

**RESEARCH PROBLEM STATEMENT**

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| <b>DATE:</b> 09/20/2019 | <b>PROJECT AREA:</b> Maintenance |
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**TITLE:** Analyzing the Effectiveness of Joint Sealant Based on Region

**PROBLEM STATEMENT:**

Sealing all expansion joints is currently required in the Arkansas Standard Specifications when constructing rigid pavements. Sealing these joints reduces the amount of material that gets into the joint that can cause accelerated wear to the abutting pavement such as de-icing salt and ice during a freeze-thaw cycle. Though effective while in place, the sealants currently being used must be reapplied often at the monetary detriment of the Districts. While some Districts in the northern half of the state benefit from the sealants' protection during the winter months, some southern district are not seeing the same benefits due to the milder winter season in the southern part of the state. Thus, a region-based analysis of joint sealant use would be beneficial to Districts that experience milder winter conditions and are less affected by de-icing activities and freeze-thaw cycles by determining the most efficient use of the material.

**OBJECTIVES:**

The objective of this project would be to determine the exact benefit of sealing joints of rigid pavements based on region. Knowing the regional effectiveness of joint sealing may result in its more efficient use based on District.

**FORM OF RESEARCH IMPLEMENTATION AND RETURN ON INVESTMENT:**

The research would be implemented by allowing Districts to choose a more efficient policy regarding joint sealant based on their region. Determining the most efficient use of joint sealant based on region will ensure that Districts do not waste money on inefficient maintenance practices.

**Estimated Project Duration:** 24 Months

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| Standing Subcommittee Ranking | Advisory Council Ranking | Statement Combined with Statement Number(s) |
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