Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Progress Update of the Construction of the West Island Line, South Island Line (East) and Kwun Tong Line Extension

Introduction

This paper reports to Members on the progress of the main construction works of the West Island Line ("WIL"), South Island Line (East) ("SIL(E)") (as at 31 March 2015) and Kwun Tong Line Extension ("KTE") (as at 31 March 2015).

Background

WIL

2. WIL is an approximately three-kilometre long railway extension of the existing Island Line running from Sheung Wan Station to Kennedy Town Station with two intermediate stations at Sai Ying Pun and the University of Hong Kong (the alignment is at **Annex 1**). In 2009, the estimated capital cost of WIL was $15,400 million (in December 2008 prices). According to the estimation of the MTR Corporation Limited ("MTRCL") in November 2014, the latest capital cost of WIL is $18,500 million (in money-of-the-day prices).

SIL(E)

3. SIL(E) is a new railway corridor running from South to North of Hong Kong Island. It starts from South Horizons on Ap Lei Chau to Admiralty via Lei Tung, Wong Chuk Hang and Ocean Park with a total length of about seven kilometres (the alignment is at **Annex 2**). SIL(E) will connect the MTR Island Line, Tsuen Wan Line and the future Shatin to Central Link ("SCL") at Admiralty Station. The existing Admiralty Station will be expanded to form an integrated station for the four lines to provide seamless interchanges for passengers. In 2011, the estimated capital cost of SIL(E) was $12,400 million (in December 2009 prices). MTRCL advised in November 2014 that the cost had increased to $15,200 million (in money-of-the-day prices). According to MTRCL, the capital cost will be reviewed in a timely manner taking into account the progress of the

project and the estimated capital cost is likely to rise given the complexities of the construction works and the various difficulties and challenges continuously encountered.

KTE

4. KTE is an approximately 2.6-kilometre long railway extension of the existing MTR Kwun Tong Line running from the Yau Ma Tei Station to the new Ho Man Tin Station and Whampoa Station (the alignment is at **Annex 3**). In 2011, the estimated capital cost of KTE was $5,300 million (in December 2009 prices). According to MTRCL, the capital cost will be reviewed in a timely manner taking into account the progress of the project and the estimated capital cost is likely to rise given the complexities of the construction works and the various difficulties and challenges continuously encountered.

Project Implementation and Funding Mode

5. WIL, SIL(E) and KTE, being the extensions of the existing railway networks owned by MTRCL, are 'ownership' projects. Under the 'ownership' approach, MTRCL will be responsible for the financing, design, construction, operation and maintenance of these railway projects, and will own the railways. The Government and MTRCL signed the Project Agreement for WIL in July 2009, and the Project Agreements for SIL(E) and KTE in May 2011. The target commissioning dates are August 2014 for WIL, and December and August 2015 for SIL(E) and KTE respectively.

6. The construction cost of the railways is such an enormous amount that WIL, SIL(E) and KTE are not considered financially viable based on their fare and non-fare revenues alone. Funding support to MTRCL is needed from the Government to bridge the funding gap[1] of the projects.

7. To implement SIL(E) and KTE projects, the Government granted the

[1] A railway is considered not financially viable if the present value of all its projected revenues net of projected expenditures falls short of the expected return on capital. During the initial public offering ('IPO') of MTRCL in 2000, the Government acknowledged to investors through the IPO Prospectus that the return required by MTRCL for any new railway project would ordinarily be between 1% and 3% above Weighted Average of Cost of Capital (WACC). This shortfall is known as the funding gap.

property development rights under 'the Rail-plus-Property Model' to bridge the funding gaps of the projects with caution that the land to be granted to MTRCL should not be more than what is required to bridge the funding gaps. As such, the Government granted in 2011 the topside property development rights at Wong Chuk Hang Depot and Ho Man Tin Station for the implementation of SIL(E) and KTE projects respectively.

8. Being granted the property development rights, MTRCL is responsible for all of the costs of the property development as well as the construction and operating costs of the railway projects. In addition, it has to bear long term risks in financing the projects, operating the railways, and market fluctuations in rail and property developments. The design philosophy of the 'Rail-plus-Property Model' is to strike a fair balance of risks and benefits between the Government and MTRCL. As the SIL(E) and the KTE are ownership projects, MTRCL will be responsible for the additional expenditure arising from the delay of the railway works.

9. For WIL, due to the lack of suitable sites for property development along or adjacent to the alignment, the Government decided in 2009 to provide a non-recurrent capital grant of $12,700 million (Net Present Value in June 2009) as the ceiling of the funding support to bridge the funding gap of the project.

Essential Infrastructure Works related to Railway Projects

10. In order to cope with the commissioning of WIL, SIL(E) and KTE, the Government also entrusted the implementation of the associated 'Essential Public Infrastructure Works' ("EPIW") to MTRCL. They include construction and improvement of the pedestrian and linking facilities for providing convenient access to railway stations so that the consequential social and economic benefits of the railways can be fully realised. EPIW, which are constructed in parallel with the railway works, include:-

EPIW of WIL

(i) a covered pedestrian link at Sands Street, including a lift tower at the junction of Sands Street and Rock Hill Street with a single-way escalators;
(ii) a footbridge across Pok Fu Lam Road for connecting to the

University of Hong Kong Centennial Campus; and

(iii) a boarding and alighting area for green minibuses at the Kennedy Town Station.

