

立法會
Legislative Council

LC Paper No. CB(4)610/15-16(04)

Ref. : CB4/PS/3/12

Panel on Transport

**Subcommittee on Matters Relating to Railways
Meeting on 22 February 2016**

**Updated background brief on the construction of
the West Island Line, South Island Line (East) and
Kwun Tong Line Extension**

Purpose

This paper provides updated background information on the construction of the West Island Line ("WIL"), South Island Line (East) ("SIL(E)") and Kwun Tong Line Extension ("KTE"). It also summarizes the major views and concerns expressed by members of the Subcommittee on Matters Relating to Railways ("the Subcommittee") during previous discussions on the subject.

Background

WIL

2. WIL is a three-kilometre long railway extension of the existing MTR Island Line, from Sheung Wan Station to Kennedy Town with two intermediate stations at Sai Ying Pun and the University of Hong Kong ("HKU"). HKU Station and Kennedy Town Station were commissioned on 28 December 2014 whilst Sai Ying Pun Station (except Ki Ling Lane Entrance) was completed and opened on 29 March 2015. The alignment plan of WIL is in **Appendix I**.

SIL(E)

3. SIL(E) is a seven-kilometre long medium capacity railway 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. SIL(E) will connect 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 (i.e. Island Line, Tsuen Wan Line, SIL(E) and SCL) to provide seamless interchanges for passengers. The alignment plan for SIL(E) is in **Appendix II**.

KTE

4. KTE, which will be an approximately 2.6 kilometres extension of MTR Kwun Tong Line, runs from Yau Ma Tei Station to a new station in Whampoa Garden and with an interchange with SCL at the proposed Ho Man Tin Station. The alignment plan of KTE is in **Appendix III**.

5. The key information of WIL, SIL(E) and KTE is in **Appendix IV**.

Project implementation and funding mode

6. WIL, SIL(E) and KTE, being the extensions of the existing railway networks owned by the MTR Corporation Limited ("MTRCL"), are implemented under the ownership approach¹. The Government and MTRCL signed the project agreement for WIL in July 2009, and for SIL(E) and KTE in May 2011. The target commissioning dates for WIL, KTE and SIL(E) were August 2014, August 2015 and December 2015 respectively. In November 2014, MTRCL announced that the target opening dates of KTE and SIL(E) would be revised to mid and end of 2016 respectively².

7. According to the latest estimation of MTRCL³ in August 2015, the capital cost of WIL was \$18.5 billion⁴ (in money-of-the-day prices),

¹ Under the ownership approach, MTRCL will be responsible for the financing, design, construction and operation and maintenance of the railway projects, and will own the railways.

² LC Paper No. CB(1)260/14-15(03)

³ LC Paper No. CB(4)1412/14-15(01)

⁴ The estimated capital cost of WIL in 2009 was \$15.4 billion (in December 2008 prices).

while the construction costs of SIL(E) and KTE were \$16.9 billion⁵ and \$7.2 billion⁶ respectively (in money-of-the-day prices). As the construction costs of the railways are enormous, the railway projects are considered not financially viable based on their fare and non-fare revenues alone. To implement SIL(E) and KTE, the Government granted in 2011 the topside property development rights at Wong Chuk Hang Depot and Ho Man Tin Station under the rail-plus-property model for SIL(E) and KTE projects respectively to bridge the funding gaps⁷ of the two projects, with caution that the land granted to MTRCL should not be more than what is required to bridge the funding gap⁸. As the two railways are ownership projects, MTRCL will be responsible for the additional expenditure arising from the delay of the railway works.

8. As 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 \$12.7 billion (net present value in June 2009) as the ceiling of the funding support to bridge the funding gap of the project.

Major concerns raised by Subcommittee members

Progress of the railway projects

9. Members have expressed grave concern about the delay in the construction of WIL, SIL(E) and KTE and urged both the Administration and MTRCL to review the underlying reasons for the delay in implementing the railway projects, such as over-estimation of MTRCL's capability in managing so many railway projects simultaneously.

