

**Legislative Council Panel on Transport  
Subcommittee on Matters Relating to Railways**

**Progress Update of the Construction of the Shatin to Central Link  
(As at 30 September 2019)**

(Translation)

**Introduction**

This paper reports to Members on the progress of the main construction works of the Shatin to Central Link (“SCL”) as at 30 September 2019.

**Background**

2. SCL, with a total length of 17 kilometres, consists of the following two sections –

- (a) Tai Wai to Hung Hom Section: this is an extension of the Ma On Shan Line from Tai Wai via Southeast Kowloon to Hung Hom where it will join the West Rail Line; and
- (b) Hung Hom to Admiralty Section: this is an extension of the East Rail Line from Hung Hom across the Victoria Harbour to Wan Chai North and Admiralty.

3. There are ten stations in SCL. Apart from bringing improvements to the existing Tai Wai Station, the SCL project involves construction of new stations or extension of existing stations at Hin Keng, Diamond Hill, Kai Tak, Sung Wong Toi, To Kwa Wan, Ho Man Tin, Hung Hom, the Hong Kong Convention and Exhibition Centre, and Admiralty. It is a territory-wide strategic railway project (alignment layout at **Annex 1**). Admiralty Station and Ho Man Tin Station will become integrated stations providing interchange service to passengers of SCL and South Island Line (East)(“SIL(E)”), as well as passengers of SCL and Kwun Tong Line Extension (“KTE”) respectively.

4. The entire SCL project is funded by the Government under the “concession approach”. The MTR Corporation Limited (“MTRCL”) is entrusted by the Government to carry out the construction of the project. On 18 February 2011, the

Finance Committee of the Legislative Council approved the funding applications for “**63TR** – Shatin to Central Link – construction of railway works – advance works” and “**64TR** – Shatin to Central Link – construction of non-railway works – advance works” with a total of about **\$7,700 million** (in money-of-the-day prices). Thereafter, the Government and MTRCL entered into an agreement for entrusting to the latter the advance works of SCL at the expanded Admiralty Station and Ho Man Tin Station while implementing SIL(E) and KTE respectively. The advance works commenced in May 2011.

5. Regarding the main works of SCL, the Finance Committee of the Legislative Council approved the funding applications on 11 May 2012 for “**61TR** – Shatin to Central Link – construction of railway works – remaining works” and “**62TR** – Shatin to Central Link – construction of non-railway works – remaining works” with a total of about **\$71,400 million** (in money-of-the-day prices). Thereafter, the Government and MTRCL entered into an agreement for entrusting construction, testing and commissioning of the main works of SCL to the latter. The entrustment cost concerned is about \$70.8 billion. MTRCL has been entrusted to provide management and monitoring service to the SCL project. The main works commenced in July 2012. According to the agreement for the main works of SCL, the original target commissioning date for the “Tai Wai to Hung Hom Section” is December 2018 and the original target commissioning date for the “Hung Hom to Admiralty Section” is December 2020.

6. The Finance Committee of the Legislative Council approved the funding application for increasing the Approved Project Estimate of **63TR** by \$847.7 million from \$6,254.9 million to \$7,102.6 million at its meeting on 17 June 2017 for the additional fund required by the Government for the SCL advance railway works. The Approved Project Estimate for the entire SCL project is adjusted upward from the original estimate of \$79,800 million to **\$80,700 million**<sup>1</sup> (in money-of-the-day prices).

7. The Government received the revised cost estimate of the main works of the SCL project from MTRCL on 5 December 2017. MTRCL indicated a need of adjusting upward the entrustment cost of the main works of the SCL project, from

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<sup>1</sup> The Approved Project Estimate for the entire SCL project comprises (i) Protection Works (**58TR** Shatin to Central Link – construction of railway works – protection works and **59TR** Shatin to Central Link – construction of railway works – protection works in Wan Chai Development Phase II) of about \$700 million (in money-of-the-day prices); (ii) Advance Works (**63TR** and **64TR**) of about \$8,600 million (in money-of-the-day prices); and (iii) Main Works (**61TR** and **62TR**) of about \$71,400 million (in money-of-the-day prices). The total is about \$80,700 million.

\$70.8 billion to \$87.3 billion, i.e. an increase of about \$16.5 billion. MTRCL considered that the main reasons for the increase in construction cost including the archaeological and conservation works at Sung Wong Toi Station, the additional expenses due to delays in the handover of work sites at Wan Chai north, and the station works required for allowing flexibility for the topside development at Exhibition Centre Station.

8. Since December 2017 when MTRCL submitted the revised cost estimate of the main works of SCL project, the Highways Department (“HyD”), in collaboration with the monitoring and verification (“M&V”) consultant, has held several meetings with MTRCL, and is reviewing rigorously the information given by MTRCL as well as the assumptions and basis of the cost estimate of works by MTRCL to ascertain whether there are sufficient justifications for the estimate. Currently, MTRCL is revising the latest cost estimate of the main works of the SCL project. Upon completion of the detailed assessment and review on the revised cost estimate, the Government will apply for additional funds from the LegCo to continue with the SCL works.

### **Latest Progress of the Main Works**

9. The progress report of the SCL project as at 30 September 2019 submitted by MTRCL is at **Annex 2**. Our analysis and supplement on the progress report are provided below.

### **Tai Wai to Hung Hom Section**

*Shatin Section (Section of Railway between Tai Wai Station and Ma Chai Hang, Wong Tai Sin, including Hin Keng Station and Modification of Station Platforms of Ma On Shan Line)*

10. The works of the Shatin Section (including Tai Wai Station modification works and Hin Keng Station) was substantially completed. Trial operation was underway.

*Wong Tai Sin Section (Section of Railway between Ma Chai Hang, Wong Tai Sin and Kai Tak, including Diamond Hill Station)*

11. The works of the Wong Tai Sin Section was substantially completed. Trial operation was underway.

*Kowloon City Section (Section of Railway between Kai Tak Station to Ho Man Tin Station, including Sung Wong Toi Station (formerly named as To Kwa Wan Station) and To Kwa Wan Station (formerly named as Ma Tau Wai Station))*

*Kai Tak Station*

12. The works of Kai Tak Station was substantially completed. Trial operations was underway.

*Sung Wong Toi Station*

13. As we stated in the papers submitted to this Subcommittee and the Panel on Development in November 2014, due to the preservation in-situ of the remnants at and in the vicinity of Adit C connecting the station and Pak Tai Street (i.e. items 6 to 10 of the archaeological features at **Annex 3**), the entire alignment of the adit would be seriously affected. It would be necessary to identify a suitable alternative alignment. MTRCL awarded a works contract in July 2018 to study the alternative alignment of Adit C, including the archaeological investigation work along the alternative alignments. In other words, Adit C connecting the station and Pak Tai Street would hardly be completed at the same time as Sung Wong Toi Station. A temporary access at-grade would be required to connect the station entrance/exit. In case that suitable and cost-effective alternative alignment could not be constructed eventually as a result of further archaeological discoveries or other constraints of on-site situation, residents in the vicinity of Pak Tai Street could still use the existing pedestrian crossing facilities at Sung Wong Toi Road to gain access to Sung Wong Toi Station (see **Annex 4**). MTRCL is constructing the additional at-grade crossing at Sung Wong Toi Road and Tam Kung Road, which is adjacent to Pak Tai Street, for reducing the walking distance between the vicinity of Pak Tai Street and the station entrance/exit. MTRCL temporarily closed part of the Pak Tai Street in June 2019 and commenced the archaeological investigation work at key connection locations in July 2019. Upon completion of the preliminary study on the replacement of the alignment of the Adit C and other alternative scheme for connecting the station, MTRCL will consult the Kowloon City district council and relevant local community about to the relevant result of the preliminary study so as to ensure that the alternative scheme was as convenient as possible and could meet the residents' needs.

14. After completion of the archaeological investigation work in 2014, the construction works of Sung Wong Toi Station fully resumed in March 2015. The building services works, E&M works and statutory inspections of the station were substantially completed. Reinstatement of roads in the vicinity of the station was in progress. With reinstatement works substantially completed in September 2019 and handed over to the relevant Government departments, Olympic Garden and Sung Wong Toi Playground were opened for public use.

