

APPENDIX A: GLOSSARY OF ACRONYMS

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AAA	American Automobile Association
AD	Archived Data Management
AHS	Automated Highway System
AOC	Agency Operations Center
APTS	Advanced Public Transportation Systems
ATIS	Advanced Traveler Information Systems
ATMS	Advanced Traffic Management Systems
AVI	Automated Vehicle Identification
AVL	Automated Vehicle Location
AVSS	Advanced Vehicle Safety Systems
BDS	Bureau of Disaster Services
BLM	Bureau of Land Management
BNSF	Burlington Northern Santa Fe
C2C	Center-to-Center
C2F	Center-to-Field
CAD	Computer Aided Dispatch
Caltrans	California Department of Transportation
CCTV	Closed-Circuit Television
CHP	California Highway Patrol
CMS	Changeable Message Sign
COG	Council of Governments
COMET	COrridor ManagEment Teams
CSEPP	Chemical Stockpile Emergency Preparedness Program
CTS	Center for Transportation Studies
CV	Commercial Vehicle
CVO	Commercial Vehicle Operations
DATEX	DATA EXchange Between Systems
DEM	Department of Emergency Management
DFD	Data Flow Diagram
DMS	Dynamic Message Sign
DPS	Department of Public Safety
DOT	Department of Transportation
DSRC	Dedicated Short Range Communications
EAS	Emergency Alert System
ECC	Emergency Coordination Center
EM	Emergency Management
EMD	Emergency Management Division
EOC	Emergency Operations Center
EOP	<i>Emergency Operations Plan</i>
FCC	Federal Communications Commission
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GM	General Motors
GPS	Global Positioning System
HAR	Highway Advisory Radio
HazMat	Hazardous Material
HOV	High Occupancy Vehicle
HQ	Headquarters

HRI	Highway-Rail Intersection
HTCRS	Highway Traffic Conditions Reporting System
ISP (1)	Information Service Provider
ISP (2)	Idaho State Police
ISCC	Information Systems Command Center
ITD	Idaho Transportation Department
ITS	Intelligent Transportation Systems
LEDS	Law Enforcement Data System
LTD	Lane Transit District
MAX	Metropolitan Area Express
MC	Maintenance and Construction
MDSS	Maintenance Decision Support System
MPO	Metropolitan Planning Organization
NCIC	National Crime Information Center
NDOT	Nevada Department of Transportation
NOAA	National Oceanic and Atmospheric Administration
NTCIP	National Transportation Communications for ITS Protocol
NWS	National Weather Service
NWTOC	Northwest Transportation Operations Center
OBU	On-Board Unit
ODOT	Oregon Department of Transportation
OEM	Office of Emergency Management
OERS	Oregon Emergency Response System
OES	Office of Emergency Services
ORS	Oregon Revised Statute
OSP	Oregon State Police
OTA	Oregon Trucking Association
PDA	Personal Digital Assistant
PDCC	Portland Dispatch Center Consortium
PDO	Property Damage Only
PIO	Public Information Officer
PNWR	Portland and Western Railroad
PORTAL	Portland Oregon Regional Transportation Archive Listing
PSAP	Public Safety Answering Point
PSpec	Process Specification
PSU	Portland State University
PVMS	Portable Variable Message Sign
RMC	Resource Management Center
RSU	Roadside Unit
RVTD	Rogue Valley Transportation District
RWIS	Roadway Weather Information System
SDO	Standards Development Organization
STIP	Statewide Transportation Improvement Program
SWARM	System Wide Adaptive Ramp Metering
TDM	Travel Demand Management
TIC	Travel Information Council
TMC	Traffic Management Center
TMOC	Traffic Management Operation Center
TMP	Traffic Management Plan
TOC	Transportation (or Traffic) Operations Center
TOCS	Transportation Operations Center Software

