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Background brief on Hong Kong-Zhuhai-Macao Bridge and the financing arrangement for Main Bridge project

Purpose

This paper provides background information on the Hong Kong-Zhuhai-Macao Bridge ("HZMB") and the financing arrangement for the Main Bridge project. It also summarizes the major views and concerns expressed by Legislative Council ("LegCo") Members on the financing arrangement for the HZMB Main Bridge project and related issues in past discussions.

Background

Hong Kong-Zhuhai-Macao Bridge and its related Hong Kong projects

2. HZMB is a dual three-lane carriageway in the form of bridge-cum-tunnel structure sea-crossing, linking Hong Kong, Zhuhai and Macao. The project is a major cross-boundary transport infrastructure project. According to the Administration, the construction of HZMB will significantly reduce transportation costs and time for travellers and goods on roads. It has very important strategic value in terms of further enhancement of the economic development between Hong Kong, the Mainland and Macao.

3. With the connection by HZMB, the Western Pearl River Delta will fall within a reachable three-hour commuting radius of Hong Kong. The entire HZMB project consists of two parts:

- (a) the HZMB Main Bridge (i.e. a 22.9 km-long bridge and 6.7 km-long subsea tunnel) situated in Mainland waters; and
- (b) the link roads and boundary crossing facilities under the responsibility of the governments of Guangdong, Hong Kong and Macao ("the three governments").

4. A layout plan of HZMB and the Hong Kong projects is in **Appendix I**. The Hong Kong projects in paragraph 3(b) above include the Hong Kong Boundary Control Facilities ("HKBCF") (currently named as the Hong Kong Port), the Hong Kong Link Road ("HKLR") and Tuen Mun-Chek Lap Kok Link ("TM-CLKL").¹

5. HZMB, including the Main Bridge, the Hong Kong Port and HKLR were commissioned on 24 October 2018. To dovetail with the commissioning of HZMB, the mainline of TM-CLKL Southern Connection was commissioned on the same day to facilitate the public to travel to HZMB as well as to relieve the traffic conditions on the Airport Island brought about by the commissioning of HZMB. As for the part of the TM-CLKL Southern Connection which connects to Tung Chung, it was commissioned on 30 November 2018. The TM-CLKL Northern Connection was commissioned on 27 December 2020 as well.

Financing arrangement for the Hong Kong-Zhuhai-Macao Bridge Main Bridge project

6. According to the Administration, a consensus was reached on the financing arrangement and construction option for the HZMB Project at the 8th Meeting of the HZMB Advance Work Coordination Group held on 28 February 2008. Each of the three governments of the Hong Kong Special Administrative Region ("HKSAR"), Guangdong Province and the Macao Special Administrative Region ("Macao SAR") would be responsible for the construction, operation and maintenance of the link roads and BCF within their respective territories and would, if necessary, contribute to the funding gap of the HZMB Main Bridge to be tendered under a Build, Operate and Transfer ("BOT") franchise.

7. In August 2008, the three governments agreed to take up the responsibility for the construction of the HZMB Main Bridge, instead of seeking private investment to implement the project under a BOT franchise. To show its support to the HZMB project, the Central People's Government also agreed to provide part of the funding. As a result, the Mainland, HKSAR and Macao

¹ HKBCF is located on an artificial island of about 150 hectares (including about 130 hectares for HKBCF and about 20 hectares for TM-CLKL southern landfall) reclaimed from the open waters off the northeast of the Hong Kong International Airport. HKLR connects the HZMB Main Bridge from the Guangdong-Hong Kong boundary to HKBCF. TM-CLKL comprises two road sections: the Northern Connection of about 5.5 km long (including a sub-sea tunnel of about 5 km long) linking Tuen Mun Area 40 and HKBCF, and the Southern Connection of about 3.5 km long linking HKBCF and the road network of North Lantau.

SAR governments would contribute RMB 7.0 billion, RMB 6.75 billion and RMB 1.98 billion, respectively, to the HZMB Main Bridge project. The total contributions from the three sides would be RMB 15.73 billion, which is about 42% of the project cost of the Main Bridge. The remaining 58% would be financed by bank loans.

8. The Administration advised in December 2017 that since the commencement of the HZMB Main Bridge project, there had been escalation in the construction costs arising from the complicated construction conditions in the open sea, the difficulty in construction method, increase in labour and material costs as well as the refinement of the design and construction schemes. As a result, the contractors of the HZMB Main Bridge submitted applications to the HZMB Authority for adjustment to the project estimate. The HZMB Authority also pointed out that it had been a recent phenomenon that the approved project estimates of mega-scale transport infrastructure projects in the Mainland were on occasions exceeded.

