

WILBUR SMITH ASSOCIATES LIMITED

Rev.	Description	Approved	Date

Route 3 Country Park Section
Analysis of the Impacts of the Proposed Route 10

MAJOR ROAD INFRASTRUCTURE PROPOSALS IN THE NEW TERRITORIES AND ON LANTAU ISLAND

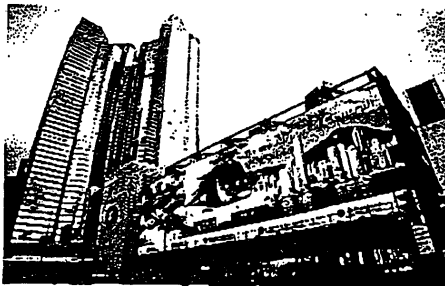
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THIRD COMPREHENSIVE TRANSPORT STUDY**FINAL REPORT*****Integrating Land-use, Transport and Environmental Planning***

viii. In developing transport infrastructure programmes, CTS-3 recommends an integrated approach taking into account land-use and environmental planning in order to minimise the need for travel. CTS-3 recommends that future population and employment centres should be placed in the vicinity of railway stations served by integrated pedestrian systems and other transport feeder services to maximise the usage of railways. Movements of commercial vehicles should also be planned to avoid concentrating traffic flows to some districts like the Central Business District.

According Priority to Railways

ix. Railway will form the backbone of the future passenger transport network and the development of rail stations should synchronise with land-use development. CTS-3 identifies the railway corridor travel demand and the Second Railway Development Study takes that on board to recommend a railway development plan which will connect the major population and employment centres across the territory. It is anticipated that railway will become the major passenger carrier, handling about 40% to 50% of the total public transport patronage by 2016. The development programme for railways will be examined under the Second Railway Development Study, which is due to be completed by the end of 1999.



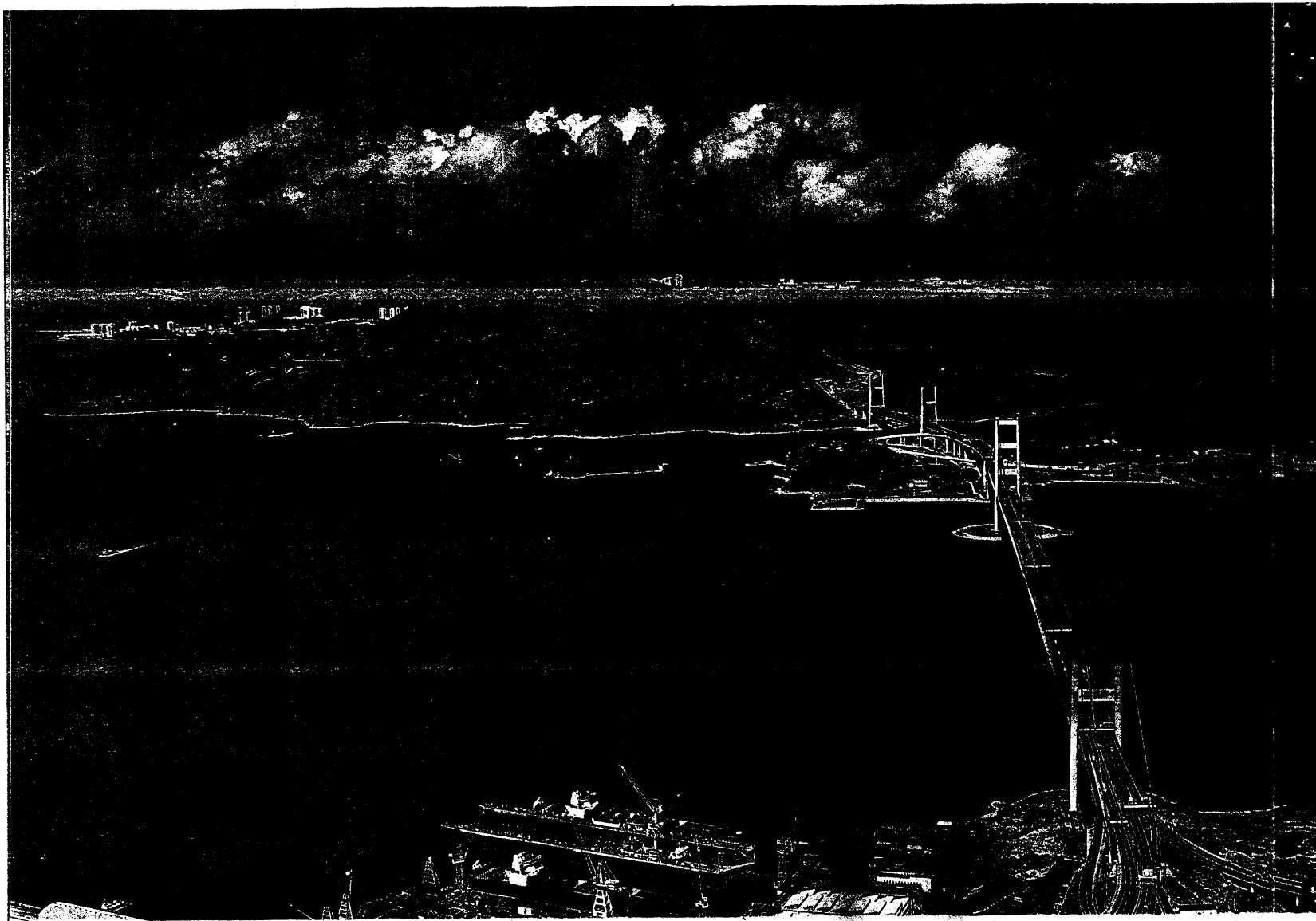
Public transport interchange at Hong Kong Station

