Meeting Notes

Change Management Board

May 29, 2013 – 1:30 to 4:30 p.m.

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Prepared for:
Florida Department of Transportation
Traffic Engineering and Operations Office
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List of Acronyms

C2C .... Center-to-Center
CMB.. Change Management Board
CO .... Central Office
DMS.. Dynamic Message Sign
FDOT ....Florida Department of Transportation
FHP .... Florida Highway Patrol
FL511 ....Florida Advanced Traveler Information System
FTE..Florida Turnpike Enterprise
GUI .... Graphical User Interface
HD ....High Definition
ITS.. Intelligent Transportation Systems
IV&V .... Independent Verification and Validation
MDX...Miami-Dade Expressway Authority
NTCIP... National Transportation Communications for ITS Protocol
OIS .... Office of Information Systems
OOCEA... Orlando-Orange County Expressway Authority
RITIS ....Regional Integrated Transportation Information System
SAA .... Software Administration Application
SwRI...Southwest Research Institute
TERL ....Traffic Engineering Research Laboratory
TMC...Transportation Management Center
TxDOT ....Texas Department of Transportation
VAS ....Video Aggregation System
WAN .... Wide Area Network
WWD ....Wrong-Way Driver

Attendees:

Aelon Suskey, CO/Atkins	Jason Summerfield, D2/Metric	Jarod Roso, D7/Lucent
Arun Krishnamurthy, CO	Pete Vega, D2	Ramona Burke D7
Clay Packard, CO/Atkins	Mark Nallick, D3	Terry Hensley, D7
Frank Deasy, CO/Telvent	Dan Smith, D4	William Reynolds, D7
Gene Glotzbach, CO	Jeremy Dilmore, D5	Eric Gordin, FTE
Randy Pierce, CO	Alejandro Lopez, D6	John Easterling, FTE
Chris Birosak, D1	Alex Motta, D6	Kelly Kane, FTE
Scott Robbins, D1/HNTB	Charles Robins, D6	Corey Quinn, OOCEA
Vincent Lee, D1/Lucent	Javier Rodriguez, D6	Jessica Baker, OOCEA/MCG
Bill, D2	Joe Snyder, D6/AECOM	John Hope, OOCEA/Atkins
Craig Carnes, D2/Metric	Mark Laird, D6/AECOM	Robert Heller, SwRI
Diana, D2/Metric	Cathie McKenzie, D7/Gannett	Tucker Brown, SwRI
Donna Danson, D2	David Howell, D7/HNTB	

Purpose: The purpose of this meeting was to review and vote on statewide issues and requirements, and review footprints issues.

Welcome and Call for Quorum: Change Management Board (CMB) Chairman Javier Rodriguez opened the meeting at 1:35 p.m. A quorum was established. He briefly introduced the objectives of the meeting.

Previous Meeting Recap and Action Item Review

- *Continue working on outstanding items from November 2012 meeting. CO is working with vendor of HAR to improve the subsystem level through SunGuide to provide a better user experience. CO is having a hard time communicating with vendor but will continue to try and establish communication for improved results.*
- *Districts to provide deployment configuration for number of SQL server licenses needed. CO has received all information from districts.*
- *CO will be conducting meetings with the Districts to identify any needed changes and also training necessary to support the Districts with the ITS architecture. CO developed a draft procedure for Systems Engineering and ITS Architecture. Training opportunities on Systems Engineering to be provided via the web to brush up on knowledge and would like to provide one for ITS Architecture also. A. Krishnamurthy will work with FHWA to provide training on ITS Architecture.*

- *CO to provide cost estimate for proposed low-level SunGuide software/Lonestar harmonization. Will be addressed in agenda item.*
- *G. Glotzbach to coordinate inventory/NH Tags for the FL511 server infrastructure in D7. G. Glotzbach will coordinate.*

AGENDA ITEMS

ITS WAN Update
F. Deasy presented an update on ITS WAN. He noted equipment operational in D1 and D7, will be connecting D3 RTMC's, and FTE RTMC is still in process. Districts should re-address their Multicast devices to resolve any overlapping addresses. D4 is complete and D5 and D6 have committed to readdressing. Not sure status of this effort in D1, D2, D3, D7, FTE and MDX. FL-ATIS and VAS are replacing dedicated circuits with ITS WAN connectivity.

Oracle/MS SQL Server & SunGuide 6.0 Deployment
A. Krishnamurthy offered update on SunGuide 6.0 deployment. He stated FAT was conducted April 22-25th with very few issues. IV&V is currently underway from May 13-June 25th. He noted with the addition of database ID's, C2C schemas are not compatible with R5.1.1 and R6.0. SwRI will produce intermediate workaround to ensure 511 does not have any issues. RITIS will be updated as well. With regard to migration from Oracle to SQL Server, districts shall work with CO when they have decided to no longer continue with Oracle. CO will most likely transfer Oracle licenses to OIS. CO will start coordinating with districts for Oracle license renewal. Microsoft will offer SQL Server Admin training online.