9. The HZMB Authority had reviewed the applications submitted by the contractors and prepared a report on the adjustment of the project estimate. Subsequent to the endorsement of the relevant Mainland Authorities, the relevant Mainland Authorities had submitted the report on the adjustment of the project estimate to the State Council. According to the approval of the Ministry of Transport in 2017, the latest approved project estimate of the HZMB Main Bridge is about RMB 48.068 billion, i.e. the cost overrun of the Main Bridge is about RMB 9.95 billion.²

10. The Administration further pointed out that at the time when the HZMB Main Bridge was approved, the three sides agreed that the construction cost would be financed by the three sides and by borrowing from the banks by the HZMB Authority. It is expected that the apportionment of the additional capital cost arising from the cost overrun of the Main Bridge would follow the above principle as stipulated at the time when the project was approved, i.e. it would be partly financed by the three sides and the remaining sum would be financed by borrowing from the banks by the HZMB Authority. In accordance with the above-mentioned latest project estimate as approved by the Ministry of Transport, it is expected that the three sides would have to contribute to a capital cost of about RMB 4.6 billion. As for the contribution from Hong Kong, it is expected to be about RMB 2 billion.

² The project estimate of the HZMB Main Bridge project approved by the Ministry of Transport in March 2010 was about RMB 38.118 billion.

Funding support for the Hong Kong-Zhuhai-Macao Bridge Main Bridge project

11. Finance Committee ("FC") previously had approved funding related to various pre-construction preparatory works for the HZMB Main Bridge. For instance, in June 2008, FC approved funding of \$46.6 million in money-of-the-day ("MOD") prices for funding the HKSAR's share of the cost for some preconstruction works for the HZMB, which included physical modelling studies and design refinement for the HZMB. In February 2009, FC approved funding of \$233.5 million in MOD prices for funding the HKSAR's share of the cost for the preliminary design and site investigation works for the HZMB Main Bridge.

12. In May 2009, the Finance Committee ("FC") approved the funding of \$9,046.5 million in MOD prices for the detailed design and construction of the HZMB Main Bridge. Following the State Council's formal approval of the Feasibility Study report of the HZMB project in October 2009, the construction of the Main Bridge commenced in mid-December 2009. The works of the HZMB Main Bridge in the Mainland waters are overseen by the HZMB Authority.³

Major views and concerns expressed by members

13. The major views and concerns of LegCo Members on the financing arrangement for the HZMB Main Bridge project and related issues, including those expressed during meetings of FC, Public Works Subcommittee and the Panel, are summarized in the ensuing paragraphs.

Financing arrangement

14. A member criticized that the financing arrangement of HZMB was unfair to Hong Kong. While Macao would be a major beneficiary of the construction of the Bridge, Hong Kong would have to contribute three and a half times more than Macao in return for far less benefits. The Administration responded that Hong Kong's contribution to the construction cost of the HZMB Main Bridge was based on a careful assessment of the economic benefits to the three territories vis-à-vis the cost.

³ The HZMB Authority is jointly established by the governments of Guangdong, Hong Kong and Macao pursuant to the Mainland laws and is non-profit-making public institution legal person.

15. A member noted that the split of the three governments' subsidy to the project cost of the HZMB Main Bridge had been determined in accordance with the principle of Equalization of Benefit to Cost Ratio, which was an approach to equalize the ratio of the estimated benefit obtained to the estimated cost incurred for a joint investment from different territories with different economic status. Pointing out that the estimated benefit might not be entirely accurate, the member asked whether a mechanism was in place for making adjustments to the amounts of contribution by the three governments where necessary. The Administration responded that there was no such a mechanism as there would be great difficulty in deciding on the methodology to be used for making any adjustments. The amounts of the three governments' contribution to the project cost had been apportioned very carefully in accordance with well-established international practices.

Cost overrun of Hong Kong-Zhuhai-Macao Bridge Main Bridge

16. At the PWSC meeting on 4 December 2018, members requested the Administration to explain when the Administration was required to pay the estimated contribution of about RMB2 billion for the cost overrun of HZMB. They also enquired how the Administration would pay the additional cost of HZMB if the relevant funding proposal was rejected by FC or the Administration was unable to effect the payment, and the consequences or liabilities that would arise.

