January 30, 2025

**MEMORANDUM #2025-16**

**TO: Hampton Roads Transportation Operations (HRTO) Members & Guests**

**BY: Keith M. Nichols, PE – Principal Transportation Engineer**

**RE: HRTO Subcommittee Meeting – February 5, 2025**

The next HRTO Subcommittee meeting is scheduled for Wednesday, February 5, 2025, at 11:30 AM. The agenda and related meeting materials are attached. This meeting will be held in person in the 757 Room of the Regional Building, located at 723 Woodlake Drive, Chesapeake, VA 23320.

Lunch will be provided. Please let us know if you will or will not be able to attend.

If you have any questions or need additional information, please do not hesitate to contact me.

KN/cm

Attachments

**Hampton Roads Transportation Operations (HRTO) Subcommittee**
**Agenda**
**February 5, 2025**
**757 Room, The Regional Building**

The February 5, 2025 HRTO Subcommittee meeting will be held in person in the 757 Room of the Regional Building located at 723 Woodlake Drive, Chesapeake, VA 23320 from 11:30 AM to 1:30 PM. The meeting will be chaired by Mr. Robert Lewis (Suffolk), HRTO Co-Chair.

1. **Approval of Agenda**

2. **Summary Minutes of June 5, 2024 Meeting**

   Minutes of the previous HRTO Subcommittee meeting are attached.

   Recommended Action: Approval

   Attachment 2

3. **Regional Roadway Flooding Sensor Network**
   11:30 AM – 12:30 PM

   The HRPDC previously installed 20 roadway flooding sensors throughout Hampton Roads through a grant from the Department of Defense (https://www.hrpdcva.gov/1152/Roadway-Flooding-Sensors). However, the current flood sensor network portal will no longer be supported as of this summer. Because of this, the HRPDC is currently preparing federal and state grant proposals to improve and expand the network to more locations across the region. HRPDC staff is seeking feedback from various stakeholders including the HRTO regarding the scope and priorities of the project and how the updated sensor network could impact their localities. Mr. Ben McFarlane, HRPDC Chief Resilience Officer, will discuss this item with the HRTO.

4. **VDOT, HRTPO, and Locality Updates**
   12:30 PM – 1:00 PM

   HRTO members will be given the opportunity to provide an update to the committee on operations-related matters in their agencies and localities.

5. **For Your Information and Old/New Business**

6. **Next Meeting Schedule, Location, and Agenda Items**

**HRTO Subcommittee Minutes – June 5, 2024**

The meeting was held in person and was chaired by Mr. Miller. The HRTO meeting started at 11:30 am.

The following represents the attendance of the meeting:

Chesapeake – Kevin Eppley
Hampton – Leo Blades
Newport News - Randy Cooper, Lisa Simpson
Norfolk – Keith Darrow, Brian Stewart
Portsmouth - None
Suffolk – Robert Lewis (co-chair), Jason Souders
Virginia Beach – Frank Hickman, Mike Shahsiah
York – None
FHWA – None
HRT – None
VDOT – John Bisnett, Caleb Brooks, Mike Miller (co-chair)
WATA – None
HRTPO – Sam Belfield, Theresa Brooks, Keith Nichols
HRPDC – Whitney Katchmark
Others – Oliver Burke (VHB), Adam Gill (Miovision/Opticom), Garreth Rempel (TRAINFO)

1. **Approval of Agenda**

   Mr. Miller noted that the order of the agenda would need to be amended to move the Roadway Flooding Sensor discussion to Item #3. Motion for approval of the amended agenda was made by Mr. Lewis, and Mr. Blades seconded the motion. The amended agenda was approved.

2. **Minutes**

   The meeting minutes of the January 3, 2024 meeting were reviewed. Motion for approval was made by Mr. Souders, and Mr. Blades seconded the motion. The minutes were approved.

