Meeting Notes

Change Management Board

October 19, 2010 – 1:30 pm to 4:45 pm

December 21, 2010 Final - Version 1.0





Prepared for:

Florida Department of Transportation Traffic Engineering and Operations Office Intelligent Transportation Systems Section 650 Suwannee Street, M.S. 90 Tallahassee, Florida 32399-0450 (850) 410-5600

List of Acronyms

APL	Approved Products List
AVL	Automated Vehicle Location
C2C	Center-to-Center
CAD	Computer-Aided Dispatch
CDW	Central Data Warehouse
CMB	Change Management Board
	Central Office
DMS	Dynamic Message Sign
EM	Event Manager
	Florida Department of Transportation
	Florida Highway Patrol
	Florida International University
FTE	
	Florida Advanced Traveler Information System
	Miami-Dade Expressway Authority
MOT	
	Manual on Uniform Traffic Control Devices
	Post Buckley Schuh & Jernigan
RFP	·
RPG	
	SunGuide Software Users Group
SwRI	
	Traffic Engineering Research Lab
	Transportation Planning Organization
	Transportation Systems Management and Operations
	Texas Department of Transportation
	Wide Area Network
WGM	Working Group Meeting

Florida Department of Transportation CHANGE MANAGEMENT BOARD MEETING NOTES Tuesday, October 19, 2010 1:30 P.M. to 4:45 P.M

Rhyne Building, Room 330 Tallahassee, Florida

Attendees:

Arun Krishnamurthy, CO
Chris Birosak, D1
Pete Vega, D2
Dong Chen, D4
Javier Rodriguez, D6
Terry Hensley, D7
Ivan del Campo, MDX
David Krauss, Gannett Fleming
Joe Parks, Lucent
Craig Carnes, Metric
John Hope, PBS&J
David Muniz, Seminole Co.
Jason Summerfield, SmartRoute
Robert Heller, SwRI
Frank Deasy, Telvent

Gene Glotzbach, CO
Carlos Bonilla, D1
Mark Nallick, D3
Melissa Ackert, D4
Chester Chandler, D7
John Easterling, FTE
Mark Laird, AECOM
Cathie Mckenzie, Gannett Fleming
Jared Roso, Lucent
David Chang, PBS&J
Marie Howell, PBS&J
Noel Oteyza, Seminole Co.
John Brisco, SwRI
Lynne Randolph, SwRI

Trey Tillander, CO
Donna Danson, D2
Chad Williams, D3
Nathan Ruckert, D5
Vaughn Cooper, D7
Eric Gordin, FTE
Dee McTague, AECOM
David Howell, HNTB
Danielle Sabatello, Lucent
Erik Gaarder, PBS&J
Clay Packard, PBS&J
Ryan Crist, SmartRoute
Steve Dellenback, SwRI
Mary Thornton, SwRI

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

Welcome and Call for Quorum: Change Management Board (CMB) Chairman Eric Gordin opened the meeting at 1:30 P.M. A quorum was established. He briefly introduced the objectives of the meeting.

Previous Meeting Recap and Action Item Review

- Central Office (CO) to look for funding contribution required to become a member of CMB. – Completed
- CO to provide SwRI and Districts a memorandum regarding travel approval for SwRI. –
 Completed
- CO to prioritize "Enhancement" Footrprints. Completed
- Districts to provide CO with a list of current SunGuide concerns. Completed
- Florida Turnpike Enterprise (FTE) to work with Southwest Research Institute (SwRI) to specify event manager (EM) enhancement request. **Completed**
- CO will provide Districts with further information regarding EM Flags Enhancement. –
 Completed
- SwRI to provide CO with cost estimate for Miles Ahead dynamic message sign (DMS) enhancement. **Completed**
- CO to provide Districts with Florida Advanced Traveler Information System (FL-ATIS) dashboard Whitepaper. – Completed
- SwRI to provide CO with cost estimate for SunGuide Software Users Group (SSUG) enhancement requests.

Arun Krishnamurthy stated that the SSUG had requested two separate enhancements. First was the forced abbreviation and SwRI looked into this enhancement and it is a small effort that will cost \$7K; CO will go ahead and approve this enhancement. Mark Laird asked if this would affect how anything is working now. Robert Heller then explained that the forced abbreviation will be coded as a zero priority and it will be applied before anything else, so if you do not want to force any then do not code them as zero. A. Krishnamurthy asked when this enhancement will be complete. R. Heller stated that it will be included in Release 5.0.4 which will be delivered by year end.