17. The Administration advised that as one of the parties of the agreement of the three governments, HKSAR Government shall fulfill the responsibility to contribute the share of the additional capital cost due to the cost overrun. The Mainland and Macao sides had already contributed their shares. The HZMB Authority was finalising its accounts for the Main Bridge project and would settle the outstanding payments for the construction of the Main Bridge with contractors and service providers in stages. Making reference to the timetable of the accounts finalisation of the HZMB Authority, the Administration would seek the approval from LegCo for the required additional funding.

Arrangements for sharing of revenue and expenditure

18. A member considered it necessary for the Administration to set out clearly the arrangements for the sharing of revenue amongst the three governments. The Administration advised that in addition to the contributions from the three governments, which was about 42% of the project cost, the remaining 58% would be financed by a bank loan for a 35-year period. The Administration would not treat HZMB as an investment project to generate investment returns, as the revenue of HZMB would be used to repay the

above-mentioned bank loan for construction and to meet the operation costs. As HZMB would operate in a self-sufficient manner, the revenue generated from tolls would only cover loan repayments and the daily operating costs, and there should not be much proceeds left for sharing among the three governments.

19. Pointing out that there was a great discrepancy in the actual usage of HZMB since its commissioning in October 2018 vis-à-vis the earlier traffic forecast provided by the Administration, members were concerned about the utilization of HZMB and the imbalance of revenue and expenditure during the operational stage of HZMB given its low utilization. Some members also enquired how would the three governments apportion the losses if the operating revenue of HZMB was not sufficient to cover its cost.

20. The Administration advised that the HZMB Authority was established pursuant to the Mainland laws as a non-profit-making public institution legal person to be responsible for the construction, operation, management and maintenance (including financial matters) of the HZMB Main Bridge as well as collecting tolls from vehicles using the HZMB Main Bridge. The HZMB Main Bridge was located within the Mainland waters and the Toll Plaza was also situated in the Mainland. According to the territoriality principle and the agreement of the governments of Hong Kong, Guangdong and Macao, the HZMB Authority collected tolls from vehicles using the HZMB Main Bridge in accordance with the laws of the Mainland to repay the bank loan and meet the expenses of the daily operation and maintenance of the HZMB. The toll income was not received by the Hong Kong Government. It was not appropriate for the Government to disclose relevant information relating to the income and expenditure, as well as profit and loss of the HZMB unilaterally. The governments of the three places would pay close attention to the operation of the HZMB and viable enhancement proposals, including launching measures to increase the vehicular flow of the HZMB with a view to better utilising the HZMB.

21. A member enquired about the maintenance cost for the HZMB Main Bridge contributed by Hong Kong. The Administration advised that since the HZMB Main Bridge was situated in Mainland waters, its construction works and daily management are implemented in accordance with the Mainland laws and regulations. According to the agreement of the three governments, the HZMB Authority was responsible for the construction, operation, management and maintenance of the Main Bridge. Therefore, the maintenance cost of the HZMB Main Bridge would be borne by the HZMB Authority.

Relevant papers

22. A list of relevant papers is in **Appendix II**.

Latest developments

23. The Administration will consult the Panel on the proposed increase in funding support for 8003QR "Hong Kong-Zhuhai-Macao Bridge – funding support for Main Bridge" at the meeting to be held on 15 January 2021.

Council Business Division 4
Legislative Council Secretariat
12 January 2021

List of relevant papers

Date of meeting/ document	Panel/ Committee	Minutes/Paper	LC Paper No.
19.12.2008	Panel on Transport ("TP")	Administration's paper	CB(1)406/08-09(03) http://www.legco.gov.hk/yr08-09/english/panels/tp/papers/tp1219cb1-406-3-e.pdf
		Administration's paper	CB(1)434/08-09(01) http://www.legco.gov.hk/yr08-09/english/panels/tp/papers/tp1219cb1-434-1-e.pdf
		Minutes of meeting	CB(1)831/08-09 http://www.legco.gov.hk/yr08-09/english/panels/tp/minutes/tp20081219.pdf
24.4.2009	TP	Administration's paper	CB(1)1337/08-09(03) http://www.legco.gov.hk/yr08-09/english/panels/tp/papers/tp0424cb1-1337-3-e.pdf
		Minutes of meeting	CB(1)2541/08-09 http://www.legco.gov.hk/yr08-09/english/panels/tp/minutes/tp20090424.pdf

