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Panel on Transport

**Subcommittee on Matters Relating to Railways
meeting on 4 January 2013**

Background brief on the South Island Line (East)

Purpose

This paper provides background information on the South Island Line (East) ("SIL(E)") project and summarizes the major concerns expressed by members of the Subcommittee on Matters Relating to Railways ("the Subcommittee") on the project in the past.

Background

2. 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 serve the 350 000 people living and working in the Southern District. At present, travelling by road-based transport between South Horizons and Admiralty takes about 25 to 45 minutes during rush hours. With the commissioning of SIL(E), the travelling time will be about ten minutes. The alignment is in **Appendix I**.

3. SIL(E), being an extension of the Island Line, will be an ownership project under the terms of the Operating Agreement between the Government and the MTR Corporation Limited ("MTRCL") signed in 2007 upon implementation of the rail merger. Under the ownership approach, MTRCL will be responsible for the finance, design, construction, operation and maintenance of SIL(E) and will own SIL(E).

Funding support will be required from the Government if the project is considered not financially viable. 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, which in the case of MTRCL is its Weighted Average Cost of Capital plus 1% to 3%. This shortfall is known as the funding gap.

4. The railway scheme was gazetted on 24 July 2009 in accordance with the Railways Ordinance (Cap. 519). The construction of SIL(E) commenced in May 2011 and is expected to be completed in 2015.

Major concerns raised by the Subcommittee

Funding arrangement of SIL(E)

5. In January 2008, the Subcommittee was briefed by the Administration that the then estimated capital cost was over \$7 billion. The SIL(E) would not be financially viable without government's funding support. With detailed design nearing completion, the MTRCL submitted to the Administration the latest estimates of the total cost and revenue. In December 2010, the Administration commissioned an independent checking consultant ("ICC") to check the estimated cost and revenue to ensure that MTRCL had not over-estimated the cost and hence the funding support required. The ICC, after checking in April 2011, considered the estimate was generally in order. The detailed assessment conducted by ICC confirmed that the capital cost of SIL(E) was \$12.4 billion (in December 2009 prices) and the Government was required to bridge the funding gap of \$9.9 billion. The Highways Department estimated that SIL(E) would generate net economic benefits over 50 years of operation of about \$42.0 billion in December 2009 prices. These economic benefits include time savings to commuters, operating cost savings for other public transport operators and safety benefits.

6. The Subcommittee noted at a meeting that the Chief Executive-in-Council had decided, on 17 May 2011, that approval should be given to grant MTRCL the property development right of the ex-Wong Chuk Hang Estate as a form of financial assistance to implement the project. MTRCL planned to implement the residential development of the site in three phases, with the first phase to be completed in 2020 and the rest two phases in 2022 and 2024.

7. The Administration considered that the rail-plus-property development model had served the rail development of Hong Kong well; MTRCL always paid full market premium (on a green field basis¹); and the Government had, through this arrangement, transferred all the associated commercial risks arising from market fluctuations and rail operations to MTRCL. There were also other operational advantages such as streamlining the interface among station, depot and above-depot developments, and facilitating the arrangement to allow works to be done simultaneously.

8. However, some members opined that MTRCL would benefit a lot from the property development right of the ex-Wong Chuk Hang Estate. They expressed concern about the adoption of rail-plus-property development model and opined that the Administration should consider providing capital grant to MTRCL to bridge the funding gap of the SIL(E) project, instead of granting premium land for property development. Some members further commented that the depot and above-depot developments carried out by MTRCL had brought huge profits to the Corporation in the past. MTRCL's profits derived from property developments should be included in the formula of its fare adjustment mechanism.

Planning and design of SIL(E)

The feasibility of providing a station in Happy Valley

9. While proceeding with the preliminary design, MTRCL conducted an options review study of providing a station in Happy Valley. Subsequently, four optional locations had been considered, namely (i) near Fung Tai Terrace; (ii) at the Happy Valley Tram Terminus; (iii) within the Happy Valley Racecourse and (iv) adjacent to the Grandstand of the Hong Kong Jockey Club. The results of the study revealed that all the options have considerable implications for the SIL(E) project in terms of cost and programme. Finally, the Administration considered it not advisable to provide such a station in Happy Valley.

¹ Land premium is assessed based on greenfield site principle by which the "full market value" ignoring the presence of the railway shall be the amount payable by the MTRCL to the Government.

Public consultation

10. Since the commencement of the preliminary planning and design of SIL(E) in early 2008, the Government and MTRCL conducted extensive consultation. The Subcommittee and the local community including the District Council were briefed and consulted on the proposed railway scheme.