The second enhancement is for unapproved words on DMS'; if a District is trying to send a vehicle alert on 30 DMS' and there is an unrecognized word it will send a popup for each DMS. A. Krishnamurthy stated that R. Heller is currently working on this cost estimate and most Districts have stated that this is a must have enhancement so the cost estimate will be sent out when provided to CO.

SwRI to provide CO with cost estimate for weather enhancements.

A. Krishnamurthy stated that this enhancement was presented at the last CMB meeting with a very high cost estimate. CO will be working with SwRI to reduce the effort in the Whitepaper and present it to the CMB at a later date.

• CMB members to review CMB Charter document and vote on changes. – **Will be reviewed in current meeting.**

Agenda Items

CMB charter Update (Vote)

Eric Gordin reviewed that changes that were made to the CMB Charter document and stated that items that are brought to the CMB need to be kept at a high level. He then discussed the process of becoming a voting member; there are three criteria which are the installation of SunGuide Software with a \$50K annual fee, fund a significant enhancement of SunGuide that provides additional functionality for other users and petition to become a new member. Chester Chandler asked if someone wanted to join the CMB but is located outside the State of Florida, can they join. A. Krishnamurthy stated that normally the CMB agenda is Florida centric and typically only discusses the SunGuide project and its architecture; I can see other states wanting to listen but do not see the need for them to be a voting member. Pete Vega stated that there is a process if another state wants to utilize SunGuide. A. Krishnamurthy stated that there is an agreement between Florida Department of Transportation (FDOT) and Texas Department of Transportation (TxDOT) for SunGuide software; FDOT does not sell the software we ask them to pay towards the maintenance of the software and if another states gets the software then they will have an internal process for enhancements and their own configuration management for the software. He continued to state that FDOT shares the enhancements with TxDOT but the software is maintained separately. CMB might not be the forum for that type of discussion regarding interstate coordination; the CMB is trying to track the changes we are making within the state. C. Chandler stated that he thought that was a great concept and maybe a fourth criterion should be added to say you must be within the State of Florida. A. Krishnamurthy stated he did not have a problem adding that criteria and it will be added in this update of the document.

E. Gordin continued to review the voting process which states there needs to be seven members present for a quorum and 6 votes to pass an item. Gene Glotzbach stated that if another member is added the CMB might want to consider changing those numbers. E. Gordin agreed and stated that will be discussed if another voting member is added.

CMB Charter Update - Vote

District 1: Yes District 2: Yes District 3: Yes District 4: Yes District 5: Yes District 6: Yes District 7: Yes FTE: Yes MDX: Yes CO: Yes

EM Flags (Vote)

Robert Heller stated that currently in SunGuide all EM event locations are published to the FL-ATIS system and it has no way to know which ones should or should not be published. R. Heller then described the enhancement to add a check box to state if it will be published to FL-ATIS and this enhancement is targeted to be in Release 5.0.4. A. Krishnamurthy discussed some scenarios when an operator is using this function and asked if they choose to not publish to FL-ATIS will they see a pop-up. R. Heller asked if a pop-up is wanted or the color could be changed and it can be graved out; these can be added. A. Krishnamurthy stated that he would like to get feedback from the Districts. Chris Birosak asked if SunGuide will default to publish to FL-ATIS. R. Heller stated that when an event location is created within EM there will be a check box in the admin editor screen that will default to publish but if you check the box it will not publish to FL-ATIS; this must be done when the event is created. P. Vega asked what District requested this enhancement. A. Krishnamurthy stated that this enhancement is more for FL-ATIS. E. Gaarder stated that the big issue is when Districts create a new EM location it takes a few months for FL-ATIS to catch up but as soon as a District put in the EM location it is usable by the Districts which causes an issue with FL-ATIS because the system is not ready for that information; this will allow us to decide what goes to FL-ATIS and some flex time for the system to catch up.

