

A Working Group Draft Standard of the Joint Committee

NTCIP 1406 v. 1.03

-- DRAFT Amendment 1

Transit Communications Interface Profiles

**Part of the National Transportation Communications for
ITS Protocol**

Standard on On-Board (OB) Objects

DRAFT August, 2002

Also referenced as TCIP-OB

This is a draft document, which is distributed for review and comment purposes only. You may reproduce and distribute this document within your organization, but only for the purposes of and only to the extent necessary to facilitate review and comment to the **TCIP WG Chair**. Please ensure that all copies reproduced or distributed bear this legend. This document contains preliminary information that is subject to change.

Published by

American Association of State Highway and Transportation Officials (AASHTO)
444 North Capitol St., N.W., Suite 249
Washington, D.C. 20001

Institute of Transportation Engineers (ITE)
1099 14th Street, N.W., Suite 300 West
Washington, D.C. 20005-3438

National Electrical Manufacturers Association (NEMA)
1300 North 17th Street, Suite 1847
Rosslyn, Virginia 22209-3801

© Copyright 2002 AASHTO / ITE / NEMA. All rights reserved.

© 2002 by the American Association of State Highway and Transportation Officials (AASHTO), the Institute of Transportation Engineers (ITE), and the National Electrical Manufacturers Association (NEMA). All intellectual property rights, including, but not limited to, the rights of reproduction in whole or in part in any form, translation into other languages and display are reserved by the copyright owners under the laws of the United States of America, the Universal Copyright Convention, the Berne Convention, and the International and Pan American Copyright Conventions. Except for the electronic Data Dictionary, do not copy without written permission of either AASHTO, ITE, or NEMA.

If you are not willing to abide by the following copyright statement, return these materials immediately.

Joint AASHTO, ITE, and NEMA
NTCIP Management Information Base, Data Dictionary, and ASN.1 Script
DISTRIBUTION NOTICE

To the extent and in the limited event these materials are distributed by AASHTO/ITE/NEMA in the form of a Data Dictionary and ASN.1 Script ("DD"), AASHTO / ITE / NEMA extends the following permissions:

- (i) you may make and/or distribute unlimited copies (including derivative works) of a Data Dictionary (DD), including copies for commercial distribution, provided that (a) each copy you make and/or distribute contains this Notice;
- (ii) use of the DD is restricted in that the syntax field may be modified only to reflect a more restrictive subrange or enumerated values;
- (iii) the description field may be modified but only to the extent that: (a) only those bit values or enumerated values that are supported are listed; and (b) the more restrictive subrange is expressed.

These materials are delivered "AS IS" without any warranties as to their use or performance.

AASHTO / ITE / NEMA AND THEIR SUPPLIERS DO NOT WARRANT THE PERFORMANCE OR RESULTS YOU MAY OBTAIN BY USING THESE MATERIALS. AASHTO/ITE/NEMA AND THEIR SUPPLIERS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AS TO NONINFRINGEMENT OF THIRD PARTY RIGHTS, MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT WILL AASHTO, ITE, OR NEMA OR THEIR SUPPLIERS BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY CLAIM OR FOR ANY CONSEQUENTIAL, INCIDENTAL, OR SPECIAL DAMAGES, INCLUDING ANY LOST PROFITS OR LOST SAVINGS, ARISING FROM YOUR REPRODUCTION OR USE OF THESE MATERIALS, EVEN IF AN AASHTO, ITE, OR NEMA REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some states or jurisdictions do not allow the exclusion or limitation of incidental, consequential, or special damages, or the exclusion of implied warranties, so the above limitations may not apply to you.

Use of these materials does not constitute an endorsement or affiliation by or between AASHTO, ITE, or NEMA and you, your company, or your products and services.

Disclaimer

The information in this publication was considered technically sound by the consensus of persons engaged in the development and approval of the document at the time it was developed. Consensus does not necessarily mean that there is unanimous agreement among every person participating in the development of this document.

AASHTO, ITE, and NEMA standards and guideline publications, of which the document contained herein is one, are developed through a voluntary consensus standards development process. This process brings together volunteers and/or seeks out the views of persons who have an interest in the topic covered by this publication. While AASHTO, ITE, and NEMA administer the process and establish rules to promote fairness in the development of consensus, they do not write the document and they do not independently test, evaluate, or verify the accuracy or completeness of any information or the soundness of any judgments contained in their standards and guideline publications.

AASHTO, ITE, and NEMA disclaim liability for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, application, or reliance on this document. AASHTO, ITE, and NEMA disclaim and make no guaranty or warranty, express or implied, as to the accuracy or completeness of any information published herein, and disclaims and makes no warranty that the information in this document will fulfill any of your particular purposes or needs. AASHTO, ITE, and NEMA do not undertake

to guarantee the performance of any individual manufacturer or seller's products or services by virtue of this standard or guide.

