



Signal TEO Committee Meeting Minutes

Meeting Date: 6-25-2020

Skype meeting

Meeting Time 9:00am to noon

Skype Meeting Attendees:

Jerry Kotzenmacher	Sue Zarling	Kevin Chan
Mike Schroeder	Robin Delage	Cindy Dittberner
Mike Fairbanks	Alex Govrik	Diana Flores Castillo
Clint McCullough	Marty Carlson	Mike Gerbensky
Chris Bosak	Eric Klute	John Hagar
Peter Skweres	John Fahrendorf	Linda Heath
Les Bjerketvedt	Paul Ackerley	Tiffany Kautz
Mark Korwin-Kuczynski	Nick Ollrich	Greg Kern
Tod Becker	Derek Lehrke	Chad Lisser
Steve Misgen	Dave Totzke	Dave Tsang

Old Business –

- 1. Cabinet/Controller committee update** – Working on the second review of the prototype. Once the prototype is approved the manufacturer will send the cabinet in for UL (NRTL) listing. Now looking like next spring for ATCC's to be available. Perhaps a couple could go out this fall. ESS has some concerns about space for conduits and cable in the base of the cabinet. ESS will be mocking up an install utilizing the adaptor to provide more space in the bottom of the cabinet. The City of St Paul had previously been contacted to get feedback about conduit layout and cable lacing in double and single cabinets. **Art work** – Working with Cooperative Agreements group. Will bring to the TEO Exchange soon. Only wrap, no paint. **Note:** cabinet art work had previously gone through TEO approval. If asked to place art on cabinets the requester must fill out the form for Art in the Public Way and get approvals through that process. The Cooperative Agreements Office will put together the agreement needed for installation and it will include language specific to signal cabinets.
- 2. Details and Plates** – OTE continues to work on changing some details into standard plates or standard plans. Some standard plates will also change to standard plans. The standard used will be anything made in the field will be a standard plan. Anything

made by a manufacturer (and brought to the field) will be a standard plate. Some details could remain details. If project managers refuse to sign off a new detail, then the only option is for them to make their own detail. OTE has a list of all current details, standard plates and standard plans for signals and where we feel they will end up and will send this list out to the committee for review. Please review the list and get your comments back to OTE.

3. **RICWS, AWF, Traffic Signal Pedestal Poles** – Cracking fatigue is happening on current pedestal pole bases. Our current pedestal base manufacturers have not been able to show us that they meet the structural demands for ridged steel schedule 80 shaft. The current pole that we use also does not meet the LRFD structural standards. Structural analysis was done by TKDA, and only a Schedule 80 rigid steel shaft meets structurally with signal pedestals, RICWS, and AWF. No aluminum poles meet. Alex is working with pole manufacturers on a new pedestal pole and base design. There is a sample from for an 8 inch diameter signal pedestal that use a standard transformer base for light poles. It will also fit existing signal pedestal foundations. Alex has also been working with a manufacture to work on a 4 way mount adapter to go from 8 inch diameter to 4 inch 4 way mount so ESS could continue to use bracketing in the event of a knockdown.
4. **Ped station wrap around tape** – The use of white tape has been questioned on the corners for wrapping ped station poles. White seems to blend into the surrounding area, especially in snow conditions. We currently wrap median ped poles with a yellow tape/wrap. Tiffany Kautz helped explain colors. It was agreed that all ped station poles should be changed from white in the corners and yellow in the median to a retro-reflective blue on all poles. OTE will check into a blue/black/blue wrap.
5. **NOTE:** After this meeting it was determined that a blue reflective tape would not be allowed for this use. The only reflective tape that could be used on the corners would be a white tape. A black stripe could be included. Alex did find a non-reflective blue cap that could be a possibility that was sent out to districts for comment. The breakaway pole was also MASH approved for only one height with the push button attached. A longer pole should not be installed as it was not tested for breakaway and may not breakaway in a safe manner.
6. **Antenna on cabinets** – There continues to be more of a demand for antenna's being placed on the cabinets. They are needed when cell modems and other blue tooth items are used. Our cabinet manufacturers have been contacted to provide locations that it is acceptable to place a hole to attach the antennas on the top and the sides of the cabinets. Metro has used roof mount antennas on approximately 70 cabinets mounted on the roof with 3M adhesive and a small bead of 100% silicone around the shaft of the antenna. Kevin C. has talked to other agencies to see how they are mounting the antennas and if they have had any issues. He will continue to work with manufacturers, ESS and rewrite the specification for antenna installation. Contact Kevin for recommended hole locations for cabinet antennas. Consensus was reached by the group that antennas could be mounted on the roof and sidewalls of the cabinets

as required. There are times when mounting the antenna to the inside of the cabinet will work and that should be considered as an option.

7. **Pedestrian Countdown indication** project – OTE continues to work on this two year project. The first year will be districts 4, 6, 7 and 8. The second year will be districts 1, 3 and Metro. The project will replace all older ped indication that do not have a countdown feature. All locations have been identified by the districts and compiled by OTE. Current engineers estimate meet the \$250,000 first year and \$500,000 second year budgets. It was estimated that each pedestrian signal head replacement will cost around \$1040 per indication.

