

**For discussion
on 19 March 2021**

Legislative Council Panel on Transport

**Route 11 (section between Yuen Long and North Lantau) –
Investigation**

PURPOSE

This paper seeks Members' views on the following funding proposal

–

- (a) the upgrading of part of **884TH** "Route 11 (section between Yuen Long and North Lantau)" to Category A as **885TH** "Route 11 (section between Yuen Long and North Lantau) – investigation" at an estimated cost of \$319.0 million in money-of-the-day (MOD) prices; and
- (b) the retention of the remainder of **884TH** in Category B.

PROJECT SCOPE AND NATURE

2. Subject to the findings of the investigation study, the scope of **884TH** comprises –

- (a) construction of a dual three-lane Lam Tei Tunnel of approximately 4.2 kilometres (km) long connecting Lam Tei and So Kwun Wat, which connects to Kong Sham Western Highway and Yuen Long Highway at Lam Tei, and Tai Lam Chung Tunnel and So Kwun Wat Link Road at So Kwun Wat;
- (b) construction of a dual four-lane Tai Lam Chung Tunnel of approximately 1.7 km long connecting So Kwun Wat and Tsing Lung Tau, which connects to Lam Tei Tunnel and So Kwun Wat Link Road at So Kwun Wat, and Tsing Lung Bridge and Tuen Mun Road at Tsing Lung Tau;
- (c) construction of a dual three-lane Tsing Lung Bridge of approximately 1.4 km long connecting Tsing Lung Tau and North

Lantau, which connects to Tai Lam Chung Tunnel and Tuen Mun Road at Tsing Lung Tau, and Lantau Link, North Lantau Highway and the proposed Tsing Yi-Lantau Link at North Lantau;

- (d) construction of a dual two-lane So Kwun Wat Link Road of approximately 2.9 km long, in which about 1.3 km is in the form of a tunnel, connecting Lam Tei Tunnel and Tai Lam Chung Tunnel with Tuen Mun Road near So Kwun Wat;
- (e) construction of the connecting roads, interchanges and slip roads for the above road sections; and
- (f) the associated building, civil, structural, electrical and mechanical, environmental and other related works, establishment of traffic control and surveillance system, etc.

3. The part of **884TH** (i.e. **885TH**) proposed to be upgraded to Category A comprises –

- (a) an investigation study on Route 11 (section between Yuen Long and North Lantau) (Route 11), comprising –
 - (i) a review of the findings of previous studies and examination of alignments and design options; and
 - (ii) assessments of the impacts on the environment, traffic, heritage, land and other related aspects;
- (b) preliminary design of Route 11; and
- (c) associated site investigations and works supervision.

4. We plan to commence the proposed investigation study upon obtaining funding approval from the Finance Committee (FC) of the Legislative Council for target completion in around 54 months.

JUSTIFICATION

5. To meet the traffic demand arising from the progressive development in the North West New Territory (NWNT) (including the Hung Shui Kiu/Ha Tsuen New Development Area (NDA) and the Yuen Long South Development), the Government commenced a feasibility study on Route 11

in May 2018 to comprehensively assess the traffic benefits, engineering technical feasibility, land acquisition, preliminary environmental impact and project implementation programme, etc. of the various alignment options. The feasibility study established the preliminary alignment of Route 11, and confirmed its benefits and engineering feasibility. It also established the need for constructing a Tsing Yi-Lantau Link and widening a section of Yuen Long Highway between Lam Tei and Tong Yan San Tsuen, and explored the associated transport proposals.

6. Based on the findings of the feasibility study on Route 11, the Government is planning to implement a group of major roads comprising Route 11 (which includes Lam Tei Tunnel, Tai Lam Chung Tunnel, Tsing Lung Bridge and So Kwun Wat Link Road), Tsing Yi-Lantau Link, and the widening of Yuen Long Highway (section between Lam Tei and Tong Yan San Tsuen). The entire group of strategic roads connecting the NWNT to the urban areas can bring overall traffic benefits. Apart from improving the traffic conditions of major roads connecting the NWNT with the urban areas (including Tuen Mun Road, Tai Lam Tunnel and Ting Kau Bridge), it can also, by improving road infrastructure, further strengthen the connectivity of major roads and enhance the capacity of interchanges, strengthen the connectivity of developments in the vicinity, and unleash the development potential of the relevant areas effectively. A layout plan showing the preliminary alignment of the proposed group of major roads is at **Enclosure 1**.