Mark Laird stated that there have been some situations where event locations are created in other Districts and most of the time the District does not want to publish them but there are times when they need to be published, can something be added to state publish to FL-ATIS with operator permission. A. Krishnamurthy stated that M. Laird's example is very complex and asked if he was referring to the same EM location being in two Districts, if this is the case you would just check the box if you did not want it published. P. Vega asked if center-to-center (C2C) would be used for M. Laird's example. M. Laird stated that this occurs when District 6 is covering for Miami-Dade Expressway Authority (MDX) or District 4. R. Heller stated that as long as the locations are in FL-ATIS it would not make a difference. A. Krishnamurthy stated that he would like to keep that added functionality for the future but CO would really like to see this be enhanced sooner than later and the more complex it is made the longer the enhancement will take.

District 1: Yes District 2: Yes District 3: Yes District 4: Yes District 5: Yes District 6: Yes District 7: Yes FTE: Yes MDX: Yes CO: Yes

Miles Ahead DMS (Vote)

R. Heller described the enhancement requested and proposed changes; there will be an additional field added to the response plan template with estimated distance and the system will automatically calculate the distance to the crash. This will use the existing information to estimate the distance from the sign to the crash and does not require a lot of extra data entry by the operator but the Districts will have to build new response plan generation (RPG) templates to be able to use the data. E. Gordin asked if an administrative person with each District would need to go into the RPG to make the adjustment. R. Heller stated that was correct and reviewed the screenshot of what would have to be done. M. Laird stated the Elizabeth Birriel stated that the miles should always be shown in whole numbers and District 6 thought the number would be rounded up, how does it calculate. A. Krishnamurthy confirmed with M. Laird regarding his statement of rounding; if you have 4.1 miles you want to make it 5 miles. M. Laird stated that the input from the District is to not under estimate the miles. A. Krishnamurthy stated that it should be rounded to the nearest mile. P. Vega recommended always rounding down, if you are telling motorist before they get there and if we round the numbers up then they might arrive at the incident before they reach the number of miles posted on the DMS. A. Krishnamurthy asked if the distance from the congestion tail or head. E. Gordin stated that FTE tries to best estimate the back of the gueue. M. Laird stated that the drivers should be given a number that once they pass those number of miles they are past the crash. P. Vega stated that from an operational standpoint the driver will pick up the phone and complain. T. Hensley stated that you do not want to be to specific or you will get complaints; District 7 is not opposed to this but it sounds like this needs to be thought through more. John Easterling stated the FTE is doing this manually and it is a lot of extra effort for the operators to calculate the miles and this is something our drivers expect to see. M. Laird stated that this sounds like it could be done in two phases. J. Easterling stated that FTE normally messages to the location of the crash; the first line of the sign will say the lane(s) blocked and the second line is the distance ahead but the maintenance of traffic (MOT) starts in advance of the crash so rounding down makes more sense. Trey Tillander stated that the Manual on Uniform Traffic Control Devices (MUTCD) does not allow decimals so it needs to remain in whole numbers. A. Krishnamurthy asked J. Easterling if FTE uses this for all crashes or only for large backups. J. Easterling stated that when FTE used SunNav it was used for all crashes but now with using SunGuide it is only used for large backups. E. Gordin clarified that FTE uses the site of the crash. A. Krishnamurthy stated that based on the discussion the miles will always be rounded down.

District 1: Yes District 2: Yes District 3: Yes District 4: Yes District 5: Yes District 6: Yes District 7: Yes FTE: Yes MDX: Yes CO: Yes

FL-ATIS Dashboard (Vote)

John Brisco described the enhancement request. Javier Rodriguez asked who will use this tool. J. Brisco stated that he has shown this to Mary Thornton and the idea is if it is easy to use more would use it; it could even be used at the Traffic Engineering Research Lab (TERL) and CO. Jason Summerfield stated that he has used this tool to troubleshoot connectivity. M. Laird stated that this is not something the Districts would use, it is something SwRI would use. E. Gordin clarified that the proposed enhancements would be included in the development portion, even though the document discussed further upgrades. J. Brisco agreed and stated that what was described in the slides are the enhancements. M. Laird stated that for the amount of money this will cost he would like to see something that shows where this can go and how it will look, this is basic configuration data and you can find out what connection you have now. A. Krishnamurthy stated that between G. Glotzbach and himself they think this could benefit and look at the various things the dashboard offers to diagnose problems. M. Laird stated that if you look at the current Web version this is providing a new interface but we have not seen a screenshot. A. Krishnamurthy stated that software enhancements are the priority, so if we want to spend more time thinking how we can do this differently we can table this topic. He continued to state that there does not seem to be much interest and does not want SwRI to do more work and have the same outcome of not proceeding with this enhancement. R. Heller stated that there was a lot of interest in this enhancement when FL-ATIS came online and there were issues. P. Vega stated that District 2 does use the current version and checks FL-ATIS every 15 minutes. When issues do occur District 2 utilizes the feature that is currently available, but when C2C kicks in it will be more important. He continued to state that he does not see an immediate need for this enhancement but this will be helpful in the future.

