

*A Joint Standard of AASHTO, ITE, and NEMA*

# NTCIP 1104 version v01

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## National Transportation Communications for ITS Protocol Center-to-Center Naming Convention Specification

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## ACKNOWLEDGEMENTS

NTCIP 1104 v01 was prepared by the NTCIP Center-to-Center Working Group, which is a subdivision of the Joint Committee on the NTCIP. The Joint Committee is organized under a Memorandum of Understanding among the American Association of State Highway and Transportation Officials (AASHTO), the Institute of Transportation Engineers (ITE), and the National Electrical Manufacturers Association (NEMA). The NTCIP development effort is guided by the Joint Committee on the NTCIP, which consists of six representatives from each of the above organizations.

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- U.S. Department of Transportation / Research and Innovative Technology Administration
- Washington State Department of Transportation
- Texas Department of Transportation

## FOREWORD

NTCIP 1104 v01 defines the naming service for CORBA for use in center-to-center communications in the transportation domain. NTCIP 1104 v01 may also be referenced by non-CORBA standards in order to define how certain items should be named.

NTCIP 1104 v01 is an NTCIP Base Standard. NTCIP Base Standards provide formal definitions of protocols or services upon which higher-level applications are dependent for use within NTCIP systems.

NTCIP 1104 v01 uses only metric units, and NTCIP 1104 v01 includes no annexes.

This NTCIP standard is designated, and should be cited as NTCIP 1104 v01. NTCIP 1104 v01 is a Jointly Approved and published NTCIP Standard, reflecting the resolution of comments received during the development and approval process, when drafts were designated using a major and minor version number (v01.01 through v01.08). To distinguish NTCIP 1104 v01 from previous drafts, NTCIP 1104 v01 also includes NTCIP 1104 v01.09 on each page header.

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## Approvals

NTCIP 1104 v01 was separately balloted and approved by AASHTO, ITE, and NEMA after recommendation by the Joint Committee on the NTCIP. Each organization has approved this standard as the following standard type, as of the date:

AASHTO—Standard Specification; November 2005  
ITE—Software Standard; October 2005  
NEMA—Standard; October 2005

## History

The development history of NTCIP 1104 v01 is noted below:

NTCIP 1104 v01.06, July 2002—Accepted v01.05 as a User Comment Draft by the Joint Committee on the NTCIP. October 2002—NTCIP Standards Bulletin B0080 referred v01.06 for review and comment.

NTCIP 1104 v01.08, January 2005—Accepted v01.08 as a Recommended Standard by the Joint Committee on the NTCIP. July 2005—NTCIP Standards Bulletin B0104 referred v01.08c for balloting. Approved by AASHTO in November 2005, approved by ITE in October 2005, and approved by NEMA in October 2005. Jointly Approved as of November 2005.

NTCIP 1104 v01.09, May 2008—Prepared document for publication; edited format and front matter.

## Compatibility of Versions

All NTCIP Standards Publications have a major and minor version number for configuration management. The version number syntax is "v00.00a," with the major version number before the period, and the minor version number and edition letter (if any) after the period.

Anyone using NTCIP 1104 v01 should seek information about the version number that is of interest to them in any given circumstance. The MIB, the PRL, and the PICS should all reference the version number of the standards publication that was the source of the excerpted material.

Compliant systems based on later, or higher, version numbers MAY NOT be compatible with compliant systems based on earlier, or lower, version numbers. Anyone using NTCIP 1104 v01 should also consult NTCIP 8004 v01 for specific guidelines on compatibility.

## INTRODUCTION

NTCIP 1104 v01 provides definitions of the naming service for CORBA for use in center-to-center communications in the transportation domain, as well as other environments that reference NTCIP 1104 v01.

NTCIP 1104 v01 defines requirements that are applicable to NTCIP environments that use CORBA and any other environments that reference NTCIP 1104 v01.

The following keywords apply to NTCIP 1104 v01: AASHTO, ITE, NEMA, NTCIP, CORBA.

In 1992, the NEMA 3-TS Transportation Management Systems and Associated Control Devices Section began development of the NTCIP. The Transportation Section's purpose was in response to user needs to include standardized systems communication in the NEMA TS 2 standard, *Traffic Controller Assemblies*. Under the guidance of the Federal Highway Administration's NTCIP Steering Group, the NEMA effort was expanded to include the development of communications standards for all transportation field devices that could be used in an Intelligent Transportation Systems (ITS) network.

In September 1996, an agreement was executed among AASHTO, ITE, and NEMA to jointly develop, approve, and maintain the NTCIP standards. The Joint Committee on the NTCIP formed the NTCIP Center-to-Center Working Group to develop center-to-center protocol standards. The NTCIP Center-to-Center Working Group's first meeting was in July 1996. In May 2000, the Joint Committee approved the work item to draft a CORBA naming specification.

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## Section 1 GENERAL

### 1.1 SCOPE

NTCIP 1104 v01 is applicable to communications between two (or more) management systems within the Intelligent Transportation Systems (ITS) environment.

NTCIP 1104 v01 lists the requirements for establishing names for management systems and for the objects managed by those systems. The term object is used loosely to include not only physical equipment such as ramp meter controllers and portable message signs, but also other data categories about which centers might desire to exchange information, such as incidents, as well as other data classes within the center.

### 1.2 REFERENCES

For revision information on NTCIP 1104 v01, contact:

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For draft revisions to NTCIP 1104 v01, and recommended revisions of the NTCIP Joint Committee, visit [www.ntcip.org](http://www.ntcip.org).

#### 1.2.1 Normative References

The following standards (normative references) contain provisions that, through reference in this text, constitute provisions of NTCIP 1104 v01. Other documents and standards (other references) which are referenced in NTCIP 1104 v01 might provide a complete understanding of the entire protocol and the relations between all parts of the protocol. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standard listed below.

ISO 3166-1:2006	Codes for the representation of names of countries and their subdivisions—Part 1: Country codes, November 20, 2006
ISO 3166-3:1999	Codes for the representation of names of countries and their subdivisions—Part 3: Code for formerly used names of countries, March 11, 1999
The Object Management Group, Inc.	The Common Object Request Broker: Architecture and Specification, Revision 2.3, July 1995, last revised October 7, 1999 (CORBA version 2.3)
The Object Management Group, Inc.	Common Facilities Architecture, John Wiley & Sons, Framingham, Massachusetts, November 1995, last revised June 15, 1997