

立法會

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Panel on Transport Meeting on 21 July 2017

Background brief on Central-Wan Chai Bypass Tunnel, Lung Shan Tunnel and Cheung Shan Tunnel

Purpose

This paper provides background information on the Central-Wan Chai Bypass ("CWB") Tunnel, Lung Shan Tunnel and Cheung Shan Tunnel, which will be included as government toll-free tunnels. It also summarizes the major views and concerns of by Legislative Council ("LegCo") Members in relation to the construction of the tunnels.

Background

Government tunnels

2. There are at present 16 road tunnels in Hong Kong, 12 of which are owned by the Government.¹ Amongst the government tunnels, the use of the Cheung Tsing Tunnel, Kai Tak Tunnel and Nam Wan Tunnel is free of charge. Tolls for the rest, namely, the Cross-Harbour Tunnel ("CHT"), Lion Rock Tunnel ("LRT"), Aberdeen Tunnel, Shing Mun Tunnel, Tseung Kwan O Tunnel, Tai Wai Tunnel, Sha Tin Heights Tunnel, Eagle's Nest Tunnel, and Eastern Harbour Crossing ("EHC") are provided for in their governing legislation. All the government tunnels are managed and operated by private companies under management contracts.

3. In May 2017, the Administration briefed the Panel on Transport that upon expiry of the Build-Operate-Transfer franchise of the Tate's Cairn Tunnel

¹ Three other tunnels are currently operated by private companies under "Build-Operate-Transfer" arrangements: Tai Lam Tunnel, Tate's Cairn Tunnel and Western Harbour Crossing. There is also a private tunnel, i.e. Discovery Bay Tunnel Link.

("TCT") in July 2018, the Government will take over its ownership.²

4. Under the Hong Kong-Zhuhai-Macao Bridge ("HZMB") related Hong Kong projects, the roads connecting the Hong Kong Boundary Crossing Facilities ("HKBCF") will comprise two toll-free government tunnels, namely the Scenic Hill Tunnel which is part of the Hong Kong Link Road, and the Airport Tunnel which links up HKBCF and the Hong Kong International Airport.³

5. At present, the operation of government tunnels are regulated under the legal framework of the Road Tunnels (Government) Ordinance (Cap. 368) and its subsidiary legislation.

Central-Wan Chai Bypass Tunnel

6. CWB and Island Eastern Corridor Link ("the Trunk Road") under construction forms part of an east-west strategic route along the northern shore of Hong Kong Island, which serves to alleviate the traffic congestion along the existing Gloucester Road—Harcourt Road—Connaught Road Central corridor. The Trunk Road project includes the construction of a 4.5 km long dual three-lane trunk road with a 3.7 km long tunnel (i.e. CWB Tunnel), connecting the Rumsey Street Flyover at Central with the Island Eastern Corridor at North Point near City Garden. A layout plan is in **Appendix I**. The project commenced in December 2009. According to the Administration's information in March 2017, the anticipated completion date will be in end 2018/first quarter of 2019.

Lung Shan Tunnel and Cheung Shan Tunnel

7. The Liantang/Heung Yuen Wai Boundary Control Point ("LT/HYW BCP") is a joint cross-boundary transport infrastructure project by the Hong Kong Special Administrative Region Government and the Shenzhen Municipal People's Government. It is one of the major projects involving co-operation between Guangdong and Hong Kong under the 12th National Five-Year Plan.

² While the toll levels of TCT will remain unchanged upon the takeover, the Government will review the toll level of TCT in the context of the study on the rationalization of traffic distribution among the three road harbour crossings (namely CHT, EHC and Western Harbour Crossing), and the three land tunnels between Kowloon and Sha Tin (namely TCT, LRT, and Eagle's Nest Tunnel and Sha Tin Heights Tunnel).

³ According to the assessment by the Highways Department in May 2017, the HZMB related Hong Kong projects could be completed by the end of 2017 and achieve readiness for commissioning.

8. The LT/HYW BCP project includes the construction of an approximate 4.8 km dual two-lane road tunnel between Princess Hill and Lung Shan (i.e. Lung Shan Tunnel) and an approximate 0.9 km dual two-lane road tunnel at Cheung Shan (i.e. Cheung Shan Tunnel) with the associated cross passages, and other road works. A layout plan is in **Appendix II**. The project commenced in April 2013. According to the Administration's information in March 2017, the anticipated completion date will be in end 2018.

