

## **Guidelines on the introduction of a new electronic payment system for the collection of fares in the public transport sector**

1. With the advent of new technologies, different electronic payment systems have become increasingly common in Hong Kong. The Government welcomes the introduction of new technology to facilitate fare collection in the public transport sector. At the same time, the Government would need to ensure that apart from complying with any requirements under the Laws of Hong Kong for operating the electronic payment system, any new electronic payment system to be adopted in the public transport sector for fare collection purpose should be reliable, user friendly and efficient and would not cause disruption to the operation of the public transport and the road or traffic conditions, to protect the interest of passengers and road users.

2. In the light of the foregoing, where a public transport operator is required by law or by agreement with the Commissioner for Transport (“Commissioner”) to obtain the prior written approval of the Commissioner before adopting a new electronic payment system for fare collection purpose, that public transport operator shall do so in accordance with the terms of the law or relevant agreement before rolling out any new electronic payment system. These Guidelines set out in more detailed manner the considerations which will be taken into account by the Commissioner in assessing the application.

3. Under the conditions for the grant of any prior approval, the Commissioner may reserve the power to vary, suspend or revoke such prior approval, as the situation may warrant<sup>1</sup>, in respect of such electronic payment system. Upon such suspension or revocation, the public transport operator shall discontinue the use of such electronic payment system as soon as practicable on request of the Commissioner.

4. These Guidelines are not intended to override or amend in any manner the requirements of the public transport operator for providing proper and efficient public transport services already stated in the law or the agreement (where applicable). They merely supplement the finer details for the benefit of the public transport operator in going through the approval process and in the operation of such electronic payment system

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<sup>1</sup> The Commissioner may consider varying, suspending for a reasonable period or revoking such prior approval in respect of such electronic payment system where there is a persistent or substantial non-compliance of any condition or committed service level imposed by the Commissioner when approving the new system, or where the proper and efficient service offered by the public transport operator is affected by such electronic payment system.

after obtaining the approval.

5. References to “electronic payment system” include the readers, terminals of the system at the ticket gates or at the entrance or exit of the public transport (as the case may be), and other infrastructure and equipment forming part of the system that is for the purpose of fare collection in public transport operations.

6. Subject to further elaboration of this requirement in the conditions set out in the approval given by the Commissioner or otherwise in the agreement between the Commissioner and the relevant transport operator, the fare chargeable on passengers using the electronic payment system for payment of fare shall be no more than the approved fare. No surcharge shall be levied by the public transport operator on passengers for the use of the electronic payment system for payment of fares.

7. Without prejudice to the prevailing requirement for the Commissioner to approve payment means/systems, fare or promotional arrangements and concessions (where applicable), the public transport operator should ensure that at least one single payment means/system<sup>2</sup> shall be operated in an effective and efficient manner to process all approved promotional arrangements and concessions (where applicable), including without limitation the implementation of the Government Public Transport Fare Concession Scheme for the Elderly and Eligible Persons with Disabilities (“the Scheme”). For the avoidance of doubt, this requirement does not apply to promotional arrangements or concessions which may be introduced by the public transport operator on its own initiative from time to time the introduction of which does not require the Commissioner’s approval.

8. The public transport operator shall ensure the reliability, user friendliness and efficiency of the proposed electronic payment system including without limitation:

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<sup>2</sup> Such payment means/system should be one that is duly approved by the Commissioner unless (i) where the payment means/system is an existing payment means/system already in use for ticketing purpose before the first promulgation date of these Guidelines viz., 30 June 2017; and (ii) where the payment means/system is an upgraded/modified version of a payment means/system already in use for ticketing purpose before the first promulgation date of these Guidelines viz., 30 June 2017. The aforesaid existing payment means/system (including any upgraded/modified version) is hereinafter referred to as “the Existing Electronic Payment System”.

- Reliability and resilience (i.e. recovery from a system failure)

The public transport operator should ensure the reliability and resilience of the electronic payment system. The operator should put in place (i) a set of contingency plans to handle faults or failure of the electronic payment system; (ii) a mechanism of refunding arrangements in cases of mischarging; and (iii) a complaint handling mechanism to handle all complaints related to the electronic payment system.

- Capacity to handle the transaction volume

The proposed electronic payment system should have sufficient capacity to handle the expected usage at any time.

