

**Legislative Council Panel on Transport**  
**Subcommittee on Matters Relating to Railways**  
**Progress Update of the Construction of the Shatin to Central Link**  
**(As at 31 December 2015)**

## **Introduction**

This paper reports to Members on the progress of the main construction works of the Shatin to Central Link (“SCL”) as at 31 December 2015.

## **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. SCL will have ten stations. Apart from bringing improvements to the existing Tai Wai Station, the SCL project will involve construction of new stations or extension of existing stations at Hin Keng, Diamond Hill, Kai Tak, To Kwa Wan, Ma Tau Wai, 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 Approved Project Estimate for the entire SCL project is \$79,800 million (in money-of-the-day prices) and the project is funded by the Government under the “concession approach”. On 11 May 2012, the Finance Committee of the Legislative Council approved the funding application 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”. Thereafter, the Government and the MTR Corporation Limited (“MTRCL”) entered into an agreement for entrusting construction, testing and commissioning of SCL to the latter. 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, 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.

5. Upon expansion, Admiralty Station will become an integrated station serving passengers of SCL and SIL(E). Hence, except for the construction cost (about \$300 million in money-of-the-day prices) of the overrun tunnel of SCL which would be fully absorbed by the SCL project, the construction cost of the expansion works of Admiralty Station will be apportioned between SCL and SIL(E) projects at a ratio of 70:30 in accordance with the estimated patronage at peak hours at the station. According to the cost estimate in 2011, SCL project has to share about \$2,700 million (in money-of-the-day prices) for the costs of building works, building services works, electrical and mechanical (E&M) works for the portion of SCL at Admiralty Station. Besides, the SCL project has to share about \$350 million (in money-of-the-day prices) for the construction costs of the portion of ventilation facilities at Admiralty Station for SCL. Hence, the SCL will have to share an overall cost of about \$3,350 million (in money-of-the-day prices) at Admiralty Station. MTRCL advised the Highways Department (“HyD”) on 12 August 2015 that the completed cost estimate review of the expansion works of Admiralty Station of SIL(E) indicated an upward adjustment of the relevant cost of expansion works of Admiralty Station to be shared by SCL. According to the apportionment ratio of 70:30 above, the cost shared by SCL has to be adjusted upward from about \$3,350 million to about \$4,650 million with an increase of about \$1,300 million. HyD has provided comments and raised questions on the preliminary information provided by MTRCL and will continue to critically examine the latest cost estimate with the assistance of its monitoring and verification consultant upon receipt of detailed information from MTRCL.

6. Ho Man Tin Station is also an integrated station connecting both SCL and KTE and providing convenient interchange for passengers between of these two railway lines. The construction cost of Ho Man Tin Station is therefore apportioned between SCL and KTE projects at a ratio of about 74:26 in accordance with the estimated patronage at peak hours at the station. According

to the cost estimate in 2011, the SCL project has to share about \$2,900 million (in money-of-the-day prices) for the costs of building works, building services works, E&M works for the portion of SCL at Ho Man Tin Station. MTRCL advised HyD on 12 August 2015 that the completed cost estimate review of KTE indicated that the relevant construction cost of Ho Man Tin Station shared by SCL would remain within the budget.

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

7. The progress report of the SCL project as at 31 December 2015 submitted by MTRCL is at **Annex 2**. The analysis and supplement made by HyD 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)*

8. The progress of Hin Keng Station, the associated connecting elevated and at-grade track works and the modification of station platforms of Ma On Shan Line are generally in line with the planned programme. The Automatic Platform Gates (APG) of Ma On Shan Line at Tai Wai Station towards Wu Kai Sha have been in operation since the end of July 2015. Apart from Tai Wai Station, installation works for the APG at other stations of Ma On Shan Line have also commenced progressively. The main structural works of Hin Keng Station were substantially completed at the end of April 2015. Building Services works, E&M works and track laying works for the station are currently in progress.

9. The drill and blast works of the Hin Keng to Ma Chai Hang tunnel have been completed, there is a delay of 2 months as compared to the original planned programme. Water-proofing system installation and tunnel lining construction are being carried out inside the tunnel and the current progress is generally in line with the planned programme.

