Change Management Board Meeting

Tuesday, October 7, 2014

Video Conference: CO-Burns Video Bridge 2

Audio Only: 850–414–4972 PIN:490513

Do NOT Put On Hold   Call is Being Recorded

GoToMeeting:

https://www2.gotomeeting.com/join/689969762

Welcome and Call for Quorum

Derek Vollmer, P.E., CMB Chairman

Agenda

Time	Item	Lead
1:30 – 1:35	Welcome and Call for Quorum	Derek Vollmer
1:35 – 1:40	Previous Meeting Recap & Action Item Review	Derek Vollmer
1:40 – 1:45	ITS WAN Update	Randy Pierce & Frank Deasy
1:45 – 2:00	SunGuide Software Update	Derek Vollmer
2:00 – 2:20	RITIS Update	Derek Vollmer
2:20 – 2:30	Response Plan Enhancements – Event type templates & head & tail tags *(vote)*	Clay Packard
2:30 – 2:40	DMS GUI Force Capital Letters (FP2650) *(vote)*	Clay Packard
2:40 – 2:55	DMS Force Blank in Status on Failure (FP 955) *(vote)*	Clay Packard

Agenda

Time	Item	Lead
2:55 – 3:05	Break	
3:05 – 3:25	Auto-Dismiss Already Detected Alerts (FP 2845) *(vote)*	Clay Packard
3:25 – 3:50	Statewide ITS Architecture Update	Derek Vollmer
3:50 – 4:10	Arterial Probe Algorithm Con Ops *(vote)*	Derek Vollmer
4:10 – 4:25	Open Discussion	Derek Vollmer
4:25 – 4:30	Review Action Items	Derek Vollmer

CMB agenda, slides, and attachments posted here:

http://www.dot.state.fl.us/trafficoperations/ITS/Projects_Deploy/CMB.shtm

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Previous Meetings Recap and Action Items Review

Derek Vollmer, P.E., CMB Chairman

Previous Meeting Action Items

1. FTE to prepare white paper to document their efforts and findings on WWD. (Open Action Item)

2. CFX to prepare email for distribution to all Districts on findings of latest deployment effort. (Open Action Item)

3. CO to look into creating an installer since there are 14 hotfixes for SunGuide software Patch 2. (Open Action Item)

4. CO to create a scope and cost estimate for discontinuous lane blockage item and provide more information. (Open Action Item)

Previous Meeting Action Items

5. CO to send out email on hotfix 14, that it has to be installed in conjunction with using the new report template. (Open Action Item)

6. Look into getting Bluetooth data into RITIS. (Open Action Item)

7. CO to distribute a ConOps for the arterial probe algorithm. (Open Action Item)

8. CO to reach out to Districts for appointments to the Technical Review Committee to review DMS displays and SunGuide software capabilities. (Open Action Item)

9. CO to follow-up on Google Traffic data possibilities. (Open Action Item)

ITS Telecommunications Update

Randy Pierce & Frank Deasy, P.E.

ITS WAN Update

- Tallahassee Fiber Ring
  - Build-outs completed, splicing completed
  - Procuring network equipment
  - Connectivity to SEOC will also be established
- FTE RTMC Pompano
  - ITS WAN is physically re-connected to FTE ITS Network
  - FTE is working out a routing problem
- Multicast Re-Addressing
  - Districts should re-address their multicast devices now to resolve any overlapping addresses
  - D3, D4 & D6 completed their multicast addressing
  - D1, D5, D7 & MDX are in process
  - D2 not implemented at Layer 3 at this time
  - Multicast video can then be shared statewide

ITS WAN Update

- FL-ATIS & VAS
  - Phase I migration complete, Phase II to be scheduled
  - D5 working to resolve firewall issue
  - ITS WAN connectivity established and working for VAS
  - VAS IP addresses will be migrated in a future project
- FTE Tolls Middleware Application
  - FTE Tolls has requested a consolidated connection over the ITS WAN for all Districts
  - D6 has a Layer 2 Connection via ITS WAN
  - D4 has a Layer 2 Connection via separate FDOT fiber
  - FTE Tolls connection to the ITS WAN being upgraded to a Layer 3 connection with routing to support the 95Express project and future Managed Lanes projects
  - Ongoing discussions and engineering for a new Layer 3 connection at Turkey Lake to provide redundancy

QUESTIONS?

Randy Pierce & Frank Deasy, P.E.

