

New York State ITS Standards Specification Development Guide

(Version 0.4, Draft)

Prepared for

NYSDOT Statewide ITS Program

Technical Support and Strategic Plan Development

Task 2.A.4

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Revision History

Filename	Version	Date	Author	Comment
NYSDOT ITS Standards Specification Guide v0.01.doc	0.10	07/31/06	M. Insignares / P. Chan	Initial Draft
NYSDOT ITS Standards Specification Guide v0.20.doc	0.20	10/16/06	M. Insignares / P. Chan	Second Draft. Included updated Example Center-to-Center Specification Example. Pulled out Project Scoping into its own chapter. Added Sections on Concept of Operations and Requirements. Reorganized introduction to adhere more closely with the systems engineering methodology.
NYSDOT ITS Standards Spec Dev Guide v0.30	0.30	11/22/06	M. Insignares / P. Chan	Third Draft. Re-worked Center-to-Field DMS Specification Example to combine Operations Plan into the Specification. Added Appendix B on Example ITS Project Timeline. Re-ordered Project Scoping Report section to match example project timeline. Developed PDF web accessible version.
NYSDOT ITS Standards Spec Dev Guide v0.31	0.31	11/27/06	M. Insignares	Third Draft. Minor corrections to fix/enhance traceability in sections on ConOps and Requirements. Corrected spelling and grammar.
NYStateITSStandardsSpecGuide TOC v0.40	0.40	01/22/07	M. Insignares	Updated front cover. Added App L. Updated Acronym list.

Intended Audience

This New York State ITS Standards Specification Guide is intended to be used by project managers and technical specification writers from transportation agencies in the State of New York. It provides detailed information and examples of the processes needed to carry forward the development of ITS Standards-based project specifications, from project programming to design to specification development and testing.

Relation to Project Scope

In October 2003, Consensus Systems Technologies Corp. (ConSysTec), was sub-contracted by Gardner Engineering of New York, P.C., to provide technical support for New York State Department of Transportation's Statewide ITS Program. This work was performed under Contract D015186, PIN S148.00, Technical Support and Strategic Plan Development Services for NYSDOT Statewide ITS Program.

This Technical Issue Paper was prepared to satisfy the requirements of Task 2.A.4, ITS Standards Specification Guidance, and is the fourth and final technical issue paper on ITS Standards to be delivered to NYSDOT for this project. The first technical issue paper presents a comprehensive overview of the current status of the National ITS Standards Program and the Standards Testing Program. The second paper offers an assessment of Best Practices for using ITS architecture and ITS standards in project development. The third technical issue paper covers Key ITS Standards, and assesses the current use of ITS standards in ITS deployments, identifying those standards that are sufficiently mature for use or testing in the near term, and based on criteria recommends ITS Standards that should be used for NYS ITS deployments. This fourth and final technical issue paper builds upon the Best Practices and Key ITS Standards Reports to provide guidance for NYSDOT planners, project managers, and specifications writers on how to specify ITS communication standards in project specifications.

ABBREVIATIONS AND ACRONYMS	
AASHTO	American Association of State Highway and Transportation Officials
ADP	Advanced Detail Plans
ADUS	Archived Data User Systems
ASCII	American Standard Code for Information Interchange
ASN.1	Abstract Syntax Notation One
ASP	Active Server Pages (by Microsoft)
ATIS	Advanced Traveler Information Systems
ATMS	Advanced Traffic Management Systems
APTS	Advanced Public Transportation Systems
BER	Basic Encoding Rules
C2C	Center-to-Center
C2F	Center-to-Field
CAD	Computer Aided Dispatch
CARS	Computerized Acquisition Reporting System
CCTV	Closed Circuit Television
DATEX	Data Exchange
DSRC	Dedicated Short Range Communications
DMS	Dynamic Message Sign
EMS	Emergency Medical Services
ESS	Environmental Sensor Station
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FTP	File Transfer Protocol
HTTP	Hypertext Transfer Protocol
HTTPS	Secure Hypertext Transfer Protocol
ID	Identifier
IEEE	Institute of Electrical and Electronic Engineers
IEN	Information Exchange Network

ABBREVIATIONS AND ACRONYMS	
IIMS	Integrated Incident Management System
IM	Incident Management
INCOSE	International Council on Systems Engineering
IP	Internet Protocol
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation Systems
IPP	Initial Project Proposal
LRP	Long Range Transportation Plan
LRTP	Long Range Transportation Plan
MIB	Management Information Base
MPO	Metropolitan Planning Authority
NCBA	Nassau County Bridge Authority
NEMA	National Equipment Manufacturers Association
NTCIP	National Transportation Communication for ITS Protocol
NYSDOT	New York State Department of Transportation
NYSTA	New York State Thruway Authority
OER	Octet Encoding Rules
OID	Object Identifier (ASN.1 and MIB concept)
PS&E	Plans, Specifications, and Estimates
SEA	Systems Engineering Analysis
SAE	Society of Automotive Engineers
SDO	Standards Development Organization
SEP	Systems Engineering Process
SFMP	Simple Fixed Messaging Protocol
SNMP	Simple Network Management Protocol
SMTP	Simple Mail Transfer Protocol
SMI	Structure of Management Information
SMIC	SMI Compiler
SOAP	Simple Object Access Protocol

ABBREVIATIONS AND ACRONYMS	
SSL	Secure Sockets Layer
STMP	Simple Transportation Management Protocol
TCIP	Transit Communications Interface Profiles
TCP/IP	Transmission Control Protocol and the Internet Protocol
TTCP	Test TCP Utility
TIP	Transportation Improvement Program
TMC	Transportation Management Center
TMDD	Transportation Management Data Dictionary
TOC	Transportation Operations Center
TSDEA	Transit Schedule Data Exchange Architecture
UDP	User Datagram Protocol
VEE	The letter "V"
W3C	World Wide Web Consortium
WAN	Wide Area Network
WAVE	Wireless Access to the Vehicular Environment
WSDL	Web Services Description Language
XML	eXtensible Markup Language