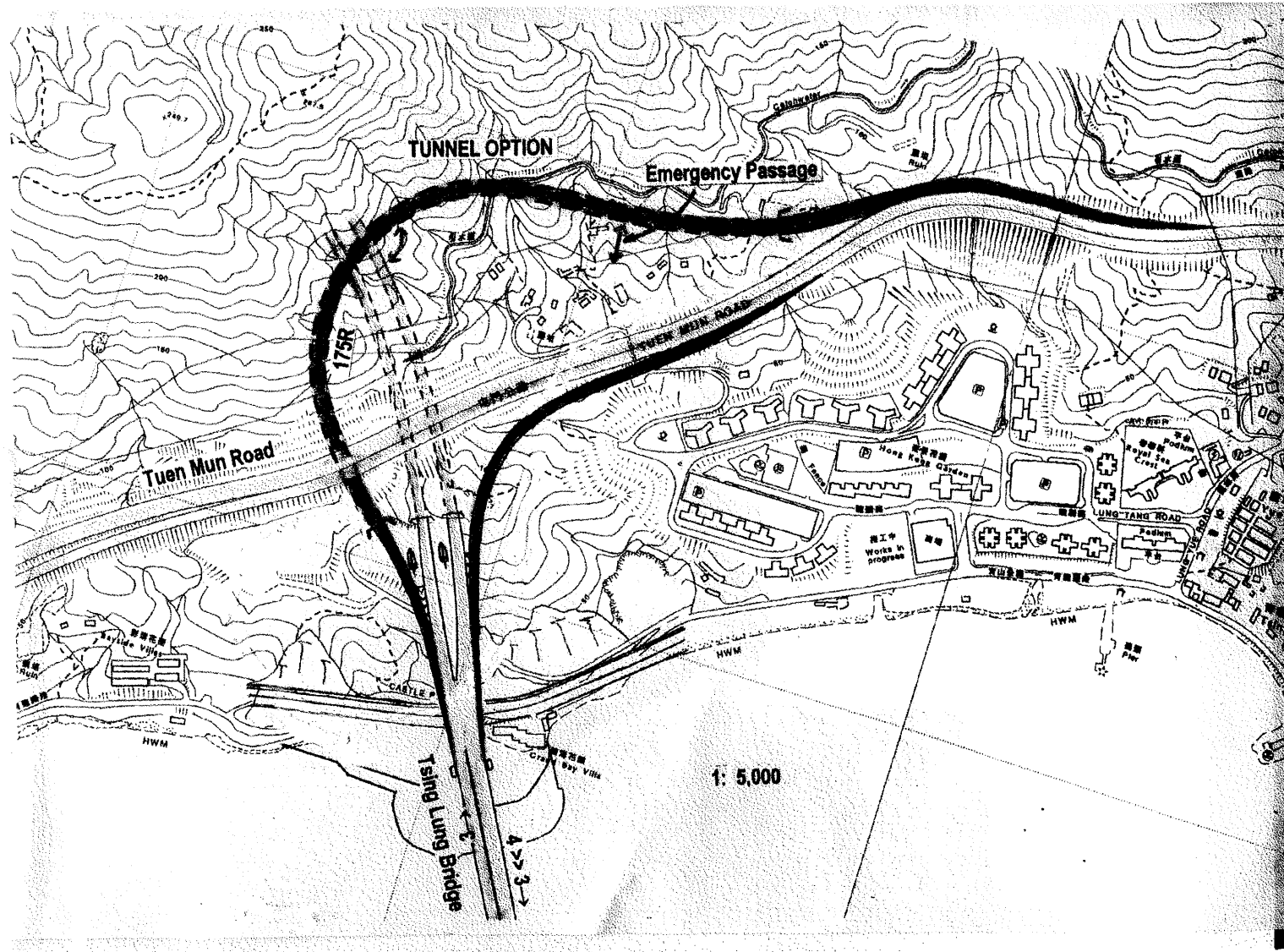
Co-ordinating and Enhancing Public Transport Services

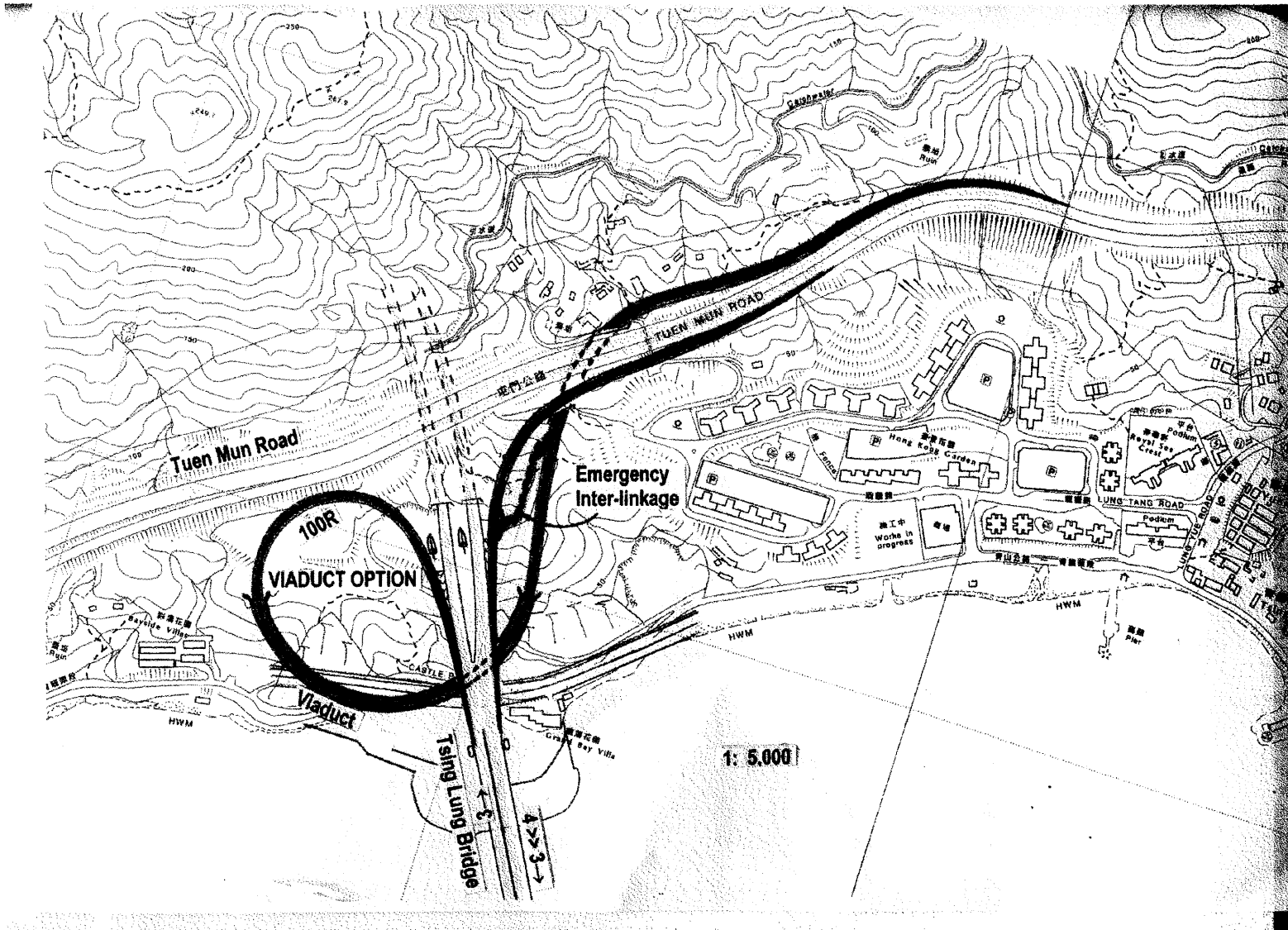
x. CTS-3 recommends that through better co-ordination and integration of various transport modes, the capacity and efficiency of public transport services could be maximised, priority given to off-street modes, and wasteful competition between different operators minimised. CTS-3 recommends to consider providing a number of major high standard public transport interchanges at strategic locations that should be served by at least one mass carrier such as Mass Transit Railway (MTR) or Kowloon-Canton Railway (KCR). Park and ride facilities should be provided at suitable locations to encourage a shift from private cars to public transport modes. The Study also recommends that quality of bus services be improved by expanding the air-conditioned bus fleet, that existing fare collection integration schemes be expanded to cover all major public transport services and that a passenger information system be developed to help passengers make an informed choice on route planning.

