Translation

For Information
November 2014

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Progress and Financial Situation of the Construction of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link

(Half-yearly Report for the Period ending 30 September 2014)

INTRODUCTION

This paper aims to brief Members on the major works progress and financial situation of the construction of the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link ("XRL") and the relevant monitoring work carried out by the Highways Department ("HyD") for the period ending 30 September 2014.

BACKGROUND

2. At the meeting of the Subcommittee on Matters Relating to Railways under the Legislative Council ("LegCo") Panel on Transport in April 2010, Members agreed that reports on progress update and financial situation of the construction of the Hong Kong section of the XRL should be submitted at six-month intervals. In the light of the announcement of the MTR Corporation Limited ("MTRCL") on 15 April 2014 that the opening of the Hong Kong section of the XRL for service would be delayed to 2017, the Administration submitted a paper (LC Paper No. CB(1)1328/13-14(03)) to provide LegCo with information on the latest position of the construction of the Hong Kong section of the XRL, which included construction progress of the Hong Kong section of the XRL as at end March 2014.

3. This paper, which is appended with MTRCL's progress report document (**Annex**), reports on the major works progress, indicators and financial situation for the period between 1 April and 30 September 2014.

REVISED XRL PROGRAMME TO COMPLETE

4. MTRCL submitted a paper (LC Paper No. CB(1)1354/13-14(01)) to the LegCo in May 2014, stating that the progress of the XRL project was affected and delayed by various challenges, and that the new target for the commissioning of the Hong Kong section of the XRL would be by the end of 2017. Subsequently, MTRCL provided HyD with information of its Programme to Complete ("PTC") for commissioning of the Hong Kong Section of the XRL. The information was reviewed by the monitoring and verification ("M&V") consultant commissioned by the HyD, and during the process, MTRCL was requested to provide more detailed information for further examination. The purpose of the review was to assess, from the engineering perspective, the time required to complete the remaining works, taking into account technical factors such as existing contractual arrangements under the XRL project, deployment of resources like estimated manpower, materials and machinery, as well as the progress of various works contracts.

5. HyD, with the assistance of its M&V consultant, has completed its review on the MTRCL's proposed PTC. HyD considers that the PTC could be attained provided that the target progress is met for the critical contracts and various major conditions are satisfied, including (but not limited to) that the contractors maintain their best endeavours through to completion of their respective works; and various assumed production rates of key construction activities for tunnel and West Kowloon Terminus ("WKT") contracts can be met, etc. MTRCL is also expected to obtain all statutory and stakeholders' consents necessary to open the XRL for revenue service, and the Government will provide assistance when necessary.

6. HyD notified MTRCL of its assessment in writing on 23 October 2014. We will check the progress of the remaining works against the PTC, and will continue to use the mechanisms established under the Entrustment Agreement on the XRL project to monitor MTRCL's implementation of the XRL project.

XRL LATEST COST TO COMPLETE

7. The Government received a letter from the MTRCL on 24 July 2014 informing the Government of the Cost to Complete ("CTC") for the Hong Kong section of the XRL. MTRCL also announced on 11 August 2014 that the CTC of the XRL would be $71.52 billion (additional insurance costs and Project Management Cost included). The estimate is based on the PTC under which the XRL will be in commission by the end of 2017. It is about $6.5 billion more than the Entrustment Cost of $65 billion, and also exceeds the Approved Project Estimate.

8. HyD and its M&V consultant are reviewing in detail the CTC and have requested the MTRCL to provide further information. Further assessment by HyD and its M&V consultant will have to be conducted upon receipt of all information from MTRCL. The Government will report to LegCo and the public upon completion of the review. At the same time, regarding issues concerning the overrun of Approved Project Estimate and the parties' responsibility for bearing the relevant costs, the Government will act in accordance with the Entrustment Agreement and reserve all the rights to pursue the warranties and obligations from the MTRCL.

PROGRESS UPDATE OF THE PROJECT

9. As stated in the MTRCL's progress report, the overall progress of the Hong Kong section of the XRL was 63.6% as at the end of September 2014, broadly comparable to the progress planned in the PTC. HyD and its M&V consultant will continue to use appropriate mechanisms to systematically monitor the implementation of the XRL project by MTRCL. If any progress delay or works deficiency is found, HyD will urge MTRCL to follow up and take effective improvement measures accordingly.

(a) <u>Construction of WKT North (Contract 810A)</u>

10. According to the MTRCL's progress report, 73% of excavation works and 27% of concrete structural works for WKT North (Contract 810A) have been completed respectively. HyD noted that the lack of co-ordination and manpower have led to insufficient work fronts for certain sequences of works, which has in turn resulted in the failure to increase the structural concrete

production for WKT. At regular site inspections and monthly Contract Review Meetings ("CRMs"), HyD has repeatedly urged MTRCL to take follow-up actions and effective improvement measures. At the same time, HyD also noticed that MTRCL was working with the contractor to raise the production rate shortly and continuously by improving the arrangements on manpower and machinery, increasing work fronts, enhancing the sequences of works and collaboration among adjacent works sites, etc.

11. HyD and its M&V consultant note that there are three critical paths for the construction of the WKT North, namely (i) excavation works near Jordan Road for the northern portion of WKT that involve the removal of a significant quantity of rock; (ii) steelwork fabrication for the Station Entrance Building ("SEB"); and (iii) construction works for the Lin Cheung Road Underpass. The three paths carry high risks and the works progress of WKT North will be delayed if such risks are not duly managed.

12. To enhance the efficiency of the excavation works for the northern portion of the WKT as mentioned in (i) above, MTRCL proposed the use of blasting to break part of the bedrock there. HyD closely liaised with the relevant Government departments to obtain the necessary approvals. With concerted efforts, MTRCL obtained the blasting permit in September 2014. Trial blasting works are now being conducted. HyD will closely monitor the results of the blasting works and impacts on the surrounding buildings. HyD believes that the blasting works will help expedite the excavation works for the northern portion of WKT. Besides, the steelwork fabrication for the SEB as mentioned in (ii) above is highly complicated and HyD is very concerned about its progress. HyD has noticed that MTRCL is working very hard with the contractor to explore measures to overcome various works-related difficulties, including the fabrication, delivery and erection of the steelwork, as well as temporary works, etc.