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

10. The two sections of tunnels from Kai Tak Station to Diamond Hill

Station and from Diamond Hill Station to Ma Chai Hang are constructed with tunnel boring machine (“TBM”). The excavation of the tunnel from Kai Tak Station to Diamond Hill Station was completed in October 2015. Regarding the tunnel from Diamond Hill Station to Ma Chai Hang, the up-track tunnel excavation was also completed in mid-June 2015 with a delay of about 3 months as compared to the original planned programme. The excavation work of the down-track tunnel commenced at the end of September 2015. About 30% of the tunnel has now been completed and it is anticipated that the construction will be completed in the second quarter of 2016.

11. The construction of the Diamond Hill Station structure has fully commenced. The construction of the station main structure is now underway. Besides, the up-track tunnel and the shaft for the emergency access point at the junction of Wong Tai Sin Road and Sha Tin Pass Road are connected. The construction of the Public Transport Terminus adjacent to the emergency access point continues, and it is anticipated that the main structure would be completed in mid-2016. It is anticipated that the drill and blast works for the ventilation tunnel starting from the works site at Ma Chai Hang Recreation Ground will be completed in the first quarter of 2016.

12. “Diamond Hill Station Extension” contract was awarded to Sembawang Leader Joint Venture<sup>1</sup> (“JV”). One of the JV partners (“Sembawang”) was reported to be involved in financial problem. MTRCL became aware of and discussed the issue with the JV, and reported the situation to HyD in October 2015. HyD required MTRCL to closely monitor the development, and provide assessment on the effect of the works. According to the information provided by MTRCL, there are provisions in all the contracts of SCL to protect the implementation of the works. Should any partner of the JV be involved in legal proceeding or financial problem, the existing contract provisions would ensure that the contract works could continue without being affected. HyD required MTRCL to ensure that the above contract could continue without being affected. MTRCL reached an agreement with the Leader Civil Engineering Corporation Limited (“Leader”), the other partner of the JV, in January 2016. Leader will undertake all the contractual obligations of Sembawang, ensuring that the works are not affected. The extension works of Diamond Hill Station have proceeded as planned since the incident happened. The structural works of the platform were completed. The structural works of the concourse and the building services

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<sup>1</sup> Sembawang Leader Joint Venture is formed by the Sembawang Engineers and Constructors Pte. Ltd. (“Sembawang”), and the Leader Civil Engineering Corporation Ltd.

works at platform are currently in progress.

13. The improvement works of the pedestrian connecting facilities between Tsz Wan Shan area and Diamond Hill Station of SCL (the layout plan of the pedestrian connecting facilities at **Annex 3**) are originally scheduled for completion in stages between 2014 and 2016. Due to unpredicted and complicated geological conditions, and the existence of congested underground utilities which have made the construction more difficult, there has been delay to some of the works. MTRCL and the contractor would continue to carry out the works of pedestrian facilities at different locations simultaneously where conditions permit, so as to catch up with the progress as far as possible. Apart from the covered walkway south and north of Fung Tak Road that had been open to public use, the covered walkway near Hong Tim House of Tsz Hong Estate, the footbridge spanning across Yuk Wah Street and the lift tower at Yuk Wah Street near Hong Sau House of Tsz Hong Estate were in operation in October and November of 2015 and January 2016 respectively. Some other facilities would also be operational in stages starting from the first quarter of 2016 after completion of inspection and testing by relevant Government departments and completion of the necessary statutory procedures. The facilities include the covered walkway at Po Kong Village Road and the lift tower at Tsz Wan Shan Road near Tsz Man Estate.

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

*Kai Tak Station*

14. Kai Tak Station is located inside the Kai Tak Development Area. The main structure of the station was substantially completed in July 2015. The backfilling works and structural works of two station entrance adits are anticipated to be complete by the first quarter of 2016. The fitting-out works, E&M works and track laying works are in progress. Tunnelling works between Kai Tak Station and To Kwa Wan Station are in progress, with the completion of about 85% of the 700-metre tunnel structure as at 31 December 2015.

*To Kwa Wan Station*

15. Under the close supervision of the Antiquities and Monuments Office (“AMO”), the independent archaeologist team completed the archaeological

excavation at the end of September 2014. The Antiquities Authority (i.e. the Secretary for Development), after considering the views of the Antiquities Advisory Board, the Legislative Council and the Kowloon City District Council, decided on the conservation options on 8 December 2014 with most of the archaeological discoveries preserved in-situ. The archaeological remnants to be preserved in-situ have to be protected by backfilling of protective materials. Under the close supervision of AMO, the protective works for the remnants to be preserved in-situ were completed in May 2015. Regarding Well J2 and the water channel, they were removed piece by piece by hand in March 2015 after detailed recording and under the close supervision of AMO. The components are stored properly for future reinstatement.