Smart Phone Application for Road Ranger

P. Vega stated that District 2 wants to mimic what District 4 and District 7 are doing with the Road Ranger tablets; he went on to explain the Smartphone application features. J. Summerfield then described in detail the process. T. Hensley asked what P. Vega is asking to do. P. Vega stated that District 2 is trying to do what District 4 and District 7 are doing with the Road Ranger tablets but with current technology. T. Henley asked if P. Vega wants the CMB to pay for this new technology. P. Vega stated he has already discussed the cost with A. Krishnamurthy and District 2 will be paying for this but just wanted to get input from the Districts. M. Laird stated that the Automated Vehicle Location (AVL) is the most valuable part of this and seems very useful. He went on to state that there may be some issues with readability of the screen and some concern about the Road Rangers having dirty hands with the touch screens. P. Vega stated that all of that has already been thought about and they will all have the Otterbox cases. M. Laird asked what carriers will be supported and suggested avoiding AT&T because of restrictions. J. Summerfield stated that the iPhone does have a lot of restrictions but the Android is a cross provider and a lot more flexible; this has currently been left open but the current trend is the Android. P. Vega stated that a final decision has yet to be made but yes District 2 is avoiding AT&T. M. Laird asked what the AT&T restrictions were. R. Heller stated that the AT&T Android phones are the same but AT&T has restricted their phones. J. Summerfield added that AT&T is the only one that has a tier data pricing when everyone else has an unlimited data

price. P. Vega stated the District 2 was looking for flexibility and AT&T does not provide that. T. Hensley stated that this is what District 7 started with and some of the problems experienced were glare and the Road Rangers losing the phone; he also stated that he thought it was not going to be safer because the Road Ranger will be looking at the phone all the time. P. Vega stated that he did not state it would be safer.

Bluetooth in SunGuide - Concept Exploratory

A. Krishnamurthy stated that he has recently received some emails from the Districts showing interest in deploying Bluetooth and asked if anyone else was also interested in this. J. Rodriguez stated that District 6 is also interested in Bluetooth; this is preliminary at this point and is working with Florida International University (FIU) to discuss further. A. Krishnamurthy stated that Sarasota County may have developed some Bluetooth technology. Chris Birosak stated that Sarasota County has some interest in the Bluetooth technology but currently does not have any plans. Vaughn Cooper asked what is the intention of using Bluetooth. A. Krishnamurthy stated that it would be used for travel times and could provide sample counts which are used to calculate the average travel time. P. Vega stated that he has an upcoming meeting with the North Florida Transportation Planning Organization (TPO) to review projects for the next three years and a project using Bluetoad for July 2011 will be proposed. A. Krishnamurthy stated that CO is trying to establish a timeline of when the various agencies want to deploy this technology so that it can be incorporated into SunGuide. A. Krishnamurthy asked Dong Chen if he knew when the Transportation Systems Management and Operations (TSM&O) project would be deployed and D. Chen responded it would be deployed in 2014. District 5 stated that they are looking into this technology and has heard that Pinellas County already has this technology and is ready to test and has the infrastructure in place.

A. Krishnamurthy stated that there is an interest to include the Bluetooth technology in SunGuide; he then reviewed how the Bluetooth technology works. There is a low sampling rate, 1 out of 20 vehicles is the penetration rate then it has to be matched to another read and that is sometimes lower than the penetration rate. There is currently no standard protocol for Bluetooth and there are only a few vendors that provide these devices. The Department will have to develop standard protocol in SunGuide and contact the vendors to modify their firmware to work with SunGuide. The alternative would be to develop a driver for each Bluetooth device. P. Vega then reviewed the information regarding Traffic Cast and their approach is they will collect the data in xml format and then send it back to the District to incorporate into SunGuide. R. Heller introduced Lynne Randolph who has been doing a lot of Bluetooth research and she can answer any questions. A. Krishnamurthy stated that with the Inrix the Department does not pay for their infrastructure only a monthly fee is this the same for Traffic Cast. P. Vega stated that Traffic Cast is charging \$3,000-4,000 per location for installation and then a service contact for \$30-50 per location; will send the cost estimate to A. Krishnamurthy but the estimate District 2 received is \$250,000 for 5 years and asked if the Department can have SwRI develop the driver. L. Randolph asked P. Vega what they would be doing with the travel time information. P. Vega stated that this is mainly a project for the city for when arterial roadways are on FL-ATIS. Traffic Cast is collecting raw data and we can tell them how we want it sent.

