

**For discussion
on 21 February 2014**

Legislative Council Panel on Transport

822TH – Cross Bay Link, Tseung Kwan O

PURPOSE

This paper seeks Members' view on the funding proposal to carry out detailed design and associated site investigation works for the "Cross Bay Link, Tseung Kwan O" (CBL).

BACKGROUND

2. On 9 January 2009, the Finance Committee (FC) of the Legislative Council approved upgrading part of **822TH** to Category A as 826TH "Cross Bay Link, Tseung Kwan O – investigation and preliminary design" at an approved project estimate of \$59.1 million in money-of-the-day (MOD) prices for engaging consultants to undertake the preliminary design of the CBL and for the associated site investigation works. The relevant works has been completed. Therefore, we have to proceed with the next stage –to carry out the detailed design and associated site investigation works for the CBL.

PROJECT SCOPE AND NATURE

3. The scope of **822TH** that we propose to upgrade to Category A comprises –
- (a) detailed design of the works described in paragraph 5 below;
 - (b) associated site investigation works and supervision; and
 - (c) preparation of tender documents and assessment of tenders for the works described in paragraph 5 below.

— A plan showing the proposed CBL is at **Enclosure 1**.

4. Subject to funding approval of the FC, we plan to start the

proposed detailed design and associated site investigation works in August 2014 for completion in end 2016.

5. We will retain the remainder of **822TH** in Category B and will seek funding for these works according to their implementation programme. The remainder mainly comprises –

- (a) construction of a dual two-lane carriageway approximately 1.8 km long with a cycle track and a footpath. This road is mainly on viaduct, connecting the proposed Tseung Kwan O – Lam Tin Tunnel (TKO-LTT) to Wan Po Road near Area 86 of Tseung Kwan O (TKO) across Junk Bay; and provision of the necessary slip roads and junction improvements; and
- (b) the associated civil, structural, marine, electrical and mechanical, traffic control and surveillance system, landscaping, as well as environmental protection and mitigation works.

JUSTIFICATIONS

To match with the development of TKO-LTT

6. To match with the development of the other proposed project TKO-LTT¹, we propose to build the CBL to connect TKO-LTT at the west and Wan Po Road at the east, so as to alleviate traffic congestion and meet the long term traffic demand in TKO.

7. The next phase of developments of TKO will be concentrated in the town centre area south of Po Yap Road and in the southeastern part of TKO along Wan Po Road such as Area 85, Area 86 (the Lohas Park), and TKO Industrial Estate, etc. According to the current plan, the proposed TKO-LTT will be commissioned in 2020 at the earliest². If CBL is not provided at that time, the traffic from the tunnel portal of TKO-LTT to Area 86 and TKO Industrial Estate will have to go through Po Yap Road and many signall-controlled junctions, causing traffic congestion at the junctions

¹ In May 2013, the FC approved the funding for the detailed design and associated site investigation works of TKO-LTT at an approved project estimate of \$196 million in MOD prices.

² The project was gazetted under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) on 10 May 2013. The Environmental Impact Assessment (EIA) report was approved by Director of Environmental Protection (DEP) under the EIA Ordinance in July 2013. The detailed design of the project commenced in September 2013. If the preparation work and gazetting procedures (including resolution of objections) proceed smoothly, and that the funding approval from the FC for the construction works is obtained, the proposed TKO-LTT is scheduled to be commissioned in 2020 at the earliest.

along Po Yap Road and Wan Po Road. It will require an additional 12 minutes of travelling time as compared with using the CBL. According to the traffic impact assessment completed in 2012, the CBL should be commissioned timely in order to cater for the traffic generated from the anticipated new developments and to avoid the traffic congestions along Wan Po Road and in the TKO town centre area. We aim to tie the commissioning date of the CBL in with that of the TKO-LTT.

8. The table below shows the anticipated traffic condition during the peak hours at the Wan Po Road/ Chiu Shun Road roundabout and other signal-controlled junctions (shown in **Enclosure 2**) with and without CBL.

