

SunGuide Software

User’s Group

Meeting Minutes

**Date: July 16, 2020**

**Time: 2:30-3:30 EST**

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| Agenda: |  |
| Topic | **Led By:** |
| Item 1: 5267 – Thru Lanes: Adding new Event Management Lane Type for Lane Mapping  Item 2: 5278 – Blank Out Signs Integration  Item 3: 5251 Wrong Way Device – Incorrect images displayed in SunGuide with Alert | Tucker Brown  John Hope  Tucker Brown |

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| Attendees: |  |
| Robbie Brown, D1  Chrissie Collins, D1  Justin Merritt, D1  Ray Mikol, D1  Tom Arsenault, D1  Margret Treiber, D1  Jason Evans, D2  Tanesha Sibley, D2  Jason Summerfield, D2  Amy DiRusso, D3  Mark Nallick, D3  Kevin Mehaffy, D3  Aven Morgan, D3  Clay Congdon, D4  Jacque Dupuy, D4  Dee McTague, D4  Neena Soans. D4  Jay Williams, D5  John Hope, D5  Kyle Higgins, D5  Eddie Grant, D5 | Mark Laird, D6  Alex Mirones, D6  Dan Buidens, D7  Mark Crawson, D7  Jared Roso, D7  Kelly Kinney, FTE  Cherie Phillips, FTE  Brent Poole, CFX  Wang Lee, MDX  AJ Skillern, SwRI  Tucker Brown, SwRI  Christine Shafik, CO  Alex Brum, CO  Mark Dunthorn, CO  Greg Dudley, CO  Brenda Murphy, CO  Karthik Devarakonda, CO  Hitesh Chawla, CO  Luis Hernandez  Simon Cooke |

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| Discussion: |  |

Christine Shafik: Thank you for joining us today. We hope that all your families are safe. As usual this meeting is being recorded for the purpose of taking notes.

Alright I guess we're ready to start. We have a couple interesting topics to discuss today and will be looking forward to your input as usual. With that said I will turn it over to Tucker to discuss our first issue.

**Item 1: 5267– Thru Lanes: Adding new Event Management Lane Type for Lane Mapping**

AJ Skillern: Actually, I will be presenting today, Tucker's had to step away so I guess we can get started. Please go to the next slide. The first topic we're going to discuss today is a request for a new lane type in SunGuide. This particular lane type is called a Thru Lane. The idea behind it Is similar to an express Lane but there's no tolling involved in it. It's not quite a general-purpose lane in that it has limited access as you can see on the screen with the double white stripe. Basically, this issue is to add the new lane type to SunGuide. There are some questions that might be thought about with the implementation. This is going to involve changes to reporting and blockages in SunGuide. Should this be treated as just a generic travel lane, should this be treated as an express lane. I'll open this up to the floor to see if anyone has any thoughts regarding this issue, things like that.

Kelly Kinney: I don't know if any districts have through lanes or if they have future to have thru lanes. This is mainly on the Halstead project (Inaudible words) several projects that involve thru lanes. This is not intended to be treated as a separate roadway, (Inaudible words) especially in delay at express lanes. It was more so to be an HOB lane type. There are dedicated ramps in some portions that take people to the thru lanes as part of the original design when they were originally intended to be express lanes, but they have been repurposed. The reason why we ask to have this additional lane type is because there is no signage in that region on the Turnpike that label these as express lanes. They are all labeled in status signage as thru lanes; it is intended when we publish it to 511 or use the DMS messaging to be labelled as a thru lane so that it is not confusing to motorist and they don’t anticipate that there will be an additional pole one that lane. So, there would be a need for some response plan messaging specific to the through lanes and some entrance ramps specifically to the thru lanes.

Ray Mikol: Hey Kelly, this is Ray in D1. I’m just curious if there was an incident in that area and you had blockage on both thru lane and the entrance traditional lane, how would that be handled in SunGuide. Would 511 report that two left lanes were blocked. I'm not sure that this is something that you want to discuss now.