Date of meeting/ document	Panel/ Committee	Minutes/Paper	LC Paper No.
6.5.2009	Public Works Subcommittee ("PWSC")	Administration's papers	PWSC(2009-10)17 http://www.legco.gov.hk/yr08-09/english/fc/pwsc/papers/p09-17e.pdf PWSC(2009-10)18 http://www.legco.gov.hk/yr08-09/english/fc/pwsc/papers/p09-18e.pdf
		Minutes of meeting	PWSC97/08-09 http://www.legco.gov.hk/yr08-09/english/fc/pwsc/minutes/pwsc20090506.pdf
22.5.2009	Finance Committee ("FC")	Administration's paper	FCR(2009-10)14 https://www.legco.gov.hk/yr08-09/english/fc/fc/papers/f09-14e.pdf
		Minutes of meeting	FC156/08-09 https://www.legco.gov.hk/yr08-09/english/fc/fc/minutes/fc20090522.pdf
30.3.2010	TP	Administration's paper	CB(1)1354/09-10(01) http://www.legco.gov.hk/yr09-10/english/panels/tp/papers/tpcb1-1354-1-e.pdf

Date of meeting/ document	Panel/ Committee	Minutes/Paper	LC Paper No.
25.4.2012	TP	Administration's follow-up paper	CB(1)1754/11-12(01) https://www.legco.gov.hk/yr11-12/english/panels/tp/papers/tp0425cb1-1754-1-e.pdf
24.2.2017	TP	Administration's papers	CB(4)584/16-17(01) http://www.legco.gov.hk/yr16-17/english/panels/tp/papers/tpcb4-584-1-e.pdf
		Updated background brief prepared by the Legislative Council Secretariat	CB(4)578/16-17(04) http://www.legco.gov.hk/yr16-17/english/panels/tp/papers/tp20170224cb4-578-4-e.pdf
		Minutes of meeting	CB(4)1425/16-17 http://www.legco.gov.hk/yr16-17/english/panels/tp/minutes/tp20170224.pdf
5.4.2017	FC	Replies to initial written questions raised by FC Members in examining the Estimates of Expenditure 2017-2018 (Reply Serial Nos.: THB(T)043, 074, 110, 139, 229, 261, 270, 287 and 305)	https://www.legco.gov.hk/yr16-17/english/fc/fc/w_q/tb-t-e.pdf

Date of meeting/ document	Panel/ Committee	Minutes/Paper	LC Paper No.
15.1.2018	PWSC	Minutes of meeting	PWSC215/17-18 https://www.legco.gov.hk/yr17-18/english/fc/pwsc/minutes/pwsc20180115.pdf
		Administration's follow-up paper	PWSC69/18-19(01) https://www.legco.gov.hk/yr18-19/english/fc/pwsc/papers/pwsc20181204pwsc-69-1-e.pdf
18.4.2018	FC	Replies to initial written questions raised by FC Members in examining the Estimates of Expenditure 2018-2019 (Reply Serial Nos.: THB(T)025, 028, 102, 298 and 313)	http://www.legco.gov.hk/yr17-18/english/fc/fc/w_q/thb-t-e.pdf
18.5.2018	TP	Background brief prepared by the Legislative Council Secretariat	CB(4)1072/17-18(04) https://www.legco.gov.hk/yr17-18/english/panels/tp/papers/tp20180518cb4-1072-4-e.pdf
4.12.2018	PWSC	Minutes of meeting	PWSC54/19-20 https://www.legco.gov.hk/yr18-19/english/fc/pwsc/minutes/pwsc20181204.pdf

Date of meeting/ document	Panel/ Committee	Minutes/Paper	LC Paper No.
10.4.2019	FC	Replies to initial written questions raised by FC Members in examining the Estimates of Expenditure 2019-2020 (Reply Serial Nos.: THB(T)011 and 078)	https://www.legco.gov.hk/yr18-19/english/fc/fc/w_q/thb-t-e.pdf
25.10.2019	TP	Minutes of meeting	CB(4)280/19-20 https://www.legco.gov.hk/yr19-20/english/panels/tp/minutes/tp20191025.pdf
11.2019	TP	Administration's response to issues relating to the utilization of the Hong Kong-Zhuhai Macao Bridge raised by Hon LAM Cheuk-ting	CB(4)136/19-20(01) https://www.legco.gov.hk/yr19-20/english/panels/tp/papers/tpcb4-136-1-e.pdf
6.4.2020	FC	Replies to initial written questions raised by FC Members in examining the Estimates of Expenditure 2020-2021 (Reply Serial Nos.: THB(T)052, 069 and 093)	https://www.legco.gov.hk/yr19-20/english/fc/fc/w_q/thb-t-e.pdf