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**Panel on Transport**

**Subcommittee on Matters Relating to Railways**

**Updated background brief on installation of platform screen doors and  
automatic platform gates at railway stations**

**Purpose**

This paper summarizes the discussions held by the Subcommittee on Matters Relating to Railways (the Subcommittee) on the installation of platform screen doors<sup>1</sup> (PSDs) and automatic platform gates<sup>2</sup> (APGs) at railway stations.

**Background**

Retrofitting of PSDs/APGs at stations in the pre-merger MTR system

2. In mid-1996, the then Mass Transit Railway (MTR) Corporation started to examine the feasibility of retrofitting PSDs at existing MTR stations which were built in the 1970s and 1980s. Following successful completion of the trial installation at Choi Hung Station and taking into consideration of public views, the then MTR Corporation decided in 1999 to proceed with the PSD Retrofitting Programme at all 74 platforms of 30 underground stations on the Tsuen Wan Line, Kwun Tong Line, and Island Line in phases. The PSD retrofitting programme was completed in the first half of 2006.

3. For new railway lines built since 1998, i.e. Airport Railway and MTR Tseung Kwan O Line, PSDs have become a standard feature of the relevant stations and were included in the design stage of these railway lines. To blend in with the open-air design of the Disneyland Resort Line, platforms of Sunny Bay and Disneyland Resort Stations were designed to come with APGs which function similarly as PSDs.

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<sup>1</sup> Platform screen doors are full height, total barriers between the station floor and ceiling.

<sup>2</sup> Automatic platform gates are chest-height sliding doors at the edge of railway platforms to prevent passengers from falling off the platform edge onto the railway tracks.

4. The capital cost of the PSD retrofitting programme is \$2 billion. Contribution from passengers to the project cost is needed. Since July 2000, contribution from passengers is arranged through the collection of \$0.1 per Octopus MTR journey from passengers. The collection of the \$0.1 passenger contribution will continue until it reaches \$1 billion (i.e. half of the capital cost of the project).

5. There are eight at-grade or aboveground stations in the pre-merger MTR system, namely Tsuen Wan, Kwai Fong, Kwai Hing, Heng Fa Chuen, Chai Wan, Kowloon Bay, Ngau Tau Kok and Kwun Tong Stations, which are provided with natural ventilation only. The pre-merger MTR Corporation Limited (MTRCL) had pointed out that the retrofitting of PSDs at these eight stations was highly complex. Due to structural constraints of these stations, retrofitting of PSDs might involve installation of ventilation and air-conditioning systems. The complexity of these works was almost tantamount to rebuilding the stations. In 2006, MTRCL commenced a feasibility study on retrofitting PSDs, platform gates or any other alternatives at the eight at-grade/aboveground stations. In January 2008, based on the outcome of the feasibility study, MTRCL decided to proceed with the retrofitting of APGs at these eight at-grade/aboveground stations. The retrofitting works are expected to be completed by the end of 2012 at a cost of about \$300 million.

6. MTRCL plans to adopt the same financial arrangement for the PSD retrofitting programme at underground stations, i.e. half of the capital cost will be funded by charging \$0.1 to each Octopus ride in the system. This will be achieved through the extension of the charging period under the existing scheme. The rest of the capital cost will be funded by MTRCL.

#### Retrofitting of PSDs/APGs at the pre-merger Kowloon Canton Railway (KCR) network

7. For KCR network, PSDs have been installed at stations adopting an enclosed design, i.e. all West Rail stations and the East Tsim Sha Tsui (ETS) Station of East Rail which commenced operation in 2003 and 2004 respectively.

8. The station platforms of East Rail and Ma On Shan Rail are of an open environment relying on natural ventilation. Some platforms are curved and some are straight, all are without PSDs (except the newest ETS Station).

9. The pre-merger KCR Corporation (KCRC) had conducted technical studies and informed the Subcommittee at its meeting on 4 May 2007 that, before retrofitting of APGs could be considered for the East Rail Line stations, an automatic mechanical gap filler (MGF) system would first be installed at

platforms with wide gaps between a train and a curved edge. Without installation of MGFs, such wide platform gaps might pose a risk to boarding and alighting passengers if APGs were provided. A trial on MGF was planned to commence at Lo Wu Station in February 2008 for completion by September 2008, so as to monitor passengers' acceptance before installing at other curved platforms. Subject to the success of the trial, consideration would be given to retrofitting MGFs at other East Rail Line stations with curved platforms and wide platform gaps.

