



CENTER FOR CONNECTED AND AUTOMATED TRANSPORTATION

Project Title	DeepScenario: City Scale Scenario Generation for Automated Driving System Testing & Evaluation	
PI (Up to 2)	Henry Liu	Shan Bao
Telephone #	734-647-4796	734-936-1127
E-mail:	henryliu@umich.edu	shanbao@umich.edu
Institution:	University of Michigan	University of Michigan
Department:	CEE	UMTRI
Industry or Government Principal, organization, and contact information	Ben Hoffman, Aptiv, ben.hoffman@aptiv.com Rini Sherony, Toyota, rini.sherony@toyota.com Jeff Rupp, American Center for Mobility, jeff.rupp@acmwillowrun.org Neil Garbacik, FCA US, neil.garbacik@fcagroup.com Elizabeth Pulver, State Farm, Elizabeth.pulver.rrr2@statefarm.com	
Most relevant CCAT research thrusts (choose all applicable)	<input checked="" type="checkbox"/> Enabling Technology <input type="checkbox"/> Planning and Policy <input checked="" type="checkbox"/> Human Factors <input type="checkbox"/> Infrastructure Design and Management <input type="checkbox"/> Control and Operations <input checked="" type="checkbox"/> Models and Implementation	
Funding Request	\$498,083	
Matching Funds and Source (if any)		
Total Project Cost	\$498,083	
Contract Number	69A3551747105	
Project start/end dates	03/01/2020 – 02/29/2022	
Project Abstract	<p>In this project, we will build a city-scale scenario generation and simulation platform for ADS testing and evaluation. Under different routes and environmental conditions, the simulation platform can generate testing scenarios dynamically along the route to interact with the CAV and systematically evaluate its performance. Meanwhile, a set of corner cases regarding vulnerable road users (VRUs) will be identified and added to the generated scenario library. We will leverage and extend our existing work in scenario generation and integrate it with VISSIM, CARLA, and Autoware. The platform will also be integrated with the augmented reality testing environment to enable the testing of real CAVs.</p>	
High-level implementation plan		
Project Metrics		
Web Links: [leave blank until project approval]	ccat.umtri.umich.edu	