UTC Project Information	
Project Title	Use of Disruptive Technologies to Support Safety Analysis and Meet New Federal Requirements
University	Texas A&M Transportation Institute
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Funding Source(s) and Amounts Provided (by each agency or organization)	Safe-D (Federal): $176,000 TxDOT (State): $25,000 VDOT (State): $25,000 StreetLight Data Inc. (Private): $1,425,000
Total Project Cost	$1,651,000
Agency ID or Contract Number	Grant No: 69A3551747115 Project: 04-113
Start and End Dates	08/01/2019 - 02/28/2021
Brief Description of Research Project	The goal of this project is to examine whether traffic volume estimates developed from disruptive technologies such as cell phones, GPS/Bluetooth devices, and alternative data sources (e.g., demographic, socioeconomic, land use data) can be used confidently and accurately to support data-driven safety analysis (i.e., network screening) to meet the 2016 Highway Safety Improvement Program (HSIP) Final Rule requirements. The main research questions include: What is the expected accuracy of AADT estimates developed from disruptive technologies? How does the AADT accuracy vary by roadway functional class for urban and rural roads? What is the average penetration rate of disruptive data sources? What is the impact of underestimating or overestimating AADT on data-driven safety analysis?
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	The research will produce the following products: • GIS Database – The database will include integrated crash, traffic, and roadway data for Texas and Virginia. • Safety Performance Functions – SPFs will be developed for various roadway types in both states. • Final Report – The report will document the work performed, results, lessons learned, conclusions, and recommendations. • PowerPoint presentation – The presentation will be used to summarize the work performed and the results of the analysis. Research team members will incorporate the findings of this study into one graduate course titled CVEN 626 - Highway Safety at TAMU. The research team will also organize short presentations

	and pop-up classes open to the Texas A&M University students and faculty as well as researchers from TTI and VTTI. T2 activities and products include the following: • Webinar – At the conclusion of this project, the research team will conduct a webinar to present the methodology, lessons learned, and project findings to stakeholders. • Conference Paper – Researchers will prepare a conference paper. • Journal Article – The research team will prepare an article which will be submitted to a peer-reviewed journal. • SPFs – The research team will develop several SPFs that TxDOT and VDOT can use in data-driven safety analysis. The research team will submit the SPF work to the CMF Clearinghouse.
Impacts/Benefits of Implementation (actual, not anticipated)	Anticipated benefits from this project include: a) improved safety analysis methods by using new SPFs; b) increased ability to meet the new HSIP Final Rule requirements; and c) better understanding of how AADT can affect the results of data-driven safety analysis.
Web Links • Reports • Project website	https://www.vtti.vt.edu/utc/safe-d/index.php/projects/use-of-disruptive-technologies-to-support-safety-analysis-and-meet-new-federal-requirements/