UTC Project Information	
Project Title	Integrating Driving Simulator Experiment Data with a Multi-agent Connected Automated Vehicles Simulation (Ma-CAVS) Platform to Quantify Improved Capacity
University	Oregon State University
Principal Investigator	Haizhong Wang
PI Contact Information	Haizhong.Wang@oregonstate.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans $26,335 Oregon State University $26,335
Total Project Cost	$52,670
Agency ID or Contract Number	69A3551747110
Start and End Dates	September 1, 2018-August 31, 2020
Brief Description of Research Project	Connected and Automated Vehicles (CAV) have potential to significantly impact mobility, safety, and environment in future transportation systems. CAV is expected to shift traditional traffic composition, usher in new operational models, change traffic stream characteristics, and reshape the ways state DOTs and associated agencies plan, design and evaluate roadways (Hendrickson and Samaras, 2017). However, most of the existing analysis methods and simulation tools for planning, operations and evaluations of transportation facilities, including the Highway Capacity Manual (HCM) (Federal Highway Administration, 2016) cannot properly incorporate CAV behaviors and thus may not be suitable for near-future mixed traffic as CAV market penetration is expected to rapidly increase (Bansal and Kockelman, 2017). The current HCM has several limitations regarding CAV analysis as outlined by FHWA (2016): i) capacity-related HCM methods cannot be used to evaluate facilities that have CAV technology equipped, as the impacts of CAV strategies are not accounted for; ii) there is no existing analysis guidance regarding the suitability of the HCM for conducting various types of analyses involving CAV strategies; and iii) there is limited consideration of market penetration rates and the effects that they will have on the realized outcomes associated with the CAV technology on various transportation facilities.

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	
Impacts/Benefits of Implementation (actual, or anticipated)	
Web Links • Reports • Project Website	