3. **Regional Roadway Flooding Sensor Network: Pilot Project**

   - Ms. Katchmark introduced the topic by giving a background on the Roadway Flooding Sensors project. She noted that 20 sensors were initially installed, using funding through the Department of Defense.
   - Ms. Katchmark noted that there has been an issue with maintenance with the initial sensors. They are in a holding pattern on maintenance as different localities have different opinions on how to move forward with maintenance.

She added that expansion of the sensor network is being considered, and there are an additional 180 candidate sites.

- Ms. Katchmark stated that there were a couple lessons learned. One is that localities would like an API to handle the data from the sensors. Another is that some localities would like sensor sites surveyed for modeling purposes.
- Ms. Katchmark described a PROTECT grant that VDOT is pursuing. The grant would provide 10 locations with flooding sensors, cameras, and message signs, particularly along evacuation routes. The locations would be operated and monitored by the TOC, and would provide early warning data for storms.
- Mr. Miller asked about the maintenance costs. Ms. Katchmark replied that $100,000 in maintenance costs covers the 20 current sensors annually, or a cost of $5,000 annually per sensor. She added that the unit cost would go down if additional sensors are added to the network.
- Mr. Bisnett asked how often the sensors are checked. Ms. Katchmark responded that they are checked in person every couple months but that the data is checked regularly for anomalies.
- Mr. Miller asked if the flooding sensors are battery powered. Ms. Katchmark replied that they are, and the batteries last around three years.
- Mr. Darrow mentioned other possible funding sources such as CMAQ and USDOT SMART Grants.
- Mr. Lewis asked how we can access this flood sensor data. Ms. Katchmark replied that a link to the portal is available on the HRPDC's website (https://hrpdcva.gov/1152/Roadway-Flooding-Sensors).
- Mr. Lewis asked if they have looked at funding through other resiliency programs. Ms. Katchmark replied that some apply, but that the biggest concern is maintenance funding, which is not available.
- Mr. Bisnett asked if we can locate sensors in conjunction with other equipment such as traffic signals? This could provide opportunities to combine resources, particularly for maintenance.
- Mr. Miller asked if there is a subscription cost to providing this data to WAZE. Ms. Katchmark replied that there is not.
- Ms. Brooks asked if the data shows the frequency of flooding. Ms. Katchmark responded that there is no report but that it can quickly be determined based on the available data.
- Mr. Lewis noted that we have two types of flooding here – storm runoff from rainfall and storm surge. We need to cover both.
- Mr. Hickman noted that the maintenance piece is critical to the success of this project.
- Mr. Cooper noted that the biggest question is how often is each location flooding. Ms. Katchmark added that this project started five years ago by attempting to map areas with flooding issues. There was little data, only anecdotal observations.
- Ms. Simpson stated that Newport News can track road closures due to flooding from Public Works reports. Ms. Katchmark replied that that is a good place to start but that she was unsure if every locality could provide that information.

- Mr. Belfield noted that WAZE has self-reported flooding data and asked if we have tried to access and analyze this data. Ms. Katchmark responded that Norfolk has, but that it is not done on a regional level.

## 4. Emergency Vehicle Preemption - Opticom/Miovision

- Mr. Gill from Miovision made a presentation on Opticom. He provided highlights of the Opticom traffic signal preemption product. Mr. Gill described the current optical technology that most localities use and new cloud-based technologies that are available. Mr. Gill wrapped up his presentation by describing the benefits of the cloud-based technologies.
- Mr. Lewis noted that there have been some challenges with coding each vehicle and asked the group if they've had any success yet with programming vehicles. Mr. Cooper replied that he has been in discussion with his fire department and will be purchasing equipment to code. Mr. Bisnett added that VDOT has purchased programmable emitters recently. Mr. Eppley noted that he has talked with their fire chiefs but haven't heard back on this yet.
- Mr. Lewis noted that he has learned that the newest equipment is easy to program, but older equipment is more difficult.
- Mr. Bisnett stated that VDOT has a closed system, and he asked if this is an external system. Mr. Gill replied that the Opticom cloud modem would be attached to the 764. He also noted the possibility of integrating to the VDOT ATMS. Mr. Bisnett added that historically external systems like this have been difficult for VDOT, and Mr. Lewis added that the issue arises when the cloud tries to access the data.
- Mr. Miller noted that this equipment will have an IP address, so we can know who is preempting the signal.
- Mr. Miller added that this is currently in VDOT and VITA's hands to review. Mr. Gill added that discussions are ongoing with VDOT regarding data transactions. He added that there is very stringent cybersecurity on VDOT's end.
- Mr. Cooper noted that they use central software to preempt subsequent signals from the IR info at the previous signal, including at Jefferson at Oyster Point. Mr. Shahsiah noted that Virginia Beach does a similar thing on Witchduck Road.
- Mr. Lewis wrapped up the topic by noting that he thought it was important to discuss the current state of the art for preemption.

