

TMDD V 3 User Needs Workshop

August 11, 2006

1 Introduction

This is an open invitation and agenda for the upcoming *TMDD V4 User Needs Workshop* Scheduled for September 26-27, 2006.

The TMDD version 2.1, which was completed in 2004, represented the user needs and requirements collected through deployer experience, discussions within the TMDD steering committee members, and the work of the contractor hired to expedite the effort. While Version 2.1 was only finalized recently, this standard has been available for consideration and use since late 2004. We are now embarking on the development of Version 3 which is intended to be an update to Version 2.1 based on deficiencies previously known or discovered during deployment, with expansion to support the CLARUS and ADUS programs/initiatives.

A User Needs Workshop will be held at ITE Offices¹ in Washington DC on September 26-27, 2006. This note provides the following information regarding the workshop:

- Workshop objectives
- Agenda
- Meeting Information
- Reference Materials
- Requested input from presenting organizations/ agencies/ or individuals
 - Written Inputs
 - Presentation Materials

2 Workshop Objectives

The objectives of the User Needs Workshop are to identify:

- New or modified needs (and requirements) needed to support the CLARUS and ADUS programs/initiatives
- New or modified needs, requirements, or messages relating to deployment efforts that are on-going throughout the county

While the workshop will focus on user needs, which is the first aspect of the TMDD Standard to be updated, needed changes to requirements and to implementation specifics (e.g. messages and data elements) will also be discussed. The general format for the workshop will be for stakeholder representatives to give a presentation of the user needs (and/ or requirements) they would desire to have modified or added to the TMDD V3. After each stakeholder's presentation, there will be a general question and answer period to help clarify *need* definitions (statements of need) and other requested changes to the specification. It is acknowledged that many of the participants have already developed needs, requirements, and for deployments, design materials. However, only some of these may be relevant to the information exchange needs captured in the

¹ Please note that the exact location within Washington DC may be changed based on the number of people who plan to attend this workshop. Everyone who responds to the ITE (TMDD@ite.org) indicating plans to attend, will be notified of the final meeting location – which will be either at the ITE offices or nearby.

TMDD. One of the purposes of this workshop is to have stakeholder participants summarize these most relevant needs.

3 Draft Workshop Agenda

Day 1		
Item	Who	Time- Day 1
Introductions, Rules, Workshop Format	ITE/AASHTO Rep	8:30 am
TMDD Project Background and History	TMDD Chair	9:00 am
Summary of TMDD V 2.1 User Needs and Plan for V3.0 Update	TMDD Consultant	9:15 am
Break		10:15 am
Presentation – TRANSCOM Deployment TMDD User Needs, Requirements, Design/Implementation Issues	TRANSCOM Rep	10:30 am
TRANSCOM Q&A	All	11:15 am
Lunch		11:45 pm (30 min) ²
Presentation – CARS Deployment TMDD User Needs, Requirements, Design/Implementation Issues	CARS States Rep.	12:15 pm
CARS Q&A	All	1:00 pm
Break		1:30 pm
Presentation - CLARUS TMDD User Needs	CLARUS Rep.	1:45 pm
CLARUS Q&A	All	2:45 pm
Presentation – FDOT & TxDOT Deployment TMDD User Needs, Requirements, Design/Implementation Issues	FDOT / TxDOT Rep.	3:15 am
FDOT & TxDOT Q&A	All	4:00 am
Other Integrator/Agency	TBD	4:30 pm
Adjourn- Day 1		5:30 pm
Day 2		
Item	Who	Time- Day 2
Review of new Needs/ Requirements from the previous day	TMDD Contractor	8:30 am
Presentation - ADUS TMDD related User Needs	ADUS Rep	9:00 am
Break		10:00 am
ADUS Q&A	All	10:15 am
Additional Areas of Discussion	All	10:45 am

² This will be a working lunch – 30 minutes is allowed to select sandwiches, drinks, etc. so we can reconvene after 30 minutes.