Randy.Pierce@dot.state.fl.us

Frank.Deasy@dot.state.fl.us

SunGuide Software Update

Derek Vollmer, P.E., FDOT

Status 6.0 Upgrades

- District 6 and MDX on Release 5.1.1

- All other Districts on Release 6.0

- Patch 3 released August 15th included 5 Enhancements and 53 Fixes

Enhancements Included with Patch 3

- FP 2181 – Better Filtering/Identification of TSS Link Roadway Information

- FP 2563 – Re-Implement DMS Groupings for SAS

- FP 2649 – Short Status Option

- FP 2652 – Update SPARR Driver to Allow Event to be Changed to "Unresolved"

- FP 2676 – Compatibility with Externally-Generated DMS Messaging with Color Images

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Release 6.0 Patch 3

- Refer to website for detailed list of over 53 Footprint issues resolved and 5 Enhancements with Patch 3: www.sunguidesoftware.com/releases/release-6-0-p3

- Closed vs. Blocked – Footprint 2579

  - Change made to use Closed vs. Blocked

  - Functionality to include additional lane blockage information in the message to be restored

Release 6.1

- Schedule:
  - FAT completed week of September 22
  - IV&V in October-November
  - Release by end of Calendar Year
- Changes Impacting Other Systems
  - C2C
  - Permissions via SAA

Release 6.1

- Small Enhancements

  - Response Plan Status (FP 2511, 2525)

  - Response Plan Terminate on Close (FP 1769)

  - Re-Publish Event Dialog Filtering (FP 2314)

  - SAS Response Plan Scheduling

  - Login/Subsystem Dialog Integration in WPF

  - Video on Desktop and C2C

- Full implementation of DMS groups

WAZE Improvements

- Changes in alert confidence are now tracked in the Waze historical database

- Waze fixed a bug that prevented confidence from being passed through the data feed. Adjusted the program to use the new confidence value

- C2C events are now deleted after being closed for 30 minutes

- For the purposes of filtering, an alert's confidence rating is equal to the highest recorded confidence during its lifetime

- Improved filtering of road type, event type, and confidence rating

QUESTIONS?

Derek Vollmer, P.E., FDOT

Derek.Vollmer@dot.state.fl.us

RITIS Update

Derek Vollmer, P.E., FDOT

Enhancements

Item
HERE real-time data on RITIS website
HERE real-time data with VPP Suite tools
FDOT Probe real-time data on RITIS website
FDOT Probe real-time data with VPP Suite tools
HERE 3-year archive incorporated
FDOT Probe data archive incorporated

- Revised Schedule Pending

High Priority Issues Update

- Detector Organization – Resolved

  - RTMC removal resolved hierarchy issue

- Missing Roadways in Event Query Tool – Resolved

  - UMD added roadways to the event query tool drop down menu

- Gap in VPP Suite for SR-821 – Resolved

  - UMD fixed issue causing large gap in Vehicle Probe Project Suite data export map

- Zone volume not equal to sum of lanes – Resolved

  - Cause identified and UMD to resolve soon

RITIS Issues

- Please send RITIS issues with detailed information to: Derek.Vollmer@dot.state.fl.us, Clay.Packard@dot.state.fl.us, and Kelli.Moser@dot.state.fl.us

QUESTIONS?

Derek Vollmer, P.E., FDOT

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Response Plan Enhancements
(with vote)

Clay Packard, P.E., Atkins/FDOT
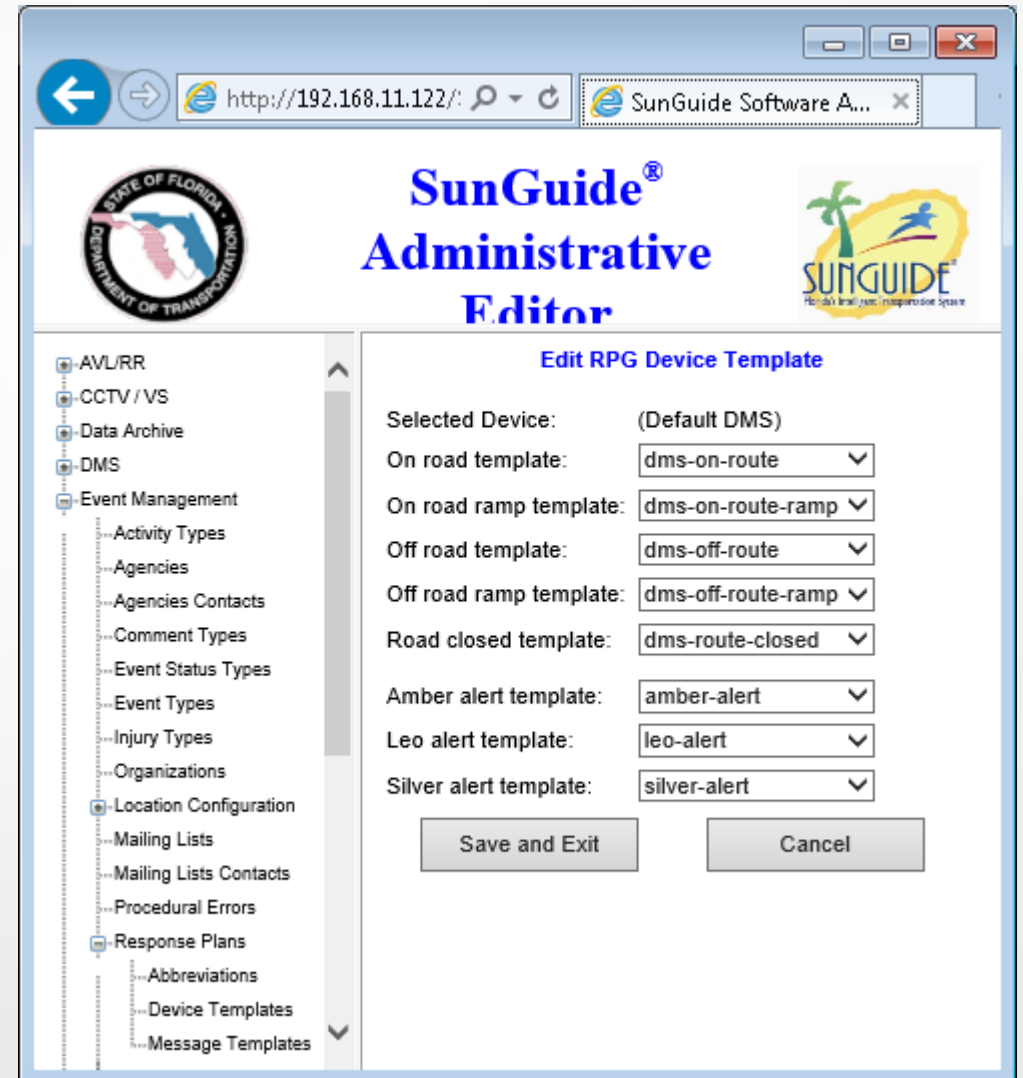
Footprint 2620/2621 and : Event Type DMS Templates

