

Legislative Council Panel on Transport
Subcommittee on Matters relating to railways

MTR Platform Screen Door Retrofit Programme

Introduction

This paper informs Members the background and present progress on the MTR Platform Screen Door Retrofit Programme.

MTR Platform Screen Doors (PSDs)

2. In mid 1996, the MTR Corporation started to consider the benefits of retrofitting PSDs and the feasibility of retrofitting PSDs at existing MTR stations which were built in the 1970's and 1980's. A trial installation was implemented at Choi Hung Station.

3. The trial installation at Choi Hung Station demonstrated that with the stringent planning and management exercised by the Corporation, it was possible to retrofit PSDs at underground stations without causing major disturbance to passenger services. In May 1999, upon completion of the feasibility studies and taking into consideration public views, the Corporation decided to proceed with the PSD Retrofit Programme at 30 underground stations on the Tsuen Wan Line, Kwun Tong Line and Island Line in phases.

4. As regards new railway stations, PSDs were first introduced in Hong Kong as a new feature on the Airport Railway, which commenced service in 1998. With the satisfactory performance of PSDs at the Airport Railway, the Corporation had decided to adopt PSDs as a standard feature for its new railway projects, including the Tseung Kwan O Line of which installation of PSDs was included in the design stage.

5. With PSDs, temperatures at station concourses and platforms can be better maintained at comfortable level which in turn reduces energy consumption

and enhances environmental protection. In addition, PSDs help minimise service disruptions caused by unpredictable falling on tracks incidents. Indeed, the Corporation maintains very high safety standards for its railway operation and puts in place effective safety measures to ensure the safety of passengers awaiting trains at platforms. The Corporation has had satisfactory performance in this aspect.

Technical Issues

6. Retrofitting of PSDs at platforms of a serving metro system involves highly complicated works. Since there is no similar overseas experience to rely on in this aspect, the Corporation had to plan, design and construct the PSDs from scratch. To meet MTR's system design, technical specifications and performance requirements, as well as the stringent safety and operational requirements during construction, the Corporation had experienced tremendous challenges in terms of programme and budget control of the project.

7. The retrofitting of PSDs involves major alterations to the station / tunnel ventilation, air-conditioning and smoke extract systems so as to suit the changed station environment. Thus, while it is feasible, the technical challenges are tremendous. In addition, to avoid causing disruption to passenger service, all the works in relation to retrofitting have to be carried out during the very tight non-operating hours between two to five in the morning.

8. Existing at-grade or aboveground stations have natural ventilation. Due to the structural constraints of these stations, retrofitting of PSDs thereat will involve installation of mass ventilation and air-conditioning systems. The complexity of these works is nearly tantamount to rebuilding the whole station. This makes it much more difficult technically to retrofit PSDs at these stations.

Financing

9. The total project cost of the MTR PSD Retrofit Programme is over \$2 billion. The Corporation will finance a large part of the project cost, but funding assistance from the passenger is still needed. Since July 2000, the Corporation has been collecting \$0.1 contribution per Octopus MTR journey from

passengers for subsidising the project. It is estimated that passenger contribution would amount to about one half of the total project cost.

Updated Progress

10. The main contract for PSD retrofitting was awarded in 2000. The retrofitting of PSDs at the 30 underground stations has then been carried out in a phased programme starting from mid 2001, with the works completed at Tsim Sha Tsui, Jordan, Yau Ma Tei and Mong Kok Stations in 2002.

11. By end March 2005, PSDs are in full operation at 62 platforms in 24 underground stations. Their safety and reliability performance is superior to the specified requirements. Retrofitting works are currently in progress at Tin Hau Station and Fortress Hill Station while works for the remaining four underground stations, namely Tai Koo, Sai Wan Ho, Shau Kei Wan and Lam Tin will soon commence. The retrofitting project will be completed on schedule and within budget by early 2006.

Conclusion

12. MTR is the world's first railway to undertake the retrofitting of PSDs on a metro system already in operation. The Corporation will continue to put concerted efforts to ensure that all technical constraints are well addressed and that the remaining works will be carried out in a smooth manner without adverse impact on passenger services.

13. The Corporation's priority is to get the PSD retrofitting project at underground stations completed on schedule. Upon completion, the Corporation will further study the experience of Disneyland Resort Line in a bid to examine the feasibility of retrofitting PSDs, platform gates or any other alternatives at at-grade and aboveground stations.