Wrap-up Next Steps	TMDD Chair, TMDD Consultant	11:30 am
Adjourn		12:00 pm

4 Meeting Information

This section will describe meeting location, hotels, registration and other details/logistics regarding the meeting.

ITE will finalize the arrangements for the meeting and publish the same to the TMDD list serve and the steering committee in the next two weeks.

5 Reference Materials

The following documents are reference materials for attendees at the workshop. These documents are all available on the ITE web site: <http://www.ite.org/tmdd/>.

- ❑ Standards for Traffic Management Center to Center Communications Volume I: Concept of Operations and Requirements
- ❑ Standards for Traffic Management Center to Center Communications Volume II: Companion Annexes
- ❑ TMDD and MS/ETMCC Guide
- ❑ Project Management Plan for Traffic Management Data Dictionary and Message Sets for External Traffic Management Center Communications (TMDD MS/ETMCC) Version 3.0
- ❑ System Engineering Management Plan for Traffic Management Data Dictionary and Message Sets for External Traffic Management Center Communications (TMDD MS/ETMCC) Version 3.0

The first three documents represent the current version of the TMDD and a guide for its usage. The final two documents are the first outputs of the TMDD V3.0 effort and provide a description of the project and system engineering process that will be followed for the development of the standard update.

In preparation for the User Needs Workshop, the ITE requests that the TMDD Committee members review the documents to become familiar with the current standard and with the planned update approach. All participants should review the first three documents in preparation for this workshop.

6 Requested input from presenting organizations/ agencies/ or individuals

The agenda has been developed to provide the opportunity for deployers, the Clarus initiative, and the ADUS standards effort to provide input to the development process. In order for this input to be useful to the update team, we request the following be written and presentation inputs discussed below be provided.

6.1 Written Input

For the Clarus and ADUS efforts:

- Electronic documentation describing the additional user needs/ requirements relating to their efforts. In order to make sure your needs/ requirements are incorporated into TMDD, we request that each of these efforts identify specifically where new needs/ requirements are necessary. Please refer to the current outline for needs/ requirements (given in summary below and in detail in the referenced TMDD V 2.1 Volume 1), in defining where new or modified needs/ requirements exist.

From Deployment efforts

- Electronic documentation describing the new or modified user needs, requirements, or implementation details (messages, data frames, or data flows) relating to your efforts. In order to make sure your needs/ requirements/ implementation changes are considered for the TMDD update, we request that each deployment effort identify specifically where the deficiencies exist within the current version and the new or modified needs, requirements, or implementation details that are necessary to correct the deficiencies. Please indicate if you believe the change is within the current scope of TMDD (defined in section 2 of the referenced TMDD V 2.1 Volume 1) or requires an expansion of the current scope. Please refer to the current outline for needs, requirements, or implementation in defining where new or modified needs/ requirements / implementation details exist. A summary of the needs and requirements outline is provided below and can be found in detail in the referenced TMDD V 2.1 Volume 1. Where changes are suggested to current implementation, please provide a discussion of the deficiency that currently exists and whether this should be corrected by changes to user needs, requirements, or implementation.

We request that written input be provided either during the workshop but no later than September 29, 2006 to be considered in the development of V3.

6.2 Presentations at the Workshop

For the Clarus and ADUS efforts, please use the following outline for your presentation at the workshop:

- Description of scope of effort and relation to existing scope of TMDD.
- Discussion of suggested changes to TMDD user needs with consideration of how these needs fit within current set of user needs
- Discussion of suggested new or modified requirements needed to meet the defined user needs, with consideration of how these requirements fit within current set of requirements.

For deployment efforts, please use the following outline for your presentation at the workshop:

- Description of deployment effort and aspects of current TMDD which were a part of the effort
- Discussion of deficiencies of current TMDD with regard to scope, user needs, or requirements, along with suggested changes to address these deficiencies. Are there

specific user needs, or requirements the current version does not address that you feel it should? What specific scope changes do you suggest for the TMDD?