EPIW of SIL(E)

(i) construction of a public transport interchange underneath Wong Chuk Hang Station; improvement of the road network in the vicinity of Ocean Park Station and Wong Chuk Hang Station;
(ii) modification of a section of Wong Chuk Hang Nullah between Ocean Park Road and Nam Long Shan Road;
(iii) construction of a covered footbridge connecting Wong Chuk Hang Station with the adjacent industrial area and a covered footbridge linking the western part of Ap Lei Chau Estate to Yi Nam Road near Precious Blood Primary School; and
(iv) construction of a pedestrian link to Aberdeen Channel Promenade and improvement of the road junctions of Ap Lei Chau Drive and Ap Lei Chau Bridge Road.

EPIW of KTE

(i) construction of a pedestrian link system connecting Ho Man Tin Station to Ho Man Tin Estate, Oi Man Estate and the Hung Hom area south of Chatham Road North, which includes covered footbridges, covered walkways and subways;
(ii) construction of a footbridge integrating with the existing footbridge across Chatham Road North and connecting Ho Man Tin Station to Wuhu Street; and
(iii) construction of a public transport facility at Chung Hau Street near Ho Man Tin Station.

Latest Progress of the Works

11. MTRCL has submitted progress reports on WIL, SIL(E) (as at 31 March 2015) and KTE (as at 31 March 2015) at **Annexes 4** to **6** respectively. The analysis and supplement made by HyD on these progress reports are provided below.

WIL

12. WIL, together with HKU Station and Kennedy Town Station, was commissioned on 28 December 2014 whilst Sai Ying Pun Station (except Ki Ling Lane Entrance) was subsequently completed and opened on 29 March 2015. All the three stations of WIL are now opened to the public. All EPIW related to WIL have also been completed.

13. Owing to the impact of earlier construction works, the ground freezing works for the passenger adit between Ki Ling Lane entrance and First Street/Second Street entrance are still ongoing. Excavation for the remaining 20-meter passenger adit will commence upon the completion of the ground freezing works. Meanwhile, the structural works of the station entrance are being carried out. MTRCL estimates that the Ki Ling Lane entrance can be opened to the public in the fourth quarter of 2015.

14. Water seepage was recently found at some locations of the three stations of WIL. They scattered at the walls or ceilings of passenger adits, lift lobbies or station platform. According to MTRCL, the water seepage would mainly be caused by underground water penetrating through construction joints of concrete lining. MTRCL immediately carried out remedial measures by sealing up the linings with problem in HKU Station. The situation has now improved. The Highways Department (HyD) and Buildings Department (BD) have also requested MTRCL to expedite the remedial works at other locations with seepage with a view to minimizing the impact to passengers.

15. Furthermore, the Electrical and Mechanical Services Department (EMSD), BD and HyD had conducted site inspections at the stations and passenger adits. They discovered that the seepages occurred only at localized areas and the situation was not serious. Similar situations also occurred previously at some underground structures. Their preliminary view is that the seepage should not affect the structural integrity of the stations nor the railway operation. BD and EMSD are arranging site inspections at the railway tunnels to see if similar seepage situation occurs. At the same time, MTRCL is conducting a detailed investigation on the incident and anticipates that a detailed investigation report would be submitted to the departments concerned within 3 months.

SIL(E)

16. The expansion work at Admiralty Station for SIL(E) involves the addition of three underground levels below Harcourt Garden east of the existing station and the construction of an approximately 200 m long overrun tunnel for SCL. The additional three underground levels include one level for interchange and two levels for train platforms. The platforms at the upper level are reserved for the use of SCL while the platforms for SIL(E) are at the lowest level. Upon expansion, Admiralty Station will become an interchange station serving passengers for SCL and SIL(E). Hence, except that the construction cost of overrun tunnel of SCL would be borne by the SCL project, the construction cost of the expansion work 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. In 2011, SCL project is estimated to undertake about $2,700 million (in money-of-the-day prices) for the costs of building works, building services works, electrical and mechanical works for the portion of SCL in Admiralty Station, etc.

17. MTRCL carried out excavation work for the expansion at Harcourt Garden site with the cut-and-cover method and subsequently the structural work of the station. As safety is accorded the highest priority, it is a big challenge to carry out the excavation underground where the existing train station, tunnels in use and foundations of many buildings are situated. In the process of excavation, it is found that the actual spacing of joints in rock is less than the estimation from ground investigation reports. In other words, the level of weathering of the rock is less than that estimated. This in effect makes the excavation more difficult. Furthermore, in order to connect the expansion part with the platforms of SIL(E) and SCL, the underpinning works for the existing tunnel of the Island Line have to be carried out for excavation underneath.

18. The excavation for the underpinning works beneath the tunnels of Island Line started in January 2014 with the use of mechanical method. But the speed and efficiency of excavation have been far from satisfactory. To improve the speed of excavation, the contractor changed the design of the temporary support for the works in December 2014 to provide more space in the excavation area so as to facilitate the excavation work. The contractor has also adopted blasting to assist the mechanical excavation since the end of January 2015 to speed up the excavation. As at the end of March 2015, about 83% of the excavation for the underpinning works was completed. It is expected that full completion will be

achieved in June 2015. Although the progress of excavation has improved significantly, it is not able to recover the delay. Moreover, the delay in the underpinning works for the tunnels of the Island Line has also affected the progress of the structural works for the station expansion. While the progress of the structural works has improved since February 2015, the accumulated delay could not been recovered.

19. MTRCL maintains that the target commissioning date of SIL(E) is set at the end of 2016. In order to achieve this target, MTRCL has to improve the efficiency of every aspect of the expansion at Admiralty Station and expedite the remaining works. HyD will keep close monitoring of the progress of MTRCL on such works.

