U.S. Department of Transportation

Intelligent Transportation Systems Standards Fact Sheet

January 2002

ITE-AASHTO TM1.03 (Draft) Standard for Functional Level Traffic Management Data Dictionary (TMDD)

Overview

Data dictionaries are essential components in the operation of computer-based intelligent transportation systems (ITS). They provide the basic information definitions, generally described as data elements (DEs), that are used in the exchange of information between systems. An established data dictionary with unambiguous definitions is one of the essential standards required to exchange messages among individual traffic management systems (TMS) as well as between a TMS and other ITS users and/or suppliers of traffic-related information.

Data dictionaries work in conjunction with at least two other types of standards to provide effective data exchange. The first of these other standards is a message set that handles individual information exchanges on specific topics. In a simple analogy, message sets are the sentences, while DEs are the individual words. The second required type of standard provides the actual communications protocols, and describes how the messages are encoded for transmission and then transmitted and received by other systems.

To obtain a copy of this draft standard, please contact one of the following:

Institute of Transportation Engineers (ITE)

American Association of State Highway and Transportation Officials (AASHTO)

(Contact information is shown at the end of this fact sheet)

Expected Publication Date: April 2003
For current information on the status of this standard, check the U.S. DOT Web site at the bottom of this page.

This standard, **ITE-AASHTO TM 1.03, Traffic Management Data Dictionary (TMDD)**, was developed for ITS systems that manage traffic. For the TMDD, the primary message set is the companion standard, ITE-AASHTO TM 2.01, Message Set for External Traffic Management Center Communications. The TMDD is a joint ITE-AASHTO standard consisting of four sections; it is being developed under the oversight of a national steering committee composed of formal representatives of both organizations.

What is this standard for?

This standard provides a functional level data dictionary consisting of and defining a set of data elements necessary to support data flows within and among traffic management systems. Specifically, as a data dictionary standard, it provides meta attributes for each DE including definitions (semantics) and specific format (syntax) for individual DEs. The TMDD, as a national functional level data dictionary, provides a standardized national set of DEs that are intended to be the basis of individual application-level data dictionaries implemented at specific sites.

Who uses it?

This standard should be used by transportation, traffic and systems engineers involved with the design, specification, selection procurement, installation, operation and maintenance of traffic management systems. ITS system software designers and application developers should find this standard especially relevant to their efforts.

How is it used?

This functional area data dictionary, as distinguished from an application-specific data dictionary, is intended to provide a standard for an agreed-upon set of data elements in a specific functional area, specifically traffic management systems. The TMDD is intended to act as the core set of DEs that will be used by all ITS-based traffic management systems. It may be augmented in specific applications with additional DEs as necessary to support additional local functions or conventions not contained in the TMDD.

Scope

The TMDD was based on the logical and physical data flows for the "manage traffic" function as described in the National ITS Architecture. The TMDD is divided into four sections, as follows:

Section 1 – Traffic Management Data Elements for Links and Nodes.
Section 2 – Traffic Management Data Elements for Events, Incidents, and Notification Alarm.
Section 3 – Traffic Management Data Elements for Actuated Signal Control, Ramp Metering, Traffic Control, Traffic Detectors, Traffic Modeling, and Vehicle Probe.
Section 4 – Traffic Management Data Elements for Closed Circuit Television (CCTV), Dynamic Message Signs (DMS), Environmental Sensor Station (ESS), Gate, Highway Advisory Radio (HAR), Parking Management, and Weather Forecast.

Related documents

IEEE Std 1489-1999 – Standard for Data Dictionaries for Intelligent Transportation Systems

ITE-AASHTO TM2.01 – Message Sets for External Traffic Management Center Communication

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