#### *To Kwa Wan Station*

15. The works of To Kwa Wan Station was substantially completed. Underground utilities at Ma Tau Wai Road were being reinstated. With reinstatement completed in September 2019, leisure facilities including Lok Shan Road Playground, To Kwa Wan Complex Playground and Ma Tau Wai Road/San Shan Road Amenity Plot were handed over to the relevant Government departments and opened for public use. To cater for the underground construction works of To Kwa Wan Station, the traffic diversion had to be implemented for a section of Ma Tau Wai Road between Chi Kiang Street and Sheung Heung Road. Most of the section of Ma Tau Wai Road affected by the SCL works are operating in two-lane and two-way mode. It is expected that Ma Tau Wai Road will be resumed in three-lane and two-way mode in phases progressively starting from the end of 2019.

16. The status of the settlement monitoring points near the To Kwa Wan Station was presented in details at the special meeting of Subcommittee on Matters Relating to Railways on 31 August 2018. Currently, the cumulative settlement of the affected facilities near To Kwa Wan Station, including buildings, public utilities and roads, does not exceed the pre-set or updated trigger levels. The MTRCL would continue to monitor these monitoring points. In view of the public's concerns, in January 2019, MTRCL launched the scheme "To Kwa Wan Station Community Care Programme" on a without prejudice basis for the provision of financial assistance through simplified procedures and practical means to the affected owners of building units in the vicinity of To Kwa Wan Station for repairing walls in their units. Registration period of the "To Kwa Wan Station Community Care Programme" lapsed in June 2019. The professional building surveying consultant appointed to execute the programme continues processing the applications received.

*Hung Hom Section (Section of Railway between Ho Man Tin Station and Hung Hom Station, including the modification works of Hung Hom Station and associated tunnelling works)*

17. E&M installation works adjacent to the railway track in the tunnel of the section from Ho Man Tin Station to Hung Hom Station were completed. For the tunnel section near Princess Margaret Road connecting the East Rail Line and the new platforms of Hung Hom Station, track laying works and E&M installation works adjacent to the railway track were substantially completed.

18. The Government attaches great importance to the incident of re-bar cutting at the platform of the Hung Hom Station Extension under the SCL project reported in end-May 2018 as it is related to public safety. The Chief Executive in Council appointed on 10 July 2018 a Commission of Inquiry (“Commission”) which is chaired by Michael Hartmann, former Non-Permanent Judge of the Court of Final Appeal, under the Commissions of Inquiry Ordinance (Chapter 86) to carry out investigations on the facts and circumstances surrounding the construction works of the diaphragm wall and platform slab of Hung Hom Station Extension under the SCL project. The Commission would review the MTRCL’s project management system and supervision system, etc. as well as the monitoring and regulatory mechanisms of the Government, and would also suggest appropriate measures in order to promote public safety and assurance on the quality of works.

19. Since MTRCL has failed to submit comprehensive as-constructed records including the working drawings used during construction to ascertain the as-constructed condition and clarify the quality of works where there were honeycomb etc, the Transport and Housing Bureau (“THB”) and its Expert Adviser Team (“EAT”), relevant government departments, experts of the Department of Civil Engineering and the Department of Statistics and Actuarial Science of the University of Hong Kong (HKU) and MTRCL have held several meetings to discuss the solutions. The Government requested MTRCL to formulate a holistic strategy to verify the condition of the platform slab structure of the Hung Hom Station Extension.

20. After several discussions between the government and MTRCL, MTRCL submitted the proposed holistic assessment strategy on 4 December 2018. According to the MTRCL’s proposal, the holistic assessment will be conducted in three stages. For the first stage, the MTRCL will review the relevant construction records and the latest design amendment drawings. In the second stage, MTRCL

will open up part of the East West Corridor and the North South Corridor platform slabs to verify the details of the rebar connections and whether the couplers and rebars are properly connected. In the third stage, MTRCL will conduct a comprehensive review and analysis of the structural safety and integrity of the entire Hung Hom Station based on the verification results of the first and second stages to ascertain if the overall structural integrity of the works is acceptable and determine if it is necessary to carry out strengthening works. On 5 December 2018, the Government accepted the proposed holistic assessment strategy submitted by the MTRCL regarding the platform slabs and diaphragm wall of the Hung Hom Station Extension under the SCL.

21. The opening-up of concrete and the Phased Array Ultrasonic Tests (“PAUT”) under the second stage were completed on 29 April 2019. The relevant results have been uploaded to the Highways Department's website for the SCL project for reference by the public. MTRCL also completed the works in the third stage of the holistic assessment strategy. On 18 July 2019, the Government scrutinized and accepted the MTRCL’s final report on the holistic assessment strategy for the Hung Hom Station Extension. The report was submitted to the Commission and uploaded to the Highways Department's website for the SCL project ([https://www.hyd.gov.hk/en/road\\_and\\_railway/railway\\_projects/scl/index.html](https://www.hyd.gov.hk/en/road_and_railway/railway_projects/scl/index.html)) on the same day for reference by the public. According to the final report, MTRCL proposed suitable measures to address poor workmanship issues and to attain the requirements of the Code of Practice for Structural Use of Concrete under the Buildings Ordinance (“BO”) as well as established good practice of engineering design. The suitable measures including drilled-in bars, local thickening of slabs, reinstatement of shear links, addition of columns, grouting, etc, are proposed to address the workmanship issues of coupler connections, shear links, horizontal construction joints, seepage, etc. MTRCL completed the design in September 2019, and commenced the relevant works of the approved design progressively in November 2019. MTRCL would develop a long-term structural monitoring scheme as part of the suitable measures including instrumentation and inspection to monitor the ongoing structural integrity of the structure. MTRCL is further developing the details of the long-term structural monitoring scheme, and will submit to the Government for acceptance.

22. Apart from the Hung Hom Station, the Government also checked the major structural works of other stations of the SCL project to confirm if there are quality issues similar to those at the Hung Hom Station Extension. Under the supervision

of the EAT of THB, HyD and the M&V consultant completed the review of the works of Tai Wai Station, Hin Keng Station, Diamond Hill Station, Kai Tak Station, Sung Wong Toi Station and To Kwa Wan Station along East West Corridor under the SCL project focusing on the deficiencies of the records related to quality control of works and site supervision. MTRCL was informed of the findings, and was requested to investigate into the deficiencies identified during inspection for proposing remedial actions. Besides, MTRCL voluntarily conducted an internal audit on the major works of Tai Wai Station, Hin Keng Station, Diamond Hill Station, Kai Tak Station, Sung Wong Toi Station, To Kwa Wan Station and Ho Man Tin Station. Result shows that about 90% of the structure related Request for Inspection and Survey Check (“RISC”) forms are available. These results are generally consistent with the findings of the sampling audit conducted by the M&V Consultant. MTRCL conducted an investigation into the incomplete construction records and proposed to the Government relevant remedial actions including the employment of independent Registered Structural Engineer and the regular monitoring of relevant station structures after the commissioning for assurance of the structural safety.

23. The Government made a public announcement on 30 January 2019 that some of the works-related documentation of the North Approach Tunnels (NAT), the South Approach Tunnels (SAT) and the Hung Hom Stabling Sidings (HHS) were missing and some of the construction works involving deviations from the designs, plans or drawings accepted by HyD or BD might have been carried out. The Chief Executive in Council approved on 19 February 2019 the expansion of the terms of reference of the Commission of Inquiry under the chairmanship of Mr Michael Hartmann, former Non-Permanent Judge of the Court of Final Appeal, to inquire into the above issues.

24. The Commission submitted to the Chief Executive on 25 February 2019 the Interim Report of Commission of Inquiry into the Construction Works at and near Hung Hom Station Extension. Based on legal consideration, the Government released the redacted Interim Report on 26 March 2019 to avoid any prejudice (actual or perceived) to any ongoing criminal investigations and any potential prosecutions of any criminal offences in the future (if so decided to be justified after the relevant investigations).

25. The Commission conducted the hearing to take factual evidence for the extended inquiry between 27 May and 17 June 2019, commenced hearing on the expert evidence on 23 September 2019 and planned to finish the substantive hearing

by mid-February 2020. To conduct hearings on new issues raised in the two reports submitted by MTRCL on 18 July 2019 and at the request of the Commission, the Chief Executive in Council approved on 10 September 2019 an extension of time for the Commission to submit its final report to the Chief Executive by 31 March 2020.

