

Grant Deliverables and Reporting Requirements for UTC Grants

<b>UTC Project Information</b>	
Project Title	An Agent-based Travel and Charging Behavior Model for Forecasting High-resolution Spatio-temporal Battery Electric Vehicle Charging Demand
University	Cornell University
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Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT: \$15,326 Cornell: \$0
Total Project Cost	\$15,326
Agency ID or Contract Number	Sponsor Source: Federal Government CFDA #: 20.701 Agreement ID: 69A3551747119
Start and End Dates	■ Start date: 05/21/21 ■ End date: 08/20/21
Brief Description of Research Project	The novelties of this work are twofold. First, we propose an agent-based battery electric vehicle charging demand simulation model integrating travel and charging behaviors, which is able to estimate the high-resolution spatio-temporal distribution of charging demand. Second, we construct a novel charging behavior model for charging mode choice, which is able to capture non-linear changes in random utility, and the impact on charging choice of various factors, namely risk sensitivity, range buffer, and preference for charging rate. It focuses on the modeling and forecasting of renewable energy consumption in transportation sector, which could be directly applied in the optimal design of energy supply system and the modeling framework allows it to be generally adopted for broad application.

Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links • Reports • Project website	<a href="https://ctech.cee.cornell.edu/final-project-reports/">https://ctech.cee.cornell.edu/final-project-reports/</a>