- No interference with other existing electronic payment system(s)

The proposed electronic payment system should not interfere the operation of any existing electronic payment system(s) and, in particular, there should not be double or multiple charging when more than one electronic payment system is in place at a ticket gate or at the entrance or exit of the public transport.

- Payment transaction time

The payment transaction time (i.e. the time when the passenger initiates the payment transaction through the use of smart card or other device to the time when the payment transaction is recorded in the electronic payment system and the system is available for the next transaction) should be short enough to meet operational needs. For instance, the transaction time would be short enough not to unduly cause queuing up on the part of the passengers.

- Priority care

In case the provider of the proposed electronic payment system also provides electronic payment system services in other non-public transport sectors, the provider should agree to be committed to according priority to recovering the proposed electronic payment system for use in the public transport operations for fare collection purpose in the event of system failure.

- Availability of another electronic payment system and consideration of space

In the event that the public transport operator has already adopted one or more electronic payment system(s) but does not propose to replace any of them with another electronic payment system, but rather to operate and make available to the public all of them, the Commissioner shall further consider whether it is operationally feasible and practical for the public transport operator to adopt another electronic payment system on top of the existing one(s). Further justifications and proposals concerning the installation of the relevant system at the ticket gates or entrance or exit of the public transport will have to be submitted for the Commissioner's consideration. Approval would normally be given should the public transport operator be able to demonstrate to the Commissioner that there is sufficient space to house the additional electronic payment system(s), and the addition of which would not cause inconvenience to passengers and drivers (where applicable). Should there be more than one ticketing system operating simultaneously, the public transport operator is required to ensure that clear instructions (including but not limited to signage and notices in stations or stops) be offered to passengers to facilitate their early decision on which system they would opt for.

- Consultation with staff (especially drivers if applicable) before introducing new electronic payment system<sup>3</sup>

If fare collection of the transport service is managed by a driver alone, the new payment system may increase his workload and hence has implication for the operations efficiency and safety, particularly if there are already other similar electronic payment systems installed on board. Therefore, the operator should consult his drivers on the operation details and any other additional duties ancillary to and associated with the new electronic payment system before implementation.

9. In the event that the public transport operator would like to implement the Scheme through the proposed electronic payment system, it shall demonstrate, to the satisfaction of the Commissioner, the proposed

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<sup>3</sup> Not applicable to MTRCL and ferry operators.

electronic payment system and its provider have sufficient technical capability and manpower resources in (i) the recording and calculation of eligible trips and differential fare (i.e. the fare difference between the original fare and concessionary fare, less discount including inter-modal discount and the flat fare (for example at \$2 per trip)) by different eligible passenger groups under the Scheme; (ii) processing of the settlement of the differential to operators; (iii) providing regular and ad-hoc reports about the implementation of the Scheme; (iv) rendering various support and maintenance services in relation to the Scheme; and (v) compliance with audit and assurance assessment as required under the Scheme. The provider should also have related experience in handling multi-partite transaction clearance in Hong Kong or in overseas jurisdiction.

10. For the purpose of demonstrating the performance levels of the proposed electronic payment system based on the performance requirements as listed in paragraph 8 above, various system tests and trials shall be conducted and test reports shall be prepared by the public transport operator, the provider of the proposed electronic payment system, or any other parties with relevant expertise. The Commissioner may also ask for a report from an independent expert to be appointed by the public transport operator to conduct any of the tests mentioned above or to give opinion on the performance levels of the proposed electronic payment system.

11. Without prejudice to the generality of paragraph 10 above, prior to the implementation of any proposed electronic payment system for fare collection purpose, the public transport operator shall put the system on trial. For such trial, an appropriate duration and scale shall be proposed by the public transport operator. The public transport operator should also specify the performance level which should be achieved by the proposed electronic payment system during the trial period, making reference to the scale and duration of the trial. The proposed duration and scale of the trial, and the performance levels which should be achieved by the proposed electronic payment system during the trial period, shall be agreed by the Commissioner. Subject to the Commissioner's review of the performance demonstrated by the proposed electronic payment system during the trial period, the trial may be shortened, extended or terminated. In the event that the agreed requirements and performance levels cannot be achieved during the trial period, no approval will be granted for the proposed electronic payment system.