10. The pre-merger KCRC advised that it had also studied the feasibility of installing platform gates at Light Rail platforms. KCRC considered that, as platform gates would reduce the limited platform width further and passengers would have difficulties in boarding and alighting during peak hours, there was no plan to install platform gates at Light Rail stops.

#### Other measures to enhance the safety of passengers awaiting at platforms

11. According to the Administration, the following safety measures are in place to ensure the safety of passengers awaiting trains at railway platforms –

- (a) public announcements are made to advise passengers on approaching trains and remind them not to stand beyond the yellow line (at platforms without PSDs);
- (b) CCTV cameras are installed at every station platform to facilitate effective platform monitoring;
- (c) station staff and additional platform assistants are deployed to maintain order and provide assistance to passengers at platforms especially during peak hours;
- (d) passenger help lines and emergency train stop buttons are installed at each platform (except that of Light Rail) for emergency use; and
- (e) education/publicity activities on passenger safety are conducted regularly.

12. For East Rail Line stations, the following measures are also in place to strengthen platform safety –

- (a) flashing lights, of which the colour is changed regularly, are installed at the edge of curved platforms to alert passengers to the gap between the platform and a train;
- (b) additional platform assistants are deployed at stations (e.g. Lo

Wu, Sheung Shui, Kowloon Tong and Hung Hom stations) with high Mainland visitor traffic during evening and nighttime; and

- (c) safety promotional materials are distributed to visitors arriving Hong Kong at Lo Wu station.

### **Discussions of the Subcommittee on the installation of PSDs and APGs at railway stations**

13. The Subcommittee has been following up on the funding arrangements for the PSD retrofitting programme, the progress of works, and the feasibility of retrofitting PSDs or APGs at the remaining stations. These issues were discussed at the Subcommittee meetings on 6 May and 13 June 2005, 4 May 2007 and 27 March 2008.

#### Funding arrangements for the PSD retrofitting programme

14. At the meetings on 6 May and 13 June 2005, some members expressed concern about the collection of \$0.1 per Octopus MTR journey as funding assistance for the PSD retrofitting programme. They considered it unfair that passengers should bear the cost of retrofitting PSDs which were necessary to be installed for passenger safety, and it was unreasonable that the additional charge would not cease even upon completion of the PSD retrofitting programme in 2006. They held the view that given its huge profits, MTRCL should not be collecting \$0.1 per passenger per journey for a considerably long period of time for the retrofitting of PSDs.

15. The then MTRCL explained that the additional charge was intended to fund part of the substantial cost involved in retrofitting PSDs which was not covered in the original investment plan of the urban lines of MTR. MTRCL estimated that the \$0.1 per journey contribution from Octopus passengers would help defray about half of the total cost of the project over the life cycle of PSDs. MTRCL pointed out that the PSD retrofitting programme was a highly expensive project at a capital cost of \$2 billion. Contribution from passengers, which amounted to half of the cost, was \$1 billion. MTRCL estimated that, without taking into account the time value of money<sup>3</sup> and changes in patronage, it took about 15 years counting from July 2000 to collect \$1 billion from passengers.

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<sup>3</sup>“Time value of money” is the idea that a dollar now is worth more than a dollar in the future, even after adjusting for inflation, because a dollar now can earn interest or other appreciation until the time the dollar in the future would be received.

### Timetable for the installation of PSDs or APGs at all railway stations

16. Members had been concerned about the progress made by the two pre-merger railway corporations in the retrofitting of PSDs or APGs at all railway stations, in order to protect passengers, especially the visually impaired and young children, from falling onto the rail tracks. At the Subcommittee meeting on 4 May 2007, members requested concrete timetables to be provided by the two pre-merger railway corporations on the installation of PSDs or APGs at the remaining railway stations where still had not been installed with PSDs or APGs.

17. The then MTRCL informed members that based on its preliminary study, it would take about five years to complete the retrofitting of APGs at the eight at-grade and aboveground stations as referred to in paragraph 5 above.

18. KCRC informed members that the installation of MFG at Lo Wu Station would not be completed until end of 2008, and another five years would be required to install APGs at all KCRC stations if this was proven to be technically feasible.

19. In the light of the information provided by the two railway corporations, the Subcommittee passed a motion at the meeting on 4 May 2007 requesting the pre-merger MTRCL and KCRC to complete the installation of PSDs or APGs at all railway stations by 2012 and 2013 respectively.

20. At its meeting on 27 March 2008, the Subcommittee requested MTRCL to expedite the APG retrofitting programme at the eight at-grade and aboveground stations, and to provide details of the programme to facilitate the monitoring by the Subcommittee. MTRCL advised in its supplementary information paper provided to the Subcommittee that the installation of APGs at the eight at-grade and aboveground stations would be completed progressively between the second and the fourth quarter of 2012.