13. As regards the construction works for the Lin Cheung Road Underpass as mentioned in (iii) above, MTRCL has proposed to completely close Lin Cheung Road northbound between Austin Road West and Jordan Road to allow more working space for the construction works. MTRCL is discussing the proposal with relevant Government departments with a view to obtaining necessary approvals for its implementation. Noting that the proposed closure might have significant impact on the local traffic and cause inconvenience to the

public, HyD and the relevant Government departments have requested the MTRCL to consider prudently each of the critical issues and conduct a comprehensive traffic impact assessment, as well as propose appropriate and effective mitigation measures. The local community should be fully consulted on the proposed closure and mitigation measures before their implementation.

14. HyD's assessment is that the timely completion of the WKT according to the PTC will depend on the whether the measures mentioned above can be implemented effectively. We will monitor the situation closely and request the MTRCL to follow up the matter proactively.

(b) Construction of Tai Kong Po to Tse Uk Tsuen Tunnels (Contract 823A)

15. The tunnel boring machine ("TBM") used for excavation of the downtrack North Tunnel between Tai Kong Po and Tse Uk Tsuen was seriously damaged when the works site was flooded during a black rainstorm on 30 March 2014. According to MTRCL's assessment in April 2014, MTRCL anticipated that the tunnelling works for this section would be further delayed, making it one of the reasons for the postponement of the commissioning of the Hong Kong section of the XRL to the end of 2017. HyD requested MTRCL to follow up the matter proactively and identify various ways to repair the damaged TBM urgently. With the breakthrough of the downtrack South Tunnel by another TBM in May 2014, its spare parts were made used for repairing the damaged TBM. After several months of repairs and testing, the damaged TBM resumed operation in early July 2014 and broke through the downtrack North Tunnel in August 2014. Re-assembly of the two TBMs is now underway at the works site. HyD has urged MTRCL to expedite the re-assembly and testing of the TBMs with a view to commencing the remaining tunneling works as early as possible. Although the damaged TBM has resumed operation at an early date, timely completion of the tunnelling works under Contract 823A according to the PTC is subject to the achievement of target excavation rates of the two TBMs after their restart. Moreover, HyD has requested MTRCL to enhance the flood prevention measures to prevent recurrence of similar incidents.

(c) Construction of Huanggang to Mai Po Tunnels (Contract 826)

16. Regarding the cross-boundary tunnel section, the two TBMs have completed the tunnelling works for the Shenzhen section of the XRL and have

commenced those for the Hong Kong section within territory. However, HyD is concerned that the progress of the excavation works is far from expectation. At regular site inspections and CRMs, HyD has asked MTRCL to report and explain in detail the delays encountered, with potential risks and concerns fully discussed. HyD has also urged the MTRCL to take follow-up actions and effective mitigation measures, and to timely review and report to the department the effectiveness of those measures. Besides, as the excavation works are being carried out at marble zone, HyD and the concerned government departments have requested MTRCL to conduct proper risk assessment and the corresponding measures with a view to ensuring the works to proceed in a safe manner.

(d) Other works

17. As far as the progress of the remaining construction works is concerned, HyD and its M&V consultant have noted that there are continuous delays regarding the works for the WKT Approach Tunnel (South) (Contract 811B) and the Ngau Tam Mei to Tai Kong Po Tunnels (Contract 824). While the delays are not critical at present, MTRCL has proposed measures to mitigate the delays, and HyD has explored and developed step-up measures to further help catch up the delays. One of the improvement measures is suggesting the 811B contractor to arrange egresses for the delivery of spoil through coordination with its adjacent contractors so as to improve the progress of excavation works under Contract 811B. HyD will closely monitor the works progress. HyD will request MTRCL to follow-up on different situations of delays that may possibly occur, and to assist it, where necessary, in solving any works-related problems as early as possible to help recover the delays.

18. Installation works under various electrical and mechanical contracts including power supplies (Contract 845), building services (Contract 856), lifts (Contract 847), communication system (Contract 850) and trackside signaling system (Contract 841A), etc. in Shek Kong such as Running Maintenance Shed, Shek Kong Stabling Sidings, Emergency Rescue Sidings, Shek Kong Plant Buildings South and North, etc. as well as in sections of tunnels and ventilation buildings are progressing as scheduled. In WKT, the electrical and mechanical contracts such as the power and electrical supplies (Contract 845 and 816C), chiller plants (Contract 816B), lifts (Contract 847) and ventilation systems (Contracts 816A/D), etc. are gaining partial access in different levels and

sections of the terminus to beat against time in order to meet the overall project schedule. As for XRL trains (Contract 840), part of the train sets completed the relevant parts of the dynamic tests, and will be delivered to Hong Kong for preliminary tests at a suitable time. As the peak of the installation of electrical and mechanical systems are tightly interlaced with the dynamic testing and commissioning phase of the whole railway system, close communication and coordination amongst different government departments is critical to the timely completion of the project in which HyD will continue to take the coordination role to accomplish this goal.

REVIEW REPORTS OF THE MTRCL INDEPENDENT BOARD COMMITTEE (IBC)

19. The MTRCL IBC, established to review the background of and revised schedule for completion of the Hong Kong Section of the XRL, released its first report on 16 July 2014. The report has recommended enhancements to MTRCL's system and processes. Amongst others, it is recommended that the MTRCL Board should establish a Capital Works Committee to oversee in the future any project involving design and/or construction with a capital value of a certain material size and the Committee should report to the Board on a quarterly basis on the progress of the relevant projects and their respective budgets; the MTRCL Board should review with the Executive Committee the format and content of future project reporting to the MTRCL Board and the Audit Committee to ensure that both are presented with clear and comprehensive information regarding the projects underway. The MTRCL Board has also followed up on how to enhance the supervision of MTRCL's overall risk management, including railway operation and service performance, customer relations, etc. MTRCL announced on 21 August the establishment of two new committees under the MTRCL Board, including the Capital Works Committee and Risk Committee, so as to strengthen MTRCL's overall corporate governance. Subsequently, MTRCL announced on 14 October the memberships of the two aforementioned committees. The Government hoped MTRCL would actively take follow-up actions on the recommendations of the report, and agreed that the MTRCL Board should strengthen the system and mechanism of monitoring major works projects and railway service.