## 5. TRAINFO

- Mr. Lewis introduced Mr. Rempel, who made a presentation on TRAINFO. Mr. Rempel discussed the TRAINFO system, which aims to minimize rail crossing impacts without the need for grade separation, changes to railroad operations, or legislation. TRAINFO uses sensors on public right-of-way to provide real-time and predictive information to agencies regarding trains at rail crossings.

Mr. Rempel provided a demonstration of the product, and highlighted the various analytics that are provided. Mr. Rempel wrapped up his presentation by noting various funding sources that can be used to implement the product.

- Mr. Lewis noted that Suffolk is considering a TRAINFO pilot project, since the city is so greatly impacted by trains. He will keep the HRTO informed on the progress of the pilot project.
- Mr. Eppley and Mr. Darrow both indicated that they have been engaged with TRAINFO regarding their products.
- Mr. Lewis noted that based on predictive analytics, it may be possible for Suffolk to give Chesapeake advance notice of trains approaching.
- Mr. Lewis added that this technology could be really important for 911 response, and noted integration with WAZE.
- Mr. Darrow asked how we can be alerted to trains if not using WAZE. Mr. Rempel responded that it can tie into 511, and X feeds can also be created. There are also other ways to integrate this information, and they are currently trying to tie into vehicle infotainment systems.
- Mr. Darrow asked if it works with different types of trains, such as freight and light rail trains. Mr. Rempel replied that it does distinguish between the two.
- Mr. Darrow noted that Norfolk does not own light poles and asked if there were other installation options. Mr. Rempel replied that standalone poles are available, and that they can tie into power lines or use solar panels.
- Mr. Belfield asked if the sensors are impacted by jets or other noises. Mr. Rempel replied that they are not.
- Mr. Cooper noted that railroads are hesitant to give information due to security concerns and asked if there are any issues that they've brought up. Mr. Rempel replied that railroads have been very supportive of this system. Norfolk Southern has even provided $25,000 for the program.
- Mr. Brooks asked what data gets distributed. Is it time and duration? Or just "train coming soon"? Mr. Rempel replied that it is up to the agency what message to send out, but predictive information can be provided. Mr. Lewis added that the public message will probably be "crossing blocked" but that 911 will get all of the predictive information.
- Mr. Rempel noted that it can be difficult to predict delays with back and forth trains.
- Mr. Bisnett asked if adjacent localities can get this information. Mr. Lewis replied that the vision would be for all Southside localities to share this information, and that it may be economically beneficial to have a regional system. Mr. Rempel added that Northeast Florida is an example of using this on a regional basis.
- Mr. Bisnett asked if this can be used for preemption. Mr. Rempel responded that it can provide information for the locality to use for preemption.

**6. <u>HRTPO Update</u>**

- Mr. Belfield notified the HRTO that he will be contacting members soon as he updates the HRTO Operations Contacts list.
- Mr. Nichols notified the HRTO that the regional CMAQ project application process is open through August 15th.

## 7. For Your Information and Old/New Business

- No information or old/new business was shared under this item.

## 8. Meeting Schedule

Based on discussion at the meeting, the next HRTO meeting is tentatively scheduled for September 4, 2024, at 11:30 am.

The meeting adjourned at 1:15 pm.