11. MTRCL commenced detailed planning and design of SIL(E) in August 2009 and carrying out the assessment in accordance with the Environmental Impact Assessment Ordinance. The Government and the MTRCL have reviewed the proposed railway scheme in response to the following motion passed at the Subcommittee meeting held on 17 September 2009:

"That this Subcommittee requests the MTRCL and the Government to re-examine the locations of the following facilities and the alignment of SIL(E), including :

1. the temporary Barging Point at Tin Wan Praya Road;
2. the temporary magazine at Chung Hom Shan;
3. the rail alignment for the section adjacent to the Tung Wah Group of Hospitals Jockey Club Rehabilitation Complex ("JCRC").

This Subcommittee also requests the MTRCL and the Government to consider adopting a full tunnel option for the construction of SIL(E), and expeditiously consult this Council and the public on the financing arrangements for SIL(E), including the property developments above the rail stations."

Proposed temporary barging point at Tin Wan Praya Road

12. Since the construction of SIL(E) will unavoidably generate large amounts of excavated materials, and the public barging points for Construction & Demolition materials ("C&D materials") on the Hong Kong Island have no spare capacity to meet the needs of the SIL(E) project, MTRCL proposed that temporary barging points for C&D materials be established at Tin Wan Praya Road in Kellett Bay and Lee Nam Road in Ap Lei Chau to facilitate the disposal of excavated materials by marine transport, so that the impact of dump trucks on

road-based traffic and the environment could be minimized.

13. In view of the concerns of the District Council and the local communities on the barging point at Kellett Bay, MTRCL explored the feasibility of co-using the barging facility of the Drainage Services Department at Telegraph Bay, to suit the scheduled implementation of the two projects. As compared with the site at Kellett Bay, the proposed site is farther away from residential development and the number of people being affected in the vicinity will be smaller. However, the proposal met strong objection from local residents of Pok Fu Lam in developments like Residence Bel-Air and Baguio Villa. The Administration after considering alternative locations, advised that Telegraph Bay was the best option after balancing the views of all stakeholders. In doing this, the Administration pledged to refine the route for transporting the excavated materials and carry out road improvement works to cope with additional traffic so arising.

Proposed magazine at Chung Hom Shan

14. Since certain sections of SIL(E) will be built under the rock stratum, it is expected that tunnelling will be done by blasting, in association with other construction methods and there is a need to set up a temporary magazine site. To ensure that SIL(E) will be completed and commissioned on time, MTRCL has compared several possible locations, and proposed a remote area at Chung Hom Shan as the location for the temporary magazine for overnight storage of explosives to enable early morning blast and to allow two blasts per day to avoid noise impact in the evening and delay of the project.

15. At present, all the explosives used for construction works are stored at a government explosives depot at Kau Shat Wan on Lantau Island. According to the Administration, there is no suitable site for the establishment of a temporary pier for loading/unloading explosives along the coastline of the Southern District. In addition, the Dangerous Goods Ordinance (Cap.295) stipulates that explosives can only be delivered by marine transport from government magazine at Kau Shat Wan on Lantau Island within the harbour between the hours of sunrise and sunset. Having considered various factors thoroughly, including the distance from residential area, access by vehicles, and distance from blasting sites, the proposed remote area at Chung Hom Shan is regarded as the most suitable location to set up a temporary magazine for storage of explosives for the project.

16. The proposed site at Chung Hom Shan is about 250 metres from Chung Hom Kok Road and more than 300 metres from the nearest residential area. There is a slope of about 60 metres high separating the proposed site and the residential area.

The rail alignment for the section adjacent to JCRC

17. The proposed viaduct section of SIL(E) will run adjacent to JCRC at Wang Chuk Hang. The parents of service recipients and representatives of JCRC have requested for noise enclosure to be erected for the section adjacent to JCRC, the viaduct structure to be lowered and be moved farther away from the complex to minimize the potential impact on the centre brought about by the railway.

18. After communications made with the parents and representatives of JCRC and months of efforts on the detailed design, MTRCL came up with revisions to the original scheme to meet the concerns of JCRC. These include erecting noise enclosures at the section adjacent to JCRC, moving the viaduct structure farther away from JCRC by at least 18 metres and lowering the viaduct structure such that the top of the noise enclosure will be about the same as the ground level of JCRC.

19. MTRCL has also conducted technical assessment on the electromagnetic fields generated by the railway, including magnetic and radio frequency, with reference to the information of electronic medical equipments provided by JCRC. Results showed that the railway system would not affect the operation of the electronic medical equipments of JCRC.

Consideration of the Viaduct option and the Tunnel option

20. As regards the SIL(E) alignment to be constructed, the Government and MTRCL have reviewed the proposal of building SIL(E) entirely underground (i.e. the tunnel option) and taken various factors into consideration, including its impact on the works programme, its overall benefits and impacts at district level, relevant planning and environmental considerations and technical feasibility. For details, please refer to information paper LC Paper No. CB(1)2582/08-09(03) submitted to the Subcommittee for discussion at its meeting on 17 September 2009. To pursue the tunnel option, it is expected that the construction period will be increased by about three to four years, causing serious impact to the heavy marine traffic already encountered at the Aberdeen Channel, and the need for permanent clearance of some shipyards on the north shore of

the Channel. Upon analysis, it was found that the current option of having a viaduct section between Wong Chuk Hang and Ap Lei Chau is preferable to that of building SIL(E) entirely underground.

Essential Public Infrastructure Works

21. According to the Administration, Essential Public Infrastructure Works ("EPIW") for SIL(E) is to provide a safe, convenient and barrier free access to SIL(E) through enhancement of pedestrian and transport links to the railway line. The fund required for EPIW for SIL(E) has been approved by Financial Committee on 15 April 2011.

Latest development

22. The Administration plans to brief the Subcommittee on the operational features in the railway depot, trains and stations of the new railway system for SIL(E) at the meeting to be held on 4 January 2013.

Relevant papers

23. A list of relevant papers is in **Appendix II**.

Council Business Division 1
Legislative Council Secretariat
28 December 2012

Appendix II

Panel on Transport Subcommittee on Matters Relating to Railways

List of relevant papers on South Island Line (East)

Date of meeting	Minutes/Paper	LC Paper No.
11.1.2008	Administration's paper on the Mass Transit Railway South Island Line	File Ref.: THB(T)CR 17/1016/99 http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp-thbter17101699-e.pdf
	Administration's paper on land use planning in Southern District and projected patronage of South Island Line (East) and assessment of impact of South Island Line (East) on other public transport modes	LC Paper No. CB(1)520/07-08(03) http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp0111cb1-520-3-e.pdf
	Background brief on Mass Transit Railway - South Island Line	LC Paper No. CB(1)521/07-08 http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp0111cb1-521-e.pdf
	Minutes of the meeting	LC Paper No. CB(1)954/07-08 http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/minutes/rd080111.pdf
2.5.2008	Administration's paper on progress report on South Island Line	LC Paper No. CB(1)1376/07-08(02) http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp0502cb1-1376-2-e.pdf
	Minutes of the meeting	LC Paper No. CB(1)1747/07-08 http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/minutes/rd080502.pdf

