Intelligent Transportation Systems Specifications, Standards, And Device Approval Update

Overview

• Project History and Evolution
• Review of Current ITS Specifications
• Project Monitoring/Involvement/Feedback
• Specifications and Product Approval
• Ongoing Development, Refinement, and future plans.
History and Evolution

• Multi-year, ongoing effort
• Specification Development Project Goals
  – ITS “Mainstreaming”
    • Standard Specifications for Road and Bridge Const.
    • Design Standards
    • PPM Content
    • Pay Item Development
  – Equipment Interoperability, Interchangeability
  – Consistency
  – Quality, reliability
  – ITS Product Approval (APL)

History and Evolution

• Project phases
  • Identification/Prioritization
    • Assessment of current deployments
    • Identification of commonly Deployed Devices
    • Functional Groupings
  • Development/refinement of Guiding Principles
    • Functionality vs. Form
    • Proven performers
    • Support of applicable standards
    • SunGuide™ compatibility
History and Evolution

• Project phases
  • Draft Creation/Review
    • SSRBC Style
    • Product Approval language/considerations
    • Multiple internal/external reviews
      – FDOT, FTBA, Manufacturers, etc.
      – Comment/response database
      – FDOT ITS Specifications Review Committee

• Release and Implementation
  • Initial releases in July 2006 Workbook
  • Supplemental Specifications – “780 Series”

Currently Released Specifications

• Section 780
  Intelligent Transportation System (ITS) – General Requirements

• Section 781
  Motorist Information Systems
  – 781-1 Dynamic Message Sign
  – 781-2 Highway Advisory Radio
  – 781-3 Road Weather Information System

• Section 782
  Video Equipment
  – 782-1 CCTV Camera
  – 782-2 Video Display Equipment
Currently Released Specifications

• Section 783
  Fiber Optic Cable and Interconnect
  – 783-1 Fiber Optic Cable
  – 783-2 ITS Fiber Optic Connection
  – 783-3 ITS Fiber Optic Connection Hardware
  – 783-4 ITS Conduit
  – 783-5 ITS Pull Box for Fiber Optic
  – 783-6 ITS Splice Box for Fiber Optic
  – 783-9 ITS Locate System Electronic Equipment

• Section 784
  Network Devices
  – 784-1 ITS Managed Field Ethernet Switch
  – 784-2 ITS Device Server
  – 784-3 ITS Digital Video Encoder with Software Decoder
  – 784-4 ITS Digital Video Decoder

• Section 785
  Infrastructure
  – 785-1 ITS Pole
  – 785-2 ITS Field Cabinet
  – 785-3 ITS Equipment Shelter

• Section 786
  Vehicle Detection & Data Collection
  – 786-1 Microwave Vehicle Detection System
  – 786-2 Video Vehicle Detection System
  – 786-3 Magnetic Traffic Detection System
  – 786-4 Acoustic Detection System

• FDOT Specifications Office Website: www.dot.state.fl.us/specificationsoffice
Monitoring/Involvement/Feedback

- Monitoring use and General Support
  - Technical Review and District Support
    - Modified Special Provision Requests
    - Pay Item Requests
    - Content Clarification
- Comment Solicitation
  - Designers
  - End-User Agencies
  - Manufacturers
- Equipment Review Process
  - Approved Product List (APL) Evaluation
  - Traffic Engineering Research Laboratory (TERL)

Product Approval

- Florida Statute 316.0745

- FDOT Approved Product List (APL) relies upon specifications for product evaluation
ITS APL Product Evaluation

• Responsibility of the Traffic Engineering Research Laboratory (TERL)
• Servers, Network, with combination of Actual Field Devices and Simulators

ITS Device Approved Product List

• Approved ITS products listed online
http://www.dot.state.fl.us/TrafficOperations/Traf_Sys/ITS%20APL/TemporaryITSAPL.htm
ITS Device Approval Process

Step 1
Vendor requests device to be listed on the APL.

Step 2
Vendor passes FDOT-APL Quality Assurance Standards Evaluation.

Step 3
Device passes FDOT-APL Device Specifications Evaluation.

Step 4
Device is listed on the FDOT-APL.

ITS Device Approval Process

- Device Reviewed against Specifications
  - Compliance Matrix submitted by manufacturer and verified by TERL.
Ongoing Development and Refinement

• Feedback loops for improvement
  – Approval Process and Device Evaluation
    • Experience during device evaluation used to improve specification content.
    • Manufacturers are typically quick to offer opinions on content.
    • Product Evaluation teams critical of content from the standpoint of having to defend engineering merit of certain requirements from time to time.
  – MSP Requests and reviews of Project Requirements
    • Project and District needs identified and weighed against existing specification content.
    • Similar requests from multiple independent sources trigger action.
  – Continuous internal review during revisions and/or use as basis for other documents and procedures
    • Compliance matrices

• ITS Specifications Under Development
  – Arterial Dynamic Message Signs
  – Variable Speed Limit Signs

Where to find information...

• ITS Specifications

• ITS Product Approval
  http://www.dot.state.fl.us/TrafficOperations/Traf_Sys/Traf_Sys.htm

• Design Standards
  http://www.dot.state.fl.us/rddesign/DesignStandards/Standards.htm

• Basis of Estimates
  http://www.dot.state.fl.us/estimates/BOE/BOEonline.htm

• Plans Preparation Manual
  http://www.dot.state.fl.us/rddesign/PPMManual/PPM.htm
Questions?

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