APPROVED HRTO Subcommittee Minutes – April 10, 2018

The Regional Building (HRTPO), Chesapeake, VA

The meeting was chaired by Robert Lewis (Suffolk)

1. **Public Comment Period**
   - Nobody from the public requested to speak.

2. **Minutes** of the February 13th meeting were reviewed. Motion for approval was made by Steve Froncillo and seconded by Jackie Kassel. The minutes were approved.

3. **Statewide Controller Hardware and Firmware**
   - Mike Clements (VDOT) made a presentation on the new Statewide Controller Hardware and Firmware. He also provided handouts on the new controller and firmware as well as the contracts and ordering process. Highlights of the presentation included:
     - VDOT owns and maintains 3,000 signals throughout the state, the bulk of which are in the Richmond and NoVa districts. Localities own and maintain 4,300 signals. In the Hampton Roads district, VDOT owns 179 signals and localities own 1,635 signals.
     - There are 6 types of controllers, 5 types of firmware, and 5 types of central signal software used by VDOT on signal systems statewide. Most have proprietary software.
     - An Arterial Operations Plan was released in June 2015. The goals of the plan are:
       - Interoperability statewide
       - Real-time network operations and information
       - Cost Effective
       - Enhanced maintenance capabilities
       - Integration of multimodal systems
       - Prepares Virginia for Connected Vehicle technology
       - Reliable and sustainable system operations.
     - VDOT released a Concept of Operations in October 2016. It included a single platform for signal controllers and a uniform central signal system platform statewide
     - VDOT procurement initiatives
       - Advanced Transportation Controller (ATC)
         - Hardware – McCain and Econolite ATCs
         - Firmware – D4 by Advanced Traffic Solutions
       - Statewide Central Signal System software RFP was issued 3/14, due 4/30.
     - The ATC was chosen because of the following benefits:

- Open architecture (not proprietary)
- Modular (cost effective to replace/upgrade)
- Multi-tasking/multi-application
- Can grow with technology
- Can use legacy cabinet systems
    - 2070 ATCs
        - VDOT aiming to replace all 3,000 signals to 2070 ATCs in 3-5 years.
        - VDOT also has the goal to replace all cabinets.
        - VDOT aimed to go to 2070 ATCs right away, but that was not practical due to issues mostly related to cabinets. So NEMA controllers (those that are still ATCs) are being allowed, especially for TS2 cabinets. However, NEMA controllers have less modularity.
        - All ATCs are LINUX based.
        - D4 software can be loaded on Peek ATC and Seimens M60 controllers. Those few that are out there will be allowed to remain.
    - The next step is the statewide central signal system. Benefits will include:
        - Remote management
        - Can monitor intersection status and reporting
        - Real-time performance reporting
        - Intersection database management
        - SPaT data delivered to vehicles
        - Connected Vehicle information
        - Automated traffic signal performance metrics will be part of the central system
- Mike Clements provided a handout for the Statewide Controller Hardware and Firmware. He mentioned that it is a VITA contract. Localities can order from the contract, but are not required to use it. Charlottesville and Norfolk are utilizing the contract already.
- Mike Clements mentioned that the commissioner is pushing for a seamless system, between freeways and arterials, from district to district, and between VDOT and localities.
- Keith Nichols asked how these new controllers are able to handle connected vehicles. Mike Clements responded that they have faster processing speed, include a high resolution data logger (hard drive) that can save one month of 0.1 second high resolution data, have SPaT data available, and have the capability to be upgraded. Scott Cowherd added that SPaT data from 30 NoVa signals is being broadcast through the SmarterRoads portal, and Audi and BMW are using this data, pulling it every second.
- Jackie Kassel asked how they decided on a statewide system vs. regional systems. Mike Clements responded that an advisory team met, which consisted mostly of Central Office people. The group came to a consensus to go with a statewide system because it can be put in place very quickly and smoothly. Mike mentioned that it will be regional

systems as primary now with statewide backup, but they hope to flip this at some point to statewide primary with region backup. Security is also a consideration, since with a statewide system there are only 1-2 doors to hack, vs. 8-10 doors with a regional system. However, if the system is hacked less exposure with regional vs. statewide system.