7. The proposed major roads will each serve a unique function and will balance the overall layout of the major routes plying between the NWNT and the urban area. Lam Tei Tunnel will connect to Kong Sham Western Highway and Yuen Long Highway via the proposed Lam Tei Quarry Interchange, which is in the middle between Yuen Long and Tuen Mun districts, and is roughly equidistant from the centres of Hung Shui Kiu/Ha Tsuen NDA and Yuen Long South Development. This alignment can benefit the residents of Yuen Long and Tuen Mun, and can reduce the projected traffic loadings of Tuen Mun Road and Tai Lam Tunnel. So Kwun Wat Link Road and Tai Lam Chung Tunnel will serve as an alternative route for the section of Tuen Mun Road between So Kwun Wat and Tsing Lung Tau, and can provide reserve traffic capacity for future developments in the relevant areas. Tsing Lung Bridge and Tsing Yi-Lantau Link, which are cross-harbour bridges, will form an express trunk road to the urban area via Lantau and Tsing Yi, bypassing the relatively busy roads such as Ting Kau Bridge.

8. In parallel, with a view to further enhancing the connection between Route 11 and the development areas in Yuen Long South etc., the Highways

Department plans to widen a section of Yuen Long Highway adjacent to the proposed Lam Tei Quarry Interchange, preliminarily set between the proposed Lam Tei Quarry Interchange and Tong Yan San Tsuen Interchange. Together with the road and interchange improvement works associated with the development areas in Yuen Long South etc. at Tin Shui Wai West Interchange, Tong Yan San Tsuen Interchange, Shap Pat Heung Interchange and Pok Oi Interchange, the entire road network in the relevant areas could be enhanced comprehensively, and the local traffic in Yuen Long areas will not be affected by cross-district traffic.

9. The proposed investigation study of Route 11 (the Study) is to determine the alignment, overall layout, preliminary design proposal and land requirements of Route 11. We will carry out the relevant impact assessments in the Study, including an environmental impact assessment (EIA) and matters relating to the preservation of cultural heritage, with a view to identifying the impacts and the required mitigation measures. We will also carry out site investigation works to gather geotechnical and geological information for related design works.

10. Route 11 is closely related to Tsing Yi-Lantau Link and the widening of Yuen Long Highway (section between Lam Tei and Tong Yan San Tsuen). To enable timely implementation of Tsing Yi-Lantau Link and the widening of Yuen Long Highway (section between Lam Tei and Tong Yan San Tsuen), the Highways Department will commence the public works procedures for Category D items under block allocation **Head 706 Subhead 6100TX** to commission an engineering study of Tsing Yi-Lantau Link and an investigation study of the widening of Yuen Long Highway (section between Lam Tei and Tong Yan San Tsuen) in parallel, and proceed with the subsequent stages of the projects at appropriate times based on the findings of these studies, with a target to commissioning the entire group of major roads (including Route 11 (section between Yuen Long and North Lantau), Tsing Yi-Lantau Link and the widening of Yuen Long Highway (section between Lam Tei and Tong Yan San Tsuen)) not later than 2036.

Benefits

11. Based on the forecast of the traffic impact assessment¹ conducted under the feasibility study on Route 11, in the absence of Route 11 and the associated major roads, the volume/capacity (v/c) ratio² for Tuen Mun Road

¹ The traffic impact assessment adopted the 2016-based Territorial Population and Employment Data Matrix compiled by the Planning Department in 2019.

