| | |
|---|---|
| **Title:** | Develop Cost Effective Design and Rehabilitation Strategies for Permeable Friction Courses (PFC's) |
| **The Problem:** | Thousands of miles of permeable friction course (PFC) pavements have performed well for the last 10 to 15 years on Texas highways. PFC pavement reduces hydroplaning, splash and spray, pavement noise, and improves ride quality and safety in wet weather.<br><br>Hundreds of miles of PFC pavements are now at the end of their service life and they need to be rehabilitated. The most common distress observed is raveling. To date, the most widely used method of rehabilitating PFC pavement is to mill the existing layer and replace it with a new wearing layer. This is also the most conservative and most expensive rehabilitation strategy.<br><br>A study is needed to determine if there are less expensive resurfacing options which do not include milling. A review is also required to determine if the current PFC pavement design procedures can be improved to obtain longer initial life. PFC pavements have many safety related advantages, but their use is on the decline because of the high cost of replacement. |
| **Technical Objectives:** | This research shall develop cost effective rehabilitation strategies for PFC pavements. To achieve this objective, the work to be performed shall include:<br>1. Review and update TxDOT's design procedures for PFC pavements. Include in this review a listing of where and when PFC pavements should be used.<br>2. Conduct a survey of current TxDOT district practices for maintaining PFC pavement without milling.<br>3. Develop alternative strategies for PFC pavements, if feasible.<br>4. Conduct lab tests to document the impact of some resurfacing techniques on water flow and skid.<br>5. Construct test sections in at least three TxDOT districts with before and after testing.<br><br>The expectation of the project end product(s) shall attain a Technology Readiness Level of 7. |
| **Anticipated Deliverables:** | 1. Technical memorandum for each task completed.<br>2. Monthly progress reports.<br>3. Value of Research (VoR) that includes both qualitative and economic benefits, to be included in the final research report; not a stand-alone deliverable.<br>4. Research report documenting the findings of the research, including the most cost-effective methods for maintaining PFC's without milling, including district specific construction specifications.<br>5. Project Summary Report |
| **Proposal Requirements:** | 1. Utilize the “Proj/Agre” and “PA_Form” templates located at the TxDOT RTI website.<br>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.<br>3. Proposals should be submitted in PDF format, 1 PDF file per proposal. File name should include project name and university abbreviation.<br>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. |