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Public transport - Reference data model - Part 3: Timing information and vehicle scheduling

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/17

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EUROPEAN STANDARD

EN 12896-3

NORME EUROPÉENNE

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English Version

Public transport - Reference data model - Part 3: Timing information and vehicle scheduling

Télématique du transport routier et de la circulation -
Modèle de données de référence - Partie 3 :
Informations horaires et horaires des véhicules

Öffentlicher Verkehr - Datenreferenzmodell - Teil 3:
Taktinformationen und Fahrzeugdisposition

This European Standard was approved by CEN on 5 May 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 12896-3:2016) has been prepared by Technical Committee CEN/TC 278 “Transmodel”, the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2017, and conflicting national standards shall be withdrawn at the latest by March 2017.

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

This document together with documents EN 12896-1:2016 and EN 12896-2:2016 supersedes EN 12896:2006.

The series composed of the following documents:

Public transport - Reference data model - Part 1: Common concepts

Public transport - Reference data model - Part 2: Public transport network

Public transport - Reference data model - Part 3: Timing information and vehicle scheduling

Public transport - Reference data model - Part 4: Operations monitoring and control

Public transport - Reference data model - Part 5: Fare management

Public transport - Reference data model - Part 6: Passenger information

Public transport - Reference data model - Part 7: Driver management

Public transport - Reference data model - Part 8: Management information and statistics

Together these create version 6 of the European Standard EN 12896, known as “Transmodel” and thus replace Transmodel V5.1.

The split into several documents intends to ease the task of users interested in particular functional domains. Modularisation of Transmodel, undertaken within the NeTEx project, has contributed significantly to this new edition of Transmodel.

In addition to the eight Parts of this European Standard, an informative Technical Report (Public transport – Reference data model – Informative documentation) is also being prepared to provide additional information to help those implementing projects involving the use of Transmodel. It is intended that this Technical Report will be extended and republished as all the eight parts are completed.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

EN 12896-3 presents the following items:

- rationale for the Transmodel Standard;
- use of the Transmodel Standard;
- applicability of the Transmodel Standard;
- conformance statement;
- Transmodel origins;
- reference to the previous version and other documents.

The data structures represented in EN 12896-1 are generic patterns that are referenced by different other parts.

EN 12896-2 presents space-related data structures.

This European Standard presents time-related data structures and replaces the sections of EN 12896:2006 referring to the *time-related* tactical planning components and to vehicle scheduling.

1 Scope

1.1 General scope of the Standard

The main objective of the present standard is to present the reference data model for public transport, based on:

- the reference data model, EN 12896, known as Transmodel V5.1;
- EN 28701, known as IFOPT;

incorporating the requirements of:

- EN 15531-1 to -3 and CEN/TS 15531-4 and CEN/TS 15531-5, *Service interface for real-time information relating to public transport operations (SIRI)*;
- CEN/TS 16614-1 and CEN/TS 16614-2, *Network and Timetable Exchange (NeTEx)*, in particular, the specific needs for long distance train operation.

A particular attention is drawn to the data model structure and methodology:

- the data model is described in a modular form in order to facilitate the understanding and the use of the model;
- the data model is entirely described in UML.

In particular, a Reference Data Model kernel is described, referring to the data domain:

- network description: routes, lines, journey patterns, timing patterns, service patterns, scheduled stop points and stop places.

This part corresponds to the Transmodel V5.1 network description extended by the IFOPT relevant parts.

Furthermore, the following functional domains are considered:

- timing information and vehicle scheduling (runtimes, vehicle journeys, day type-related vehicle schedules);
- passenger information (planned and real-time);
- fare management (fare structure, sales, validation, control);
- operations monitoring and control: operating day-related data, vehicle follow-up, control actions;
- management information and statistics (including data dedicated to service performance indicators);
- driver management:
 - driver scheduling (day-type related driver schedules);
 - rostering (ordering of driver duties into sequences according to some chosen methods);
 - driving personnel disposition (assignment of logical drivers to physical drivers and recording of driver performance).

The data modules dedicated to cover most functions of the above domains will be specified.

Several concepts are shared by the different functional domains. This data domain is called “common concepts”.

1.2 Functional domain description

The different functional domains taken into account in the present standard and of which the data have been represented as the reference data model are described in “Public transport reference data model - part 1: Common concepts”.

They are:

- public transport network and stop description;
- timing information and vehicle scheduling;
- passenger information;
- fare management;
- operations monitoring and control;
- management information;
- personnel management: driver scheduling, rostering, personnel disposition.

The aspects of multi-modal operation and multiple operators’ environment are also taken into account.

1.3 Particular scope of this document

The present European Standard entitled “Reference data model for public transport – Part 3: Timing information and vehicle scheduling” incorporates:

- journey and journey times model: describes the time-related information at the level of vehicle journeys, i.e. planned timing for the vehicles at day-type level;
- dated journey model: describes the link of the timing information for a single operating day and the day type related timing;
- passing times model: describes all the different types of passing times for the day type related information;
- vehicle service model: describes the information related the work of vehicles as planned for days types. it constitutes the main part of the vehicle scheduling data domain;
- vehicle journey assignment model: describes operational assignments (advertised vehicle labels, stopping positions) related to particular vehicle journeys.

This document itself is composed of the following parts:

- main document (normative) representing the data model;
- Annex A (normative), containing the data dictionary and attributes tables, i.e. the list of all the concepts present in the main document together with the definitions;
- Annex B (informative), indicating the data model evolutions.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12896-1:2016, *Public transport - Reference data model - Part 1: Common concepts*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN