

February 22, 2019

Mr. Finch Fulton  
Deputy Assistant Secretary for Transportation Policy  
U.S. Department of Transportation  
1200 New Jersey Avenue SE  
Washington, DC 20590-0001

Re: Request for Comment on Docket DOT-OST-2018-02IO: V2X Communications

Dear Deputy Assistant Secretary Fulton,

The Arizona Department of Transportation (ADOT) appreciates the opportunity to comment on the U.S. Department of Transportation's (USDOT's) Notice of Request for Comments on V2X Communications (Docket Number DOT-OST-2018-02IO), which includes vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), and vehicle-to-pedestrian (V2P) communications. As infrastructure owners and operators (IOOs) of Arizona's surface transportation infrastructure, we are at the core of the connected vehicle infrastructure. As a transportation agency we will control the deployment and operation of roadside infrastructure and the incorporation of connected vehicle technologies into those infrastructure applications. We aim to build a strong partnership between USDOT, other IOOs, and Original Equipment Manufacturers (OEMs) to reach the maximum potential benefits to increased safety and mobility.

ADOT is currently a member of the Connected Vehicle Pooled Fund Study (CV PFS). Along with 25 other state and local transportation agencies from around the United States and Canada, and in concert with FHWA, we provide funding for research and development of connected vehicle technologies and applications. These efforts are led by the Virginia Department of Transportation (VDOT). Their collective resources have funded \$8 million worth of connected vehicle technology applications. Our industry is provided with access to all CV PFS research projects which are listed at [http://www.cts.virginia.edu/cvpfs\\_research](http://www.cts.virginia.edu/cvpfs_research).

As members of the CV PFS we support the CV PFS position that Dedicated Short Range Communication (DSRC) is the only low-latency technology that is available now, and that it can be used almost immediately to begin saving lives. We also support the CV PFS position that the uncertainty caused by a lack of endorsement of **DSRC** by the USDOT can cause delays in future deployments of this life-saving technology.

Arizona's CV Program was initiated in 2007 by ADOT, Maricopa County Department of Transportation (MCDOT), and the University of Arizona (U of A). Our CV program began as a research project to identify how new technology applications could enhance traffic signal performance, incident management and traveler information. Our program also helps to prevent emergency vehicles from colliding with one another at signalized intersections when arriving at nearly the same time, while responding to emergencies. Our system simultaneously communicates with multiple Basic Infrastructure Messages (BIM) as defined in the "Development and Standards Support Task 3 - CV Standards and Related Activities" White Paper, published by the CV Pooled Fund program.

In 2011 our team constructed a test bed in Anthem, Arizona to test CV system communication integration. It was one of the first seven test beds in the country. Our V2X sensors are based on DSRC technology, using Road Side Units (RSUs) fixed to light poles in conjunction with aftermarket On Board Units (OBUs) mounted in buses and emergency vehicles. The Arizona CV program is expanding to include pedestrian crosswalk controls, transit priority application and a trucking priority application.

Another effort being considered for deployment is the national Signal Phase and Timing (SPaT) Challenge. This initiative has plans to deploy a DSRC-based V2X communications infrastructure with SPaT broadcasts in at least one corridor with at least 20 signalized intersections. The SPaT message is designed to enhance both safety and efficiency of traffic movements at intersections. Deployment would also consider MAP messages to complement our future SPaT project, and provide location-specific detail to enhance the output from the CV and AV technologies.

The application of CV communications provides the potential for reduction in congestion, safety improvements, and improved traveler services. Our team has invested in RSUs and OBUs using DSRC technology, staff time and financial contributions in CV research and deployments and it is imperative that ADOT's investments remain relevant. We are concerned about continued investments due to a lack of endorsement of DSRC by the USDOT that may cause unnecessary delays in future deployment. Our goal should be to seek a solution where coexistence of technology can occur, without having to discard years of investment, research, and the opportunity to save lives now instead of waiting for future possibilities.

Thank you for allowing ADOT the opportunity to provide comments on the importance of advancing V2X Communications. If you have any questions regarding these comments, please contact Martin C. Lauber TE, TSM&O Systems Technology -Connected and Automated Vehicles, at (602) 712-2229.

Sincerely,



Brent Cain, TSM&O Director  
Arizona Department of Transportation

cc: Faisal Saleem, Maricopa County Department of Transportation  
K. Larry Head, Ph.D. The University of Arizona