- District 5 uses a different message format for construction messages than other event types

- Footprint 2621 specifically for construction events

  - Footprint 2620 covers the need for Footprint 2621

- Enhancement presented to SSUG 7/8/2014

  - Software Change: Use different template per event type

  - Districts 2, 3, 5 expressed a desire

  - Districts 4, 6, 7 expressed indifference

Current Templates

- For non-vehicle alerts: 5 different templates based on location-relation to event or road closed

- Current Exception: Only event-specific templates are for Amber, Leo, and Silver alerts

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Proposed Modification

- List will be broken into sections for each event type:
  - Crash, Congestion, Amber, Leo, Silver, etc.
- Original List of 5 types will be repeated in each event type section

Edit RPG Device Template

Selected Device: (Default DMS)

Roadwork - Scheduled

On road template:	dms-on-route
On road ramp template:	dms-on-route-ramp
Off road template:	dms-off-route
Off road ramp template:	dms-off-route-ramp
Road closed template:	dms-route-closed

Congestion

On road template:	dms-on-route
On road ramp template:	dms-on-route-ramp
Off road template:	dms-off-route
Off road ramp template:	dms-off-route-ramp
Road closed template:	dms-route-closed

You get the idea... :]

Vehicle Alerts

Amber alert template:	amber-alert
Leo alert template:	leo-alert
Silver alert template:	silver-alert

Save and Exit   Cancel

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Footprint 2894:
Separate On Road/Off Road Templates

- Currently, a device template allows for selection of a message template to be used in certain scenarios

- ROAD CLOSED is one of these scenario

- However, it does not allow different messages to be generated for 2 distinct scenarios desired during a road closure:

  - When posting message to motorists ON the ROAD of the closure

    - i.e. "ROAD CLOSED AHEAD AT NW 54TH ST"

  - When posting message to motorists OFF the ROAD of the closure

    - i.e. "ROAD CLOSED ON I-95 AT NW 54TH ST"

Footprint 2228:
Congestion Response Plan Messages

- Scenario:

  - Congestion Head and Incident Location: 10 miles away

  - Congestion Tail: 5 miles away

  - Current Response Plan Message: "Congestion 10 miles away"

  - Problem: Driver runs into congestion well before expected (5 versus 10 miles)

  - Solution: Add <HEAD> and <TAIL> tags into response plan templates

Current Template Tags

- Current location tags:
- do not refer to the congestion/affected area head or the tail

Text Tags

Freetext

New Line

New Page

Space

Data Tags

Cross Street	Route Dir	Veh Make
Event Type	Route Name	Veh Model
Lane	Status	Veh Color
Proximity	Distance	Veh State
	Location Exit Number	License Tag

Proposed Modification

- Add 3 Location "Columns"
  - Event Location Tags
  - Congestion Head Tags
  - Congestion Tail Tags

Text Tags	Data Tags	Event Location Tags	Congestion Head Tags	Congestion Tail Tags
Freetext	Event Type	Route Name	Route Name	Route Name
New Line	Status	Route Dir	Route Dir	Route Dir
New Page	Veh Make	Cross Street	Cross Street	Cross Street
Space	Veh Model	Proximity	Proximity	Proximity
	Veh Color	Lane	Lane	Lane
	Veh State	Location Exit Number	Location Exit Number	Location Exit Number
	License Tag	Distance	Distance	Distance

- Scope: Footprints 2620, 2621, 2228, 2894

- Cost: $37,700

- Schedule: After Release 6.1

QUESTIONS?
(VOTE)

Derek Vollmer, P.E., FDOT

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Clay Packard, P.E., Atkins/FDOT