16. The construction works of To Kwa Wan Station fully resumed in March 2015. The excavation of the station was substantially completed in December 2015. The pile loading test and the construction of station structure commenced. The TBM works for the down-track tunnel from To Kwa Wan Station to Ho Man Tin Station commenced in April 2015 and about 70% of the tunnel was completed as at 31 December 2015. It is anticipated that the TBM will reach Ho Man Tin Station in the second quarter of 2016. On the other hand, the TBM works for the up-track tunnel from To Kwa Wan Station to Ho Man Tin Station commenced in September 2015 and about 40% of the tunnel was completed. It is anticipated that the TBM will reach Ma Tau Wai Station in the first quarter of 2016. As at 31 December 2015, MTRCL estimated that the archaeological works would result in a delay of at least 11 months and a minimum additional cost of about \$4.1 billion to the Tai Wai to Hung Hom Section of SCL. However, the ultimate implication is subject to the final assessment of MTRCL and the verification of HyD.

#### *Ma Tau Wai Station*

17. Ma Tau Wai Station is an underground station beneath Ma Tau Wai Road. The station will be constructed by a top-down method. To cater for the construction of the station, the traffic diversion scheme implemented at a section of Ma Tau Wai Road between Chi Kiang Street and Sheung Heung Road continues. Two southbound traffic lanes and a single northbound lane would be maintained. MTRCL has carried out the excavation and structural works of the station in full swing. Construction of the station concourse was completed in November 2015. It is anticipated that the excavation and construction of the station upper platform will be completed by mid-2016.

*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)*

18. As the tunnelling works of SCL to the north of Hung Hom Station have to be carried out on a very busy road and along the operating East Rail Line, it is necessary to exercise due care to prevent the construction from affecting the busy road sections nearby. Temporary traffic diversions along Chatham Road North for the tunnelling works were fully implemented at the end of 2014. So far, the traffic has been generally smooth. For the construction work of the section between Ho Man Tin Station and Hung Hom Station, excavation works have been completed while construction of structural work is in progress. The foundation works of the noise enclosure near Oi Sen Path south of Princess Margaret Road have also been completed. Installation of noise enclosure is underway. The construction works at Hung Hom Station have to be carried out underneath the existing station podium. The limited space available has rendered the construction highly difficult and the works must be carried out in a prudent manner. The impact of the constraint of working space on the completion date of part of pipe-piling works has led to a delay of about 4 months for the subsequent works. MTRCL and the contractor continue to adjust the work sequences and, where practicable, carry out multiple activities simultaneously. The contractor has also progressively deployed additional machinery and manpower in order to recover some of the delay of the works at Hung Hom Station.

**Hung Hom to Admiralty Section**

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

19. The main construction works of the Cross Harbour Section have commenced progressively. Such works include ground investigation of the seabed, installation of instrumentation monitoring system, erection of temporary marine platforms and dredging works. The contractor started constructing the temporary marine cofferdam at Hung Hom landfall in the second quarter of 2015 to prepare for the future excavation and tunnel construction works. Also, the construction of the immersed tube tunnel units has commenced. The progress is as planned.

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

20. With the continuous progress of the advance works for the Hong Kong Island Section, the re-provisioned Wan Chai Swimming Pool was opened in October 2015. Demolition of the old swimming pool is currently underway while the foundation works for the re-provisioning of Harbour Road Sports Centre are in progress. Meanwhile, the modification works for the foundation of flyovers are progressing smoothly. Diversion of box culverts at the Tunnel Approach Rest Garden was completed in November 2015.

21. The advance works for the excavation of railway tunnels, including ground stabilization, ground investigation and underground utilities diversion, are underway along the tunnel alignment and at the portal area of the Cross-Harbour Tunnel, Wan Shing Street, Wan Chai Sports Ground and the ex-Wan Chai West Preliminary Treatment Works. The progress is satisfactory. As the two launching shafts for the assembling of TBM are located at the Causeway Bay Typhoon Shelter (“CBTS”) temporary reclaimed area and Fenwick Pier Street work site, the contractor is carrying out excavation works for the launching shaft at CBTS temporary reclaimed land. The TBM works is expected to start excavation in the second quarter of 2016 for the construction of the tunnel from CBTS to Exhibition Station. Construction of diaphragm walls for the launching shaft at Fenwick Pier Street work site continues.