Roundabout	“Design Flow to Capacity” Ratio (for roundabout) ³	
	Without CBL	With CBL
Wan Po Road/ Chiu Shun Road	1.25	0.71

Signal-controlled junction	Reserve Capacity (for signal-controlled junction) ⁴	
	Without CBL	With CBL
Wan Po Road/Pak Shing Kok Road	-30%	60%
Wan Po Road/Shek Kok Road	-51%	67%
Po Yap Road/Tong Chun Street	-70%	15%
Po Yap Road/Tong Yin Street	-44%	75%
Po Shun Road/Chui Ling Road/Po Yap Road	-37%	20%

Upon the completion of the CBL, it is expected that the anticipated congestion of the above roads will be relieved. Furthermore, external traffic to and from the southeastern part of TKO needs not go through the TKO

³ The traffic condition of roundabout is indicated by its “design flow to capacity” ratio. The ratio equals to or less than 1.0 is considered acceptable. The ratio above 1.0 indicates that roundabout is overloaded, resulting in traffic queues and longer delay time.

⁴ The traffic condition of signal-controlled junction is indicated by its reserve capacity. A positive reserve capacity figure indicates the junction is operating with spare capacity. A negative reserve capacity figure indicates that junction is overloaded, resulting in traffic queues and longer delay time.

town centre, thereby minimizing the adverse traffic and environmental impacts on the residents in the vicinity.

To enhance the road network of TKO

9. On the other hand, Wan Po Road is the only road linking the southeastern part of TKO to other areas. The commercial and industrial activities in the southeastern part of TKO, particularly those in TKO Industrial Estate, would be seriously affected if Wan Po Road is blocked by traffic accidents. The proposed CBL will provide an alternative access route to the southeastern part TKO, thereby enhancing the road network of the area and catering for the long term traffic demand.

10. The TKO residents and local community have been expressing their expectation on the early implementation of the CBL.

11. As the project involves various complicated detailed design works, the Civil Engineering and Development Department (CEDD) proposes to engage consultants to carry out the detailed design and supervision of site investigation works.

FINANCIAL IMPLICATIONS

12. We estimate that the cost of the proposed detailed design and associated site investigation works to be \$68.7 million in MOD prices, made up as follows –

	\$ million
(a) Consultants' fees for	34.5
(i) detailed design and supervision of site investigation works	27.3
(ii) wind tunnel test ⁵	3.0
(iii) preparation of tender documents and assessment of tenders	4.0

⁵ As CBL is an elevated bridge across Junk Bay, the design of this kind of bridge is required to take into account its wind resistant capacity. Wind tunnel test is the most effective method to analyse the wind resistant capacity and aero-responses of the bridge.

	\$ million	
(iv) management of resident site staff for site investigation works	0.2	
(b) Remuneration of resident site staff for site investigation works	1.8	
(c) Site investigation works	17.8	
(d) Contingencies	5.0	
	<hr/>	
Sub-total	59.1	(in September 2013 prices)
(e) Provision for price adjustment	9.6	
	<hr/>	
Total	68.7	(in MOD prices)

13. The proposed detailed design and associated site investigation works will not give rise to any recurrent consequences.

PUBLIC CONSULTATION

14. We commenced the “investigation and preliminary design study” in early 2009, and have subsequently completed a 3-stage public engagement (PE) exercise, including a design ideas invitation event, exhibitions, and a voting activity for the design options. Taking into account public views collected in the PE exercise, environmental impact and engineering considerations, we have adopted the design option as shown in **Enclosure 3**.

15. We consulted the Sai Kung District Council (SKDC) in January 2013. Members of the Council in general supported the proposed project and urged for early implementation. We gazetted the project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) on 10 May 2013 and are resolving the objections according to the statutory procedures. We will maintain close liaison with the concerned parties on the progress of the project during the detailed design stage.

16. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)⁶ on the aesthetic design of the proposed project. The Committee supported the project.

