

**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 June 2015)**

## **Introduction**

This paper reports to Members on the progress of the main construction works of the Shatin to Central Link (“SCL”) as at 30 June 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 interchange stations serving passengers of SCL and South Island Line (East)(“SIL(E)”), as well as 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 target commissioning date for the Tai Wai to Hung Hom Section is December 2018 and the target commissioning date for the Hung Hom to Admiralty Section is December 2020.

5. Upon expansion, Admiralty Station will become an interchange station serving passengers of SCL and SIL(E). Hence, except the construction cost (about \$300 million) of the overrun tunnel of SCL 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, etc. Besides, the SCL project has to share about 350 million for the 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 that the recently 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 will request the MTRCL to submit further information and will critically examine the latest cost estimate with the assistance of its monitoring and verification consultant.

6. Ho Man Tin Station is also an integrated station connecting both SCL and KTE and providing convenient interchange for passengers between 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, etc. MTRCL advised

HyD on 12 August that the recently 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 30 June 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 enclosed trackworks and the modification of station platforms of Ma On Shan Line are generally in line with the planned programme. The main structural works of the Hin Keng Station was completed at the end of April 2015. Interior fitting-out works, as well as E&M works for the station are currently in progress and will be followed by track laying works later.

9. The advance excavation works of the Hin Keng to Ma Chai Hang tunnel have been completed while the tunnelling works experience a delay of about 2 to 3 months due to difficult ground conditions. MTRCL has implemented a series of measures to catch up with the progress. Such measures include erecting the noise enclosure at the tunnel shaft to extend the working hours for blasting; widening the access road near the Hin Keng tunnel portal to allow the contractor to dispose excavated materials in an orderly manner to avoid stockpiling of excavated materials inside the tunnel that would affect the excavation inside the tunnel; and, increasing the blasting charge weight to enhance works efficiency. MTRCL has also changed the sequence and method for the drill and blast works, such that the drill and blast operation as well as the tunnel lining construction can be implemented simultaneously to prevent further delays and catch up with the progress as planned as far as possible. The above measures have improved part of the original construction sequence.

10. Regarding the current progress of the drill and blast works, around 1 550

metres (“m”) of tunnel excavation have been completed. When the drill and blast tunnel construction continues further inside Lion Rock, MTRCL anticipates that fault zones (mixed ground) may still be encountered. The ground conditions would be more complicated than the previous section of the drill and blast tunnel and might require more strengthening works to ensure safety. As such, the progress of the works may slow down. MTRCL continues to closely monitor the works progress and considers increasing the blasting works fronts at the entrance of the tunnel at Ma Chai Hang in Wong Tai Sin, when necessary, to allow parallel tunnel construction works at both tunnel faces so as to lessen the implications of fault zones on the progress of works. To facilitate the above progress recovery measure, MTRCL has consulted the local District Council and is considering corresponding temporary traffic arrangements.

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

11. The two sections of tunnels from Kai Tak Station to Diamond Hill Station and from Diamond Hill Station to Ma Chai Hang are constructed by tunnel boring machine (“TBM”). The excavation works commenced in the third quarter of 2014. The tunnel boring of the up-track tunnel from Kai Tak Station to Diamond Hill Station was completed in mid-March 2015. The construction of the down-track tunnel commenced in early July 2015. Regarding the tunnel from Diamond Hill Station to Ma Chai Hang, the up-track tunnel excavation was also completed in mid-June 2015. MTRCL is preparing the tunnel boring works for the down-track tunnel.

12. Regarding Diamond Hill Station, the construction of the station structure has fully commenced. The construction at the base level of the station structure is in progress. Besides, the connection between 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 is in progress. The construction of the Public Transport Terminus adjacent to the emergency access point is also in progress.

13. The works to improve the pedestrian connecting facilities between Tsz Wan Shan area and Diamond Hill Station of SCL are originally scheduled for completion in stages between 2014 and 2016. Due to unpredicted and complicated geological conditions, and 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 of the district simultaneously where conditions permit, so as to catch up with the progress as far as possible. Apart from the covered walkway north of Fung Tak Road that has been open to public use, the first lift tower (located near Lok Shun House at Wan Wah Street) could be open for use in the third quarter of this year.

*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 construction of the station commenced in early 2014 and the station main structure is expected to be substantially completed in July 2015. The backfilling works, the structural works of two station entrance adits, fitting-out works and track laying works inside the station are in progress. Tunnelling works between Kai Tak Station and To Kwa Wan Station are in progress and about 60% of the 700-metre tunnel structure has been completed as at 30 June 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 and construction of tunnels have fully commenced. The additional piling works for the modified station layout to preserve in-situ the remnants have been completed. In addition, the TBM works

for the down-track tunnel towards Ma Tau Wai Station commenced in April 2015. As at 30 June 2015, about 200m of the tunnel has been completed. **As at 30 June 2015, MTRCL estimated that the archaeological works would result in a delay of at least 11 months and an 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 construction of the roof slab of the western part of the station was completed in April 2015. To cater for the construction of the roof slab of the eastern part of the station, a new stage of traffic diversion has been implemented at a section of Ma Tau Wai Road between Chi Kiang Street and Sheung Heung Road. Two south-bound traffic lanes and a single north-bound lane would be maintained. As the progress of the previously completed diaphragm wall has a delay of about 5 months, the subsequent station excavation and roof slab construction experience corresponding delay. MTRCL has expedited the construction progress with a view to completing the roof slab of the station by the third quarter of this year. The excavation works for the platform underneath the station commenced by phases.

