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Geografisk information – Bytesplatser (ISO 19147:2015, IDT)

Geographic information – Transfer Nodes (ISO 19147:2015, IDT)

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Den internationella standarden ISO 19147:2015 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av ISO 19147:2015.

The International Standard ISO 19147:2015 has the status of a Swedish Standard. This document contains the official English version of ISO 19147:2015.

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Geodata, SIS/TK 323.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

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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 (see 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 (see 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 211, *Geographic information/Geomatics*.

Introduction

All over the world, the authorities are facing serious problems due to the steady rise in the traffic volume. This rise will sooner or later call for very dramatic measures; one first step might be to persuade or force car users to change modes partly or entirely. In order to help this process, the authorities will need a complete overview of where it is possible to change modes of transport.

Over the last few years, substantial work in this field has been carried out by CEN/TC 278 *Intelligent Transport Systems*. EN 28701 was published in 2012. This work is motivated by the fact that the public transport sector needs data on a number of objects and events in their transport networks in order to have them work efficiently. The work done by CEN/TC 278 has been one of the sources for the motivation and background material for the ISO 19147 work done by ISO/TC 211.

Geographic information — Transfer Nodes

1 Scope

This International Standard specifies the data types and code lists associated with those types for the implementation of transfer nodes and their services in transport modelling and location based services.

This International Standard includes the following:

— defines transfer nodes in a multimodal way so that the definition is general and valid for all types of transport means and modes;

— links transfer nodes to a location;

— focuses on the attributes defining the transfer node in relation to nodes in mode-specific networks;

— defines the attributes of transfer nodes that are relevant for travel planning and modelling of interoperable transport systems by transport planners;

— defines a set of services and facilities that may be related to transfer nodes and a way to provide information on accessibility, deviations and restrictions related to these services and facilities.

This International Standard is applicable for transport infrastructure owners and operators when defining and/or describing their transport infrastructure and for transport-related Service Providers when providing information to travellers and others.

This International Standard is limited to the transport of persons and is also limited to the static getting-on and getting-off points. The main focus is on transfer nodes being part of public transport networks, that are located in road networks, but this International Standard is also applicable for transfer nodes in rail networks and in air and sea transport networks.

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.

ISO 639, *Code for the representation of names of languages*

ISO 3166, *Codes for the representation of names of countries and their subdivisions*

ISO 19103:—[1)], *Geographic information — Conceptual schema language*

ISO 19107, *Geographic information — Spatial schema*

ISO 19108, *Geographic information — Temporal schema*

ISO 19133, *Geographic information — Location-based services — Tracking and navigation*

ISO 19134, *Geographic information — Location-based services — Multimodal routing and navigation*

ISO 19136, *Geographic information — Geography Markup Language (GML)*

ISO 19155, *Geographic information — Place Identifier (PI) architecture*

1) To be published. (Revision of ISO/TS 19103:2015)

3 Terms and definitions

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

3.1
access point
location (3.8) where travellers can enter or exit a *transfer node* (3.18)

Note 1 to entry: An access point may not be a *stop point* (3.15). An access point may for example be the entrance to a railway station or the connection between a parking area and a railway station.

3.2
accessibility
ability to access and benefit from the functionality provided by a *service* (3.14) or a *facility* (3.5)

Note 1 to entry: Accessibility is often associated with disabilities. According to the concept of universal design, accessibility is, however, a matter that permanently or temporarily is relevant to all of us, e.g. people with heavy luggage, people with broken legs, people with small children, elderly people, etc.

3.3
accessibility information
information about *accessibility* (3.2) issues

Note 1 to entry: According to the concept of universal design, accessibility information should be addressed in a neutral way, i.e. not directed towards people with specific disabilities.

3.4
deviation
divergence from a plan or the normal situation

Note 1 to entry: These may be deviations with respect to the time schedule or the accomplishment of the transport or deviations with respect to the *services* (3.14) or facilities that are provided.

3.5
facility
physical installation or physical area that may be accessed and used

EXAMPLE Elevators, restaurant areas, waiting areas, seats, toilets, shops.

Note 1 to entry: Such facilities may be available on-board *transport means* (3.19) during the transport, at arrivals to and at departures from a *transfer node* (3.18), and at transfer nodes.

3.6
journey
movement of a person who is travelling between two *locations* (3.8)

Note 1 to entry: May consist of one or more *journey segments* (3.7).

3.7
journey segment
part of a *journey* (3.6) defined by a start and a stop *location* (3.8)

Note 1 to entry: A journey segment may be carried out by means of a *trip* (3.20) or a subset of a trip between locations that may be *transfer nodes* (3.18). A journey segment may also be road use (driving, walking and cycling).

3.8
location
identifiable geographic place

Note 1 to entry: A location may be represented by one or more data types that describe a point position, a curve or an area in the real world. A location may be referenced by coordinates from a coordinate reference system or an address from an address system.

[SOURCE: ISO 19112:2003, 4.4, modified – Note 1 to entry has been added.]

3.9
location-based service
LBS
service (3.14) whose return or other property is dependent on the *location* (3.8) of the client requesting the service or of some other thing, object or person

[SOURCE: ISO 19133:2005, 4.11]

3.10
restriction
formal or informal obligation to refrain from doing something

Note 1 to entry: In this International Standard, a restriction refers to a *transfer node* (3.15) or *transport service* (3.19) criterion that limits permissible courses of action.

[SOURCE: ISO 19152:2012, 4.1.19, modified – Note 1 to entry has been added.]

3.11
service
distinct part of the functionality that is provided by an entity through interfaces

[SOURCE: ISO 19119:2005, 4.1]

3.12
stop point
location (3.8), e.g. a platform, at a *transfer node* (3.15) where the *transport means* (3.16) stop to enable the traveller to board or alight from the transport means

3.13
transfer
person's activity to switch between *transport modes* (3.17), *transport networks* (3.18) or *transport means* (3.16)

3.14
transfer link
link that connects *transfer nodes* (3.15) or *stop points* (3.12) within a transfer node

Note 1 to entry: A transfer link enables travellers to move between the different transfer nodes and stop points within a transfer node.

3.15
transfer node
location (3.8) that facilitates *transfers* (3.13) between *transport modes* (3.17), *transport networks* (3.18) and/or *transport means* (3.16)

Note 1 to entry: A transfer node may contain other transfer nodes and may be related to one or more transport modes and transport networks. It may also contain *stop points* (3.12) and facilities for the users of the transfer node. A transfer node may host *services* (3.11) that are provided to the users of the transfer node, e.g. information services, ticket sales, etc.

Note 2 to entry: A transfer node may be a part of a hierarchy of transfer nodes. Thus, a transfer node may be related to many transport modes and transport networks. However, only transfer nodes that are related to just one transport network will have stop points.

Note 3 to entry: The stop points related to different transfer nodes, which may serve different transport modes and networks, may, in real life, have the same physical locations. A tram and a bus may for example share the same platform, but conceptually they may belong to different transfer nodes.