TECHNICAL REPORT

ISO/TR 17185-2

First edition
2015-12-01

Intelligent transport systems — Public transport user information —

Part 2: Public transport data and interface standards catalogue and cross references

Systèmes intelligents de transport — Informations destinées aux utilisateurs des transports publics —

Partie 2: Données sur les transports publics, et catalogue des normes relatives aux interfaces et références croisées

Reference number
ISO/TR 17185-2:2015(E)

© ISO 2015



COPYRIGHT PROTECTED DOCUMENT

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword ... **iv**

Introduction ... **v**

1 Scope ... **1**

2 Terms and definitions ... **1**

3 Abbreviated terms ... **3**

4 Objectives from a data catalogue and cross reference document ... **4**

5 Methodology ... **4**
5.1 Business plan and survey ... 4
5.2 Public transport standards typology ... 4

6 Public transport standard description results ... **6**
6.1 Public transport standard overview ... 6
6.2 Mapping of Transmodel artefacts to regional standards ... 6
6.2.1 Areas mapped to Transmodel ... 6
6.2.2 General standard information ... 7
6.2.3 Mapping of business areas ... 10
6.2.4 Mapping of data concepts and attributes ... 13
6.2.5 Description of conformance ... 13

7 Assessment ... **14**

Annex A (informative) **Business plan and survey: Detailed mapping of Transmodel and regional standards** ... **17**

Annex B (informative) **US transit communications interface profiles comparison to Transmodel high level business areas** ... **26**

Annex C (informative) **Korea ATIS Class-Attribute comparison to Transmodel** ... **32**

Annex D (informative) **TCIP Class-Attribute comparison to Transmodel** ... **34**

Annex E (informative) **Japanese ATIS Class-Attribute comparison to Transmodel** ... **39**

Annex F (informative) **General Transit Feed Specification (GTFS) Class-Attribute comparison to Transmodel** ... **42**

Annex G (informative) **NeTEx Class-Attribute comparison to Transmodel** ... **53**

Annex H (informative) **Service Interface for Realtime Information (SIRI) Class-Attribute comparison to Transmodel** ... **95**

Annex I (informative) **Related Transmodel Class definitions** ... **124**

Bibliography ... **143**

© ISO 2015 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received. www.iso.org/patents

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 204, *Intelligent transport systems.*

ISO 17185 consists of the following parts, under the general title *Intelligent transport systems — Public transport user information*:

— *Part 1: Standards framework for public information*

— *Part 2: Public transport data and interface standards catalogue and cross references*

— *Part 3: Use cases for journey planning systems and their inter-operation*

© ISO 2015 – All rights reserved

Introduction

With the multiple standards that are deployed around the world to provide passenger information, ISO/TC 204 sees a need to identify the range of information provision available to the public. Some of the standards comprise messages and/or services that cover the full scope of the public transport planning and operations enterprise, while others address a narrow scope of passenger information, such as schedule information or bus arrival time prediction.

ISO/TC 204 saw a need to create a catalogue that shows the range and extent of the collection of standards and specifications available. Furthermore, the group identified a need to show the similarities and differences among these standards and specifications for several reasons, for example:

— to match like concepts and messages,

— to understand the overlaps, differences and missing requirements,

— to extend narrow-based standards using the concepts and interfaces developed by the enterprise-based standards.

This Technical Report will be beneficial for all ISO/CEN member countries, as well as non-member countries. It will be a valuable catalogue to help understand the content of the currently available national and regional standards (identified in ISO 17185 Part 1), such as Transmodel, TCIP, Korean ATIS and Japanese ATIS. The intention is that, by deploying these existing national and regional standards from other countries or regions, duplication of cost and time in developing new standards and specifications can be avoided. For those countries that do not have surface public transport information standards, this approach allows the mix and match of standards from different regions, as well as rapid development and deployment that can enhance the usability and convenience of public transport anywhere in the world.

This Technical Report is intended to be fully consistent with those currently available national and regional standards which may be related to international surface public transport. It is designed to serve as a look-up table for developers for the terminology used in different regions for the same concept. For example, the term “trip” in TCIP and GTFS is called “service journey” in Transmodel. This catalogue will expose the differences in language for developers who need to translate data from one standard to another. Principally, this Technical Report, and its scope and approach, will help lower the barriers for developers who need to mix standards; for countries that need to choose the best approach to deploy public transport systems; and, ultimately, for the public wanting a seamless public transport experience wherever they travel.

As Andrew S. Tanenbaum said, “The nice thing about standards is that you have so many to choose from”.[1)] This report fully endorses that principle.

1) *Computer Networks*, 2nd ed., p. 254

© ISO 2015 – All rights reserved

Intelligent transport systems — Public transport user information —

Part 2: Public transport data and interface standards catalogue and cross references

1 Scope

This Technical Report compares and contrasts public transport standards that were developed by different regions and countries. It uses the CEN Transmodel classes as a reference to compare standard data concept descriptions of public transport user information. The purpose of this Technical Report is to understand the concepts described by existing standards and specifications that cover public transport passenger information.

2 Terms and definitions

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

NOTE Equivalent TCIP or Transmodel term is identified for reference.

2.1
attribute
property of an entity

[SOURCE: CEN EN12896; p. 16 (ref 1), modified — Note 1 has been added.]

Note 1 to entry: Equivalent terms in TCIP / Transmodel: data element (TCIP).

2.2
class
concept within [a] system being modelled

[SOURCE: The Unified Modeling Language Reference Manual; p. 185 (ref 3), modified — Notes 1 and 2 have been added.]

Note 1 to entry: Equivalent terms in TCIP / Transmodel: data concept [US TCIP].

Note 2 to entry: Similar to entity, represents a set of objects with similar behaviour and properties.

2.3
data concept
any of a group of data dictionary structures (i.e., object class, property, value domain, data element concept, data element, data frame, message, interface dialogue, association) referring to abstractions or things in the natural world that can be identified with explicit boundaries and meaning and whose properties and behavior [sic]all follow the same rules

[SOURCE: ISO 14817, p. 3 (ref 4), modified — Note 1 has been added.]

Note 1 to entry: Equivalent terms in TCIP / Transmodel: object, class, entity (Transmodel); data element, data frame (TCIP).

© ISO 2015 – All rights reserved