9. Upon commissioning, LT/HYW BCP will be the first Hong Kong and Shenzhen land-based boundary crossing facility allowing direct access by passengers and vehicles. According to the forecast by the Administration in March 2017, the daily traffic flow of LT/HYW BCP will be at an average of 17 500 traveller-trips per day and 7 700 vehicle-trips in 2018, and is expected to rise to an average of 30 000 traveller-trips per day and 17 850 vehicle-trips in 2030.

Major views and concerns of Members

10. The major views and concerns of LegCo Members in relation to the construction of CWB Tunnel, and Lung Shan Tunnel and Cheung Shan Tunnel are summarized in the ensuing paragraphs.

Central-Wan Chai Bypass Tunnel

Cost overrun and works delay

11. When considering the Administration's proposal to increase the approved project estimate ("APE") of the Trunk Road project at the meeting of the Panel on Transport on 15 November 2013, members expressed concern about the higher-than-expected cost which was mainly caused by the increase in cost for the tunnel construction works due to the deeper-than-expected bedrock levels.⁴ They were worried about further cost increase should the same problem arise again before completion of the project. In response, the Administration explained that as substantial part of the tunnel construction works with high risks on cost variation had been completed, and the revised project estimate had already taken into account the Administration's then latest assumptions on the trend rate of change in the prices of public sector building and construction output, there would not be further increase in the project

⁴ The latest cost estimate for the Trunk Road project is \$36,038.9 million in money-of-the-day prices, i.e. up \$7,934.3 million from the original estimate of \$28,104.6 million approved by the Finance Committee ("FC") in July 2009. The funding application for the additional costs was approved by FC in January 2014.

estimate unless there was a significant change in the global economic environment subsequently.

12. Besides, members also raised concerns regarding the methodology for estimating the project cost for public works projects, as well as adequacy of the site investigation works for the tunnel construction.

13. In September 2015, the Highways Department indicated that due to the discovery of a large metal object in the seabed near the former Wan Chai Ferry Pier and the resulted suspension of reclamation and associated works in the area until early July 2015, CWB would not likely be ready for use in 2017 as initially scheduled. CWB tunnel could only be completed for handing over to the contractor for subsequent works by mid-2017. Further to this, a member put forward a question to follow up on the latest progress of the project when examining the estimates of expenditure in 2017-2018. It was noted from the Administration's reply that as at March 2017, around 80% of the overall works for the Trunk Road project was completed.

Toll charges

14. In reply to the enquiry of some members of the Panel on Transport on whether the "user pays" principle would be adopted to recover the operating cost of CWB, the Administration advised that it had no plan to charge any tolls for using CWB in view of the economic benefits CWB would bring.

Lung Shan Tunnel and Cheung Shan Tunnel

Cost overrun and works delay

15. When considering the Administration's proposal to increase APE of the LT/HYW BCP project at the meeting of the Panel on Development on 22 April 2014, members considered the huge cost overrun in the project to be alarming.⁵ Noting that the significant increase in APE had mainly been caused by the poor ground conditions for the tunnelling works, some members suggested that the Administration should look into other alternatives, such as widening the relevant section of Sha Tau Kok Road, in order to save the need for constructing the Lung Shan Tunnel. In response, the Administration said that it had critically examined alternative options to reduce the additional costs of the LT/HYW BCP project, such as widening the existing local at-grade roads to

⁵ The latest cost estimate for the LT/HYW BCP project is \$24,973.1 million in money-of-the-day prices, i.e. up \$8,719.9 million from the original estimate of \$16,253.2 million approved by the Finance Committee ("FC") in July 2012. The funding application for the additional costs was approved by FC in June 2015.

cater for the additional cross-boundary traffic and completing the Connecting Road (Northern Section) later, postponing the construction programme of the remaining contracts, etc. However, it was found that no cost saving could be achieved by taking these alternatives.

16. Some members also asked if the difficulties encountered in the site investigation for the construction of the tunnel were peculiar to Hong Kong. They also queried why the poor ground conditions had not been made known to LegCo Members when the funding proposal for commissioning the detailed design and site investigation of the project was being considered by the Finance Committee ("FC") back in early 2011. In response, the Administration explained that construction of tunnels was technically complex and demanding in nature. It was not possible for site investigations to provide 100% accurate information on the actual ground condition.