TPAC	Transportation Policy Alternatives Committee
TransPort	Transportation Portland
TTIP	TripCheck Traveler Information Portal
UP	Union Pacific
U.S. DOT	United States Department of Transportation
VII	Vehicle Infrastructure Integration
VIN	Vehicle Identification Number
VMS	Variable Message Sign
VMT	Vehicle Miles Traveled
WSDOT	Washington State Department of Transportation
WSP	Washington State Patrol
XML	eXtensible Markup Language

APPENDIX B: SUMMARY OF CHANGES TO NATIONAL ITS ARCHITECTURE AND TURBO ARCHITECTURE

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National Architecture and Turbo Architecture Timeline

Version & Date	Turbo Architecture Notes
National Architecture 4.0: April 2002 Turbo Architecture 2.0*: May 2002	* Used for last Statewide Architecture Update? * Used for Eugene-Springfield Regional Architecture.
National Architecture 5.0: October 2003 Turbo Architecture 3.0*: April 2004	* Used for Rogue Valley Regional Architecture. * Used for Deschutes County Regional Architecture.
National Architecture 5.1: April 2005 Turbo Architecture 3.1*: May 2005	* Used for Salem-Keizer Regional Architecture. * Used for TransPort Regional Architecture Update. * Will be used for current Statewide Architecture Update.

System Inventory Changes

- The following subsystem was added:
"Security Monitoring"
- The following terminators were added:
"Alerting and Advisory Systems"
"Emissions Management Operator"
"Freight Equipment"
"Shelter Providers"
"Telecommunications System for Traveler Information"
- The following terminator names were modified:

<i>Old Terminator</i>	<i>New Terminator</i>
"Commercial Vehicle Manager"	"Fleet Freight Manager"
"Other EM"	"Other Emergency Management"
"Other TM"	"Other Traffic Management"
"Other TRM"	"Other Transit Management"
"Transit Driver"	"Transit Vehicle Operator"

- The following terminators were discontinued:
"Transit Fleet Manager"
"Transit Maintenance Personnel"
"Transit User"

Market Package Changes

- The following market packages were added:
"ATMS21: Roadway Closure Management"
"CVO11: Roadside HAZMAT Security Detection and Mitigation"
"CVO12: CV Driver Security Authentication"
"CVO13: Freight Assignment Tracking"
"EM05: Transportation Infrastructure Protection"
"EM06: Wide-Area Alert"
"EM07: Early Warning System"
"EM08: Disaster Response and Recovery"

“EM09: Evacuation and Reentry Management”

“EM10: Disaster Traveler Information”

- The following market packages were modified:

#	<i>Old Market Package</i>	<i>New Market Package</i>
ATIS05	“ISP Based Route Guidance”	“ISP Based Trip Planning and Route Guidance”
ATMS08	“Incident Management System”	“Traffic Incident Management System”
CVO08	“On-Board CVO Safety”	“On-Board CVO and Freight Safety & Security”
EM01	“Emergency Response”	“Emergency Call-Taking and Dispatch”
EM03	“Mayday Support”	“Mayday and Alarms Support”
MC01	“Maintenance and Construction Vehicle Tracking”	“Maintenance and Construction Vehicle and Equipment Tracking”

Architecture Flow Changes

- A number of architecture flows were renamed or replaced. The following flows were replaced in the Statewide Architecture Conversion to Turbo 3.1:

<i>Old Flow</i>	<i>New Flow</i>
“Emergency traffic control response”	“Emergency traffic control information”
“Emissions data”	“Vehicle emissions data”
“Incident response coordination”	“Resource coordination”
“Logged special vehicle route”	“Logged vehicle routes”
“Provider profile confirm”	“Travel service reservation request”
“Provider profile data”	“Travel service information”
“Transit emergency coordination data”	“Incident information” –or– “Incident response status”
“Travel service info”	“Travel service reservations”
“Travel service request”	“Travel service information request”

- A number of architecture flows were added. The following architecture flow was added in the Statewide Architecture in the conversion to Turbo 3.1:

“Traffic Images”

