



2017 NoVA Traffic Signal Industry Forum

10/16/2017

Summary of Q&A Session

Responses are current as of the date of discussion in October 2017. As noted in the responses, some topics are being discussed internally within the Department and may change in the future. During the forum, answers were not readily available to some of the questions and in those cases the answers have been inserted in this document.

Q1. Where will the Dedicated Short-Range Communication (DSRC) devices be located? Is this project part of the Signal Phase and Timing (SPaT) challenge?

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| A1: | <ul style="list-style-type: none">• VDOT is considering additional locations in Tysons Corner to create a network of signals. The Department already has deployments along US Route 29 and US Route 50 in Merrifield. DSRC locations along Gallows Road are also being considered to connect the Tysons deployment with the Merrifield deployment. In addition, VDOT is considering deployments along Route 123 between Tysons Corner and Route 193.• In order to test some high-speed locations, the Department may install some along US Route 50 in the Chantilly/South Riding area. Those locations are not yet finalized, as further field investigation is needed before confirming the feasibility of the locations.• Yes, this is part of the SPaT challenge. |
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Q2. Given the upcoming APS requirements, has there been any thought to a modified PA-4, with a smaller base and foundation to allow easier placement in tighter spaces in accordance with the MUTCD requirements for APS?

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| A2: | <ul style="list-style-type: none">• VDOT acknowledged this is something worth considering in the future but currently the standards do not reflect a different base or foundation.• Additionally, note the clear walking area requirements when considering placement of the pedestal pole. Specifically, a minimum of 5 ft, although a Design Waiver can be requested to reduce the 5-ft requirement to 4 ft in the immediate vicinity of the proposed pedestal location if unavoidable constraints exist. |
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Q3. There are some concerns regarding noise with the APS systems. Specifically, for night time chirping at intersections it can be extremely loud. Can an audio sensor be used to calibrate the volume with surrounding sound? Is it possible to put vibrators in the Detectable Warning Surface (DWS) at the curb ramps for ADA accommodations?

- A3:
- The latest specifications require APS systems that have an automatic adjustment for ambient noise levels, which is particularly important to reflect appropriate levels for various times of day (such as in urban areas).
 - The MUTCD has a very firm requirement for noise standards as the traffic levels can become very high. There needs to be a delicate balance to ensure the APS audible indications are significantly loud to be heard over traffic, while minimizing VDOT's noise pollution impacts to adjacent residents.
 - Regarding vibration sensors in the DWS, the technology exists where detectors sense and activate when a person stands on the pad. The question at this point is can the technology be maintained in inclement weather. For this reason, it has not yet been broadly accepted or used.

Q4. Has there been any thought to standardizing foundation designs?

- A4:
- VDOT has discussed this matter internally. For some structures, foundation design can vary greatly due to the soil at the specific site. VDOT would consider creating a standard if it could accommodate the needs for the variability of the soils. An adequate method for such standardization has not yet been identified.

Q5. What is the timeline for getting the signal poles and arms on a pre-approved list?

- A5:
- VDOT is currently in the process of developing a strawman for the design and submittal format and process for pre-approval. This is being reviewed internally next month for further refinement.
 - The intent is to finalize this in early 2018.

Q6. VDOT is open to test bores (or soils testing) during the traffic signal design phase to speed up the construction process. VDOT asked for feedback from the industry (contractors and designers) on this idea.

A6: Summary of open discussion:

- Loudoun County is currently doing this for some projects to advance the process.
- VDOT recognizes that there are challenges that can arise with this decision if there are field adjustments for signal pole locations. VDOT is proposing to revise the Specifications to keep the 5-ft maximum threshold in the western part of the state which has rockier terrain (Bristol, Salem, Staunton, Lynchburg, and Culpeper) but increasing the threshold to 10 ft in the less rocky (and more populous) eastern part of the state (NOVA, Fredericksburg, Richmond, Hampton Roads).
- Any further input or questions about this subject matter should be emailed to Karl Larson and Harry Campbell.

Q7. What is VDOT going to do to help train contractors with new/specialized statewide controller and equipment? Is there anything VDOT can do to help with the qualification process?

A7:
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- NoVA District has training scheduled for their controller and equipment that will be available soon and contractors will be notified. Please contact Rodney Butler for more information on the NoVA training.
- Outside of NOVA, specific training for contractors will be handled on a Region-by-Region basis, subject to needs and availability. The current contract VDOT has with the vendor supplying the equipment includes training for each Region. Central Office understands that the Contractor's partners also need to be well-versed in the new technology being deployed and will work directly with the regions to support these efforts.

Q8. The NoVA controller and D4 software have a lot of advanced capabilities. How can designers/practitioners present their ideas for unique operational concepts?

A8:

- If a designer/practitioner has any special requests with traffic signal operations/controller please address them with the preliminary traffic signal design plan submission.
- NoVA welcomes such requests and they should be sent directly to the VDOT traffic Operations group to see if the proposed operations are viable and acceptable.

Q9. Why has the pole foundation been raised to 1-ft?

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| A9: | <ul style="list-style-type: none">• By raising the foundations, there will be a reduced risk of rusted anchor bolts sitting in standing water. With the old standard, some foundations were being installed at grade or even below grade and this created maintenance issues. |
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Q10. For signal modifications with minor changes to mast arm loading, what type or quantifiable change in load requires pole recertification or any type of structural submission? Is there a percent change requirement?

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| A10: | <ul style="list-style-type: none">• For existing poles and arms, VDOT needs to determine whether the original structural design included any additional load capacity for future modifications. The original design loading is determined from the signal design plan under which the pole was originally installed along with plan notes that typically indicate the design loading or additional loading assumed.• <i>Typically</i>, if the new load calculations are within the 5% of the mast arm loading in the original design plan, then the new load will be acceptable. If no information is available the 5% threshold should be sufficient, but this is only per the NoVA District. The VDOT team still needs to review existing versus proposed mast arm loading to make this assessment.• Note that the current standard MP-3 includes additional loading such that future modifications will be accommodated more easily. |
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Q11. Will VDOT expect re-certification to the 1994 AASHTO code or will it go to the new code?

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| A11: | <ul style="list-style-type: none">• Existing signal poles will be evaluated under the code in which they were originally constructed. |
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Q12. If only a preemption device is added to the mast arm, is it required that mast arm loadings be reevaluated or can this weight be considered negligible?

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| A12: | <ul style="list-style-type: none">• As per the VDOT standard MP-3, such a device is considered to be of negligible weight. Therefore, if only a pre-emption device is being added to the mast arm, then no structural assessment or submittal is required. |
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