² A volume to capacity (v/c) ratio is used to reflect the traffic situation during peak hours. A v/c ratio less than 1.0 means the situation is acceptable. A v/c ratio above

(Siu Lam Section and Sham Tseng Section) and Tai Lam Tunnel during morning peak hours in 2036 will reach 1.2. The v/c ratio for Ting Kau Bridge and Lantau Link during morning peak hours in 2036 will reach 1.1, and is expected to increase gradually.

12. Route 11 and the associated major roads, if commissioned not later than 2036, can provide an alternative route with reserve capacity connecting the NWNT and the urban areas. We anticipate that the v/c ratios for Tuen Mun Road (Siu Lam Section), Tai Lam Tunnel, Ting Kau Bridge and Lantau Link during morning peak hours in 2036 will be reduced to 1.0 or below. The v/c ratio for the lanes other than the bus-only lane on Tuen Mun Road (Sham Tseng Section) will be reduced to 1.1, while that for the bus-only lane on Tuen Mun Road (Sham Tseng Section) will be below 1.0, indicating smooth traffics on the bus-only lane. The v/c ratios for the major routes connecting the NWNT with the urban areas during morning peak hours in 2036 are shown in **Enclosure 2**.

13. With the improved traffic conditions of major roads between the NWNT and the urban areas (including Tuen Mun Road, Tai Lam Tunnel and Ting Kau Bridge), a more direct connection brought about by Route 11 and associated major roads to residents in the NWNT, and shorter travelling distance for some trips, we anticipate that the travelling time from the NWNT to the urban areas can be reduced by about 10 minutes³ in 2036.

14. Route 11 and Tsing Yi-Lantau Link will provide an alternative route to Tai Lam Tunnel and Tuen Mun Road for commuting between the NWNT and the urban areas, and will strengthen the resilience to traffic incidents of the NWNT traffic network. In the event that there are major emergencies on major roads connecting the NWNT and the urban areas (such as Tuen Mun Road, Tai Lam Tunnel or Ting Kau Bridge), with the various accesses and connections to major roads in the NWNT, Route 11 and Tsing Yi-Lantau Link could serve as a reliable alternative route for diverting the traffic towards urban areas. Besides, Route 11 and Tsing Yi-Lantau Link will also serve as an additional strategic route connecting the NWNT and Lantau, strengthening the resilience to traffic incidents of the road network connecting to the airport.

1.0 indicates the onset of mild congestion and a v/c ratio between 1.0 and 1.2 indicates a manageable degree of congestion. A v/c ratio higher than 1.2 means the congestion is getting serious.

³ The possible reduction in travelling time depends on the following factors: starting point in the NWNT, destination in the urban area, original travelling route in the absence of Route 11 and associated major roads, and the time of day for the trips.

FINANCIAL IMPLICATIONS

15. We estimate the capital cost of the Study to be \$319.0 million in MOD prices, which includes the expenditure on the associated site investigation works. In view of the complexity and multi-disciplinary nature of the Study, we plan to engage consultants to undertake the Study and supervise the associated site investigation works.

PUBLIC CONSULTATION

16. The concerned departments consulted the Traffic and Transport Committee (T&TC) of Tuen Mun District Council (DC), the T&TC of Tsuen Wan DC and Islands DC on 8 February 2021, and Yuen Long DC on 23 February 2021.

17. The DCs provided comments on the preliminary alignment, environmental impacts and land requirements of Route 11. The concerned departments explained to the members the rationales for the preliminary alignment, and the EIA and other statutory consultations to be conducted during the investigation stage. Besides, Tuen Mun DC wished that the Government could smoothly implement and complete the Route 11, such that Tuen Mun could benefit from the traffic improvement. Tsuen Wan DC and Islands DC did not object the alignment of Route 11 nor the implementation of the next stage of Route 11. For Yuen Long DC, despite clear explanations by the concerned departments that Route 11 was not related to the “Lantau Tomorrow Vision” (LTV), members still did not support the implementation of Route 11 given the possible future connection with the artificial islands in the Central Waters, and a lack of direct connection between Route 11 and Yuen Long South (particularly Tai Tong).

18. We noted the DCs’ comments on Route 11 and would follow up the comments beneficial to the project in the investigation study as appropriate.