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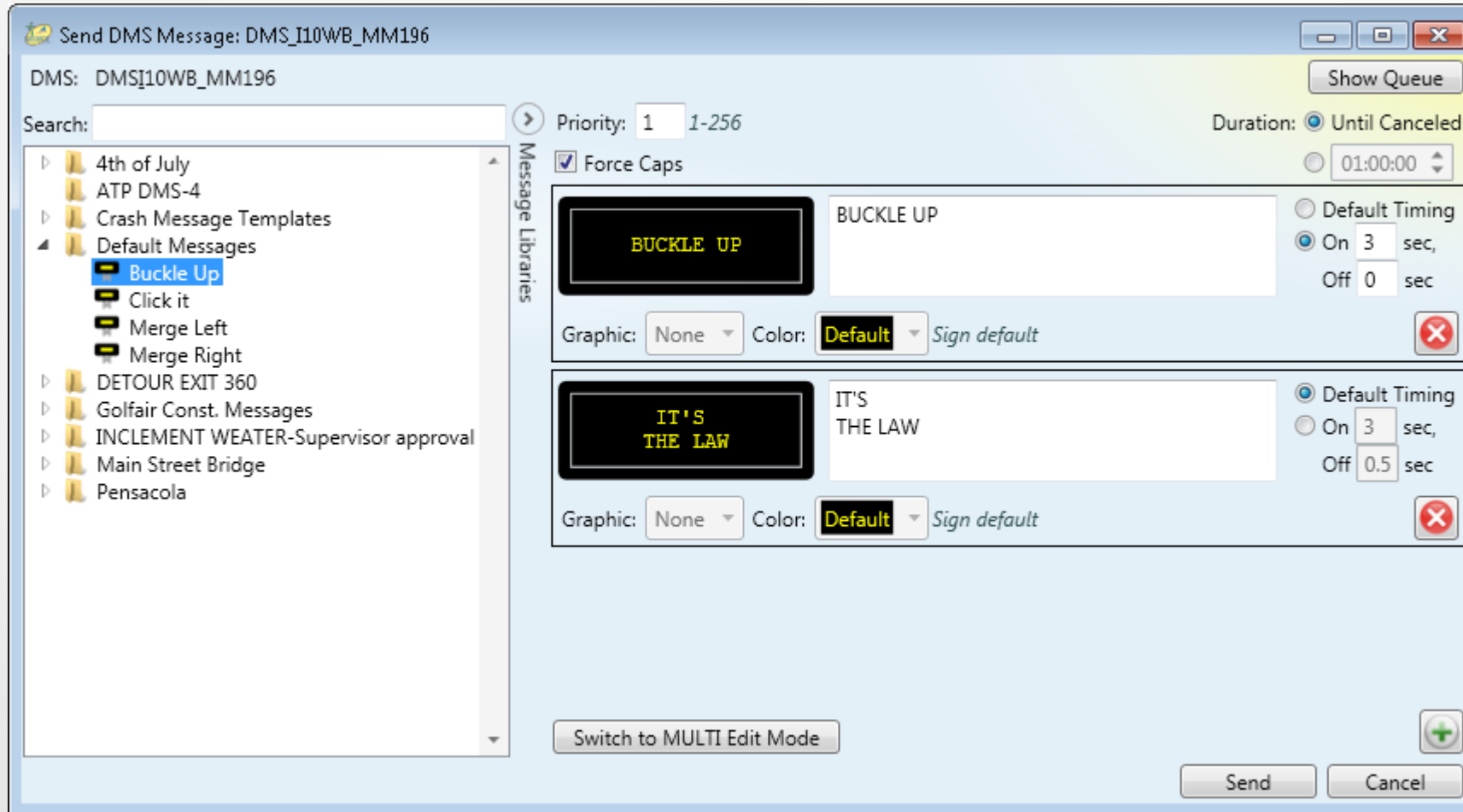# DMS GUI Force Capital Letters (FP 2650)
(with vote)

Clay Packard, P.E., Atkins/FDOT

DMS Force Caps Summary

- DMS Policy is to use all caps

- Default SunGuide behavior is to force capital letters

- SunGuide offers ability to disable force caps

- District 5 RTMC requests to remove ability to disable force caps (Footprint 2650)

- Cost: $1,200

- Schedule: Release 6.1

DMS Force Caps Summary

- Existing Force Caps checkbox

QUESTIONS?
(VOTE)

Derek Vollmer, P.E., FDOT

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Clay Packard, P.E., Atkins/FDOT

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DMS Force Blank Status on Failure (FP 955)*(with vote)*

Clay Packard, P.E., Atkins/FDOT

DMS Force Blank Status

- SunGuide Status of DMS Signs currently retain last known message during communication loss

- SunGuide, and thus FL-ATIS, continues to show stale messages

- Desire is to have everything blank after a comm loss and sign transitions to a failed state

  - Local DMS sign,

  - SunGuide status, and

  - FL-ATIS

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DMS and other ITS Device Status History

- ATMS originally designed with following concept for all devices:

- Report the operational status of the device

  - active, error, failed, out of service

- Report the last known status of the device (even if stale)

  - For error/failed case, user can see device is in error in SunGuide map (not in 511)

SunGuide Operational Status

- Active Status:
  - SunGuide most recent attempt was able to communicate with the device
  - Normal Operations
- Error Status:
  - SunGuide failed at a recent attempt to communicate with the device
  - SunGuide retries to communicate with the device
- Failed Status:
  - SunGuide fails multiple times consecutively to communicate with the device
- After any successful communication the sign goes back to Active status