17. The additional funding proposal was then submitted to the Public Works Subcommittee ("PWSC") on 27 May 2014 but the discussion was deferred beyond the summer recess of LegCo. After updating the programme by the Administration, PWSC examined the proposal again on 26 November 2014, but a motion was passed to adjourn discussion of the item. At the PWSC meeting on 9 January 2015 when it was invited to consider the proposal again, members did not render support to the proposal, and raised queries about the justifications, the latest economic benefits and the traffic implications of LT/HYW BCP on the traffic along Fanling Highway.

18. The Administration, notwithstanding PWSC's reservation, advised that it saw an urgent need to invite FC to consider the application for the funding increase. When the additional funding proposal was considered at the meeting of FC on 5 June 2015, members noted the Administration's advice that while it could not commit to the completion of LT/HYW BCP in 2018 due to the delay already accrued, but it would strive to bring forward the completion of LT/HYW BCP as far as possible. The additional funding proposal was approved at that FC meeting.

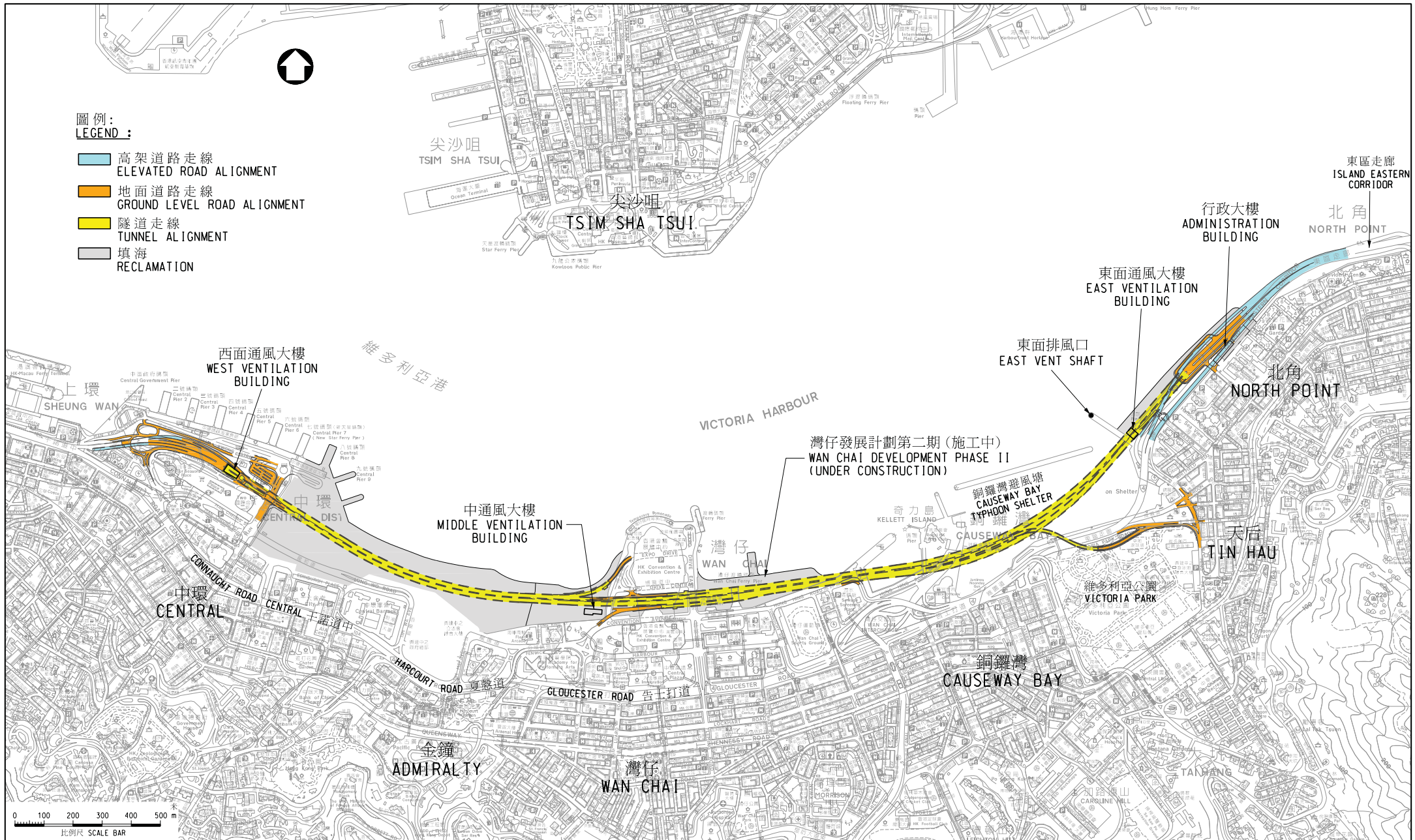
Latest development

19. The Administration plans to brief members on the legislative proposals to include three new toll-free tunnels (namely CWB Tunnel, Lung Shan Tunnel and Cheung Shan Tunnel) as government tunnels at the meeting of the Panel on Transport to be held on 21 July 2017.

Relevant papers

20. A list of relevant papers is in **Appendix III**.

Council Business Division 4
Legislative Council Secretariat
17 July 2017



圖則名稱 plan title

中環及灣仔繞道和東區走廊連接路 - 工程概覽
CENTRAL-WAN CHAI BYPASS AND ISLAND EASTERN CORRIDOR LINK - PROJECT OVERVIEW

比例 scale

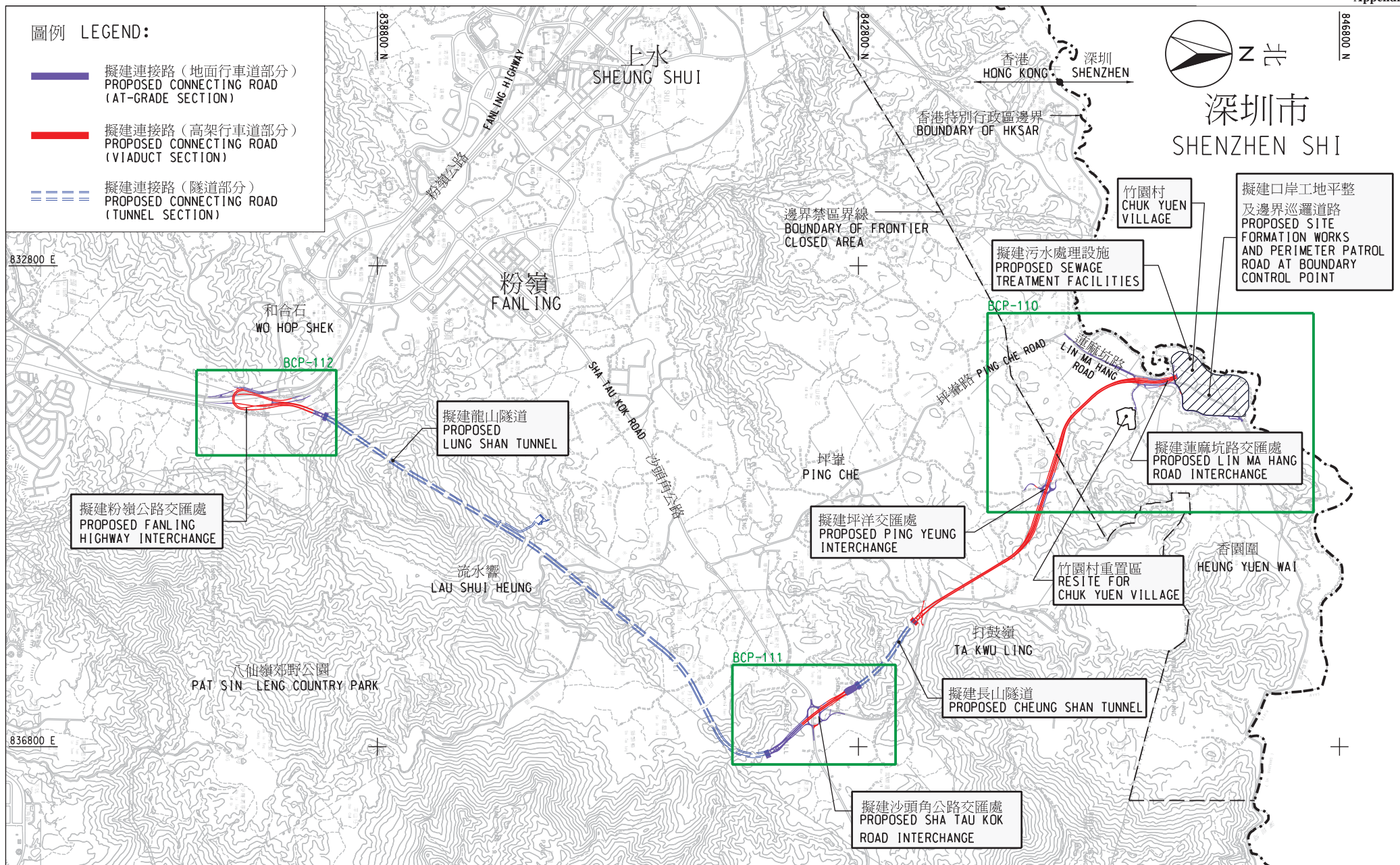
不按比例 N.T.S.

