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## **List of Acronyms**

AVL	Automatic Vehicle Location
C2C	
CAD	
CCTV	
CMB	Change Management Board
ConOps	
DAV	Disabled Vehicle
DMS	Dynamic Message Sign
DTOE	District Traffic Operations Engineer
EM	Event Manager
FDLE	Florida Department of Law Enforcement
FDOT	Florida Department of Transportation
FHP	Florida Highway Patrol
GIS	Geographic Information System
GUI	Graphical User Interface
HTML	Hyper Text Markup Language
ITS	Intelligent Transportation Systems
	Independent Verification & Validation
LPR	License Plate Reader
OIS	Office of Information Services
SwRI	Southwest Research Institute
TERL	Traffic Engineering Research Laboratory
TMC	Transportation Management Center
TOD	Time of Day
TSS	Traffic Sensor Station

## Florida Department of Transportation

## CHANGE MANAGEMENT BOARD MEETING NOTES

Monday, July 9, 2007 1:53 P.M. to 4:57 P.M.

## Rhyne Building, Rm. 330 Tallahassee

#### **Purpose:**

The purpose of this meeting was to review and vote for SunGuide<sup>TM</sup> Software issues and requirements.

#### **Attendees:**

Attenuces.		
Liang Hsia, CO	Trey Tillander, CO	Gene Glotzbach, CO
Chris Birosak, District 1*	Peter Vega, District 2*	Chad Williams, District 3*
Steve Corbin, District 4*	Mike Smith District 5*	Manuel Fontan, District 6*
Bill Wilshire, District 7*	John Easterling, Turnpike*	John Bonds, PBS&J
Krista Small, PBS&J*	David Chang, PBS&J	Erik Gaarder, PBS&J*
Hong-Ting Chen, PBS&J*	John Hope, PBS&J*	Ron Meyer, PBS&J
Ashis Sanyal, PBS&J	Steve Dellenback, SwRI*	Robert Heller, SwRI*
Clay Packard, SwRI	James Barbosa, IBI*	John Boguslawsi, IBI*
David Ashton, IBI*		
*Attended via teleconference		

CMB Chairman Steve Corbin opened the meeting at 1:53 PM and called the roll of District offices that were represented. He gave a brief introduction about the agenda items. He called for any opening statements.

Next was a review of the action items from the CMB's previous meeting, which was held on May 16, 2007.

- 1. Postpone until WGM.
- 2. Trey Tillander will look into Safety Program's software, which can provide the mapping of FHP roadway. **Update** -Central Office (Liang Hsia) is a member of the FDOT Geographic Information System (GIS) committee, which coordinates with Safety and others. Closed.

- 3. Trey Tillander will update/modify the FHP CAD ConOps documents, including:
  - a. Flowchart
  - b. RCC coverage map

**Update** – Same. Trey will continue to work on...will try to finalize in late summer. Received some comments at face-to-face meeting.

4. Clay Packard from SwRI will be located at TERL for the coming year. Has worked on several release 3 subsystems. On-site support priorities 1 – 5 on Slide 10 for Clay. Will help with upgrades, work on Footprints support issues

R. Heller update: Footprints issues review. Totals are climbing. On limited support budget and are actively trying to resolve the footprints issues. Old issues review.

- 5. Recently opened support issues for TERL and Districts. (see slides 15-18). The purpose is to document conversation between SwRI / District personnel. Every time SwRI talks to the Districts, a log should be opened and updated to show interaction between SwRI and the FDOT.
- 6. Footprints 51 and 224 has been notice by other Districts since then. Districts configuring message templates with more than one travel time destination. Occurs not only in two-phase. Problem occurs when insufficient data for one of the destinations and cannot compute. Therefore, message only drops out what it cannot compute, leaving destination and time blank. R. Heller did not foresee, therefore, did not program for it. Add tags and processing around each travel time destination and abandon only message with elements to compute. Realized when reviewing travel time requirements that the requirements call for addressing this problem. Footprints issues updated: do we need two open for similar issue and what will the status change be? Footprints issue requires FDOT approval. When we sign the contract amendment, the footprint will be changed? Trey prefers it to reference action taken. Only need one issue for each problem.
- 7. Issue 122 District 5 was trying to name detectors with NTCIP naming convention. Exceeded number of available characters. District 5 requested increase from 30 to 50, but Robert Heller said SwRI will make it over 50.