SunGuide and Lonestar (vote)
A. Krishnamurthy stated goal is to unify the code base between SunGuide and Lonestar for easier sharing of code between projects, shared support cost for defects, and share costs for software enhancements. As part of unification process, CO would like to break it down and tackle one issue at a time. First phase is low level architecture and SwRI named it "Phase 0." The common components of Phase 0 for next release include: database, status log, executive handler, and ITS generic (SAA will be migrated to SunGuide and Generic Framework for GUI's). Cost of Phase 0 will be $266,000 with anticipated total cost for software unification around $3-5 million, but costs will be shared between 2 state DOT's. J. Rodriguez asked if the $3-5 million would be shared between the 2 states and A. Krishnamurthy stated yes. P. Vega asked if we could get a MOU with Texas so that if either TxDOT or FDOT has tight budget issues, one does not drop out. A. Krishnamurthy stated both are very invested in process that he didn't think there was a need for a MOU. C. Quinn asked if we would see a return worth FDOT's $2 million investment. A. Krishnamurthy stated he absolutely felt FDOT's return would be worthy of the investment. T. Hensley asked if system was currently being modified with federal money and A. Krishnamurthy stated yes. T. Hensley noted that wouldn't it require a systems engineering document or written agreement with Texas. A. Krishnamurthy stated the systems engineering document is something FDOT has done from day one. C. Birosak asked if TxDOT also has SwRI working on their software and A. Krishnamurthy said yes. He also asked if there was a

chance when contracts were up or renewed that the 2 states might have a different software developer, for example, if SwRI going out of business. A. Krishnamurthy stated that when TxDOT went through the RFP process, 2 vendors were selected for software development, SwRI and ACOM. J. Dilmore asked about the time frame to get to the unified software and how long is it going to take for the investment to be recouped. A. Krishnamurthy stated the unification process should take a few years and he did not want to put a deadline on it. He stated meeting our needs is important and he wanted to use the process to combine user needs. With regard to recouping the cost, the high impact enhancements will be done first thus making the return almost instantaneous. C. Chandler would like to know what cost participation, if any, our non-FDOT SunGuide users are helping out with regard to unification. A. Krishnamurthy noted he hasn't asked any of the users and felt it was wrong to ask because it was not their idea. He said we would like to reduce overall costs and make software process as efficient as possible. C. Birosak asked if Lonestar had a traffic signal controller module. A. Krishnamurthy stated they do not, but noted SwRI has recently done some work on the traffic signal controller using SunGuide.

Vote on "Phase 0" concept of unifying software to share costs and reduce spending.

D1-yes
D2-yes
D3-yes
D4-yes
D5-yes
D6-yes
D7-yes
FTE-yes
CO-yes

Nokia Modification for SunGuide
C. Packard presented slides on Nokia modification for SunGuide. FDOT has need for 3rd party data to fill in detector deployment gaps in rural areas. FDOT has used INRIX data for 2 years for I-10 and part of I-75. FDOT's contract with INRIX expires September 13th and will be replacing INRIX data with Nokia. FDOT will be purchasing statewide data which includes all limited access facilities and arterials including state and local roads. There will be a total of 2,470 center line miles of freeway and 16,546 miles of arterial. Nokia data can be accessed via their website. Their data sources include: GPS, smart phone, consumer sources, commercial sources, and fixed location sensors. SunGuide software enhancement can leverage existing INRIX module with protocol modification. The enhancement would use C2C to input data into SunGuide, use config.xml to configure filters by counties and roadways, and then use system messages to notify users of data feed disruptions. Each SunGuide installation would have their own Nokia Publisher which would retrieve speed and traffic condition data, push data into C2C infrastructure, and SunGuide would then get data from C2C. The C2C links would be displayed on the map just like the TSS links and could be used to calculate travel times. Each TMC could choose which Nokia data links to push to the 511 system. The TMC operator can view Nokia data on the map and uncheck if they do not wish to view on map. TMCs can configure systems to only view arterial data if they are fully deployed along limited access facilities. With regard to