22. Demolition of the existing Police Officers’ Club (“POC”) to facilitate the construction of ventilation facilities for the tunnel of SCL was substantially completed. Upon completion of the project, the POC, which will integrate with the railway tunnel ventilation system, will be re-provisioned at its original location.

23. Construction of Exhibition Station at the ex-Wan Chai Ferry Pier Public Transport Interchange continues. The works include ground investigation, utilities diversion, construction of diaphragm walls and piling works. To allow flexibility for the construction of new convention facilities above Exhibition Station, a certain part of the enabling works for the topside development would be incorporated into the underground structure of Exhibition Station. The works mainly include the addition of essential piles adjacent to the station. Based on the currently available information on the geological condition, it is initially estimated that this would result in a delay of at least 5 months for the construction

of Exhibition Station and an increase in construction cost. MTRCL would continue to work with the contractor to explore feasible measures to improve the progress and reduce the impact on the works, as well as assess the additional cost of construction.

24. Regarding the large metal object found on the seabed within the reclamation area under Wan Chai Development Phase II (“WDII”), the Civil Engineering Development Department (“CEDD”) removed it from the reclamation site in June 2015 to allow resumption of the reclamation and relevant works. The reclamation works were completed and associated works are underway. Originally, the reclaimed land will be handed over to the contractor of SCL at the end of December 2016. As the discovery of the metal object has affected the progress of reclamation works there, CEDD indicates that the handover date of part of the works area would be deferred by 7 months. HyD and MTRCL will liaise with CEDD on the handover arrangement of works areas.

25. In addition, as mentioned in previous progress reports, CEDD has estimated that the handover date of the associated critical work sites adjoining the junction of Expo Drive East and Convention Avenue will be deferred for about 6 months. Since then, CEDD has implemented measures to catch up with part of the works progress and most of the work sites could be handed over to MTRCL in accordance with the original schedule. It is estimated that the original delay of 6 months for the handover dates of other critical work sites would also be shortened. For those remaining work sites which cannot be handed over as scheduled, HyD and MTRCL will discuss further with CEDD on measures to minimise the risk of delay to SCL as far as possible.

26. Since parts of the Exhibition Station are located underneath roads in Wan Chai North where the traffic is busy, the main construction works for the Station have become highly complicated and there are risks to the progress of construction. It is anticipated that the overall 6-month delay in the completion of Exhibition Station and the Hung Hom to Admiralty section of SCL will remain. As a result, the commissioning date of the Hung Hom to Admiralty Section would be deferred to 2021. Besides, apart from the additional construction cost arising from the enabling works at Exhibition Station, the construction delay as a result of the deferred handover of work sites may also lead to additional construction cost.

## **Conclusion**

27. In view of the above assessments mentioned in paragraphs 8 to 26 and 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 To Kwa Wan Station earlier on, HyD will co-ordinate and oversee the construction of SCL so that MTRCL could try its best to recover some of the delay to the Tai Wai to Hung Hom Section, with a view to commissioning the Tai Wai to Hung Hom Section in 2019 as far as possible. Due to the impact of site handover arrangement of WDII and to allow flexibility for the construction of new convention facilities above Exhibition Station, the commissioning date of the Hung Hom to Admiralty Section will be deferred to 2021.

28. MTRCL is conducting a cost review of the entire SCL in phases, including the additional construction costs in Admiralty Station and Ho Man Tin Station, and the additional costs arising from the archaeological and conservation works, the enabling works to cater for the topside development, as well as the deferred site handover. MTRCL has recently advised that additional time is necessary to conduct the cost review in view of the complexity of the project. The review is expected to be completed in the second quarter of 2016. MTRCL will then submit the cost review to HyD for scrutiny. As the current contingency of SCL will not be sufficient to meet the additional cost, we will seek additional funding from the Legislative Council in due course in order to proceed with the works.

29. SCL is a major underground infrastructure project of a considerable scale. There are various difficulties and challenges encountered in the course of construction. It is unavoidable that there are deviations from the original plan for individual works contracts. MTRCL has adjusted its works procedures having regard to the actual situation of work sites. Additional manpower and machinery have also been deployed in order to overcome the difficulties. The Government will closely monitor the progress of works and the construction. It will also assist MTRCL to resolve the problems encountered in the course of construction as early as possible and conduct timely reviews of the commissioning programme taking into account the latest situation of the works.

**Transport and Housing Bureau  
Highways Department  
February 2016**