Kelly Kinney: Yes. It would be treated as regular lane and it would be signed as two left lanes blocked. That’s the way we are treating it right now. We have this open on a couple of projects already. The need really arose from those dedicated ramps that take you to those thru lanes and some of the specific lane status DMS signs, so we have those small one line status signs that are the dynamic status signs that are attached status signs that say thru lanes entrance ahead. For those one-line signs we would probably need something specific for the messaging for thru lanes.

AJ Skillern: Kelly, along those same lines, would you report these to Platus and 511 as normal travel lanes as well or would these be reported as an HOB?

Kelly Kinney: It would be reported as a regular lane with the exception of when it’s a ramp that takes you to the thru lanes, then it would be reported on Platus as ramp 2 thru lane, I really wish I had Carla here because she’s the one that drafted this and she would probably be better to answer some of these questions.

AJ Skillern: Sure, I’m just trying to figure out all the different implications and impacts.

Aven Morgan: Hey this is Aven from D3. Would this show up on 511 as a regular travel lane? We also have additional lanes in SunGuide now, like the gore or the merge lane that doesn’t really tell the motorist anything that is looking at 511 as far as true representation of what is going on at the scene. So, would reporting, we don’t have thru lanes here in District 3 but reporting this as a regular travel lane would this do the motorist much good?

Kelly Kinney: Yes, that is something to consider.Right now we are using it as a typical travel lane and messaging on 511 and such but if we had this lane type in SunGuidethat would be of benefit to the motorist then yes, I think publishing it as a thru lane in addition to the, you know, if there were other general toll lanes blocked that would probably be a benefit.

Dan Buidens: Hey, this is Dan in District 7. I don’t think this is part of our typical 511 notifications but in this example could we indicate that four of the five lanes are open, or one of five lanes is blocked. I know that is different then what we are doing but that would easily solve it and make it easy for anybody to understand.

Kelly Kinney: Is any district currently messaging using that method, the one of four of the five lanes are open or one of five lanes is blocked or is it more so like three left lanes or four left lanes out of five?

AJ Skillern: Well, if we are talking about the message that shows up on Platus that would be standardized across the state. If we are talking about DMS messaging, then that would be per district. I believe what shows up at least for 511 is the incident description or however many total lanes blocked would be in the description.

Kelly Kinney: Do you happen to know the behavior if you have a different lane type that is blocked in addition to the regular travel lanes, let’s say like a gore lane. Does it report on that?

Aven Morgan: If you have something like a gore or merge lane it doesn’t report as a gore or merge lane. It may say shoulder, or we’ve seen it at as just shoulder, or it completely omits that altogether here in District 3.

AJ Skillern: I do know for sure that if you have a travel lane blockage or a shoulder blockage the travel lane blockage is priority as part of that description. So that is why you wouldn’t see the shoulder lane block show up. If you have just the shoulder blockage, it might but I am not 100% sure on that part. And then, as far as the distance is concerned, a gore lane is just a shoulder lane and that’s why it doesn’t distinctly call it out as a gore.

Kelly Kinney: So, I just tested adding HOB lane to my lane configuration and I’m generating the latest and it says; or I had a left lane blocked and I added an HOB lane and blocked it and it is reporting as left lane block.

AJ Skillern: I believe in that regard, it might be is the travel lane type are put together regardless of their type. There might be specific behavior that is different from a toll, like if you have an express lane, they might call it out differently. I know that we report those separately through Platus and it’s only the blocked tolls.

Kelly Kinney: Yes, it does. When you add in an express lane it adds in with express lane closed. So that would probably be the type of behavior that we would want for the thru lanes. So, if we could mimic the behavior of the express lane but just change the label of it to thru lanes, I think that would meet our needs.

Aven Morgan: This is Aven from D3. Is there any way that we can consider doing that with the other lane types in SunGuide as well?

