UTC Project Information	
Project Title	Sources and Mitigation of Bias in Big Data for Transportation Safety
University	Texas A&M Transportation Institute
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Funding Source(s) and Amounts Provided (by each agency or organization)	Safe-D (Federal): $21,761 Match (Non-Federal): $
Total Project Cost	$21,761
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Start and End Dates	August 2017 – May 31, 2018
Brief Description of Research Project	High quality data for transportation safety planning has been expensive and slow to obtain. Recently, new big data sources allow more detailed analysis of vehicle, transit, bicycle, and pedestrian trips than ever before. However, big data generally represents transactions rather than trips--inherently including a range of biases related to representation. Big data sources offer both prospect and problems for transportation planning, regarding how well they reflect the broad population of transportation system users, or individual markets subject to digital divide and other biases of representation. Research has identified far-reaching bias issues in big data sources, but this study will focus on those with an impact to planning for transportation safety. Using a synthetic literature review, and interviews with expert practitioners, Results suggest implications for transportation safety research and practice to identify and mitigate bias in big data.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	The final report serve as the key deliverable for implementation, and will include sections on the research methodology, synthesis of literature, findings from the interviews, and a summary of results and implications for research and practice. Three additional resources are designed to facilitate implementation. A short video summarizing the study findings will be developed and shared to disseminate knowledge about bias in big data for a wide audience. A practitioner-oriented article will be pitched to appropriate trade magazine(s), to share research results with a professional audience. Finally, a peer-reviewed article will target results toward an academic audience.

Impacts/Benefits of Implementation (actual, not anticipated)	This will be the first comprehensive study of bias in big data for transportation safety available, and will likely affect product development, research, and practice in this topic area. The direct impact to the private big data market is not currently assessable, but significant impacts are expected.

Web Links
  • Reports
  • Project website
	http://www.vtti.vt.edu/utc/safe-d/index.php/sources-and-mitigation-of-bias-in-big-data-for-transportation-safety/