

<b>UTC Project Information</b>	
Project Title	K-12 STEM Program: Exploring the Science of Retroreflectivity
University	Texas A&M Transportation Institute
Principal Investigator	Melisa D. Finley, P.E.
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Funding Source(s) and Amounts Provided (by each agency or organization)	Safe-D (Federal): \$32,767 Non-federal: \$76,698
Total Project Cost	\$109,465
Agency ID or Contract Number	Grant No: 69A3551747115 Project: TTI-01-05
Start and End Dates	04/01/2017 to 06/30/2022
Brief Description of Research Project	<p>The transportation industry relies heavily on the science, technology, engineering, and mathematics (STEM) fields to solve mobility and safety issues for all users. However, U.S. students' math and science scores are lagging behind other developing countries. In addition, in-class academic concepts can seem abstract with little relevance to a student's life. This project sought to connect real-life applications in transportation to academic concepts in order to enhance the STEM learning experience for students. More specifically, researchers worked with a science teacher to develop in-class curriculum that seeks to help students use discovery techniques and STEM lessons to better understand the characteristics of light as they navigate through the activities and challenges that follow the history of road safety and innovations. The curriculum is molded to fit the standards of engineering design of Next Generation Science Standards (NGSS) for grades 4-6, as well as Texas standards. Each lesson provides background information, activity plans, a supply list, a timetable, and teacher preparation information. The curriculum is built out to the 5E model (engage, explore, explain, elaborate and evaluate) with at least one student activity or lesson per section. Each lesson builds from the one prior and can be utilized in its entirety or broken apart to meet learning and time constraints.</p>

<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<p>Curriculum and associated materials, as well as train-the-trainer videos, available online.</p>
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<p>Encourage students to learn more about STEM and transportation. Expose students to real-life applications of STEM concepts.</p>
<p>Web Links</p> <ul style="list-style-type: none"><li>• Reports</li><li>• Project website</li></ul>	<p><a href="https://www.vtti.vt.edu/utc/safe-d/index.php/projects/k-12-stem-program-exploring-the-science-of-retroreflectivity/">https://www.vtti.vt.edu/utc/safe-d/index.php/projects/k-12-stem-program-exploring-the-science-of-retroreflectivity/</a></p>