AJ Skillern: Aven you are asking if you have a travel lane blockage and a shoulder lane blockage that the description would include both and not just the travel lane blockage?

Aven Morgan: I’m asking if you have something that’s blocking like the gore or the merge lane, is there any way we could have that accurately depicted in 511 as well.

AJ Skillern: Yes, I believe it should be in what we are sending but just not in a blockage string. I believe if you have at travel lane blockage and a shoulder lane blockage it is going to only include the travel lane blockage portion of that. I don’t think that includes the shoulder blockage. I think what you are asking for there is a separate functionality to always include the blockage or a shoulder in addition to any travel lane blockages. I don’t know if you want to create a separate enhancement for that, but it does sound like a little bit of a different issue. If we are going to change the behavior of how we are reporting the descriptions that could be part of this issue.

Aven Morgan: I feel like we are saying the same thing. I just wanted to be sure. So if you have an extra-long merge lane and an accident occurs in the merge lane and on the shoulder, SunGuide will only give you the option, even if you put in the merge lane icon, it’s going to say the shoulder is blocked. It won’t indicate that the merge lane is an issue or is a merge lane and the only other option is to have it in the travel lane which doesn’t really depict what is happening on scene.

AJ Skillern: Okay, I think we were saying different things so I’m glad you called that out. Yes, your right, it does need the word shoulder and you are looking to change the terminology when it does come to those four lanes. Or as you called them, merge lanes. The question there is, is a merge lane an accurate description of what a gore lane is when generating those descriptions or is there a better description then that the general public might understand? I guess I’m just asking because to me, at least the gore name is not included and is something I had to learn when I first started doing traffic management work.

Aven Morgan: Yes, right. My interpretation is these are two completely separate things. I would honestly think that a gore lane is more like an emergency lane in certain areas. And the merge lane is something that comes off the exit, so to me we are talking about two completely different objects. But neither of which show up properly in SunGuide if you try to identify them. We have the icons and we have the ability to put it into the system it just doesn’t translate well to 511.

Mark Laird: It’s almost as if you would want to specify thru lanes if it’s a single lane that’s blocked or just thru lanes that’s blocked but do the multiple lane format where there are multiple lanes that include it. Like the left three to five, or something.

Kelly Kinney: Yes, I think for the thru lane the way that it is generating when you add an express lane to other non-express lanes in the lane configuration and you block it. I like the way that that publishes and kind of separates out that there is a thru lane closed in addition to the other lane closures. I think we would want to emulate that set up.

AJ Skillern: Okay. Does anyone else have anything on this topic?

Kelly Kinney: You know, if it would be helpful if I could get Carla and Cherie to draft up something that has some very specific details on how we want our signs to look and how we want 511 to publish and emails to generate and then bring it back to the table, if that would be helpful.

Christine Shafik: I think it’s a good idea Kelly.

Kelly Kinney: Okay.

AJ Skillern: Alright, I guess we will move on to the next topic which I believe is going to be presented by John.

**Item 2: 5278 – BOS Blank Out Signs Integration**

John Hope: Yes, thank you. This has to do with integrating blank out signs in SunGuide. We are on the next one, thanks. The general purpose of blank out signs is just to redirect traffic during a planned or unplanned traffic event. It works similar to DIVAS in that you are notifying the traffic public except it has a very finite things that it can actually display. It typically you know, either go one way or go a different way. Go to the next slide please. There are a few use cases for this. Recently, District 5 had produced a ConOps in relation to this. This slide summarizes the ConOps and in there, it identifies these three use cases. One of them is the arterial route alternative routing for arterial roads, and that’s the coordinated activity of multiple Blank Out Signs (BOS) in SunGuide’s Response Plans. It’s also use case of warnings to over-height vehicles approaching bridges. This is a similar concept in which once height vehicle is detected, it can reroute that truck from potentially crashing into a low bridge or some other bad situation. And then parking availability, either automatically or manually activate signs to direct incoming traffic to parking facilities.