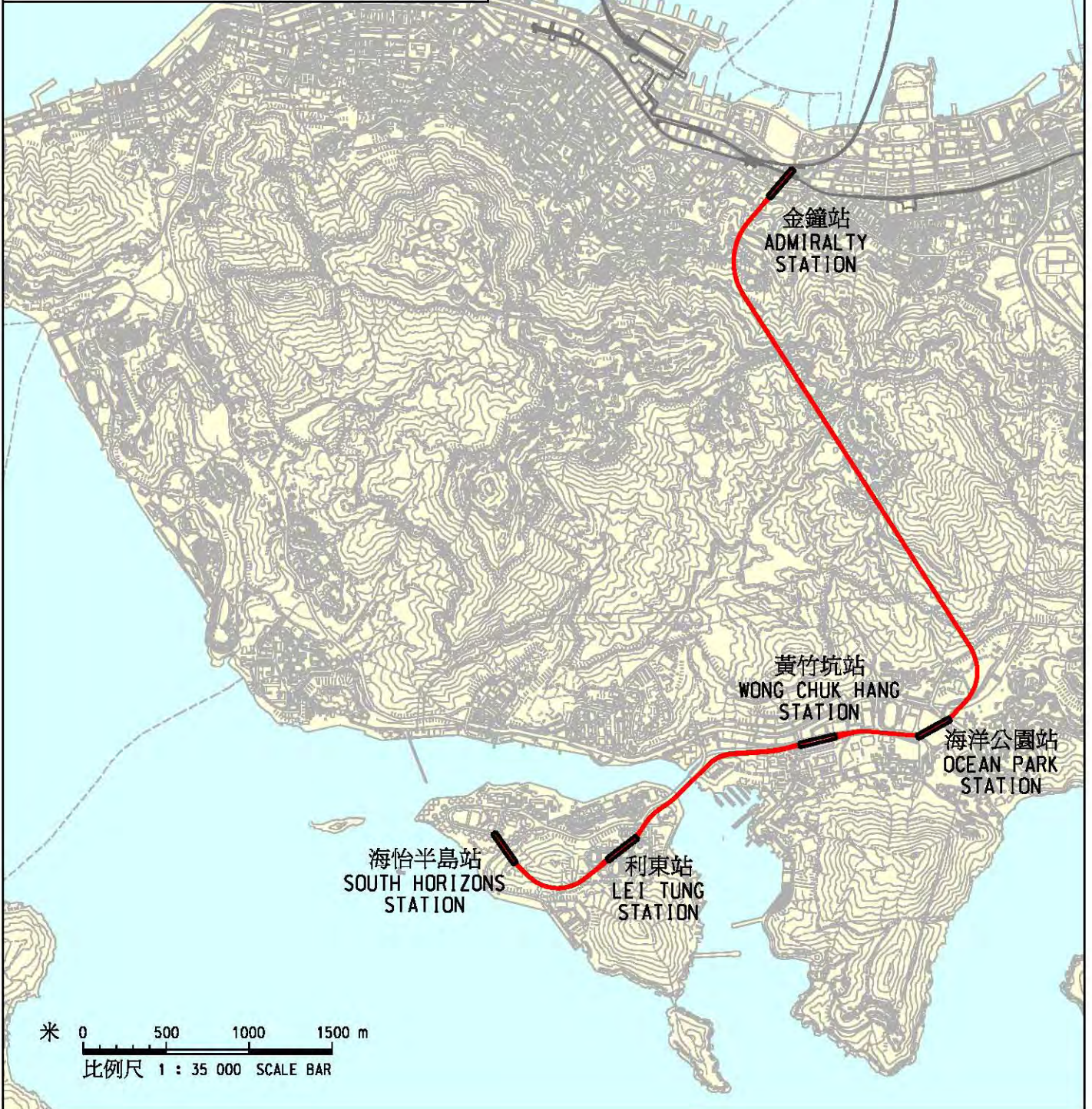
Date of meeting	Minutes/Paper	LC Paper No.
16.1.2009	Administration's paper on progress report on South Island Line	LC Paper No. CB(1)557/08-09(03) http://www.legco.gov.hk/yr08-09/english/panels/tp/tp_rdp/papers/tp_rdp0116cb1-557-3-e.pdf
	Minutes of the meeting	LC Paper No. CB(1)1146/08-09 http://www.legco.gov.hk/yr08-09/english/panels/tp/tp_rdp/minutes/rdp20090116.pdf
15.5.2009	Administration's paper on progress report on South Island Line	LC Paper No. CB(1)1519/08-09(01) http://www.legco.gov.hk/yr08-09/english/panels/tp/tp_rdp/papers/tp_rdp0515cb1-1519-1-e.pdf
	Minutes of the meeting	LC Paper No. CB(1)2605/08-09 http://www.legco.gov.hk/yr08-09/english/panels/tp/tp_rdp/minutes/rdp20090515.pdf
17.9.2009	Administration's paper on progress report on South Island Line (East)	LC Paper No. CB(1)2582/08-09(03) http://www.legco.gov.hk/yr08-09/english/panels/tp/tp_rdp/papers/tp_rdp0917cb1-2582-3-e.pdf
	Administration's response to the major concerns raised by Subcommittee members and deputations at the meeting on 15 May 2009	LC Paper No. CB(1)2602/08-09(01) http://www.legco.gov.hk/yr08-09/chinese/panels/tp/tp_rdp/papers/tp_rdp0917cb1-2602-1-ec.pdf
	Minutes of the meeting	LC Paper No. CB(1)920/09-10 http://www.legco.gov.hk/yr08-09/english/panels/tp/tp_rdp/minutes/rdp20090917.pdf

Date of meeting	Minutes/Paper	LC Paper No.
4.12.2009	Administration's paper on progress report on South Island Line (East)	LC Paper No. CB(1)522/09-10(05) http://www.legco.gov.hk/yr09-10/english/panels/tp/tp_rdp/papers/tp_rdp1204cb1-522-5-e.pdf
	Minutes of the meeting	LC Paper No. CB(1)1016/09-10 http://www.legco.gov.hk/yr09-10/english/panels/tp/tp_rdp/minutes/rdp20091204.pdf
9.2.2010	Administration's paper on progress report on South Island Line (East)	LC Paper No. CB(1)1018/09-10(04) http://www.legco.gov.hk/yr09-10/english/panels/tp/tp_rdp/papers/tp_rdp0209cb1-1018-4-e.pdf
	Minutes of the meeting	LC Paper No. CB(1)1386/09-10 http://www.legco.gov.hk/yr09-10/english/panels/tp/tp_rdp/minutes/rdp20100209.pdf
17.6.2011	Legislative Council Brief on the South Island Line (East) funding arrangement	(No file reference) http://www.legco.gov.hk/yr10-11/english/panels/tp/tp_rdp/papers/tp_rdp-thb201105a-e.pdf
	Minutes of the meeting	LC Paper No. CB(1)414/11-12 http://www.legco.gov.hk/yr10-11/english/panels/tp/tp_rdp/minutes/rdp20110617.pdf

圖例
LEGEND

- 現有鐵路路線
EXISTING RAIL LINE
- 擬建南港島線（東段）
PROPOSED SOUTH ISLAND LINE (EAST)

附錄 I
Appendix I



南港島線（東段）

SOUTH ISLAND LINE (SIL) (EAST)