⁵ MTRCL advised in 2011 that the estimated capital cost of SIL(E) was \$12.4 billion (in December 2009 prices). It further advised in November 2014 that the cost had increased to \$15.2 billion (in money-of-the-day prices). According to MTRCL's latest estimate in August 2015, the construction cost of SIL(E) has been further revised upward to \$16.9 billion (in money-of-the-day prices) due to the complexity of the project and continued challenge encountered.

⁶ MTRCL advised in 2011 that the estimated capital cost of KTE was \$5.3 billion (in December 2009 prices). According to MTRCL's latest estimate in August 2015, the construction cost of KTE has been adjusted upward to \$7.2 billion (in money-of-the-day prices) owing to the complexity of the project and continued challenges encountered.

⁷ 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. For any new railway project, the return required by MTRCL would ordinarily be between 1% and 3% above the weighted average of cost of capital. This shortfall is known as the funding gap.

⁸ Being granted the property development rights, MTRCL is responsible for all 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 development.

Besides, the Subcommittee asked the Administration to conduct an independent review to advise on MTRCL's latest assessment of the expected completion date of the railway projects.

10. At the Subcommittee meeting on 19 May 2015, members expressed concern that the persistent delay of works at Whampoa Station ("WHA") of KTE had adversely affected the residents and traffic in the vicinity. Some members also expressed worry that the underpinning works for the construction of SIL(E) beneath Island Line of Admiralty Station might affect the safety and train services of Island Line.

11. MTRCL advised that the construction of the platform tunnel at WHA remained the most critical and challenging part in KTE project. MTRCL noted views expressed by residents in the vicinity of WHA regarding the construction, and had put in place measures to minimize inconvenience caused to the public, such as shortening the construction works from 24-hour to between 7:00 am and 11:00 pm. It also planned to start reinstating the road surface by the end of 2015.

12. As regards SIL(E), MTRCL advised that the target commissioning date of the end of 2016 was maintained, despite challenges arising from the underpinning works for the existing Island Line at Admiralty Station. The underpinning works were carefully planned to mitigate the risks involved and monitoring instruments were installed to identify any movement that might occur during the excavation works and allow corrective actions to be taken. With 83% of the excavation for the underpinning works completed as at the end of March 2015, only small amount of expected movements were identified.

Water seepage at WIL

13. Regarding the water seepage problem found at some locations of the three stations of WIL, members enquired about the causes of the seepage and whether it would pose safety problems to the structural integrity of the stations. MTRCL advised that water seepage found at WIL was mainly caused by underground water penetrating through construction joints of concrete lining. The seepage would not affect the structural integrity of the stations and railway operation. MTRCL had carried out remedial measures such as sealing up the linings so as to keep the situation under control. Similar situations also occurred previously at some underground structures of other projects.

"Occupy Movement"

14. At the Subcommittee meeting on 19 May 2015, some members enquired about the impact of the "Occupy Movement" on the construction of SIL(E) and whether claims lodged by contractors in relation to the movement would be borne by MTRCL or the occupiers. MTRCL responded that the closure of roads surrounding the work site of Harcourt Road Garden in late 2014 had adversely affected the construction traffic of the site and the contractors concerned would file claims to MTRCL. In assessing the claims, contractors affected by the "Occupy Movement" would have to provide sufficient justifications and substantiation of the claims. MTRCL would decide whether to cover the claims by the contingency of SIL(E) project or pursuing occupiers' legal responsibility during the movement.

Increase in the number of entrances at stations

15. At the Subcommittee meeting on 16 April 2010, members raised concern about the number of entrances at stations along KTE and passed the following motion:

"That this Committee (i.e. the Subcommittee) urges the Government and the MTRCL to increase the number of entrances at both Ho Man Tin Station and WHA for the convenience of local residents."

16. Members followed up with the Administration regarding the progress on the matter at the Subcommittee meeting on 19 May 2015. MTRCL explained that it had taken into account views of the community when planning and designing the entrances of Ho Man Tin Station and WHA. For Ho Man Tin Station, there would be several entrances connecting estates in the vicinity, such as Ho Man Tin Estate and Oi Man Estate. Besides, there would be four entrances in WHA, two of which were integrated entrances offering a direct and convenient access between the station and shopping malls and residential blocks in the vicinity.