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HIGHWAYS
DEPARTMENT
HONG KONG

路政署
香港



drawing title 圖則名稱

蓮塘/香園圍口岸與相關工程－擬建口岸及連接路之平面圖

LIANTANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT AND ASSOCIATED WORKS
- LAYOUT OF THE PROPOSED BOUNDARY CONTROL POINT AND CONNECTING ROAD

drawing no. 圖則編號

BCP - 109

scale
比例
1 : 30 000



CIVIL ENGINEERING
AND DEVELOPMENT
DEPARTMENT
HONG KONG

**Background brief on Central-Wan Chai Bypass Tunnel,
Lung Shan Tunnel and Cheung Shan Tunnel**

List of relevant papers

| Date of meeting | Meeting | Minutes/Paper | LC Paper No. |
|------------------------|---------------------------|---|--|
| 26.5.2009 | Panel on Development | Administration's paper on PWP Item 579TH—Central-Wan Chai Bypass and Island Eastern Corridor Link | CB(1)1634/08-09(03) http://www.legco.gov.hk/yr08-09/english/panels/dev/papers/dev0526cb1-1634-3-e.pdf |
| | | Administration's follow-up paper | CB(1)1833/08-09(01) http://www.legco.gov.hk/yr08-09/english/panels/dev/papers/dev0526cb1-1833-1-e.pdf |
| | | Minutes of meeting | CB(1)2717/08-09 http://www.legco.gov.hk/yr08-09/english/panels/dev/minutes/dev20090526.pdf |
| 10.6.2009 | Public Works Subcommittee | Administration's paper on 579TH—Central-Wan Chai Bypass and Island Eastern Corridor Link | PWSC(2009-10)52 http://www.legco.gov.hk/yr08-09/english/fc/pwsc/papers/p09-52e.pdf |
| | | Minutes of meeting | PWSC134/08-09 http://www.legco.gov.hk/yr08-09/english/fc/pwsc/minutes/pwsc20090610.pdf |
| 3.7.2009 | Finance Committee | Administration's paper | FCR(2009-10)31 http://www.legco.gov.hk/yr08-09/english/fc/fc/papers/f09-31e.pdf |
| | | Minutes of meeting | FC8/09-10 http://www.legco.gov.hk/yr08-09/english/fc/fc/minutes/fc20090703.pdf |

| Date of meeting | Meeting | Minutes/Paper | LC Paper No. |
|-----------------|---------------------------|--|---|
| 30.5.2012 | Public Works Subcommittee | Administration's paper on 13GB—Liantang/Heung Yuen Wai Boundary Control Point and associated works | PWSC(2012-13)26 http://www.legco.gov.hk/yr11-12/english/fc/pwsc/papers/p12-26e.pdf |
| | | Minutes of meeting | PWSC76/11-12 http://www.legco.gov.hk/yr11-12/english/fc/pwsc/minutes/pwsc20120530.pdf |
| 13.7.2012 | Finance Committee | Administration's paper | FCR(2012-13)47 http://www.legco.gov.hk/yr11-12/english/fc/fc/papers/f12-47e.pdf |
| | | Minutes of meeting | FC193/11-12 http://www.legco.gov.hk/yr11-12/english/fc/fc/minutes/fc20120713.pdf |
| 15.11.2013 | Panel on Transport | Administration's paper on Central-Wan Chai Bypass and Island Eastern Corridor Link | CB(1)268/13-14(03) http://www.legco.gov.hk/yr13-14/english/panels/tp/papers/tp1115cb1-268-3-e.pdf |
| | | Minutes of meeting | CB(1)669/13-14 http://www.legco.gov.hk/yr13-14/english/panels/tp/minutes/tp20131115.pdf |
| 7.1.2014 | Panel on Development | Administration's paper on 19GB—Liantang/Heung Yuen Wai Boundary Control Point and associated works—site formation and infrastructure works | CB(1)638/13-14(01) http://www.legco.gov.hk/yr13-14/english/panels/dev/papers/dev0107cb1-638-1-e.pdf |

