



Research Project Statement 20-082 FY 2020 Annual Program

Title:	Improving the Identification of Curve-Related Crashes in the Crash Records Information System (CRIS)
The Problem:	<p>A recent analysis of motorcycle crashes revealed that the roadway inventory data in CRIS may be misclassifying curve-related crashes substantially. Of greatest concern is that the CRIS variables based on the roadway inventory data missed about one-third of curve-related motorcycle crashes. Additionally, the degree of misclassification appears to vary by crash severity. This has tremendous implications for Texas traffic safety studies based on CRIS and roadway inventory data.</p> <p>Curves play a significant role on crashes. From 2010 to 2017, about 9 percent of all crashes and 22 percent of fatal crashes were curve-related based on the roadway alignment variable; however, the role may be significantly higher based on the misclassification identified in the recent motorcycle crash analysis.</p> <p>Not all curve-related crashes are the same or have the same risk factors and injury outcomes. Various characteristics of curves and their geometry influence driving behavior and crash risk for all vehicles, not just motorcycles. Consequently, there is a need for better identification of curve-related crashes in CRIS and also methods for understanding curve characteristics better and their impact on crash risk and severity.</p>
Technical Objectives:	<p>The researchers shall address the following:</p> <ol style="list-style-type: none">1. Review all the data in CRIS that pertains to the identification of curve-related crashes in CRIS from 2010 to 2017.2. Develop a tool for improved identification of curve-related crashes and curve characteristics.3. Develop and implement a process for evaluating the tool's performance. <p>The expectation of this project is that the end product will obtain a TRL level 7.</p>
Desired Deliverables:	<ol style="list-style-type: none">1. Technical memorandum for each task completed.2. Monthly progress reports.3. Value of Research (VoR) that includes both qualitative and economic benefits, to be included in the final research report.4. Research report documenting the findings of the research, including a methodology for improved identification of curves across Texas that also provides additional information about curve characteristics that are critical for understanding crash risk.5. Project Summary Report.
Proposal Requirements:	<ol style="list-style-type: none">1. Utilize the "Proj/Agre" and "PA_Form" templates located at the TxDOT RTI website.2. Proposals will be considered non-responsive and will not be accepted for technical evaluation if they are not received by the deadline or do not meet the requirements stated in RTI's University Handbook, which is also located at the RTI website.3. Proposals should be submitted in PDF format, 1 PDF file per proposal. File name should include project name and university abbreviation.4. This project will be tracked during the life of the project using a Technology Readiness Level (TRL) scale. For more information about the use of a TRL, click.