

UTC Project Information	
Project Title	MPC-510 – Business and Commute Optimization System: Development and Denver-Based Case Study
University	University of Colorado Denver, Colorado State University
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Funding Agencies	Funding Agencies USDOT, Research and Innovative Technology Administration
Agency ID or Contract Number	DTRT13-G-UTC38
Project Cost	\$50,000 CU Denver \$9,015 CSU
Start and End Dates	September 30, 2016 to September 30, 2018
Project Duration	September 30, 2016 to September 30, 2018
Brief Description of Research Project	Mitigating traffic congestion and reducing transportation emissions are among the leading goals of most local, regional, national and international agencies. Several guidelines rely primarily on strategies that support: (1) mixed land-use and transit-oriented developments, (2) multimodal transportation systems, and (3) design of active-transportation friendly environments. While these approaches have successfully contributed to the reduction of transportation GHG and

	<p>air pollutions emissions, this research proposes to implement an innovative system that can add further improvements and provide more effective and individualized action plans. Specifically, this proposal focuses on implementing an innovative system called, Business+ Commute Optimization System (B+COS) to identify the optimal selection of business commute alternatives to minimize negative environmental impacts, commute time, and cost for commuters in Denver and eventually USA. Pilot implementation among student commuters demonstrated potential GHG and air pollution emissions reduction of 24% with only 15 minute commute time flexibility.</p>
<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<p>This research demonstrates the optimization system is capable of identifying optimal commute plan for commuters sharing a destination to simultaneously minimize GHG and air pollution emissions as well as total travel time for pilot communities. Future implementation will expand implementation to larger, more robust communities.</p>
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<p>The results of the optimization system show that the reduction of GHG and air pollution emissions is dependent on commuter tolerance. For example, a 15-minute time extension tolerance can reduce GHG and air pollution emissions by only 13%, while 35 minutes commuter tolerance can achieve 25% reduction. Furthermore, the optimization system is designed to compensate commuters due to inconvenience of extension in their commute trips using monetary incentives.</p>
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project Website 	<p>https://www.ugpti.org/resources/reports/details.php?id=933</p>