Financing arrangements

17. In view of the possible delay in the construction of WIL, SIL(E) and KTE announced in 2014, some Subcommittee members expressed concern about whether the Administration or MTRCL would bear the extra cost to be incurred by the delay in the railway projects. In

response, the Administration explained that WIL, SIL(E) and KTE were implemented under ownership approach, which meant MTRCL was responsible for the construction costs. In addition, according to the project agreements signed by the Administration and MTRCL, the Corporation should try its best endeavours to complete the railway projects in accordance with the baseline programme. As regards the delay in the construction of the new railway lines, the Administration would follow it up with legal advisers.

Railway system of SIL(E)

18. Members noted that Fully Automatic Operation ("FAO") would be introduced for the operation of SIL(E). Under the operation of FAO system, preparation for train service including function tests before service, setting trains in motion, speed control, train stopping, as well as door opening and closing would be fully automatic under the control of Operations Control Centre with preset commands. Some members, however, expressed concern on passenger safety during emergency under FAO system. The Administration assured members that they attached great importance to safety of train operations and that before the commissioning of SIL(E), they would request MTRCL to provide detailed contingency plans to handle any service disruptions for the review of the Electrical and Mechanical Services Department.

Other issues

19. Members also expressed views and concerns on the following issues:

- (a) review of the monitoring mechanism for railway project, considering that a huge amount of public money had been spent on the dedicated teams under the Highways Department ("HyD");
- (b) provision of facilities to cater for the needs of persons with disabilities or special needs and other new facilities at WIL, SIL(E) and KTE stations;
- (c) artwork display at WIL, SIL(E) and KTE stations;
- (d) environmentally-friendly designs and measures for WIL, SIL(E) and KTE to enhance energy efficiency and reduce noise of running trains; and

- (e) coordination with other public transport services, and rationalization of feeder services provided by buses and light buses by phases after the commissioning of WIL and SIL(E).

Latest developments

20. The latest progress of WIL, SIL(E) and KTE as at the end of September 2015 is summarized in the ensuing paragraphs⁹.

21. The excavation works for the passenger adit between Ki Ling Lane entrance and First Street/Second Street entrance of WIL were completed, and the construction of the tunnel lining would commence in October 2015. The architectural and building works, electrical and mechanical works as well as escalator installation are still underway. In view of the current progress, MTRCL anticipated that the target completion date of Ki Ling Lane Entrance would be the first quarter of 2016.

22. Regarding SIL(E), as at 30 September 2015, about 93% of the excavation for the underpinning works beneath the tunnels of Island Line at Admiralty Station had been completed, and the overall progress of the expansion of Admiralty Station was generally on schedule. However, according to MTRCL's revised baseline programme submitted to HyD in early September 2015, the timetable for remaining works of Admiralty Station would be highly compressed. The Administration was of the view that MTRCL had to improve the efficiency of the expansion works at Admiralty Station and expedite the remaining works to achieve the revised target commissioning of SIL(E) at the end of 2016.

23. For KTE, the excavation and structural works for the platform tunnel between the East and West concourses of WHA were respectively completed in August and September 2015. The Administration was of the view that given the substantial completion of the structural works of the platform tunnel of WHA in the third quarter of 2015 and on condition that the structural works of the station could be completed in the fourth quarter of 2015, the newly revised target opening date in third or fourth quarter of 2016 would be achievable.

24. The Administration plans to update the Subcommittee members on the progress of the construction of WIL, SIL(E) and KTE at the meeting to be held on 22 February 2016.

⁹ LC Paper No. CB(4)298/15-16(02)

