC considered that before the completion of Route 10 (NLYLH), YLH and Tuen Mun Road were unlikely to be able to cope with the additional traffic arising from both projects. They requested the provision of a branch road off DBL at Ngau Hom Shek to Route 3 (CPS) via Tin Shui Wai to relieve such traffic congestion. During the detailed design, we will pursue the provision of additional local link between DBL and Route 3 (CPS).
- (b) The representatives from HTRC strongly objected to the proposed tunnel at Hung Shui Kiu to be built under the Permitted Burial Ground YL/55 on fung-shui grounds. We have reviewed and revised the alignment so that it does not require a tunnel going through the burial ground.
- (c) Some members of HTRC and YLDC/T&TC requested for the provision of access roads to local areas in Yuen Long. We agreed to look into this and accommodate their requests as far as possible in the course of the detailed design.

21. The YLDC subsequently passed a motion in December 2001 that that the Council welcomed the construction of DBL and Route 10 (NLYLH), but requested the Government to minimise the impact during construction, to provide connections to the local areas in Yuen Long and to resolve the land resumption and rehousing issues.

22. We briefed the Advisory Council on the Environment on 17 September 2001 on the SWC and DBL projects. We have also initiated contacts with some green groups so that their comments can be incorporated in the early stage of the projects. We shall continue to liaise with them, and will ensure that their concerns are duly addressed in the EIA studies.

23. We consulted the Legislative Council Panel on Transport on 26 October 2001. Panel members raised concern that the SWC and DBL traffic, upon opening, would cause unacceptable congestion at Tuen Mun town centre and Tuen Mun Road, and considered that the planning of the supporting infrastructure, especially the northern section of Route 10 (NLYLH), should be co-ordinated with the SWC and DBL programme. At the same time, Panel members had received comments from various bodies and members of the public regarding Route 10. The Panel discussed the Route 10 project on 23 November 2001 and organized a public hearing together with the concerned parties on 8 November 2001, 17 December 2001 and 11 January 2002. The Panel would further discuss the project on 17 January 2002.

ENVIRONMENTAL IMPLICATIONS

24. The SWC and DBL projects are designated projects under Schedule 2 of the EIA Ordinance. We are carrying out the EIA studies for SWC and DBL to meet the requirements of the EIA Ordinance. We will incorporate the recommended mitigation measures into the detailed design of the projects. We will submit the EIA reports to the Director of Environmental Protection for approval under the EIA Ordinance and will follow the statutory procedures of making the EIA report available for comments by the public and the Advisory Council on the Environment. We shall obtain environmental permits for the projects prior to the commencement of construction.

25. The proposed detailed design works will not give rise to any adverse environmental implications. We will implement standard environmental pollution control measures to manage the environmental impacts of the associated site investigation works. The site investigation works will only generate a minimal amount of construction and demolition (C&D) materials. We will require the consultants for detailed design to fully consider measures to minimize the generation of C&D materials and to reuse/recycle C&D materials as much as possible in the future implementation of construction contracts.

LAND ACQUISITION

26. The proposed detailed design and site investigations for SWC and DBL do not require land acquisition. However, land acquisition will be required

before the commencement of construction of the projects. The details and scope of the land acquisition required will be ascertained in the detailed design stage.

BACKGROUND INFORMATION

27. The Review of Hong Kong's Capacity to Cope with Additional Traffic Movement Associated with the Proposed New Cross-Border Transport Links completed in 1996 identified the need for SWC and DBL. We subsequently carried out two studies to examine the associated traffic and engineering issues, namely -

- (a) Feasibility Study for Additional Cross-border Links Stage 1 - Investigations on Traffic Demand. The study commenced in April 1997 and was completed in March 2000; and
- (b) Feasibility Study for Additional Cross-border Links Stage 2 - Investigations on Environmental, Ecology, Land Use Planning, Land Acquisition, Economic/Financial Viability and Preliminary Project Feasibility/Preliminary Design. The study commenced in November 1997 and was completed in March 2001.

Both of these studies (also known as "Crosslinks Further Study") were funded under **Subhead 700** "General other non-recurrent" but the Preliminary Project Feasibility Studies, which formed part of the Stage 2 study, were funded under **Subhead 6100TX** "Highway Works, studies and investigations for items in Category D of the Public Works Programme".

28. We upgraded **736TH** and **759TH** to Category B in September 1999 and October 2001 respectively.

29. We engaged consultants in September 1999 to undertake I&PD of DBL at an estimated cost of \$12.7 million in MOD prices under **Subhead 6100TX**, and engaged consultants in August 2001 to undertake I&P of SWC at a cost of \$14.5 million in MOD under **Subhead 6100TX**.

30. We estimated that the proposed detailed design and site investigations will create some 170 jobs comprising 105 professional/technical staff and 65 labourers, totalling 1 330 man-months.

Fast-track Programme

31. We envisage that SWC and DBL, if constructed timely and speedily, will benefit Hong Kong in the following ways -

- (a) provide a competitive edge in enhancing Hong Kong's existing infrastructure in roadwork, port and logistic facilities, and in the well established areas of insurance, financial, communication, and legal systems over our neighbouring countries;
- (b) allow Hong Kong to tap the full potential of the economic powerhouse of the Pearl River Delta with China's accession to the World Trade Organization (WTO); and
- (c) create more job opportunities and help stimulate and stabilise the economy of Hong Kong in the next few years.

32. We, therefore, propose an exceptionally fast-track programme for the SWC and DBL projects to quickly capitalise on the above advantages.

33. One of the key factors to make the exceptionally fast-track programme possible is to commence the detailed design of SWC and DBL in early 2002 pending completion of the EIA studies. We will work closely with the consultants to choose an alignment with appropriate structural forms and construction methods which are acceptable from the environmental point of view. Besides, we will fulfil the requirements under the EIA Ordinance and devise mitigation measures to minimize impacts on the environment.

Transport Bureau
January 2002