26. Regarding the issues announced on 30 January 2019 (see above paragraph 23), the Government sternly requested MTRCL to provide a detailed account of the case; review whether there are similar problems in other parts of the relevant contract; submit a holistic study to ascertain the as-constructed conditions; and assess the programme implications on the full or partial commissioning of the Tuen Ma Line. On 7 May 2019, MTRCL submitted a Verification Proposal of As-Constructed Conditions of the NAT, SAT and HHS to HyD. After discussions with EAT, HyD and BD, MTRCL submitted a revised Verification Proposal to HyD on 15 May 2019. The Government accepted the Verification Proposal on 15 May 2019, and urged MTRCL to expedite the verification works. The Proposal consists of two parts. Part one consolidates and verifies available construction records; and reviews and ascertains as-constructed conditions of the structures. Part two conducts a structural review. The Government scrutinized and accepted the MTRCL's final verification study report on as-constructed conditions of the NAT, SAT and HHS on 18 July 2019. The report was submitted to the Commission on the same day and uploaded to the Highways Department's web page for the SCL project ([https://www.hyd.gov.hk/en/road\\_and\\_railway/railway\\_projects/scl/index.html](https://www.hyd.gov.hk/en/road_and_railway/railway_projects/scl/index.html)) for reference by the public. Based on the results of the structural review in the final verification study report and to ensure structural integrity, MTRCL proposed suitable measures at certain locations at the SAT under the North South Line and trough walls of the HHS. MTRCL completed the design in September 2019, and commenced the relevant works of the approved design progressively in October 2019. MTRCL will further develop the details of these measures for submission to the Government for acceptance. The required measures are to be implemented concurrently with those for the HUH Extension.

## **Hung Hom to Admiralty Section**

### *Cross Harbour Section (Section of the tunnel across Victoria Harbour)*

27. The track laying works inside the cross harbour tunnel were completed and the E&M installation works adjacent to the railway track continued. The overall

progress of the cross harbour tunnel section is generally on schedule.

28. Upon completion of the phased seabed improvement works in the Causeway Bay Typhoon Shelter (CBTS), MTRCL would gradually start re-arranging the permanent mooring of vessels affected by the previous works. MTRCL would continue communicating with relevant government departments and stakeholders within CBTS.

*Hong Kong Island Section (Section of Railway between Wan Chai North and Admiralty Station, including Exhibition Centre Station)*

29. Bulk excavation works at the Exhibition Centre Station and Western Approach Tunnels were substantially completed in June 2019. Base slab construction in the station was completed in August 2019; works continued at platforms and concourse levels. Remaining foundation works for the connecting footbridges to the future station, facilities at Wan Chai Sports Ground and the topside development were in progress. Construction of the down track of the Western Approach Tunnels was completed in October 2019. For the West Ventilation Building located at Fleming Road, construction of the basement levels between level 6<sup>th</sup> and 8<sup>th</sup> were completed. The works for the 5<sup>th</sup> basement level was underway.

30. To facilitate the remaining construction works of the Exhibition Centre Station, it is necessary to continue the temporary traffic management measures in stages at Wan Chai North. In September 2019, the temporary traffic management measures at the junction of Tonnochy Road, Harbour Road and Convention Avenue moved to another stage.

31. At the former Harbour Road Sport Centre (HRSC) and Wan Chai Swimming Pool sites, which were demolished to make room for the construction of Exhibition Centre Station, results of the further ground investigation works at the original HRSC showed that the actual rockhead level was higher than anticipated, thus requiring the need to excavate more rock, protracting the construction period and affecting the progress of the works.

32. After the erection of a section of the permanent footbridge at Convention Avenue connecting to Wan Chai Ferry Pier in November 2018, MTRCL scheduled the re-provision of the remaining section of the permanent footbridge and the

demolition of the associated temporary footbridge in 2020. By then, Convention Avenue would be temporarily closed for several nights for the construction of the relevant works.

33. To deal with a left-in pipe pile located at Fenwick Pier Street, MTRCL's contractor had carried out grouting works in the vicinity of the abandoned pile to replace the construction of part of the diaphragm wall there. MTRCL also completed the construction of a flood protection wall at the western approach tunnel under the atrium of the convention centre to cope with possible flooding risk due to the changes in the continuous diaphragm walls as mentioned above. Subsequent to the completion of the excavation works at the concerned location, risk of flooding is significantly reduced. The structural works for the SCL tunnels were completed. MTRCL previously indicated that given the issue of the left-in pipe pile, there would be a further 3-month delay to the progress of the SCL and an increase in construction cost.

34. The details about the settlement monitoring points in Wan Chai North were presented at the special meeting of Subcommittee on Matters Relating to Railways on 31 August 2018 as well as the subsequent quarterly progress update. According to MTRCL's monitoring data, the cumulative settlement of the affected facilities near Exhibition Centre Station, including buildings, public utilities and roads, does not exceed the pre-set or updated trigger levels. As at 30 September 2019, no revision to the pre-set trigger levels was made.

## **Conclusion**

35. In view of the assessments as mentioned in paragraphs 9 to 34 above, taking into account the delay of about 11 months to the "Tai Wai to Hung Hom Section" of SCL arising from the archaeological works, archaeological discoveries and conservation options for archaeological features at Sung Wong Toi Station from 2012 to 2014, the commissioning date of "Tai Wai to Hung Hom Section" was deferred to end 2019. With the implementation of delay recovery measures, the target commissioning date of the "Tai Wai to Hung Hom Section" could originally be advanced to mid-2019. However, due to the series of incidents related to the quality of works of the Hung Hom Station Extension revealed in May last year, associated investigation works and proposed suitable measures, the target commissioning date of the "Tai Wai to Hung Hom Section" would be deferred to the end of 2021.

36. To ensure the public enjoyment of the new railway as soon as possible and with regard to safety and other factors for operational feasibility, MTRCL proposed and the Government accepted to duly commission of three new stations, namely Hin Keng Station, Diamond Hill Station Extension and Kai Tak Station, in the first quarter of 2020. Passengers of Ma On Shan Line would be able to commute directly to the three new stations via Tai Wai Station and the entire railway from Wu Kai Sha Station to Kai Tak Station is now officially named as “Tuen Ma Line Phase 1”.

37. With the works for Tuen Ma Line Phase 1 substantially completed, MTRCL commenced the trial operation on 28 October 2019 for commissioning in the first quarter of 2020. The trial operation covered the run-in of various systems for safety and reliability, and training of staff to familiarize themselves with the various operation systems and operating environment through the simulation of actual operating environment.

38. To facilitate the opening of Tuen Ma Line Phase 1, the Transport Department will strengthen public transport services to cover Kai Tak Station and Hin Keng Station to enable passengers to take the new railway line<sup>2</sup>. Also, existing public transport along the new railway line would be monitored and the relevant service arrangement would be adjusted when necessary according to actual demand. Besides, MTRCL will endeavor to provide interchange concessions with other public transport service operators<sup>3</sup> to facilitate passengers in To Kwa Wan and Kowloon City to use the new railway services.

39. As regards the North South Corridor<sup>4</sup> of the SCL project, given the impact of site handover arrangement under the Wan Chai Development Phase II project, complicated ground conditions below Exhibition Centre Station, settlement causing a suspension of the excavation works at the Exhibition Centre Station, as well as the allowance of flexibility for the construction of new convention facilities atop Exhibition Centre Station, the target commissioning date had previously been revised to 2021. Since the East Rail Line (EAL) is part of the North South Corridor, its signaling system has to be upgraded under the SCL Project. Since October

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<sup>2</sup> Including the operation of a green minibus service (Line 68S Hin Keng Station – Julimount Garden) and a franchised bus service (Citybus Line 22M Kai Tak Ferry Pier via Kai Tak Station – Prince Edward Road East – Circular Line) and extending a franchised bus service (KMB Line 5A Kowloon City (Shing Tak Street) - Tsim Sha Tsui) from Kowloon City to Kai Tak Station.

<sup>3</sup> Including the interchange concessions with KMB, Citybus and green minibuses services.

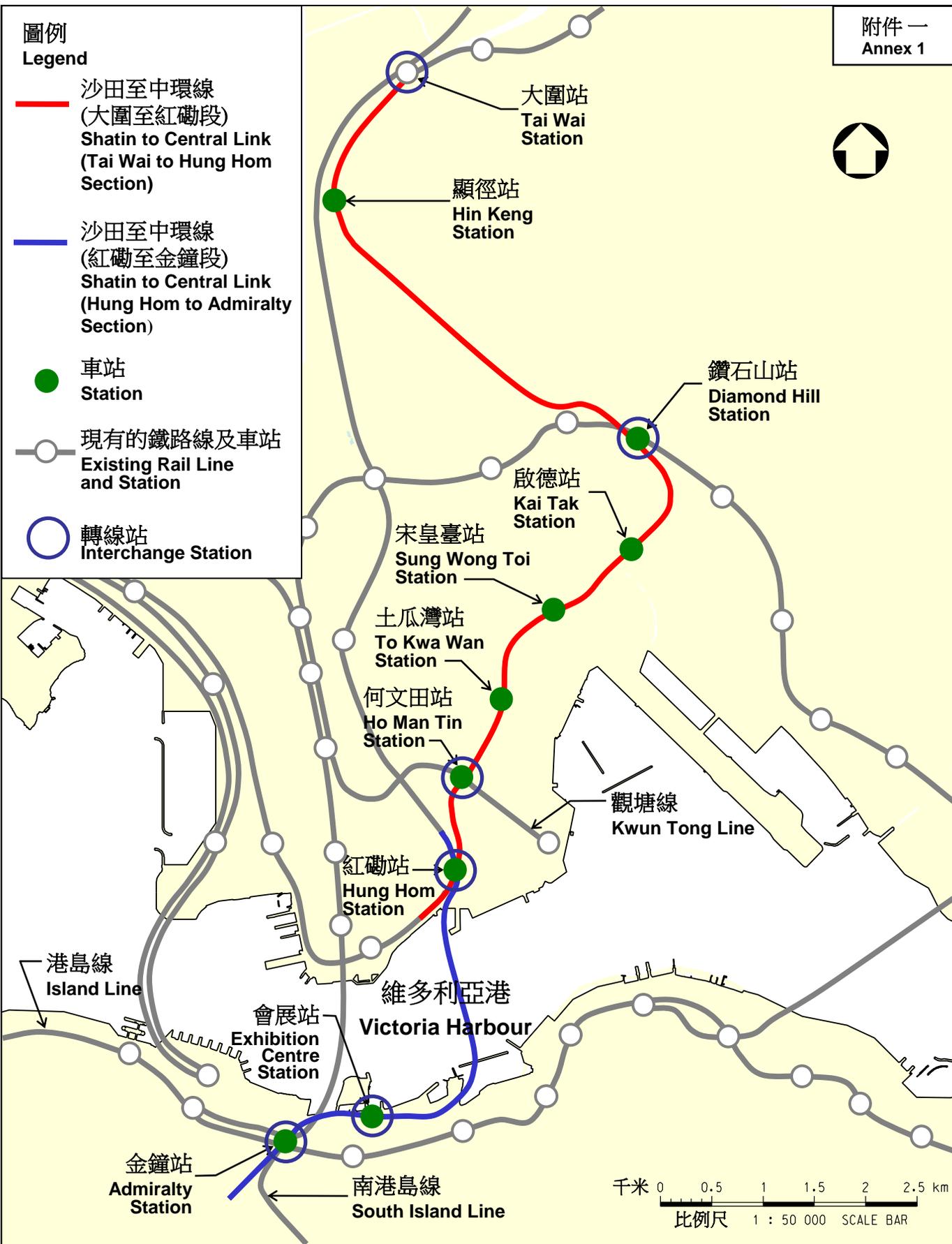
<sup>4</sup> North South Corridor is composed of the existing East Rail Line and the newly-built Hung Hom to Admiralty Section under the SCL Project. It will be renamed as the East Rail Line after commissioning.

2019, there had been multiple damages to the EAL facilities necessitating emergency inspections, maintenance and cancellation of works originally planned during non-traffic hours. The project team was thus unable to carry out the train test of new EAL signaling system as scheduled, subsequent conversion works for the 9-car trains, and track bifurcation works. As the new signaling system for EAL is a critical activity under the North South Corridor, MTRCL considered that the commissioning date for Hung Hom to Admiralty Section had to be deferred to the first quarter of 2022. In addition, MTRCL reported to HyD that there were serious damages to the facilities at the University Station of EAL and adjacent railway section in November 2019. The newly installed facilities for the signaling and E&M systems under the North South Corridor were also severely damaged. After conducting preliminary inspections, MTRCL indicated that the damaged signaling system and equipment included at least 80 sets of trackside cables (involving a total length of cables around 70 kilometres, about 35 kilometres of which require replacement based on preliminary inspections) and a number of sets of trackside signaling facilities. The extent being affected exceeded 4 kilometres. Since the facilities were severely damaged, unrepairable, and had to be re-purchased, replaced and re-tested, MTRCL was still assessing comprehensively the impact of the above incident. MTRCL also had to consider the knock-on impact caused by insufficient non-traffic hour for the SCL project due to the other reinstatement works for the EAL. Considering that more time is required for completing the remaining works in the North South Corridor, HyD and MTRCL are reviewing the construction schedule and exploring the feasibility of accelerating key activities. We will continue coordinating and overseeing the works for commissioning the project as soon as possible.

**Transport and Housing Bureau  
Highways Department  
December 2019**

圖例  
Legend

- 沙田至中環線  
(大圍至紅磡段)  
Shatin to Central Link  
(Tai Wai to Hung Hom Section)
- 沙田至中環線  
(紅磡至金鐘段)  
Shatin to Central Link  
(Hung Hom to Admiralty Section)
- 車站  
Station
- 現有的鐵路線及車站  
Existing Rail Line and Station
- 轉線站  
Interchange Station



圖則名稱 drawing title

# 沙田至中環線的走線

## Alignment of the Shatin to Central Link

圖號 drawing no.

HRWSCLO03-SK0465

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鐵路拓展處 RAILWAY DEVELOPMENT OFFICE



路政署  
HIGHWAYS DEPARTMENT

**Legislative Council Panel on Transport  
Subcommittee on Matters Relating to Railways**

**Progress Update of the Shatin to Central Link  
(As at 30 September 2019)**

**INTRODUCTION**

This report updates Subcommittee members on the progress of Shatin to Central Link (“SCL”) as at 30 September 2019.

**OVERVIEW OF THE SCL PROJECT**

Works progress

2. As at 30 September 2019, the overall works for SCL were 91% complete. Over 99% of the works of the Tai Wai to Hung Hom Section have been completed. Statutory inspections for stations and railway facilities are being conducted progressively. Hung Hom to Admiralty Section is 80% complete. Structural works for Exhibition Centre Station and the Western Approach Tunnel are in full swing. Track laying work is progressing well on the island.

3. After completing a detailed feasibility study, the Corporation recommended and Government accepted that phased opening of the Tuen Ma Line (“TML”), i.e. TML Phase 1, covering three stations at Hin Keng, Diamond Hill and Kai Tak is feasible. Opening of the TML Phase 1 is now targeted in the first quarter of 2020. Details are set out in Paragraph 41.

4. The detailed designs of the suitable measures at Hung Hom Station extension and adjacent structures are complete and being progressively accepted by Government. Implementation of the suitable measures has commenced following Government’s approval and we are expediting the work, targeting completion in mid-2020. Following completion of the suitable measures works in Hung Hom Station and subsequent reinstatement activities, testing and commissioning of the railway systems can proceed. Full TML opening is anticipated to be in 2021.

5. For the Hung Hom to Admiralty Section, once the TML Phase 1 is open we need to observe the diversion effect on the East Rail Line (“EAL”), before we commence two key activities. Firstly, we need to carry out some complicated trackwork realignment just north of Hung Hom Station (The bifurcation work) and secondly, we carry out the mixed fleet operation, changing the EAL trains from 12 cars to 9 cars train. Full line dynamic testing and reliability testing can then be conducted, followed by trial operations and finally commencement of passenger service.

