

SunGuide Software

User’s Group

Meeting Minutes



Date: December 6, 2018

Time: 2:30pm-3:30pm EDT

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| Agenda: |  |
| Topic | **Led By:** |
| Item 1: SG-4596 Fractional Occupancy  Item 2: Bridge Reporting/Notifications in FL511  Item 3: SG-4577 FL511 Bridge Alerts | Mark Dunthorn  James Barbosa  Tucker Brown |

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| Attendees: |  |
| Alain Capucci, D1  Ray Mikol, D1  Robbie Brown, D1  Justin Merritt, D1  Luis Ruiz, D1  Jason Summerfield, D2  Tanesha Sibley, D2  Kevin Mahaffey. D3  Aven Morgan, D3  John J. McFadden, COT  Shayla Khalilahmadi, D4  Marlon Chin Shue, 595  Adrenamae Rolle, D4 (595)  John Hope, CFX, D5  Mark Lucas, D5 | Mark Laird, D6  Javier Rodriguez, D6  Rodney Vila-Carrera, D6  Alex Mirones, D6  Jared Roso, D7  Mike Crawson, D7  Tucker Brown, SwRI  Derek Vollmer, CO  Christine Shafik, CO  Jennifer Fortunas, CO  Mark Dunthorn, CO  Frances Ijeoma, CO  Karthik Devarakonda, CO  Jo Ann Oerter, IBI  James Barbosa, IBI  Kriss Whitaker-Lee, IBI |

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| Discussion: |  |

This meeting is being recorded for the purpose of taking meeting minutes.

1. Fractional Occupancy

**Derek Vollmer:** This is important because this information interfaces with the Statewide Express Lanes Software (SELS) and what we are seeing is causing counts to be off in the Statewide Software.

**Mark Dunthorn:** Just as a reminder occupancy is the percentage of time that the lane in front of a detector is occupied. It is stored in SunGuide as a percentage and an integer so basically zero would be no cars present and 100 would be a parking lot. Typically, occupancy is 5-10%.

Some of the RTMS protocols (Wavetronix, Wavetronix HD) report fractional occupancy. This would be something you would see when there is very little traffic. The occupancy would be less than one. As previously stated, it is stored in SunGuide as an integer and fractional occupancy is always rounded down including decimals (example: 0.3 or 0.8 it would be recorded as 0). This only applies in the middle of night. We might have a single poll cycle and have a single car pass along this stretch of roadway. The recorded volume (count) would be 1 and the occupancy 0. Regardless of how the detector stores the data, SunGuide will always round it down and that is how it will be stored. So, we are recording traffic counts but there is no associated occupancy.

**Derek Vollmer:** Are they rejected by SELS or is there something in SunGuide that causes the rejection?

**Mark Dunthorn:** There is a field but I don’t think that is what is causing the issue. Mark correct me if I am wrong, but SELS is rejecting it because the occupancy is 0 and the volume is 1. The occupancy being 0 is what causes the rejection.

**Mark Laird:** I don’t know if is rejected in SELS or if it was already rejected in SunGuide.

**Derek Vollmer:** I thought it was already rejected in SunGuide. Somewhere it is getting rejected.

**Tucker Brown:** There is a field mark that you are referring to that is the suspect data that is for really really high speeds or crazy volumes. I believe it is called out as one of the error conditions is that it is a scenario that can’t happen is to have volume but no occupancy. It is not a responsible case so it interprets it as invalid data.

**Mark Dunthorn:** We did look at the suspect data column. The data that gets stored in there was interesting. When I calculated it, what I saw lined up with what was in the email. In other words, simply rejecting because occupancy is 0 resulted in an undercount of 5-10% but it was a significant under count. In the design phase, we can look at where the rejection is taking place. The issue is still that these records are being rejected and we are going to do something about that.

Our proposed solution is when the occupancy is less than 1, we can round up. If it is a decimal like 0.3 or 0.8 we will round that up to 1. We will also make sure that it does not flag it as suspect data. One way or another we will ensure it is counted by SELS and make sure that we do not under count these volumes. The vehicle counts are accurate, we are just discarding too many of them which is the core issue we are trying to address.