- Jackie Kassel asked what the communication system looks like in Hampton Roads. Mike Miller responded that CDMA modems are on the way near-term, replacing POTS lines. Eventually they are aiming for shared or VDOT fiber.
- Brian Fowler detailed Norfolk's experience. Contracts were executed with all 3 firms. Norfolk had to add an extra rider to each contract, which the firms agreed to. Brian mentioned that VITA expanded the contract for Norfolk, allowing for more services like database conversions. It has been a good process so far for Norfolk.
- Mike Clements described the prices for the new controllers under the VDOT contract:
    - McCain (controller on top left of slide) - $1,400 per controller
    - $700-$750 for firmware for one controller. VDOT pays upper $600-ish per controller.
    - $2,100 for controller with firmware.
    - $380 for database conversion.
    - McCain (controller on bottom left of slide) - $2,000 per controller.
    - NEMA controllers -Top left on slide under $1,000. Bottom left on slide $1,300.
    - Mike added that ultimately VDOT hopes to go to a low bid contract for controllers. Firmware competitive.

4. **Hampton Roads Operations Strategy**
- Mike Miller introduced this topic by noting the six most important things concerning the next phase of the Operations Strategy from the discussion at the February HRTO meeting:
    - Corridor ITS projects including cameras
    - The impact of connected/automated vehicles on systems
    - Continuing to develop near-term steps, such as further use of CAD/RTIMIS/ATMS
    - Performance Measures report card
    - Assessment of enhanced communication for Corridors of Regional Significance (CoRS)
    - Examination of a 24/7/365 regional TOC on a component by component basis
- Mike Miller also noted the action that was approved at the previous meeting and the tasks from the Operations Strategy that we want to move forward with:
    - Strategy 4.1.3 – Computer Aided Dispatch Enhancements
    - Strategy 4.2.1 – Controller Platform
    - Strategy 4.3.2 – Regional 24/7/365 TOC

- o All of these strategies would be based on the Corridors of Regional Significance included in Strategy 4.1.1.
- Mike Miller mentioned that he requested that Kimley-Horn, who prepared the first phase of the Operations Strategy, prepare a scope for Phase II of the Strategy based on the tasks listed above.
- Mike Miller discussed the four CoRS that were listed under Subtask 2.1, noting they are important to all of the localities. Jackie Kassel and Frank Hickman asked how the corridors were selected. Jackie mentioned that Warwick Blvd has a bigger need in Newport News than Jefferson Avenue, especially in the James River Bridge to MMMBT corridor.
- Jon Chambers (Kimley-Horn) mentioned that these corridors came from the Regional Operations Strategy. These corridors span jurisdictions and are parallel to Interstates, which allows for collaboration on the freeway/arterial level such as detours, work zones, and after hours or 24/7/365 control. The initial list was expanded to include the Corridors of Statewide Significance.
- There was discussion regarding whether to look at corridors if high speed comm is already in place. The consensus of the committee was to choose corridors based on what we want to study, and not be predetermined by the infrastructure that is already in place. Brian Fowler mentioned that we also need to consider both future needs and redundancy.
- Scott Cowherd mentioned that he thinks the methodology is solid. In addition Scott mentioned that there are two pilot projects underway related to connected vehicles. One is on U.S. 1 north of Richmond and the other is on U.S. 60 in the area near I-64 MM 200-205 where construction is beginning.
- Brian Fowler stated that he didn't see anything that needed to be added in Norfolk. He said, however, that we should consider using "US 13" instead of Military Highway. In Norfolk, this would add portions of Northampton Blvd and remove Military Highway north of Northampton.
- Robert Lewis mentioned that as a region we have a lot of construction about to begin, and ITS is very important component. This is a study that can highlight that. He mentioned that he likes the idea of using "Route 13", going from Suffolk to the CBBT.
- Brian Fowler stated that this is really a gap analysis. What's the difference between where we are and where we want to be. He also thinks that this fits into the regional Interstate incident detour plans.
- Nathan Milaszewski mentioned that we need to clearly define the termini for each corridor in the scope. Mike Miller concurred.
- Mike Miller requested that the committee pause Subtask 2.1 for now and look at the rest of the scope and then come back to the list of corridors. He then moved on to Subtask 2.2 (RTIMIS) and asked what do we need to do to get there with an RTIMIS solution. Jon Chambers mentioned that they could look at what the path forward is with RTIMIS or if there is a different path.