20. For Nam Fung Tunnel, connecting Admiralty Station and Ocean Park Station, and other railway facilities at Wong Chuk Hang and Ap Lei Chau, although there are different degrees of delay, they are not as serious as the expansion work at Admiralty Station. MTRCL said at the beginning of 2015 that the construction work of Lei Tung Estate entrance was deferred from the second half of 2015 to the first half of 2016. While the progress of the structural work of the entrance and shaft was slightly behind schedule, it could still tie in with the target commissioning date of SIL(E). HyD will closely monitor the work progress of the entrance and has requested MTRCL to submit detailed information of the work progress.

21. For EPIW of SIL(E) mentioned in paragraph 10 above, due to the impact of underground utilities more complicated than expected, the new slip road connecting Ap Lei Chau Drive from Ap Lei Chau Bridge Road is expected to be operational by the second quarter of 2015, which is half year later than the completion date stated in the entrustment agreement. For the same reason, the construction of a public transport interchange underneath Wong Chuk Hang Station, widening of Heung Yip Road and construction of a pedestrian link to Aberdeen Channel Promenade are expected to be completed in the fourth quarter of 2015, which is about 3 months later than the completion date stated in the entrustment agreement. Nevertheless, the progress of the above works will not affect the commissioning of SIL(E).

22. According to the preliminary estimation of the MTRCL, EPIW of SIL(E) may exceed the approved project estimate[2] by $163 million. MTRCL is reviewing the construction cost. HyD has requested MTRCL to provide the details for scrutiny.

23. The closure of roads surrounding the work site of Harcourt Road Garden between September and mid-December 2014 has affected construction traffic of the site. With the traffic conditions near the site returned to normal on 11 December 2014, all the ingresses and egresses of the site resumed normal on the following day. MTRCL considers that the closure of roads only has limited impacts on the overall progress of works of the project as it is brief compared with the overall construction period of SIL(E). The underpinning works for the Island Line are still the most critical to the progress of SIL(E).

24. HyD has repeatedly expressed its grave concerns at progress meetings and through letters to MTRCL about the slow progress of excavation for the underpinning works beneath Island Line. It has also requested MTRCL to submit progress reports and proposals for recovering the delay of the excavation works. In response to the concerns of HyD, MTRCL has provided regular progress briefs. As it has been unable to recover the accumulated delay pertaining to the structural work of the expansion of Admiralty Station, HyD has requested MTRCL to explain the measures to recover the progress. HyD has also repeatedly requested MTRCL to explain and supplement the method statements and contents of the progress reports on the remaining construction works. In response to the concerns of HyD, MTRCL has provided regular progress briefs on the structural work. HyD will keep close monitoring of the progress of the works.

KTE

25. The proposed Ho Man Tin Station is 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. In 2011, the SCL project is estimated to undertake about $2,900 million (in money-of-the-day prices) for the costs of building works, building services works,

[2] In 2011, the estimated capital cost of EPIW of SIL(E) was $927 million (in money-of-the-day prices).

electrical and mechanical works for the portion of SCL in Ho Man Tin Station, etc.

26. Since the excavation works at Ho Man Tin Station of KTE was carried out by open blasting method, and the blasting was in close proximity to the main roads and residential blocks, the protection setup for open blasting works was more complicated than the traditional one, thereby leading to delay to the excavation works. The structural works of Ho Man Tin Station commenced immediately after the end of the blasting works for the station in April 2014 for completion in the second quarter of this year. The structural works of the west cavern of the station also commenced soon after the completion of blasting in December 2014. The work is progressing according to the planned programme and is expected to complete in mid-2015. Currently, MTRCL is engaged in the structural works, the associated electrical and mechanical (E&M) works and building services installation of Ho Man Tin Station in full swing by improving the works sequence, increasing manpower and machinery, and adjusting the E&M and fitting-out works. The structural works of the tunnel and track laying works are also in progress.

27. With the general completion of the excavation works at the East and West concourses of Whampoa Station at the end of 2014, the structural works of the station commenced for completion in the third quarter of this year. The excavation for the platform tunnel between the two concourses is in progress, yet, the progress has slipped against the planned programme. According to the information available to HyD, the target commissioning date of the KTE might be affected if the platform tunnel between the East and West concourses of Whampoa Station cannot be completed in the second quarter of 2015. According to the plan of MTRCL, the contractor needs to carry out 24-hour construction works inside the platform tunnel in order to meet the target completion date of the excavation works in mid-2015. Hence, upon application of the contractor of MTRCL, the Environmental Protection Department (EPD) granted a Construction Noise Permit (CNP) in early 2015 to allow for 24-hour construction for a period of two months (from 12 January to 11 March 2015). During the permit period, residential complaints were received. Although MTRCL carried out the on-site measurement of noise level and there was no exceedance to the requirements set out in the CNP, for the goodwill of the community, the contractor voluntarily has shortened 24-hour working period to between 7:00 a.m. and 11:00 p.m. since mid-February 2015. From the expiry of the above CNP till the end of April 2015, the contractor has applied for a CNP from EPD to allow for construction period

extended to 11:00 p.m. As the working hours are shorter than expected and coupled with the highly variable ground condition encountered, the progress of excavation work is slower than expected.

28. Apart from engaging measures of adjusting the works sequence, increasing manpower and machinery to improve the progress of work, MTRCL will discuss with EPD on the possibility of 24-hour construction works inside the platform tunnel and the associated noise mitigation measures required with a view to extending the working hours and completing the tunnel excavation the earliest possible. Upon completion of the excavation work, other remaining works such as tunnel lining, track laying, and cable installation will then commence.