20. Subsequently, the IBC published its second report on 28 October 2014, which comprises IBC's findings and conclusions in relation to various matters,

reviewed by its two independent experts, on the MTRCL's XRL project management; as well as the IBC's recommendations for consideration by the MTRCL Board. The Government noted that the independent experts as well as the MTRCL's Project Team for the XRL and the Procurement and Contracts Department have different views on the MTRCL's revised PTC and the latest CTC. The Government expects MTRCL to propose early to the Government a comprehensive and practicable solution after taking into full consideration the report prepared by the IBC's independent experts and the issues raised by the HyD, with a view to completing and commissioning the Hong Kong section of the XRL according to the PTC (with completion by October 2017). At the same time, the Government expects MTRCL to conduct a better risk management in project management and monitoring, as well as budget control.

21. On the other hand, the Government has repeatedly stressed earlier that it will proactively carry out its duties as MTRCL's majority shareholder and urge it to seriously review its corporate structure and operation as well as to make necessary reform. On 14 October this year, MTRCL announced the appointment of four new Directors, including one Government Director and three independent non-executive Directors. It is believed that this would strengthen MTRCL's corporate governance and operation.

THE GOVERNMENT'S INDEPENDENT EXPERT PANEL

22. The Government has attached great importance to the delay of the XRL project. It has appointed in May 2014 an Independent Expert Panel, chaired by a retired judge with two overseas experts in engineering as members, to conduct a thorough examination of the project management and cost control mechanism and practices of the MTRCL, as well as the existing project supervision mechanism adopted by HyD and MTRCL. The objective is to identify problems and the reasons behind them, as well as to make recommendations on improvement. The review is expected to be completed within this year and the report will be made available to the public.

Transport and Housing Bureau
November 2014

Annex

For Information

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Progress and Financial Situation of the Construction of the Hong Kong section of Guangzhou-Shenzhen-Hong Kong Express Rail Link

(Report for the Period between 1 April and 30 September 2014)

INTRODUCTION

This is the 8th progress report on the construction of the Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link ("XRL") project.

BACKGROUND

2. At the meeting of the Subcommittee on Matters Relating to Railways ("the Subcommittee") under the Legislative Council ("LegCo") Panel on Transport in April 2010, members agreed that reports on progress update and financial situation of the Hong Kong section of the XRL should be submitted at six-month intervals.

3. On 15 April 2014, the MTR Corporation Limited ("the Corporation") announced a revised programme for completion of the XRL project. After a careful review of the remaining project challenges, the revised target for opening of the XRL for passenger service by the end of 2017 is considered to be more

viable and realistic.

4. In regard to the revised programme, the Corporation attended the Subcommittee meetings on 5 and 19 May respectively, and also submitted a paper on the construction and commissioning of the XRL project to the Subcommittee to report the updated progress of the XRL project till the first quarter of 2014.

5. This paper outlines the critical challenges and the latest progress update of the XRL project under the revised programme, and to report the project progress, key performance indicators ("KPIs") and financial status for the period between 1 April and 30 September 2014.

MAJOR WORKS PROGRESS OF THE XRL PROJECT

(I) Critical Challenges of the Target Opening (Contracts 810A, 823A and 826)

6. In the meeting of the Subcommittee on 5 May 2014, the Corporation highlighted that the Contracts 810A, 823A and 826 are critical to the opening of the Project at the end of 2017 under the revised programme. The following will focus on the critical challenges currently faced in the above contracts, while the overall progress of XRL project will be elaborated in the subsequent paragraphs.

(a) West Kowloon Terminus Station North (Contract 810A) – Complex geological condition and construction environment

7. The ground condition at the West Kowloon Terminus ("WKT") works site is extremely complex. The challenges that the project team are facing in the vicinity of Jordan Road include difficult ground conditions such as uneven bedrock, large boulders and corestones. Coupled with the complex underground utilities, all these challenges had made the previous construction works of the diaphragm walls undertaken by other contracts before excavation commenced,

extremely difficult. Hence, a serious delay was resulted impacting on the excavation works at WKT Station North.

8. The excavation progress in the 2nd and 3rd quarters of 2014 has gradually improved to the target level according to the revised project programme. However, the concreting volume for the station structure is still lagging behind. On the other hand, the Corporation has obtained the blasting permit from the relevant Government departments in September 2014 and trial blasts have commenced. The use of blasting is expected to further accelerate the excavation of the underground rock at WKT Station North near Jordan Road.

9. Construction of the Lin Cheung Road Underpass will directly affect the station entrance works. A number of temporary traffic diversions have to be implemented according to current programme, so the works time cannot be ensured. To remove the risk for the construction of Lin Cheung Road Underpass, the Corporation is planning to completely close a section of Lin Cheung Road northbound between Austin Road West and Jordan Road to allow more work fronts to be established. Relevant measures are being actively studied to reduce traffic impact due to the road closure. We are co-ordinating with the relevant Government departments and target to implement the temporary traffic diversion in the first quarter of 2015. Meanwhile, we will update Yau Tsim Mong District Council, relevant Community Liaison Groups and local community in a timely manner.

10. Apart from the excavation works, installation of WKT's roof structure is another significant challenge for the project due to its complexity and the relatively limited experience in constructing of such a steel structure in Hong Kong. To overcome this challenge, tighter supervision and closer coordination with the contractor and the designers have been implemented.

(b) Yuen Long tunnel section connecting Tsat Sing Kong and Tai Kong Po (Contract 823A) – TBM was damaged by flooding

11. Due to the delay of site access of Tai Kong Po to Tse Uk Tsuen Tunnels section (Contract 823A), there was already a 5-month delay at the beginning of the construction. Even with the deployment of an additional tunnel boring machine ("TBM") as a mitigation measure, the black rainstorm on 30 March 2014 caused severe damage to the TBM in the northern tunnel of this section and affected the progress of the project.

12. According to the assessment in April 2014, the most viable solution was to repair the TBM in-situ. There were some 2,000 components that needed to be replaced and most of them were electronic and electrical components. It was expected that the damaged TBM would take several months for repair and testing before it could resume full operation.