Providing Transport Infrastructure in a More Timely Fashion

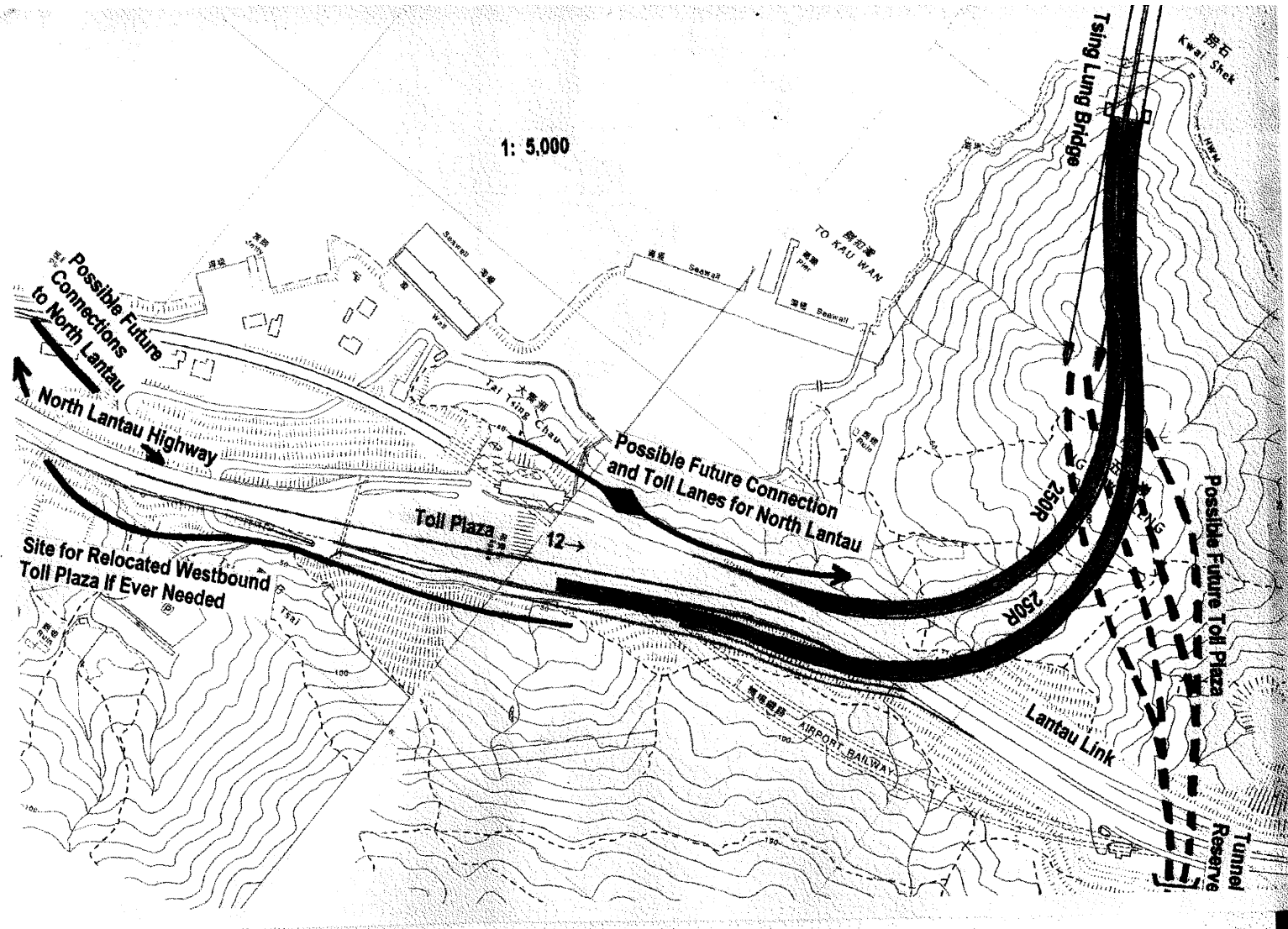
xi. Highways and railways perform different functions. While railways are extremely effective at moving large numbers of passengers between fixed centres, highways are essential for commercial vehicle operations for both freight movements and service industries as well as for road-based public transport and emergency services. While the railway network will be expanded quite extensively in the future, there remains a need to build some new highway infrastructure in strategic corridors to support economic growth. CTS-3 recommends a road-building programme for Hong Kong for the next 20 years. To ensure that the provision of infrastructure is robust enough to take into account future changes in developmental factors such as population, GDP growth, vehicle fleet sizes, etc., CTS-3 recommends consideration be given to developing a review system to ensure that the need, timing, scope and priorities of the relevant highway projects are re-assessed before implementation in light of the latest development. This will help the Government