29. The delay in the construction of Ho Man Tin Station has affected the progress of part of the EPIW connecting to Ho Man Tin Station, including the two pedestrian subways for crossing Fat Kwong Street and Chung Hau Street, part of the footbridge crossing Chatham Road North, as well as the public transport interchange at Chung Hau Street in the vicinity of Ho Man Tin Station. Besides, the excavation works for the above two pedestrian subways have encountered complicated geological conditions and are experiencing slight delays. MTRCL has adjusted the works sequence, increased manpower and machinery to improve the situation. The work is progressing according to the planned programme. The above EPIW are expected to be available for public use at the same time as the commissioning of KTE. Regarding the other EPIW that are not affected by the progress of the works of Ho Man Tin Station, including the footbridges and covered walkways crossing Chatham Road North, Chung Yee Street, Sheung Lok Street and Fat Kwong Street, it is expected that the works can be completed in mid-2015 as scheduled.

30. HyD keeps in view of the progress of various items through regular progress meetings with MTRCL and site visits. It also discusses with MRTCL and co-ordinates with related government departments to help MTRCL resolve problems encountered in the course of works. Through progress meetings and letters to MTRCL, HyD has repeatedly expressed its concern about the persistent delay of the works at Whampoa Station, and requested MTRCL to review the target commissioning programme of KTE and provide progress briefings and detailed works programmes on the major construction activities in order to clarify and supplement on how to carry out the remaining works in the construction programme. In response to the concerns of HyD, MTRCL has provided HyD with regular progress briefs on major works processes, and has improved the

works sequence, increased manpower and machinery, and adjusted the E&M and fitting-out works to improve the construction progress.

31. MTRCL has currently maintained the target commissioning date of KTE in mid-2016. According to the information available to HyD, KTE should be able to start operation in mid-2016 provided that the platform tunnel between the East and West concourses of Whampoa Station can be completed in the second quarter of 2015. However, as the excavation works of the platform tunnel between the East and West concourses of Whampoa Station are yet to be completed and the contractor is unable to get a CNP for 24-hour construction works inside the platform tunnel, MTRCL must keep reviewing the progress of the works and update the target commissioning date when necessary. HyD will keep a close monitoring of the progress of the works.

Conclusion

32. We will continue to closely monitor the progress of the remaining works and system testing of the Ki Ling Lane Entrance of WIL for its commissioning in the fourth quarter of 2015. Regarding SIL(E), although the excavation progress of the underpinning works beneath the Island Line at Admiralty Station has improved, the existing delay has still not been recovered. In addition, there is a delay in the structural works for the station extension. MTRCL is needed to expedite the remaining works with a view to achieving the target commissioning by the end of 2016. Based on the current assessment, there are still risks to achieve the target commissioning at the end of 2016. For KTE, as the excavation works for the platform tunnel between the East and West concourses of the Whampoa Station are still onging and in view of the uncertainties arising from the complex geological conditions, there are also risks to achieve the target of commissioning in mid-2016. Nonetheless, these railways are ownership projects and MTRCL will bear the additional expenditure arising from the delay of these railway works.

33. The above railway works are major underground infrastructure projects 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 sequence having regard to the actual situation of work sites. Additional manpower and machinery have also been deployed to particular construction activities in

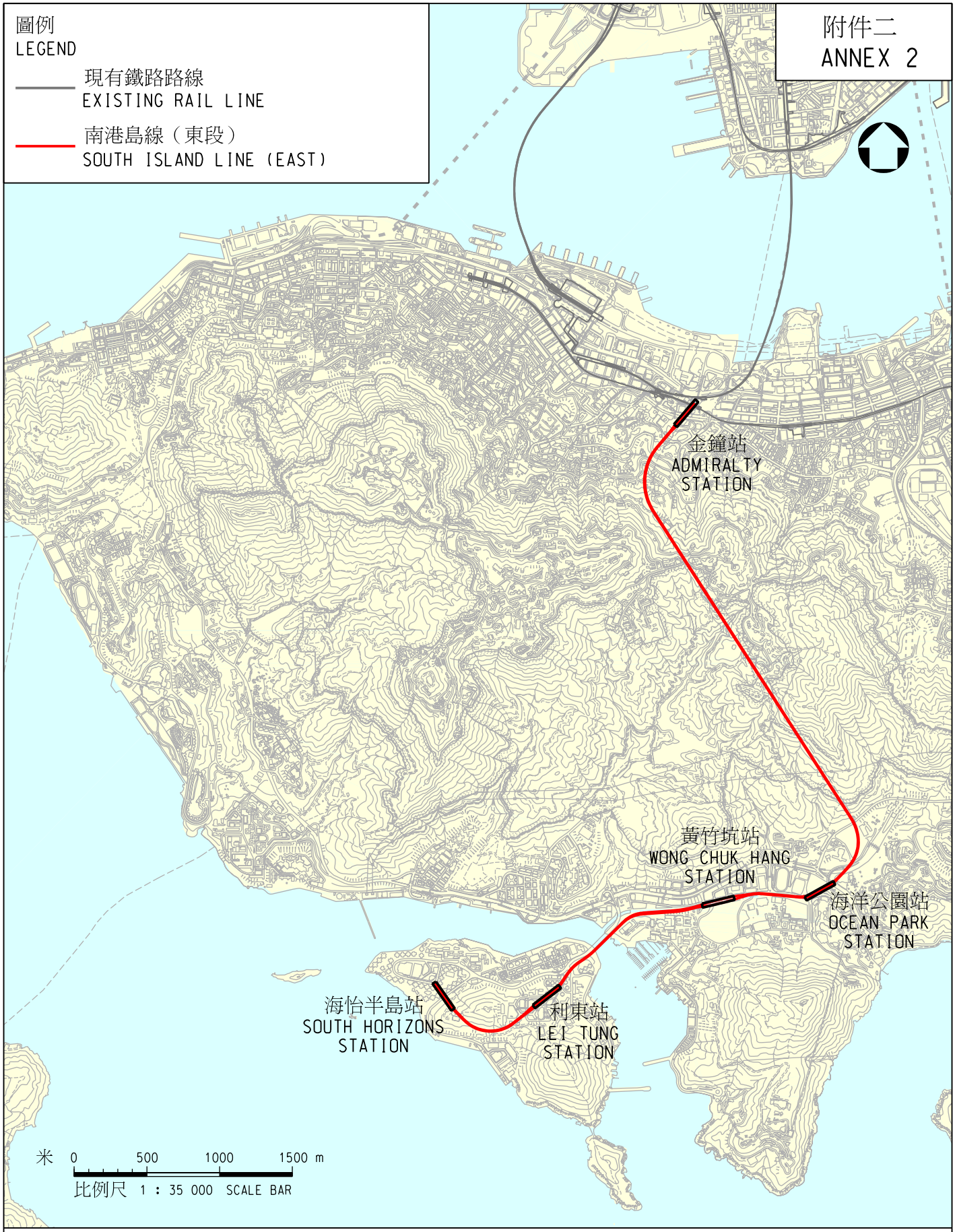
order to overcome the difficulties. The Government will closely monitor the progress of works and the state of construction. It will also assist MTRCL to resolve problems encountered in the construction works as early as possible and conduct timely reviews of the commissioning programme taking into account the latest situation of the project.