Relevant papers

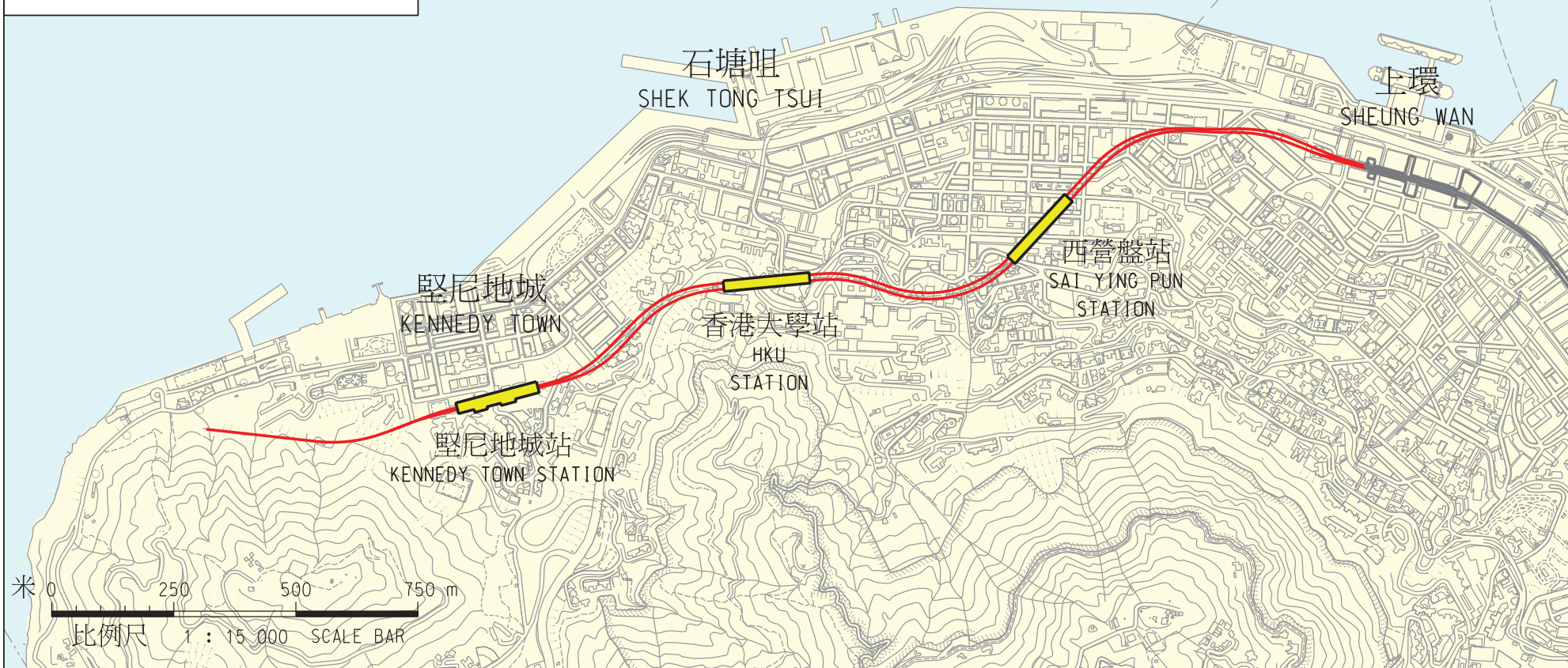
25. A list of relevant papers is in **Appendix V**.

Council Business Division 4
Legislative Council Secretariat
17 February 2016

圖例
LEGEND

- 現有鐵路路線
EXISTING RAIL LINE
- 西港島線
WEST ISLAND LINE

維多利亞港
VICTORIA HARBOUR



西港島線
WEST ISLAND LINE

資料來源：於2015年5月發出的立法會CB(4)954/14-15(05)號文件
Source: LC Paper No. CB(4)954/14-15(05) issued in May 2015



