



Research Project Statement 20-165 FY 2019 Annual Program

Title:	Develop Surface Aggregate Classification of Reclaimed Asphalt Pavement
The Problem:	<p>The use of Surface Aggregate Classification A (SAC-A) aggregates has increased significantly to over 1.9 million tons annually to meet the friction demand of pavements. The 2019 forecast for the demand of SAC-A aggregates will be sustained at this high level and more than likely increase in the upcoming years from the additional funding from Propositions 1 and 7. This demand will also be greater as the population of Texas increases, along with the increasing likelihood of wet surface crashes and fatalities. The challenge to TxDOT is to develop specifications, methods, and means to conserve our existing SAC-A resources.</p> <p>TxDOT specifications allow the use of reclaimed asphalt pavement (RAP) in efforts of conserving our natural resources and cost savings. The use of RAP will only increase as both TxDOT and industry are proponents of using recycled materials. The unknown is the contribution of RAP to the skid resistance and friction of the pavement surface, especially when pavements constructed with SAC-A are reclaimed and used for production. Intuitively there must be some contribution to friction, but this has not been evaluated and quantified. The use of fractionated coarse RAP may potentially help reduce the need of SAC-A aggregates.</p>
Technical Objectives:	<p>The objective of this project is to determine if potential exists to conserve SAC-A resources by adding friction value to the RAP while not having any detrimental effects with mix quality.</p> <p>The researchers shall address the following:</p> <ol style="list-style-type: none">1. Review literature on friction of asphalt mixes containing RAP.2. Evaluate impact of RAP on friction and durability of surface hot mix asphalt (HMA) mixes with different types of SAC-A aggregates. This will involve both laboratory and field testing.3. Define RAP requirements for being used as SAC-A aggregates.4. Develop practical guidelines for use of RAP to meet both friction and durability demands of surface asphalt mixes. This will include guidelines on materials selection and mix design. <p>The expectation of this project is that the end product will obtain a TRL level 5.</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 practical guidelines for the use of RAP as SAC-A aggregates and associated requirements of RAP characteristics.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.