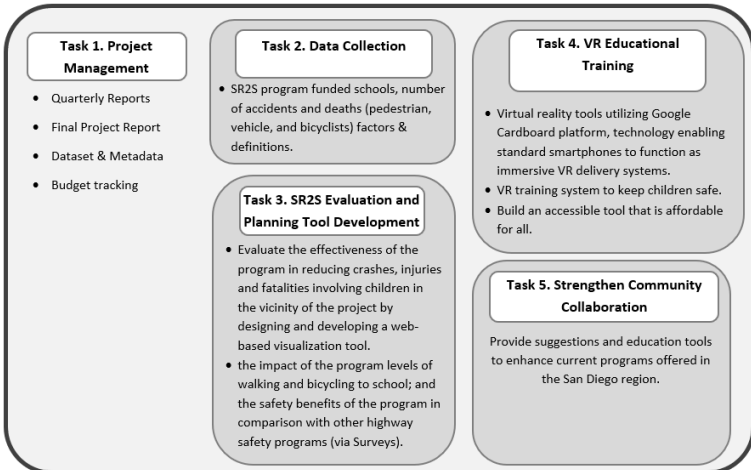


<b>UTC Project Information</b>	
Project Title	Evaluating the Safe Routes to School (SR2S) Transportation Program in Socially Vulnerable Communities in San Diego County, California
University	San Diego State University, 5500 Campanile Dr. San Diego, CA 92182
Principal Investigator	Dr. Gabriela Fernandez (Department of Geography, Director, Metabolism of Cities Living Lab, Center for Human Dynamics in the Mobile Age at SDSU)
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Funding Source(s) and Amounts Provided (by each agency or organization)	<p><b>Source Organization:</b> Safe-D National UTC</p> <p><b>Sponsor Organizations:</b> Office of the Assistant Secretary for Research and Technology University Transportation Centers Program Department of Transportation Washington, DC United States 20590</p> <p><b>Managing Organizations:</b> Safety through Disruption University Transportation Center (Safe-D) Virginia Tech Transportation Institute Blacksburg, VA United States 24060</p> <p><b>Project Managers:</b> Glenn, Eric 5408508489 <a href="mailto:eglenn@vtti.vt.edu">eglenn@vtti.vt.edu</a></p> <p><b>Performing Organizations:</b> San Diego State University 5500 Campanile Dr San Diego, CA United States 92182</p>
Total Project Cost	\$376,000
Agency ID or Contract Number	Grant No: 69A3551747115 Project: 06-011
Start and End Dates	Start Date: 2022-01-15   End Date 2023-06-15 (17 months)
Brief Description of Research Project	Frequent vehicle collisions involving pedestrians or bicyclists indicate that there are opportunities to improve safe walking or biking. Concerns for child safety are among the strongest impediments to children walking or biking to school, but for some, walking or bicycling to school is a necessity due to financial or other circumstances. In fact, walking or biking to

	<p>school is more than twice as common among students from low-income households than students from higher-income households. Creating safe routes is one key mechanism to achieve social equity goals by providing safe opportunities to walk and bike regardless of a community's socio-economic composition. The Safe Routes to School (SR2S) program is a federally funded initiative developed by the US Department of Transportation (DOT) since 2005 to foster opportunities for students to walk and bike to school safely and routinely. It is important to understand how this program can be evaluated and especially how socially vulnerable communities are benefited from this program. This project will select 2-5 schools located in socially vulnerable communities in San Diego County to evaluate the impacts of the Safe Routes to School programs for each school and identify accident (injuries and fatalities) hot spots for the future routing improvement, develop and design a SR2S web-based visualization tool for easy road safety monitoring and reporting, conduct VR educational road safety training for children, and strengthen community collaboration across San Diego County.</p>
<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<ul style="list-style-type: none"> <li>• The project outcomes will include hotspot safety maps, web-based visualization tool, and VR safety traffic educational training across San Diego and thus could be used by urban planners, decision makers, and school administrators to identify when and where unsafe routes to school are found.</li> <li>• The project team will design and develop a web-based tool (i.e., RShiny and ArcGIS Online) using open-source packages. By giving users situational awareness in San Diego County to improve road safety for children by providing SR2S performance management, status monitoring, impact assessment, strategic tactical, operational, or informational. In addition, the web-based tool will convey information by presenting location-based analytics nearby 2-5 schools using intuitive and interactive data visualizations that allows the user to monitor events, make decisions, inform others, and see trends.</li> </ul> <p>The web-based tool will serve as a pilot to help other areas in San Diego County that are interested in transit safety and safe routes to school research. Additionally, researchers can replicate the tool in other areas of San Diego County using the project's open-</p>

source resources which will allow users to expand transit safety coverage across the region.

- The project will also create a software framework that can be used to deal with VR applications for children safety awareness for low-income neighborhoods. The VR training tool will be developed to showcase safety measures across children. It is expected that this tool could be expanded to other safety applications dealing with traffic safety. The VR tools can be used by children, adults, and at any level and or from academia or industry. To the best of our knowledge, no similar VR tool that is publicly available exists in San Diego County. It is expected that our VR tool, hotspot maps, datasets, resources, and summary of data will be made available to the public upon project conclusion.
- Beyond the project report, it is expected to produce 1-2 journal papers and participate and present the research in a national conference setting (i.e., ESRI User Conference, American Association of Geographers, Transportation Research Board, International Conference on Sustainable Development, etc.) that would reach a wide transportation agency audience. In addition, the project will be presented at the Caltrans Innovation Fair that will feature the latest advancements in technology and innovative concepts in transportation.



Impacts/Benefits of Implementation (actual, not anticipated)

The project's outputs will be beneficial to the K-12 community as students will gain real-world experience on transit safety using VR technologies that can be beneficial for their everyday life. In addition, the outputs can be displayed at local school exhibitions, can be used for educational outreach transit safety activities, school related campaigns, urban planning, decision making, and more.

Web Links

- Reports
- Project website

<https://safed.vtti.vt.edu/projects/evaluating-the-safe-routes-to-school-sr2s-transportation-program-in-socially-vulnerable-communities-in-san-diego-county-california/>

<https://rip.trb.org/view/1909424>