13. The project team has explored different options to recover programme delays, and successfully managed to transfer parts and components of the other TBM that had broken through the southbound tunnel of the southern section in May 2014 to resume operation of the damaged TBM in early July 2014, which was earlier than the expected schedule.

14. To prevent the reoccurrence of the damage caused by flooding, the project team has implemented enhanced mitigation measures, including more frequent inspections of slopes in the construction site which may be damaged by the rainwater and stepped-up cleaning of the surface drainage system. These measures are proved to be effective in subsequent rainstorms.

(c) Cross-boundary tunnel section (Contract 826) – Delay of TBM's arrival at Hong Kong boundary and complex geological condition

15. The cross-boundary tunnels run through quite a number of fishponds and protected wetlands. This section involves complex geology and runs through a 200-metre section of bedrock in the marble formation (cavity zone). Since thorough site investigation could not be conducted before the commencement of the construction, tunnel boring works have to proceed in a prudent and slow

manner.

16. After completing the tunnelling works on the Shenzhen side, the two TBMs arrived at the Hong Kong boundary in November 2013 and March 2014 respectively, later than the original schedule by 14.5 months.

17. The project team of the Hong Kong section is now focusing on boring through the high risk marble formation (cavity zone). Owing to constraints posed by the presence of fish ponds and protected wetlands, the project team has not been able to obtain detailed information such as the exact location, size and depth of the underground cavities. To ensure the safe operation of the TBMs, probing ahead of the TBMs in the tunnel face is being carried out. Should any trace of the presence of cavities be detected, additional time will be required to carry out grouting works to ensure that the cavities are filled before tunnel excavation can resume. As such, tunnelling through marble formation (cavity zone) will require a longer construction period.

18. The TBM for the downtrack drive, which arrived Hong Kong boundary earlier, had components which suffered substantial wear and tear after tunneling through complex geology of the marble zone and has required a much longer down time for repair works. To avoid affecting the progress of both TBMs, the project team decided to allow the up track TBM overtake the down track TBM. As tunnel boring is still progressing under the complex geological environment, frequent probing and maintenance are still required. Therefore, the progress of the tunnel boring works can only proceed slowly.

(II) Overall Progress of Construction Works

(a) Tunnel construction – New Territories section

19. The 7.6km drill-and-blast tunnel that runs through Tai Mo Shan between Tse Uk Tsuen and Shek Yam (Contract 822) was broken through in the first quarter of 2014. Over 80% of the tunnel structures have been completed. Advance

works of the overhead line installation have commenced in September 2014 and it is targeted to commence the track laying by this year. The main building structural works of the Shing Mun ventilation building are progressing with over 50% complete. The shaft construction works have commenced early this year. The concrete placement for the internal dividing walls was completed in August, while the remaining structural works are in progress.

20. The TBM launched from Shek Kong works site for the south drive towards Tse Uk Tsuen (Contact 823A), completed the excavation of the southbound tunnel in late May 2014. The TBM for the north drive towards Tai Kong Po also completed the remaining excavation of the southbound tunnel in August after resuming operation in July. Both TBMs will be re-assembled at Shek Kong works site and targeted to commence excavation of the northbound tunnels in the 4th quarter of this year.

21. While over 85% of the drill-and-blast tunneling works for Ngau Tam Mei to Tai Kong Po section (Contract 824) has been completed, the Contract still facing with challenge of the difficult groundwater condition. Hence, grouting works are being carried out at the same time with the tunneling works.

22. About 94% of the boring of the northbound tunnel of Mai Po to Ngau Tam Mei section (Contract 825) has been completed since the commencement in early July 2013. The tunnel breakthrough into Ngau Tam Mei is expected to achieve in the fourth quarter of this year. This will complete all the excavation works of this tunnel section. Track-laying is expected to commence by this year in the southbound tunnel.

23. The structural works of Shek Kong Stabling Sidings and Emergency Rescue Siding ("SSS & ERS") (Contract 823B) have been substantially completed, while the structural works of the XRL Hong Kong Section Operations Control Centre were completed in March 2014. Up till now, structural works for 12 out of 14 buildings have been completed. The structural works of ERS Plant

Buildings North and South continue and are expected to be completed in the fourth quarter of this year.

(b) Tunnel construction – Urban section

24. After leaving Tai Kok Tsui area in July 2014 and entering Hoi Ting Road, the TBM for the Nam Cheong to Hoi Ting Road tunnel section (Contract 820) broke through into the retrieval shaft at Hoi Ting Road in late September 2014 and this successfully completed the last section of tunnel excavation works in the urban section. The Nam Cheong ventilation building located at the TBM launching shaft was topped out in June this year. Interior fitting-out works and the Electrical and Mechanical ("E&M") installation are in progress. Materials for trackworks are being delivered using the launching shaft, these materials are being used for the track-laying works for the urban section of tunnels.

25. Backfilling above the completed tunnel structure at the section of WKT Approach Tunnel near Hoi Ting Road (Contract 811A) has started. To complete the remaining works underneath the existing tunnel of West Rail Line ("WRL"), the project team had to transfer the loading of WRL tunnel structure to the newly constructed XRL tunnel structure by using of jacks in July 2014. For the section of Approach Tunnel near Jordan Road (Contract 811B), the structural works have been completed by more than half. The top-down slabs at B2 level were completed and excavation downward continues.

26. The construction of ventilation building at Mongkok West has reached ground level. Transformers are being delivered to the relevant plant rooms for power supply system installation.

(c) Construction of West Kowloon Terminus (Contracts 810A and 810B)

27. Level B1 and B2 structural slabs located at the former Jordan Road were fully completed from east to west in April and August 2014 respectively, to provide adequate support to the WKT Station North structure to allow excavation

to continue below B2 slab. At the central part of the Terminus **(core area)**, the structural works at different slabs are being completed successively.

28. For the overall construction of the West Kowloon Terminus, around 84% of the excavation works and around 41% of the concrete works have been completed. The E&M contractors have now gained access to about 33% of the floor areas at WKT Station South for the installation works. Interior works including builders' works and services installation works at platform level is progressing, as well as the construction of the Austin Road West Underpass, is also underway.