#### Vote on Issue 1

Discussion took place regarding available Oracle versions and whether Internet Explorer (IE) 6 or 7 should be used. Contractor originally listed Oracle 9i, but FDOT / SwRI agreed to Oracle 10.1. The current release version is Oracle 10.2 released in July 2005. Currently Oracle Web site mentions Oracle 11g...predicting availability of Oracle 11g. CLO queue state is being kept as a long XML-message. Didn't realize error was an Oracle bug until after code for SAS. Patch was available from Oracle and has been incorporated in 10.2. Have seen references to patch in discussion groups, but patch is not available for customers like FDOT to update. Transition Oracle from 10.1 to 10.2, but will not work at this time. Certain errors occur with 10.2 and SwRI is resolving these issues. Oracle issue tabled for the time being. Review in three to six months.

Discussion re: how long to table issue until 10.2 / 11g issue. Evaluate 11g in December? Add issue to October Agenda (Trey)

IE 6 v IE 7. Operator interface standard is currently IE6. SwRI develops with IE 6 and 7. All operator interface testing with IE6. As Web site development for District 5, found IE 7 rendering engine is 25 to 50% faster than rendering engine in IE6. Is substantially faster. SwRI recommends transitioning from IE 6 to IE7 from within the TMCs due to rendering engine performance. Will support IE 6 / 7 / Netscape browsers for District 5 Web site map, event viewer application, but if timing analysis Robert Heller stated that he thought the FDOT would be pleased with IE 7. Steve Dellenback pointed out that the biggest performance improvement is in Google map.

Release 3 FAT will be on IE6. Steve Corbin pointed out that it didn't seem there is a benefit if not using Google maps.

SwRI just noticed improvement and is making suggestion, but doesn't matter to SwRI. Did some timing analysis and found that IE7 was faster and Netscape is using IE7 rendering engine if available. Not a drastic change, but noticeable according to SwRI.

Trey Tillander asked about upgrading by end of August?

#### Districts response:

D1 – nothing operating...so 6 or 7 fine

D2 – IE6, but IE7 no prob

D3 – nothing operating so 6 or 7

D4 – IE6

D5 – running IE7

D6 – IE6. Will have to talk to IT re: IE7

D7 – IE7

TPE – unavailable.

# Action ITEM: Districts not running IE 7 research and put on agenda for August meeting per Trey Tillander.

Microsoft cluster services allow failover. Processes on computer A (if computer A fails, can establish failover policy that would have processor B to start those processors). District 4 has a four-processor cluster.

Failed box processes will start on backup box. District 4 developed failover policy themselves, but was not included in contract. Corbin requesting VDD or equivalent document for failover. It would take eight weeks and approximately \$53k to develop cluster policy, which would include how to reference appropriately. SwRI's proposed work will not duplicate MS or Oracle documentation, but will show how the failover policy should be structured. SwRI will build failover site.

Does failover require additional processors? No. Spare CPU cycles. Failover policy allows taking advantage of unused capacity when in a degraded hardware situation. SwRI worked with OIS on District 4 deployment. Did Oracle installation into a clustered environment and worked with District 4 Tech Ops. Currently have Oracle Databases in cluster environment. Would document OIS consultation topics as well as what SwRI has learned re: SunGuide and Oracle in clustered environment, as well as failover policy, etc. per Robert Heller.

Budget estimate – update of document \$53K? (Hsia)

No document received from OIS. OIS provided hour worth of phone calls to help. Trey asked if it would reduce the cost if FDOT performed the verification. Steve Dellenback stated that if they had cluster expertise, that'd be fine and that they would certainly want to use District 4's expertise. However, S. Dellenback did question how reactive District 4 OIS would be.

Call for comments from Districts by Trey Tillander.

Discussion took place regarding the failover and how to accomplish it. It was suggested that this issue be tabled until additional information could be gathered from SunGuide Software Users Group (SSUG)

Action Item: Table cluster issue until 8/14/07 meeting, pending 7/31/07 SSUG meeting per Trey Tillander.

Discussion took place regarding having SwRI provide estimate for amount without site build by SwRI. Might be able to have SwRI to do engineering and have FDOT to build site with District 4 help. Do you want estimate with FDOT performing the build and verification.

Assign to SSUG for analysis and recommendation by 8/7/07 and then put on August CMB meeting agenda.

Modified requirement SV002B – deleted browsers not used by districts.

D1-yes

D2-yes

D3-yes

D4-yes

D5-yes

D6-abstain

D7-ves

TPE-yes

CO-yes

ConOps for additional travel time subsystem requirements (Trey)

Discussion took place regarding the calculation of travel times. Pete Vega pointed out that with signs between 3-5 miles apart in urban area variance occurred. One lesson learned is that the travel times can be severely impacted by peak traffic over longer distances. He suggested using archived data to put a coefficient of variation during normal peak periods to be more accurate. He pointed out that at the time the person passed the sign, the time is accurate. Bill Wilshire pointed out that maybe the operators should be more aware of the times changing.

Further discussion took place regarding the reliability of the travel times over distance and how that affected the motorist's perception of accuracy and user confidence levels. Discussion continued about detector functionality and SunGuide information processing. Various examples were given regarding instances where archived data or operator intervention for travel times could be useful.