附錄III
Appendix III



觀塘線延線
KWUN TONG LINE EXTENSION

**Key information of the West Island Line, South Island Line (East) and
Kwun Tong Line Extension**

	West Island Line	South Island Line (East)	Kwun Tong Line Extension
<i>Length of the rail line</i>	3 km	7 km	2.6 km
<i>Estimated construction cost</i>	\$15.4 billion	\$12.4 billion	\$5.3 billion
<i>The MTR Corporation Limited's ("MTRCL") latest estimated construction cost</i>	\$18.5 billion (\$3.1 billion increased)	\$16.9 billion (\$4.5 billion increased)	\$7.2 billion (\$1.9 billion increased)
<i>Funding arrangement</i>	Implemented under the ownership approach Funded by a capital grant of \$12.7 billion	Implemented under the ownership approach MTRCL granted the property development right of the ex-Wong Chuk Hang Estate to bridge the funding gap of \$9.9 billion	Implemented under the ownership approach MTRCL granted the property development right of ex-Valley Road Estate Phase 1 site to bridge the funding gap of \$3.3 billion
<i>Works commenced in</i>	2009	2011	2011
<i>Original target commissioning dates</i>	August 2014	December 2015	August 2015
<i>Targeted commissioning in</i>	HKU Station and Kennedy Town Station was opened on 28 December 2014 Sai Ying Pun Station (except Ki Ling Lane Entrance) was opened on 29 March 2015 Ki Ling Lane entrance will be opened to the public in the first quarter of 2016	End of 2016	Third or fourth quarter of 2016
<i>Journey time</i>	Between Sheung Wan and Kennedy Town: less than 10 minutes	Between Admiralty and South Horizons: 10 minutes	Between Mong Kok and Whampoa: 5 minutes

Appendix V

List of relevant papers on the West Island Line, South Island Line (East) and Kwun Tong Line Extension

West Island Line

Committee	Date of meeting	Paper / Minutes
Council Meeting	29.10.2008	<u>Hon Andrew CHENG Kar-foo raised a question on ventilation shaft of West Hong Kong Island Line</u>
Subcommittee on Matters Relating to Railways	31.3.2009	<u>Legislative Council Brief</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	1.6.2009	<u>Administration's paper</u> <u>Legislative Council Brief</u> <u>Joint reply from the Administration and the MTR Corporation Limited to issues raised at the meeting on 31 March 2009</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	4.6.2009	<u>Administration's paper - Assessment of Funding Gap</u> <u>Administration's paper - Checking of Project Estimate</u> <u>Administration's paper - Comparison of 2007 and 2009 Estimate</u> <u>Administration's paper - Use of Explosives</u> <u>Administration's paper - Ventilation Shafts</u> <u>Minutes</u>

Committee	Date of meeting	Paper / Minutes
Public Works Subcommittee	10.6.2009	<u>West Island Line – funding support</u> <u>West Island Line – essential public infrastructure works</u> <u>Minutes</u>
Finance Committee	3.7.2009	<u>Minutes (3.7.2009 3:00 pm)</u> <u>Minutes (3.7.2009 5:05 pm)</u>
Subcommittee on Matters Relating to Railways	9.2.2010	<u>Administration's paper</u> <u>Minutes</u>
Council meeting	23.2.2011	<u>Hon KAM Nai-wai raised a question on Noise generated by construction works of West Island Line</u>
Council meeting	22.2.2012	<u>Hon CHEUNG Hok-ming raised a question on blasting works for MTR West Island Line</u>
Council meeting	17.12.2014	<u>Hon Tony TSE Wai-chuen raised a question on additional demand for railway services</u> <u>Hon Michael TIEN Puk-sun raised a question on operation of public light buses</u>

South Island Line (East)

Committee	Date of meeting	Paper / Minutes
Subcommittee on Matters Relating to Railways	11.1.2008	<u>Legislative Council Brief</u> <u>Administration's paper</u> <u>Minutes</u>

Committee	Date of meeting	Paper / Minutes
Subcommittee on Matters Relating to Railways	2.5.2008	<u>Administration's paper</u> <u>Minutes</u>
Council Meeting	12.11.2008	<u>Hon Mrs Regina IP LAU Suk-ye</u> <u>raised a question on construction</u> <u>works for South Island Line (East)</u>
Subcommittee on Matters Relating to Railways	16.1.2009	<u>Administration's paper</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	15.5.2009	<u>Administration's paper</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	17.9.2009	<u>Administration's paper</u> <u>Administration's response to the</u> <u>major concerns raised by</u> <u>Subcommittee members and</u> <u>deputations at the meeting on 15 May</u> <u>2009</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	4.12.2009	<u>Administration's paper</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	9.2.2010	<u>Administration's paper</u> <u>Minutes</u>
Public Works Subcommittee	25.1.2011	<u>South Island Line (East) – essential</u> <u>public infrastructure works</u> <u>Minutes</u>
Finance Committee	15.4.2011	<u>Minutes</u>