29. Apart from the excavation works and construction works of the underground Terminus which are progressing at full swing, the project team is also stepping up the supervision on the production process of the structural steel members for WKT entrance. About 52% of the permanent structural steel members, fabricated both overseas and in the Mainland have been completed. To facilitate the erection works of the structural steel members at the WKT entrance, large-scale temporary support structure is being erected on site and is now around 36% completed.

30. The Corporation is now working closely with the contractors to ensure that the progress is being maintained against the revised programme through increasing the number of workers, working hours and the amount of machinery used in the project, etc. Other measures include re-sequencing the works and arranging some works to be carried out concurrently wherever is feasible. Construction of station structure will also commence as soon as excavation works in an area have been completed to allow the concreting volume to gradually increase.

(d) E&M system

31. Installation of E&M equipment has commenced at WKT Station South. Major E&M equipment and materials including chillers, water pumps, major heat

exchangers and smoke extraction fans etc. are being delivered to site and the related storage area. The installation of LV electrical supply system at WKT Station South has been completed and tested.

32. Installation of the main power supply system was completed at both the Main Building and the Infrastructure, Building Maintenance & P'Way Maintenance Building at the SSS & ERS, as well as the Kwai Chung ventilation building. The power supply installation works at the plant rooms are underway.

33. Installation of E&M equipment including ventilation system and telecom equipment are being progressively carried out at several ventilation buildings and tunnel sections as well as the SSS & ERS. Installation of lifts is being carried out at the Mai Po ventilation building and Operations Control Centre.

34. Following the progress of the civil works of the tunnel sections, overhead line installation works and track laying continue to proceed. Additional plants have also been deployed to speed up the progress of track-laying.

(e) Rolling stock and signaling system

35. Train nos. 1 to 3 have been assembled and some of the dynamic tests have been completed in the Mainland. The trains will be delivered to Hong Kong at a suitable time for initial testing before operation.

36. Rounds 1 and 2 of the signaling system integration and simulation tests have been successfully completed in June and August respectively at the contractor's laboratory in Beijing.

(III) <u>Preparation and Interface Works</u>

(a) Temporary traffic arrangements

37. To facilitate the works of the XRL project, we continue to implement

temporary traffic management measures of different scales. Roads in the vicinity of the WKT construction site, including Austin Road West, Wui Man Road, Wui Cheung Road, Temporary Road D1A(S) northbound, Jordan Road, Lin Cheung Road southbound and the ingress slip road for Cross-Border Coach Terminus at Kowloon Station, will continue to be temporarily closed in phases with traffic diversion until 2017, so as to facilitate the planned opening of the Austin Road West / Lin Cheung Road Underpass system and the traffic network in the vicinity of the WKT in 2017. According to current works progress, the Jordan Road temporarily shifted northward is expected to be reinstated to its original location in 2015.

38. We continue to maintain close liaison with the local communities and relevant District Councils, arrange site visits as needed and gather their views. Moreover, we have kept owners / occupiers of the relevant residential estates and commercial buildings informed of the latest temporary traffic arrangements, and have also uploaded such information onto the XRL website so that residents, business operators and the public would be duly informed about the arrangements.

(b) Blasting works at WKT Station North (Contract 810A)

39. To accelerate the excavation progress of the platform level at the basement, the Corporation proposed to carry out blasting works at WKT Station North. We briefed and illustrated the details of the blasting works to Yau Tsim Mong District Council Traffic and Transport Committee, Community Liaison Group of the XRL project (West Kowloon Terminus) and the nearby Management Offices of the housing estates in the third quarter of 2014. We have also prepared a leaflet on blasting for distributing to the relevant housing estates and for uploading to the XRL website to explain the detailed arrangements to relevant stakeholders and local community.

40. Trial blasts have started on 22 September 2014. The Corporation has issued notices to nearby residents in mid-September as well as SMS notifications on the blasting time on the day of blasting. Hotline was also set up for enquiry

by residents and general public. The Corporation and contractor have set up vibration monitoring points adjacent to the blasting areas to monitor the blasting impact and has kept close liaison with relevant stakeholders and local community. As the minimum quantity of explosive has been used for each blast, according to actual site inspection, the noise and vibration levels during blasting are similar to the levels when a heavy vehicle passing through the road. Assessment conducted by our professional consultant concluded that blasting under basement slabs has no structural impact on WKT station structure and nearby infrastructure (including MTR Austin Station and properties atop Kowloon Station etc.).

(c) Tunnel boring works and community liaison for the urban section

41. The Corporation arranged a Community Liaison Group of the XRL project (Hoi Wang Road) meeting in July 2014 to update members the latest works progress in the vicinity. We also liaised with owners / occupiers of buildings along the XRL alignment in phases in July and August to arrange some preparation works such as the re-installation of monitoring points.

42. The TBM drive for northbound tunnel entered Tai Kok Tsui area in May 2014. Before the works commencement, the Corporation had arranged a Community Liaison Group of the XRL project (Tai Kok Tsui) meeting in January 2014 to update members the latest works progress. The TBM successfully passed underneath buildings in Tai Kok Tsui area in July and broke through the bored tunnel in urban section in late September. During the works period, we had distributed notices, organized roving exhibitions and issued project newsletters in phases to explain the latest TBM progress in Tai Kok Tsui to residents and district councilors.

(d) Communication with residents of Yau Tam Mei Tsuen ("YTMT")

43. At the requests of YTMT residents, representatives of the Corporation and relevant Government departments have attended over 220 site inspections, visits and residents meetings in order to maintain direct communication with the

local stakeholders to explain the works in details and listen to their views.

44. As for the complaints referred by LegCo Public Complaints Office, the Corporation has been handling every case individually with the residents and has replied to the Office on the follow-ups. The Corporation and its contractor would keep close dialogues with the residents to minimise the impact of the works on the local community.

45. The Corporation has been following up the LegCo members' suggestions made at the previous LegCo case conferences in a pragmatic manner. We have been in a close dialogue with the local stakeholders to collect and co-ordinate their views as well as explore practical solution(s) to resolve the issue. We will keep the LegCo members updated in a timely manner.