DMS Force Blank

- For consistency, signs and SunGuide both need to be configured to blank
- Local Sign Controllers:
  - Can be configured to blank if a central software (i.e. SunGuide or vendor master) doesn't communicate with them for longer than a configurable amount of time
- SunGuide Signs:
  - Need modification to the software to blank after going into a <u>Failed</u> State.
  - Not recommended to blank on error status
    - Would not allow for retries or a configurable delay
    - Need to be sure the sign is really failed, not just a single dropped message (UDP Packets are not guaranteed)
  - MAS Queue will not be blanked
    - Valid state to preserve queue state
    - Automatically resend top message when sign becomes active
  - Configurable
    - system-wide default setting
    - Also settable on specific signs to override the system-wide default setting

- Discussion
  - Include question:
    Do we want to change the original design concept from reporting last known status?
  - Alternative to consider:
    - No change to SunGuide – Operator map already shows failed state…
    - 511 modified to blank signs on website in failure status

- Cost: $6,000
- Schedule: After 6.1

QUESTIONS?
(VOTE)

Derek Vollmer, P.E., FDOT

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Clay Packard, P.E., Atkins/FDOT

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Break – 10 min

http://ipadstopwatch.com/timer.html

Auto-Dismiss Already Detected Alerts (FP 2845) *(with vote)*

Clay Packard, P.E., Atkins/FDOT

Current Behavior

- Each corridor has several contiguous TSS links

- Each TSS link can have multiple lanes

- Each TSS lane can have thresholds on speed, occupancy, or both

- A new alert is triggered when an alarm threshold is hit

- Recovery Thresholds help, but…

  - Subsequent alarms are suppressed until the corresponding recovery threshold is hit

  - Even with recovery threshold, there are **FAR TOO MANY** redundant alerts for operators to be required to handle

Desired Solution

- Goal is to have a single alert for a corridor when traffic conditions are first detected

- After first alert, an operator will manage an event and does not need subsequent alarms

- Subsequent alarms for that corridor automatically

  - Dismissed

  - Associated to the active event

- TSS Links drawn on the map will still flash red

  - Good non-intrusive visual indicator of road conditions

Solution Detail

- The challenge is how does the software answer the question:

  "Is this TSS alarm redundant to an existing alarm?"

- The following are rule-based scenarios for determining if an alarm is redundant:

  - There exists an active event with a TSS alarm associated to it with the same county, roadway, and direction as the new alarm.

 - At least one scenario from the following applies:

Subsequent Alerts After Recovery

- Subsequent Alarms from the same TSS lane
  - SunGuide completely suppresses alarms until the first alarm one recovers; however,
  - After recovery, a legitimate new alarm can be triggered.
- The new alarm (after recovery) is redundant if a prior alarm is associated to an active event
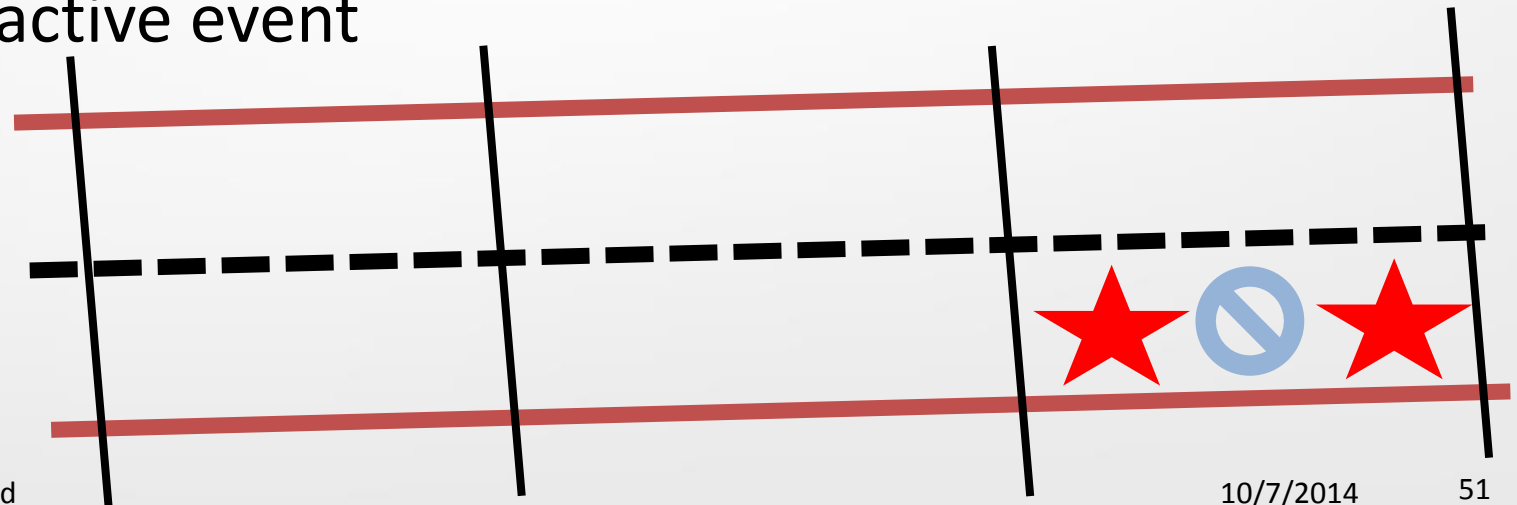
Any Other Lane within a TSS Link

