UTC Project Information	
Project Title	MPC-584 – Expanding the Capabilities of Business Commute Optimization System to Model Additional Transportation Alternatives and On-Demand Needs
University	University of Colorado Denver
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Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT, Research and Innovative Technology Administration $59,804.40 Faculty and student salaries $60,732.00
Total Project Cost	$120,536.40
Agency ID or Contract Number	69A3551747108
Start and End Dates	December 14, 2018 to July 31, 2022
Brief Description of Research Project	This proposal focuses on expanding the capabilities of a system developed by the principal investigators called, Business Commute Optimization system (BCOS). BCOS is designed to identify optimal selection of commute alternatives for employees in a business to minimize their transportation emissions and air pollution as well as commute time and cost. BCOS is designed to identify commute plan for each employee in a business that complies with an individual's commute preference and convenience while incentivizing commute behavior change using monetary incentives and savings. The objectives of this research will focus on: (1) expanding the capabilities of BCOS to model additional decision variables, including hybrid vehicles, electric vehicles, Uber, and Lyft in order to minimize transportation emissions as well as commuting time and cost; (2) analyzing and optimizing on-demand needs along with an optimal commute plan of business commuters; (3) developing new mobile apps to facilitate data collection and interaction with business commuters; and (4) demonstrating the new capabilities of BCOS using

	a pilot case study of a business and on-demand needs. Expanding the optimization capabilities of BCOS and analyzing on-demand needs will include, (1) modeling additional decision variables, (2) expanding formulation of the objective functions and modeling additional constraints, and (3) implementing the new system computations using reasonable optimization algorithm. The new apps will be developed in Android and IOS environments to facilitate and maximize their use by various commuters.
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	