(e) Handling of enquiries and complaints

46. The Corporation and Government have always paid close attention to communication with the public and local communities. Members of the public can make use of various channels to express their views or make enquiries concerning the XRL project. Enquires or complaints received concerning the XRL project over the past 6 months were mainly about suspected damages to buildings, traffic management, environmental implications and the tidiness and cleanliness of works sites, etc. The Corporation had promptly contacted the enquirer or complainant to acknowledge receipt of the case, and would investigate the details and follow up.

47. The XRL Information Centre handled 23 project related enquiries from April to September 2014, and provided information on the latest tunnel boring works progress to the public.

(f) Public engagement and community involvement activities

48. During the period between April and September 2014, the Corporation

has visited four secondary schools and eight primary schools for talks on XRL project and information of the latest works progress.

49. Volunteer teams comprising representatives of the Corporation and its contractor visited business owners and stakeholders along the XRL alignment in Tai Kok Tsui and around Hoi Wang Road during the Mid-Autumn Festival. Besides distributing mooncakes to express our care for community, information on the latest works progress was also introduced. In addition, the volunteer teams also attended the Mid-Autumn Festival activities organised by Mong Kok Kai Fong Association Ltd. Chan Hing Social Service Centre, and distributed mooncakes and fruits to seniors in elderly homes in Tsuen Wan and Yau Tsim Mong districts to share the joy of the festival.

(IV) Response to Public's Concerns on the Project

(a) Independent Board Committee

50. The MTR Corporation Board of Directors has resolved to establish an Independent Board Committee ("IBC") comprising of independent non-executive directors on 29 April 2014 to conduct a thorough review into the reasons for the XRL delays and the impact of that development. The Committee has been vested with the power to call for all information it deems necessary to complete the review and to appoint external consultants for objective, third party opinions.

51. The first IBC report on review on XRL project was completed and released on 16 July. The Board has accepted the findings of the report and its recommendations for enhancements to the Corporation's systems and processes, including enhanced project reporting, establishment of a Capital Works Committee ("CWC") to enhance the technical supervision of the project, and enhanced communication strategies on the corporate relations planning in respect of project progress with different parties.

52. The IBC has appointed two experts to review the Corporation's project

management systems and processes in respect of the XRL project. The views of the experts have been included in the IBC's second report, which was released on 28 October. The two experts validated the findings of the IBC in the first IBC report relating to technical matters and project management procedures and processes. They also made recommendations in four areas including (1) enhancing project management to de-risk the critical path contracts, (2) enhancing budget control, (3) enhancing reporting processes and presentation and (4) key reporting milestones. The IBC accepted the experts' recommendations and made further recommendations on implementation.

(b) Data Room

53. Express Rail Link Data Room was formally opened on 30 June 2014 to allow LegCo members to have access to project documents during the life of the Project. Such documents include project progress and cost reports, project costs scenario planning reports, and geotechnical baseline reports for individual contracts etc.

(V) Employment Opportunities

54. At the end of September 2014, about 7,900 construction workers and technical/professional staff members were employed for the construction and E&M works for the tunnels and the WKT. The XRL project will continue to deploy manpower resources actively to meet the project needs.

(VI) Updated Financial Situation of the XRL project

55. As at 30 September 2014, the cumulative expenditure for the awarded contracts was $41.108 billion.

56. In view of the revised programme for project completion in 2017, the Corporation had submitted the latest estimate of the XRL Cost to Complete, which

is $71.52 billion (inclusive of future insurance and project management costs), to Government in end July. We will re-valuate the project cost and report to Government early next year. Meanwhile, we will continue to closely monitor and control costs and strive to keep expenditure to the minimum necessary while ensuring successful delivery of this Project in accordance with the revised project schedule. Details of the financial situation of the XRL project are shown at Annex 3.

MTR Corporation Limited
November 2014

Annex 1 - KPIs of Major Works Progress

Summary of the Construction Progress of the XRL Project

Works Commencement Date	26 January 2010
Target Opening Date	End of 2017, under the Corporation's revised programme
Works Progress	• Overall completion progress: 63.6% (as at end September 2014) • Project expenditure: HK$ 41.108 billion (as at end September 2014)

Progress of Key Civil Works Contracts

Cumulative progress of contracts for WKT construction:

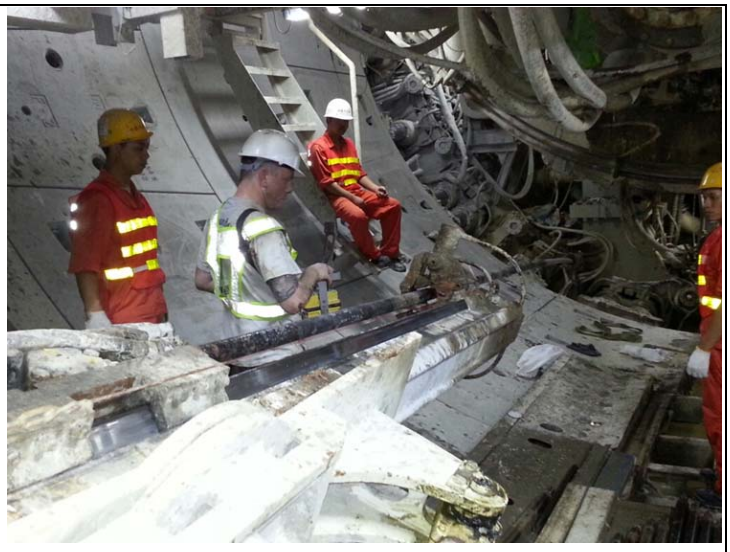
Contract No.	Concrete structural works		Terminus excavation works	
	End March 2014	End September 2014	End March 2014	End September 2014
810A	17%	27%	63%	73%
810B	63%	75%	97%	98%