1: 5,000



Possible Future Connections to North Lantau

North Lantau Highway

Site for Relocated Westbound Toll Plaza If Ever Needed

Toll Plaza 12

Possible Future Connection and Toll Lanes for North Lantau

Tsing Lung Bridge

Kwai Shek

TO KAU WAN

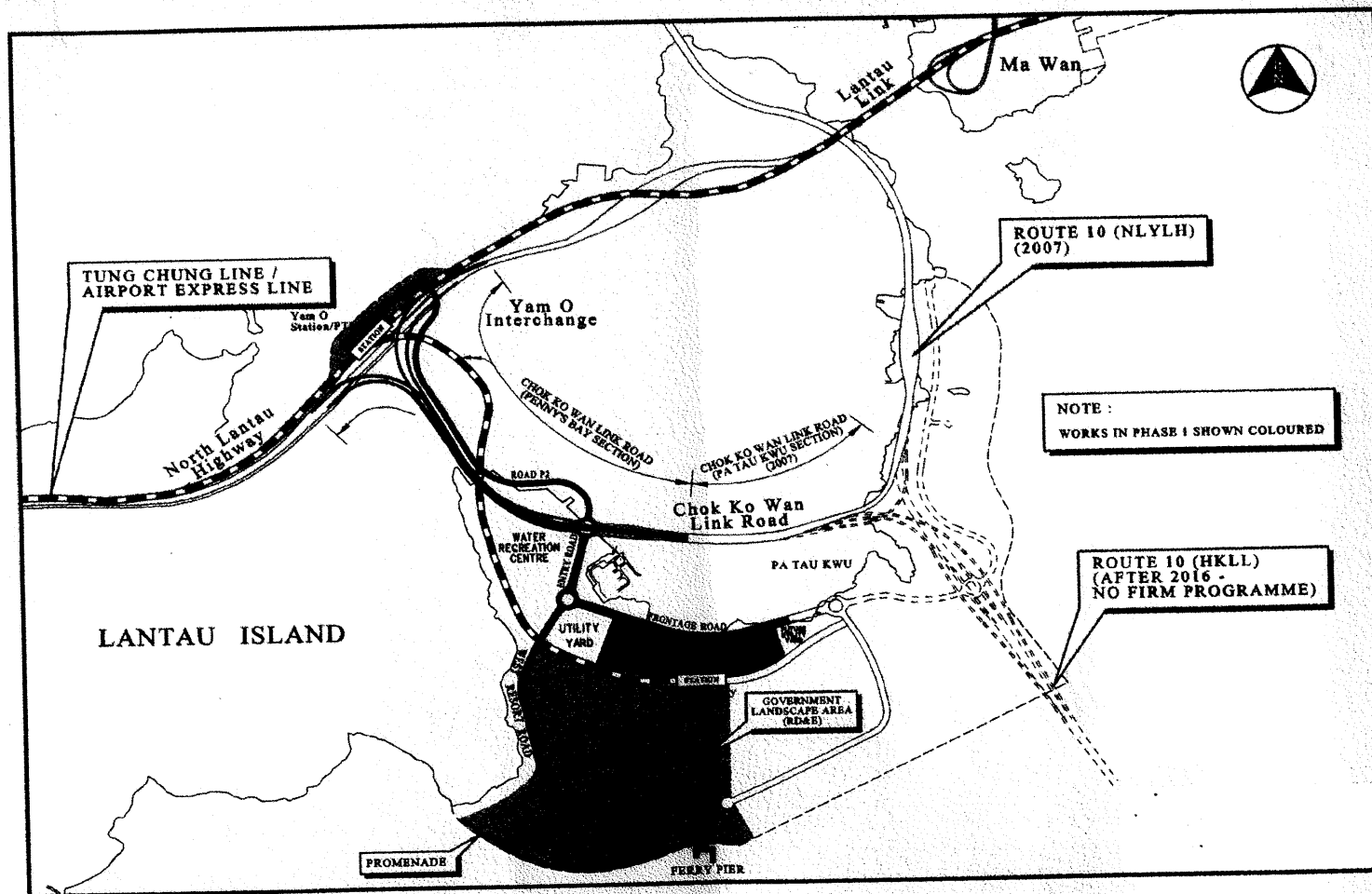
Tai Tai's Chau

AIRPORT RAILWAY

Lantau Link

Possible Future Toll Plaza

Tunnel Reserve



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A coalition of concerned individuals who cherish the beauty of Hong Kong's remaining natural shorelines

12th April 2001

簡介資料

全面檢討 10 號幹線

一 背景

原本建議興建估計耗資超過一千億港元的 10 號幹線具備以下功能：

1. 連接由蛇口經新界西北，大嶼山至港島。
2. 配合原本計劃在大嶼山興建新貨櫃碼頭。
3. 提供另一條進入赤蠟角機場的通道。

二 10 號幹線所經路段

10 號幹線包括以下部分：

1. 青洲填海區 -- 連接港島堅尼地城至青洲。
2. 青洲聯線 -- 連接由青洲經交椅洲以及貨櫃碼頭填海區至大嶼山。
3. 竹篙灣公路 -- 連接大嶼山貨櫃碼頭至青龍橋。
4. 青龍橋 -- 連接北大嶼山至掃管笏地帶。
5. 掃管笏地帶 -- 連接 10 號幹線隧道部分至青龍橋，並經小欖路往屯門公路。
6. 藍地隧道部分 -- 連接掃管笏一帶和元朗高速公路。

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三 爲何需要全面檢討

在原本規劃興建 10 號幹線以後，發生了以下多項重大事件，根據第三次全港運輸研究的建議原則，需要全面檢討 10 號幹線的構思。該研究建議：“建立一套檢討制度，根據最新情況發展，確保相關高速公路項目在推行前能夠重新衡量其需求，時間，規模以及優先程度。(附件 1)

1. 由於在竹篙灣發展迪士尼計劃，將延遲以至很可能取消在大嶼山興建貨櫃碼頭。
2. 取消青洲填海。
3. 屯門公路飽和。
4. 3 號幹線的剩餘流量。
5. 西鐵在 2003 年落成。
6. 港府最近宣佈以鐵路爲本的運輸政策。
7. 基建開支高企以及港府出現財政赤字。

四 10 號幹線的影響

1. 青洲填海 -- 擱置
2. 青洲連線 -- 擱置
3. 竹篙灣公路 -- 沒有需要

沒有貨櫃碼頭以及連接往港島的通道，此條高速公路並沒有具體目的地，而且毫無用處，因爲迪士尼公園將有本身的主要通道連接往北大嶼山高速公路。

現今應該考慮興建一條聯繫青龍大橋至北大嶼山高速公路的道路，通往機場的車輛不需要額外行走五公里，增加 5 至 10 分鐘的行車時間。

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4. 青龍大橋 -- 必須重新設計

此橋原本首要功能為令貨車可以由蛇口通往貨櫃碼頭，原本設計首要並非為連接青龍橋以及屯門公路，隨著貨櫃碼頭計劃很可能取消，其首要功能已經消失，原本的次功能便成為首要功能。

次功能為提供由大嶼山至赤蠟角機場的第二條通道，這由城市設計角度無可厚非，因為青馬大橋可能受到以下情況威脅：(1)意外，(2)恐怖主義以及(3)最終的交通飽和。

現有的設計是經過 10 號幹線由西面進入此大橋，交通因而會由市區經過各條道路進入屯門公路，再在掃管笏地帶後轉以登上大橋。

這樣便由必要全面檢討，以考慮能否在東面開闢通道，以由屯門公路直接進入大橋，無需額外行走 12 公里，浪費 10 至 15 分鐘的行車時間。

由於大橋造價估計高達一百億元，而且對香港未來 50 年的交通佈局具有重大影響，通向大橋的正確設計對本港利益至關重要。如何重新設計及佈局均可能在未來節省大量時間，人力以及財力。

5. 掃管笏地帶 -- 必須重新規劃

掃管笏地帶造成重大環境問題。自從去年刊登憲報以後，已經收到本地居民超過 500 份反對意見書。

而且該計劃包括一條新的“小欖通道”，連接由來自北面 10 號幹線進入屯門公路前往荃灣和市區，即時的影響是為增加本已擠塞的屯門公路負荷，造成不可接受的交通擠塞。

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6. 藍地隧道部分 -- 必須檢討

此一部分吸納來自現今 3 號幹線一帶的車輛，經過小欖通道進入屯門公路：(1)洪水橋(2)天水圍(3)屯門(4)元朗。

屯門公路原本設計已經差劣而危險，即時影響是為其帶來額外交通流量，令其更為擠塞。

3 號幹線原本為舒環屯門公路的負荷，令出元朗的車輛能夠直接駛出市區。此一段的 10 號幹線卻反其道而行。

3 號幹線原本預計於 2009 年飽和，現今由於使用量偏低，預計在 2016 年前都不會飽和。3 號幹線的最高流量為每天 14 萬架次，但現今每天只有 4 萬 5 千架次，因此預計未來許多年仍有充足容量。

五 急需檢討

港府建議投入 2400 億於基建項目，此一巨額款項必須有效運用。現在為急需檢討 10 號幹線的構思以及其所經路線的時候，尤其是青龍橋，以免進一步浪費時間以及納稅人的金錢。

上述 10 號幹線部份工程造价估計高達 350 億，在任何拍板項目以及動工前，進行最為謹慎的檢討。一旦任何路段的工程拍板動工，便會造成米已成炊，其他相關工程亦需上馬，造成連鎖錯誤。

在撥款興建此一存有高度疑問的基建項目前，必須就整個項目進行高層次的全面檢討。10 號幹線的整個概念必須三思而後行，港府必須向公眾證明，計劃興建的高速公路確有需要，而且是最佳解決方案。這是民意所在。

12th April 2001

Save Our Shorelines Society
**Room 601, Hoseinee House,
69 Wyndham Street, Hong Kong.
Tel. (852) 2893-0213 Fax (852) 2575-8430**

Briefing Paper

Major Review of Route 10

A. BACKGROUND

The original intended functions of the proposed Route 10 which is estimated to cost more than \$100 billion were as follows:-

- (1) To take traffic from Shekou via North West New Territories and Lantau Island to Hong Kong Island.
- (2) To serve the proposed Container Port on Lantau Island.
- (3) To provide an alternative access to the Chek Lap Kok Airport.

B. SECTIONS OF ROUTE 10

Route 10 originally consists of the following sections:-

- (1) **Green Island Reclamation** - linking Kennedy Town on Hong Kong Island to Green Island
- (2) **Green Island Link** - linking Green Island to Lantau via Kau Yi Chau and the Container Port Reclamation
- (3) **Chok Ko Wan Link Road** - linking the Container Port on Lantau Island to the Tsing Lung Bridge
- (4) **Tsing Lung Bridge** - linking North Lantau to the So Kwun Wat Complex
- (5) **So Kwun Wat Complex** - linking the Lam Tei Tunnel Section of Route 10 to the Tsing Lung Bridge and to Tuen Mun Road via the Siu Lam Link Road
- (6) **Lam Tei Tunnel Section** - linking the So Kwun Wat Complex to Yuen Long Highway

C. NEED FOR MAJOR REVIEW

Since the original planning of Route 10, the following major events have occurred thus requiring a major review of the whole concept of Route 10 in accordance with the Third Comprehensive Transport Study which recommended 'a review system to ensure that the need, timing, scope and priorities of the relevant highway projects are re-assessed before implementation in light of the latest development'.

- (1) Postponement and likely cancellation of the Container Port on Lantau as a result of the development of Disneyland at Penny's Bay
- (2) Cancellation of the Green Island Reclamation
- (3) Saturation of Tuen Mun Road
- (4) Spare capacity of Route 3
- (5) Completion of West Rail in 2003
- (6) Government's newly announced rail-based transport policy
- (7) High level of infrastructural spending and Government fiscal deficit

D. IMPACT ON ROUTE 10

- (1) **Green Island Reclamation** - Abandoned
- (2) **Green Island Link** - Abandoned
- (3) **Chok Ko Wan Link Road** (coloured Green) - No need

Without the Container Port and the link to Hong Kong Island, this coastal road which is a six-lane super highway will lead nowhere and will serve no purpose as Disneyland will have its own major road linking it to the North Lantau Highway.

A direct link between the Tsing Lung Bridge and the North Lantau Highway should be considered so that traffic going to the Airport need not do an unnecessary 5 kilometers loop adding an extra 5-10 minutes travelling time.

(4) **Tsing Lung Bridge** - Re-design necessary

This Bridge originally was primarily intended to take goods vehicles from Shekou to the Container Port and the original plan was not to provide any connection between Tsing Lung Bridge and Tuen Mun Road.

A secondary function was to provide a second link to Lantau Island and the Chek Lap Kok Airport as it is sensible town planning to provide for a second access to Lantau and the Airport because the Tsing Ma Bridge may be threatened by:- (a) Accident, (b) Terrorism and (c) Eventual traffic saturation.

However as the primary function has now disappeared with the likely cancellation of the Container Port, the secondary function namely, an alternative access to Lantau, has become the primary function.

The present design is that there is access to the Bridge only via Route 10 from the west. Therefore traffic from the urban areas has to go all the way to Tuen Mun and to turn back at the So Kwun Wat Complex to get on to the Bridge.

A major review is therefore necessary to consider whether there should be an eastern link so that traffic on Tuen Mun Road can have direct access on to the Bridge without doing an unnecessary 12 kilometers loop and adding 10-15 minutes travelling time.

As this Bridge is estimated to cost over \$10 billion and will have a major impact on the traffic pattern of Hong Kong for the next 50 years, a proper design of the access to the Bridge is vital in the interest of Hong Kong. Any re-design and re-alignment now will represent tremendous savings in time, effort and money in the future.

(5) **So Kwun Wat Complex** (coloured Blue) - Re-alignment necessary

The So Kwun Wat Complex is presenting a major environmental problem. Since its gazettal last year, more than 500 objections had been lodged by local residents.

Furthermore, it includes a new 'Siu Lam Link Road' which will take traffic from Route 10 coming from the north on to Tuen Mun Road toward Tsuen Wan and the urban areas. This will over-burden the already saturated Tuen Mun Road and will cause unacceptable traffic congestion.

(6) **Lam Tei Tunnel Section** (coloured Red) - Review necessary

This section will take traffic away from the following present catchment areas of Route 3 and divert it on to Tuen Mun Road via the Siu Lam Link Road:- (a) Hung Shui Kiu, (b) Tin Shui Wai, (c) Tuen Mun, and (d) Yuen Long.

The immediate effect is that the already congested and badly designed and dangerous Tuen Mun Road will be flooded by additional traffic creating unacceptable traffic congestion.

Route 3 was originally designed to relieve Tuen Mun Road so that traffic from the aforesaid catchment areas would make use of Route 3 to proceed to the urban areas. This Lam Tei Tunnel Section of Route 10 will have the effect of doing the opposite.

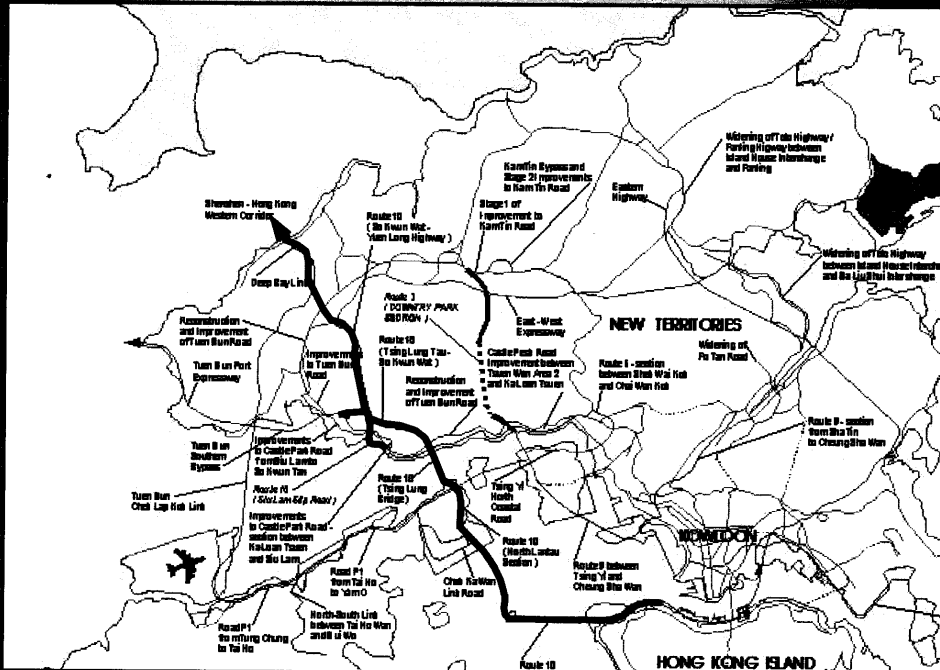
Route 3 which was originally expected to become saturated by 2009 is now found to be under-utilised and will not become saturated before 2016. Route 3 has an ultimate capacity of 140,000 vehicles per day, but the present daily traffic is only 45,000. There will therefore be ample spare capacity for many years to come.

E. URGENT REVIEW

The Government is proposing to spend \$240 billion on infrastructural projects. This astronomical sum must be spent wisely. The whole concept and alignment of Route 10 and, in particular, the Tsing Lung Bridge must be urgently reviewed before more taxpayers' money is spent.

The above sections of Route 10 are estimated to cost more than \$35 billion and should be most carefully reviewed before any section is committed and constructed. The great danger is that if any one section of Route 10 is committed and constructed, then the mistake will have to be compounded by building the other sections also.

A comprehensive review of Route 10 should be taken at a high level before any further funds are allocated to this highly questionable highway project. The whole concept of Route 10 must be subjected to careful scrutiny. Government must justify to the public that this highway is really necessary and is the best solution. The public expects and deserves no less.



Submitted to:

ROUTE 3 (CPS) COMPANY LIMITED

Submitted by:



**LETTERHEAD OF ENGINEERS PLANNERS ECONOMISTS Wilbur Smith
Associates**

REVIEW OF PROPOSED ROUTE 10

PREPARED FOR ROUTE 3 - COUNTRY PARK SECTION

EXECUTIVE SUMMARY

March 2001

WILBUR SMITH ASSOCIATES LIMITED

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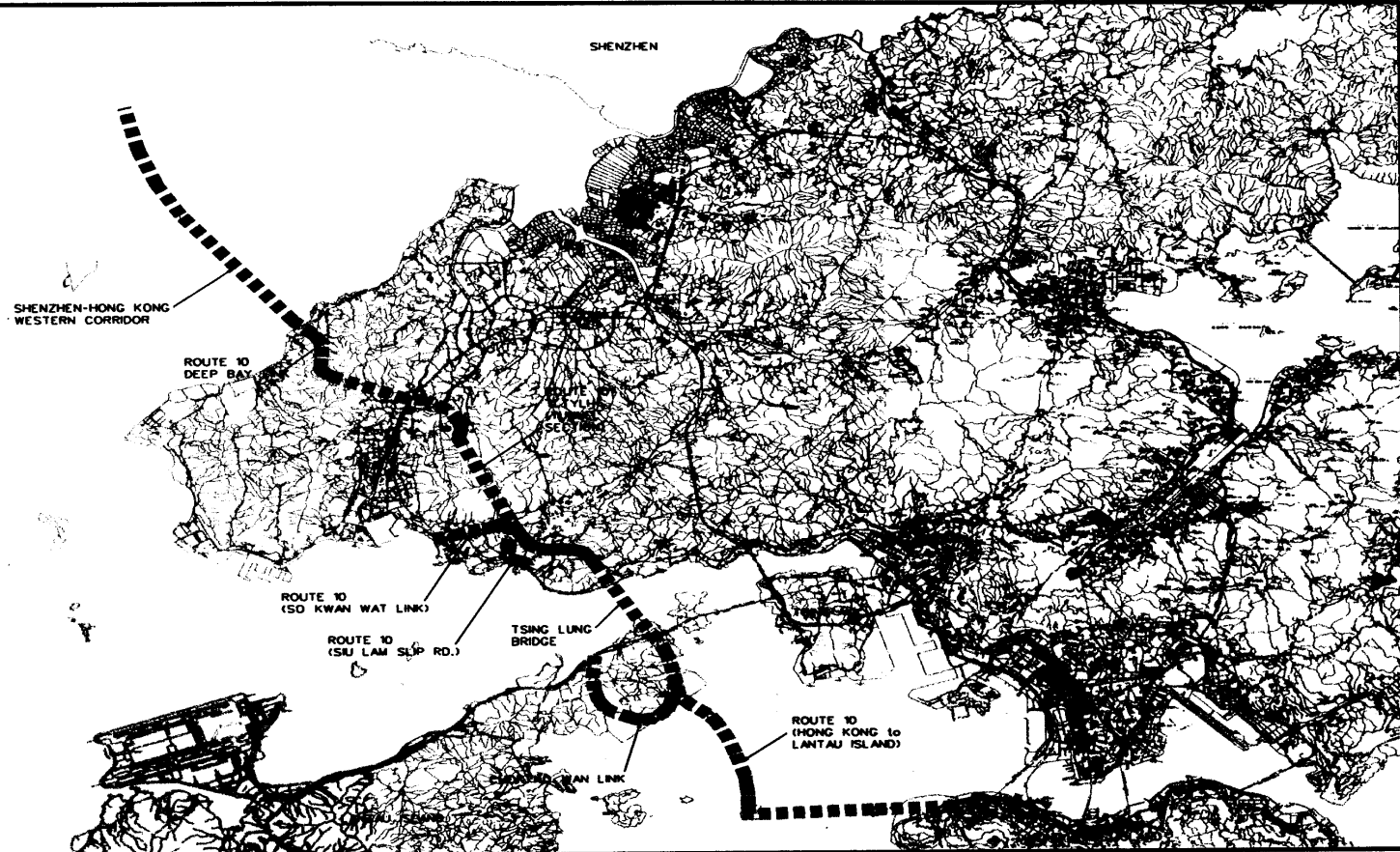
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EXECUTIVE SUMMARY

1. Introduction

- 1.1 The proposal to construct a high quality highway providing a direct route from Hong Kong Island via Lantau Island to Mainland China was first mooted in the nineteen eighties. In the mid nineteen nineties, this evolved into the specific proposal to construct Route 10. Feasibility studies and preliminary planning of the highway were initiated in the mid-nineties. The proposed highway, as originally planned, is illustrated in Figure 1. The proposed highway would extend from a new boundary crossing at Shekou to a new bridge connecting the Northwest New Territories to North Lantau and then to Hong Kong Island via a new bridge connecting from Lantau with a proposed reclamation at Green Island.
- 1.2 Continued population and employment growth in the New Territories obviously generates increased transport demands. The result of these increases has been increased traffic congestion on the major roadways in the New Territories, particularly the Yuen Long Highway/Tuen Mun Road corridor (Route 2) and the Tolo Highway (Route 1). The Country Park section of Route 3 (R3-CPS) was constructed to relieve conditions on the existing highways and opened to traffic in 1998. West Rail, currently under construction, is also intended to help meet the increasing transport needs of the rapidly growing New Territories communities.
- 1.3 However, traffic forecasts prepared prior to opening, indicated that Route 3 volumes would reach the highway's estimated saturation flow of 140,000 vehicles per day by 2009. This was forecast to occur despite the planned opening of West Rail in 2003. Under these circumstances, additional north-south road capacity would clearly be necessary before 2011.
- 1.4 Route 10 was intended to satisfy this requirement and to perform a number of strategic functions:
- Provide a direct connection from the new boundary crossing at Shekou to Hong Kong Island;
 - Provide a high quality route for goods vehicles travelling between Mainland China and Container Terminals 10 through 14 proposed on Lantau Island;
 - Improve connections between Hong Kong Island and Lantau, thereby relieving the Tsing Ma Bridge;
 - Improve access from the major urban centres of Kowloon and Hong Kong Island to Hong Kong International Airport; and
 - Relieve congestion on north-south through roads in the Kowloon Peninsula.
- 1.5 The desirability of the constructing Route 10 before 2011 was confirmed in the Third Comprehensive Transport Study (CTS-3) completed in 1999. This conclusion was based on travel demand forecasts resulting from a number of planning assumptions which would significantly increase north-south traffic demand in the Northwest New Territories. These assumptions included:



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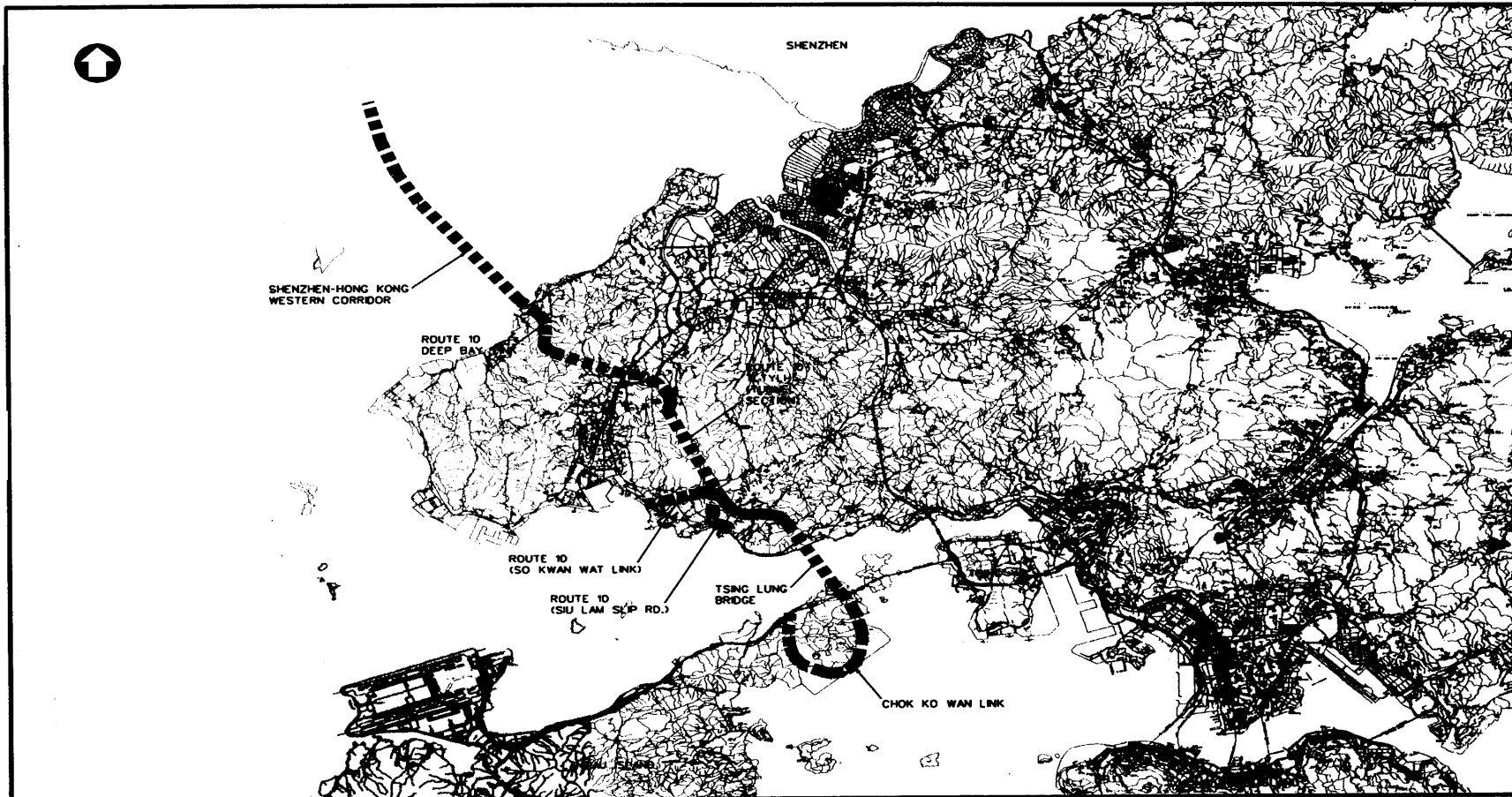
Review of Proposed Route 10
 ORIGINAL ROUTE 10 PLAN

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Figure No.	1	Rev.	

- Rapid population growth;
- Increased private vehicle ownership;
- Significant growth in the goods vehicle fleet;
- Construction of container terminals 10 through 14 on Lantau Island; and
- A four-fold increase in cross-boundary trips by 2016.

2. Revised Route 10 Proposal

- 2.1 Since completion of CTS-3, many of these assumptions have been revised or are of questionable validity. The Green Island reclamation and the Hong Kong Island to Lantau Link section of Route 10 (HKLL) have been postponed indefinitely. The revised proposal for Route 10 is illustrated in Figure 2. There is also considerable doubt that the proposed container terminals will ever be constructed on Lantau Island. Moreover, the Government has endorsed a policy of relying more heavily on rail transport than on road-based transport to meet growing travel demands.
- 2.2 These changes significantly affect the function, justification and rationale for the construction of Route 10. The postponement of the HKLL invalidates the objective of providing the direct Mainland to Hong Kong Island connection and of relieving congestion in Kowloon. In addition, the circuitous routing required for Kowloon and Hong Kong Island traffic to use the proposed Tsing Lung Bridge negates the objectives of improving connections from these areas to Lantau and the airport, and of providing relief to the Tsing Ma Bridge. Finally the likely relocation of the proposed container terminals significantly reduces the demand for improved connections to Lantau for heavy goods vehicles.
- 2.3 The strategic functions of the original proposal no longer apply. The functions of the revised proposal are limited to those provided by each individual component:
- The Deep Bay Link connects the Shenzhen Western Corridor (SWC) to the SAR major road network at Lam Tei;
 - The Tsing Lung Bridge connects the Northwest New Territories to Lantau Island; and
 - The Tsing Lung Tau to Yuen Long Highway section (the tunnel section) provides a bypass of the parallel section of Route 2, particularly for traffic between the Tsing Lung Bridge and the Deep Bay Link.
 - The So Kwun Wat Link provides access to the Tsing Lung Bridge from Tuen Mun Road close to So Kwun Tan
 - The Siu Lam Slip Road provides access from the tunnel section of Route 10 to Tuen Mun Road for eastbound traffic
 - The Chok Ko Wan Link connects the south end of the Tsing Lung Bridge with Penny's Bay, the previously proposed container terminals and the North Lantau Highway



No.	Description	Approved	Date

Review of Proposed Route 10
REVISED ROUTE 10 PLAN

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- 2.4 All three sections are planned for completion by 2007. However, the need for completion by this date is based on out-dated assumptions and it appears likely that construction of the tunnel section in particular may be delayed until later in the decade. In addition to changes in government policy regarding the HKLL and the container terminals, population and vehicle fleet forecasts are subject to downward revision.
- 2.5 The Transport Department continues to use CTS-3 population projections for travel demand forecasting. However, the Census and Statistics Department (CSD) recently published population growth forecasts for the next two decades at approximately half that currently endorsed by Transport Department for traffic forecasting. In addition, Transport Department forecasts of growth in private and goods vehicle fleets have been revised downward. Although, the forecasts of cross-boundary traffic have not been revised, the forecast four-fold increase by 2016 may prove to be optimistic. Moreover, traffic volumes on Route 3 are approximately 50% of those forecast before construction and recent forecasts show that the highway will be operating with significant surplus capacity in 2016.
- 2.6 Clearly, the need for the tunnel section, even by 2011, is questionable in light of the changed assumptions. It is also clear that without the tunnel section and with no container terminals on Lantau Island, the Tsing Lung Bridge serves little useful purpose. However, the reduced urgency allows government the opportunity to review the function, need, alignment and timing of the various components of the revised Route 10 Highway. A preliminary review of these issues is described in the remaining sections of this Executive Summary.

