

TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT

Date: 8-5-2015

Lead Agency (FHWA or State DOT): South Dakota DOT

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.

Transportation Pooled Fund Program Project # <i>(i.e., SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX))</i> TPF-5(054)		Transportation Pooled Fund Program - Report Period: <input type="checkbox"/> Quarter 1 (January 1 – March 31) <input checked="" type="checkbox"/> Quarter 2 (April 1 – June 30) <input type="checkbox"/> Quarter 3 (July 1 – September 30) <input type="checkbox"/> Quarter 4 (October 1 – December 31)	
Project Title: Development of a Maintenance Decision Support System			
Name of Project Manager(s): Dave Huft		Phone Number: 605-773-3358	E-Mail: Dave.Huft@state.sd.us
Lead Agency Project ID: SD2002-18		Other Project ID (i.e., contract #): 310814	Project Start Date: October 14, 2002
Original Project End Date: April 30, 2003		Current Project End Date: September 30, 2015	Number of Extensions: 32

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
\$8,670,210.00	\$8,420,861.44	97.12%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
\$161,377.12 (1.86%)	\$161,377.12	98.08%

Project Description:

- The Maintenance Decision Support System research program is responsible for research and development related to the implementation of new information technologies to support transportation maintenance decisions, including winter and summer decision support tools. The program also performs substantial research and development into parallel applications for the transportation industry that may either share data with MDSS, or benefit by leveraging technologies developed under the program (for instance, sharing of data between MDSS and other agency systems, or the development of management-oriented tools that leverage MDSS' capabilities).

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

- The MDSS dashboard work included back-end improvement on functionality and performance. A new version of the dashboard software was released that addressed a memory allocation issue that had been an issue during the 2014-15 winter season. Additionally a truck-based dashboard panel was presented at the MDSS meeting with feedback received from agencies.

- The process of temporarily spinning up an end-to-end MDSS instance on external hardware, independent of Iteris' infrastructure, continued to be a focus of work efforts during Q2. The vast majority of the different facets of the MDSS system are now operable in this environment. Lingering issues pertain mostly to MDC/AVL database and user interface issues. This effort is being undertaken in order to comply with the provisions of the recently-finalized MDSS IP Agreement with the PFS member agencies.

-Version 11.08 of the MDSS GUI was available for download at the end of Q1, and is still linked as the latest version of the GUI as of the end of Q2. Several iterations of the versions from 11.00 to 11.08 were used to test the available memory the MDSS GUI could use from the computer. The MDSS GUI was limiting the available memory the application would consume to avoid causing issues on user's computers. This limit was expanded to account for more data processing needed and new computers have more available RAM to allow for a limit increase.

- Held a project meeting on June 8 through 10 to cover accomplishments of the winter season in Year 2 and address the final items that will be completed in the completion of year 2 of the Phase VIII research plan. Additionally, research items for a potential Phase 9 were discussed.

- Operational support continued through the early part of Quarter 2 for all agencies billing their operations through the PFS MDSS contract. This includes operational weather forecasting support, RWIS data integration, customer support, training, and AVL/MDC data integration (where applicable). Most operations ended on April 15th while others ended on the 30th of April.

- A synopsis of the Assessment of Recommendations and South Dakota evaluation of recommendations prepared for the MDSS Technical Panel meeting showed similar results as from the two previous years, but lower than expected participation in the rerun feature installed for last winter.

Anticipated work next quarter:

- Continued refinements on the MDSS Dashboard will be accomplished over the next quarter. This includes the finalizing of the truck panel and exploring ways to incorporate WMRI type data into a panel.
- Begin work on implementation of an import function in the WMRI tool so as to permit direct comparison of agency data against WMRI data in the WMRI toolset.
- It is not anticipated there will be operations during Q3 of the project but efforts will be in place to prepare for operations beginning at the start of Q4. Each agency will receive their MDSS route segments for assessment for the upcoming winter. Also, budgets will be created matching desired operational levels for the upcoming winter season
- Develop and perform training on the use and value of the RERUN feature in the Assessment of Recommendations interface. Find three individuals willing to participate in a series of detailed case studies of recommendations on their routes.
- Q3 will mark the first release of the MDSS training videos. These videos will be distributed on DVD to agencies to review and provide comments and feedback.
- Complete implementation of MDSS outside of Iteris' infrastructure in order to provide clear separability and documentation of the PFS MDSS software modules vs. Iteris' infrastructure and modules, and work with the PFS member agencies to define the process for software provision and maintenance going forward (under the newly-signed IP agreement).
- The multi-year seasonal simulations for evaluating MDSS' configurations across the state agencies will be completed for the agencies that have provided adequate data for comparison in an effort to identify where MDSS' current configurations may be either less than ideal, or not representative of current agency practice.
- Work with the PFS MDSS Technical Panel to refine a detailed Scope of Work for a possible Phase IX of the project.

Significant Results:

- While the seasonal simulations carried out in Q2 and Q3 2014 appear to be providing a lot of very useful information, this process has not yet come to a conclusion where the final results of that activity are clear yet. The primary holdup is in getting equivalent data from the member agencies to permit comparison.
- The deployment of the MDSS Dashboard has been met with positive feedback and constructive comments for changes. This feature allows the most basic users to get information in a quick view.

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 this quarter.

Potential Implementation:

- The MDSS research program is now well into its 8th phase of work. The core MDSS software / services have been operational within numerous state transportation agencies for several years or more, depending upon the agency. An initial suite of "Management Tools" has been implemented within the past several years, starting first with a WMRI tool to aid managers in quantifying winter severity across their jurisdiction from a winter maintenance perspective, followed up more recently by a complementary suite of MDC/AVL-oriented tools analyzing and visualizing maintenance being performed by the agency's MDC/AVL-equipped snowplow fleet. During Phase VII, MDSS applications for iOS and Android mobile platforms were designed, developed and made available to PFS member agencies. New features and capabilities continue to be added in the present phase of work.