6. The existing railway facilities along the EAL have suffered substantial damage due to the recent large scale public order events (POEs). Damage has also occurred to some of the Project works. Priority has to be given to repairing the operating railway systems so as to reinstate and maintain passenger services. Much of the repair work has to be done during non-traffic hours at night. Consequently, the night time possessions available for SCL work, including 9-car and 12-car mixed fleet activities and signalling testing, has been reduced. This is impacting the programme of the Hung Hom to Admiralty Section.

7. On Hong Kong Island, the majority of structural works of Hung Hom to Admiralty Section have been completed with the exception of Exhibition Centre Station and approach tunnels, where a delicate sequence of structural engineering activities is being undertaken. Following delays previously reported, delay recovery measures have been implemented, including the employment of additional resources and extended working hours within the allowable period. These are having some beneficial effect, but recovery is still a challenge given the complex nature of the works and difficult logistics. The programme for Exhibition Centre Station is close to being critical and is being closely monitored.

8. The programme is further complicated by the recent damage at EAL University Station, which will also impact the programme because of the need to use non-traffic hours possessions to repair the damage.

9. Taking account of matters referred to above, commencement of passenger services on the Hung Hom to Admiralty Section (East Rail Line extending to Admiralty Station) is now most likely to be in 2022. Efforts continue to optimise the programme.

#### *Progress in different sections*

10. SCL comprises six sections according to geographical location.

- (i) Sha Tin Section (Section of railway between Tai Wai Station and Ma Chai Hang in Wong Tai Sin)

11. Statutory inspections and fire services installation works for Hin Keng Station, the overhead line fixing and E&M installation works at the tunnel section inside Lion Rock, as well as the reinstatement of the above-ground works site at the Hin Keng portal area of Lion Rock tunnels are complete. As previously reported, due to the complicated geological conditions under the Hin Keng portal area of Lion Rock, a number of mitigation measures, such as increasing the blasting charge, re-sequencing of works procedures and adoption of alternative tunnel lining formwork design were adopted to recover the delay in works schedule.

- (ii) Wong Tai Sin Section (Section of railway between Ma Chai Hang and Kai Tak Station)

12. As previously reported, the first Tunnel Boring Machine (“TBM”) drive from Diamond Hill to Ma Chai Hang encountered substantial clay material, which required additional cleaning and maintenance of the TBM cutter head and more frequent changes of disc cutters. We had adopted changes to disc cutter design and modification of the cutter head and ancillary facilities during the works which recovered some of the delay.

13. The tunnels between Ma Chai Hang and Diamond Hill Station, including track-laying, overhead line and E&M installation and statutory inspections are complete.

14. At the Ma Chai Hang ventilation building, statutory inspections were completed in the first quarter of 2019.

15. Statutory inspections for the adjacent Wong Tai Sin Public Transport Terminus (“PTT”) are substantially complete. The design of the entrance / exit of lower deck of the PTT connected with Shatin Pass Road was revised as requested by relevant government departments. The corresponding temporary traffic management schemes are expected to be implemented at a later stage. With the completion of additional modification to the coach parking area at the upper deck to suit the latest operational and management arrangements, the coach parking area was handed over to the relevant Government department in late September 2019.

16. At Diamond Hill Station Extension, all statutory inspections were

completed in the first quarter of 2019. Modification works at the existing Diamond Hill Station to facilitate its transformation into an interchange station for the existing Kwun Tong Line and the future TML are substantially complete. Part of Entrance A2, which falls within the existing Diamond Hill Station boundary, was opened for public use in late February 2019. At the other end, the new structure connecting the existing Entrance B with the station extension was completed.

17. To cater for the development plan coordinated by the Housing Department, two historical structures, namely the former Royal Airforce Hanger and Old Pillbox, which were once stored within the site area of Diamond Hill Station, have been relocated to the future Water Feature Park of the Diamond Hill Comprehensive Development Area Site. To suit the latest works schedule of the Diamond Hill Comprehensive Area Site, the handover schedule of the original temporary storage area within the site area of Diamond Hill Station is now targeted to be handed over to relevant government departments by end 2020.

18. The tunnels between Diamond Hill and Kai Tak stations, including track-laying, overhead line and E&M installation and statutory inspections are complete.

(iii) Kowloon City Section (Section of railway between Kai Tak Station and Ho Man Tin Station)

19. Fitting out, E&M works and statutory inspections at Kai Tak Station are complete. The temporary footpaths connecting Kai Tak Station and the public roads in the vicinity are also substantially complete, while those connecting Muk On Street, Muk Chui Street, as well as Ko Fei Lane North and Muk Yuen Street were opened for public.

20. As mentioned in previous reports, the archaeological works at Sung Wong Toi Station caused a delay of 11 months to the original programme of the Tai Wai to Hung Hom Section. A number of delay recovery measures in Kowloon City area, such as re-sequencing the works and adjustment in site interface management, have recovered some of the delays.

21. Due to previous archaeological discoveries at Sung Wong Toi Station, the adit connecting Pak Tai Street could not be constructed according to the original plan. A separate archaeological survey is needed to identify a suitable alternative alignment for the construction of the adit. The survey started in July 2019 at key locations i.e. the connecting ends

at Pak Tai Street and the station. Subject to the findings, the survey may be extended to confirm the feasibility of an alternative alignment.

22. To provide an interim connectivity to Sung Wong Toi Station upon the full opening of TML, construction of the temporary at-grade crossing at Sung Wong Toi Road near Tam Kung Road are underway. Work commenced in October 2019 and is expected to be completed in the first quarter of 2020.

23. For Sung Wong Toi Station, statutory inspections and the remaining external finishing for the five station entrances are complete.

24. Reinstatement of Nam Kok Road footpath, Sung Wong Toi Playground and Olympic Garden was completed and opened for public use in the third quarter of 2019.

25. Statutory inspections for To Kwa Wan Station and the external finishing works for the four station entrances at Lok Shan Road, Kiang Su Street, Chi Kiang Street and outside To Kwa Wan Market are complete. Permanent reinstatement of the previously affected public utilities along Ma Tau Wai Road and nearby roads such as water mains, drainage system, electrical cables and roads is being carried out in phases.

(iv) Hung Hom Section (Section of railway between Ho Man Tin Station and Hung Hom Station)

26. Statutory inspection for the tunnel connecting Ho Man Tin and Hung Hom stations is complete. For the mainline tunnel connecting the existing EAL to the extension of Hung Hom Station to form the cross-harbour EAL, structural works, track works and E&M installation works are substantially complete.

27. With completion of all tunnel structures, the related temporary traffic management schemes along Chatham Road North, Winslow Street underpass slip road as well as Hong Chong Road slip road have been completed and re-opened for use. Reinstatement of Oi Sen Path walkway and amenity area is also complete and open for public use.

28. E&M works, building services and fitting out works for the future TML platforms built under the existing Hung Hom station podium are substantially complete, ready for testing and commissioning. Stage three modification works of the existing station, to accommodate future station

re-arrangements, including ABWF works, building services provisions, as well as new escalators and lifts installations are substantially complete.

(v) Cross Harbour Section (Section of railway across Victoria Harbour)

29. To extend the existing EAL across Victoria Harbour to Hong Kong Island, a new cross-harbour rail tunnel has been built under the SCL project by Immersed Tube Tunnel (“IMT”) method. Track laying works were completed in October 2019, E&M installation works including overhead line and trackside auxiliaries are progressing.

30. Marine work in the Causeway Bay Typhoon Shelter (“CBTS”) for SCL has been completed. To suit the schedule of the seabed improvement works in CBTS by other government infrastructure projects, moorings in CBTS will be reinstated in phases. The Corporation will continue to liaise with the Marine Department and relevant stakeholders to ensure that the mooring arrangement is well coordinated to minimise any impact.

(vi) Hong Kong Island Section (Section of railway on Hong Kong Island ending at Admiralty Station)

31. The tunnel between CBTS and Exhibition Centre Station is structurally complete, track laying works are substantially complete while E&M installation works are underway.

32. At the South Ventilation Building works site near CBTS, following the completion of foundation works and bulk excavation, construction works for the super-structure are in progress.