#### *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 last year. So far, the traffic has been generally smooth. In view of the slippage of the progress of part of the pipe-piling works, MTRCL has progressively deployed additional machinery and manpower in order to catch up with the progress as much as possible. 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. As the completion date of part of pipe-piling works was deferred due to limited working space, it would affect the progress of subsequent works. The

current progress shows that there is a delay of about 4 months for the works at Hung Hom Station. To catch up with some of the progress as far as possible, MTRCL and the contractor are adjusting some of the construction sequence, and, where practicable, multiple activities are carried out simultaneously. The contractor has also progressively deployed additional machinery and manpower.

#### Hung Hom to Admiralty Section

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

19. Construction of the Cross Harbour Section has commenced progressively, including ground investigation of the seabed, installation of instrumentation monitoring system, erection of temporary marine platforms and dredging works within Victoria Harbour, etc. The contractor started constructing the temporary marine cofferdam at Hung Hom landfall in the second quarter of this year to prepare for the future excavation and tunnel construction works. Also, the site formation of the casting yard at ex-Shek O Quarry for the immersed tube tunnel (“IMT”) units is in progress. MTRCL will set up a barging point, a reinforcement bending yard and a concrete batching plant at the casting yard for the construction of IMT and the progress is as planned.

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

20. The advance works for the Hong Kong Island Section, including the re-provisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool, and the modification works for the foundation of flyovers and box culverts at the Tunnel Approach Rest Garden, have commenced by stages since June 2013. The current progress is on schedule.

21. The advance works for the railway tunnels, including ground stabilization works, ground investigation and underground utilities diversion, etc, are underway along the tunnel alignment and at the portal area of Cross-Harbour Tunnel, Wan Shing Street, Wan Chai Sports Ground and the ex-Wan Chai West Preliminary Treatment Works, etc. The current progress is satisfactory. The railway tunnels from Causeway Bay Typhoon Shelter (“CBTS”) to Exhibition Station, and from Fenwick Pier Street work site to the west of Exhibition Station, to Admiralty Station will be constructed by TBM. Launching shafts have to be constructed prior to the tunnel excavation works for transporting components of the TBM to

the bottom of the shaft where the TBM will be assembled for excavation. The two launching shafts of the island section will be located at CBTS temporary reclaimed area and Fenwick Pier Street work site. The contractor is carrying out preparation works for launching shaft excavation at CBTS temporary reclaimed land. The TBM works is targeted to commence in the second quarter of 2016 for the excavation works of the tunnel section between CBTS and Exhibition Station. Construction of diaphragm walls for the launching shaft at Fenwick Pier Street work site has also commenced.

22. Following the progressive implementation of the project, the existing Police Officers' Club ("POC") adjacent to the temporary reclamation area will be demolished in the third quarter of 2015 so as to provide space for the construction of ventilation facilities of the tunnel of the Hung Hom to Admiralty Section of SCL. Upon completion of the SCL construction works, the POC, integrated with railway tunnel ventilation system, will be re-provisioned at its original location.

23. To provide space for the construction of Exhibition Station, Wan Chai Ferry Pier Public Transport Interchange ("PTI") was temporarily relocated to the newly reclaimed land formed under the Wan Chai Development Phase II ("WDII") in mid-May 2015. The PTI will be reprovisioned at the original location after the completion of the station. The old PTI site has been closed and used as a work site since June and the construction works for Exhibition Station, including site clearance, ground investigations and utilities diversion, have commenced. In addition, upon completion of the reprovisioning works of Wan Chai Swimming Pool ("WCSP") at the end of 2015, the existing WCSP will be closed for the construction of Exhibition Station and the reprovisioning works of Harbour Road Sports Centre will also commence.

24. 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 construction of additional 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 to the construction of Exhibition Station and the 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.



25. In addition, it is estimated that the handover date of the associated critical site areas adjoining the junction of Expo Drive East and Convention Avenue has a delay of 6 months as compared with the original programme because of the need to cater for the reclamation works under WDII of the Civil Engineering Development Department (“CEDD”), and the part of the tunnel works of Central-Wan Chai Bypass (“CWB”) thereof. The last piece of critical sites could only be handed over to the SCL contractor for construction in early 2017. As the main construction works for Exhibition Station is further complicated by the heavy road traffic at Wan Chai North, there is a risk to the construction progress. **The current estimation is that the commissioning date of the Hung Hom to Admiralty Section would be deferred to 2021. Besides, the deferred handover of work sites may lead to additional construction cost.**

26. Regarding the large metal object found on the seabed within the reclamation area under WDII, CEDD has completed the preliminary surveying and assessment and relocated the object to a neighbouring seabed area of the reclamation site in June this year. This allows the reclamation works and relevant works to resume. According to the work plan of WDII and SCL projects, the reclaimed land will be handed over to the contractor of SCL at the end of December 2016 for the implementation of temporary traffic arrangements to facilitate the construction of Exhibition Station. As the discovery of the metal object has affected the progress of reclamation works there, it is highly likely that the handover date of the works area will be deferred and this in turn will have an impact on the SCL Exhibition Station works. After CEDD has completed the assessment on the anticipated handover date for the reclaimed land, HyD and MTRCL, will assess as soon as practicable the impact on the completion date of Exhibition Station as well as the Hung Hom to Admiralty Section of SCL.