**Derek Vollmer:** So that is the core issue we are trying to address here is having under counts in occupancy. How is this impacting the District Six side of things? I know that they compare the numbers to some Turnpike counts and if it is off by a certain percentage it will trigger a QA. Does it impact you in other ways?

**Mark Laird:** We have a very tight tolerance on acceptable detector data and they are always some differences either from the detector or the data from the Turnpike. If we are a little close, it doesn’t take a lot of counts to push us over the threshold so we need to make it as accurate as possible.

**Derek Vollmer:** Absolutely and I agree with that.

**Luis Ruiz:** Is there ever a scenario where there is a volume count but the occupancy is zero and it is a legitimate message from the detector that SunGuide is receiving?

**Derek Vollmer:** Meaning at the detector level is there ever a reading from the detector itself where it says volume of 1 and an occupancy of 0. I cannot answer that.

**Luis Ruiz:** If it is never the case that it is that, then effectively what you are doing with this is you have a volume count the occupancy is always 1. Why use occupancy if it is 0 or 1?

**Derek Vollmer:** Occupancy is between 0 and 100 percent. We are only looking at the small case where the volume is less than 1 percent. I am not sure if anyone actually uses occupancy for anything? I am not sure if we know how accurate the occupancy information is from the detectors.

**Javier Rodriguez:** We use occupancy for Ramp Metering, but what is happening with this particular scenario is that the record that says 5 vehicles went through but has 0.5 occupancy, it comes in as zero. We shouldn’t have zero occupancy when there is a volume or it is invalid data so we are not capturing it in SELS.

**Derek Vollmer:** That is why I am for this change because the way we truncate these it looks like invalid detector data and it is not a good scenario to have. I think it should be rounded up to one so we can be counted as a record. In case anyone is wondering, the detector will report a speed up to 70 mph with a volume as 0 and that is really an invalid speed, just an FYI.

The proposed change is when occupancy is greater than zero but less than 1 we will round up. This will help us capture the volumes that are missing and will really help with the counts. Is anyone opposed to this change? If no one is, we will go ahead and authorize this since it is a big deal to District Six. It will impact everyone except for District Three. Is anyone opposed?

Only rounding up when the data comes in between 0 and 1. We will keep using the current behavior for everything else.

Javier are you okay with us going ahead to make the change?

**Javier Rodriguez:** Yes, that would help us out.

1. Bridge Reporting/Notifications in FL511

**Derek Vollmer:** The first part of this will be presented by James Barbosa from the FL511 team and then we will present the SunGuide side.

**James Barbosa:** We essentially implemented a scheme between FL511 and SunGuide that allowed the FL511 website to display bridge opening/bridge closing. These occur on a set schedule unlike other events. Users interested in receiving bridge alerts would have to use the current FL511 personalized route feature in order to subscribe to those alerts. They would have select a route that included the bridge and the specific criteria. It is less than ideal and less than efficient. We have also talked about that within the current scheme users cannot create an alert that is specific to a bridge.

This came from District Six – can we change the personal set up so the user can select the bridge alert without having to create new personalized routes and they also wanted us to do this in a way that we could provide statistical data on the alerts and the alert subscriptions that are specific to selected bridges. The current system does not lend itself to that very well, which is why we decided to come up with an alternative.

**Derek Vollmer:** I thought it was also to not have a manual process on your side of creating these bridge types?

**James Barbosa:** It is an alternative whereby we would have to manually configure on the FL511 side which EM locations should be associated with which bridge. If any changes were to occur we would have to hard code it on the FL511 side. Moving forward we would need to maintain a list of EM location to bridge mappings. I think we collectively agreed that it is less than ideal.

1. SG-4577 FL511 Bridge Alerts

**Tucker Brown:** James mentioned earlier that there is a bridge pre-emption function that is part of SunGuide. Essentially it is an automated process and there is an event made when the bridge is raised and it is pushed out. When the bridge is lowered it get removed from FL511. We are limited with bridges in Miami-Dade and there is no way to subscribe to specific alerts easily.

The proposal is to add a new object type in SunGuide for bridges. For a bridge, you would have an ID, name (that could be changed anytime), a location (Latitude and longitude), Status list (up/down), can publish flag, last updated date time stamp. Potentially could be automatic or could be manual. If it is automatic we would need to do some configuring.

