

# ROADWAY SAFETY INSTITUTE

Advancing roadway safety with user-centered solutions

UTC Project Information	
Project Title	Pedestrian and Bicycle Safety, Equity, and Street Funding: New Criteria for Prioritizing Multimodal Street Projects in Minneapolis
University	University of Minnesota
Principal Investigator	Greg Lindsey
PI Contact Information	<a href="mailto:linds301@umn.edu">linds301@umn.edu</a> 612-625-3375
Funding Source(s) and Amounts Provided (by each agency or organization)	Roadway Safety Institute-Office of the Vice President for Research: \$58,732
Total Project Cost	\$58,732
Agency ID or Contract Number	UTC Grant Number: DTRT13-G-UTC35 CTS Project Number: 2018057
Start and End Dates	02/23/2018 - 05/31/2019
Brief Description of Research Project	<p><i>Final report abstract:</i></p> <p>Transportation managers need information about crash risk and equity to prioritize investments in street networks. This case study uses data from Minneapolis, Minnesota, to illustrate how estimates of pedestrian and bicycle crash risk and assessments of inequities in the distribution of that risk can inform prioritization of street improvement projects. Crash numbers and frequencies for pedestrian and bicycle crashes at intersections and mid-blocks in Minneapolis are determined for the 2005–2017 period. New models of pedestrian and bicycle crash risk at both intersections and mid-blocks that control for exposure are introduced and used to predict crashes at all intersections and mid-blocks in the city. Statistical tests are used to assess the equity of distribution of estimated crash risk between areas of concentrated poverty with majority-minority populations and other areas in the city. Crash indexes based on predicted crashes are used to illustrate how increased emphases can be placed on pedestrian and bicycle safety in street improvement rankings. Results show that pedestrian and bicycle crash risk is correlated with exposure, that different factors affect crash risk at intersections and mid-blocks, and that these factors differ for pedestrian and bicycle crashes. Results also show that mean crash risk is higher in neighborhoods with lower incomes and majority-minority populations. For street improvement projects in the city, different rankings result when segments are ranked according to modeled pedestrian and bicycle crash risk in addition to total crash rates based on historical numbers of crashes at particular locations. Results generally affirm efforts by the Minneapolis Department of Public Works to increase emphases on pedestrian and bicycle safety and equity in its prioritization of street improvements.</p>

Last updated (9/27/2019)



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Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here	<i>Nothing to report.</i>
Impacts/Benefits of Implementation (actual, not anticipated)	The Minnesota Department of Transportation hired the doctoral student who worked on this project to conduct crash modeling and safety performance functions on trunk highways in the Twin Cities metro area because of the experience he gained on this project.
Web Links <ul style="list-style-type: none"><li>• Reports</li><li>• Project website</li></ul>	<a href="http://www.roadwaysafety.umn.edu/research/search/projectdetail.html?id=2018057">http://www.roadwaysafety.umn.edu/research/search/projectdetail.html?id=2018057</a> <a href="http://www.roadwaysafety.umn.edu/publications/researchreports/reportdetail.html?id=2804">http://www.roadwaysafety.umn.edu/publications/researchreports/reportdetail.html?id=2804</a>