

<b>UTC Project Information</b>	
Project Title	Optimization of electrified propulsion systems for school bus fleets using scheduled (daily) routes data
University	University of Idaho
Principal Investigator	Ahmed Abdel Rahim
PI Contact Information	ahmed@uidaho.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans \$40,00 University of Idaho \$ 40,000
Total Project Cost	\$80,000
Agency ID or Contract Number	69A3551747110
Start and End Dates	March 16, 2022-June 30, 2023
Brief Description of Research Project	<p>This project will present a comprehensive approach for optimal route planning and battery sizing for electrified school bus fleets using data-based driving cycles. Gathered information about trip conditions for daily routes will be clustered and analyzed to reconstruct and generate representative driving cycles for each route. Generated speed profiles will then be implemented to define optimal battery capacity and powertrain size undergoing each route.</p> <p>The research will examine the operational and environmental benefits that would result from the electrification of school bus fleets, transforming the current pollution emitters fuel-based fleets to the environmentally friendly electrified engines. Representative driving cycles will be generated using both historical and real-time GPS fleet route data. The developed driving cycles will be used to define optimal driveline and fleet sizing of electrified school buses.</p> <p>Task 1. School-Bus GPS-Based Data collection Task 2. Data Clustering and Analysis Task 3. Electric Powertrain Sizing for School-Bus Operations</p>

<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	
<p>Impacts/Benefits of Implementation (actual, or anticipated)</p>	
<p>Web Links</p> <ul style="list-style-type: none"><li>• Reports</li><li>• Project Website</li></ul>	