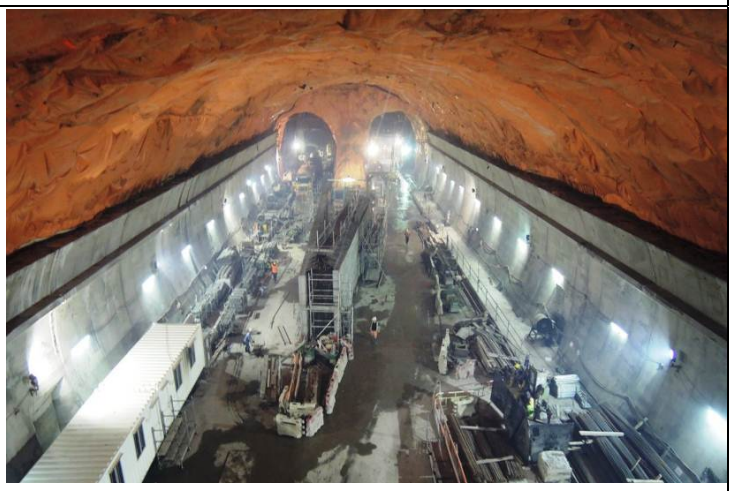
Cumulative progress of contracts for other tunnel sections:

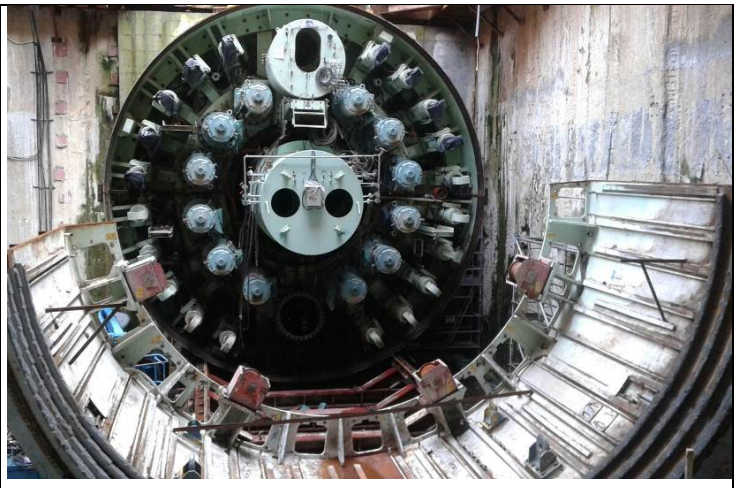
Contract No.	Tunnel excavation works			
	End March 2014		End September 2014	
	Northbound	Southbound	Northbound	Southbound
811B	59%	59%	72%	72%
811A	99%	99%	100%	100%
820	41%	100%	100%	100%
821	100%	100%	100%	100%
822	100%	100%	100%	100%

823A	0%	90%	0%	100%
824	73%	70%	85%	88%
825	47%	100%	94%	100%
826	1%	16%	24%	24%

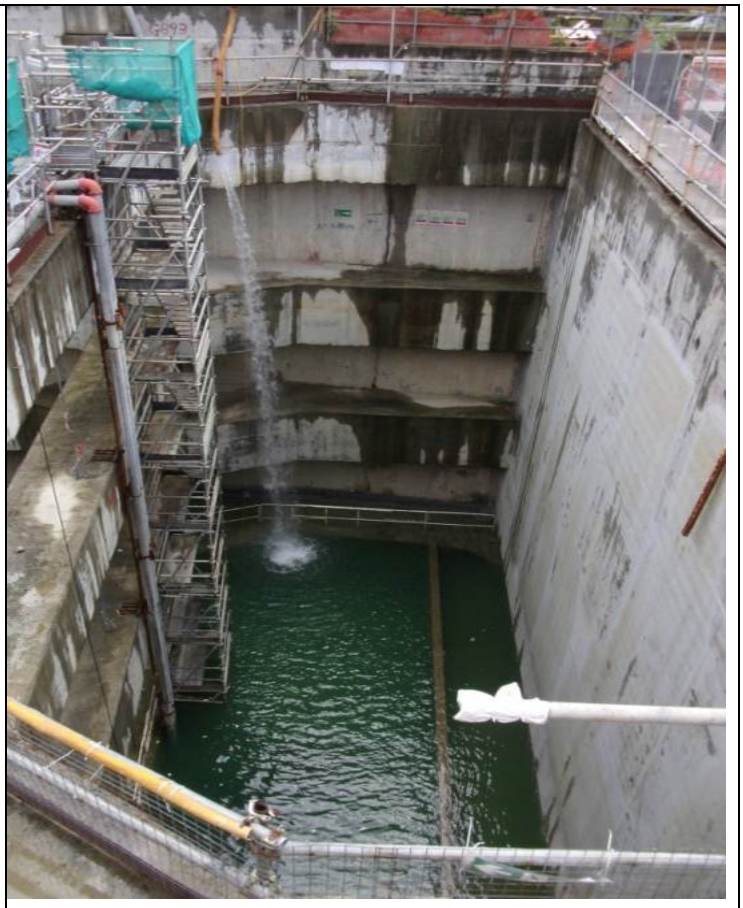
Annex 2 - Progress Photos

New Territories Section - Cross-boundary Tunnel Section	Probing ahead of TBM of the cross-boundary tunnels (826)	
New Territories Section - Mai Po to Ngau Tam Mei Tunnel Section	Concreting work inside Mai Po to Ngau Tam Mei Tunnels (825)	

New Territories Section - Ngau Tam Mei to Tai Kong Po Tunnel Section	Tai Kong Po tunnel structural works progressing as drill-and- blast works advance (824)	
	Internal conditions at Ngau Tam Mei Tunnels (824)	
New Territories Section - Tai Kong Po to Tse Uk Tsuen Tunnel Section	TBM of Shek Kong northern section completed excavation of the remaining southbound tunnel and broke through into Tai Kong Po in August (823A)	

	Re-assembly of TBM of Shek Kong southern section for the excavation of the northbound tunnel (823A)	
New Territories Section - Shek Kong Stabling Sidings and Emergency Rescue Siding	Emergency Rescue Siding Plant Building-South (823B)	
	Emergency Rescue Siding Plant Building-North (823B)	

New Territories Section - Tse Uk Tsuen to Shek Yam (Tai Mo Shan) Tunnel section	Tunnel structural works inside Tse Uk Tsuen to Shek Yam Tunnel Section continue (822)	
	Shaft of Shing Mun ventilation building (822)	
New Territories Section - Shek Yam to Mei Lai Road Tunnel section	Landscaping at Kwai Chung ventilation building (821)	