- Mike Miller moved to Subtask 3 (Medium-term items). Jon Chambers mentioned how do cities get to 24/7/365 on a city-by-city basis with their equipment.
- Jackie Kassel asked if there be one document for each locality. Jon responded that there will be one section per locality.
- Mike Miller mentioned that he did not think that 25 pages would be enough and asked if we could change it to 40 pages. Jon responded that it will be changed to 40.
- Mike Miller moved on to Subtask 4 (Long-term items). In addition to the information included in the draft scope, Jon Chambers mentioned that they would also looking at logistical challenges – daily, weekly, monthly.
- Frank Hickman asked if we are presupposing that we are all on the same platform? Jon Chambers responded that it's helpful to be on the same platform but not mandatory. MOUs can cover this, especially if you're not on the same platform. Frank added that if we can remote in, this mitigates the need to have a single platform.
- Mike Miller asked if 20 pages was enough for Subtask 4, and Jon responded that it should be.
- Mike Miller returned to Subtask 2.1. The first corridor mentioned was U.S. 13 in Norfolk. Brian Fowler mentioned that there is not just one road for diversion of I-64 north of Military/Northampton. Brian also mentioned the need to consider Berkley/Indian River/Campostella with Berkley Bridge issues. This ties in with incident detour routes.
- Robert Lewis stated that we need to keep the scope appropriate. We need to walk before we run. We can come back and try to get more CMAQ funding if need be. Mike Miller added that we don't want to get a list of projects that's too big to fund. Brian Fowler responded that it may be more policies than projects, or small additions.
- Steve Kopczynski asked if hurricane evacuation routes come into play? Route 17 serves as an important evacuation route. Mike Miller mentioned that that was a good point, and that VDOT owns most of the Route 17 corridor, but there's not a lot of technology there. Robert Lewis recommended adding Route 17 to the Coleman Bridge to the set.
- Scott Cowherd asked if this will look at cameras, and Jon Chambers responded that it will look at all devices.
- Mike Corwin mentioned that on a day to day basis he gets beat up on daily congestion, not hurricane evacuation, and that we should take care of our worst issues first. Mike Miller said that adding Warwick Blvd and Route 17 fixes two of those problems. Jon Chambers mentioned that we need clarification on whether the Route 17 route makes more sense to go up Warwick Blvd. Mike Miller added that Warwick and Jefferson need to tie into VDOT's backbone.
- Brian Fowler asked if city cross-sharing of fiber to create redundancy should be looked at as part of this. Frank Hickman responded that the City of Virginia Beach shares their fiber. Robert Lewis added that there is an ongoing regional effort to share resources across boundaries. Mike Miller mentioned that the commissioner is looking at P3s to share fiber resources.

- **FINAL LIST OF CORRIDORS:**
  - o **Modify #1) Route 13. It will span from the Route 13/32 split near the Suffolk airport to the CBBT. Leave in the portion of Military Highway in Norfolk north of Northampton Blvd that is part of Route 165.**
  - o **#2) Warwick Blvd – 25th Street to Yorktown Road, and Yorktown Road between Warwick and I-64.**
  - o **#3) Jefferson Avenue – 25th street to I-64 at the James City County line. This excludes the part that is U.S. 17.**
  - o **#4) Route 17 – I-664 to the Coleman Bridge.**
  - o **#5) Route 58 – Tidewater Drive to Birdneck Road. At the split in Virginia Beach east of Great Neck Road this uses Laskin Road, not Virginia Beach Boulevard.**
- **Jackie made a motion for the list of corridors. Frank seconded the motion. The committee unanimously approved.**
- After the vote, Mike Miller asked Jon if he could give an approximate increase in scope price. Jon said it's probably a $10,000 addition, for a $110,000 overall cost.
- **Robert Lewis made a motion to authorize Mike Miller to move forward with a contract with Kimley-Horn if the updated cost is under $120,000. Jackie seconded the motion. The committee unanimously approved.**
- Jon Chambers said that he will get an updated scope to Mike Miller by the end of the week. Keith will send it out to the full subcommittee.

5. **HRTPO Update**
   - Keith Nichols (HRTPO) mentioned that VDOT is currently splitting the Emergency Vehicle Preemption project into separate UPCs for each locality and is expected to submit a TIP amendment for this item at the May TTAC meeting.
   - Sam Belfield (HRTPO) discussed a summary of two recent RCTO-TIM Working Group meetings. This included information on:
     - i. Work Zone Safety. This was based on the review of an incident on Route 58 that involved a tractor-trailer crashing into a VDOT mobile pothole patching crew.
     - ii. The Virginia Department of Environmental Quality (DEQ), which must be contacted after incidents that result in pollution.
     - iii. A demonstration of new incident response gear such as magnetic flashing arrows and LED gloves, hats, and vests.

6. **For Your Information**
   - The committee was notified of three upcoming SHRP-2 Traffic Incident Management (TIM) training workshops and the upcoming ITSVA Annual Conference and Expo.

7. The next HRTO Subcommittee meeting will be held at the Regional Building at 9:30 AM on June 12th.