

## **Draft** MINUTES

### COMBINED ATMS DATA DICTIONARY (TMDD) and MESSAGE SET FOR EXTERNAL TMC COMMUNICATION STEERING COMMITTEE MEETING

Atlanta, Georgia  
October 18 - 19, 2001

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#### **I. Welcome, Introduction and Review Agenda – Jim Wright**

Chair Wright welcomed the members of the committee and started the round of self introductions.

9 of the 15 TMDD committee members were present.

#### **II. General Progress/Status Report – Les Jacobson**

Les Jacobson summarized progress since the June meeting in Baltimore. The two action items from that meeting were reviewed:

- Farhad Pooran and Charlie Berger completed the disposition of comments table for comments received during last Spring's public comment period on the TMDD and MS/ETMCC.
- John Wintermute modified the expedited message set proposal and submitted it to ITE. James Cheeks used that as the basis for ITE's proposal to FHWA.

Les provided the status report. In addition to the two items reported above, there was continued effort on the data registry and harmonization. All of these were reported on and discussed later in the meeting.

#### **III. Organization Reports**

James Cheeks provided the ITE report.

- There is interest from agencies in using TMDD and ADUS. ITE is asking those agencies to participate in TMDD.
- The AASHTO standards oversight committee has gotten good input on their review of the standards program.
- ITE is working on a standards process to move more quickly. They have established deadlines for internal review process.

- ITE appreciates the volunteer efforts of the committee members. ITE and AASHTO need volunteer participation. If anyone has any concerns over the way the process is being managed, they should let James or Bo know so those concerns can be addressed.

Bo Strickland provided the AASHTO report.

- AASHTO re-appointed Joe Stapleton and Jim Pursell to committee.
- AASHTO testified to Congress on ITS early in September. Commissioner Tinklenberg's comments were very positive toward ITS standards and ITS overall. His testimony was part of the re-authorization process. There appears to be some support in Congress for continued ITS funding.
- At the ATS subcommittee meeting, they re-engineered the Standards Oversight Committee. They dropped the word "development" from the title. They added 3 members to represent NTCIP (Ed Seymour), TMDD (Jim Wright), and ATC (Al Kosik).
- AASHTO thanks the committee volunteers for their efforts. They are looking for some way to officially show appreciation.

James Cheeks provided a brief update on the IEEE Incident Management effort.

- On October 24, the IM working group has a meeting with JPO.
- James met with Dave Helman to discuss coordination with the IM group and the new message set work.

Joel Markowitz provided an update on the SAE ATIS effort.

- They are about ready to go forward to Division ballot on the revision that includes the ITIS list.
- They have funding to do their new work, including the ATIS Guide.
- They haven't figured out how to synch back with the transit standards.
- There has been discussion of how 511 relates to ATIS standards. The 511 coalition will include using appropriate standards in their guidelines. There will be an informal comment period for the guidelines. On March 21 and 22, there will be a 511 Launch event in Phoenix.

Charnita Wilson provided an update on the National Architecture effort to incorporate the Maintenance and Construction Operations User Service.

- They are still in the process of updating architecture flows and information flows for the Maintenance and Construction Operations (MCO) User Service. There will be new subsystems and terminators.
- There are four new functional areas – maintenance vehicle fleet management, roadway management, work zone management, and conditions and work plan dissemination.
- The new MCO entities include MCO users, MCO centers, MCO vehicles, and MCO roadside assets.
- There are new interfaces, including fleet management, roadway maintenance, and work zone management.
- More information can be found at the website: <http://www.its.dot.gov/arch/arch.htm>.
- There will be an interim program review on November 7. MCO will be included in an updated architecture version 4. It will be available on the website in February, 2002 and on CD-ROM in April 2002.
- The MCO user service will have an impact on TMDD work. TMDD may need more data elements and messages.

There was a question about additions to the architecture regarding security. There have been discussions about adding response to disasters under emergency management and it will include evacuation.

Charnita will continue to update this committee on the status of the National ITS Architecture.

#### **IV. TMDD and standards training**

A substantial amount of training has been accomplished since our last meeting. The training schedule is on the ITE website, under standards. James Cheeks asked that committee members let people in their organizations know about the training courses. The schedule is getting set for next year (2002). The target is 100 course offerings. ITE still has some flexibility in location. They want to help meet the needs of the local areas.

A committee member asked if there are enough qualified instructors for 100 courses. ITE is looking for new instructors. They have enough instructors for at least the first half of the year. There will be a train the trainer course for new instructors as well.

