

**MoDOT/MTI Structures Research Program  
Progress Report – 9/30/2021**

**Title: Developing Implementation Strategies for Risk Based Inspection**

**Project Number: TR201910**

**Principal Investigator (PI): Glenn Washer**

**Co-PI(s): Henry Brown**

<b>Award date:</b>	11/01/2018		
<b>Scheduled completion date:</b>	6/30/2023	<b>% of project completed to date:</b>	52.0%
<b>Total budget:</b>	\$850,000.00	<b>% of budget expended to date:</b>	50.2%
<b>Draft report due:</b>	3/31/2023	<b>Final report due:</b>	5/31/2023

Provide a short description of the **work currently underway**.

Use [additional notes section](#) if you need to provide more information.

Risk models have been developed for most participant states that describe the attributes associated with deterioration for estimating inspection requirements. The development a corrosion-resistance model that might provide a uniform base-line set of attributes for use by most states in on-going. Back-casting methods to verify those models has been on-going but has been affected by some NBI data quality issues. The Research Team (RT) worked with the FHWA to identify the source of the data issues. Based on discussion with the FHWA, the data provided through their web portal is being modified to correct the issue. The RT implemented these modifications manually on the data that was available in a timely manner for the project. The updating of the initial back-casting for the participant states was required as a result of these data issues. The back-casting activity is ongoing using historical data (e.g., database, bridge inventory, inspection reports, Structural Inventory and Appraisal sheets) to evaluate the effectiveness of the risk models.

For the upcoming quarter: There are two states that have joined the study since the original round of RAP meetings were held in 2019. Planning for training and initial project meeting with these states will continue in the next quarter, based on the assumption that in-person meetings would again be possible. The back-casting tasks with those states that have completed their reliability assessment

panel meetings in 2019 will continue in the coming quarter. Also in the next quarter work on improving the consequence factor estimation process will be ongoing.

Provide a short description of the **noteworthy activities/accomplishments** during this reporting period.

Use [additional notes section](#) if you need to provide more information.

The interim report was completed and sent to the participating states in early July, 2021. A revised interim report with minor revisions was distributed to the states on July 27, 2021.

Data analysis results for Pennsylvania and Wisconsin were updated after correction of the data fragmentation issue (NBI data quality).

A risk model spreadsheet was completed for all six states.

The sample sets of 10 bridges for Idaho and Wisconsin were updated.

Historical data (e.g., database, bridge inventory, link, inspection reports, Structural Inventory and Appraisal sheets) were requested for 10 bridges in each of six states and received from four states (Illinois, Missouri, Washington, and Wisconsin).

Identify **issues or problems** that need to be addressed.

Use [additional notes section](#) if you need to provide more information.

Looking forward, there are no issues or problems that need to be addressed.

Overall, the project progress has been affected by the pandemic, and is significantly behind the original schedule. This includes the first interim report, which was completed as noted above, but was delayed by issues surrounding the pandemic. Data quality issues noted above have delayed the project also; this issue is actively being resolved and is expected to be resolved very soon.

These issues appear to be resolved at this point and there are no known issues or problems with project progress.

Provides dates for when the **next progress report or presentation** due:

- December 31, 2021 (Quarterly report)

**Additional notes:**

A contract amendment with a revised scope of work was approved to revise the contract amount to \$850,000 and contract end date to June 30, 2023. The numbers shown for “% of project completed to date” and “% of budget expended to date” reflect the increased funding and expanded scope of work.