New Business

8. **Voting for decisions** – The TEO Executive Committee wants the sub committees to provide more detailed information when coming to them with a topic. The request is to have the committees vote on decisions and come to them with the committee vote on the request. They want to receive guidance on what this committee thinks of a subject. Items the public may see or have an effect on the driving public must be taken to the TEO Executive Committee for approval. OTE will now attempt to send out anything that needs a vote prior to the meeting for committee to review.
9. **Flashing yellow arrow sign** – The FYA sign has been used from the start of when we first installed the FYA. At that time, it was determined that an education sign will be placed for a minimum of 6 month and then could be removed if desired. It is uncommon to have a sign removed. The districts were asked if they still desire a sign. Districts 1, 2, 3, 4, 6,7, and Metro said they are in favor of keeping the sign with it either being the smaller sign or flexibility of the sign size based on intersection size and speed. District 8 opted out of vote. Sue will bring this to other committee such as signing and safety for their input. The TEO executive committee will make a final policy decision on the use of the FYA sign.

Voting is as follows:

D1 – small signs and stay up once they are up

D2 – small signs and stay up – have been putting bigger signs up, but move to smaller

D3 – smaller signs and leave up (Mark) – Robin – no sign if used small in urban

larger in rural Mark – larger sign does not always fit

D4 – smaller sign keep up

D6 – small signs and keep up

D7 – historically kept signs up, but flexibility of size

D8 – No response

Metro – in favor of sign – flexibility of size – sized by size of intersection and speed

ESS – no opinion either way – here support Traffic Engineers, will leave up to them

10. **Design Manual** – Non intrusive detection configuration will be placed in to the design manual as an option. This option can provide a significant amount of

information that we are not getting from our loop layouts. It is not necessarily needed for smaller intersections, but could be useful

We will also continue to look at moving back detection back further. It was explained by John F. that this increases safety first but there are operational benefits also.

- 11. Removing Splices from Base** – Discussions were finalized for no splices in the transformer base of the pole. Metro had concerns that several contractors have opposed this installation and if there are changes to an existing system and a pole needs to be moved there is going to be more time needed for traffic control because everything can't be set up on the ground before installing. It was discussed that this type of revision would be installed with a splice in the base. District 2 had 2 projects with no splice in the base. One contractor has done many installations like this and likes it. The other contractor did this type of installation for the first time and said that it did take more time, but once they got going they liked it and would recommend it. Splices take a long time for them to do. Other discussions included using a splice for modifications; conduit full was checked on an 8 phase system and it was under the 35%; there will be a spare cable running to each pole and wrapped in the transformer base. A vote was taken and all districts except Metro were in favor of removing the pole base connector in the base. This will eliminate all 12 conductor wires and only use 6 conductor wires to a signal indication. A spare 6 conductor will be wrapped up in each pole base to extend the end of the mast arm for future use.

Vote as follows:

D1 – yes

D2- yes

D3- yes

D4- yes

D6 – yes

D7- yes

D8- abstain

Metro – Mike F. abstaining Steve – disagrees for Gerbensky

ESS - yes

For retrofit splices after installation, gel filled wire nuts will be used. This is currently the only UL listed option for the splice. Clint will get Peter his recommended wire nut information for specs to be included in retrofit special provisions. This will be the design standard in effect for all districts beginning on their next new signal design. If you have started a project, it does not need to be changed to no splice. Clint will look to see if there is another gel filled product that could be used that has a quick connect.

- 12. Signal removal pay item** - District 7 was wondering how other districts are approaching removal pay item for signals Having a separate pay item for signal removal will provide better bid information. Sample special provisions are set up for removal to be included in the signal system lump sum pay item. Metro usually has

removal as part of the system, except when roundabout installed. Not opposed either way. “Lump sum” came about in construction. District 7 plans on trying a couple of projects with a lump sum signal system and an each for removal of signal system. This discussion will carry over to the next meeting.

13. **Signal Asset Management** – When removing a signal from TAMS for turn back, mark the signal system as turn back, but also need to change all of the child component, controller and other equipment since they will still show up in inventory if it is not changed.. If on MnDOT right of way, but MnDOT has no ownership, the intersection should become “intersection information only”. This shows no MnDOT ownership. If it is maintained by MnDOT but owned by a city show as “owned by city, maintained by MnDOT”.
14. **Arrows for right turns** – Committee working on a proposal that was sent out to district. Power point showing possible phases will be sent to committee for further discussion.
15. **Video box detail** – Sometimes power lines cause the need to put a box in for the PTZ cameras. Metro will send a detail over to Jerry to route. It could be used as part of the COHO mounting detail. This allows remote installation of the power over Ethernet (POE) injector to be mounted closer to the camera to overcome line loss issues.
16. **MnDOT Vantage Next** – Resolved. Shelf mount had problems with DC ground reference and the SDLC bus. Manufacturer revised power supply and the unit. They will replace any unit not currently working.
17. **APL Products** - Products on the APL are preapproved for use on project and therefore do not require shop drawings to be submitted for approval. Instead the contractor is required to submit a MnDOT Approved Products Materials List that includes the catalog or product number and the quantities ordered for the project (Spec. Book 2545 and 2565 Construction Requirements). This is to be submitted before the work starts. This is being mentioned because eventually light poles will be placed on the APL and shop drawing submittals for approval will no longer be required.
18. **IP addresses** – MnDOT IT only wants IP addresses for signal items we can talk to. No list has ever been established. Districts can determine what they want an IP address for.

Round Robin –

Mark K. – The external ground rod from the equipment pad could be in the nearest hand hole. OTE will change detail to allow external ground rod to be placed in nearest hand hole should the hand hole is near enough. This is OK as long as there is 8 feet of the ground rod in the ground.

Next Skype Meeting:
October 8th, 2020
9:00 am to noon
Send agenda items to Jerry K.