Committee	Date of meeting	Paper / Minutes
Subcommittee on Matters Relating to Railways	17.6.2011	<u>Legislative Council Brief</u> <u>Minutes</u>
Council Meeting	6.7.2011	<u>Professor Hon Patrick LAU Sau-shing raised a question on transportation of explosives required for the construction works of the South Island (East) Line</u>
Subcommittee on Matters Relating to Railways	4.1.2013	<u>MTRCL's paper</u> <u>Minutes</u>
Council Meeting	2.7.2014	<u>Hon TANG Ka-piu raised a question on facilities and services provided at MTR stations for persons with disabilities</u>
Council Meeting	3.12.2014	<u>Dr Hon LAM Tai-fai raised a question on cost overruns and delay of major infrastructure projects</u>

Kwun Tong Line Extension

Committee	Date of meeting	Paper / Minutes
Subcommittee on Matters Relating to Railways	27.3.2008	<u>Legislative Council Brief</u> <u>Administration's paper</u> <u>Administration's supplementary paper</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	17.9.2009	<u>Administration's paper</u> <u>Minutes</u>

Committee	Date of meeting	Paper / Minutes
Council Meeting	16.12.2009	<u>Hon Starry LEE Wai-king raised a question on Kwun Tong Line Extension's pedestrian links</u>
Subcommittee on Matters Relating to Railways	16.4.2010	<u>Administration's paper</u> <u>Administration's follow up paper</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	6.7.2010 14.7.2010	<u>Administration's paper</u> <u>Minutes (6.7.2010)</u> <u>Minutes (14.7.2010)</u>
Subcommittee on Matters Relating to Railways	6.12.2010 16.12.2010	<u>Legislative Council Brief</u> <u>Administration's paper</u> <u>Minutes (6.12.2010)</u> <u>Minutes (16.12.2010)</u>
Public Works Subcommittee	19.1.2011	<u>Kwun Tong Line Extension – essential public infrastructure works</u> <u>Minutes</u>
Finance Committee	15.4.2011	<u>Minutes</u>
Subcommittee on Matters Relating to Railways	17.6.2011	<u>Legislative Council Brief</u> <u>Minutes</u>

West Island Line and South Island Line (East)

Committee	Date of meeting	Paper / Minutes
Subcommittee on Matters Relating to Railways	5.7.2013	<u>Administration's paper</u> <u>Minutes</u>

South Island Line (East) and Kwun Tong Line Extension

Committee	Date of meeting	Paper / Minutes
Subcommittee on Matters Relating to Railways	2.1.2015	<u>Administration's paper</u> <u>Minutes</u>

West Island Line, South Island Line (East) and Kwun Tong Line Extension

Committee	Date of meeting	Paper / Minutes
Subcommittee on Matters Relating to Railways	13.1.2012	<u>MTRCL's paper</u> <u>Minutes</u>
Council Meeting	25.4.2012	<u>Hon Paul CHAN Mo-po raised a question on MTR property development</u>
Subcommittee on Matters Relating to Railways	22.5.2012	<u>Administration's paper</u> <u>Minutes</u>
Council Meeting	8.5.2013	<u>Hon TANG Ka-piu raised a question on new MTR fares and concessions</u>
Subcommittee on Matters Relating to Railways	17.6.2014	<u>Administration's paper</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	4.7.2014	<u>Administration's supplementary information paper</u>

Committee	Date of meeting	Paper / Minutes
Subcommittee on Matters Relating to Railways	24.11.2014	<u>Administration's paper - Progress Update of West Island Line</u> <u>Administration's paper - Progress Update of West Island Line, South Island Line (East) and Kwun Tong Line Extension</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	19.5.2015	<u>Administration's paper</u> <u>Minutes</u>
Subcommittee on Matters Relating to Railways	14.12.2015	<u>Administration's paper - Progress Update of West Island Line, South Island Line (East) and Kwun Tong Line Extension</u>
Council Meeting	3.2.2016	<u>Hon Mrs Regina IP Lau Suk-yee raised a question on MTRCL railway businesses</u>

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