



UTC Project Information	
Project Title	Intelligent Sidewalk De-icing and Pre-treatment with Connected Campus Maintenance Vehicles
University	Purdue University
Principal Investigators	Darcy Bullock
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Funding Source(s) and Amounts Provided (by each agency or organization)	CCAT – \$75,000 Cost share partner: Indiana Department of Transportation – \$75,000
Total Project Cost	\$150,000
Agency ID/Contract #	69A3551747105
Start and End Dates	01/01/2020 – 12/31/2021
Brief Abstract of Research Project	Develop an automated system for precision application of de-icing chemicals on campus and urban sidewalks that will reduce excessive chemical application and will result in less environmental impact, reduced infrastructure aging, and cost savings. The development platform will be a small electric vehicle to provide students the opportunity to have a hands-on development environment that can be safely used on campus without extensive coordination necessary for large commercial vehicles.
Most Relevant CCAT Research Thrusts	<input checked="" type="checkbox"/> Enabling Technology <input type="checkbox"/> Policy & Planning <input type="checkbox"/> Human Factors <input type="checkbox"/> Infrastructure Design and Management <input checked="" type="checkbox"/> Control & Operations <input checked="" type="checkbox"/> Modeling & Implementation
Describe Implementation of Research Outcomes	Study is in progress.
Impacts/Benefits of Implementation (actual, not anticipated)	The knowledge developed during this research will scale to highways and airports. It will also develop relationships with key industrial partners to develop capabilities in the connected/autonomous space for small campus vehicles.
Web Links (Reports, website)	ccat.umtri.umich.edu