ENVIRONMENTAL IMPLICATIONS

17. The proposed detailed design and associated site investigation works are not a designated project under the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and will not cause any long-term environmental impact. The CEDD has included in the project estimate the cost of implementing suitable mitigation measures to control short-term environmental impact during the site investigation works.

18. The proposed site investigation works will only generate very little construction waste. The CEDD will require the consultants to comprehensively examine measures to minimise the generation of construction waste and to reuse/recycle construction waste as much as possible during the construction stage in future.

19. The proposed CBL is a designated project under Schedule 2 of the EIA Ordinance. The CEDD had completed an EIA study, and the report of which was approved by the Director of Environmental Protection (DEP) under the EIA Ordinance on 11 July 2013 and the associated Environmental Permit was granted by the DEP on 15 August 2013. CEDD will implement the measures recommended in the EIA report.

HERITAGE IMPLICATIONS

20. The proposed detailed design and associated site investigation works will not affect any heritage site (i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office).

⁶ ACABAS comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, academic institutions, the Architectural Services Department, the Highways Department, the Housing Department, and the CEDD. It is responsible for vetting the design of bridges and other structures associated with the highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

GREENING AND LANDSCAPE IMPLICATIONS

21. The proposed detailed design and associated site investigation works will not directly involve any tree removal or planting proposals. We will require the consultants to take into consideration the need for tree preservation during the detailed design stage of the project. We will incorporate tree planting proposals in the construction phase.

LAND ACQUISITION

22. The proposed detailed design and associated site investigation works do not require any land acquisition.

JOB OPPORTUNITY

23. We estimate that the proposed detailed design and associated site investigation works will create about 41 jobs (11 for labourers and another 30 for professional/technical staff), providing a total employment of 715 man-months.