## **Conclusion**

27. In view of the above assessments contained in paragraphs 6 to 26, it is estimated that the Tai Wai to Hung Hom Section of SCL may have a delay of at least 11 months arising from the archaeological works, archaeological discoveries and conservation options for archaeological features at To Kwa Wan Station. HyD will co-ordinate and oversee the construction of SCL so that MTRCL could try 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. For the Hung Hom to Admiralty Section, the commissioning date will be**

**deferred to 2021** to allow flexibility for the topside development of the convention centre at Exhibition Station, and to cater for the reclamation works under WDII and the construction of the CWB tunnel thereof. Regarding the large metal object found on the seabed within the reclamation area under WDII of CEDD, HyD will continue to liaise with CEDD closely and take feasible measures in a timely manner to minimize the impacts on the SCL Hung Hom to Admiralty Section due to the issue, with a view to completing the project as early as possible.

28. **MTRCL is conducting a cost review of the entire SCL in phases**, including the cost increases at Admiralty Station and Ho Man Tin Station, and the additional costs arising from the archaeological and conservation works, enabling works to cater for the topside development, as well as the deferred site handover. **The review is expected to be completed by the first 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.

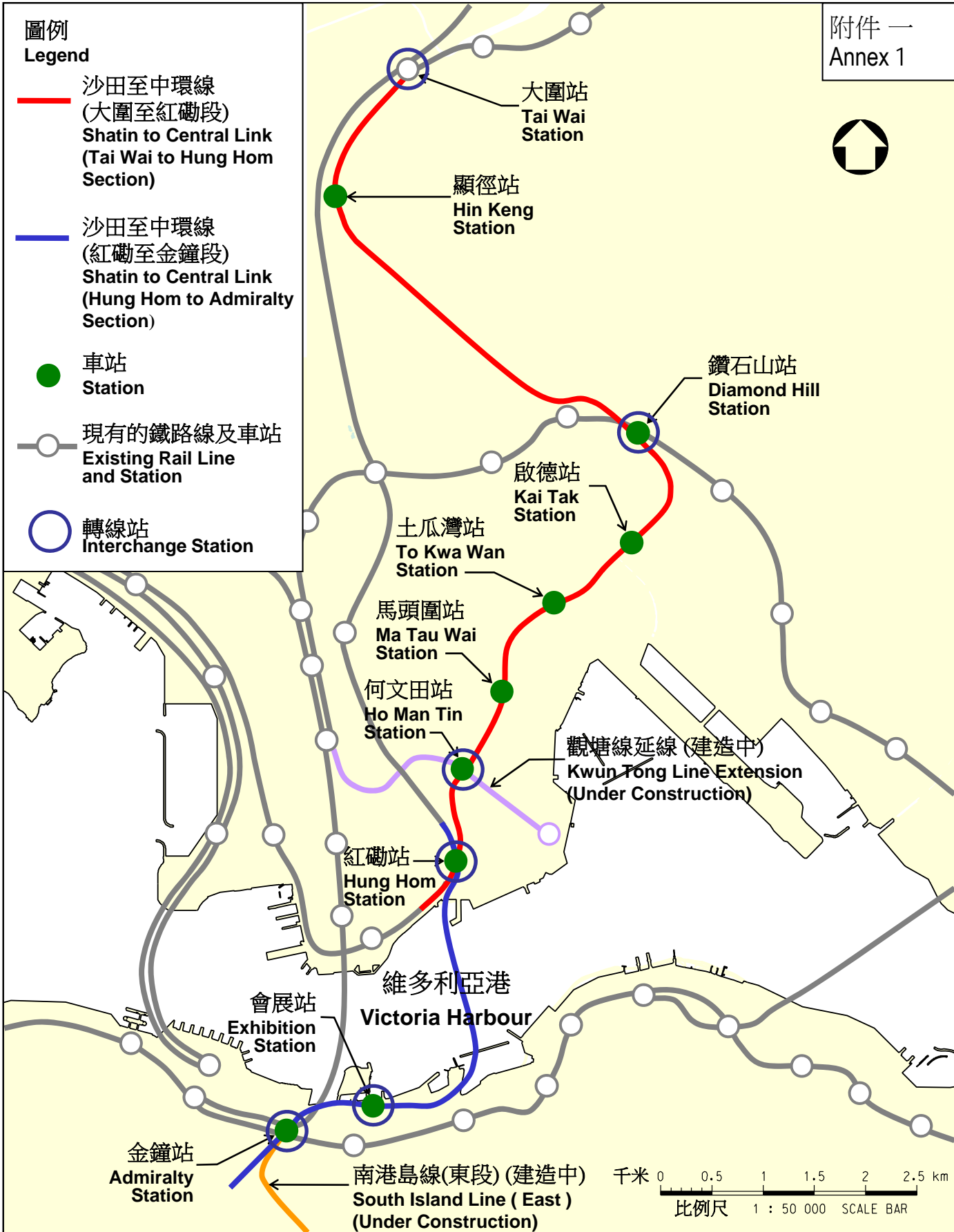
29. SCL is a major underground infrastructure project of a considerable scale. There are various difficulties and challenges encountered in the course of construction. It is unavoidable that there are deviations from the original plan for individual works contracts. MTRCL has adjusted its works procedures 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 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  
August 2015**



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.

HRWSC003-SK0437

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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 of 30 June 2015)**

**INTRODUCTION**

This report aims to update Subcommittee members on the progress of Shatin to Central Link (“SCL”) up to 30 June 2015.