### **Latest developments**

21. The Administration will update members on the progress of the retrofitting programme at the Subcommittee meeting to be held on 21 November 2008.

22. A list of relevant papers is in the **Appendix**.

**Background Brief on Rail Safety  
and Installation of Platform Screen Doors**

**List of relevant papers**

<b>Date of meeting</b>	<b>Committee</b>	<b>Minutes/Paper</b>	<b>LC Paper No.</b>
6.5.2005	Subcommittee on Matters Relating to Railways	Information paper provided by the MTR Corporation Limited	LC Paper No. CB(1)1406/04-05(03) <a href="http://www.legco.gov.hk/yr04-05/english/panels/tp/tp_rdp/papers/tp_rdp0506cb1-1406-3e.pdf">http://www.legco.gov.hk/yr04-05/english/panels/tp/tp_rdp/papers/tp_rdp0506cb1-1406-3e.pdf</a>
		Minutes of the meeting	LC Paper No. CB(1)1968/04-05 <a href="http://www.legco.gov.hk/yr04-05/english/panels/tp/tp_rdp/minutes/rd050506.pdf">http://www.legco.gov.hk/yr04-05/english/panels/tp/tp_rdp/minutes/rd050506.pdf</a>
13.6.2005	Subcommittee on Matters Relating to Railways	Information paper provided by the MTR Corporation Limited	LC Paper No. CB(1)1722/04-05(03) <a href="http://www.legco.gov.hk/yr04-05/english/panels/tp/tp_rdp/papers/tp_rdp0613cb1-1722-3e.pdf">http://www.legco.gov.hk/yr04-05/english/panels/tp/tp_rdp/papers/tp_rdp0613cb1-1722-3e.pdf</a>
		Minutes of the meeting	LC Paper No. CB(1)2199/04-05 <a href="http://www.legco.gov.hk/yr04-05/english/panels/tp/tp_rdp/minutes/rd050613.pdf">http://www.legco.gov.hk/yr04-05/english/panels/tp/tp_rdp/minutes/rd050613.pdf</a>
4.5.2007	Subcommittee on Matters Relating to Railways	Background Brief on retrofitting of platform screen doors and automatic platform gates at railway stations	LC Paper No. CB(1)1448/06-07 <a href="http://www.legco.gov.hk/yr06-07/english/panels/tp/tp_rdp/papers/tp_rdp0504cb1-1448-e.pdf">http://www.legco.gov.hk/yr06-07/english/panels/tp/tp_rdp/papers/tp_rdp0504cb1-1448-e.pdf</a>

Date of meeting	Committee	Minutes/Paper	LC Paper No.
		Minutes of the meeting	LC Paper No. CB(1)2056/06-07 <a href="http://www.legco.gov.hk/yr06-07/english/panels/tp/tp_rdp/minutes/rd070504.pdf">http://www.legco.gov.hk/yr06-07/english/panels/tp/tp_rdp/minutes/rd070504.pdf</a>
	Bills Committee on Rail Merger Bill	Report of the Bills Committee on Rail Merger Bill	LC Paper No. CB(1)1811/06-07 <a href="http://www.legco.gov.hk/yr05-06/english/bc/bc03/reports/bc030606cb1-1811-e.pdf">http://www.legco.gov.hk/yr05-06/english/bc/bc03/reports/bc030606cb1-1811-e.pdf</a>
27.3.2008	Subcommittee on Matters Relating to Railways	Background brief on certain matters raised by the Bills Committee on Rail Merger Bill	LC Paper No. CB(1)1037/07-08 <a href="http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp0327cb1-1037-e.pdf">http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp0327cb1-1037-e.pdf</a>
		Minutes of the meeting	LC Paper No. CB(1)1374/07-08 <a href="http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/minutes/rd080327.pdf">http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/minutes/rd080327.pdf</a>
		Administration's letter on progress update on matters arising from the Rail Merger Bill, attaching a paper from MTR Corporation Limited on the progress of the related matters (Annex 2)	LC Paper No. CB(1)545/07-08(01) <a href="http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp0111cb1-545-1-e.pdf">http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp0111cb1-545-1-e.pdf</a>
		Paper on retrofitting of automatic platform gates at 8 MTR at-grade and aboveground stations from MTR Corporation Limited (Follow-up paper)	LC Paper No. CB(1)1398/07-08(01) <a href="http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp0327cb1-1398-1-e.pdf">http://www.legco.gov.hk/yr07-08/english/panels/tp/tp_rdp/papers/tp_rdp0327cb1-1398-1-e.pdf</a>