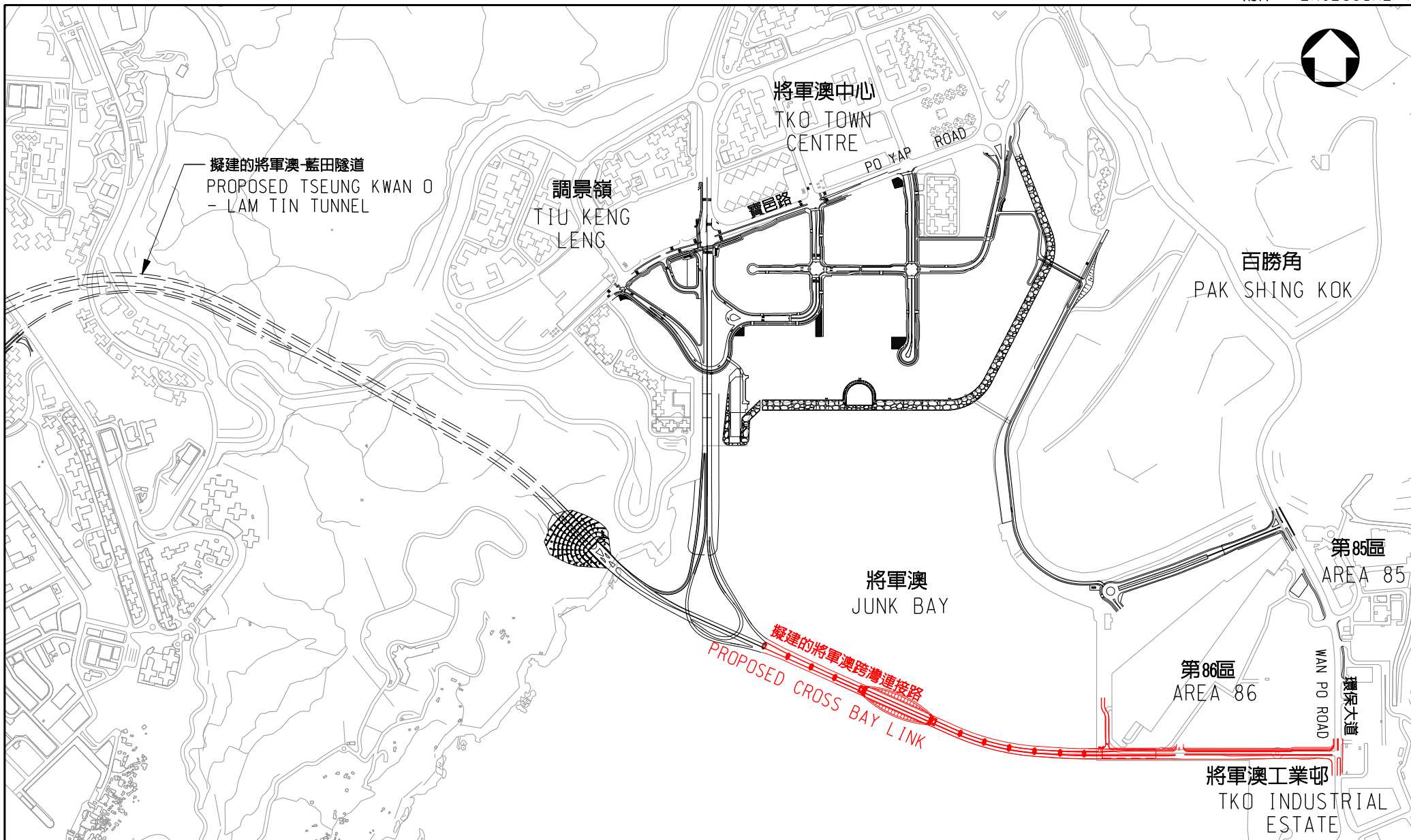
WAY FORWARD

24. Subject to Members' support, we plan to seek the endorsement of the Legislative Council Public Works Subcommittee in March 2014 for upgrading part of **822TH** "Cross Bay Link, Tseung Kwan O" as detailed in paragraph 3 above to Category A with a view to seeking funding approval from the Legislative Council FC in May 2014.