**OVERVIEW OF THE SCL PROJECT**

Cost and expenditure

2. Since mid-2012, 24 major civil and 25 major electrical & mechanical (“E&M”) contracts<sup>1</sup>, together with other minor contracts, have been awarded with a total sum of \$54.885 billion. The contract sums for civil works and E&M works are about \$42.236 billion and \$12.649 billion respectively (Please refer to **Enclosure I** for details).

3. Under the Entrustment Agreement for the SCL, the Government of the Hong Kong Special Administrative Region (“Government”) is responsible for funding the construction of the SCL. Due to the archaeological discoveries at the To Kwa Wan Station site and late site handover by Wan Chai Development Phase II (“WDII”) to the SCL project, there will be delay for the completion of both the East-West Corridor (“EWC”) and North-South Corridor (“NSC”). As previously reported, the commissioning of EWC and NSC will be in 2019 and 2021 respectively. With the complexity of the SCL project, together with the significantly increased costs due to the archaeological works at To Kwa Wan Station, we are reviewing the project cost estimate and target completion dates taking into account the continued construction challenges. After the review, which we will expect in the first quarter of

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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.

next year, we will report the findings to the Government and will continue to monitor and review the project cost.

### Works progress

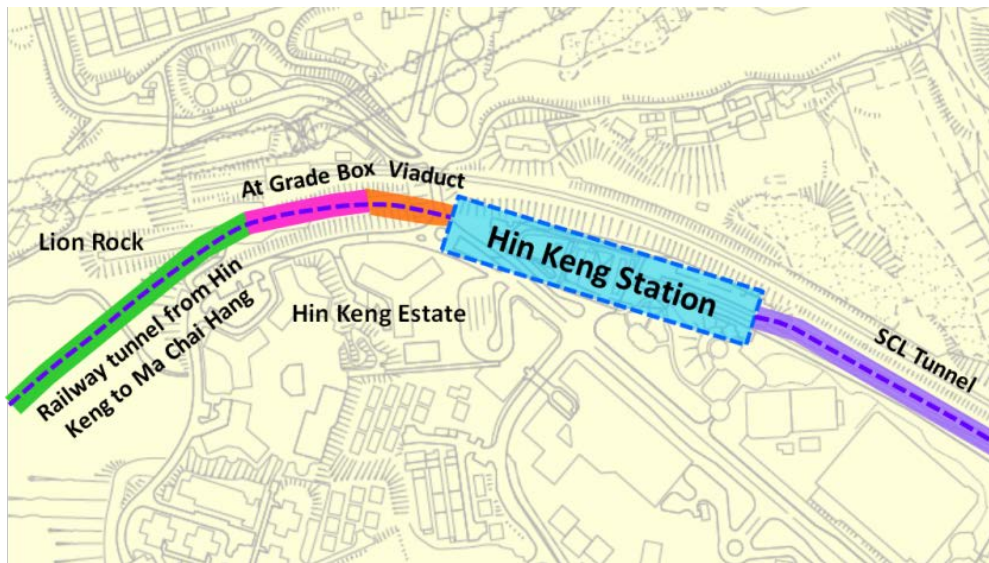
4. As of 30 June 2015, the overall works for SCL are 37% completed compared to the planned completion rate of 44% against the original project completion target in 2018 for EWC and 2020 for NSC respectively (“original schedule”) (Please refer to **Enclosure II** for details). The works progress below is also updated based on the original schedule.

5. The SCL comprises six sections according to geographical locations -

- (a) Shatin Section;
- (b) Wong Tai Sin Section;
- (c) Kowloon City Section;
- (d) Hung Hom Section;
- (e) Cross Harbour Section; and
- (f) Hong Kong Island Section.

(a) Shatin Section (Section of railway between Tai Wai Station and Ma Chai Hang in Wong Tai Sin)

6. Structural works for Hin Keng Station were generally completed in April 2015. E&M and fitting-out works are now in progress. Between Hin Keng Station and Lion Rock tunnel, a viaduct and an at-grade box tunnel structure are being constructed.



Location map of Hin Keng Station and associated tunnel structures

7. Foundation works for both the viaduct and the at-grade box tunnel structure were completed. Structural works for the viaduct have commenced. Excavation and supporting works for the at-grade box tunnel structure are on-going and structural works will follow.

8. Regarding the railway tunnel from Hin Keng to Ma Chai Hang, a section of the tunnel between the at-grade structure and Lion Rock is being constructed by cut-and-cover method. Excavation and pipe piling works are on-going.

9. For the tunnel section inside Lion Rock, it is being constructed by using drill and blast method. As mentioned in the previous papers submitted to the Subcommittee on Matters Relating to Railways, the tunnel construction is lagging behind because of the complicated geological condition under the Hin Keng portal area of Lion Rock which needs extra time to stabilise the strata. Blasting charges have been increased to speed up the tunnel construction process. As of 30 June 2015, around 1550 metres out of 2180 metres of the Lion Rock tunnel has been excavated. As blasting proceeds further inside Lion Rock, more fault zones (mixed ground) may be encountered. Additional temporary supports and high-pressured grouting technology may be needed to stabilise the strata and to prevent the loss of ground water and soil. To prevent the programme from being further affected, the tunnel lining works have been carried out in parallel with the blasting works. Meanwhile, an additional blasting work front at the end of the completed up-track TBM driven tunnel under Lion Rock is being developed with explosives delivered from the Fung Tak shaft at the junction of Wong Tai Sin Road and Shatin Pass Road to Ma Chai Hang works site via the up-

track TBM tunnel. The consultation for this proposal has been conducted and will be implemented depending on the actual works progress.



