

AHB45 Workshop

1- Workshop Title: Real and Virtual Data Collection Platforms for Connected and Automated Vehicles Modeling, Calibration and Validation

2- Time and Location: Sunday January 13, 2019; Walter E. Washington Convention Center, 801 Mt Vernon Pl NW, Washington, DC 20001.

3- Name and Code of Sponsoring Committee: Traffic Flow Theory and Characteristics (AHB45)

4- Name and Code of Co-Sponsoring Committee:

1- Sub-Committee on Traffic Flow Modeling for Connected and Automated Vehicles: AHB45(3)

2- Joint Simulation Sub-Committee: AHB45(1)

3- **Intelligent Transportation Systems Committee: AHB15**

5- Persons Responsible for Organizing the Workshop/Contact Information:

Moderator: Professor Samer Hani Hamdar; The George Washington University, Email address: hamdar@gwu.edu; telephone number: +1-202-994-6652

6- Capacity: 100 attendees

7- Workshop Format

The workshop will start by a set of presentations related to the latest data collection platforms available to collect data on connected and automated vehicles. These data collection platforms will be either associated with real-world deployments or virtual/simulator environments. The panel of speakers will then be asked several questions by the audience. Afterwards, the audience will participate further in the discussion to identify several key research themes/thrusts. The objective is to outline/summarize the presentations while identifying possible areas of collaboration between the sponsoring/co-sponsoring committees from one side and the vehicle instrumentation and driving simulator companies and the public agencies from the other side to further improve the discussed connected and automated vehicle technologies in order to be utilized for traffic flow modeling, calibration and validation. The synthesis of the workshop will serve as a guideline on the accuracy of existing real-world deployments and virtual simulation environments in representing the future of our roadways in a connected and automated transportation system.

8- Workshop Description

Connected and automated vehicles are continuing to be the subject of interest of policy makers, transportation agencies and the industry. Several efforts by major public (i.e. federal and local transportation departments) and private (industry companies) agencies have been made to collect data associated with these type of vehicles in order to understand their impact on the performance of our transportation system. These efforts may be associated with constructing connected and automated systems test-beds (involving

equipped vehicles and infrastructure components) or recreating these systems in simulator/virtual environments. However, such efforts are not completely shared yet with traffic researchers and practitioners and the corresponding findings are still not clear. This workshop aims at presenting 1) the latest virtual/simulator environment implementations efforts and 2) the real-world deployments/instrumentations efforts made to model, calibrate and validate traffic flow dynamics with the presence of connected and automated vehicles. The challenges faced in these efforts, the limitations of the associated tools/test-beds, and the opportunities to be still explored will be identified for possible future public/private/academic collaborations and initiatives.