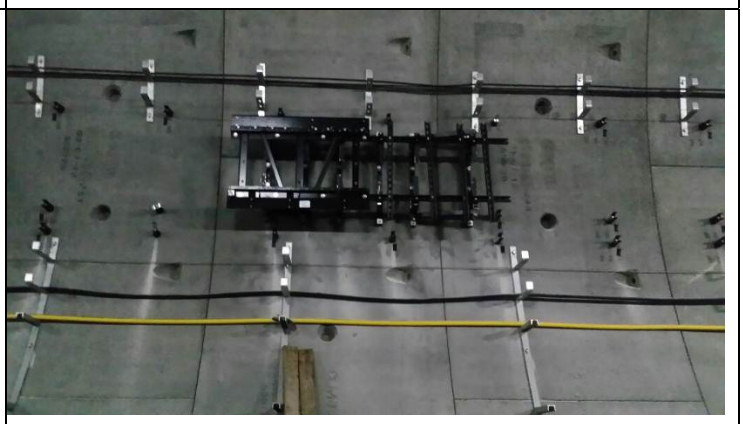
Urban Section - Mei Lai Road to Hoi Ting Road Tunnel section	Preparation works at Hoi Ting Road retrieval shaft before the northbound tunnel breakthrough by TBM “Seong-ngo” in end of September (820)	

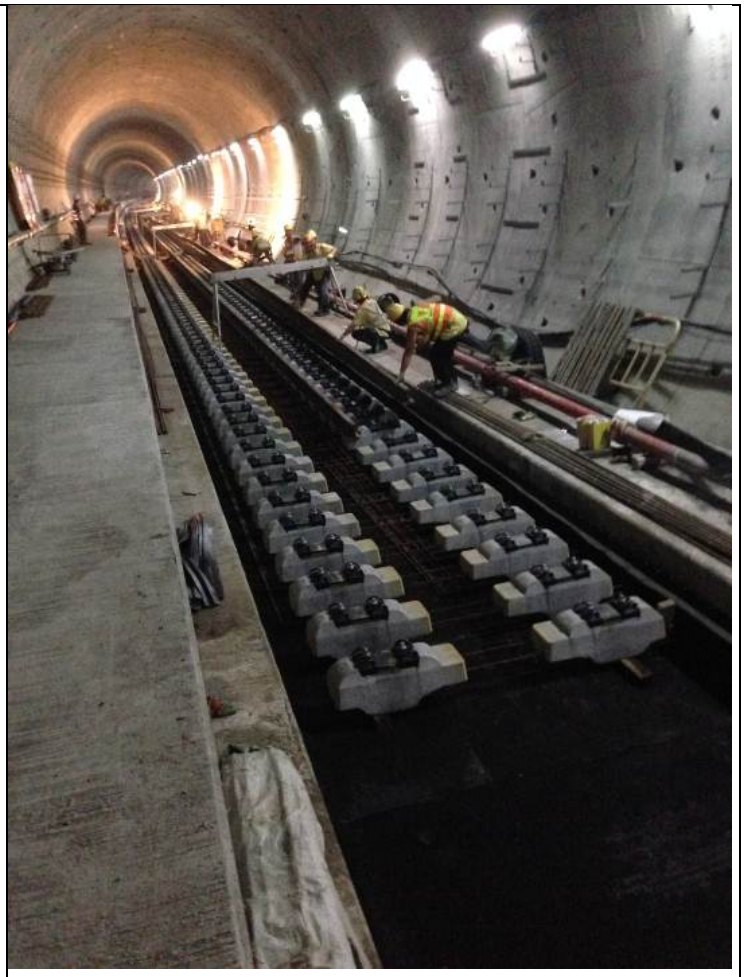
Urban Section - WKT Approach Tunnel	Load transfer work underneath the West Rail Line tunnel (811A)	
	Approach tunnel cut and cover works (811B)	

WKT	Aerial view of WKT (810A & 810B)	
	Excavation and concrete structural works at the south of Jordan road (810A & 811B)	
	Terminus station internal structures (810B)	

	Structural steel members manufactured in Thailand (810A)	
	Large-scale temporary support structure for construction of the Terminus roof structure (810A)	
E&M System	Installation of axial fans on delivery to WKT Station South site	

	Seawater pumphouse at WKT	
	Solar photovoltaic panels installed at the rooftop of Shek Kong Main Building	

	Lift installation inside the XRL Operations Control Centre	
	Installation works of telecom equipment inside the tunnel	

	Track laying works inside the tunnel	

Annex 3 - Financial Expenditure

Expenditure report ending 30 September 2014

Table 1 – Situation of Expenditure

	Awarded contract sum for the contracts ($ million)	**Cumulative expenditure ($ million)**	**Estimated amount* of unresolved claim ($ million)**
Railway Tunnels	22,459	23,264.4	5,331.7
West Kowloon Terminus ("WKT")	14,590	12,168.3	4,989.7
Electrical and Mechanical ("E&M") Works	8,166	5,675.3	580.7
Total	**45,215**	**41,108.0**	**10,902.1**

*Amount stated in the contractor's detailed claim report.

Table 2 – Situation of substantiated claims

	Claims resolved			**Claims unresolved**		
	Number	Amount claimed originally* ($ million)	Amount awarded ($million)	Number	Amount claimed* ($ million)	Interim award ($ million)
Railway Tunnels	82	2,258	1,207	273	6,110	778
WKT	46	247	187	250	5,538	548
E&M Works	2$^{\theta}$	0	0	42	587	7
Total	**130**	**2,505**	**1,394**	**565**	**12,235**	**1,333**

*Amount stated in the contractor's detailed claim report.

$^{\theta}$Claims withdrawn by the contractors no longer included

The MTR Corporation Limited ("the Corporation") and the Government 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 2014, the Corporation received 695 substantiated

claims and the amount claimed in total was about $14.74 billion, representing 32.6% 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 September 2014, 130 cases were resolved and about $1,394 million was awarded, representing about 3.08% 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 $1,333 million was made for some cases.