

ITS Standards for Transit

Update & Canadian Context of TCIP

William Johnson, Chair, SCC/ISO/TC204

ITS in Transit Workshop

Montreal, Quebec

November 11, 2004

Acknowledgements

- ◆ Joint Workshop on ITS Transit Standards
ISO/TC204 and Translink
Burnaby, Vancouver B.C.
May 18, 2004

*- Overview of WG8 & ITS Transit
Standards by Paula Okunieff, S&S Inc.*

Reference:

<http://www.itscanada.ca/standardscommittee/TransitStandardsWksp.htm>

Why ITS Standards?

- ◆ To enable “plug and play” operation
- ◆ To enable interoperability between transit subsystems and systems
- ◆ To reduce costs of production
- ◆ To decrease time to develop and deploy new technologies
- ◆ To build on established practice

Who Develops ITS Standards?

- ◆ ITS Standards are developed by accredited Standards Development Organizations (SDO) with:
 - volunteer participants
 - representation from all stakeholders and who:
 - follow a document/ballot procedure

Who Develops ITS Standards?

- ◆ ITS Standards for Transit are specialized
- ◆ USA has designated APTA to develop ITS standards for transit (i.e. TCIP)
- ◆ Canada has elected to use ISO/TC204
 - cooperative effort by 23 countries
 - builds on work underway
 - fosters global markets with lower costs

ISO Technical Committee 204

- ◆ ISO is an international consortium of National Standards bodies e.g.
 - Standards Council of Canada
 - American National Standards Institute
- ◆ ISO Technical Committee 204 is for ITS
- ◆ ISO/TC204/Work Group 8 is for Public Transport/Emergency services

ISO/TC204/WG8 Public Transport

Member Countries

- ◆ Canada
- ◆ USA
- ◆ Norway
- ◆ UK
- ◆ France
- ◆ Germany
- ◆ Korea
- ◆ Japan
- ◆ Australia



ITS Standards for Transit

- ◆ Transit functions that use ITS standards:
 - information for travellers
 - control of operations
 - enforcement for safety
 - payment systems

ITS Standards for Transit

- ◆ Given an ITS Architecture, standards define the interfaces between elements.
- ◆ The interfaces are defined by:
 - protocols
 - data definitions
 - message sets
- ◆ Need a Business case & Sponsorship

ISO Standards for Transit

- ◆ Standard Numbering System for Public Transport Stops
- ◆ Public Transport Vehicle Area Network
- ◆ Public Transport Communications Interface Profiles (TCIP)
- ◆ Pre-emption & Prioritization Signal Systems for Emergency and Public Transport Vehicles (PRESTO)
- ◆ Interoperable Fare Management System

Standard Numbering System for Public Transport Stops

- ◆ Description: A unique, human understandable global identifier for every public transport stop worldwide
- ◆ Source: Initially proposed by Australia
- ◆ Lead: Korea
- ◆ Status: reactivated 2004 as New Proposal

Public Transport Vehicle Area Network

- ◆ Description: In-vehicle local area network message exchange & data definitions
- ◆ Source: Based on SAE J1708/J1939 with hi-speed option added
- ◆ Lead: USA
- ◆ Status: Under consideration as new Work Item

Public Transport Communications Interface Profiles (TCIP)

- ◆ Description: Data dictionary and message sets to enable data exchange among public transport subsystems
- ◆ Source: USA standards program
- ◆ Lead: USA
- ◆ Status: On hold pending copyright agreement with APTA; CD ballot expected in 2005

Public Transport Communications Interface Profiles (TCIP) - *publications*

- ◆ Framework Document
- ◆ Standard on Common Public Transport
- ◆ Standard on Incident Management
- ◆ Standard on Passenger Information
- ◆ Standard on Spatial Representation
- ◆ Standard on On-Board Objects
- ◆ Standard on Control Centre Objects
- ◆ Standard on Fare Collection Business Area

Pre-emption & Prioritization Signal Systems

- ◆ Description: Data dictionary and message set for transit signal priority requests
- ◆ Source: Current research priority in several countries
- ◆ Lead: Japan
- ◆ Status: Approved for CD ballot 2004

Interoperable Fare Management System

- ◆ Description: Model architecture for fare management system
- ◆ Source: Joint Work Item based on CEN
- ◆ Lead: UK
- ◆ Status: Discussed in 2 workshops and adopted as Preliminary Work Item 2003

Summary

- ◆ ITS Standards are under development for Public Transport systems
- ◆ Canada has elected to work through ISO to develop ITS standards for transit
- ◆ TCIP standards are under development by APTA in the USA and are under consideration for adoption as an ISO standard

Thank You!

Contact for further information:

Author/Presenter:

William Johnson

Chair, Canadian Advisory Committee for ISO
Technical Committee 204, Standards Council
of Canada

Telephone: 613 797-1489

E-mail: johnswf@attglobal.net