Transport and Housing Bureau
Highways Department
May 2015

西港島線
WEST ISLAND LINE

A4 210X297

.../dms01440/HRWWIL003-SK0075.dgn 03-03-2015



南港島線（東段）
SOUTH ISLAND LINE (SIL) (EAST)

A4 210X297

.../dms01666/HRWSILE01-LP0011.dgn 03-03-2015

附件三
ANNEX 3

觀塘線延線
KWUN TONG LINE EXTENSION

Annex 4

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Progress Update of the West Island Line

This paper briefs Members on the latest progress of West Island Line (WIL).

Background

2. WIL is a 3-kilometre long extension of the existing Island Line stretching from Sheung Wan Station (SHW) to Kennedy Town Station (KET) with two intermediate stations, Sai Ying Pun Station (SYP) and HKU Station (HKU). It offers a seamless railway service with a journey time from SHW to KET of about 7 minutes.

Opening of SYP

3. Following the opening of KET and HKU on 28 December 2014, SYP commenced passenger service on 29 March 2015. SYP has a total of 6 entrances. Apart from the Ki Ling Lane entrance, the entrances at Queen's Road West, Des Voeux Road West, First Street, Second Street and Bonham Road were opened when SYP commenced service. The Ki Ling Lane entrance is targeted to open in the fourth quarter of 2015.

Latest Progress of the Project

4. Structural works of the Ki Ling Lane entrance of SYP continue. The ground freezing is underway at the remaining 20-metre passenger adit that connects to entrances of First Street and Second Street, to facilitate the subsequent excavation and tunnel lining construction.

5. As the Ki Ling Lane entrance is still under construction, temporary walls have been set up inside SYP to separate the construction site from operational areas so that the construction activity would not affect the station operations and the passengers.

Train Service

6. With the service commencement of SYP, the train frequency between KET and Chai Wan Station remains the same as the arrangement before opening, that is, about 2 minutes a train during peak hours and

about 4 minutes a train during weekday non-peak hours. The departure time of the first train and last train also remains the same.

7. The Island Line service was extended to Western District with the opening of the three new stations. To cater for the growing passenger demand, the Island Line train service would be progressively enhanced on Friday and Saturday nights as well as for most of the daytime on Sundays with a total of 63 additional trips per week, starting from 29 March 2015.

Fine-tuning Adjustments and Rectifications

8. Similar to previous new railway projects, teething problems will be encountered and some fine-tuning adjustments and rectifications are required during the initial operation period. The Corporation has closely monitored the performance of train service and station facilities to make necessary enhancements while also minimising any inconvenience caused to passengers. Enhancement actions, based on passenger feedback, include the increased ventilation at the adit of Entrance A of HKU and the adjustment of the "3-in-1" Ticket Machines for better convenience.

9. SYP and HKU are both deep underground stations constructed below the groundwater table. The design included features to prevent water from entering within the structure. However, it is still necessary to carry out some further grouting works to seal up leaks that may occur after construction is completed and such works take time. This is not unusual compared to other deep underground structures in Hong Kong. Minor seepage of water will not have any adverse effect on the structural integrity of the stations, and water dripping areas once found are immediately sheltered or fenced off to ensure passengers and train service are not affected. To minimise the inconvenience caused to passengers, station cleaning is enhanced and station staff are arranged to assist passengers.

Publicity and Promotion

10. Publicity and promotional programmes are in place to familiarise the community and passengers with the new station facilities and entrances of SYP. The Corporation will keep listening and responding to feedback from the stakeholders and local community.

MTR Corporation Limited
May 2015

Annex 5

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Progress Update on South Island Line (East)
(As of 31 March 2015)

Purpose

This paper aims to provide the works progress of the South Island Line (East) (SIL(E)) project as of 31 March 2015.

Background

2. SIL(E) is a 7-kilometre, medium-capacity railway that connects the Southern District with the existing railway network in Hong Kong through tunnels and viaducts via stations at Ocean Park, Wong Chuk Hang, Lei Tung and South Horizons. A maintenance depot for trains is located in Wong Chuk Hang.