| Date of meeting | Meeting | Minutes/Paper | LC Paper No. |
|-----------------------|---------------------------|--|--|
| | | Minutes of meeting | CB(1)1098/13-14 http://www.legco.gov.hk/yr13-14/english/panels/dev/minutes/dev20140107.pdf |
| 7.1.2014 | Public Works Subcommittee | Administration's paper on 579TH—Central–Wan Chai Bypass and Island Eastern Corridor Link | PWSC(2013-14)29 http://www.legco.gov.hk/yr13-14/english/fc/pwsc/papers/p13-29e.pdf |
| | | Minutes of meeting | PWSC38/13-14 http://www.legco.gov.hk/yr13-14/english/fc/pwsc/minutes/pwsc20140107.pdf |
| 24.1.2014 | Finance Committee | Administration's paper | FCR(2013-14)53 http://www.legco.gov.hk/yr13-14/english/fc/fc/papers/f13-53e.pdf |
| | | Minutes of meeting | FC73/13-14 http://www.legco.gov.hk/yr13-14/english/fc/fc/minutes/fc20140124.pdf |
| 22.4.2014 5.5.2014 | Panel on Development | Administration's paper on 19GB—Liantang/Heung Yuen Wai Boundary Control Point and associated works—site formation and infrastructure works | CB(1)1248/13-14(08) http://www.legco.gov.hk/yr13-14/english/panels/dev/papers/dev0422cb1-1248-8-e.pdf |
| | | Minutes of meetings | CB(1)2014/13-14 http://www.legco.gov.hk/yr13-14/english/panels/dev/minutes/dev20140422.pdf CB(1)2052/13-14 http://www.legco.gov.hk/yr13-14/english/panels/dev/minutes/dev20140505.pdf |

| Date of meeting | Meeting | Minutes/Paper | LC Paper No. |
|------------------------|---------------------------|--|---|
| 27.5.2014 | Public Works Subcommittee | Administration's paper on 19GB—Liantang/Heung Yuen Wai Boundary Control Point and associated works—site formation and infrastructure works | PWSC(2014-15)13 http://www.legco.gov.hk/yr13-14/english/fc/pwsc/papers/p14-13e.pdf |
| | | Minutes of meeting | PWSC113/13-14 http://www.legco.gov.hk/yr13-14/english/fc/pwsc/minutes/pwsc20140527.pdf |
| 26.11.2014 9.1.2015 | Public Works Subcommittee | Administration's paper on 19GB—Liantang/Heung Yuen Wai Boundary Control Point and associated works—site formation and infrastructure works | PWSC(2014-15)33 http://www.legco.gov.hk/yr14-15/english/fc/pwsc/papers/p14-33e.pdf |
| | | Minutes of meetings | PWSC81/14-15 http://www.legco.gov.hk/yr14-15/english/fc/pwsc/minutes/pwsc20141126.pdf PWSC103/14-15 http://www.legco.gov.hk/yr14-15/english/fc/pwsc/minutes/pwsc20150109.pdf |
| 5.6.2015 | Finance Committee | Administration's paper | FCR(2015-16)11 http://www.legco.gov.hk/yr14-15/english/fc/fc/papers/f15-11e.pdf |
| | | Minutes of meeting | FC252/14-15 http://www.legco.gov.hk/yr14-15/english/fc/fc/minutes/fc20150605.pdf |

| Date of meeting | Meeting | Minutes/Paper | LC Paper No. |
|------------------------|-----------------|--|---|
| 29.3.2017 | Council Meeting | Dr Hon Kwok Ka-ki raised a question on information on public works | http://www.info.gov.hk/gia/general/201703/29/P2017032900828.htm |

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