

## TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): South Dakota Department of Transportation

**INSTRUCTIONS:**

*Project Managers and/or research project investigators should complete a quarterly progress report for each calendar quarter during which the projects are active. Please provide a project schedule status of the research activities tied to each task that is defined in the proposal; a percentage completion of each task; a concise discussion (2 or 3 sentences) of the current status, including accomplishments and problems encountered, if any. List all tasks, even if no work was done during this period.*

|   |  |  |  |
|---|--|--|--|
| <b>Transportation Pooled Fund Program Project #</b><br><br>TPF-5(354)         |  | <b>Transportation Pooled Fund Program - Report Period:</b><br><br><input type="checkbox"/> Quarter 1 (January 1 – March 31)<br><input type="checkbox"/> Quarter 2 (April 1 – June 30)<br><input type="checkbox"/> Quarter 3 (July 1 – September 30)<br><input checked="" type="checkbox"/> Quarter 4 (October 1 – December 31) |  |
| <b>Project Title:</b><br>Improving the Quality of Highway Profile Measurement |  |  |  |
| <b>Name of Project Manager(s):</b><br>David L. Huft                           | <b>Phone Number:</b><br>605.773.3358           | <b>E-Mail</b><br>dave.huft@state.sd.us   |  |
| <b>Lead Agency Project ID:</b><br>HRTPF5(Y7) 05X7 P                           | <b>Other Project ID (i.e., contract #):</b>    | <b>Project Start Date:</b><br>10/01/2016   |  |
| <b>Original Project End Date:</b><br>09/30/2021                               | <b>Current Project End Date:</b><br>09/30/2021 | <b>Number of Extensions:</b><br>0  |  |

Project schedule status:

On schedule     
  On revised schedule     
  Ahead of schedule     
  Behind schedule

Overall Project Statistics:

| Total Project Budget | Total Cost to Date for Project | Percentage of Work Completed to Date |
|----------------------|--------------------------------|--------------------------------------|
| \$1,750,000          | \$0.00                         | 0%                                   |

Quarterly Project Statistics:

| Total Project Expenses and Percentage This Quarter | Total Amount of Funds Expended This Quarter | Total Percentage of Time Used to Date |
|--|---|---------------------------------------|
| \$0.00   | \$0.00                                      | 0%                                    |

**Project Description:**

**Background**

The goal of the project is to continue and extend the work of TPF-5(063), which was led by the Federal Highway Administration. The project will enable states and FHWA to:

- 1) identify data integrity and quality issues associated with measuring and analyzing pavement profiles
- 2) suggest approaches to addressing identified problems
- 3) initiate and monitor projects to address identified problems
- 4) disseminate results
- 5) assist in solution deployment

**Objectives**

- 1) Deliver sample procurement specification, maintenance guidelines
- 2) Direct and support development and maintenance of pavement profile analysis software
- 3) Establish criteria for profile verification and assist with development of validation sites
- 4) Develop and deploy pavement profile reference device(s) and a traceable verification process
- 5) Provide technical support for the Road Profile Users' Group and conduct annual face-to-face meetings in conjunction with the group.

**Scope of Work**

The pooled fund study will enable participants to identify and resolve operational issues common among devices used to measure pavement profiles. The study will focus on data quality issues that arise from the use and operation of inertial profilers and other systems designed to measure pavement profile.

**Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):**

The pooled fund study was proposed and approved by FHWA. Project partners were solicited and 18 states and FHWA, in addition to South Dakota, expressed financial commitments totaling \$1,750,000.

The Lead Agency established a project and obligated contributed funding to it,

The Project Manager conducted a kickoff presentation and discussion with several prospective partner states in conjunction with the final meeting of the steering committee for TPF-5(063) in November 2016.

The Lead Agency established a contract with The Transtec Group, LLC for \$69,957.81 to cover maintenance and support of the ProVAL profile validation and analysis software package for the period of January 1, 2017 through December 31, 2017. Support for the software under TPF-5(063) ended at the end of CY2016

**Anticipated work next quarter:**

The Steering Committee of the study will convene during the spring of 2017 to establish work priorities and to define discrete projects to be funded.

**Significant Results:**

To date, the most significant result is continuation of support for the ProVAL software, which is an essential tool for state highway agencies, paving contractors, and others.

**Circumstance affecting project or budget. (Please describe any challenges encountered or anticipated that might affect the completion of the project within the time, scope and fiscal constraints set forth in the agreement, along with recommended solutions to those problems).**

None

**Potential Implementation:**

Projects established and performed by the pooled fund study may include:

- Implementation of American Association of State and Highway Transportation Officials (AASHTO) Provision Protocols for Inertial Profilers
- Establishing pavement profile reference device(s)
- Specifying and establishing equipment certification course(s)
- Pavement profiling certification procedures for Construction Acceptance and Highway Network Monitoring & Reporting
- Operator procedures and training such as NHI Course 131100 “Pavement Smoothness: Use of Inertial Profiler Measurements for Construction Quality Control”.
- Performance of components such as accelerometers, height sensors, distance measurement instruments, inertial measurement devices, digital images, LiDAR, global positioning systems, etc.
- Development, maintenance, and training for FHWA ProVAL “Profile Viewer and Analyzer Software”
- Highway system performance monitoring, evaluation, and reporting
- Appropriate data collection, reduction techniques, and use of alternative indices for low-speed, stop and go, urban environments
- Contracting and procurement practices and issues
- The use of inertial profilers for construction quality control and quality assurance as per 23CFR 637.205
- Filters such as a tire envelopment.