33. At the Tunnel Approach Rest Garden near CBTS, reinstatement of the rest area and recreational facilities is being carried out progressively and is expected to complete in 2020.

34. The tunnels between Fenwick Pier Street and Admiralty Station are structurally complete, track laying is now underway.

35. In Wan Chai North area, construction works for Exhibition Centre Station and the relevant railway facilities are on-going. Temporary traffic management schemes are being implemented in the area in stages to facilitate the construction works. With the progress of the construction of Exhibition Centre Station and to accommodate the road planning for the area by the relevant Government departments, a section of Tonnochy

Road between Harbour Road and Convention Avenue as well as its junction with Convention Avenue and Hung Hing Road was slightly realigned and reinstated north-westward in September 2019.

36. Following the completion of bulk excavation works for Exhibition Centre Station and the Western Approach Tunnel in June 2019, remaining foundation works, including the piling works to facilitate the station entrance and nearby facilities, are being carried out progressively. As unexploded bombs were discovered during excavation in the works sites previously, the project team are working in a prudent manner to ensure safety and minimise risk. In the meantime, structural work for the Exhibition Centre Station and Western Approach Tunnel, including the construction of the upper and lower platform levels, station concourse, tunnel boxes and ventilation facility is in full swing.

37. As reported previously, construction works have been affected by various factors, including initially delayed handover of critical works areas under the Wan Chai Development Phase II (“WDII”) project in Wan Chai North, the need to allow flexibility for the topside development above Exhibition Centre Station, and the uncompleted construction works of a section of diaphragm wall cofferdam entrusted to WDII. These caused additional construction cost and generated a delay of nine months to the construction of Exhibition Centre Station. Works was also affected by the discovery of wartime bombs and the subsequent temporary suspension and additional controls on relevant excavation works. Delay recovery measures have been implemented, including the employment of additional resources and extended working hours within the allowable period. These are having some beneficial effect, but recovery is still a challenge. The effectiveness of the delay recovery measures is being closely monitored and further measures are being investigated.

38. Subject to works progress, the footbridge across Convention Avenue is expected to be reinstated in 2020. The existing temporary footbridge will be dismantled after opening of the new footbridge.

39. The 900-metre overrun tunnel extending southwards from the SCL platform at Admiralty Station for future train regulation is structurally complete and track laying works are on-going. Reinstatement work at the Hong Kong Park works site and adjacent Supreme Court Road is substantially complete. For the ventilation building at Hong Kong Park, following completion of structural work in June 2019, architectural finishes are also now complete. Building services installation and vertical greening works are being carried out.

40. Track laying, architectural finishing works, building services, and E&M work including escalators for the extended Admiralty Station are all in progress.

## **OPENING OF THE TML PHASE 1**

41. After taking into consideration the operational arrangements, customer services and consequential impacts on full opening of the TML, the Corporation plans to open three new stations at Hin Keng, Diamond Hill and Kai Tak stations on the TML, i.e. the TML Phase 1, with a target opening date in the first quarter of 2020.

42. To ensure the new rail service is fully ready to receive passengers, trial operations of the TML Phase 1 commenced in late October 2019. The trial operations cover performance tests on the railway, train service and station facilities. In the later stage, train tests will be carried out in phases, operation patterns, including that of peak period, will be simulated according to the tentative train schedule of TML Phase 1.

43. While the preparation works for the opening of TML Phase 1 is in full swing, the large scale POEs over the last few months have caused damage to some TML Phase 1 station facilities, for instance, broken glazing of the station entrances and graffiti on the external wall of the stations. To ensure public safety, the damaged station facilities are now enclosed by fire resistant cladding panels.

44. As previously mentioned, the full opening of the TML will hinge on the implementation of the suitable measures at Hung Hom Station Extension and adjacent structures. We expect the TML can be fully opened about 12 months after completion of the suitable measures and reinstatement of railway services.

## **QUALITY AND SAFETY OF SCL CONSTRUCTION WORKS**

### Verification and assurance of Hung Hom Station Extension

#### *Holistic assessment strategy for Hung Hom Station Extension*

45. Safety and quality of railway projects have always been the top priorities of the Corporation and safety to the public and site workers had at no time been compromised. In response to allegations of poor workmanship, in order to provide assurance to the public's concerns on the structural safety of the Hung Hom Station Extension, the Corporation engaged external consultants to develop a set of measures to assess and verify the integrity of the station. In December 2018, Government accepted the Corporation's holistic proposal with a three-stage approach to verify the as-constructed conditions and the workmanship quality of the diaphragm walls, the EWL and NSL slabs to diaphragm wall connection.

46. In Stage One, a review of available construction records was conducted. The Stage Two on site physical investigations included the opening up and testing of coupler connections with the application of Phased Array Ultrasonic Testing ("PAUT"). Stage Two verification works were completed in April 2019. All information obtained in the first two stages was taken into account in the Stage Three structural assessment.

47. The Final Report on Holistic Assessment Strategy for the Hung Hom Station Extension was released in July 2019 after acceptance by Government and its Expert Advisor Team. The report concludes that the station structure is safe for the purpose of the ongoing construction activities, but suitable measures will be implemented to address workmanship issues and achieve code and contractual compliance. In addition, appropriate long-term monitoring scheme will be considered to monitor the ongoing structural integrity of the station.

*Verification study on as-constructed conditions of adjacent structures of Hung Hom Station*

48. As previously reported, the Corporation received from the Contractor, Leighton Contractors (Asia) Limited ("Leighton"), the as-constructed drawings for the construction of works adjacent to the Hung Hom Station, namely the North Approach Tunnels ("NAT") and South Approach Tunnels ("SAT"). The Corporation issued Non-conformance Reports ("NCRs") to Leighton in respect of the unavailable Request for Inspection and Survey Check ("RISC") forms relating to NAT and SAT in April 2018. In late 2018, a similar issue was identified at Hung Hom Stabling Sidings ("HHS").

49. In view of the information gaps identified in the construction records, the Corporation carried out a verification study of the as-constructed conditions of the NAT, SAT and HHS. The purposes of the study were to verify the construction records and ascertain the as-constructed conditions, and to conduct a structural review and devise schematic remedial works and an appropriate long-term monitoring scheme, if necessary. The Final Report was submitted to Government in July 2019. The conclusion, which has been accepted by Government, is that the structures are safe for the purpose of the ongoing construction activities, but suitable measures will be implemented to address workmanship issues at certain locations in SAT and HHS to achieve code and contractual compliance. Subsequently, a long-term monitoring scheme will be considered to monitor the ongoing structural integrity of the structures.

#### *Suitable measures*

50. Detailed designs of the suitable measures at the platform slabs and tunnel structures under Hung Hom Station Extension as well as SAT and HHS structures have been submitted to the Government.

51. The scope and extent of the suitable measures have been refined by the consultant designer taking into consideration the actual constructed conditions and by carrying out a more sophisticated and detailed structural modelling.

52. After a thorough review by Government, the design of the suitable measures in the HHS, Areas B and C of Hung Hom Station Extension have been accepted. The design of the suitable measures in SAT and Area A of Hung Hom Station Extension is still under review by Government and it is expected acceptance will be received by the end of November 2019.

53. The suitable measures will be implemented at Areas A, B and C at Hung Hom Station Extension, as well as at HHS and SAT respectively. The work involves a combination of slab and wall thickening, additional dowel bar reinforcement, some additional columns and struts to be installed at specific areas, etc.

54. Implementation of the suitable measures commenced in October 2019 following Government's acceptance of the design and we are expediting the work, targeting for completion in mid-2020, slightly ahead of the original plan. A dedicated supervision team has been deployed on

site to oversee the works to ensure they are in line with the site supervision plan. In addition, a digital supervision system is being used.

#### Verification of other new TML stations

55. The Corporation also completed an independent audit of key documentation for the five TML new stations, namely Hin Keng, Diamond Hill, Kai Tak, Sung Wong Toi and To Kwa Wan. Audit results show that over 90% of the structure related RISC forms are available, while further supplementary evidence, such as photographs and site diaries, has been identified to demonstrate the completed works on site were adequately supervised.

