

Title:	Develop Bridge Weigh-in-Motion Approach to Measure Live Loads on Texas Highways
The Problem:	<p>There is a trend for a continual increase of truck sizes and weights. Increased truck sizes and weights can induce significant demands along the transportation infrastructure. Without measurement strategies, it is more difficult to assess the impact these changes have on future transportation infrastructure.</p> <p>To understand the make-up of truck loads on Texas roadways, weigh-in-motion (WIM) systems have been implemented; however, WIM systems are expensive, time consuming to install, and have data quality concerns. This project aims to address these challenges by using existing bridges to capture the truck loads on the Texas roadway system.</p>
Technical Objectives:	<p>The objective of this research is to develop a bridge weigh-in-motion (BWIM) approach, where a bridge is specifically instrumented to capture the truck loads it carries.</p> <p>The researchers shall address the following:</p> <ol style="list-style-type: none"> 1. Select bridges to install BWIM systems along critical Texas corridors. 2. Finalize the BWIM setups. 3. Install the BWIM systems and perform calibration of the systems to understand the structural responses for known truck weights 4. Conduct a data analysis and review. <p>The expectation of this project is that the end product will obtain a TRL level 8.</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 live load results of each BWIM system and recommendations for future BWIM systems. 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.