system modifications, a Nokia Publisher module will be built with identical architecture as INRIX publisher. Two roles of modifications are sending system alerts as a data provider (subsystem) for data feed and send traffic data as a C2C plug-in. TMC's can choose which Nokia links to push to the 511 system. The cost to change protocol is $25,000 and will be available in July and August as a hot fix to either 511 or 6.0. District 2 would need to deploy this patch before INRIX contract expires so 511 system continues to receive I-10 and I-75 data. Cannot create TSS alerts using Nokia data. T. Hensley asked if it would be up to the districts to determine which information goes into 511. C. Packard said each district will have control over what data comes into the district and what data they send to 511. G. Glotzbach noted all we're putting on the 511 is travel time information and the speeds on the map, but other than that, the districts can utilize the data as they see fit. A. Krishnamurthy noted that the software is configurable so the districts can do what they want, but from a statewide standpoint, there will need to be more consistency. T. Hensley expressed concern over responding to arterial incidents and complaints about incorrect travel times. G. Glotzbach said CO will not require districts to use data on arterials. C. Chandler asked what data will Nokia provide and will it be volume and occupancy data as well. A. Krishnamurthy stated Nokia views volume data as proprietary data and does not want competitors to know the amount of volume they are getting. So, volume data they never give and cannot do occupancy with probe data. C. Chandler asked if it can replace the microwave vehicle detector sensor subsystem. A. Krishnamurthy noted it may be a good replacement for probe detectors. T. Hensley asked how it will be handled if Nokia data conflicts with detector data. G. Glotzbach stated to continue to use detector data, and the only thing Nokia data will be used for is to fill in the gaps. J. Dilmore asked if we had looked at OD information or was that not even a feature available. A. Krishnamurthy explained that OD data was an additional cost that CO did not pay for. He felt from an ITS standpoint, it was not needed. J. Dilmore asked if CO had taken a look at the data quality of Nokia data because INRIX data has been drastically underestimating the delay in congestion periods. G. Glotzbach noted that CO has and find it similar to Nokia data. P. Vega asked how Nokia collected their data. A. Krishnamurthy stated Nokia uses similar data sources like INRIX and they team up with commercial vehicle operators and bid the work out. P. Vega expressed concern over rural areas and the lack of commercial vehicles and accuracy of the data. He noted there will be differences in data and the biggest complaint his district gets is not having accurate information. A. Krishnamurthy noted that CO would like the districts' input on Nokia data.

Wrong Way Driving (vote)
C. Packard presented slides on Wrong Way Driving (WWD) and stated that CO was asked to form a task team to investigate WWD. The scope of this effort includes: literature review, evaluation of wrong way warning devices, review of FDOT standards to help improve application and consistency of warning systems, SunGuide enhancement to include response for WWD events, and pilot project field testing. Preliminary device evaluation by TERL examined the wavetronix HD and wavetronix HD helped configure their sensor to report WWD events in real time. A Click!512 module was provided and installed at the TERL. CO is also looking at TAPCO as they provide detection built into their warning signs on the off ramps. C. Packard stated he would like to see WW events handled by SunGuide. SunGuide would automatically email to a preconfigured list, the operator alert is produced, the operator creates event and response plan and DMS messages warn motorists of oncoming WW driver. Once configured in SunGuide, CO will work with FTE to determine locations for WW warning system

field testing, and the SunGuide software modification will support this. T. Brown presented slides on the SunGuide software modifications needed to support WWD events. The cost of the SunGuide software modification is $74,000 and is planned for R6.1. M Nallick asked what the average duration of a WW event is and how to react quickly enough to provide warning in the case of a WW driver. C. Quinn stated OOCEA has performed a study on WWD and would like to work with the department on this as it's important to get into SunGuide. P. Vega asked if DMS can automatically activate with the warning.   C. Packard added that it's not part of this enhancement but could be done. P. Vega stressed that it needs to be automated and if not, it opens up the issue of liability. A. Krishnamurthy stated that with automated enhancements, we need to make sure the information is accurate and that we are comfortable enough with the data. T. Hensley stressed that it's critical to meet expectations and if the enhancement is automatic, it might be feasible. It's better to warn ahead of time and be wrong than to not warn at all. It needs to be automatic and quick. P. Vega expressed concern over how to determine what ramps to install signage and would like DTOEs input. C. Chandler asked if CO found out how sister DOTs were solving this problem and is there a possibility for Nokia to provide instant alerts. A. Krishnamurthy said a lot of the ITS applications have come from sister DOTs. He also noted that Nokia is primarily a speed data provider and not as good with providing event data so it falls on the agency managing the roadway. A. Krishnamurthy asked to vote on SunGuide enhancement and automatic DMS messaging. C. Birosak asked what the cost is statewide for implementing WWD signage and beacons at appropriate interchanges. A. Krishnamurthy added that today we are only approving SunGuide software modification and would vote later on signage and beacons. P. Vega suggested tabling vote until DTOEs meet and also communicating with legal.   Item deferred until next meeting.