12. The test reports and independent expert's report (if requested by the Commissioner) prepared pursuant to paragraph 10 shall be essential supporting documents of an application submitted by the public transport operator to the Commissioner for adopting a new electronic payment system for fare collection purpose.

13. As part of the conditions for the grant of any prior approval, the public transport operator may be requested to make a commitment to the satisfaction of the Commissioner concerning the performance level for each of the performance criteria mentioned in paragraph 8 above ("committed performance levels"). The Commissioner may request reports and additional information concerning whether these committed performance levels have been attained and any incidents causing or contributing to any breach of any of these committed performance levels.

14. The Payment Systems and Stored Value Facilities Ordinance (Cap 584) commenced operation on 13 November 2015 ("Ordinance"). The Ordinance implements a mandatory licensing system for stored value facilities ("SVF") regulated by the Hong Kong Monetary Authority ("HKMA"). It is illegal for any person to issue or operate any multi-purpose SVF without a licence. Hence, should any public transport operator consider introducing a new electronic payment system through the use of multi-purpose SVF, in addition to satisfying the requirements mentioned above, the public transport operator should ensure that the issuer of such SVF has obtained the relevant licence from the HKMA unless exempted under the Ordinance.

15. The fact that the issuer of the SVF is licensed under the Ordinance does not automatically mean that the Commissioner would grant approval for the use of such SVF in the public transport sector. But without such a licence, the Commissioner shall not approve its use in public transport services.

16. The revocation or suspension by the HKMA of the licence mentioned in paragraph 14 above in respect of the SVF will mean revocation of any prior approval of its related electronic payment system by the Commissioner.

17. Different public transport operators may have different fare collection devices and methods. For MTR and ferries, fare collection devices are usually installed at more than one ticket gate in a station or a pier. For road-based public transport modes, there is usually only one

entry point and one set of fare collection device for each vehicle. Such differences may result in different level of disruption to the operation of the public transport in the event of failure of the electronic payment systems. For road-based public transport modes, the disruption may be greater, in view of the lack of alternative entry points available to passengers. To protect the interest of passengers and road users, where a road-based public transport operator is required by law or by agreement with the Commissioner to obtain the prior written approval of the Commissioner before adopting a new electronic payment system for fare collection purpose, that public transport operator shall do so in accordance with the terms of the law or relevant agreement before rolling out any new electronic payment system, regardless of the scale and coverage of the new electronic payment system. For MTR and ferries, the Commissioner's prior written approval will be required if the operator intends to adopt any new electronic payment system, unless the new electronic payment system is intended to serve as a supplementary system<sup>4</sup> operating alongside the Existing Electronic Payment System. For the introduction of a supplementary electronic payment system, the public transport operator shall give written notification to the Commissioner at least two months before the targeted roll-out date of the new electronic ticketing system. The Commissioner may request the public transport operator to provide any information or address any reasonable concern the Commissioner may raise on any implementation details associated with the implementation of such new electronic payment system, before or during the implementation. In adopting a new supplementary electronic payment system, the public transport operator shall also observe the requirements in these Guidelines, except paragraphs 2, 3, 10, 11, 12, 13, 15 and 16. Where the new electronic payment system, although supplementary in nature, involves the replacement of the Existing Electronic Payment System, paragraph 8 (where applicable) shall also be observed by the public transport operator.

18. For the avoidance of doubt, “new electronic payment system” shall not include the Existing Electronic Payment System.

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<sup>4</sup> An electronic ticketing system will be considered supplementary in nature if such system, throughout the period of its operation, (a) is being operated, alongside the Existing Electronic Payment System, at no more than 49% of all the ticket gates and ticket processors of any one station/pier of the relevant operator; or (b) replaces the Existing Electronic Payment System at any one station/pier but that electronic ticketing system on its own is being used at no more than 20% of all the ticket gates and ticket processors of that station/pier. “The Existing Electronic Payment System” has the meaning given to the term in Footnote 2 above.

19. These Guidelines set out details concerning the approval process (where applicable) and the expected performance levels to be attained when the new electronic payment system is rolled out. These Guidelines are subject to amendments or supplements the Commissioner may from time to time make, in consultation with the public transport operators. Should there be any further query, the public transport operator should write to CTO-BR3-BRB@td.gov.hk for the attention of Chief Transport Officer /Bus & Railway 3.

**Transport Department**  
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