Discussion took place regarding keeping track of the rate of change of traffic flow and using information to predict the travel times into the future. Using the data and trending the data rather than using historical data. SwRI pointed out that there were some research programs re: more intelligent travel times, but no client specific travel times to reference. Robert Heller stated that trending is not good for onslaught of traffic released from large employers, but that he wasn't sure how to address it other than historical data or operator input.

Possible solutions were discussed. This issue is to be addressed by district / state re: the variation of travel time and what the acceptable rate of variation in a given period might be. Additionally, responsibility for the coefficient was discussed as well as the need for probe driver(s) to confirm whether the possible solutions were valid during peak times.

It was discussed that travel time is accurate during non-peak hours and works well in steady state conditions. However, they don't work well in changing conditions. Predicting travel time into the future is difficult and the best estimate is what is now being given. Peter Vega suggested a similar approach to timing lights on a corridor. Concerns regarding the timeframe were brought up. Trey Tillander suggested this could be done in release 4.1, which would probably be next year.

511 travel times were discussed regarding the Release 4.0 data fusion machine. Gene Glotzbach pointed out that you can give travel times on 511 and say whether they are getting better or worse. Discussion took place about the problem being a public education issue.

Further discussion took place regarding changes affecting travel times. Pete Vega stated that the answer is that the minimum time is applied to the calculated value before it creates the interval. In the creation of an interval the calculated value may be lower than expected.

Historical Data ConOps co-efficient: Trey Tillander asked Pete Vega to respond to comments to on the ConOps and get back to him on it. Lower limits are different issues, but are important as well. Several issues are involved, such as minimum speed applied, rounding and how it's calculated, etc. Decided to table discussion until more research could be done and information gathered.

SunGuide Software Release 4.0 modified ATIS Data fusion subsystem requirements. An explanation of changes was given and went through the list.

Discussion took place re: DF016G – problem with seeing them all. District 4 puts message in its slot and that gets sent to the IDS and for District 7 to see slot they don't have control over causes information to come back to the DFS. If C2C is on, SunGuide should be able to recognize changing slots. A question regarding DFS data that is communicated that will not be available to other districts was brought up. C2C is transported to the IDS, but no current SunGuide ability to disburse that information through C2C. It was discussed that theoretically this could be provided through C2C. John Bonds commented that 16 is a GUI requirement. Discussion continued regarding requirement is for all the Districts through C2C to see the slots for the other districts' floodgates messages. Clarification needed regarding who controls regional / statewide floodgates (CO control for evacuation routes, etc. thru TERL or panhandle provider contract).

SwRI pointed out that the drawings have unidirectional lines from Districts to subsystem and that the SwRI estimate didn't assume gathering all data from the state to a District, which is why our implementation was at the local District level, but that wasn't what was bid on because it was based on the drawings provided.

Question regarding whether more detailed information would be available through C2C through Release 3. Also question regarding Release 2.2 implementations that would possibly be available.

Steve Dellenback requested written questions regarding one district entering floodgate information for another district. Trey Tillander inquired of Steve Dellenback as to whether he had enough of an understanding to write the requirements and then give a cost estimate. Steve Dellenback replied that he did and that it would not change what SwRI currently has. Instead, it would be an additional component that talks to it.

Call for Email vote for DF016G

Modified ATIS DFS requirements - Vote w/o DF016G.

D1-yes

D2-yes

D3-yes

D4-yes

D5-ves

D6-yes

D7-ves

TPE-yes

CO-yes

Action Items to D. Corbin / Districts.

Closing and Action Item Review

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David Chang – Review of Action Items generated from this meeting.

### **ACTION ITEMS**

- 1. Gene Glotzbach, Trey Tillander, and Steve Corbin will review the CMB charter and send the revised version to CMB member to review and discuss it in Aug/14/2007 CMB meeting.
- 2. Trey Tillander will coordinate the FHP CAD ConOps for SunGuide R 4.1.
- 3. Districts will do research on the issue of IE 6 vs IE7, and vote on Aug/14/2007 CMB.
- 4. Manny Fontan will discuss the MicroSoft Cluster service and Oracle cluster manager in July 31, 2007 SSUG meeting and provide suggestion to CMB by August 7, 2007 to vote on August 14, 2007.
- 5. James Bitting will document comments regarding District 2's Travel Time Enhancement and send it to Trey Tillander.
- 6. SwRI will do further research and cost estimate of DFS requirement DF016G and send it to Gene Glotzbach and Trey Tillander. Steve Corbin will send the updated information out for voting.
- 7. John Bonds will do further research of DF016G regarding the issue of slot and Floodgate, and provide it back to SwRI.

The meeting was adjourned at 4:57 pm