

<b>UTC Project Information</b>	
Project Title	MPC-515 – Redefining the Child Pedestrian Safety Paradigm
University	University of Colorado Denver
Principal Investigator	Wesley Marshall Bruce Janson
PI Contact Information	<p>Wesley Marshall Associate Professor Department of Civil Engineering University of Colorado Denver Phone: (303) 315-7568 Email: wesley.marshall@ecdenver.edu</p> <p>Bruce Janson Professor Department of Civil Engineering University of Colorado Denver Phone: (303) 315-7569 Email: bruce.janson@ucdenver.edu</p>
Funding Agencies	USDOT, Research and Innovative Technology Administration
Agency ID or Contract Number	DTRT13-G-UTC38
Project Cost	\$67,740
Start and End Dates	September 30, 2013 to September 30, 2018
Project Duration	September 30, 2013 to September 30, 2018
Brief Description of Research Project	<p>This research will initiate with a thorough literature review of research related to child pedestrian safety. The next step will involve site selection, which will be based, in part, on the presence of secondary data for child walking and bicycling rates. In our preliminary investigation, we acquired potentially useful exposure data from Washington, D.C., and Portland, OR. We intend to study six cities. Road safety exposure – particularly as it relates children – is a tricky proposition. First off, children do not have homogenous street safety knowledge nor abilities. While as young as 7½ years old is approximately the age when children can cross a street independently, this is not necessarily consistent (MacGregor, Smiley, and Dunk 1999). Moreover, there are likely to be discrepancies in terms of parental supervision, which would further confound the comparison. The existing research has measured exposure in a variety of ways, including: mode choice (Rao, Hawkins, and Guyer 1997, Bly, Jones, and Christie 2005, Roberts and Norton 1994); total distance traveled (Jonah and Engel 1983); time spent near streets (Bly, Jones, and Christie 2005, Posner et al. 2002); and the number of roads crossed (Rao, Hawkins, and Guyer 1997, Posner et al. 2002, Percer 2009).</p>

	<p>Other potentially fruitful methods worth exploring include space syntax, which has been utilized by a plethora of past researchers as a pedestrian volume modeling tool (Raford, Chiaradia, and Gil 2007, Raford and Ragland 2004). Using baseline pedestrian counts at select locations, space syntax then factors in built environment variables such as land use and street network characteristics as well as demographic variables such as population and employment density to estimate pedestrian volumes and exposure. No matter the exposure metric, assessing improvements to child street safety via conventional methods can too easily be achieved by eliminating childhood active transportation. Our goal, however, is multi-objective in that we want to eliminate children dying in the transportation system (as pedestrians/bicyclists in addition to vehicle occupants) as well as increase active transportation rates for children. This process will involve devising a strategy that accounts for multi-objective criteria in a manner that is also fair and comparable from place to place.</p>
<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<p>Children are some of the most vulnerable users of our roadways due to the fact that they must walk or bike if they are not able to get a ride from an adult, their lack of understanding of and experience in the transportation system, and their small physical size. When planning and designing safe transportation systems, it is imperative to account for the special needs of children. Ensuring their safety (and giving them places to safely walk and bike) aids with their healthy development (both physically and mentally), improves academic achievement and behavior, and increases self-esteem. The current focus on child road safety is primarily concentrated around schools. We seek to shed light on whether this is the best place to focus our resources as well as delve into what other factors relate to child road safety injuries and fatalities so that we can remedy these issues from both a design and policy framework. The expected outcomes of this work include:</p> <ol style="list-style-type: none"> <li>1. Findings with respect to the testable hypotheses and research questions;</li> <li>2. A set of explanatory and dependent variables and constructs where we can disaggregate the factors influencing better road safety for child pedestrians;</li> <li>3. Manuscripts for presentation/publication at TRB and other peer-reviewed journals;</li> <li>4. Presentations to academic and policy audiences; and</li> <li>5. A module about road safety, active transportation, and vulnerable road users for transportation courses at the University of Colorado Denver.</li> </ol>
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<p>This study will be integrated into Dr. Marshall’s “Transportation System Safety” graduate course and Dr. Janson’s “Traffic Safety Data</p>

	and Analysis” graduate courses. The data collected for this project will also be made available to students for use in term projects and/or master’s reports. As a result, this project will influence students from a variety of disciplines. Students who work on the project will have the opportunity to be co-authors on publications and presentations.
Web Links <ul style="list-style-type: none"><li>• Reports</li><li>• Project Website</li></ul>	<a href="https://www.ugpti.org/resources/reports/details.php?id=952">https://www.ugpti.org/resources/reports/details.php?id=952</a>