#### CoI into the Construction Works at and near the Hung Hom Station Extension

56. The Corporation welcomes the interim report of the CoI which has made a clear determination that the diaphragm wall and platform slab construction works are safe. The CoI is also satisfied that there was no extensive or systematic cutting of the threaded ends of rebars.

57. The Corporation also welcomes and recognises the recommendations in the interim report, especially those concerning the Corporation's project management system. Many of these recommendations are in line with the findings of the review conducted by the Capital Works Committee ("CWC") under the MTR's Board, aided by an external consultant.

58. The Corporation notes that the CoI will submit its final report by March 2020 and will continue to work with the CoI.

#### Review conducted by CWC

59. As mentioned in Paragraph 57, the CWC has reviewed the Corporation's project management system. The external consultant appointed by the CWC to undertake the review developed a number of recommendations. While some of the recommendations are strategic in nature having long term implications on the organisational set-up and contract strategy for future projects, the Corporation has taken prompt actions for those short-to-medium term recommendations that can fulfil the continuing need of SCL in quality management. Measures have already been implemented. These include the strengthening of project management and quality management systems, revamping the quality

organisation, and using technology to assist staff and contractors in keeping records and tracking non-conformances at construction sites.

#### Measures taken to address the settlement issue adjacent to SCL stations

60. The Government announced in September 2018 a notification mechanism on the monitoring of the structures and public facilities in the vicinity of the SCL works, with a view to providing timely information to the public when the monitoring data in relation to relevant structures and public facilities have reached or exceeded the pre-set trigger levels for temporary suspension of works. The Corporation is working closely with the Government in accordance with the mechanism.

61. During the period from July to September 2019, no monitoring readings have reached or exceeded the pre-set trigger levels for temporary suspension of works, and no pre-set trigger levels have been updated.

62. Since the resumption of excavation works for Exhibition Centre Station in September 2018, no monitoring readings have reached or exceeded the pre-set trigger levels. Bulk excavation works have been completed in June 2019. Monitoring will continue for some time until the settlement readings have become stable after completion of the underground structure and backfilling works, providing assurance as to the on-going safety of nearby buildings, structures and facilities.

63. For To Kwa Wan Station, Registered Structural Engineers were deployed to assess the safety conditions of the buildings which were reported to be affected by the settlement near the station works sites. The concerned buildings are confirmed to be safe.

64. The Corporation has funded a community care programme in the first half of 2019 to provide financial support to the owners of the residential buildings near the construction sites of To Kwa Wan Station to carry out the repair works. A professional building surveyor consultant has been appointed to administer and manage the execution of the programme.

## **IMPROVEMENT WORKS FOR THE OPERATING RAILWAY FACILITIES**

65. All 17 sets of new trains for the TML have been delivered to Hong Kong in November 2018. Dynamic testing and reliability testing of new trains was completed in January 2019.

66. Together with the newly procured trains, all 4-car Ma On Shan Line (“MOL”) trains and 7-car West Rail Line (“WRL”) trains were upgraded and converted to 8-car train by December 2017 and May 2018 respectively to prepare for 8-car train operation for TML. On the MOL, the retrofitting works of a total of 720 pairs of Automatic Platform Gate (“APG”) at all 9 stations is complete.

67. For EAL, to facilitate the future operation of the extension of EAL to Hong Kong Island, 37 sets of new 9-car trains are being delivered to Hong Kong in batches. Stringent testing and commissioning for the delivered new trains are underway. New trains are equipped with new features including dynamic route maps and a gangway end display system. The locations of the doors of the new trains are also improved by being evenly spaced along the trains, bringing more convenience to passengers when alighting and boarding.

68. The new 9-car trains will replace the existing 12-car trains of the EAL progressively. In view of passengers’ concern on the carrying capacity of the new trains, the new 9-car trains will be progressively launched only after the commissioning of TML Phase 1, when it is expected that some of the passenger traffic will divert off the congested section of the EAL south of Tai Wai. To facilitate the future operation of new trains and APGs, the existing signalling system of the EAL is being upgraded. Much of this work has to be done in non-traffic hours track possessions, in coordination with other MTR Operations activities that also require non-traffic hours track possessions. These activities have been disrupted by the large scale POEs’ and associated damage to the existing railway.

69. To facilitate the future operation, the existing signalling system of the EAL is being upgraded and commissioned. Installation of the equipment in trains and at trackside along the EAL has been substantially completed. Dynamic testing of the new signalling system commenced by sections in October 2016 and extended to the full line in March 2018. Reliability testing has entered the final stage and normal train operation patterns including that of peak period are being simulated during some nights to ensure a smooth operation of the new signalling system and trains in the future.

70. To avoid impact on day time train services, signalling tests are conducted during non-service hours and hence may have some noise impact on residents nearby. The new trains are equipped with better noise-reduction features. During the tests, mitigation measures such as restricting the number of trains at night will be put in place as appropriate to minimise possible noise impacts as far as possible. The Corporation will continue to communicate with the residents nearby and keep them updated on the night tests.

71. Retrofitting of APGs will also be carried out for the EAL. Before commencement of this retrofitting works, platforms have to be strengthened and equipment rooms for the relevant signalling system and facilities have to be constructed. These preparatory works are substantially complete and some early works are underway. Because the locations of the doors of the existing trains and the new trains are different, in order to make the APGs along the EAL match with the new locations of the train doors, the retrofitting works can only commence after the EAL is operated entirely by new 9-car trains.

## **COSTS**

### Cost and expenditure

72. Since mid-2012, 28 major civil and 30 major electrical & mechanical (“E&M”) contracts<sup>1</sup>, together with other minor contracts, have been awarded with a total sum of \$57,758 billion. The contract sums for civil works and E&M works are about \$43,856 billion and \$13,902 billion respectively (Please refer to **Enclosure I**).

73. Under the Entrustment Agreement for the SCL, the Government of the Hong Kong Special Administrative Region (“the Government”) is responsible for funding the construction of the SCL.

### Cost control mechanism

74. The Corporation attaches great importance to the monitoring and cost control of railway projects. The Corporation has a robust governance framework and a set of stringent procedures governing procurement,

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<sup>1</sup> Major civil contract/E&M contract refers to any individual contract with value above \$50 million, and includes Contract 11227 with a value of \$49.8 million.

contract administration and cost control of its projects, be it an ownership project or a concession project.

75. Under the Entrustment Agreements for concession projects, the Corporation is obliged to use the same management system and procedures that are applicable to all other MTR projects. For concession projects like the SCL project, there is also an independent rigorous monitoring and verification system in place conducted by the concerned Government authority and its consultants in addition to the Corporation's contract management and control procedure.

76. To enhance the control of expenditure, the Corporation has its Project Control Group ("PCG") as gate keeper, to scrutinise the assessments of variations and claims arising from consultancies and works contracts under the SCL project. Representatives from the Railways Development Office of Highways Department attend the PCG meetings.

77. Where the progress of works has been delayed, the Corporation would consider implementing delay recovery measures as appropriate. The proposals of delay recovery measures including the cost and benefits implications are reviewed and approved by PCG prior to implementation.

#### Latest estimate of Cost to Complete ("CTC")

78. In December 2017, the Corporation announced that a detailed review of the estimated CTC for the main construction works of SCL has completed. This increased the estimate of the entrustment cost of the main works by \$16.5 billion from \$70.8 billion to \$87.3 billion. Since submission of this latest estimate to the Government, the Corporation has been liaising with the Government to facilitate their review and verification process.

79. To facilitate the phased opening of the TML, the Corporation has agreed to fund, on an interim basis, the costs associated with the verification and assurance exercises and implementation of the suitable measures at the Hung Hom Station Extension and adjacent structures, as well as the costs for the preparation and implementation of TML phased opening, estimated to be around \$2 billion in total. The Corporation will continue discussions with Government with a view to reaching an overall

settlement in relation to the Hung Hom related incidents, phased opening, related costs as well as the overall CTC.

## **STAKEHOLDER COMMUNICATION AND ENGAGEMENT**

80. Most of the SCL works sites are in urban areas and close to local communities. We attach great importance to maintain close communication and engagement with the local communities and relevant stakeholders, in order to keep them informed of the works progress and to listen to their views. Apart from the regular progress updates to the Subcommittee members and respective District Councils, Community Liaison Groups, which have been set up across districts, is another major communication channel with the local communities where regular updates about SCL are provided. Newsletters, leaflets and notices about the works are distributed to the local communities. Dedicated MTR and Contractors' Hotlines are also available for handling enquiries and complaints in relating to the project.