Chester Chandler asked if the Department was going to lease or outright purchase the devices. A. Krishnamurthy stated that with P. Vega's project they will purchase the devices along with the service on an annual basis. P. Vega stated that was correct and the services that will be purchased will be for the City and TPO. A. Krishnamurthy stated that he thought District 4 is proposing to purchase the devices and it seems that the Department wants to deploy the devices and not lease them. C. Chandler asked if these devices would go through the approved

product list (APL) process. T. Tillander stated that currently these are under a temporary permit. A. Krishnamurthy asked at what point will these devices be on the APL. T. Tillander stated that the decision was to do a temporary permit for two years and see how the devices are working. CO does not know if this will be a device that is used long term; after the pilot projects it will be determined and specifications may be developed. A. Krishnamurthy asked if the same should be done for SunGuide; if the technology has not matured should the money be invested on a driver now or wait a few years. T. Tillander stated that it depends on the priorities of the CMB but be careful spending too much money on this. Traffic Cast and ITB are the only vendors that currently have a temporary permit; all other vendors need to contact the TERL. L. Randolph stated that after doing some research she is concerned about how viable this technology will be long term, in the research that has been done the newer devices are not in discoverable mode by default and there is not a way to change the mode. V. Cooper asked if Bluetooth is being considered this would most likely need a wide area network (WAN) network; how would it be provided, funded, operations, etc. P. Vega stated that District 2 is utilizing an existing traffic network in the City. A. Krishnamurthy stated that the TSM&O project in District 4 will be spending money for this. Melissa Ackert described in detail what District 4 is proposing for the Bluetooth project. A. Krishnamurthy stated that District 4 has interest in this being integrated with SunGuide and asked if this would be for the portable project or the TSM&O project. M. Ackert stated that it would be for the TSM&O project. Martin County is purchasing their own readers to install county wide and asked how they could take advantage of SunGuide and when they were told this was not integrated with SunGuide it ended quickly but there is other interest in District 4. A. Krishnamurthy stated a couple of points regarding this technology; this is a very new technology that has the potential to change over time and the penetration rate is low, if people are not keeping their phones on discoverable mode the rate could go down. There are a few pilot projects but keep this in the horizon for the future.

ITS WAN Status Update

Frank Deasy stated that District 5 has now been connected to the ITS WAN and unicast connectivity is available to District 4 and District 6 today; they are able to get Florida Highway Patrol (FHP) Computer-Aided Dispatch (CAD) data and the TERL can assist if there are any problems. District 5 is working with some multicast video issues right now but that should not affect the FHP CAD data. C. Chandler asked if F. Deasy could give an update as to when District 7 will be connected. F. Deasy stated that there are no actual dates but the equipment is in the testing lab in Orlando and the final test will occur in November, it will be after the first of the year before District 7 is connected. C. Chandler stated that he recalled this same statement a year ago and then let F. Deasy know that he would be checking the schedule. T. Hensley asked if the High Speed Rail would affect the WAN project. F. Deasy stated that yes it will some of the fiber will have to be relocated.

iMPath H.264 SunGuide compatibility

Clay Packard stated that there have been some considerations for video sharing and CO would like to have a working group meeting (WGM) with more technical staff and review the items that need to be further discussed. E. Gordin asked if everyone was in agreement that the SSUG is the meeting to discuss this topic further. P. Vega stated that a lot of vendors are saying the mpeg2 lifespan is quickly shortening. T. Tillander stated that C. Packard is going to discuss this in the next slides. C. Packard then gave an update on the H.264. C. Birosak asked if there was an agreement to move forward with this. T. Tillander stated that the consensus was to move forward, do we want to head in a different direction. C. Birosak stated that he would have to discuss this further within his District. C. Packard then reviewed the H.264 compatibility and