ENVIRONMENTAL IMPLICATIONS

19. The proposed Route 11 is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Chapter 499) and an environmental permit is required for the construction and operation of Route 11. We will conduct an EIA study to comply with the requirements of the EIAO. The EIA study will assess the environmental impacts arising from the proposed works and it will cover the aspects of air quality, water

quality, ecology, fisheries, cultural heritage, noise, landscape and visual impact, etc. However, the Study itself is not a designated project and will not cause long-term adverse environmental impacts. We have included in the project estimates the cost of implementing suitable pollution control measures to mitigate short-term environmental impacts arising from the site investigation works under the Study.

20. The Study and site investigation works will only generate minimal construction waste. We will require the consultants to fully consider measures to minimise the generation of construction waste and to reuse or recycle construction waste as much as possible in the future implementation of the construction works.

HERITAGE IMPLICATIONS

21. The Study and the associated site investigation works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites and buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office. We will conduct cultural heritage impact assessment under the EIA study of the Study, and recommend the appropriate mitigation measures if necessary.

LAND ACQUISITION

22. The Study and the associated site investigation works will not require any land acquisition. The Study will examine the need and extent of land acquisition and/or clearance required for the proposed Route 11.

TREE IMPLICATIONS

23. The Study and the associated site investigation works will not directly involve any tree removal or planting proposals. The Study will examine the impacts on trees during construction, the need for tree preservation and tree planting proposals.

BACKGROUND INFORMATION

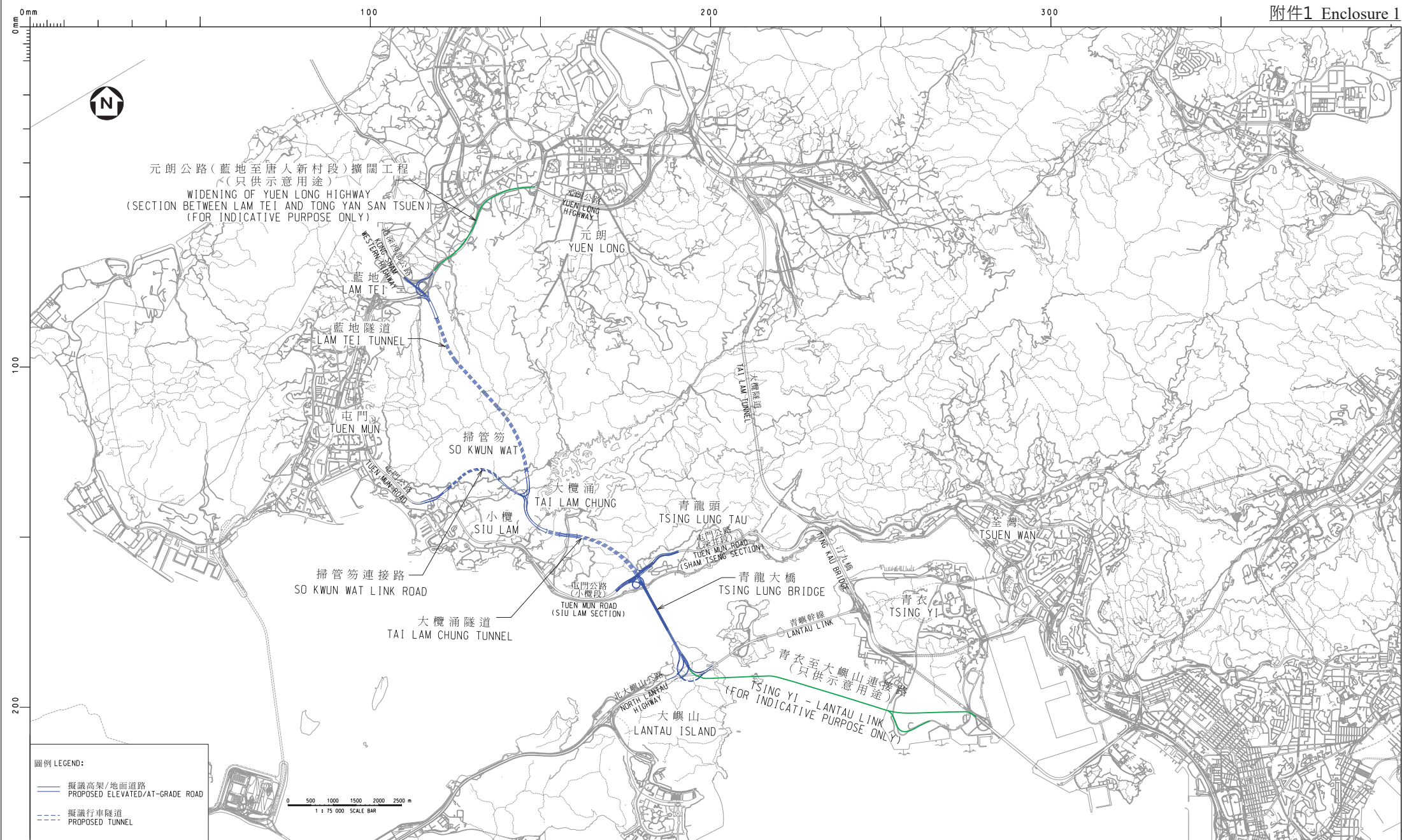
24. The Government reviewed in 2015 the overall long-term external traffic demands of the NWNT and considered that there was a need to study