**Mark Laird:** The configurable status values, is it always going to be a binary thing and this is just a label that is going to be used?

**Tucker Brown**: I think I am going to answer that on the next slide. Did you have another question?

**Mark Laird:** I was thinking during configuration you would want to include the type (draw bridge, tunnel, etc.).

**Tucker Brown:** That is where we are going with the next slide. The first option we were thinking of a more generic subsystem. You would need to define the type (bridge, railroad crossing, etc.) that you would want to shoot out to FL511. Once you create the type, you would need to make a configurable status per type. A bridge could have four different statuses (up, down, open, closed). We were considering making it to where you could have icons per each status type. Or you could have a default for all status for a particular type.

**Mark Laird:** When you send status information through to FL511, doesn’t the status need to be something understood that they would have to know how to react to?

**James Barbosa:** What we would do is that we would filter out everything but the bridge events unless we wanted to explicitly look at different types. For the configuration on the SunGuide side we would have to know what it is in advance for each type.

**Tucker Brown:** The alternative is that we provide the ability to configure the status to say whatever it is you want it to say in SunGuide and have a list of attributes associated with each status. It would be a similar concept to what AVL does which their status configuration. If we don’t do something like that, we will have to have a set list of status’ for bridges so FL511 can interprete it.

**James Barbosa:** Yes, I think it we would need to decide to do it per type and after it is set, I don’t see it as something that would need to change very often. It is not a major concern to me for the O&M effort.

**Mark Laird:** I would assume there will be a map layer for these features?

**Tucker Brown:** They would be standard icons and the ability to turn on and off the layer.

**Mark Laird:** If we get an event that says the bridge is up and we never get the bridge down can we click on it and change the status?

**Tucker Brown:** Yes.

**Mark Laird:** If these are affecting traffic, can they be used to associate with events so we can do a response plan?

**Tucker Brown:** You could depending on how you would want to see it. The easiest would be a way to right click and create a new event. It would use the location of that to pre-populate and event.

**Derek Vollmer:** Since railroad was added, I am not sure if other Districts would want to put something up on arterial DMS to notify drivers when they are about to close the road. It would be nice to have an event that we could publish and post to DMS.

**Tucker Brown:** Do you see that being a manual thing or something automated by the system?

**Derek Vollmer:** For the railroad, I’ve seen research where they are trying to determine when the train will be at certain intersection, not sure if it is preemption on the controllers to do a timing plan. Down the road, I think there will be a need to be able to create an alert for that. Maybe it would be automated.

**Mark Laird:** Some you might want to do that and others you wouldn’t.

**Derek Vollmer:** I think this would be a good topic to bring up at the Change Management Board meeting.

**Mark Laird:** You also want to talk about reporting.

**Jason Summerfield:** Not to roll back into the first topic but how is this interaction with FL511 different than using the bridge up incident type?

**Mark Laird:** We have the bridge up incident type is the sort term solution for this.

**Tucker Brown:** Another difference is that it is tied to XML feed then it is automated for when those events get created and when they get published and unpublished. It is all automated when the XML feed changes.

**Derek Vollmer:** I see where Jason is going with that but do we not send an SAE code of bridge up to FL511 when that happens? What event are we sending?

**James Barbosa:** We are getting the SAE code specific to bridge up. That is what is in use currently. The issue is more generally, if we want user to subscribe for alerts for a specific bridge we would have to map specific EM locations as bridges within the system and configure it on the FL511 side. Or we take the approach of the bridge itself is a distinct entity, the support can be made automatic between SunGuide and FL511. We would get the specific list of bridges and their status. It also allows users to subscribe and choose from a list.

**Mark Laird:** Do you envision them subscribing to any state change or to specific state changes to do alerts?

**James Barbosa:** I was thinking just bridges at first. I envision logging into the personalization portal and now you can subscribe for traffic and emergency alerts. I see a new panel being there giving the option for bridge alerts. Like you can subscribe to specific Counties, you would be able to subscribe to a specific bridge and specify the time of day. We only want to send an alert that is relevant and we only want to send an alert if the user is going to care about them.

**Mark Laird:** It would be when it enters a certain type of state it would notify the user, is that right?

**James Barbosa:** Yes. For bridges, we could make it simple because the user only wants to know when it becomes passible.