- Any lane within a TSS Link

  - If lane 1 triggers an alert, lane 2 can also trigger an alert

  - The new alert is redundant if another alert from the same TSS link is associated to an active event
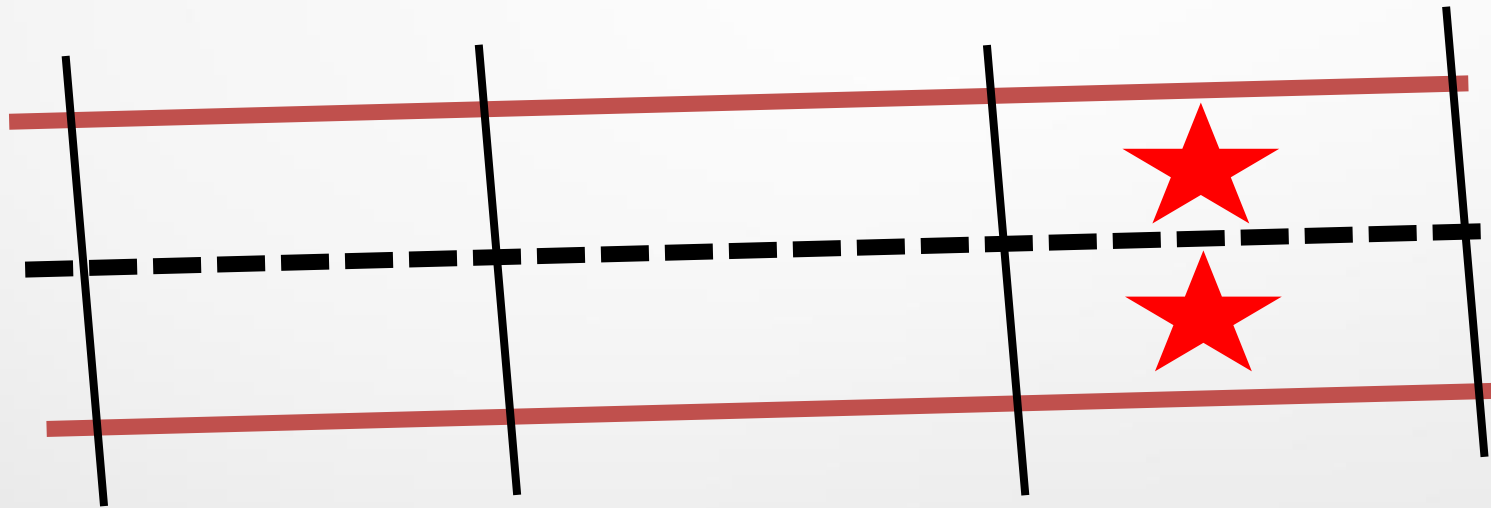
Adjacent TSS Links

- Any adjacent TSS link

  - An alert can be produced on an adjacent TSS link immediately upstream or downstream of another link

  - The new alert is redundant if another alert from an adjacent TSS link is associated to an active event.

  - For example, if link 2 triggers an alert and is associated to an active event, then any subsequent alert from link 1 or link 3 would be adjacent.
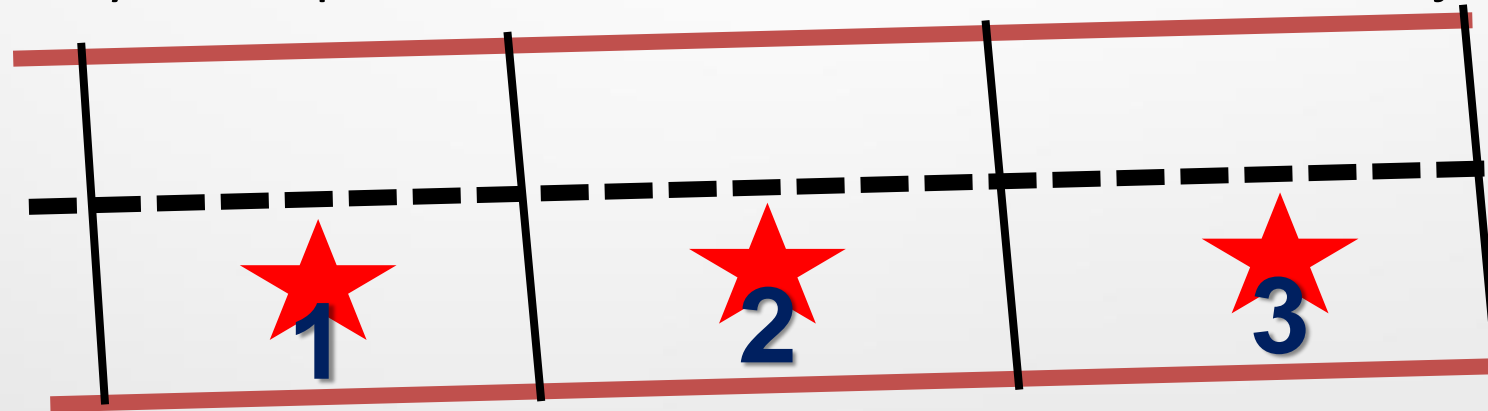
Contiguous TSS Link Chains