Tunnel construction inside the Lion Rock

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

10. The two tunnels from Diamond Hill to Ma Chai Hang and Kai Tak to Diamond Hill are being constructed by using tunnel boring method. The construction of the tunnel from Kai Tak to Diamond Hill is progressing well. Upon completion of the up-track tunnel construction from Kai Tak to Diamond Hill in March 2015, reassembling works of the tunnel boring machine (“TBM”) “Mu Guiying” are now in progress at Kai Tak works site to prepare for construction of the down-track tunnel. The tunnel construction is expected to be completed by the fourth quarter of 2015.



TBM reassembling works at Kai Tak works site

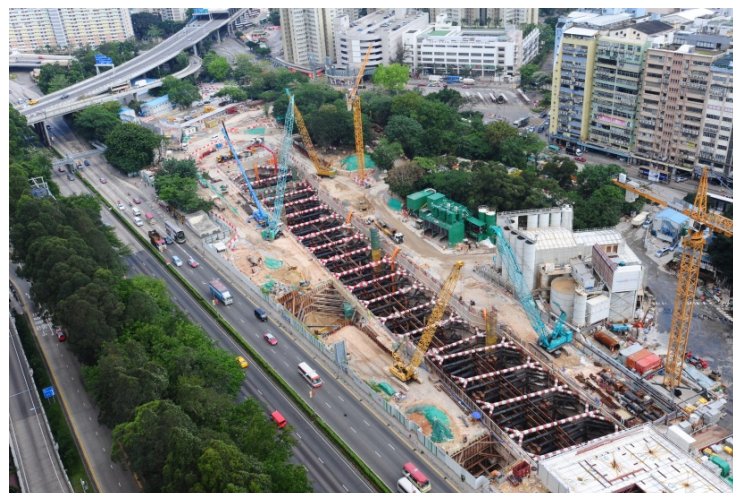
11. The up-track TBM drive from Diamond Hill to Ma Chai Hang was completed in mid-June 2015. The TBM components are currently being

reassembled at the former Tai Hom Village works site at Diamond Hill for the down-track TBM drive. While the work is currently about three months behind the original schedule, it is still within the float time built in for target completion. It is expected the down-track TBM drive will be completed by the first half of 2016.

12. Structural works for the emergency access point and the adjacent Public Transport Terminus at the junction of Wong Tai Sin Road and Sha Tin Pass Road are in progress. The majority of the structural works are expected to be completed by the first half of 2016.

13. Construction works for the extended part of Diamond Hill Station are being carried out at the works site of the former Tai Hom Village. As of 30 June 2015, excavation works have been completed and construction for the station structure is now underway.

14. Modification works are on-going at the existing Diamond Hill Station, new lift and escalators connecting the platform and concourse will be opened in phases for public use starting from the third quarter of 2015. Other new and modified facilities in the station will be opened at a later stage as planned. The strengthening works for the external wall at the southern concourse were completed in June 2015. Construction for the pedestrian subways of the extended part of Diamond Hill Station will follow. To vacate an area for the construction works, a temporary traffic management scheme will be implemented at Lung Cheung Road in phases starting from the fourth quarter of 2015. A section of the westbound lane at Lung Cheung Road will be shifted towards the works site of the former Tai Hom Village. During the implementation period, the number of traffic lanes will remain unchanged.



Diamond Hill Station Extension construction site



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

15. The structure of Kai Tak Station was substantially completed in July 2015. Structural works for two station entrance adits are in progress. Fitting-out, E&M and track works have commenced at the platform level of the station. Tunneling works between Kai Tak Station and To Kwa Wan Station are in progress. Over 60% of the tunnel structure has been completed.



Kai Tak Station construction site

16. Additional foundation works for To Kwa Wan Station were completed in accordance with the revised station design resulting from the preservation of archaeological finds. A pipe pile wall was built at the northwest side of the station to protect the archaeological remains to be preserved in-situ and to commence excavation works for the northwest corner of the station.



To Kwa Wan Station construction site

17. The tunnelling works between To Kwa Wan Station and Ho Man Tin Station via Ma Tau Wai Station, which had been affected by the archaeological works, commenced in mid-April 2015 with the TBM “Princess Wencheng” excavating the down-track tunnel from To Kwa Wan Station towards Ho Man Tin Station. The assembling of the up-track TBM “Princess Iron Fan” will commence in the third quarter of 2015.

18. The Antiquities Authority (i.e. the Secretary for Development) decided on the conservation options on 8 December 2014 with most of the archaeological discoveries to be preserved in-situ. With the agreement of the Antiquities and Monuments Office (“AMO”), the stone structures dating back to Song-Yuan period at the southern end of the passenger adit leading to Pak Tai Street are retained at this stage and were backfilled with protection material in May 2015.

19. The archaeological survey and the preservation of the relics have inevitably caused significant impact on the railway construction of the Kowloon City Section. Preserving remnants in-situ within To Kwa Wan Station footprint requires revision in station design and works sequence. Together with the extension of the archaeological survey works, the archaeological issue at To Kwa Wan Station has contributed to a delay of at least 11 months to the programme of the Tai Wai to Hung Hom Section as reported to the Subcommittee on Matters Relating to Railways previously.

20. Excavation of the emergency access for the railway tunnels near Tam Kung Road started in April 2015 as planned.

21. A new stage of temporary traffic management schemes was implemented at Ma Tau Wai Road in April 2015 to facilitate the construction of roof slab at the eastern side of Ma Tau Wai Station which will be completed by the third quarter of this year. Temporary sheet pile wall installation for the station entrances at Lok Shan Road and Kiang Su Street commenced in May 2015. At Ma Tau Wai Road/ To Kwa Wan Road Garden, the construction of the diaphragm walls for the station entrance and the pipe piling works of the emergency access for the railway tunnels are in progress.