## **V. Update on Project to Expedite Message Set**

**Current status** – ITE has gone through two submittals of the project plan and received some comments. FHWA wants to make sure that the message set work is coordinated with the CORBA effort. ITE has answered all of FHWA's questions. The proposal is more detailed than past program plans. This effort will require more coordination and it will require a greater time commitment from committee members. It is important that committee members keep up to speed on the work and send information out to their organizations. ITE will need timely reviews. The committee will need 3 additional meetings over the course of the work, one of which may be a teleconference.

**Process to get consultants on board** – ITE will contract in the way they normally do. ITE hopes to be ready to start work by the first of the year, with consultants on board. ITE is working with FHWA Contracts to speed approval after they get approval from JPO.

**Current scope of the proposal** – The current scope is similar to what was presented to committee in June. There have been some clarifications and modifications to the text, but no substantial changes. Version 3 should be done this week and sent to FHWA by Monday, October 22. A committee member asked if the committee will be able to see the current version of the proposal.

FHWA review of the expedited TMDD work was incorporated with the other 4 expedited proposals. The proposals were sent to FHWA field offices. There was a meeting in mid-September to go through all comments. The biggest slow down in the process is that the TMDD proposal has been caught in the review of the other 4 and the time it takes for FHWA to review all of the proposals. The biggest question that needed clarification was on coordination with CORBA work. The proposal will highlight formal coordination with other standards efforts.

Mitretek's goal is to have their review done by end of the week and forward to JPO by Monday, October 22.

Deployment assistance was removed from proposal, but more was added on outreach.

## **VI. Disposition of Comments**

The committee discussed how to deal with disposition of comments from the Spring 2001 public comment period. This is the first step in modifying the standard. We will try to get a sense from the committee of whether the consultants are on the right track. Then the standard will be updated and re-balloted.

The committee discussed how to get the work accomplished. The fastest way to get the standard modified is to go where the money is. There may be ways to get the standard updated through alternative resources. It's critical to the center-to-center effort that the message set gets updated. A committee member asked if the center-to-center consultant should make the changes determined by the expedited work.

The committee discussed how best to accomplish changes to the message set that were suggested in the review comments. The options presented were:

- Keep all the effort in the expedited work.
- Contract with someone to address comments. Part of this work would be to input the existing messages and modifications in a database that the expedited work team will be using. The database would be turned over to the contractor who does the expedited work. This option would allow us to move expeditiously to address comments and continue the ballot process. This effort would not affect the proposal for the expedited work
- Keep the work moving with existing contractor

If we want to look at alternative resources, the committee needs to act on this quickly. The committee discussed the alternative approaches. A suggestion was made to move forward independently of the expedited message set process. Farhad will look into using Dave Kelley's tool and estimate the level of effort for using that for the database development. We'll re-visit this tomorrow to make a decision.

## **VII. Discussion of Project to Expedite Message Set**

There was a question of how to output the message set into ASN.1. A suggestion was made that we use data registry to coordinate with the other standards organization. The output will be in ASN.1.

There was concern over level of coordination with other standards effort. Joel Markowitz wants to make sure that there are formal review processes with other committees. The contract will cover the coordination needed.

## **VIII. Continuation of Disposition of Comments**

There were 110 comments from the Spring 2001 comment period, 98 on the message set and 12 on TMDD. Ten organizations provided comments.

The comments could be classified as general comments (definitions and clarifications, valid value rule), suggested modifications (change descriptive names, data element specific comments), suggested new data elements, TMDD and NTCIP (device control), section 4 data elements, and additional comments.

Farhad walked through each category of comment for the committee.

## **IX. Future Meetings**

- A. February 7 and 8, 2002 in Las Vegas

B. May 15 and 16, 2002 in Chicago

## **X. Discussion on Disposition of Comments**

Comments from committee are due within 2 weeks.

## **XI. ADUS**

The Archived Data User Service standard will be an ASTM standard. James Cheeks would like suggestions for committee members. There will be 2 meetings a year. The ADUS work will follow the work of TMDD. AASHTO has identified 2 nominees and ITE will identify 2 as well. James expects that a family of standards will be developed, but they'll start with committees for developing a guideline for archived data standards and traffic data.

Chair Wright recessed the meeting.

## **TMDD Meeting October 19, 2001**

Chair Wright called the second day of the meeting to order.