So, the changes that were identified in SunGuide is to first off communicate with BOS devices, then have a configuration of BOS signs, which may or may not use beacons in conjunction with the signs, integration with the PAX/FOS systems (the systems that have information about over-height vehicles and their current locations) and, of course, the integration into the Response Plan generation. That’s about it. Are there any questions? Could you move on to the next slide? I think that’s the last one. Yeah, okay.

AJ Skillern: John, I have got a quick question. So, the configure with the directional sign, the top-down kind of shows the detour route plan. I apologize, this is a conceptual overview document, but is there a plan or do you have any kind of idea how we would be able to gather information to be able to, like would it be automatically suggested as part of an response plan suggestion and how will we be able to get the information to automatically suggest that or when we talk about the response plan suggestion, are we talking about manually adding these devices and messages to response plans?

John Hope: We more tend to a pre-defined plan because the routes would be decided beforehand and they would have to be very specific. So, it isn’t something that SunGuide would try to figure out what the route is in real time. You know, it would be, so there is certain condition met, then it would select a plan.

AJ Skillern: Okay, that sounds perfectly fine. The wording kind of made it look towards the dynamic component but having a pre-defined plan sounds better.

John Hope: Yes.

Jason Summerfield: Are these signs basically affixed ON/OFF design or do they have multiple designs on them?

John Hope: They typically have a certain number of states and ON/OFF could be two of those states. There could be another state in which it is on but pointing it in different direction.

Jason Summerfield: Okay. So, the end result is that you could basically have a different directional arrow on it. But it’s not a full sign that you can just put anywhere on, right?

John Hope: Yeah, they are not fully dynamic. You can only specify certain directions and that’s by design of the sign itself.

Jason Summerfield: I just wanted to make sure because I have seen some different designs that look like they were different LED setups and some others that looked like they were just calling it that, but it wasn’t fully dynamic. Okay, thank you.

AJ Skillern: John, I have a clarifying point that I wanted to confirm for other people, but these are not like the DMS messages. These are different types of devices like the BOS, right? They involve a relay switch.

John Hope: Yes.

AJ Skillern: Okay.

John Hope: But like I said, there could be a couple of different ON states, so there would be, in that case, multiple relays.

AJ Skillern: Okay.

John Hope: Okay, I guess that’s it with that particular topic. Moving on to the next thing.

**Item 3: 5251 – Wrong Way Device – Incorrect images displayed in SunGuide with Alert**

AJ Skillern: So, the next topic we are going to talk about has to deal with how the system is currently handling the wrong way device alert and essentially changing the behavior in order to handle it in a different way. So, the way the system is currently designed is that you can only have one wrong way alert associated with a particular wrong way device at a time. I guess, until now, this hasn’t been any problem per se, but the behavior that has actually been noted is when they have been them using the Blinklink protocol that we added, I believe in 712, was that they would get alert sometimes in rapid succession or sometimes hours apart but for the purpose of testing, they were leaving wrong way alarms unresolved and coming by few hours later and they would have a wrong-way alarm in the system, but the details of the wrong-way alarm didn’t match the backup that was associated with that wrong-way alarm. And the reason for this is, what will happen is, the Blinklink server would send us an alarm, you create it in SunGuide, send it up to the map and then sometime later they get a second alarm with a second set of screenshots, and because SunGuide is only reporting this one alarm at a time, the images on the back end of the server, that we get from the Blinklink are getting overwritten, and so we eye the second set of screenshots that don’t necessarily pertain to the current wrong-way alarm that we are getting aware of. There are at least two options that we would like to propose, and the first is don’t overwrite the images. Basically, if you don’t resolve the alarm, then when a new alert is detected, it is going to be completely ignored and we would just not overwrite those images. The downside of this is if you do have multiple alerts come in, you are not going to see them. You would just see whatever the last alert that has been resolved is. The other option here is that we could allow multiple alarms per device. This also has interesting implications; we would no longer be able to overwrite the images, which this would potentially have Freedom to Information Act or the Sunshine Law implications because depending on how we decide to handle these alarms, we can’t just overwrite the files with every new alert. Right now, based on the understanding of how the sunshine laws for that information might work for just overwriting the file. There definitely has to be considerations for that. The other downside of this option is that you might actually have multiple alarms show up at the same time. One of the cases that we need to talk about is sometimes they have multiple emergency responders going down at the ramp to respond to an incident. You might have an ambulance and then 15 or 30 seconds later, you have a fire truck chasing right behind it. So, now you have two wrong way alarms but for a single event. It is two different detections, of two alarms. So, one way we could get around that is potentially having a threshold for how long to wait before it’s generating a separate distinct alarm. But that is the issue and the options that we are looking at right now. Does anybody have any comments or questions?