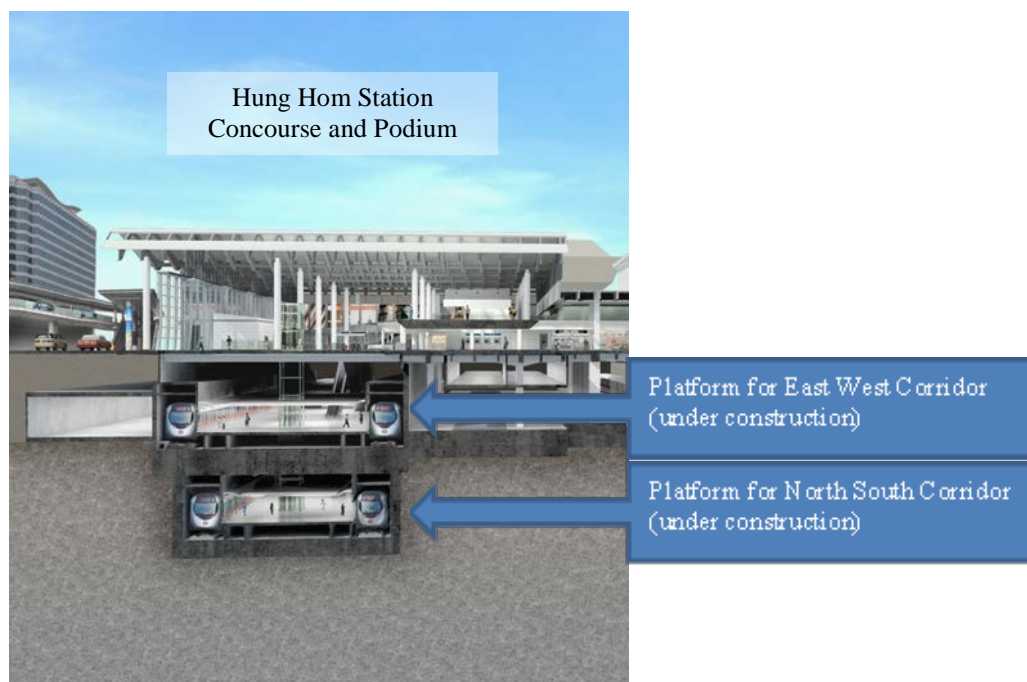
Ma Tau Wai Station construction site

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

22. Under SCL, two railway tunnels are being constructed to connect the East Rail Line (“EAL”) and West Rail Line. To facilitate the tunnel construction works, the traffic lanes of Chatham Road North were altered and tunnel excavation works are now in full swing. The concerned roads will be reinstated after the works are completed.

23. For the future connection with the existing EAL, construction of a new section of tunnels and tracks with noise barriers near Oi Sen Path south of Princess Margaret Road is now underway. Construction works have commenced in a prudent manner and the construction method will be reviewed from time to time to avoid disruption to the existing railway service, as well as the impact on the existing foundations and underground utilities.

24. Upon completion of the SCL, Hung Hom Station will become the interchange station for the EWC and NSC. Two levels of new platforms designated for EWC and NSC are now being built under the existing station podium. Modification works are now underway at the southern concourse of Hung Hom Station and are expected to be completed by early 2016. When the southern concourse is opened to the public, the second stage of the concourse modification works will begin and the northern concourse will be temporarily closed during the modification works.



25. The construction of the diaphragm walls and foundation for the new platforms are about four months behind schedule due to limited space and height available for construction works, as well as the complicated geological conditions under the station podium. Based on the current assessment, there remain risks of further delay.

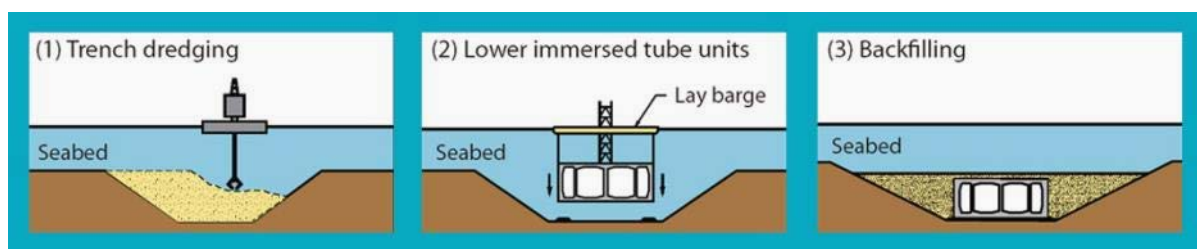
26. The construction team will closely monitor the construction progress by reviewing the effectiveness of progress recovery measures taken to date and reviewing proposals for future works. The Corporation has instructed the contractor to deploy additional manpower and equipment in order to catch up with the progress on the condition that the safety and integrity of the station and adjacent structures are ensured.

27. Apart from the construction of new station platforms, structural works for the construction of stabling sidings for SCL trains are now underway at the former Hung Hom Freight Yard.

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

28. To extend the existing EAL across the Harbour to Hong Kong Island, a new cross-harbour rail tunnel will be built under the SCL project. A section of the cross harbour rail tunnel near the seashore at Hung Hom will be constructed by cut-and-cover method. Construction team has completed the temporary marine platform and is going to carry out the marine pipe piling works to prepare for excavation of the tunnel near the seashore at Hung Hom.