3. To enhance convenience for the residents of Southern District, the project also includes the construction of a number of essential public infrastructure works in addition to the railway. These include the construction of a public transport interchange under Wong Chuk Hang Station; improvement of the existing road network in the vicinity of Ocean Park and Wong Chuk Hang Stations; the construction of a covered footbridge connecting Wong Chuk Hang Station with the adjacent industrial area; the construction of a covered footbridge crossing Ap Lei Chau Bridge Road to link the western part of Ap Lei Chau Estate to Yi Nam Road near the Precious Blood Primary School; and the construction of a pedestrian link to the Aberdeen Channel Promenade, etc.

4. Construction of SIL(E) commenced in 2011. Upon commissioning, it will provide convenient and fast railway service for the approximately 350,000 residential and working populations in Southern District. The journey time from Admiralty to Ocean Park will be reduced from the current 25 to 45 minutes to just 4 minutes. The train ride from Admiralty to South Horizons will

take approximately 11 minutes. The frequency of train service will be about 3 minutes during peak periods.

Project Progress

5. As of 31 March 2015, the overall works for SIL(E) are about 85% completed whereas the completed percentage should be 95% as planned based on the original target opening at the end of 2015. The construction works of Nam Fung Tunnel are well advanced and the construction works of Ap Lei Chau Tunnel have been completed. Construction works for the viaduct and noise barriers of Wong Chuk Hang section have also been substantially completed.

6. With the exception of the entrance at Lei Tung Estate of Lei Tung Station, the construction of the four new stations and their entrances in Southern District including Ocean Park Station, Wong Chuk Hang Station, Lei Tung Station and South Horizons Station is generally in line with the original programme. As mentioned in the report of the progress update on SIL(E) to the Subcommittee on 6 March 2015, the shaft structure works at the Lei Tung Estate entrance of Lei Tung Station are taking longer than anticipated due to the ground conditions at formation level and labour resource issues. The completion of the entrance structure and fitting-out works as well as the installation of passenger lifts will carry on until the first half of 2016 rather than the second half of 2015. Meanwhile, the challenges remain at the extension works of Admiralty Station but the current target opening of SIL(E) is still at the end of 2016. It will be more certain on the commissioning date of SIL(E) when the underpinning works for the Island Line tunnel at Admiralty Station are completed.

7. As reported in the paper to the Subcommittee on Matters Relating to Railways in November 2014, the Corporation has completed a review of the cost estimate for the project according to its revised works programme. The latest estimate of the construction cost of SIL(E) has been revised upward from HK$12.4 billion (prices at 2009) to HK$15.2 billion (money-of-the-day prices). With the complexity of the project and continued challenges encountered, this estimate will be further reviewed in light of project progress and may be revised upwards. As SIL(E) is an "ownership" project, the Corporation will bear the relevant additional cost in accordance with the "ownership" approach. As the extension works of Admiralty Station include works for SIL(E) and Shatin to Central Link ("SCL"), the construction cost of the station extension will be shared between the Corporation and the Government proportionately. The Corporation will bear 30% of the construction cost of station extension while the Government will bear the remaining 70%.

Track and Train-related Works

8. The extension works of Admiralty Station as part of the SIL(E) project include the construction of platforms for the SIL(E) and Shatin to Central Link (SCL) at Harcourt Garden as well as two overrun tunnels for SCL, each with an approximate length of 200 metres. Excavation for the SIL(E) platforms and tunnels has been completed and the excavation of the tunnels for SCL is expected to be completed in the second quarter of 2015. Meanwhile, the cut-and-cover excavation for the extension of Admiralty Station is substantially complete and the construction of the station structure is in progress (details given in the ensuing paragraphs 12 to 14). The construction of the ventilation building at Hong Kong Park is in progress.

9. At Nam Fung Tunnel, the lining works and the construction of the transition structure, which connects to the viaduct section, are substantially complete. As challenges of the complex geological condition has to be overcome during the blasting works for Nam Fung Tunnel, the expected completion date of the Nam Fung Tunnel structure works will be slightly deferred from the first quarter of 2015 to the second quarter of 2015.

Nam Fung Tunnel permanent lining works

10. All track-laying works and the installation of overhead lines and trackside auxiliaries from Ocean Park Station to South Horizons Station have been completed. The installation of noise barriers for the viaduct section is substantially complete. With the exception of Admiralty Station, all track-laying works for SIL(E) are expected to be completed in the third quarter of 2015.

11. Four out of the 10 new SIL(E) trains were transported to Wong Chuk Hang Depot from Siu Ho Wan Depot and the remaining trains will be transported to the Depot by mid-2015. Train testing on the running track is expected to commence between Wong Chuk Hang Station and South Horizons Station in April 2015.

Four out of the 10 SIL(E) trains have been transported to Wong Chuk Hang Depot

Station Structural Works

12. Admiralty Station is undergoing expansion to become an interchange station for four railway lines including the Island Line, Tsuen Wan Line, SIL(E) and SCL. There are three levels at the existing Admiralty Station including one concourse level and two platform levels serving passengers on the Tsuen Wan Line and Island Line. The extension works of Admiralty Station are being carried out under Harcourt Garden, east of Admiralty Station, with three additional levels being constructed below the existing station. The cut-and-cover excavation is substantially completed and the construction of the station structures is now progressing. Excavation continues at the eastern end of the underpinning zone of Island Line, with the western and central sections now at foundation level.

