



Research Project Statement 20-202 FY 2019 Annual Program

Title:	Evaluation of the Performance of Rumble Strips on Pavements Where Seal Coats Have Been Applied
The Problem:	The repeated application of seal coats on pavement surfaces that have rumble strips on the shoulders or center lines may prevent the rumble strips from performing as intended, potentially reducing the effectiveness of this safety feature. As a result of this project, TxDOT districts and Maintenance Offices will be able to know how many times a seal coat can be applied before affecting the safety capabilities of the rumble strips.
Technical Objectives:	<p>The objective of this research is to determine how many layers of seal coats can be applied on a pavement with rumble strips before driver safety is compromised as a result of the reduction of the acoustic and vibratory properties of the rumble strips.</p> <p>The researchers shall address the following:</p> <ol style="list-style-type: none">1. Conduct literature review on rumble strip effectiveness, focusing on noise levels threshold for safety.2. Develop an experimental design as a test procedure.3. Select pavement sections to test.4. Conduct noise tests on various sections (10-15) roadway sections with rumble strips in which the number of seal coat applications is known.5. Determine how many applications it takes before noise and vibration levels produced while driving on the rumble strips drop to unacceptable limits for them to fulfill their intended purpose.6. Develop guidelines for the performance of rumble strips on seal coat surfaces. <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 test results and guidelines for the performance of rumble strips on seal coat surfaces.5. Provide recommended modifications to the TxDOT Seal Coat and Surface Treatment Manual.6. Project Summary Report.7. Half-day workshop.
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.