29. The section of the cross-harbour rail tunnel between the offshore at Hung Hom and Causeway Bay Typhoon Shelter (“CBTS”) will be constructed by immersed tube (“IMT”) method (See the diagram below).



Steps of IMT construction

30. The ex-Shek O Quarry is being transformed into a casting yard to construct the pre-cast IMT units. The site has been undergoing dewatering since late June this year, to form the site for future IMT pre-cast units construction. Construction of temporary road, drainage, barging point and concrete batching plant is also in progress on site.



Casting Yard for IMT units

31. The trench dredging works of IMT commenced in the section of Victoria Harbour near Hung Hom to prepare for the lowering of the IMT units. The dredging works are being carried out in phases until 2017.

32. As scheduled, the construction of the cross-harbour tunnel inside CBTS will commence in early 2016. Excavation and pipe piling works will first be carried out to form a temporary wave barrier near the breakwater of CBTS. After completion of the wave barrier, part of the existing breakwater will be temporarily removed to make room for the future IMT installation inside CBTS.

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

33. The railway tunnels from CBTS to Exhibition Station and from Fenwick Pier Street worksite, to the west of Exhibition Station, to Admiralty Station will be constructed by two TBMs, namely “Athena” and “Zhi-nu”. The TBM works will commence in the second quarter of 2016. The launching shafts of the TBMs will be at CBTS temporary reclaimed area and Fenwick Pier Street worksite.

34. Before the construction of the tunnels, preparatory works including diversion of underground utilities, pile investigation location and ground stabilisation works are now on-going along the tunnel alignment passing through Cross Harbour Tunnel Approach Area, Wan Shing Street, Wan Chai Sports Ground and the former Wan Chai West Preliminary Treatment Works.

35. To provide area for the ventilation facilities of the section of SCL between Hung Hom and Admiralty, the Police Officers’ Club at Causeway Bay will start to demolish in the third quarter of 2015. The club will be reprovisioned and integrated with the ventilation facilities upon completion of railway construction.

36. In Wan Chai North area, the Wan Chai Ferry Public Transport Interchange (“PTI”) was temporarily relocated to the newly reclaimed land near WDII in mid-May this year to vacate the site for the construction of Exhibition Station. Site formation, ground investigation and underground utilities diversion are now in progress at the vacated site, followed by the construction of diaphragm walls.

37. To facilitate the construction of Exhibition Station, temporary traffic management arrangements will be implemented in phases in the vicinity. Traffic lanes of Fleming Road and Convention Avenue will be shifted in phases while the number of traffic lanes will remain unchanged in peak hours. As mentioned in the previous papers submitted to the Subcommittee on Matters Relating to Railways, the critical lands under the WDII reclamation will be handed over to SCL six months behind the original schedule for the implementation of the above traffic arrangements. In addition, enabling works at Exhibition Station are also required to allow flexibility for the new convention facilities above the station. As a result and as reported, a delay of six months is expected in the programme of the section between Hung Hom and Admiralty when compared to the original schedule.

38. Regarding the discovery of the large metal object at the seabed near the former Wan Chai Ferry Pier earlier, the Civil Engineering and Development Department (“CEDD”) had completed the preliminary surveying and assessment and relocated the object to a neighbouring seabed area of the reclamation site in June this year. According to the original work plan of WDI and SCL projects, the reclaimed land will be handed over to SCL in end December 2016 for implementation of the abovementioned temporary traffic arrangements. Since the discovery of the metal object has affected the progress of reclamation works, the handover date of the works area will likely be deferred, and may have an impact on the SCL Exhibition Station works. After CEDD has completed its assessment on the anticipated handover date for the reclaimed land, the Highways Department and the Corporation will assess as soon as practicable the impact on the completion date of Exhibition Station as well as the SCL Hung Hom to Admiralty Section.

39. To vacate area for the construction of diaphragm wall for Exhibition Station, a temporary footbridge connecting Great Eagle Centre/Harbour Centre with the former Wan Chai Ferry Pier will be built to replace the existing one. To facilitate the implementation of infrastructure projects in the district, the alignment of temporary footbridge has been adjusted, while the works sequence was also rearranged.



Location map of Exhibition Station and associated tunnels

40. Harbour Road Sports Centre and Wan Chai Swimming Pool will be demolished and re-provisioned to make space for the construction of Exhibition Station. The building service works for re-provisioning of the Swimming Pool are now underway, and the swimming pool is expected

to be completed by the end of 2015. Upon its completion, the existing swimming pool will be demolished and construction of the new Sports Centre and Exhibition Station will follow.



The re-provisioned Wan Chai Swimming Pool is expected to complete by end of 2015

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

41. Modification works including extension of platforms and roofs are being carried out at stations of Ma On Shan Line (“MOL”) to facilitate the 8-car train operation of the EWC. The works commenced in 2012 and are about 90% completed. The modification works are expected to be completed by mid-2016. The retrofitting works of Automatic Platform Gates (“APG”) for MOL commenced at Tai Wai Station in late 2014. The Corporation is committed to completing the retrofitting works of APGs in MOL stations in 2017, one year earlier than originally scheduled.