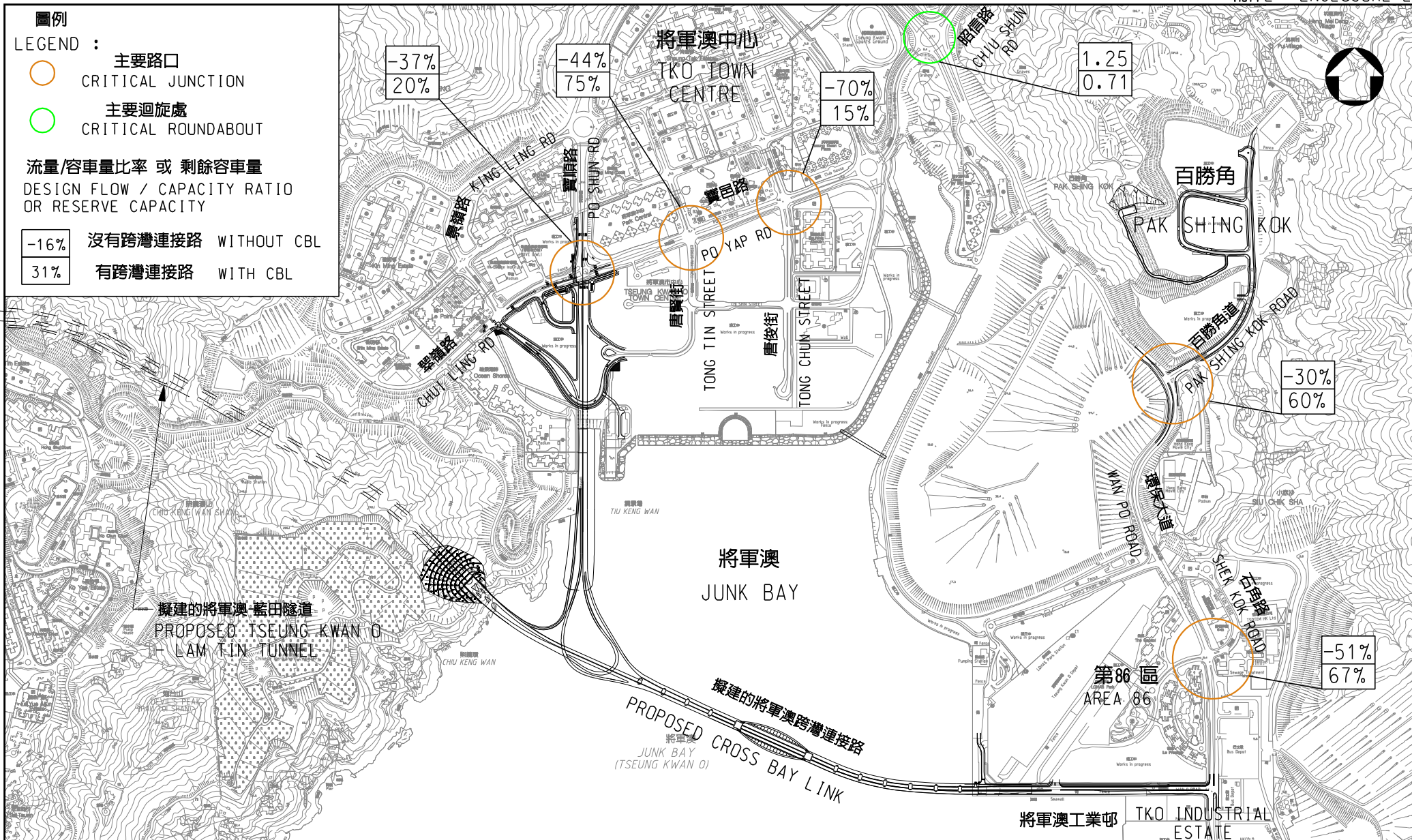
ADVICE SOUGHT

25. Members are invited to comment on this paper and support our funding proposal.

Transport and Housing Bureau
February 2014



圖則名稱 drawing title 工務計劃第822TH號 - 將軍澳跨灣連接路 - 位置圖 PWP ITEM NO. 822TH - LOCATION PLAN OF CROSS BAY LINK	繪圖 drawn	簽署 initial	日期 date	項目編號 item no.	辦事處 office 新界東拓展處 NEW TERRITORIES EAST DEVELOPMENT OFFICE
	核對 checked	簽署 initial	日期 date	比例 scale	
	核准 approved	簽署 initial	日期 date	圖則編號 drawing no.	土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
	C Y NGAN		4.12.13	822TH	
	T Y LEUNG		4.12.13	1 : 15 000	
				TKZ0799	



圖則名稱 drawing title


工務計劃第822TH號 - 將軍澳跨灣連接路
 - 2021年的預計交通狀況
 PWP ITEM NO. 822TH - CROSS BAY LINK, TSEUNG KWAN O
 - PROJECTED TRAFFIC CONDITION IN 2021

繪圖 drawn	簽署 initial	日期 date	項目編號 item no.
SC FUNG		21.1.14	822TH
核對 checked	簽署 initial	日期 date	比例 scale
TY LEUNG		21.1.14	1 : 15 000
核准 approved	簽署 initial	日期 date	圖則編號 drawing no.
LC CHEUNG		21.1.14	TK2397

辦事處 office
 新界東拓展處
 NEW TERRITORIES EAST
 DEVELOPMENT OFFICE





圖則名稱 drawing title 工務計劃第822TH號 - 將軍澳跨灣連接路 - 構想圖 PWP ITEM NO. 822TH - CROSS BAY LINK, TSEUNG KWAN O - PHOTOMONTAGE	繪圖 drawn	簽署 initial	日期 date	項目編號 item no.	辦事處 office 新界東拓展處 NEW TERRITORIES EAST DEVELOPMENT OFFICE
	核對 checked	簽署 initial	日期 date	比例 scale	
	核准 approved	簽署 initial	日期 date	圖則編號 drawing no.	 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
	YL LO		22.1.14	822TH	
	TY LEUNG		22.1.14	N.T.S.	
	LC CHEUNG		22.1.14	TK2405	