- A link can be adjacent to any other link, not just the original one

  - If link 1 produced an alert,

  - and link 2 subsequently produced an adjacent, redundant alert,

  - and link 3 produced an alert,

  - then link 2's and link 3's alerts would be redundant (thus creating a chaining effect from 1 → 2 → 3 as long as 2 was associated to the same event as 1 before alert 3 was generated)
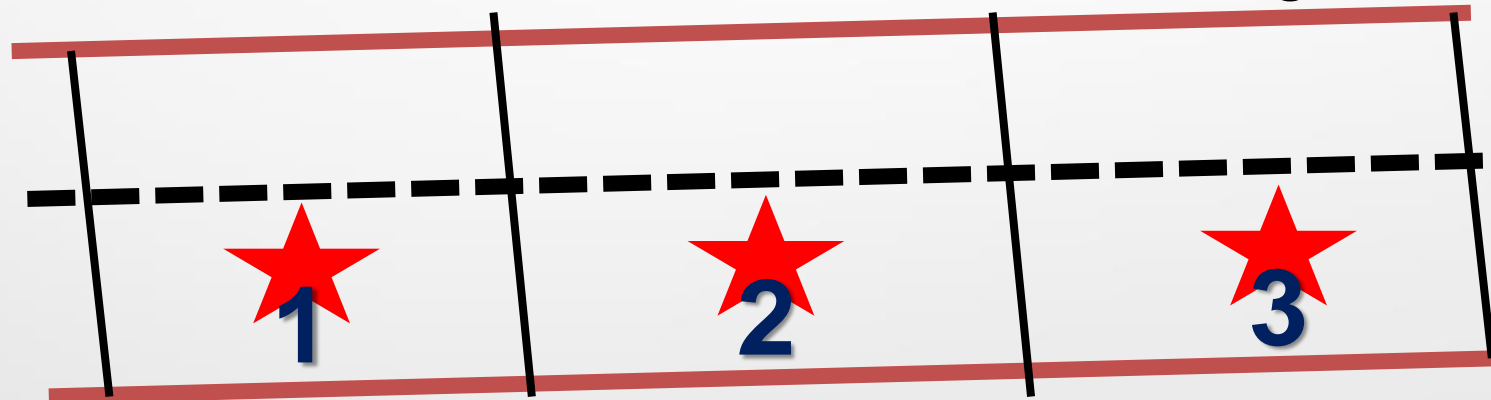
Scenario Combinations

- All combinations of alarm type
  - speed alarm,
  - occupancy alarm, or
  - speed *and* occupancy alarm
- Any combination of the previous scenarios
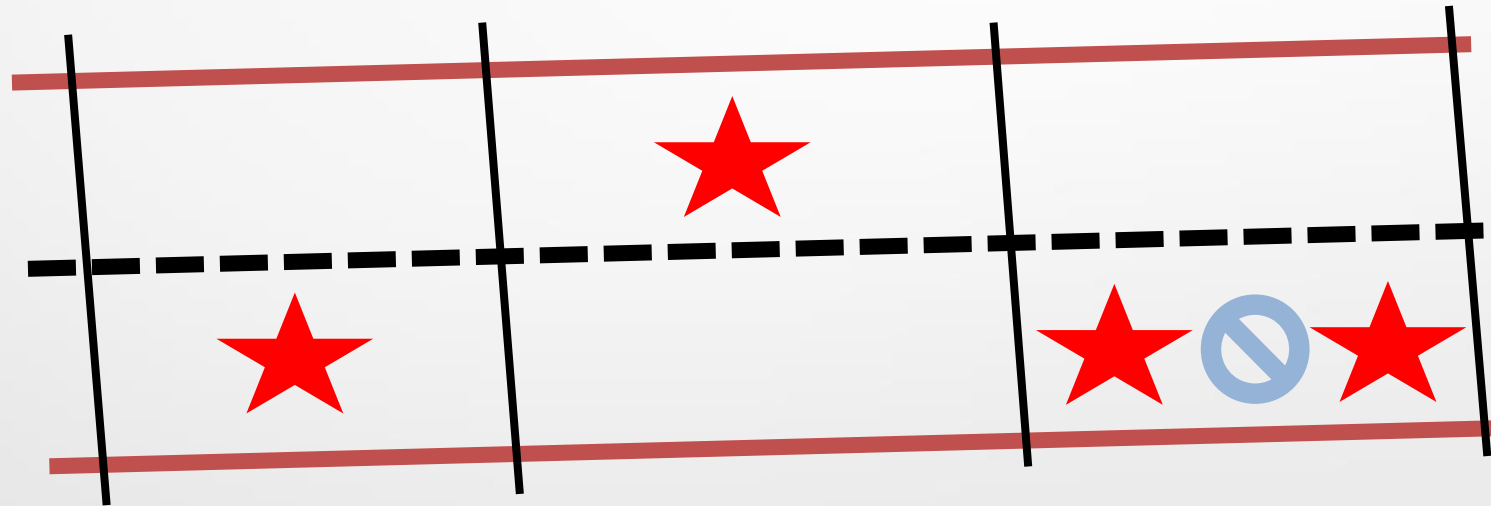
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System Requirement

- The software shall automatically dismiss a TSS alert and associate it to an existing event when there exists another TSS alert from the same link or an adjacent link associated to an active event.