## **EMPLOYMENT OPPORTUNITIES**

81. About 2,472 construction workers and technical / professional staff members are employed for the SCL project as at 30 September 2019, which in general could meet the labour requirement. This is lower than the number employed when the project was in its construction peak. Moreover, 764 trainees have been recruited and provided with trainings and internship programmes by the contractors of the SCL project and the Construction Industry Council through the Corporation's "SCL Contractors Cooperative Training Scheme". 520 of the trainees have completed the trade test and continue their careers in the field.

## **CONCLUSION**

82. Members are invited to note the above information.

**MTR Corporation Limited**  
**December 2019**

## Expenditure report as at 30 September 2019

Table 1 – Situation of expenditure

	<b>Awarded contract sum for the contracts</b> <b>( \$ million )</b>	<b>Cumulative expenditure of awarded contracts</b> <b>( \$ million )</b>	<b>Estimated amount of unresolved claims*</b> <b>( \$ million )</b>
Civil works	43,856.1	44,552.0	2,085.8
E&M works	13,901.8	7,018.2	1,346.1
<b>Total</b>	<b>57,757.9</b>	<b>51,570.2</b>	<b>3,431.9</b>

\* The estimated amount of unresolved claim: Amount claimed (\$4,596.8 million) – Interim award (\$1,164.9 million) = \$3,431.9 million (See Table 2)

Table 2 – Situation of substantiated claims

	Claims resolved			Claims unresolved		
	Number	Amount claimed ( \$ million )	Amount awarded (\$ million)	Number	Amount claimed (\$ million)	Interim award (\$ million)
Civil works	302	3,039.2	1,778.1	564	2,884.4	798.6
E&M works	16	39.9	17.3	153	1,712.4	366.3
<b>Total</b>	<b>318</b>	<b>3,079.1</b>	<b>1,795.4</b>	<b>717</b>	<b>4,596.8</b>	<b>1,164.9</b>

1. The Government and the Corporation conducted risk assessment at the planning and budgeting stages of the project to minimise claims arising from the works. Nevertheless, there were often unforeseeable situations in the course of works. For instance, the foundation or excavation works might come across a larger amount of or more complicated obstructions than expected. As this would add difficulties to the works, the contractors might have to use more machines or switch to other machines that were more suitable and employ more staff to cope with these situations. The contractors would submit claims in accordance with the contract terms to cover the additional expenditures. Upon receipt of claims from contractors, the corporation would examine such claims and assess the amount concerned based on the relevant contract terms, justifications, documents, records, etc.

2. As at 30 September 2019, the Corporation received 1,035 substantiated claims and the amount claimed in total was about \$7,675.9 million, representing 13.3% of the awarded contract sum for the contracts. The Corporation has been discussing the details of the claims with the contractors concerned, and would thoroughly

assess the amount claimed. The Corporation would process each claim in a prudent manner, and the contractors would have to provide sufficient justifications and information. As at 30 September 2019, 318 cases were resolved and about \$1,795.4 million was awarded, representing about 3.11% of the awarded contract sum for the contracts. Having regard to the needs of individual works and progress of the relevant assessment and discussion, interim award amounting to about \$1,164.9 million was made for some cases.

**Overall works progress of the SCL as at 30 September 2019**

Overall works completed : 91%

(A) Cumulative progress of 28<sup>(1)</sup> major civil contracts awarded :

<b>Contract No.</b>	<b>Contract Name</b>	<b>Percentage completed</b>
1101	Modification of Ma On Shan Line	100%
1102	Hin Keng Station and Approach Structures	100%
1103	Hin Keng to Diamond Hill Tunnels and Fung Tak Public Transport Interchange	100%
1106	Diamond Hill Station Extension	100%
1107	Diamond Hill to Kai Tak Tunnels	100%
1108	Kai Tak Station and Associated Tunnels	100%
1108A	Kai Tak Barging Point Facilities	100%
1109	Stations and Tunnels of Sung Wong Toi and To Kwa Wan stations	99%
1111	Hung Hom North Approach Tunnels	100%
1112	Hung Hom Station and Stabling Sidings	99%
1113	Reprovisioning of New Territories South Animal Management Centre and Shatin Plant Quarantine Station	100%
1114	Pedestrian Links at Tsz Wan Shan	100%
1117	Pat Heung Depot Modification Works	100%
1119	Trackwork and Overhead Line Modification Works at Lo Wu and PHD	100%
1120	Trackwork and Overhead Line for SCL Phase 1	100%
1120B	Trackwork and Overhead Line for SCL Phase 2	65%
1121	EAL Cross Harbour Tunnels	99%
1122	Admiralty South Overrun Tunnel	99%
1123	Exhibition Centre Station and Western Approach Tunnel	76%
1124	Admiralty SCL Related Works	73%

1125	Police Sports and Recreation Club Enhancement Works	100%
1126	Reprovisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool	100%
1128	South Ventilation Building to Admiralty Tunnels	85%
1129	SCL - Advance Works for Cross-harbour EAL	100%
11209	Platform Modification and Associated Works at EAL	100%
11227	Advance Works for EAL Cross Harbour Tunnels	100%

Note:

- (1) The 28 awarded major civil contracts as mentioned in Paragraph 72 of this report include Contracts 11230 and 11241. Contract 11230 is a tenancy agreement for the Joint Site Office for Contracts 1123 and 1128, and it is part of the project cost for Contracts 1123 and 1128. Contractor 11241 is the archaeological survey for connection to Pak Tai Street. As these two contracts involve no civil construction works, they are not included in the table above.

(B) Cumulative progress of 30 major E&M contracts awarded :

<b>Contract No.</b>	<b>Contract Name</b>	<b>Percentage completed</b>
1141A	New Rolling Stock for SCL Phase 1	100%
1141B	New Rolling Stock for SCL Phase 2	66%
1151	Rolling Stock Modification and New Train Cars for SCL Phase 1	100%
1152	Signalling System for SCL Phase 1 & Signalling System Modification for MOL and WRL	99%
1152B	Signalling System for SCL Phase 2	83%
1153	Tunnel ECS for SCL Phase 1	100%
1153B	Tunnel ECS for SCL Phase 2	52%
1154	Platform Screen Doors for SCL Phase 1 & APG Retrofit for MOL	100%
1154B	Platform Screen Doors for SCL Phase 2 & APG Retrofit for EAL	47%
1155	Power Supply System and Trackside Auxiliaries for SCL Phase 1	100%
1155B	Power Supply System and Trackside Auxiliaries for SCL Phase 2	76%
1159	Lifts for SCL Phase 1	98%
1162	TETRA System for SCL Phases 1 & 2	98%
1162B	Radio Distribution Network System for SCL Phases 1 & 2	80%
1163	AFC System and SAM System for SCL Phases 1 & 2	77%
1164	Building Services for Diamond Hill Station	100%
1164B	Building Services for SCL Hong Kong Island Section	30%
1165	Building Services for Hin Keng Station, Ma Chai Hang Ventilation Building and Fung Tak Emergency Access	100%
1166	Main Control System for SCL Phase 1	100%
1166B	Main Control System for SCL Phase 2	73%
1169	Communications System for SCL Phase 1	100%
1169B	Communications System for SCL Phase 2	38%

1172	Escalators for SCL Phase 1	100%
1172B	Lift and Escalators for SCL Phase 2	30%
1173	Building Services for Hung Hom Station and Hung Hom Stabling Sidings	97%
1175	Building Services for Kai Tak Station	100%
1176	Building Services for Sung Wong Toi Station and Ancillary Building	100%
1177	Building Services for To Kwa Wan Station and Ancillary Building	100%
1183	EAL Signalling System Modification	100%
1191	Floodgate System for SCL Phase 2	64%

# 宋皇臺 站工地考古文物保育方案

## 附件三 Annex 3

### Conservation Options for Archaeological Features Discovered at Sung Wong Toi Station



# 行人隧道 C 的走線 Alignment of Adit C



Existing pedestrian crossing  
原有行人過路處