



BSI Standards Publication

**Intelligent transport systems  
— Extension of map database  
specifications for Local  
Dynamic Map for applications  
of Cooperative ITS**

**National foreword**

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**Intelligent transport systems —  
Extension of map database  
specifications for Local Dynamic Map  
for applications of Cooperative ITS**

*Systèmes intelligents de transport — Extension des spécifications de  
base de données cartographiques pour cartes dynamiques locales aux  
applications collaboratives de ITS*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document.

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

ISO/TS 17931 was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

This corrected version of ISO/TS 17931 contains higher quality figures in [Annex D](#), which improve legibility.

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## Introduction

The purpose of this proposal is to extend the existing specifications for map databases in order to provide greater support for applications and/or application developments of Cooperative ITS that may use Local Dynamic Map.

The functional requirements and data model for in-vehicle navigation are already defined in ISO/TS 20452. However, the map-related functional requirements, data model, and data elements needed for Local Dynamic Map for Cooperative ITS have not yet been defined.

This proposal can help developers of applications for Cooperative ITS by broadening its applicability. Such applications will benefit by the availability of a standardized data model and data elements. The resulting work will shorten developers' time-to-market for new products and services.

The scope of this proposal is within the scope of ISO 14296<sup>1)</sup> which was approved in April 2011. However, in order to meet the schedule requirement of Mandate M/453 issued by European Commission, the scope of this proposal is limited to publishing a Technical Specification for the Local Dynamic Map component of ISO 14296.

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1) Under preparation.

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# Intelligent transport systems — Extension of map database specifications for Local Dynamic Map for applications of Cooperative ITS

## 1 Scope

This Technical Specification provides the map-related functional requirements, data model (logical data model/logical data organization), and data elements for Local Dynamic Map for those applications of Cooperative ITS that require information derived from map databases.

It is focused on data elements of a static nature.

## 2 Conformance

Data structures shall be provided as specified in [Clauses 8](#).

Any data structure claiming conformance with this Technical Specification shall pass the requirements presented in the abstract test suite in [Annex A](#).

UML Expressions for diagrams in this Technical Specification shall be compliant with ISO/IEC 19501:2005.

## 3 Normative references

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

ISO 14825:2011, *Intelligent transport systems — Geographic Data Files (GDF) — GDF5.0*

ISO/TS 20452:2007, *Requirements and Logical Data Model for a Physical Storage Format (PSF) and an Application Program Interface (API) and Logical Data Organization for PSF used in Intelligent Transport Systems (ITS) Database Technology*

ETSI TC ITS TR 102638, *Basic set of applications definitions*

ETSI TC ITS TR 10186, *Intelligent Transport Systems (ITS); Vehicular Communications; Basic set of applications; Local Dynamic Map (LDM); Rationale for and guidance on standardization*

## 4 Terms and definitions

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

### 4.1 Address Location

application category that deals with the task of expressing a real-world position in terms of the PSF data representation

Note 1 to entry: Address Location is one of the six application categories.

### 4.2

#### Advisory Point

data model entity that provides information about an approaching condition on a road that may require some action by the driver of a vehicle