**MoDOT/MTI Structures Research Program**

**Progress Report – 12/31/2021**

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

**Project Number: TR201910**

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

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

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| **Award date:** | 11/01/2018 | | |
| **Scheduled completion date:** | 6/30/2023 | **% of project completed to date:** | 55.0% |
| **Total budget:** | $850,000.00 | **% of budget expended to date:** | 52.1% |
| **Draft report due:** | 3/31/2023 | **Final report due:** | 5/31/2023 |

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

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

The updating of the initial back-casting from 1992 to 2020 using historical data (e.g., database, bridge inventory, link, inspection reports, Structural Inventory and Appraisal sheets) provided by participating states is in progress.

Risk models are being adjusted to reflect some missing damage modes and attributes that were not considered during the RAP meeting but were found important when looking at the inspection reports.

The development of risk models for corrosion is in progress.

Regarding the consequence factor, the research team has been working towards developing a model based on statistical data retrieved from the NBI database. So far, the ADT, and span length have been incorporated into this model.  Moving forward in the development of this model, the research team intends to include other meaningful parameters found in the NBI database that will result in a unified criteria to assess the consequences of any bridge damage.

Preparation for the Reliability Assessment Panel (RAP) meeting with Connecticut is in progress. Planning for training and initial project meeting with Alabama is also in progress.

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

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

Historical data (e.g., database, bridge inventory, link, inspection reports, Structural Inventory and Appraisal sheets) were received from Idaho. These data were previously received for Illinois, Missouri, Washington, and Wisconsin. The Research Team also made progress in the development of the risk models for Idaho, Washington, and Wisconsin, with particular focus on the development of the back-casting for the 10 sample Bridges for which the states provided historical inspection reports. This task continues for the next quarter.

A RAP meeting with Connecticut has been scheduled for January 19 and 21, 2022. This meeting will be conducted virtually as requested by Connecticut DOT.

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

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

The project progress has been affected by the pandemic and is significantly behind schedule. This includes the first interim report, which was completed. The unavailability of the PI to be focused on the report, which is quite lengthy, delayed the completion of the report. Data quality issues have delayed the project also.

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

* March 31, 2022 (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.