

UTC Project Information	
Project Title	MPC-622 – Utilizing Traffic Signal Pedestrian Push-Button Data for Planning and Safety Analysis
University	Utah State University
Principal Investigator	Patrick A. Singleton, Ph.D.
PI Contact Information	Assistant Professor Department of Civil and Environmental Engineering Utah State University Phone: (435) 797-7109 Email: patrick.singleton@usu.edu ORCID: 0000-0002-9319-2333
Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT, Office of the Assistant Secretary for Research and Technology \$50,000 Utah Department of Transportation \$50,000
Total Project Cost	\$100,000
Agency ID or Contract Number	69A3551747108
Start and End Dates	February 18, 2020 to July 31, 2024
Brief Description of Research Project	Multimodal transportation planning and traffic safety analyses require information on how many people walk in various locations throughout the day. Unfortunately, traditional pedestrian data collection methods are insufficient for these purposes. This project utilizes a new and ubiquitous source of archived and real-time pedestrian data: pedestrian push-button actuations recorded in high-definition data logs from traffic signal controllers at signalized intersections. First, we extend the usefulness of pedestrian signal data by developing direct demand models of pedestrian volumes (at signalized intersections) as a function of local built environment characteristics, which can then be applied to unsignalized intersections and future scenarios. Second, we utilize pedestrian signal data as a measure of pedestrian exposure in the development of improved pedestrian intersection safety predictive methods and models. Project results in the form of transportation planning and safety analysis tools—enhanced with the use of pedestrian signal data—are expected to help improve pedestrian safety by advising agencies about risk factors and potential countermeasures as well as advance pedestrian planning efforts to create more livable communities.

<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<p>We demonstrate how to use pedestrian traffic signal data as measures of pedestrian volumes and pedestrian exposure to advance practice in the areas of pedestrian traffic monitoring and pedestrian traffic safety.</p>
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<p>This research opens up the possibility to improve pedestrian traffic monitoring and safety in other states (beyond Utah) by applying pedestrian traffic signal data to the analysis of these issues.</p>
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project Website 	<p>MPC Final Report – Utilizing Traffic Signal Pedestrian Push-Button Data for Pedestrian Planning and Safety Analysis</p>