

## **CTB Innovation and Technology Subcommittee Meeting**

### Agenda

May 18, 2016 at 8:00 a.m.  
Stonewall Jackson Hotel & Conference Center  
24 S Market Street  
Staunton, VA 24401

### **CTB Members present:**

Hap Connors, Jr.  
Scott Kasprowicz  
Alison DeTuncq  
Court Rosen  
Shannon Valentine

Mr. Connors called the meeting to order at 8:00 am.

The following VDOT staff were identified as presenting to the Subcommittee:

- Mr. Quinton Elliott, Chief Deputy Engineer
- Mr. Garrett Moore, Chief Engineer
- Mr. Jose Gomez, Director, Virginia Transportation Research Council
- Mr. Dean Gustafson, State Operations Engineer
- Ms. Cathy McGhee, Virginia Transportation Research Council
- Mr. Murali Rao, Chief Information Officer

### **1. Presentation of Draft Innovation & Technology Implementation Plan**

Mr. Moore provided an overview the draft Innovation and Technology Implementation plan. This draft plan serves to begin a dialogue about innovation in the Department. The plan identifies a desired focus on improving safety and mobility while reducing infrastructure investment and operating costs through innovation. The plan includes drawings that present the evolution of intersection and roadway design as the connected vehicle and autonomous vehicle programs advance. A timeline of proposed activities was included. The roadway design includes a proposed reconfiguration of lane widths and lane assignments.

Discussion about the importance of standard vehicle design and reliability occurred. Mr. Kasprowicz asked if a breakdown lane would be needed. Mr. Moore stated that a travel lane could be taken off line for scheduled maintenance and connected and automated technology could allow for dynamic lane assignment/usage that could minimize disruption. However, a breakdown lane may still be needed. He also stated that greater vehicle inspection protocols,

such as those in Japan, may be considered. Mr. Moore stated that there would be difficulties with developing a standard chassis for automobiles that would support the program; however, commercial vehicles may not be an issue.

Mr. Connors asked if there was coordination with the auto industry. Ms. McGhee stated that the VDOT Research Council was working with the Virginia Tech Transportation Institute (VTTI) who has a long standing relationship with the auto industry.

Mr. Elliott asked if there are ways to encourage the auto industry to work in Virginia. Ms. McGhee stated that Governor McAuliffe issued a proclamation regarding the Virginia Automated Corridors. Also, VDOT agreed to keep high quality pavement markings, a key component for the autonomous and connected vehicle programs and the one request of the auto industry at a meeting hosted at VA DMV last year.

Ms. Valentine asked if there are other places where connected vehicle programs are being tested. Ms. McGhee stated that there are other test sites in Michigan, California, and Florida. Mr. Elliott stated that VDOT desires to bring additional technology to Virginia. Ms. McGhee stated that Virginia's advantage is enthusiasm about testing connected vehicles in a natural setting versus only in a test environment.

Mr. Kasprowicz asked about the timeline for having full automated lanes. Mr. Moore stated that the first activity would likely be the Express Lanes in Northern Virginia. Additional activities would include limited access highways. Rural applications include pavement markings to prevent running off the road events.

Mr. Kasprowicz asked about the improved capacity opportunities with connected and autonomous vehicles due to the reduced headways and speed increases. Ms. McGhee stated that there is ongoing research about this activity.

Ms. Valentine asked what actions can now be taken to allow Virginia to be a leading state. Ms. McGhee stated that the efforts to broadcast signal phase and timing messages will allow not only VDOT but also private companies to continue to develop traffic signal applications. Several companies have approached VDOT about using timing data in applications that provide recommended speed information to vehicles to maximize flow by reducing the number of stops. Mr. Gustafson stated that the cloud based portal for data is also quick opportunity to accelerate innovation opportunities in Virginia. Mr. Moore reminded the meeting attendees that there are some financial risks with investing in developing opportunities to advance innovative programs. Ms. DeTuncq stated that it is also important to coordinate the advances in technology with security.

## **2. Innovation Development Coordination**

Mr. Connors asked who should be contacted in the Department about innovation ideas. Mr. Elliott stated that such suggestions should be first discussed with Dr. Jose Gomez from the VDOT Research Council. Ideas would then be shared with other VDOT units. Coordination

with VITA may be necessary unless the activities are out of scope from the VITA contract, such as traffic signals and related infrastructure.

### **3. Next Activities**

The Subcommittee agreed to review the draft Innovation & Technology Implementation plan and provide comments within a week.

Mr. Kasporwicz asked if signal phase and timing messages have a standard protocol. Ms. McGhee confirmed there are standard protocols and the program uses 5.9 gigahertz. Mr. Kasporwicz stated that this program could have profound effect within three years as the program is advanced.

Mr. Connors asked if VDOT could partner with broadband installations. Mr. Kasporwicz stated that additional broadband opportunities could take 2% of traffic off the roadway. VDOT stated that there is an existing shared resource fiber optic program. However, VDOT does not own the rights on all land, especially along the secondary system of roads transferred to VDOT by the Byrd Act in 1932.

Ms. Valentine asked if VDOT is working with the Eno Center for Transportation. Mr. Connors stated that there is a need to network with such transportation think tanks, including emerging Smart City programs, to bring them into the conversation.

Mr. Moore stated that VDOT would develop more specific priorities and milestones for the program at the next meeting. Mr. Elliott added that the transition of equipment would be considered and funding for research and implementation is necessary.

Mr. Connors concluded the meeting at 9:00 am.