# **TECHNICAL REFERENCE**

Mass rapid transit and light rapid transit – Basic principles and requirements for service delivery, commuter experience, and incident management





# TR 115:2023

(ICS 03.220.30)

## **TECHNICAL REFERENCE**

Mass rapid transit and light rapid transit – Basic principles and requirements for service delivery, commuter experience, and incident management

Published by Enterprise Singapore

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilming, without permission in writing from Enterprise Singapore. Request for permission can be sent to: standards@enterprisesg.gov.sg.

© Enterprise Singapore 2023

ISBN 978-981-5237-21-4

# TR 115:2023

# **Contents**

		Page
Foreword		3
1	Scope	4
2	Normative references	4
3	Terms and definitions	4
4	Train service delivery and commuter experience	5
5	Recommended operational considerations when managing major incident	7

#### TR 115:2023

### **Foreword**

This Technical Reference (TR) was prepared by the Working Group on Mass Rapid Transit and Light Rapid Transit – Basic Principles and Requirements for Service Delivery, Commuter Experience, and Incident Management set up by the Technical Committee on Railway Systems under the purview of the Transportation Standards Committee.

This TR is a provisional standard made available for application over a period of three years. The aim is to use the experience gained to update the TR so that it can be adopted as a Singapore Standard. Users of the TR are invited to provide feedback on its technical content, clarity and ease of use. Feedback can be submitted using the form provided in the TR. At the end of the three years, the TR will be reviewed, taking into account any feedback or other considerations, to further its development into a Singapore Standard if found suitable.

Permission has been sought from SMRT Trains Ltd for the reproduction of materials from their document, "SMRT (NSEWL) Rule Book 14, Chapter 3: Detrainment or transfer of passengers" into this standard (refer to the footnotes in the standard).

Acknowledgement is made for the use of information from the above publication

Attention is drawn to the possibility that some of the elements of this TR may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

#### NOTE

- Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "mature standards". Mature standards will not be subject to further review unless there are requests to review such standards.
- 2. An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.
- 3. Compliance with a SS or TR does not exempt users from any legal obligations.

# Mass rapid transit and light rapid transit – Basic principles and requirements for service delivery, commuter experience, and incident management

# 1 Scope

This Technical Reference (TR) covers basic principles and requirements for service delivery, commuter experience, and the recommended operational considerations for managing major incidents.

#### 2 Normative references

There are no normative references in this standard.

## 3 Terms and definitions

For the purposes of this Technical Reference, the following terms and definitions apply.

# 3.1 Actual revenue train km operated

A combination of both scheduled trips and additional unscheduled revenue trips. It does not include the non-revenue train movement between the depot and the first/last service station, as well as train transfer trips without passengers between different depots.

### 3.2 End-to-end journey time

The time taken for a train to depart from a terminal station and arrive at the other terminal station determined by the rail operator, inclusive of all interstation runtimes and station dwell times at intermediate stations.

## 3.3 Interstation runtime

The time taken for a train to depart from a station and arrive at the next station.

# 3.4 Line clear

The process of checking that the track is safe for train movement.

### 3.5 Train fleet

The total number of trains, which excludes decommissioned trains, trains unavailable due to special projects (e.g. testing) and trains undergoing planned long-term maintenance (e.g. overhaul, refurbishment).

#### 3.6 Train service degradation

A situation where a scheduled train service headway is more than doubled, for a duration of more than 60 min.