**TPF-5(478) Demonstration to Advance Pavement Technologies**

**Project Summary Form**

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| **Project Title: Balanced Mixture Design Pilot and Field Sections** | |
| **Project Scope:** Long term field evaluation of BMD test sections and determination of performance testing variability during production. | |
| **State DOT:** Wisconsin | |
| **State DOT Contact(s):** Erik Lyngdal (main), Steve Hefel, and Dan Kopacz | |
| **Other Stakeholders Involved:** James Pforr (FHWA) | |
| **Technical Area(s):** Materials-BMD | |
| **Project Background:** WisDOT is in the process of implementing Balanced Mixture Design (BMD) concepts into construction specifications. So far, WisDOT has evaluated available performance test methods, begun collecting BMD data for current mixture designs, and have preliminary thresholds for quality acceptance. Prior to full implementation, more research is needed to validate performance test selection in the field and to better understand variability of performance tests during production. This year, a research team was contracted through WisDOT’s local research program to instrument field BMD test sections and conduct production style testing on WisDOT projects.  The research team proposed construction of 6 field sections and collection of 18 samples from 10 different construction projects. Researchers are expected to: 1) instrument and sample materials from each of the 6 field test sections and 2) conduct performance testing on 6 of the 10 construction projects. To have a successful project, WisDOT is tasked with test section project selection, oversight of the field test sections, and sampling/testing during production of 10 different construction projects.  WisDOT would like to use Pooled Fund resources to help WisDOT fulfill its local research obligations and improve/expand the project. WisDOT requests technical guidance for contract provision development, support for test section sensor installation, and consultant help for material sampling. In addition, WisDOT requests funds to increase the project’s sample size as needed. | |
| **Project Objectives:**  Provide technical and financial support for development of field test sections.  Contract consultant and/or research team to sample and test mixtures during HMA production and help analyze production variability. | |
| **Project Deliverables and Outcomes:**  Long term performance evaluation of field test sections to validate efficacy of select performance tests.  Structural analysis of test sections using pavement sensor data.  Quantify effects of production variability on an expanded set of mixture performance tests. | |
| **Project Schedule:**  Construction test sections – Summer 2022  Sampling and testing of select field projects – Sampling construction season 2022. Testing completed Winter of 2022  Preliminary field performance measurements – Spring/summer 2023  Local research closeout– September 2023 | |
| **Total Project Cost:**  $250,000 | |
| **The Pooled Fund contribution to the project can provide up to $250,000, up to 100 hours of technical assistance, and resources for developing case study reports and videos for each selected demonstration project. Provide specific details for needs such as funding and technical assistance below. For example, if funding needs are identified, describe any lump sum or multi-year funding needs and anticipated State match.** | |
| **Funding Request: (all 2022)**  Support construction of field test sections - $50,000  Production sampling and performance testing of 10 projects - $200,000 (variable depending on testing) | **Technical Assistance Request: 100 (2022-23)**  Technical support of field test sections and sampling strategies – 100 hours |