Brent Poole: I have a question on this one. (Voice breaking, not able to understand clearly)

AJ Skillern: That is an interesting approach. I had a little trouble understanding you, but I just want to make sure I understood. You are saying that you took the second approach where you kind of allow, it’s actually kind of a hybrid approach where we still only have one alarm, but if we get additional images within a certain amount of time, we add them to the existing alarm instead of just overwriting them or outright ignoring them.

Brent Poole: Yes, because if you get two vehicles that go up the ramp close to same time of each other, you would want to know about it, and you would want to be able to track it. As an active event, you know, instead of one vehicle separating it into two separate events, you have two cars that go up close to each other, say within 5-10 seconds of each other, that could be combined as one event.

AJ Skillern: And then, anything you get outside of that threshold, they would just be ignored, and we won’t capture those images or have those alarms. We would still have only one alarm, or would you want to create that as second alert?

Brent Poole: Probably as a second alert.

AJ Skillern: Okay, so go for the hybrid approach that we would have support from multiple alarms.

Brent Poole: Yeah.

Daniel Buidens: Hey guys, I don’t know if this was mentioned, but when there are two activations/situations you are talking about, usually the side priority camera is programmed to record like 60-90 seconds, thereby the wrong way driver turns around and then that image or that video is saved locally. If two cars go up the ramp, do you have any idea how that might work? You have two activations, one recording starts, both vehicles are captured in it?

AJ Skillern: I was going to say it also depends on the protocol, so I know that not all the protocols that we support may have the video recording features. Or I know that at least the Blinklink and the TAPCO protocol, they are spending a snapshot on their video involved. I don’t think it’s available. I don’t know how that would work. The Wavetronix protocol doesn’t even have the snapshot, so we wouldn’t get that from them, definitely a device and protocol specific that you are talking about in the video recording.

Daniel Buidens: Okay, yeah, I have got some of the TAPCO side, the off-ramp delays and setup. And when somebody goes up the ramp the wrong way, it records the buffer 10 seconds before the event and 80 seconds after, and then those videos are saved locally. It could be extracted from a thumb-drive locally at the off-ramps and use these graph directions. We are going to start using them for Central Office-issued performance measured management plan (PMMP). Hope you guys are familiar with that, but anyway, I was just thinking for that side priority recording the two activations went, that the first activation somehow overwrites the recording or restart the recording. I just want to make sure that that doesn’t happen. But if that’s not the topic that is being discussed, I will just back off.

Kelley Kinney: I will just mention that at the Turnpike, we are not getting that long of duration of a snapshot or video images to review. We are getting a series of 6-10 images, so it’s often difficult to tell if a vehicle turned around. With the Blinklink website, each wrong-way entry is a unique alert, and some of our research partners (local universities that are doing their studies) and we are trying to corroborate. What we are seeing in SunGuide and what they are including in their research is not matching because it might have two or three distinct wrong-way entries and they are maybe responding to the same crash, but they were not separate Blinklink alerts that were captured. So, I think this kind of stems from just the numbers not matching up from one to the other, but if that creates that much of an issue and we can put the time limits to make it that minimal, if we have repetitive alarms, that should be able to handle it.

