



Research Project Statement 24-053 FY 2024 Annual Program

Title:	Synthesis: Pavement Widening Best Practices
The Problem:	<p>TxDOT continues to see premature pavement failures on pavement widening projects. These include safety projects adding shoulders, Super2 sections as well as other projects. Premature failures cause significant time and money to repair. There are several key factors that may lead to the early failures such as pavement design, including the material layer properties and thickness, and construction operations. Recent forensic investigations indicate that existing pavement evaluation, sequence of work, and layer properties play a large role in the success of the project. Forensic investigations have found premature failures occurring in new pavement as well as the existing pavement. Projects should be evaluated, and the best practices documented.</p>
Technical Objectives:	<p>Improved widening strategies will lead to lower risk of premature pavement failures. This has a high potential to save money by lowering the risk of failures. To meet the objectives of this synthesis project, the research team shall:</p> <ul style="list-style-type: none"> • Review current widening practices of the districts and document the best practices. <ul style="list-style-type: none"> ○ Evaluate district practices for pavement design on widening projects. ○ Document how districts determine the widening strategy including existing pavement evaluation procedures (NDT, sampling, materials testing). ○ Evaluate the pavement materials typically used in widening. ○ Evaluate typical district construction practices and PS&E details for widenings. • Evaluate projects that have been in place and considered to be performing well and some that are not performing as expected. Identify common issues that can lead to premature failures and practices that can be a factor for improved performance of widened sections. <p>The expected technology readiness level (TRL) for this project is 2.</p>
Anticipated 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. This is not a stand-alone deliverable. 4. Research report documenting the findings of the research, including best practices for evaluating existing pavements prior to widening, guidelines for widening strategies, project case studies, typical design details for widening most common combinations of pavement structures in the state, and recommendations for modifications or new specifications. 5. Project Summary Report.
Proposal Requirements:	<ol style="list-style-type: none"> 1. Project duration shall not exceed 12 months. 2. Project duration shall not exceed \$65,000. 3. Proposal Deadline: 12:00 p.m. Central Time, Monday, March 6, 2023. 4. RFP#1 Q&A Deadline: 12:00 p.m. Central Time, Wednesday, February 1, 2023. 5. Use the current “ProjAgre” and “PA Forms” templates located at the RTI Forms webpage. 6. 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. 7. Proposals should be submitted in PDF format; (1) PDF file per proposal. File name should include project name and university abbreviation. 8. This project will be tracked during the life of the project using the Technology Readiness Level (TRL) scale. 9. 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 RTIMAIN@txdot.gov 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.