- A number of architecture flows were discontinued. The following architecture flows were discontinued in the Statewide Architecture in the conversion to Turbo 3.1:

“Incident command request”

“Incident command information”

“Incident information request”

“Request for road network conditions”

APPENDIX C: REGIONAL ITS ARCHITECTURE ASSESSMENT CHECKLIST

APPENDIX D: TURBO ARCHITECTURE SUMMARY REPORT

APPENDIX E: ATTRIBUTE CHANGE LOG

APPENDIX F: TURBO ARCHITECTURE STAKEHOLDER REPORT

APPENDIX G: STAKEHOLDER CHANGE LOG

APPENDIX H: TURBO ARCHITECTURE INVENTORY REPORT

APPENDIX I: INVENTORY CHANGE LOG

APPENDIX J: TURBO ARCHITECTURE MARKET PACKAGE REPORT

APPENDIX K: MARKET PACKAGE CHANGE LOG

APPENDIX L: TURBO ARCHITECTURE INTERCONNECT REPORT

APPENDIX M: TURBO ARCHITECTURE FLOW REPORT

**APPENDIX N: TURBO ARCHITECTURE
OPERATIONAL CONCEPT REPORT**

APPENDIX O: ITS STANDARDS DEVELOPMENT STATUS

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Published ITS Standards Listed by SDO

ANSI

- ANSI TS284: Commercial Vehicle Safety Reports
- ANSI TS285: Commercial Vehicle Safety and Credentials Information Exchange
- ANSI TS286: Commercial Vehicle Credentials

ASTM

- ASTM E2158-01: Standard Specification for Dedicated Short Range Communication (DSRC) Physical Layer using Microwave in the 902-928 MHz Band
- ASTM E2213-03: Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems - 5 GHz Band Dedicated Short Range Communications (DSRC) Medium Access Control (MAC) and Physical Layer (PHY) Specifications
- ASTM E2259-03: Standard Guide for Archiving and Retrieving ITS-Generated Data
- ASTM E2468-05: Standard Practice for Metadata to Support Archived Data Management Systems

EIA

- EIA 794: Data Radio Channel (DARC) System
- EIA 795: Subcarrier Traffic Information Channel (STIC) System

IEEE

- IEEE 1455-1999: Standard for Message Sets for Vehicle/Roadside Communications
- IEEE 1488-2000: Standard for Message Set Template for Intelligent Transportation Systems
- IEEE 1489-1999: Standard for Data Dictionaries for Intelligent Transportation Systems - Part 1 Functional Area Data Dictionaries
- IEEE 1512 -2000: Standard for Common Incident Management Message Sets for use by Emergency Management Centers
- IEEE 1512.1-2003: Standard for Traffic Incident Management Message Sets for Use by Emergency Management Centers
- IEEE 1512.2-2004: Standard for Public Safety Traffic Incident Management Message Sets for Use by Emergency Management Centers
- IEEE 1512.3-2002: Standard for Hazardous Material Incident Management Message Sets for Use by Emergency Management Centers
- IEEE 1570-2002: Standard for the Interface Between the Rail Subsystem and the Highway Subsystem at a Highway Rail Intersection
- IEEE SH94633-SH94638: The Survey and Analysis of Existing Standards and those Under Development Applicable to the Needs of the Intelligent Transportation System (ITS) Short Range and Wide Area Wireless and Wireline Technologies

NEMA/AASHTO/ITE

- ITE 9603-2: Advanced Transportation Controller (ATC) Cabinet

¹ *ITS Standards Program, List of ITS Standards by Development Program.* U.S. Department of Transportation, April 7, 2006. <http://www.standards.its.dot.gov/status.asp>. Accessed May 9, 2006.