AJ Skillern: So, basically, I think the core question that it comes down to is should SunGuide be able to have more than one active wrong-way alarms per device or not. And then a lot of side discussion is basically what do we do with the video log or don’t. One of the other options that is not listed here that we could do in order to help you guys to make sure that the count matches is if we do end up with something like Option 1, if we are only going to allow one-on-one at a time, we could always still create those alarms in SunGuide, but automatically resolve them and not send it out to the users; essentially saying like hey this alarm, no action is taken, and so it’s not valid anymore because we got a new detection. So, you resolve this one and just show the new one.

Kelley Kinney: The non-resolved alarm that occurred 15 seconds prior to the next one that overwrote it, I think that would meet our needs.

AJ Skillern: Okay. That’s good to know. Yeah, at least that will allow counts to match between Blinklink and SunGuide.

John Hope: District 5 was discussing this as well. What District 5 would like to see is every alert or one alert per event and let the operators decide whether or not they are actually related to each other. So, even if there are multiple emergency vehicles related to the same event, they would like to see one alert per vehicle.

AJ Skillern: Okay. That would definitely be Option 2 there, John. We would have to do some behavioral changes to how SunGuide operates and other things in order to handle that.

John Hope: However, to address the storage applications, if one says the alert is handled, those images are really inaccessible to the operator. So, there is no need to continue to store it after that.

AJ Skillern: Yes, I understand that. I don’t know the exact details but the way I understood when this was explained to me was even if we were to say to delete the files on one resolution, that kind of still is in violation of keeping that information unavailable and against the Sunshine information. I don’t know the specific medium, I might be completely wrong and this isn’t a concern for all, but the note there is kind of is that there is going to have to be some consideration made when/if we allow multiple alarms in order to not have any kind of issues violating that.

AJ Skillern: I definitely agree with John that those images are non-useful and/or available for the operator. So, we could definitely do whatever we need to do after the alarm gets resolved. That’s all.

Cherie Phillips: I don’t know if there would be a way that we could hybridize both of these options but from previous conversations that I had with Tucker where he explained to me the way in which your wrong-way or the information that comes in from the wrong-way driver alert goes to a folder that it will overwrite to the previous data. I don’t know if there could be any way that you could set up almost like a second or a tertiary folder for that same device and setup some logic that if the alert was not resolved that it would write to the second folder. So, you are not actually going to ever delete that information or save it for indefinite. You are only going to have scenarios when a secondary alert comes in when the first one was not resolved that you will kind of have the folder structures there to capture it. I don’t know if that would work.

AJ Skillern: Potentially. So, right now, the way the SunGuide does handle them is that there is a single folder. When we get an alert, the device takes a snapshot for that, puts it in the folder with the device name followed by a number and then the file extension would be like wrong way device 1, wrong-way device 2, etc. So, they will just have 5 screenshots. So, the next time we get an alarm, we just pull another 5 screenshots that will overwrite the previous 5 screenshots all over again. Potentially, having a secondary storage location would resolve it. I don’t think it’s a huge concern on our end. If there is no importance to the images after the alarm is gone, they are already being overwritten whenever we get a new alarm. I am pretty sure we will be able to find a solution to implement in SunGuide that would allow us to have all the snapshots we need without having to violate the Freedom Information Act and the sunshine laws. But that is definitely a possible idea that we can look at. Alright, does anybody have anything else, otherwise I think that’s it.

Christine Shafik: Does anybody else have any more questions or comments here? Alright. Hope you guys have a good weekend. Thank you for participating in the meeting. Have a good one.

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| New Action Items: |  |
| Action: | **Responsible Person:** |
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