13. The underpinning works below the tunnel structure of the existing Island Line require the installation of temporary steel beams and columns to support the tunnel structure of the existing Island Line while the in-situ rock is excavated incrementally from beneath the structure. Great care is needed to maintain the safety of the railway tunnel structure and to ensure that there is no impact on the train services of Island Line. The construction team has faced significant challenges related to access constraints, tight working space, and geological features at some locations such that it is required to carry out additional strengthening and temporary support works. These issues have

contributed to the delay to this part of the critical works. The team is making its utmost effort to overcome these difficulties. The monthly excavation progress has been improved since November 2014, although the existing delay could not be recovered. The actual opening date can only be confirmed after the completion of the underpinning works.

Underpinning works for Island Line tunnel at Admiralty Station

14. The excavation and blasting for the cavern and platform tunnels of SIL(E), that make up the southern part of the extension of Admiralty Station, have been substantially completed and structural works are in progress.

15. Structural works for Ocean Park Station and Wong Chuk Hang Station have been completed. The fitting-out and E&M works for Ocean Park Station are substantially completed while those for Wong Chuk Hang Station are in progress. Structural works for Wong Chuk Hang Depot have also been completed while the fitting-out works and E&M works are in progress. The majority of the track area inside the Depot has been energised and is ready for the testing of the SIL(E) trains.

16. The structural works of Lei Tung Station has been completed at platform level and is in progress at concourse level. The structural works for the pedestrian adit and station entrance at Main Street, Ap Lei Chau have been completed. Fitting-out works and E&M works are in progress. Blasting works for the entrance at Lei Tung Estate and the associated adit excavation works have been completed. Construction of the shaft structure and the lining works for the pedestrian adit are in progress. Due to unforeseen adverse ground conditions encountered at the shaft formation level, the structural works

commenced late and progress is also being hampered by the availability of labour resources. As a result, the construction of the entrance shaft structure at Lei Tung Estate is taking longer than anticipated when compared with that of the other station structures. The completion of the entrance structure and fitting-out works as well as the installation of passenger lifts is expected to continue into the first half of 2016 but the station will still be ready for the overall opening schedule of SIL(E) which is targeted by the end of 2016.

Structural works of Lei Tung Station entrance at Lei Tung Estate

17. At South Horizons Station, excavation works have been completed and construction of the station box and entrance structure under the temporary traffic deck is in progress. Construction for the footbridge connecting Ap Lei Chau Estate had been completed and the footbridge was opened for public use in January 2015. Structural works for the End Plant Building at Yuk Kwai Shan and the ventilation building at Lee Wing Street are in progress.

Station structural works in progress under the temporary traffic deck at South Horizons

Summary and Way forward

18. As pointed out in the report to the Subcommittee on Matters Relating to Railways in March 2015, the monthly excavation progress of the underpinning works at Admiralty Station has been improved but the existing delay could not be recovered. Whilst the SIL(E) project is targeted for opening at the end of 2016, the Corporation would have more certainty on the opening date upon further progress in the excavation and underpinning works at Admiralty Station. The project team will continue to implement the railway project with safety as the top priority, and strive to complete the SIL(E) project and deliver railway services as soon as possible. The Corporation will also continue to update members of the public and the Legislative Council of the project progress.

MTR Corporation Limited
May 2015

Annex 6

Legislative Council Panel on Transport
Subcommittee on Matters Relating to Railways

Progress update of the Kwun Tong Line Extension
(As of 31 March 2015)

Background

The Kwun Tong Line Extension (KTE) project is a 2.6-kilometre underground extension of the existing Kwun Tong Line from Yau Ma Tei to Whampoa, with an intermediate station at Ho Man Tin. Ho Man Tin Station being constructed under KTE will be an interchange station with the future Shatin to Central Link (SCL). The construction of the KTE project commenced in 2011.

2. To facilitate convenient access to railway service for local commuters, essential public infrastructure works are being constructed alongside the railway works. These include a series of pedestrian walkways connecting Ho Man Tin Station to Oi Man Estate and Ho Man Tin Estate, a covered footbridge across Chatham Road North, and public transport facilities at Chung Hau Street.

3. In 2011, the estimated capital cost of KTE was $5.3 billion (in December 2009 prices). In view of the construction complexity and continued challenges encountered by the project, the cost will be reviewed in accordance with the progress and upward adjustment to the cost may be required. As KTE is an "ownership" project, the Corporation will bear the relevant additional cost in accordance with the "ownership" approach. As Ho Man Tin Station includes the works for KTE and SCL, the construction cost of the station will be shared by the Corporation and the Government proportionately. The Corporation will bear about 26% of the construction cost of the station while the Government will bear the remaining about 74%.

Project Progress

4. Subject to the current commissioning target in mid-2016[1], as of 31 March 2015, the overall works for KTE are 75.6% completed compared

[1] It would be more certain for the Corporation to work out the commissioning arrangement upon further progress of the platform tunnel excavation at Whampoa Station.

to the planned completion of 75.7%. Owing to the variable mixed ground condition and limited working space, the excavation of the platform tunnel between the East and West concourses of Whampoa Station remains most challenging and critical to the project at the moment.

Railway Tunnelling and Track Works

5. The structural works of railway tunnels between Yau Ma Tei and Whampoa are substantially completed. Track-laying works are progressing in the tunnels beneath Gascoigne Road and Wuhu Street with 38% completed. All track installation work is expected to be completed in mid-2015.