In publishing and making this document available, AASHTO, ITE, and NEMA are not undertaking to render professional or other services for or on behalf of any person or entity, nor are AASHTO, ITE, and NEMA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances. Information and other standards on the topic covered by this publication may be available from other sources, which the user may wish to consult for additional views or information not covered by this publication.

AASHTO, ITE, and NEMA have no power, nor do they undertake to police or enforce compliance with the contents of this document. AASHTO, ITE, and NEMA do not certify, test, or inspect products, designs, or installations for safety or health purposes. Any certification or other statement of compliance with any health or safety-related information in this document shall not be attributable to AASHTO, ITE, or NEMA and is solely the responsibility of the certifier or maker of the statement.

NTCIP is a trademark of AASHTO / ITE / NEMA.

Section 1 GENERAL

1.2.1 Normative References

-- Updated the publications information for Normative References

draft NTCIP 1400:200x Amendment 1, *Transit Communications Interface Profile Framework*, version 1.05 Amendment 1.

draft NTCIP 1401:200x Amendment 1, *Transit Communications Interface Profile, Standard on Common Public Transportation Objects*, version 1.03 Amendment 1, August, 2002.

draft NTCIP 1404:200x Amendment 1, *Transit Communications Interface Profile, Standard on Scheduling and Runcutting Objects*, version 1.03 Amendment 1, August, 2002.

draft NTCIP 1405:200x Amendment 1, *Transit Communications Interface Profile, Standard on Spatial Representation Objects*, version 1.03 Amendment 1, August, 2002.

draft NTCIP 1406:200x Amendment 1, *Transit Communications Interface Profile, Standard on On-Board Objects*, version 1.03 Amendment 1, August, 2002.

ISO/IEC 8824:1998, *Abstract Syntax Notation One (ASN.1)*

SAE J1587 – Joint SAE/TMC Recommended Practice for Electronic Data Interchange Between Microcomputer Systems in Heavy Duty Vehicle Applications, February 2002.

1.2.2 Informative References

-- Updated the publications information for Informative References

IEEE Std 1489-1999, *IEEE Standard for Data Dictionaries for Intelligent Transportation Systems*. 27 October 1999.

IEEE Std 1488-2000, *IEEE Trial-Use Standard for Message Set Template for Intelligent Transportation Systems*. 13 July 2000.

Section 2 TERMINOLOGY

2.3 ACRONYMS

-- *Add acronym for PTV*

PTV Public Transportation Vehicle

Section 3
CONCEPT OF OPERATIONS

-- Modify Section title to Concept of Operations

Section 4 REQUIREMENTS

-- Correct reference from SP to OB in last sentence.

“The objects are presented in the order of their appearance on the OB classification tree.”

4.1 ON-BOARD BUS DATA DICTIONARY

OB_ScheduleAdherenceOffset_tm/SI 10-1997 [time]

(1) *Corrected typo in the ASN.1 Name*

ASN1 name OB-ScheduleAdherenceOffset

OB_HeadingDelta_rt/ SI-10 1997

(1) *The definition was modified.*

(2) *The language in Valid value rules was modified.*

Definition This object indicates that a heading change during a specified time interval measured by degrees/second. The object is used to trigger event recording equipment that records actual path traveled.

Valid value rule 0 to -180 Heading change in the clockwise direction
0 to 180 Heading change in the counter clockwise direction.

OB_MID_id/SAE J1708

(1) *The Representative class term (in descriptive name and field) shall be modified to identifier (id).*

Descriptive Name OB_MID_id/SAE J1708

Representation class term identifier

OB_PID_id

(1) *The Representative class term (in descriptive name and field) shall be modified to identifier (id).*

Descriptive Name OB_PID_id

Representation class term identifier

4.2 ON-BOARD BUS MESSAGE SET

ObDoorRecord_message

(1) *Message body: message body shall change as follows:*

-- *changed Type Reference of fare-transaction to FcFareTransaction*

-- *add new field: offsetFromStop SP-Offset OPTIONAL*

Message body

```
ObDoorRecord ::=SEQUENCE {  
  doorNo OB-MID, -- related MID or address for door or lift  
  open-time OB-DoorOpenTime,  
  close-time OB-DoorCloseTime OPTIONAL,  
  boarding SEQUENCE OF OB-PassengerBoarding OPTIONAL,  
  alighting SEQUENCE OF OB-PassengerAlighting OPTIONAL,  
  fare-transaction SEQUENCE OF FcFareTransaction OPTIONAL,  
  offsetFromStop SP-Offset OPTIONAL  
  -- when a PTV stops to open/close a door in the same stop point zone more  
  -- than once  
}
```

**Annex D
ASN.1 Script**

(Informative)

TBD