## **XII. Data Registry Issues**

Les Jacobson discussed some Data Registry issues that have surfaced

The Users Guide to the ITS Data Registry will provide guidance on how to fill out:

- Descriptive name
- Classification Scheme
- Registrar & Submitter organization
- Descriptive name context
- Definition
- ASN.1 name
- Data type
- (plus some others)

Conformance with guidance is required for before a data concept can be promoted above the recorded level. The exact requirement of the format for the meta-attributes is in a state of flux. The IEEE 1488/1489 committee suggested some changes to those standards. In addition, ISO has an effort to standardize data dictionaries and message sets internationally (ISO 14817). The latest proposed ISO 14817 standard would require the Data Element Descriptive Name to take the following form:

**EntityTypeTerm.propertyTerm:value-domain-term**

The existing TMDD descriptive names take the form:

**ENTITY\_PropertyTerm\_value-domain**

The characteristics of the 14817 Entity Type Term are:

- One or more words
- Quickly convey essential meaning
- Each word shall start with an initial upper-case letter followed by lower-case letters
- Words shall immediately follow one another without any space.
- Hyphens only when their absence may cause confusion
- Second part of the hyphenated word start lower-case
- Maximum length - 64 characters

The characteristics of the 14817 Property Term are:

- One or more words
- Quickly convey essential meaning
- If multiple instances → plural form of a noun; otherwise in singular form
- Initial word → all lower-case letters
- Subsequent words start with upper-case letter followed by lower-case letters
- Words immediately follow one another without any space
- Hyphens shall never be used in the first word, only in subsequent words when absence may cause confusion
- Second part of the hyphenated word shall start lower-case
- Maximum length - 64 characters

The characteristics of the 14817 Value Domain Term are:

- One or more words
- Quickly convey essential meaning
- Words all lower-case letters with hyphens separating
- First word from Annex in order to identify the general category of value domain
- Remaining words uniquely characterize specific value domain
- Maximum length - 32 characters

The proposed ITS Data Registry Rules, based on the proposed 14817 standard, is to generally accept the Entity and Property terms. For Value Domain term:

- Value domain term need not include text that "uniquely characterizes the specific value domain" if other fields in the ITS Data Registry convey that information.

Examples of the impact of these changes are:

*CONTACT\_EmailAddress\_text → Identity.emailAddress:text128*

*CONTACT\_PagerId\_text → Identify.phoneNumber:PhoneNumber*

LRMS Data Concepts have been added to the Data Registry. Data elements and data frames are included for:

- Global
- Geometry Profile
- Geographic Coordinate Profile
- Linear Referencing Profile
- ISP-Vehicle Profile
- Address Profile
- Public Grid Profile

The Configuration Control Committee for the Data Registry also determined that "In-Line" definitions were poor practice and should be avoided. The message should not include a full list in multiple places within a message. There are several MS/ETMCC messages that have in-line definitions. For example:

```
SituationElementRelatedLocation ::= SEQUENCE
{
  event-location-qualifier      ENUMERATED
  {
    proposed-detour             (0),
    confirmed-detour            (1),
    destination-of-detailed-detour (2),
    alternate-destination       (3)
  },
  related-location-reference    LocationReference
}
```

```
SomeOtherMessage ::= SEQUENCE
{
  event-location-qualifier      ENUMERATED
  {
    proposed-detour             (0),
    confirmed-detour            (1),
    destination-swapped-numebrs (3),
  }
}
```

```

        alternate-destination-typo    (4),
        some-other-code              (5),
    },

```

The preferred approach is:

```

Event-location-qualifier      ENUMERATED -- this is the one true place
defining the lists
{
    proposed-detour           (0),
    confirmed-detour          (1),
    destination-of-detailed-detour (2),
    alternate-destination      (3)
}

```

```

SituationElementRelatedLocation ::= SEQUENCE
{
    event-location-qualifier      Event-location-qualifier -- this then refers to it
    related-location-reference    LocationReference
}

```

```

SomeOtherMessage ::= SEQUENCE
{
    event-location-qualifier      Event-location-qualifier,
}

```

The effects on TMDD and MS/ETMCC of these discussions are that the descriptive name and ASN.1 changes would affect every data element and each one would need to be changed and the changes re-balloted. An alternative is to leave the standard as is and handle the discrepancies in the Data Registry only. For the LRMS, we need to review the TMDD location elements to determine how to use the LRMS data concepts. Finally, the messages with “in-line” definitions need to be changed.

The last data registry issue is how one FADD should refer to a data element in another FADD. The suggestion is to use the descriptive name in the message and then have a standard way to point to the other FADD. For example, if a FADD wanted to refer to a TMDD data element, it could do so as follows:

```

CarDef ::= SEQUENCE of a whole bunch of stuff about a car, it owner etc...
TwoCarAccident ::= SEQUENCE {
    partyOne    CarDef, -- TMDD1999::CarDef:frame
    partyTwo    CarDef,
    other useful data as needed.... , ... }

```

The owning FADD would add the referring FADD name to “View” field of the data element in the data registry.

### **XIII. HRI**

James sent an e-mail out on HRI. There is an effort to develop standards between the wayside devise and ATC. Committee members should review and send comments to James.

### **XIV. Forward Plan**

The committee discussed the impact of the new message set work on the committee's plans for the future.

Chair Wright adjourned the meeting.