the feasibility of Route 11. We obtained funding approval from the FC of the Legislative Council in April 2018 and commenced the feasibility study on Route 11 in May 2018. We basically completed the feasibility study in late 2020, and upgraded **884TH** to Category B in October 2020.

WAY FORWARD

25. After consulting the Panel on Transport, we plan to seek the support of the Public Works Subcommittee, and funding approval application of the FC, in the current legislative session to upgrade part of **884TH** to Category A as **885TH** and retain the remainder of **884TH** in Category B.

Transport and Housing Bureau
March 2021



圖例 LEGEND:

- 擬議高架/地面道路
PROPOSED ELEVATED/AT-GRADE ROAD
- - - 擬議行車隧道
PROPOSED TUNNEL

圖則名稱 drawing title

十一號幹線(元朗至北大嶼山段)及相關主要幹道的初步走線平面圖

LAYOUT PLAN FOR PRELIMINARY ALIGNMENT OF ROUTE 11 (SECTION BETWEEN YUEN LONG AND NORTH LANTAU) AND ASSOCIATED MAJOR ROADS

圖則編號 drawing no. 比例 scale
 HMW6870TH-SK0040 1:75000

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HIGHWAYS DEPARTMENT 路政署
 HONG KONG 香港

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**Volume/Capacity Ratios of Major Roads connecting
the Northwest New Territories to the Urban Areas
during Morning Peak Hours in 2036**

	Volume/Capacity (v/c) Ratio	
	Without Proposed Projects ^{Note 1}	With Proposed Projects
Major Roads		
- Tuen Mun Road (Siu Lam Section)	1.2	1.0
- Tuen Mun Road (Sham Tseng Section)	1.2	1.1 ^{Note 2}
- Tai Lam Tunnel	1.2	0.7
- Ting Kau Bridge	1.1	0.7
- Lantau Link	1.1	1.0
- Yuen Long Highway (section between Lam Tei and Tong Yan San Tsuen)	1.1	0.9
Route 11		
- Lam Tei Tunnel	/	0.9
- Tai Lam Chung Tunnel		0.8
- Tsing Lung Bridge		0.9
- So Kwun Wat Link Road		0.4
Tsing Yi-Lantau Link		0.7

Notes

1. The proposed projects include Route 11 and associated major roads.
2. This value is the v/c ratio for lanes other than the bus-only lane on Tuen Mun Road (Sham Tseng Section). The v/c ratio for the bus-only lane on Tuen Mun Road (Sham Tseng Section) will be below 1.0, indicating smooth traffic on the bus-only lane.