42. The retrofitting of APGs will also be carried out along the EAL. Before the commencement of the retrofitting works, platforms have to be strengthened in advance and equipment rooms for the relevant signalling system and facilities have also to be constructed. To avoid interrupting normal train services, most of the above works can only be carried out overnight after normal train service hours. The platform strengthening works are now underway in phases along EAL stations. Construction of equipment rooms for the signalling and communication systems in EAL stations are also in progress. The equipment room construction at Sha Tin, Racecourse and University Stations were completed and relevant signalling equipment works are on-going. The retrofitting works of APGs will commence after the completion of the platform strengthening works, as well as the replacement of the signalling system and the use of new



trains. The new trains for SCL will be delivered to Hong Kong in phases from the third quarter of 2015, and thorough testing will be conducted afterwards.

43. Modification and extension works of the existing Pat Heung Depot are being carried out at the existing Pat Heung Depot. Fitting-out and E&M works at the extension of Maintenance Building and Ancillary E&M Plant Building are substantially completed. Statutory inspections are in progress.

## **STAKEHOLDER COMMUNICATION AND ENGAGEMENT**

44. Most of the SCL works sites are in urban areas and close to local communities. For better preparation and coordination for construction works under the project, frequent communication and engagement with the local communities and relevant stakeholders are of paramount importance in order to inform them of the works progress and to listen to their views.

45. Apart from the regular progress updates to the Subcommittee members, the Corporation also maintains close dialogues with District Councils (“DC”). There are regular updates on works progress and key issues in the DC meetings of respective districts. Individual consultation, briefings and site visits have also been arranged with DC members to better facilitate understanding of the construction works and relevant temporary traffic arrangements.

46. To establish a major channel to communicate with the local communities, Community Liaison Groups (“CLGs”) have been set up across districts for SCL to provide updates and possible works impacts of the project on a regular basis. Members of the CLGs include representatives of local District Councils, residents, schools, local organisations and representatives from government departments (including the Highways Department, Hong Kong Police Force, Transport Department, Lands Department and Home Affairs Department). A total of 54 meetings have been conducted so far among different sections of the SCL. Newsletters, leaflets and notices are also distributed to the local communities for providing updated and necessary information about SCL.

47. To facilitate closer communication with residents and shops owners in different districts, Community Liaison Officers and the construction teams of the Corporation proactively visit the shops and nearby residents to address any concerns they have in a timely manner. Dedicated MTR and Contractors' Hotlines are established for handling any enquiries and complaints in regard to the project. An SCL Information Centre has also been set up in To Kwa Wan since October 2012 and around 900 enquiries have already been handled.

## **EMPLOYMENT OPPORTUNITIES**

48. As at 30 June 2015, about 6,849 construction workers and technical/ professional staff members are employed for the SCL project. It is estimated that the project manpower figure will be increased to around 8,200 when reaching its peak in the fourth quarter of 2015.

## **CONCLUSION**

49. Members are invited to note the above information.

MTR Corporation Limited  
August 2015

## Expenditure report as of 30 June 2015

Table 1 – Situation of expenditure

	<b>Awarded contract sum for the contracts ( \$ million )</b>	<b>Cumulative expenditure ( \$ million )</b>	<b>Estimated amount of unresolved claims* ( \$ million )</b>
Civil works	42,235.7	18,053.1	1,324.6
E&M works	12,649.0	1,380.5	0.0
<b>Total</b>	<b>54,884.7</b>	<b>19,433.6</b>	<b>1,324.6</b>

\* The estimated amount of unresolved claim: Amount claimed (\$1,376.7 million) – Interim award (\$52.1 million) = \$1,324.6 million (See Table 2)

## Enclosure I

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	14	31.9	20.2	192	1,376.7	52.1
E&M works	4	0	0	16	0	0
<b>Total</b>	<b>18</b>	<b>31.9</b>	<b>20.2</b>	<b>208</b>	<b>1,376.7</b>	<b>52.1</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 June 2015, the Corporation received 226 substantiated claims and the amount claimed in total was about \$1408.6 million, representing 2.6% 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 June 2015, 18 cases were resolved and about \$20.2 million was awarded, representing about 0.04% of the awarded contract sum for the contracts. Subject to the needs of individual works and progress of the relevant assessment and discussion, interim award amounting to about \$52.1 million was made for some cases.

**Enclosure II****Overall works progress of the SCL as of 30 June 2015**

Overall works completed : 37%

Percentage completed as originally planned: 44%

Culminated progress of major civil contracts awarded :

<b>Contract No.</b>	<b>Contract Name</b>	<b>Percentage completed</b>
1101	Modification of Ma On Shan Line	90%
1102	Hin Keng Station and Approach Structures	64%
1103	Hin Keng to Diamond Hill Tunnels and Fung Tak Public Transport Interchange	64%
1106	Diamond Hill Station Extension	57%
1107	Diamond Hill to Kai Tak Tunnels	84%
1108	Kai Tak Station and Associated Tunnels	74%
1109	Stations and Tunnels of Kowloon City Section	46%
1111	Hung Hom North Approach Tunnels	58%
1112	Hung Hom Station and Stabling Sidings	49%
1114	Pedestrian Links at Tsz Wan Shan	52%
11209	Platform Modification and Associated Works at East Rail Line	39%
1121	North South Line (NSL) Cross Harbour Tunnels	9%
1123	Exhibition Station and Western Approach Tunnel	1%*
1125	Police Sports and Recreation Club Enhancement Works	100%
1126	Reprovisioning of Harbour Road Sports Centre and Wan Chai Swimming Pool	61%
1128	South Ventilation Building to Admiralty Tunnels	8%
1129	SCL - Advance Works for NSL	98%

\*Civil Contract 1123 was awarded on 15 January 2015.