- Discussion of problems encountered in TMDD implementation (messages, data frames, and data elements) and suggested modifications or additions to correct the problems.

It is important that participants help us identify the **weaknesses** and/or **problems/issues** with version 2.1; there was a great deal of thought and effort that went into the development of version 2.1, including committee review and comment; feedback on the problems is very important to the development of V3.

We ask that the presentations be directed to conform to the outline discussed above. It is hoped that the presentations will address the shortcomings of the existing standards including missing concepts, requirements, messages, etc. that need to be added to, modified, or enhanced (refined) for the development of Version 3.0.

7 Open Invitation

The TMDD Requirements Workshop **is open to anyone wishing to contribute input to this effort**. While we have identified specific programs which will be presenting at the workshop, we encourage any agency, integrator, or other standards working groups with relevant development/deployment experience to join this workshop, provide written material, and present your material in a manner consistent with the above. Please notify the ITE workshop planners at TMDD@ITE.ORG as soon as possible to indicate your desire to participate and/or present. We will endeavor to provide time for all interested parties as the schedule has some additional time for the discussion of existing deployments.

The schedule for the completion of V3 is very aggressive; if you cannot participate at the workshop but wish to provide written material for use in the update to this standard, please ensure that such material is received by ITE no later than September 29, 2006. If you send material prior to the workshop, that material will be included in the discussions during the workshop.

We request that if you have an interest in the development of this standard and/or feel there are problems with the current version, we ask that you voice those opinions now so that they can be considered and discussed at the workshop and included in the initial development of V3.

The development of the TMDD will conform to the ITS consensus based standards process; the TMDD committee meetings are open for attendance by any interested party. If you want to participate, please notify the ITE at TMDD@ITE.ORG to be added to the list for receipt of meeting notices and working documents. Again, we ask that you indicate your desire to participate early in this process so that we can include your input throughout the development. Please do not wait until the documents have been fully developed to voice your views; while the development process will provide opportunity to comment as the documents near completion, we would appreciate your input much earlier to avoid costly re-writes and delays.

8 Outline of User Needs in TMDD Version 2.1

Please use this outline in referencing where additions, changes (or deletions) need to be made to the user needs.

