



**Wisconsin Department of Transportation
Wisconsin Highway Research Program**

Request for Proposals

***Material Specifications for Longitudinal Joint
Construction, Remediation and Maintenance***

Questions submitted to research@dot.wi.gov regarding the
Content of this RFP are due no later than
4:30 PM (CST) on January 3, 2020

Responses to questions will be posted to the WisDOT Research and Library
website <https://wisconsindot.gov/Pages/about-wisdot/research/researchers.aspx>
by 4:30 PM (CST) by January 11, 2020

Researchers must submit a PDF version of their proposal by
4:30 PM (CST) by February 3, 2020
to: research@dot.wi.gov

Proposal Preparation Guidelines can be found at:
[Proposal Preparation Guidelines](#)

Researchers will be notified of the proposal review decision by May 1, 2020

For more information regarding this RFP contact the WisDOT Research Program at:
research@dot.wi.gov

This RFP is posted to the Internet at:
<https://wisconsindot.gov/Pages/about-wisdot/research/researchers.aspx>



**Wisconsin Highway Research Program
Flexible Pavement Technical Oversight Committee
Request for Proposals for**

***Material Specifications for Longitudinal Joint
Construction, Remediation and Maintenance***

I. Background and Problem Statement

Local and national research has sufficiently identified best practices for design and construction of longitudinal joints. WisDOT has begun implementing best practices to improve standard specifications for joint construction and developed an incentive system to increase joint densities whereby contractors can be awarded an incentive of up to \$0.80 per linear foot of joint.

While WisDOT is addressing the standard specifications for longitudinal joint design and construction, there is also a need to consider new materials and methods available to preserve the longevity of longitudinal joints, and thereby benefit from the expected increase in HMA pavement service life. Examples of new materials and methods include micro-surfacing, void reducing asphalt membranes, post applied joint sealants, milling and filling, rapid penetrating emulsions and others.

Researchers and state agencies have investigated the benefits of joint improvement materials/methods, but there is not a consensus on the proper use, performance, and acceptance measures of each alternative. Research is needed to synthesize available materials/methods so that Wisconsin DOT engineers can implement new pavement design best practices for longitudinal joint construction.

Competitive proposals will be able to identify materials that have shown promise improving performance of longitudinal joints and clearly explain how the research team plans to evaluate/compare each alternative.

II. Research Objectives

- A. Compare engineering experiences and materials available to improve the performance of longitudinal joints during and after construction.
- B. Recommend the best practices for construction, remediation, and maintenance for using these materials and processes.
- C. Summarize quality acceptance measures and criteria for each alternative.

III. Scope of Work

Task 1:

Identify possible materials and manufacturers available to improve performance of longitudinal joints.

Task 2:

Summarize pavement design considerations when evaluating alternative materials such as: estimates of added design life, cost, sustainability, and construction plan modifications.

Task 3:

Summarize the literature that discusses the design and/or material properties of each alternative that is intended to improve/alter performance.

Task 4:

Interview state agency representatives regarding practices that have already been implemented into agency specifications. Provide a summary discussing when each alternative should be used and why.

Task 5:

Draft design and construction guidance for future projects.

IV. Required Testing (none)**V. WisDOT/TOC Contribution**

- A. Work will be conducted with project oversight by the WisDOT Bureau of Technical Services and WHRP Flexible Pavements Technical Oversight Committee (TOC). The TOC members will appoint a Project Oversight Committee (POC) to support the successful completion of the project.
- B. The research team will not assume the availability of WisDOT staff or equipment during the development of the research project. If WisDOT or another entity donates equipment or staff time, a letter of commitment must be included in the proposal.
- C. WisDOT staff/TOC members can be expected to contribute a maximum of 40 hours over the duration of the project

VI. Requirement for Travel

The Principal Investigator is required to travel to Madison to deliver the Close-Out Presentation in person.

VII. Deliverables

Submission of a PDF of the final report is required.

VIII. Schedule and Budget

- A. Project budget shall not exceed **\$80,000**.
- B. Proposed project duration is **12 months** and is expected to start around October 1, 2020.

IX. Implementation

- A. The research report and the final presentation document will be used to develop training materials for industry professionals and WisDOT engineers. Training should highlight mixture design changes required to meet new specifications and testing procedures.
- B. At a minimum, the research team will develop guidelines for optimal usage of each longitudinal joint alternative material. These guidelines should consider all levels of the construction and maintenance process.