



# Research Project Statement 24-101 FY 2024 Annual Program

<b>Title:</b>	Quantify Bridge and Pavement Consumption Due to Permitted Overweight/Oversized (OW/OS) Vehicles
<b>The Problem:</b>	<p>In 2012, the Rider 36 study indicated that damage caused to bridges and pavements by OW vehicles surpassed the revenue collected by permit fees by approximately \$200 to \$300 million. This finding was corroborated by a recent 2022 study mandated by House Bill 2223. Besides the revenue shortage to cover bridge and pavement maintenance and rehabilitation cost due to the damage cause by OW vehicles, the 2022 study also identified additional shortcomings that need to be urgently addressed. These shortcomings include:</p> <ul style="list-style-type: none"> <li>• Review and adjustment of the current methodology to account for the recent inflation rates.</li> <li>• Calculation of annual vehicles-miles-traveled by each permit type.</li> <li>• Identification of routes and number of trips for monthly, quarterly, or annual permits.</li> </ul> <p>The objective of this project is to address these shortcomings.</p>
<b>Technical Objectives:</b>	<p>TxDOT districts and local agencies in charge of managing the off system statewide will benefit from the findings of this project and implementation of the results. A new fee structure commensurable with actual consumption cost has the potential to generate additional revenue to support the maintenance and rehabilitation of the Texas bridge and pavement network.</p> <p>To address the technical objectives of this project, the research team shall:</p> <ul style="list-style-type: none"> <li>• Gather data and conduct a literature review that includes various legislative studies.</li> <li>• Analyze OS/OW permits from 2018 to 2022 from the Texas Permitting &amp; Routing Optimization System (TxPROS).</li> <li>• Develop a representative database containing typical vehicle configurations, GVWs, axle loads and average annual volumes, and estimate volume changes and expected trends.</li> <li>• Develop or update methodology for calculating bridge consumption costs due to OW permitted vehicles, including off-system bridges.</li> <li>• Develop or update methodology for calculating pavement consumption costs due to OW permitted vehicles, including local roads.</li> <li>• Develop methodology for calculating vehicle-miles-travelled (VMT) for different permit types.</li> <li>• Assess annual fees collected from different OW/OS permits.</li> <li>• Develop recommendations for the annual adjustment and updating OW permit fees to recover pavement and bridge consumption accounting for inflation rates and change in traffic patterns.</li> </ul> <p>The expected technology readiness level (TRL) for this project is 8.</p>
<b>Anticipated Deliverables:</b>	<ol style="list-style-type: none"> <li>1. Technical memorandum for each task completed.</li> <li>2. Monthly progress reports.</li> <li>3. Value of Research (VoR) that includes both qualitative and economic benefits, to be included in the final research report. This is not a stand-alone deliverable.</li> <li>4. Research report documenting the findings of the research, including updated methodologies for calculating pavement and bridge consumption costs and a process for updating such costs on an annual basis to account for inflation, recommendations for a permit fee structure that fully recovers infrastructure consumption, and an updated library of pavement and bridge consumption values for typical vehicles encountered on Texas highways.</li> <li>5. Project Summary Report</li> </ol>

<b>Proposal Requirements:</b>	<ol style="list-style-type: none"><li>1. Project duration shall not exceed 30 months.</li><li>2. Proposal Deadline: 12:00 p.m. Central Time, <b>Monday, March 6, 2023.</b></li><li>3. RFP#1 Q&amp;A Deadline: 12:00 p.m. Central Time, <b>Wednesday, February 1, 2023.</b></li><li>4. Use the current “ProjAgre” and “PA Forms” templates located at the <a href="#">RTI Forms webpage</a>.</li><li>5. 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 <a href="#">University Handbook</a>.</li><li>6. Proposals should be submitted in PDF format; (1) PDF file per proposal. File name should include project name and university abbreviation.</li><li>7. This project will be tracked during the life of the project using the Technology Readiness Level (<a href="#">TRL</a>) scale.</li><li>8. The 2021 Texas Legislative Session requires that universities be in compliance with Senate Bill 475 by submitting a completed and signed TxDOT Security Questionnaire (TSQ) to <a href="mailto:RTIMAIN@txdot.gov">RTIMAIN@txdot.gov</a> in advance of a proposal submission. Universities found to not submit a completed and signed TSQ in advance of proposal submitting will be held in non-compliance and unable to participate in the Program.</li></ol>
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