3.0 SUPPORTED OPERATIONS

3.2 User Need to Manage Assets and Other Entities

3.2.1 Provide Inventory Sharing

3.2.2 Provide information on Agencies, Centers, Systems and Users

3.2.2.1 The Need for Agency Information Sharing

3.2.2.2 The Need for Organization Information Sharing

3.2.2.3 The Need for Contact Information Sharing

3.3 User Need to Manage Information

3.3.1 Share Current Event Information

3.3.1.1 The Need for Current Event Information

3.3.1.2 The Need for Event Action Log Information

3.3.1.3 The Need for Event Recap

3.3.2 Share Planned Event Information

3.3.2.1 The Need for Planned Event Information

3.3.2.2 The Need for Planned Event Action Log Information

3.3.2.3 The Need for Planned Timeline Schedule Information

3.3.2.4 The Need for Planned Event Recap

3.3.3 Share Forecast Event Information

3.3.3.1 Share Forecast Weather Events

3.3.3.2 Share Forecast Road Conditions

3.3.3.3 The Need for Forecast Event Information

3.3.3.4 The Need for Forecast Event Action Log Information

3.3.3.5 The Need for Planned Timeline Schedule Information

3.3.3.6 The Need for Forecast Event Recap

3.3.4 Provide Traffic Network Data

3.3.4.1 The Need for Network Inventory Information

3.3.4.2 The Need for Node Inventory Information

3.3.4.3 The Need for Link Inventory Information

3.3.4.4 The Need for Node Status Information

3.3.4.5 Link Status Request

3.3.4.6 The Need for Link Data Sharing

3.3.5 Provide Traffic Detector Data

3.3.5.1 The Need for Detector Inventory Information

3.3.5.2 Detector Status Request

3.3.5.3 The Need for Detector Data Sharing

3.4 User Need for Status and Control of Traffic Devices

3.4.1 Provide Information on the Status of Traffic Devices

3.4.2 Provide Control of Traffic Devices

3.4.2.1 Preconditions

3.4.3 Provide CCTV Camera Status and Control

3.4.3.1 The Need for CCTV Inventory Sharing

3.4.3.2 The Need for CCTV Status Sharing

3.4.3.3 Processing CCTV Control Transmission

3.4.3.4 Processing CCTV Control Receipt

3.4.4 Provide Video Switch Status and Control

3.4.4.1 The Need for Video Switch Inventory Sharing

- 3.4.4.2 The Need for Video Switch Status Sharing
- 3.4.4.3 Processing Video Switch Control Receipt
- 3.4.4.4 Processing Video Switch Control Transmission
- 3.4.4.5 Setting Video Switch Attributes
- 3.4.5 Provide DMS Status and Control
 - 3.4.5.1 The Need for DMS Inventory Sharing
 - 3.4.5.2 The Need for DMS Status Sharing
 - 3.4.5.3 DMS Control Request
 - 3.4.5.4 Processing DMS Control Request
- 3.4.6 Provide Environment Sensor Data
 - 3.4.6.1 The Need for ESS Inventory Sharing
 - 3.4.6.2 The Need for ESS Status Sharing
- 3.4.7 Provide Lane Closure Gate Control
 - 3.4.7.1 The Need for Gate Inventory Sharing
 - 3.4.7.2 The Need for Gate Status Sharing
 - 3.4.7.3 Capability to Remotely Control Gates
- 3.4.8 Provide Highway Advisory Radio Control
 - 3.4.8.1 The Need for HAR Inventory Sharing
 - 3.4.8.2 The Need for HAR Status Sharing
 - 3.4.8.3 Provide Remote HAR Control
- 3.4.9 Provide Lane Control
 - 3.4.9.1 The Need for Controllable Lanes Inventory Sharing
 - 3.4.9.2 The Need for Controllable Lanes Status Sharing
 - 3.4.9.3 Provide Remote Lane Control
- 3.4.10 Provide Ramp Meter Status and Control
 - 3.4.10.1 The Need for Ramp Meter Inventory Sharing
 - 3.4.10.2 The Need for Ramp Meter Status Sharing
 - 3.4.10.3 Capability to Control Ramp Meter
- 3.4.11 Provide Traffic Signal Control
 - 3.4.11.1 The Need for Signal System Inventory Sharing
 - 3.4.11.2 The Need for Intersection Status Sharing
 - 3.4.11.3 The Need for Section Status Sharing
 - 3.4.11.4 Capability to Control Intersection Signals
 - 3.4.11.5 Capability to Control Sections

9 Outline of Requirements for TMDD V 2.1

Please use this outline in referencing where additions, changes (or deletions) need to be made to the requirements.

4.3 Features

- 4.3.1 Security Data
- 4.3.2 Administrative Information Sharing
- 4.3.3 Events Information Sharing
 - 4.3.3.1 Purpose
 - 4.3.3.2 Defining Events
 - 4.3.3.3 Event Distribution

- 4.3.3.4 Event Information Exchange and Requests
- 4.3.3.5 Event Locations
- 4.3.3.6 Event Functional Requirements
 - 4.3.3.6.2.4 Receive Planned Event Information
- 4.3.4 Device Inventory, Status and Control
- 4.3.5 CCTV
- 4.3.6 Video Switch Functional Requirements
- 4.3.7 Dynamic Message Signs
- 4.3.8 Environment Sensors
- 4.3.9 Lane Closure Gate Control
- 4.3.10 Highway Advisory Radio
- 4.3.11 Lane Control Signals
- 4.3.12 Ramp Meter
- 4.3.13 Traffic Signal Controllers
- 4.3.14 Traffic Network and Traffic Data
- 4.3.15 Traffic Detector Functional Requirements