TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): Michigan 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.e, SPR-2(XXX), SPR-3(XXX) or TPF-5(XXX)* TPF-5(308)	**Transportation Pooled Fund Program - Report Period:** ☐ Quarter 1 (January 1 – March 31) ☑ Quarter 2 (April 1 – June 30) ☐ Quarter 3 (July 1 – September 30) ☐ Quarter 4 (October 1 – December 31)	
Project Title: The Use of Bridge Management Software in the Network Analysis of Big Bridges		
Name of Project Manager(s): Rebecca Curtis	**Phone Number:** 517-449-5243	**E-Mail** Curtisr4@michigan.gov
Lead Agency Project ID: OR14-022	**Other Project ID (i.e., contract #):** 2016-0022	**Project Start Date:** 12/10/2015
Original Project End Date: 9/30/2017	**Current Project End Date:** 9/30/2017	**Number of Extensions:** 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
$349,018.00	$193,557.08	75.0%

Quarterly Project Statistics:

Total Project Expenses and Percentage This Quarter	Total Amount of Funds Expended This Quarter	Total Percentage of Time Used to Date
$193,557.08 / 55.46%	$48,109.62	87.5%

Project Description:

Current financial outlay plans for a network of standard bridges are managed by scheduling preservation and replacement projects based upon whole bridge needs. This is viewing element condition as an entirety for the bridge when for complex, long span or large deck bridge (Big Bridges) it may make more sense fiscally to view contiguous element groups, structure components, or bridge spans as a series of interactive networks. The AASHTO National Bridge Elements, Bridge Management Elements, and Agency Defined Elements were developed for standard structures and should be reviewed to see if the elements and their units are appropriate for the management of Big Bridges. Big Bridges are those that because of their size, complexity, or importance have dedicated maintenance and management staff or programs. Big bridges may include slab on girder bridges of significant length as well as other structures including suspension bridges, cable stay, trusses, movable bridges, arches, or boxes. Using element level bridge inspection data, engineers and managers of Big Bridges need to develop short, medium, and long range preservation management plans, they must predict when partial or full replacement of elements or components are most cost effective, and they need to develop maintenance budgets, business plans, and capital outlay planning accordingly. Management of the decks of Big bridges is of particular interest.

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

Completed the research and writing of Task 5 report for Big Bridge Inspection Methodology Using Element Level Data and submitted to the TAC/RAP on June 16, 2017. Review comments for this report are due back to the research team by July 31. Work continued on the Task 6 report to Recommend Analytical Tools and Processes for the Management of Big Bridges. Prepared presentation of Task 5 results for meeting with the TAC/RAP scheduled for July 16, 2017.

Anticipated work next quarter:

Hold teleconference to discuss the findings of the Task 5 report. Incorporate the comments of the Task 5 report into final draft. Complete Task 6 report and submit to TAC/RAP. Hold teleconference to discuss findings of Task 6 report. Write and submit the research project final report draft and submit to TAC/RAP.

Significant Results:

Numerous suggestions for alterations or additions to the Manual for Bridge Element Level Inspection were made throughout the Task 5 report; including, new National Bridge Elements (NBE), new Bridge Management Elements (BME), revisions to the descriptions and quantity calculations for several NBEs and BMEs, and new defect categories. Suggestions were made for the organization of big bridge inspection data in order to improve bridge analyses. A discussion of advanced NDE methods were also presented.

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).

Preliminary review of the Task 5 report have indicated a desire for more detailed examples to illustrate the suggestions made throughout the report; possibly even a case study. Depending on the level of detail/complexity, this effort may extend the completion date; however, this may not be necessary.

Potential Implementation: