

**For Discussion
18 March 2005**

Legislative Council Panel on Transport

Reconstruction and Improvement of Tuen Mun Road

PURPOSE

This paper informs Members of -

- (a) the findings of a feasibility study on widening the expressway section of Tuen Mun Road between Tsuen Wan to Sam Shing Hui (TMR) from dual-3 lane to dual 4-lane; and
- (b) the proposed short to medium term measures to improve the traffic conditions of TMR.

BACKGROUND

2. The Government's plan is to start the reconstruction and improvement to TMR in 2006 for completion in 2010-11. The estimated cost of the project is \$3,200 million. At their meeting on 23 April 2004 after considering LC Paper No. CB(1)1556/03-04(04), Members requested and the Administration agreed to carry out a study to review the feasibility and the practicability of widening the existing dual 3-lane TMR to dual 4-lane during the detailed design of the project. In June 2004, the Finance Committee approved funding for the necessary detailed design and site investigation works for the project.

STUDY FINDINGS

Engineering Constraints

3. According to the results of the study, widening TMR to dual 4-lane with a full-width hard shoulder is technically feasible, except for a 1.2 km long section at Ting Kau due to the presence of piers and foundations of the Tsing

- Encl 1** Long Highway and its slip roads (**Enclosure 1**). Moreover, a 300 m long section of TMR at Siu Lam Interchange can only be widened to dual 4-lane without a full-width hard shoulder due to the physical constraints posed by the interchange and adjacent Castle Peak Road and Hong Fai Road (**Enclosure 2**).
- Encl 2**

Land Implications

4. A dual 4-lane scheme will entail significant land implications in the So Kwun Wat and Sham Tseng areas. It is estimated that resumption of about 7,000 m² of private land is likely to be required, with a total resumption cost of about \$200 million. We envisage that there will be strong local objections to the proposed resumption, particularly as residential structures will have to be cleared.

- Encl 3** 5. Lands Department has advised us that, due to the large area and number of lots that will need to be resumed, considerable time would be required to clarify the private lot boundaries, in particular those affected by the widening of Sham Tseng Viaduct (**Enclosure 3**), as well as for the land resumption process. This will impact on the construction programme (see paragraph 8 below).

Noise Mitigation Measures

6. If we proceed to improve and reconstruct TMR without widening, there will be no increase in noise impact on the nearby noise sensitive receivers, as the capacity of the road will not be increased. Nevertheless, we will use the opportunity of the project to retrofit cantilevered noise barriers at seven locations along the road under the retrofit programme¹.

7. Widening TMR to dual 4-lane will increase traffic capacity and consequentially bring about additional noise impact. It is estimated that extensive noise mitigation measures, ranging from cantilevered noise barriers to full noise enclosures, will be required in order to meet the statutory requirements (**Enclosure 4**). These noise reduction structures, estimated to

¹ The retrofitting policy was endorsed by the Executive Council in November 2000 to address the noise impact of existing roads on residents. Under the policy, direct engineering measures, by way of retrofitting of barriers and enclosures, will be implemented where practicable at existing roads where the noise level exceeds the standard stipulated in the Hong Kong Planning Standards and Guidelines.

Encl 4

cost about \$1,300 million, will be required along about 64% of the length of the whole TMR.

Programme and Cost

Encl 5

8. The programme for widening TMR to dual 4-lane is expected to take at least 20 months longer than the planned reconstruction and improvement with dual 3-lane maintained (**Enclosure 5**) due to the need to undertake a full Environmental Impact Assessment study and to resolve land matters, including resumption of private land. We estimate that construction of a dual 4-lane scheme can only commence in end-2007 at the earliest and will take about 66 months to complete in mid-2013 (compared to commencing the works in end 2006 for completion in 2010-11 under the original plan to maintain TMR in dual 3-lane).

9. The cost of widening TMR to dual 4-lane is estimated to be about \$5,500 million, as compared to \$3,200 million for the reconstruction and improvement works in the present dual 3-lane configuration (i.e. 72% higher). This does not include the land resumption cost.

THE WAY FORWARD

10. While widening TMR to dual 4-lane with a full-width hard shoulder will be technically feasible except for the sections at Ting Kau and Siu Lam Interchange as mentioned in paragraph 3 above, there would be significant implications as outlined in paragraphs 4 to 9 above. Moreover, our assessment based on the latest forecast of the planning parameters is that the current dual 3-lane TMR will be able to cope with the anticipated traffic demand at least up to the medium term in the next decade. We will therefore proceed with our present plan to reconstruct and improve TMR, in which TMR will be maintained as dual 3-lane. Nevertheless, we will keep in view the need to widen TMR in the longer term in the overall context of the on-going Northwest New Territories Traffic and Infrastructure Review.

11. While we will not widen TMR under the project, the road will be upgraded to the prevailing expressway standard. As a result, the overall operation of the road will be improved. Moreover, we have implemented/will implement the short to medium term measures outlined in **Enclosure 6** to

- Encl 6** improve the traffic conditions of TMR. We are also planning an additional interchange to connect TMR with Castle Peak Road near Sam Shing Estate to provide an alternative access for the existing road traffic to and from TMR
- Encl 7** (**Enclosure 7**). The works are scheduled to start tentatively in early 2007 for completion by end 2008.

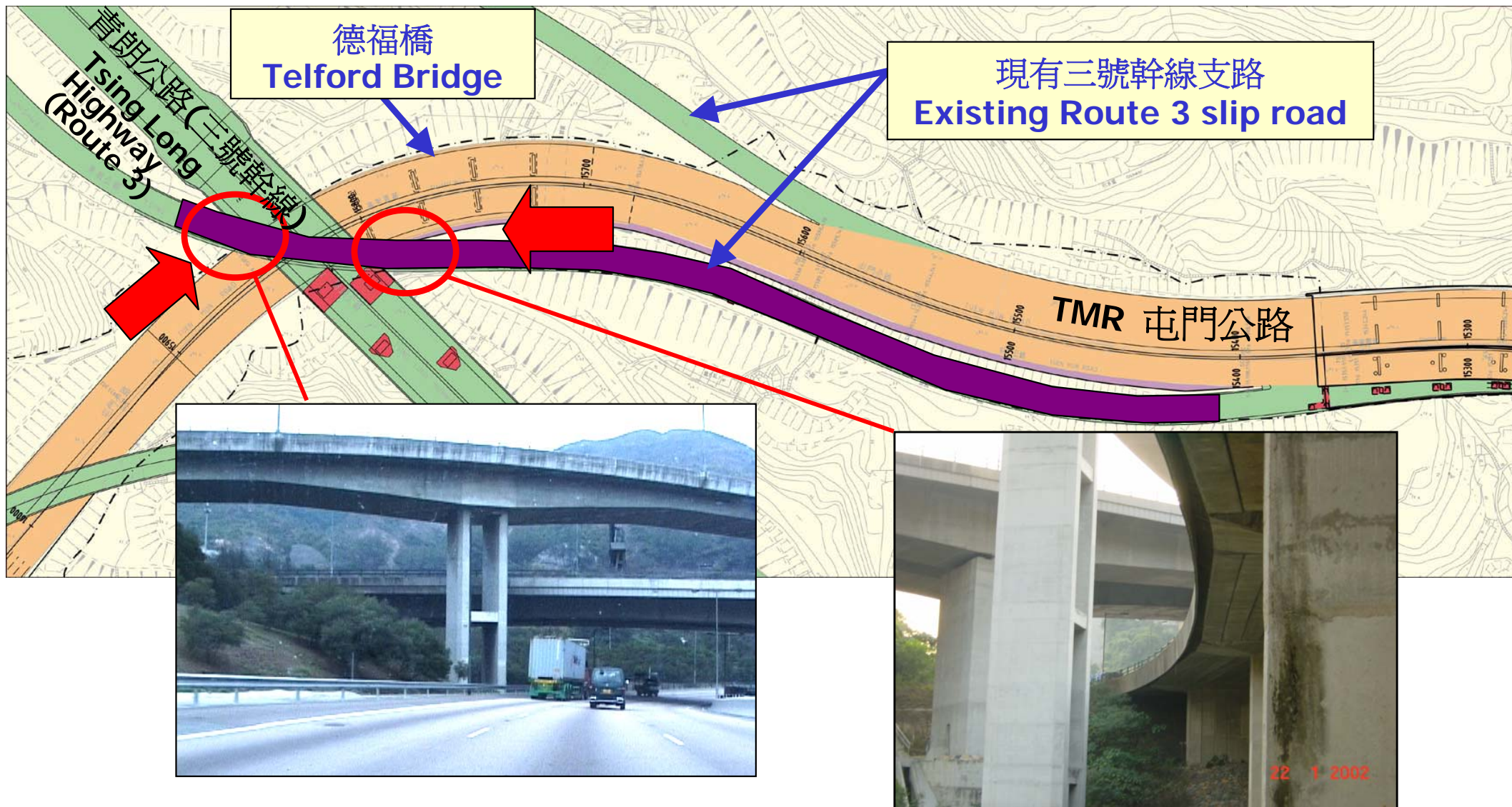
ADVICE SOUGHT

12. Members are invited to note the contents of this paper.

Environment, Transport and Works Bureau
March 2005

不可能擴闊至雙程四線的屯門公路汀九段

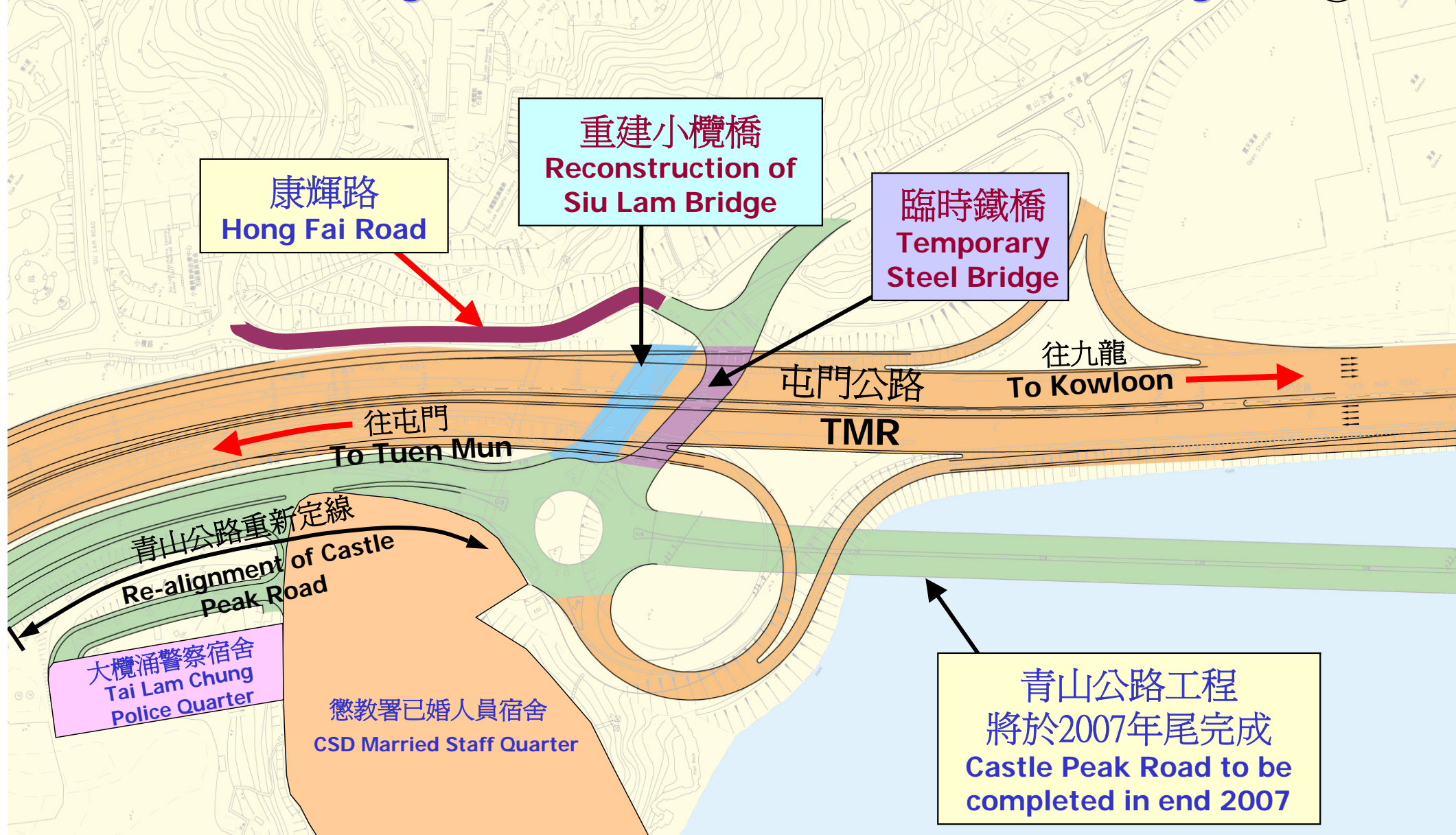
TMR Ting Kau Section not feasible to widen to dual 4-lane





位於小欖交匯處的屯門公路擴闊工程

Widening Tuen Mun Road at Siu Lam Interchange



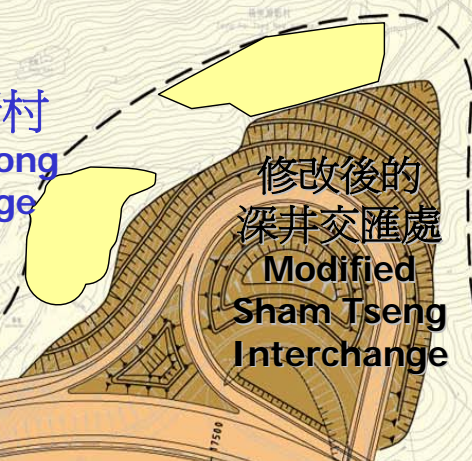
雙程四線計劃所需收回的土地 Land Resumption under Dual 4-lane Scheme



深井舊村
Sham Tseng kau Village



清快塘新村
Tsing Fai Tong
New Village



深井村
Sham Tseng Village



修改後的
深井交匯處
Modified
Sham Tseng
Interchange



臨時遊樂場
Temporary Playground



臨時街市
Temporary Market

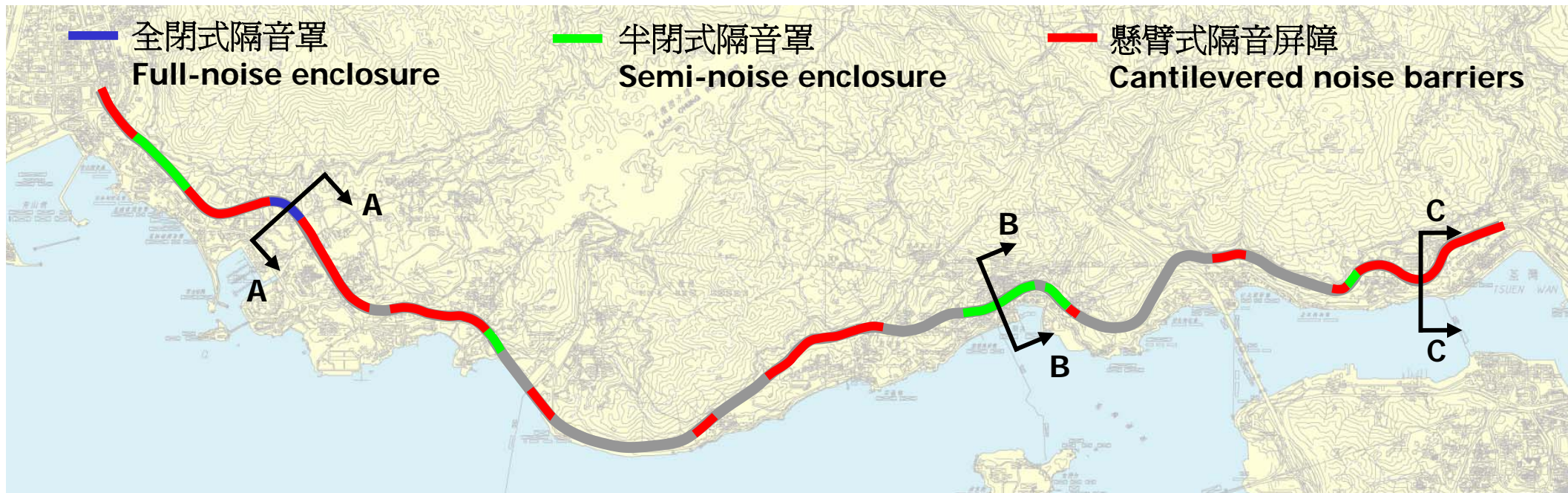


寺廟
Temple



雙程四線屯門公路所需之噪音紓緩措施

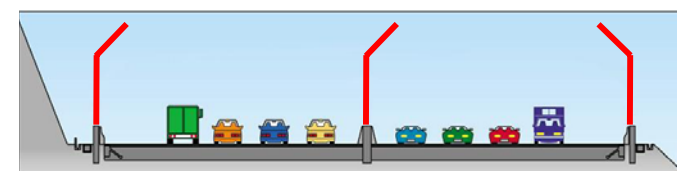
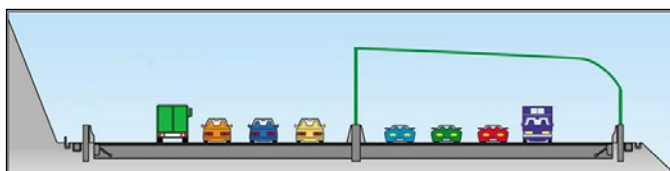
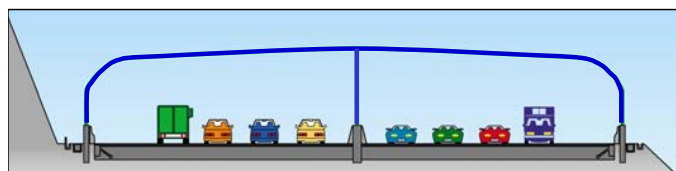
Noise Mitigation Measures required for a Dual 4-lane Scheme Tuen Mun Road



全閉式隔音罩
Full-noise enclosure

半閉式隔音罩
Semi-noise enclosure

懸臂式隔音屏障
Cantilevered noise barriers



切面 A-A
全閉式隔音罩
Section A-A

Full-noise Enclosure

切面 B-B
半閉式隔音罩
Section B-B

Semi-noise Enclosure

切面 C-C
懸臂式隔音屏障
Section C-C

Cantilevered
Noise Barrier

施工計劃和價格 Programme and Cost



(A) 雙程三線行車計劃 (\$32 億)
Dual 3-lane Proposal (\$3,200 M)

段 Section	建造時間 (月) Construction Time (Months)	2006	2007	2008	2009	2010	2011	2012	2013	
1.油柑頭 Yau Kom Tau	53		█							
2.大欖 Tai Lam	54		█							
3.三聖墟 Sam Shing Hui	46	█								

(B) 雙程四線行車計劃 (\$55 億)
Dual 4-lane Proposal (\$5,500 M)

段 Section	建造時間(月) Construction Time (Months)	2006	2007	2008	2009	2010	2011	2012	2013	
1. 油柑頭 Yau Kom Tau	57			█						
2. 大欖 Tai Lam	60			█						
3. 三聖墟 Sam Shing Hui	51		█							

**Short to Medium Term Measures to Improve
the Traffic Conditions of Tuen Mun Road (TMR)**

Improvements to the Town Centre Section (TCS) of TMR

(1) Lengthening of Bus Bays alongside TCS of TMR

Scope

The works, completed in February 2005, involved lengthening the existing bus bay on TMR southbound near Tseng Choi Street.

Traffic Benefits

2. The bus bay near Tseng Choi Street could accommodate at most three buses each time in the past before the improvement works. Due to the limited capacity of this bus bay, buses very often had to queue up when loading/unloading passengers, thus blocking traffic along TMR – TCS. Lengthening this bus bay by 13 metres has increased its capacity, which in turn has reduced obstruction to the main road traffic.

(2) Improvement of Merging Lane from Tuen Hi Road into TMR – TCS

Scope

3. The improvement works will lengthen the merging length and improve the road markings to facilitate a better traffic merging arrangement from Tuen Hi Road to TMR northbound. Works are scheduled to commence in mid 2005 for completion by end 2005.

Traffic Benefits

4. Tuen Hi Road is a service road parallel to TMR with a short merging lane to TMR northbound. As a result of the difficulties in merging into TMR, traffic queues often develop along Tuen Hi Road, especially during peak hours, thus blocking vehicles from TMR entering this service road for

loading/unloading activities. This blockage further leads to tailing back of vehicles to TMR – TCS, thus causing congestion. The proposed improvement works will improve both the local traffic and road safety conditions.

(3) Widening of TMR at Tsing Tin Road Interchange Section

Scope

5. The improvement works will widen TMR at Tsing Tin Road Interchange Section to a dual 3-lane carriageway. The feasibility study of the works is underway. The improvement works are scheduled to start tentatively in early 2007 for completion in mid 2008.

Traffic Benefits

6. The existing TMR at the Tsing Tin Road Interchange Section is a dual 2-lane carriageway with a v/c ratio of about 1.04. This is one of the most critical sections in the TMR – TCS. It is forecast that after the commissioning of the Hong Kong – Shenzhen Western Corridor (HK-SWC) and Deep Bay Link (DBL), the v/c ratio at this section will increase to 1.18. After widening this section of TMR to a dual 3-lane carriageway, the v/c ratio at this section is expected to be reduced to below 1. A layout plan of the proposed works is at Annex to this Enclosure.

(4) Modification of Directional Signs

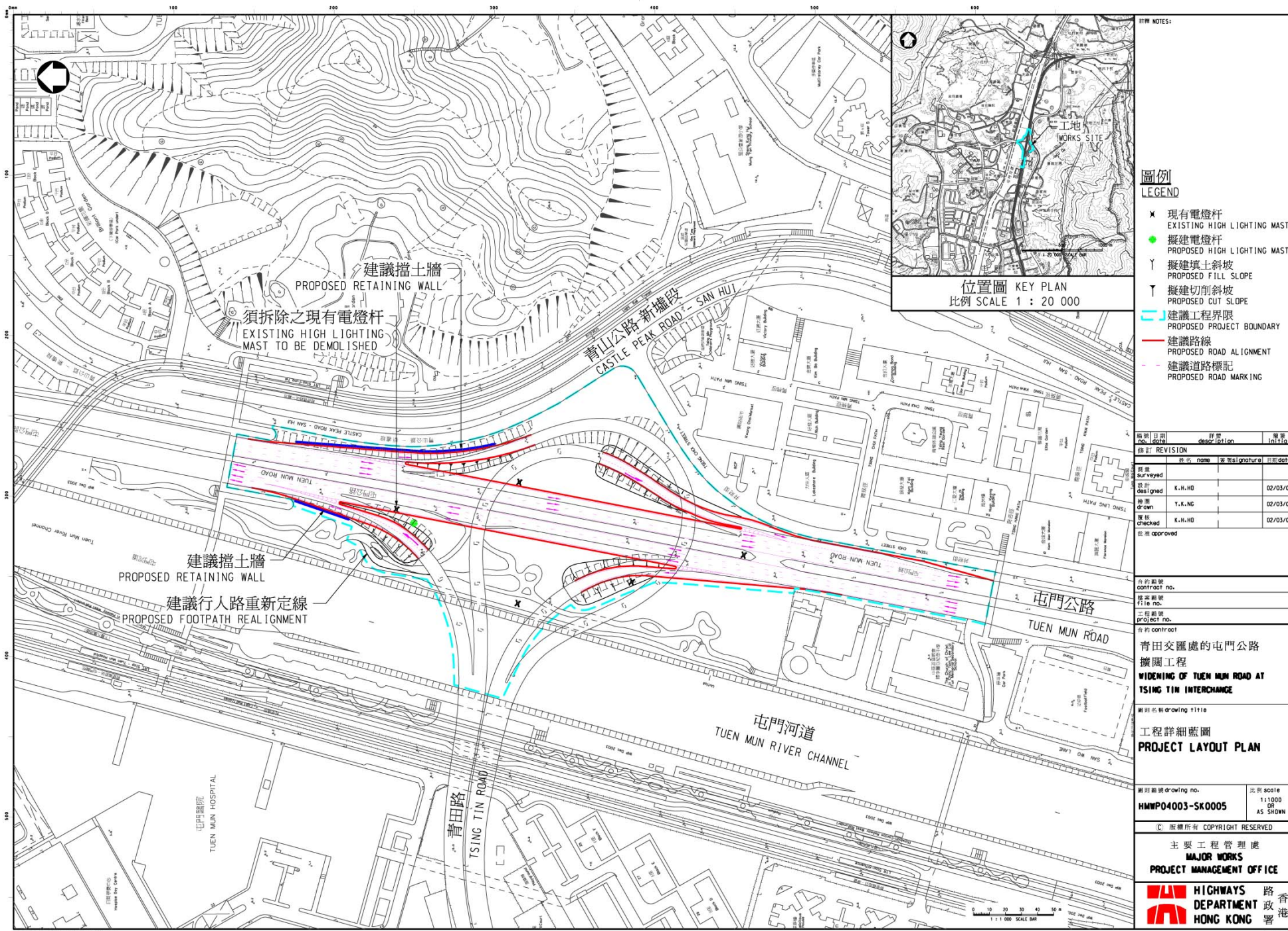
Scope

7. We will modify some of the existing directional signs in the Tuen Mun district and to provide additional directional signs within the town centre to encourage motorists in the Tuen Mun New Town to use parallel routes in lieu of TMR – TCS for their journeys to Tsuen Wan and Kowloon. The modification works are scheduled to be completed by the end of 2005.

Traffic Benefits

8. Ming Kum Road, Tsing Wun Road and Wong Chu Road are parallel routes to TMR – TCS. Diversion of traffic from TMR – TCS heading

Tsuen Wan and Kowloon to these parallel routes, which join TMR near Sam Shing Estate, will reduce traffic loading at TMR – TCS.



註釋 NOTES:

圖例 LEGEND

- X 現有電燈杆 EXISTING HIGH LIGHTING MAST
- 擬建電燈杆 PROPOSED HIGH LIGHTING MAST
- Y 擬建填土斜坡 PROPOSED FILL SLOPE
- Y 擬建切削斜坡 PROPOSED CUT SLOPE
- 建議工程界限 PROPOSED PROJECT BOUNDARY
- 建議路線 PROPOSED ROAD ALIGNMENT
- 建議道路標記 PROPOSED ROAD MARKING

編號 NO.	日期 DATE	詳情 DESCRIPTION	簽署 INITIAL
修訂 REVISION			
經量 SURVEYED			
設計 DESIGNED		K.H.HO	02/03/05
繪圖 DRAWN		T.K.KO	02/03/05
覆核 CHECKED		K.H.HO	02/03/05
批准 APPROVED			

合約編號 CONTRACT NO.
 繪圖編號 FILE NO.
 工程編號 PROJECT NO.

合約 CONTRACT
 青田交匯處的屯門公路
 擴闊工程
**WIDENING OF TUEN MUN ROAD AT
 TSING TIN INTERCHANGE**

圖則名稱 DRAWING TITLE
**工程詳細藍圖
 PROJECT LAYOUT PLAN**

圖則編號 DRAWING NO.
HMWP04003-SK0005

比例 SCALE
 1:1000
 OR
 AS SHOWN

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主要工程管理處
**MAJOR WORKS
 PROJECT MANAGEMENT OFFICE**

HIGHWAYS DEPARTMENT 路政署
 HONG KONG 香港

連接屯門公路及青山公路近三聖邨的新交匯處

Additional Interchange connecting TMR & CPR near Sam Shing Estate

