# APPENDIX  C

# Recommended ITS Standards for the Malaysian ITS System Architecture

## NTCIP Standards                                    http://www.ntcip.org/

| Document No. | | Type | Title | Status |
|---|---|---|---|---|
| **New** | **Old** | | | |
| 1101 | TS 3.2-1996 | Base Standard | NTCIP Simple Transportation Management Framework (STMF) | Jointly Approved, Amended |
| 1102 | OER | Base Standard | NTCIP Octet Encoding Rules (OER) | Recommended Standard |
| 1201 | TS 3.4-1996 | Device Data Dictionary | NTCIP Global Object (GO) Definitions | Jointly Approved, Amended |
| 1202 | TS 3.5-1996 | Device Data Dictionary | NTCIP Objects for Actuated Signal Controller Units (ASC) | Jointly Approved |
| 1203 | TS 3.6-1997 | Device Data Dictionary | NTCIP Objects for Dynamic Message Signs (DMS) | Jointly Approved |
| 1204 | TS 3.7-1998 | Device Data Dictionary | NTCIP Objects for Environmental Sensor Stations (ESS) | Jointly Approved |
| 1205 | TS 3.CCTV | Device Data Dictionary | NTCIP Objects for CCTV Camera Control | Jointly Approved |
| 1206 | TS 3.DCM | Device Data Dictionary | NTCIP Objects for Data Collection and Monitoring Devices (DCM) | Recommended Standard |
| 1207 | TS 3.RMC | Device Data Dictionary | NTCIP Objects for Ramp Meter Control (RMC) | Jointly Approved |
| 1209 | TS 3.TSS | Device Data Dictionary | NTCIP Objects for Transportation Sensor Systems (TSS) | Recommended Standard |
| 2002 | CP-CLA | Communication Class Profile | NTCIP Class A and C Profiles | Withdrawn |
| 2101 | SP-PMPP/RS232 | Subnetwork Profile | NTCIP SP-PMPP (Point-to-Multi Point Protocol) / RS232 | Jointly Approved |
| 2202 | TP-INTERNET | Transport Profile | NTCIP TP-Internet (Transmission Control Protocol TCP / Internet Protocol IP and User Datagram Protocol UDP / IP) | Jointly Approved |
| 2301 | AP-STMF | Application Profile | NTCIP AP-STMF (Simple Transportation Management Framework) | Jointly Approved |
| 2302 | AP-TFTP | Application Profile | NTCIP AP-TFTP (Trivial File Transfer Protocol) | Jointly Approved |
| 2303 | AP-FTP | Application Profile | NTCIP AP-FTP (File Transfer Protocol) | Jointly Approved |
| 2304 | TS 3.AP-DATEX | Application Profile | NTCIP AP-DATEX-ASN (Data Exchange - Abstract Syntax Notation) | Recommended Standard |
| 2305 | TS 3.AP-CORBA | Application Profile | NTCIP AP-CORBA (Common Object Request Broker Architecture) | User Comment Draft |
| 2306 | None | Application Profile | Application Profile for XML in ITS Centre to Centre Communications CAP-C2CXML) | Recommended Standard |
| 9001 | Guide | Information Report | NTCIP Guide | Recommended Information Report |
| 9010 | None | Information Report | XML in ITS Centre-to-Centre Communications | Working Group Draft |

## IEEE Standards                                              http://www.ieee.org

| Document No. | Title | Publication Status (Year) |
|---|---|---|
| 1455-1999 | Message Sets for Vehicle/Roadside Communications | Active Standard (1999) |
| 1512-2006 | Common Incident Management Message Sets for Use by Emergency Management Centers | Active Standard (2006) |

## ITE Standards                                              http://www.ite.org/

| Document No. | Title | Publication Status (Year) |
|---|---|---|
| TMDD MS/ETMCC v2.1* | Traffic Management Data Dictionary and Message Sets for External TMC Communication (TMDD and MS/ETMCC) | Active Standard (1999) |

\* Version 3.0 of the TMDD MS/ETMCC is expected to be finalized by the end of 2007

## ASTM Standards                                             http://www.astm.org/

| Document No. | Title |
|---|---|
| E22313-03 | 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 |

## SAE Standards                                              http://www.sae.org/

| Document No. | Issuing Committee | Title | Publication Date |
|---|---|---|---|
| J1746 | Map Database Standard | ISP-Vehicle Location Referencing Standard | December1999 |
| J1760 | Its - Data Bus | Data Security Services | December 2001 |
| J2313 | In Vehicle Systems Interface | On-Board Land Vehicle Mayday Reporting Interface | September 1999 |
| J2353 | Advanced Traveler Information Systems | Data Dictionary for Advanced Traveler Information Systems (ATIS) | October 1999 |
| J2354 | Advanced Traveler Information Systems | Message Sets for Advanced Traveler Information System (ATIS) | February 2004 |
| J2364 | Safety And Human Factors | Navigation and Route Guidance Function Accessibility While Driving | August 2004 |
| J2365 | Safety And Human Factors Committee | Calculation of the Time to Complete In-Vehicle Navigation and Route Guidance Tasks | May 2002 |
| J2366/1 | ITS - Data Bus | ITS Data Bus - Idb-C Physical Layer | November 2001 |
| J2366/2 | ITS - Data Bus | ITS Data Bus - Link Layer | November 2001 |
| J2366/4 | ITS - Data Bus | ITS Data Bus - Thin Transport Layer | March 2002 |

## SAE Standards                                   http://www.sae.org/

| Document No. | Issuing Committee | Title | Publication Date |
|---|---|---|---|
| J2366/7 | ITS - Data Bus | ITS Data Bus - Application Message Layer | April 2004 |
| J2367 | ITS - Data Bus | ITS Data Bus Gateway Reference Design Recommended Practice | Work in Progress |
| J2368 | ITS - Data Bus | ITS Data Bus Conformance Testing Standard | Work in Progress |
| J2369 | In Vehicle Systems Interface | Standards for Atis Message Sets Delivered Over Reduced Bandwidth Media | March 2000 |
| J2395 | Safety And Human Factors | Its In-Vehicle Message Priority | February 2002 |
| J2396 | Safety And Human Factors | Definitions and Experimental Measures Related to the Specification of Driver Visual Behavior Using Video Based Techniques | July 2000 |
| J2399 | Safety And Human Factors | Adaptive Cruise Control (Acc) Operating Characteristics and User Interface | December 2003 |
| J2400 | Safety And Human Factors | Human Factors in Forward Collision Warning Systems: Operating Characteristics and User Interface Requirements | August 2003 |

## APTA Standards                                   http://www.apta.com/

| Document No. | Title |
|---|---|
| TCIP-S-01 3.0.0* | APTA Standard for Transit Communications Interface Profiles (Volume I – IV) |

**\* TCIP Version 3.0.0 was approved by APTA except for the Fare Collection Business Area.**