

Grant Deliverables and Reporting Requirements for UTC Grants

UTC Project Information	
Project Title	Exploring the Influence of Carbon Footprint and Health Benefits in Parking Location Decisions
University	The University of Texas at El Paso
Principal Investigator	Kelvin Cheu
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Funding Source(s) and Amounts Provided (by each agency or organization)	CTECH: \$64,430 UTEP CTIS: \$32,215
Total Project Cost	\$96,645
Agency ID or Contract Number	Sponsor Source: Federal Government CFDA #: 20.701 Agreement ID: 69A3551747119
Start and End Dates	Start date: 10/01/2019 End date: 05/31/2021
Brief Description of Research Project	<p>In modeling the parking location decisions, traditionally, the cost of parking permit and last-mile travel time (factored with the value of time) are the only decision criteria. From the viewpoints of sustainability, parking location affects the carbon footprint of a vehicle trip. In addition, walking between the parked vehicle and final destination has health benefit. Therefore, the parking location problem may be modeled as a multi-criteria decision problem involving trade-offs between permit fee, last-mile travel time, carbon footprint and health benefits.</p> <p>The objectives of this project is to answer the Research Question: If information of carbon footprint and health benefit are available, what are their influences relative to permit fee and last mile travel time in parking location decisions? This project will focus on commuter students at The University of Texas at El Paso (UTEP).</p> <p>The proposed tasks are:</p> <ul style="list-style-type: none"> • Task 1: Conduct literature reviews and select a measure for carbon footprint (MCF) and a measure for health benefits

	<p>(MHB) of walking.</p> <ul style="list-style-type: none"> • Task 2: Collect data on campus to determine the MCF values and MHB values associated with different parking zones. • Task 3: Develop a table that will make the last mile travel time, MCF and MHB information available to students when purchasing parking permits. • Task 4: Apply for IRB approval. Conduct the survey. • Task 5: Analyze the survey data to evaluate the influence of MCF and MHB in students parking location decisions. <p>Output: The expected output of this research are the MCF, MHB and the procedure of measuring and presenting them for all the parking zone.</p> <p>Outcome: The table is expected to create awareness among the students on the impacts of parking locations on carbon footprint and health benefits. If found to have significant influence, university parking offices across the country may provide MCF, MHB information in their websites.</p> <p>Impact: The MCF and MHB may lead to students change their parking locations, potentially saving permit cost, CO₂, or bringing health benefit.</p> <p>This project only focuses on individual decisions. The campus-wide benefit on carbon footprint will be assessed in a future project.</p>
<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project website 	<p>http://ctech.cee.cornell.edu/final-project-reports/</p>