**Derek Vollmer:** I want to go back a little bit, Jason does that answer your question?

**Jason Summerfield:** There is a difference in bridge up and bridge closed to notifying people because of traffic or a hurricane evacuation.

**James Barbosa:** We could support both. The user subscribes to the bridge and whether we receive a bridge up status or a bridge closed status we could send out the alert to the subscriber with the correct text.

**Derek Vollmer:** If someone runs into the bridge, we will need to track that in SunGuide as an event and with people responding. That has to be tracked as an event.

**James Barbosa:** Keep in mind there is nothing stopping Districts from having both mechanisms in place. We would receive a status of closed for example and on top of that could receive an event. I think that would fine from a 511 perspective.

**Derek Vollmer:** Could you also have a District forget to do the status and just do an event? Now we are asking our operators to do two things.

**James Barbosa:** If they did that, then a user that has subscribed to the bridge specifically would not receive a notification.

**Derek Vollmer:** Could we have the event status pop up during the event management portion of it? I’m not sure how we would do that.

**Mark Dunthorn:** Maybe we limit the bridge, it might be more useful for the bridge status concept if they got a feed that takes that off the operator’s shoulders and lets it be automated.

**Derek Vollmer:** I would still have the same issue. I think it is the signal preemption that triggers us to let us know if the bridge is up.

**Mark Dunthorn:** We need to flush this out more.

**Derek Vollmer:** We will to discuss this more and get back to you.

**Tucker Brown:** Bridge status as a type we would send out bridges configuration and status at all times to FL511. We can allow people to configure them as they need to. This is a new data type and we can make a more generic one and add other stuff if we need to at a later time. FL511 will accept the new type and we will need to flush out how FL511 receives that information.

**Derek Vollmer:** Since we have wrapped railroads into this, there are a couple of other Districts I would like to talk to on the phone directly about what we are trying to do. I want their specific insight into what we are trying to do and what they do in their District.

We will retool this and have additional conversations with the Districts at the future SSUG meeting (as a briefing) or bring it up at the next CMB meeting. Does anyone have additional questions?

1. Ad-hoc discussion

I know District One had some things they wanted to discuss.

**Tucker Brown:** One of the items was the lack of spell checking. Spell checking was originally provided by the browser and when we moved out the browser we lost that functionality. It has been requested that we move some of that back in. We have had different ATMS projects with other states implement it. You have to add it by area. The main one that people need spell check is in the comments field. It should be easy to add that, is there anywhere else people want spell check added back in?

**Jason Summerfield:** Floodgate text/banners. Can we get it for Spanish too?

**Derek Vollmer:** I cannot commit to Spanish.

**Mark Dunthorn:** We need a configurable spell check due to the abbreviations. We also need it for the comments section.

**Mark Laird:** You have to allow all of the roadway names that we have configured in our SunGuide instance.

**Derek Vollmer:** It is not correcting the text it just points it out. They don’t have to change it.

**Tucker Brown:** If anyone has any other places they want to see spell check, let me know.

There was a functionality that allows you to have a drop-down box and the browser allows you to do a control F and do a find function. That functionality is a little more complicated. Almost all drop down lists in SunGuide is controlled by a sort order. The sort order is dependent on how you want to put that in. If you are not able to find things you can re-arrange that list to make it easier to find. To add a find feature in a drop-down is more complicated. We will have to investigate it further to see what we can change.

**Derek Vollmer:** For DMS do we have something similar to that? Or am I thinking of something else?

**Tucker Brown:** this would go to a the first of that letter in the drop-down list. This was possible in the browser version.

**Derek Vollmer:** Investigate and let us know how difficult it could be. We will decide then.

**Rodney Vila-Correra:** For bridge alerts we would reconvene at the CMB in February? Or is there a SSUG before then?

**Derek Vollmer:** It depends on how far we get, we will present it at the next meeting. With no more questions we will adjourn the meeting.

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| New Action Items: |  |
| Action: | **Responsible Person:** |
| Bring up bridge status at either next SSUG or CMB | Derek |
| Talk to Districts about railroad and bridge status | Derek |
| Move ahead with rounding occupancy between 0 and 1 up | Tucker |
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