3. The Tsing Lung Bridge

- 3.1 Unless and until there is construction of container terminals on Lantau Island, the function of Tsing Lung Bridge will be limited to providing an additional access to existing and planned developments on Lantau Island. The need for an additional crossing to Lantau is not in doubt. Increasing congestion on the Tsing Ma Bridge and the need for an alternative route in case of emergency present a cogent argument for a new crossing. However, more than 90% of demand to existing and planned (non-port related) developments originate in Hong Kong Island, Kowloon or the Northeast New Territories. The proposed alignment and configuration of the Tsing Lung Bridge does not serve this demand.
- 3.2 Access to and from the proposed bridge would be via the Route 10 tunnel section or the proposed So Kwun Wat Link Road. For either connection, the routing to or from the majority of the SAR would be extremely circuitous and inconvenient. Traffic forced to use this route in an emergency would seriously overload Tuen Mun Road leading to excessive delays and inestimable increases in travel time with dire consequences for airport operations and Hong Kong's international reputation. Because of the limited accessibility of the road, recent traffic forecasts show that opening year non-container terminal traffic volumes would be less than 20% of the daily capacity rising to between 40% and 45% of daily capacity by 2016.

3.3 Based on the estimated \$12B construction cost and assuming annualised amortisation, maintenance and operating costs at approximately 10% of capital cost, each vehicle trip would cost the Hong Kong taxpayer the equivalent of approximately \$150 in 2007 declining with increased traffic volumes to approximately \$60 by 2016. In the event that population grows in line with the CSD forecasts rather than at the rate assumed in the Transport Department traffic studies, traffic volumes would be even lower than these forecasts, further eroding the economic viability of the project.

4. Deep Bay Link

4.1 The SWC makes "landfall" in the SAR at Ngau Hom Shek. A new link must be constructed from the south end of this crossing to the SAR's existing major road network to coincide with completion of the new crossing. Assuming that the Route 10 tunnel section and the Tsing Lung Bridge can also be completed at this time, and assuming port expansion on Lantau, the alignment as currently proposed is probably the most logical. However, with the doubtful status of the container terminal development, there appears to be no urgent need for the additional north-south capacity provided by the tunnel section. In the period between completion of the Deep Bay Link and construction of the tunnel section, the proposed Deep Bay Link alignment would discharge the majority of its traffic to the Yuen Long Highway/Tuen Mun Road corridor (Route 2). This would increase congestion on Route 2 while there would be considerable spare capacity on Route 3.

4.2 Much of the SWC traffic using Route 2 would be diverted from existing boundary crossings which are currently served by Routes 1 and 3. In addition, much of this traffic would be heavy goods vehicles transporting international freight from Hong Kong's container terminals. Until the location of additional container terminal facilities has been determined, it is not possible to determine the optimum alignment for the ultimate Deep Bay Link. In the meantime, it is probably appropriate to connect the new boundary crossing to the SAR network in a manner which has the least impact on currently congested facilities. Once the location of the container terminals has been finalised, the need for any additional roadways to serve goods vehicle container traffic demand may be determined.

5. Route 10 Tunnel Section and Siu Lam Slip Road

5.1 The function of the Route 10 tunnel section is two-fold:

- To relieve Route 2 between Lam Tei and Tsing Lung Tau by diverting through traffic to the new facility; and
- To provide a high quality connection, particularly for port-bound goods vehicles, from the SWC to the Tsing Lung Bridge.

5.2 The Siu Lam Slip Road connects the tunnel section to Tuen Mun Road at Siu Lam thereby allowing through traffic destined for the urban centres of Kowloon and Hong

Kong Island to use the tunnel section of Route 10.

5.3 WSA's recently completed traffic studies indicate that these facilities, together with the proposed alignments of the Deep Bay Link and Tsing Lung Bridge will reduce traffic volumes on Route 3 by up to 30% if the container terminals are constructed on Lantau Island. These proposed roadways will also have a deleterious effect on the patronage and economic viability of West Rail. However, because of the revised vehicle fleet size and the surplus capacity on Route 3, our forecasts show that the tunnel section will be operating at approximately 60% of its capacity in 2016 even if the population reaches the Transport Department figures and the Lantau container terminals are constructed.

6. Conclusions

6.1 The proposed Tsing Lung Bridge, as currently designed, does not provide a satisfactory alternative to the Tsing Ma Bridge.

6.2 The bridge will be underused at least up to 2016 based on the most recent planning assumptions. If, as forecast by the CSD, population growth is slower than assumed and if, as appears likely, the proposed container terminals are relocated, traffic volumes will be even lower than the recent WSA forecasts.

6.3 Capacity improvements elsewhere in the Northwest New Territories may be required to connect Shenzhen Western Crossing goods vehicles with the proposed container terminals. Expending funds now on roads of questionable value in advance of the decision on the location on container terminal location would be profligate.

6.4 The Deep Bay Link is required to connect the SWC to the Northwest New Territories road network. However, the alignment as proposed:

- Directs traffic away from the surplus capacity on Route 3;
- Increases traffic on the congested sections of Yuen Long Highway and Tuen Mun Road;
- Creates pressure for early construction of the tunnel section of Route 10, thereby eliminating the opportunity to consider alternative alignments once the location of the new container terminals has been determined; and
- May not be appropriate when the container terminal location has been determined.

6.5 The Route 10 tunnel section will have a deleterious effect on the economic viability of Route 3 and West Rail. The impact on West Rail is inconsistent with Government policy emphasising rail transport. Moreover, the need for the Route 10 tunnel section depends to a significant degree on the proposed Lantau Island container terminals which may never be constructed.

6.6 Because there will be sufficient spare capacity on Route 3 until at least 2016, and because of uncertainty over population growth and container terminal expansion, there

is no urgent need to finalise the design of the Deep Bay Link, the Tsing Lung Bridge and the tunnel section of Route 10. This need can be further postponed by construction of a direct link from the south end of the Shenzhen Western Corridor to Route 3, together with postponement of the Deep Bay Link.

- 6.7 This lack of urgency provides Government with "breathing space" and the opportunity to take a fresh look at the future transport needs of the Northwest New Territories in combination with a review of future container terminals, updated population forecasts and realistic projections of cross-boundary traffic. The key question which needs to be answered in this review is:

"Without the HKLL and without the proposed Lantau container terminals, what would be the most effective way to accommodate the increases in cross-boundary traffic, provide additional road capacity in the Northwest New Territories, provide an alternative access to Lantau Island, and serve the new container terminals?"

- 6.8 Given the problems discussed in this Executive Summary, it appears doubtful that a comprehensive study with no preconceived notions or vested interests, would recommend the existing Route 10 proposal. The identification of the most viable option surely depends to a significant degree on the container port location. However, alternatives for consideration could include:

- A new route from the Shenzhen Western Corridor west of the existing Tuen Mun Road. This would provide a western bypass of Tuen Mun and provide a direct route to the container port (if built west of Tuen Mun) for goods vehicles to/from the mainland. It could also be extended to form a new crossing to Chek Lap Kok for Airport goods vehicles, private vehicles and airport bus routes. This would be considerably more direct than the Tsing Lung Bridge for travel from almost all parts of the SAR.
- A new east-west crossing at the eastern end of Lantau Island to bring direct relief to forecast congestion on the Tsing Ma Bridge.

7. Recommendations

- 7.1 The Government should suspend all planning and design work on Route 10 pending a complete and comprehensive review of highway needs in the Northwest New Territories. This should include an analysis of the latest population forecasts from CSD and must consider the likely relocation of container terminals.
- 7.2 As part of this process, the Government should evaluate alternative locations and alignments for a second Lantau connection.
- 7.3 Land Use and Transport Planning decisions must be integrated.