AASHTO/ITE

- ITE TMDD Guide : TMDD & MS/ETMCC Guide Standard for Functional Level Traffic Management Data Dictionary (TMDD) and Message Sets for External Traffic Management Center Communications

AASHTO/ITE/NEMA

- NTCIP 1101: Simple Transportation Management Framework (STMF)
- NTCIP 1201: Global Object Definitions
- NTCIP 1202: Object Definitions for Actuated Traffic Signal Controller (ASC) Units
- NTCIP 1203: Object Definitions for Dynamic Message Signs (DMS)
- NTCIP 1204: Object Definitions for Environmental Sensor Stations (ESS)
- NTCIP 1205: Object Definitions for Closed Circuit Television (CCTV) Camera Control
- NTCIP 1207: Object Definitions for Ramp Meter Control (RMC) Units
- NTCIP 1400: TCIP Framework Standard
- NTCIP 1401: TCIP Common Public Transportation (CPT) Objects
- NTCIP 1402: TCIP Incident Management (IM) Objects
- NTCIP 1403: TCIP Passenger Information (PI) Objects
- NTCIP 1404: TCIP Scheduling/Runcutting (SCH) Objects
- NTCIP 1405: TCIP Spatial Representation (SP) Objects
- NTCIP 1406: TCIP On-Board (OB) Objects
- NTCIP 1407: TCIP Control Center (CC) Objects
- NTCIP 1408: TCIP Fare Collection (FC) Business Area Objects
- NTCIP 2001: Class B Profile
- NTCIP 2101: Point to Multi-Point Protocol Using RS-232 Subnetwork Profile
- NTCIP 2102: Point to Multi-Point Protocol Using FSK Modem Subnetwork Profile
- NTCIP 2103: Point-to-Point Protocol Over RS-232 Subnetwork Profile
- NTCIP 2104: Ethernet Subnetwork Profile
- NTCIP 2201: Transportation Transport Profile
- NTCIP 2202: Internet (TCP/IP and UDP/IP) Transport Profile
- NTCIP 2301: Simple Transportation Management Framework (STMF) Application Profile
- NTCIP 2302: Trivial File Transfer Protocol (TFTP) Application Profile
- NTCIP 2303: File Transfer Protocol (FTP) Application Profile
- NTCIP 2304: Application Profile for DATEX-ASN (AP-DATEX)
- NTCIP 8003: Profile Framework
- NTCIP 9001: NTCIP Guide
- NTCIP 9010: XML in ITS Center-to-Center Communications

SAE

- SAE J1663: Truth-in-Labeling Standard for Navigation Map Databases
- SAE J1708: Serial Data Communications Between Microcomputer Systems in Heavy-Duty Vehicle Applications
- SAE J1746: ISP-Vehicle Location Referencing Standard
- SAE J1757: Standard Metrology for Vehicular Displays
- SAE J1760: ITS Data Bus Data Security Services
- SAE J2266: Location Referencing Message Specification (LRMS)
- SAE J2313: On-Board Land Vehicle Mayday Reporting Interface
- SAE J2352: Mayday Industry Survey Information Report
- SAE J2353: Data Dictionary for Advanced Traveler Information Systems (ATIS)
- SAE J2354: Message Set for Advanced Traveler Information System (ATIS)
- SAE J2355: ITS Data Bus Architecture Reference Model Information Report

- SAE J2365: Calculation of the Time to Complete In-Vehicle Navigation and Route Guidance Tasks
- SAE J2366/1: ITS Data Bus - IDB-C Physical Layer
- SAE J2366/1L : ITS Data Bus - Low Impedance Stereo Audio
- SAE J2366/2: ITS Data Bus - Link Layer
- SAE J2366/4: ITS Data Bus - Thin Transport Layer
- SAE J2366/7: ITS Data Bus - Application Message Layer
- SAE J2369: Standard for ATIS Message Sets Delivered Over Reduced Bandwidth Media
- SAE J2372: Field Test Analysis Information Report
- SAE J2373: Stakeholders Workshop Information Report
- SAE J2374: Location Referencing Message Specification
- SAE J2395: ITS In-Vehicle Message Priority
- SAE J2396: Definitions and Experimental Measures Related to the Specification of Driver Visual Behavior Using Video Based Techniques
- SAE J2399: Adaptive Cruise Control (ACC) Operating Characteristics and User Interface
- SAE J2400: Human Factors in Forward Collision Warning Systems: Operating Characteristics and User Interface Requirements
- SAE J2539: Comparison of GATS Messages to SAE ATIS Standards Information Report
- SAE J2540: Messages for Handling Strings and Look-Up Tables in ATIS Standards
- SAE J2540/1: RDS (Radio Data System) Phrase Lists
- SAE J2540/2: ITIS (International Traveler Information Systems) Phrase Lists
- SAE J2540/3: National Names Phrase List
- SAE J2630: Converting ATIS Message Standards from ASN.1 to XML

Approved ITS Standards Listed by SDO

NEMA/AASHTO/ITE

- ITE ATC Type 2070: Advanced Transportation Controller (ATC) Standard Specification for the Type 2070 Controller

AASHTO/ITE

- ITE TM 1.03: Standard for Functional Level Traffic Management Data Dictionary (TMDD)
- ITE TM 2.01: Message Sets for External TMC Communication (MS/ETMCC)

AASHTO/ITE/NEMA

- NTCIP 1102: Octet Encoding Rules (OER) Base Protocol
- NTCIP 1103: Transportation Management Protocols (TMP)
- NTCIP 1104: Center-to-Center Naming Convention Specification
- NTCIP 1206: Object Definitions for Data Collection and Monitoring (DCM) Devices
- NTCIP 1208: Object Definitions for Closed Circuit Television (CCTV) Switching
- NTCIP 1209: Data Element Definitions for Transportation Sensor Systems (TSS)
- NTCIP 1211: Object Definitions for Signal Control and Prioritization (SCP)
- NTCIP 8004: Structure and Identification of Management Information

SAE

- SAE J2529: Rules for Standardizing Street Names and Route IDs

ITS Standards In Ballot, Listed by SDO

APTA

- APTA TCIP Dialogs : Transit Communications Interface Profile

IEEE

- IEEE P1609.1: Standard for Wireless Access in Vehicular Environments (WAVE) - Resource Manager
- IEEE P1609.2: Standard for Wireless Access in Vehicular Environments (WAVE) - Security Services for Applications & Management Messages
- IEEE P1609.3: Standard for Wireless Access in Vehicular Environments (WAVE) - Networking Services
- IEEE P1609.4: Standard for Wireless Access in Vehicular Environments (WAVE) - Multi-Channel Operations

NEMA/AASHTO/ITE

- ITE 9603-3: Advanced Transportation Controller (ATC)

AASHTO/ITE/NEMA

- NTCIP 8007: Testing and Conformity Assessment Documentation within NTCIP Standards Publications

ITS Standards Under Development, Listed by SDO

ASTM

- ASTM WK7604: Standard Specifications for Archiving ITS-Generated Traffic Monitoring Data

IEEE

- IEEE P1512.4: Standard for Common Traffic Incident Management Message Sets for Use in Entities External to Centers

NEMA/AASHTO/ITE

- ITE 9603-1: Application Programming Interface (API) Standard for the Advanced Transportation Controller (ATC)

AASHTO/ITE/NEMA

- NTCIP 1210: Field Management Stations (FMS) - Part 1: Object Definitions for Signal System Masters
- NTCIP 1212: Object Definitions for Network Camera Operation
- NTCIP 1213: Object Definitions for Electrical and Lighting Management Systems (ELMS)
- NTCIP 2306: Application Profile for XML Message Encoding and Transport in ITS Center-to-Center Communications (C2C XML)
- NTCIP 2801: SEP for Communications Profile
- NTCIP 9012: Testing Guide for Users

SAE

- SAE J2735: Standard for Data Dictionary and Message Sets for Dedicated Short Range Communications (DSRC)

**APPENDIX P: TURBO ARCHITECTURE
ITS STANDARDS REPORT**