- Design Details:

  - There shall be no new configuration for this modification (i.e. you don't have to configure all your links to tell which ones are adjacent.)

    - However, you do need to have correctly configured links, and we will look into a display option in the map editor mode to easily point out configuration issues on the map so you can easily find and correct them.

  - Link A will be considered downstream and adjacent if Link A's starting node is the same node or within .1 miles of Link B's ending node.

- Cost: $28,500

- Schedule: After Release 6.1

QUESTIONS?
(VOTE)

Derek Vollmer, P.E., FDOT

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Clay Packard, P.E., Atkins/FDOT

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Statewide ITS Architecture Update

Derek Vollmer, P.E., FDOT

ITS Architecture Team

Central Office :

- Derek Vollmer, P.E.
- Armelle Burleson, Ph.D., P.E.
- Kelli Moser

Consultant: ConSysTec (Architecture updates)

- Bruce Eisenhart
- Robert Jaffe, Ph.D.
- Patrick Chan, P.E.
- Manny Insignares
- John Baker

ITS Architectures Being Updated

- Statewide Services (last updated 02/09/2006)

- District 1 (last updated 08/18/2008)

- District 2 (last updated 03/08/2010)

- District 3 (last updated 02/07/2006)

- Districts 4 and 6 (last updated 03/28/2014)

- District 5 (last updated 09/01/2009)

- District 7 (last updated 03/16/2006)

- Turnpike Enterprise (last updated 02/09/2006)

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ITS Architecture Updates

- Project Kickoff Meeting was 09/5/2014

- District 7 Kickoff Meeting was 09/18/2014

- District 1 Kickoff Meeting was 09/23/2014

- District 7 Stakeholder Workshop Scheduled for 10/08/2014 in Tampa

- District 1 Stakeholder Workshop Scheduled for 10/09/2014 in Sarasota

- District 1 and 7 ITS Architecture updates will be completed by 12/31/2014

- Remaining Districts ITS Architecture updates will be completed by 12/31/2015

- District 5 and Turnpike will be the next updated after Districts 7 and 1

Proposed ITS Architecture Schedule

- CO, Districts 2 & 3

- Districts 4 & 6

- District 5 – Start 01/13/2015 and End 04/07/2015

- FTE – Start 01/13/2015 and End 04/08/2015

- Open Slots

  - Start 07/09/2015 and End 10/28/2015

  - Start 04/15/2015 and End 06/23/2015

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ITS Architecture Events

- Project Kickoff Meeting – 09/05/2014

- Eight Architecture Kickoff Meetings

- Stakeholder Interviews

- Stakeholder Workshops

- Final Architecture Meeting

ITS Architecture Deliverables

- *Turbo Architecture* Files (V7.0)

- Customized Service Packages in Visio File

- ITS Architecture Summary Document

- Hyperlinked Web Site of Architecture

QUESTIONS?

Derek Vollmer, P.E., FDOT

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Arterial Probe Algorithm Con Ops
(with vote)

Derek Vollmer, P.E., FDOT

Arterial Operations Support in SunGuide

a. Turn lanes already approved

b. Additional Probe products available

  i. Cost effective solution

  ii. Flexible fine tuning

  iii. Direct data into SunGuide

c. Travel Time calculation different for interrupted roadways

Existing SunGuide Algorithm

a. Assumes non-interrupted flow

b. Uses first read, not closest read to device

c. Does not allow enough per roadway fine tuning

Changes Proposed

a. Use Temporal Mid-Point to Generate Accurate Timestamp Representing Closest Proximity to all Probe Readers

b. Add Support for Interrupted Roadway Probe Data TSS Link Algorithm

c. Additional configuration fields

    i. Duplicate Tag Expiration (seconds)

    ii. Maximum Travel Time OR Minimum Speed (mph)

    iii. Sample Size (count)

    iv. Historical Data Expiration (minutes)

    v. Use median for TVT calculation (Boolean)

d. Note: All changes configurable and will support existing behavior

Changes Not Yet Included

a. When detector is offline, prompt operator for what to post

b. Will be separate enhancement

c. Will be discussed at SSUG

d. Cost: $15,000

e. Schedule: After Release 6.1

QUESTIONS?

(VOTE)

Derek Vollmer, P.E., FDOT

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Open Discussion

Derek Vollmer, P.E., FDOT

Review Action Items

Derek Vollmer, P.E., FDOT