Track works at tunnel between Yau Ma Tei and Ho Man Tin

Ho Man Tin Station and Essential Public Infrastructure Works

6. Ho Man Tin Station will serve as the future interchange station between the Kwun Tong Line and the SCL. The structural works of the station are now in full swing and is expected to be completed in the second quarter of 2015. The electric and mechanical (E&M) equipment assembly, building services and system-wide installation works will follow. The structural works for Ho Man Tin Station is 88% completed compared to the planned completion of 92%. External drainage and utilities connection works have commenced in the vicinity of Ho Man Tin Station while appropriate measures are in place to minimize inconvenience caused to the local community. Major E&M equipment (including escalators, chillers and platform screen doors etc.) have been delivered to the sites for their installation.

Structural works at Ho Man Tin Station

7. Despite that the structural works of Ho Man Tin Station and Wylie Road Ancillary Building are making steady progress, extra efforts have been put to improve the tight interfacing programmes with civil and track works, E&M installation and the complex logistics arrangement. Constrained by the limited working space and access point at work sites, the delivery of E&M materials is being facilitated by the use of works trains from Tsuen Wan Depot to the overrun tunnel at Yau Ma Tei during non-traffic hours.

8. Over 72% of the pedestrian link system for Ho Man Tin Station has been completed. The deck structure of the public transport facilities at Chung Hau Street has been substantially completed and the facilities will be opened for public use in line with the opening of Ho Man Tin Station. Structural and fitting out works for the pedestrian link system connecting Ho Man Tin Station to Oi Man Estate and Sheung Lok Street, and the covered footbridge across Chatham Road North connecting to Ho Man Tin Station are in progress, and are expected to be completed in mid-2015. Excavation of the passenger adits underneath Fat Kwong Street and Chung Hau Street is well underway. These facilities will be opened for public use in conjunction with the opening of Ho Man Tin Station.

Whampoa Station and tunnelling works

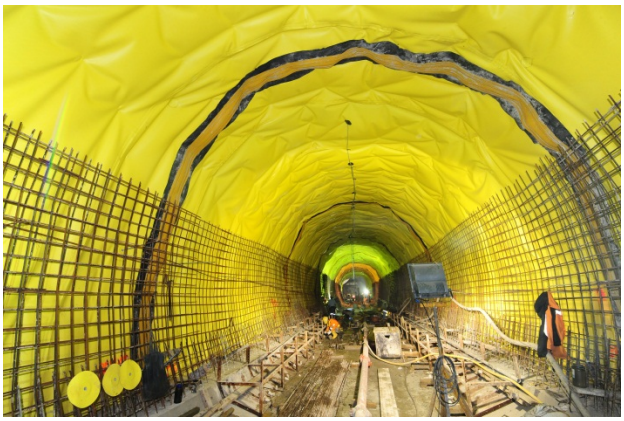
9. To expedite the construction progress of Whampoa Station, additional manpower and equipment have been deployed at various work fronts in the station. Increased numbers of heavy machinery plants, including drilling Jumbo, 20-tonne breakers and bigger backhoe, have been used to enhance works efficiency.

10. Moreover, the contractor has discussed with the Environmental Protection Department (EPD) for 24-hour working arrangement to facilitate the construction works of less noise impacts with proper mitigation measures in place with a view to minimizing the potential impacts to nearby residents. The contractor obtained a Construction Noise Permit (CNP) issued by EPD in early 2015 to allow for 24-hour construction for a period of two months (from 12 January to 11 March 2015). During the permit period, residential complaints were received. Although MTRCL carried out the on-site measurement of noise level and there was no exceedance to the requirements set out in the CNP, for the goodwill of the community, the contractor voluntarily has shortened 24-hour working period to between 7:00 a.m. and 11:00 p.m. since mid-February 2015. From the expiry of the above CNP till the end of April 2015, the contractor has applied for a CNP from EPD to work extended hours until 11:00 p.m. As the working hours are shorter than expected and coupled with the highly variable ground condition encountered, the progress of excavation work is slower than expected.

11. The excavation of the platform tunnel between East and West concourses of the station is 39% completed compared to the planned completion rate of 45%. The construction team is making every possible effort in speeding up the works. Excavation works are being carried out from both concourses in parallel and construction sequence of the station has been adjusted to allow more parallel works and the use of precast elements. The progress and resources for the excavation are under close review to meet the tight completion schedule.

Construction sites of the East concourse of Whampoa Station

12. Structural works are progressing well at East and West concourses as well as the integrated entrances connecting the shopping malls at Whampoa Garden. Tunnel lining works of the overrun tunnel at Wan Hoi Street continue and are anticipated to be completed in the second quarter of this year.



Lining works of Whampoa Station overrun tunnel

13. To facilitate the construction of integrated structural works for lifts, ventilation shaft and emergency evacuation access beneath Shung King Street, the drainage and utilities diversion works will be carried out in stages and temporary closure on section of Shung King Street traffic lane is required in mid- 2015 for a few months. During this period, traffic to the closed section of Shung King Street will be diverted to Tak Ting Street. However, the pedestrian walkway will remain open and emergency vehicular access will be maintained for emergency purposes. The Corporation is working closely with relevant government departments, local community and public transport operators to implement the temporary traffic management scheme with a view to minimising the impacts on nearby traffic and residents.

14. Due to the highly variable ground condition and limited working space, the construction of the platform tunnel at Whampoa Station remains the most challenging and critical part in the completion of the KTE project. The excavation of the platform tunnel is limited by the working permit, under which 24-hour construction works are not allowed, thereby causing programme risk to the KTE despite that extra appropriate measures have been taken to speed up the works. To this end, the completion of the platform tunnel excavation in mid-2015 will be critical to the targeted opening of KTE in mid-2016 and although the construction team is driving its utmost, challenges remain. When further progress of the platform tunnel excavation is achieved, it would be more

certain for the Corporation to work out the opening arrangement of the project.

MTR Corporation Limited
May 2015