Installer (vote)
C. Packard presented slides on SunGuide installation and upgrade process enhancements. He stated the installation process is a very manual, complex process and takes a high degree of expertise. As districts perform their own installs/upgrade, they will move from on-site support to remote support to as-needed support. He noted that the software issues should be separated from the installation issues. The 2 installer objectives are automation and clear, specific, and well presented error messages for failure which makes diagnosis and resolution much easier. All configuration will be moved into central location. C. Packard shared slides showing database items deferred to releases as well as report template management. Clustering support has been added and the cost-feasibility was examined for each individual enhancement.   He showed the slides containing the list of modifications. The cost for the SunGuide software modifications is $143,000 and is planned for R6.1.

Approval for installer to be implemented with Release 6.1

D1-yes
D2-yes
D3-yes
D4-yes
D5-yes
D6-yes
D7-yes

FTE-yes
CO-yes

ONVIF (vote)
T. Brown presented slides on the ONVIF driver. He stated ITS is a tiny piece of this industry and few vendors support NTCIP but many support ONVIF or plan to in the future. The industry has adopted the ONVIF standard for many of the same reasons that NTCIP was developed and adopted by DOT. ONVIF standard supports control needs for new IP cameras, encoders, and other video devices. One benefit of ONVIF is NTCIP is considered "custom" and unfamiliar to most vendors, whereas, ONVIF is industry standard. T. Brown shared the ONVIF defines and products. New camera support includes NVT generate which are standards based encoded video and based protocols, display using video walls, decoders, video on desktop, and propose to support ONVIF standard such that the PTZ control will match current drivers. J. Dilmore asked if we were looking to change our specs to allow for ONVIF cameras and how changes to the APL would be made in order to get the cameras to utilize this driver. A. Krishnamurthy stated the specs have been modified and TERL has been testing cameras that support ONVIF. T. Hensley asked if this is to change the new protocol or add so the districts can use either NTCIP or ONVIF. T. Brown stated it was to add. C. Chandler asked if CO has had any discussion with the FHWA to support ONVIF. A. Krishnamurthy stated that ONVIF is international and will support inter-operability and he feels the FHWA will support. The cost for ONVIF is $35,000 and is scheduled for Release 6.1.

Vote on ONVIF with caveat that FHWA concurs.

D1-yes
D2-yes
D3-yes
D4-yes
D5-yes
D6-yes
D7-yes
FTE-yes
CO-yes

All districts voted yes if FHWA concurs.

Weather Enhancement (vote)
C. Packard shared slides on weather enhancements for SunGuide. The RWIS module in SunGuide upgraded to NTCIP 1204 version 3, and there is a need to upgrade to support version 3. SunGuide operational needs include: newer products to increase competition/quality, additional operational scenarios such as low visibility/fog detection, integration into incident detection/event management, reporting on device status and data, and consistent, user-friendly GUI. The software enhancement will add support for version 3 of NTCIP 1204, enhance GUI, reporting, and weather alert. C. Packard shared a slide demonstrating the low visibility response plan and color DMS RPF message. System modifications include: RWIS, IDS integration, and EM weather template for DMSs in response plans. The cost for SunGuide

modifications is $84,000 and is planned for Release 6.1. C. Birosak asked can we make event created from alerts for RWIS to be included in the affected area type of event where you have a head and a tail and can post a message based on that. T. Brown said it's very easy and not a big change. He said it's really a GUI change to tell you whether it's an affected area or not. As long as there is an event type from a specific weather alert, it isn't a problem. C. Birosak stated that D1 needs SunGuide to detect a low visibility weather station and also turn on flashing beacons for static signs and wondered if it was included in these enhancements. C. Packard stated this enhancement would not include beacons but would be looking into them. He stated we may need a subsystem to handle the complex beacon selection. M. Nallick asked if low visibility or high winds were separate event types. A. Krishnamurthy stated it would be a single weather event type. C. Packard asked if we would be able to make a template to pick up a weather attribute causing the issue for the message template. T. Brown said the current weather section is not configurable, but if it had a specific setting, we could have a template based on it. We would have to create newer templates to handle each type. P. Vega asked if it would be automated in case the connection was lost and there was no operator. T. Brown stated none of the messaging was supposed to be automatic. He stated SunGuide operates on obtaining operator approval and without having a piece running on the field on the RWIS, there's no way for SunGuide to post a DMS. A. Krishnamurthy added that RWIS generally has beacons as part of the system so the alert/beacon would be automatic.

Vote for weather enhancement.

D1-yes but with additional beacons later
D2-yes
D3-yes
D4-yes
D5-no, see more on the conops, more things fleshed out
D6-yes
D7-yes
FTE
CO-

Postpone vote for next CMB.

Upcoming RITIS Enhancements

Priority Items by District
D1

D2

D3

D4

D5

D6

FTE

MDX

OOCEA

Review Action Items over email

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Meeting adjourned 4:35 p.m.