stated that neither device is supported by SunGuide. P. Vega asked for Bosch and SunGuide, what exactly do you mean not supported. C. Packard stated that this is addressing the video switching aspect. C. Birosak stated that the Bosch camera that has an internal encoder in the camera rather than the cabinet and asked if it needs work you have to work on the camera not the cabinet. Nathan Ruckert stated that District 5's video wall does not support H.264. P. Vega stated that during an investigation of Bosch with Volusia or Seminole, they originally had separate encoders and were experiencing a lot of problems but those were minimized when they started using the Bosch camera, C. Birosak stated that District 1 has a separate encoder in the cabinet and have not experienced any problems. T. Tillander stated that with the APL and SunGuide CO is not talking about removing MPEG2 devices or support, we are trying to figure out who needs MPEG4 for reduced bandwidth; you will still be able to use the other devices. C. Birosak stated that he is okay with this as long as the ITS Specifications state that it has to be outlined in the contract documents whether it is the MPEG2 or MPEG4. A. Krishnamurthy stated that currently the specifications state it that way it, is all inclusive. T. Tillander clarified that both the MPEG2 and MPEG4 will be on the APL and both in SunGuide in the future and C. Birosak is asking how do you ensure you get what you need for a specific project; this would need to be in the request for proposal (RFP) or design because the current specification allows for both. R. Heller stated that the decision is made when you decide where you want to display the images and what will work for you. T. Tillander stated that from what he has heard the decision is more bandwidth not so much display. R. Heller agreed but where you are trying to display is part of the decision as well. A. Krishnamurthy asked the Districts if they have run into any issues with MPEG4. District 3 and District 4 stated they have not had any issues. District 5 stated they want to use MPEG4 because of the bandwidth issue but now there are issues with the videowall. District 6 stated they need to discuss this further with the technical staff but based on previous conversations agree with T. Tillander and need to look at how this can be supported but should not do away with MPEG2 or MPEG4. District 7 stated that the Department needs to move forward and keep researching the H.264 because this is the way the industry is moving. FTE stated that they have quite a few cameras and like the flexibility and MDX had no issues. The question was asked if the paper regarding this topic will be complete by the next meeting. R. Heller stated that it will be done in late December but possibly early December. He continued to state that he would like to invite Bill Wolfe so that he can discuss the findings further.

"Pending FDOT Approval" Footprint issues prioritized by Districts – Progress Update

A. Krishnamurthy stated that at the last CMB meeting it was discovered that there were several enhancement requests in Footprints; SwRI and CO looked at these and there were 150-160 enhancement request CO broke this list down and sent it out to the Districts for input. The Districts were asked to break down the Footprints into four priorities. A. Krishnamurthy stated that he and R. Heller talked about some of the Footprints and some have already been discussed at previous CMB meetings; one is DMS blanking and some others that seem reasonable. The idea is as we move forward to put more emphasis on these and try to reduce the number, this is a long list and there are limited funds and time. M. Laird asked if there will be a list distributed that states what is being worked on currently. A. Krishnamurthy stated that yes that is part of the plan, SwRI is working on some Footprints now and have taken care of some as we plan out the next few releases and this information will be shared. A patch is planned to be released in the next few weeks and there is a release planned for December which is primarily for the Inrix enhancement but the Transcore driver may not make this release but will be done by June 2011. A significant release is scheduled for June or July 2011 and will bring those major changes up at the next CMB meeting. CO is always planning ahead for new release to meeting everyone's need such as FL-ATIS, World Congress, etc.

Predict Traffic Jam

P. Vega stated that this topic was brought up two years ago for SunGuide, it would be good to capture and archive data to make some predictions on travel time. An article was sent out to all Districts asking if this is something we would consider, this is an additional tool to get information to the public. A. Krishnamurthy stated that there is a Central Data Warehouse (CDW) meeting next week where you can store historical data which would be useful in this situation.

Action Items

- 1. CO to add fourth criteria to CMB voting member criteria: "Public Agency within the State of Florida" and distribute.
- 2. A. Krishnamurthy to forward unapproved words on DMS cost estimate to CMB.
- 3. SwRI to describe FL-ATIS dashboard existing Web server / interface; SwRI to work with CO to fine-tune for next CMB meeting.
- 4. A. Krishnamurthy to send list of Footprint issues that have been approved to CMB.
- 5. SwRI to develop H.264 Whitepaper.