**Federal Contract # DTFH61-17D00001 – Task Order #2**

**LONG-TERM BRIDGE PERFORMANCE PROGRAM**

PROGRESS REPORT NO. 1

Report Period: Sep 25, 2017 – October 31, 2017

Prepared For:

**Federal Highway Administration**

Prepared By:



**A. Account of work performed in this period**

* 1. **Kickoff meetings between the contractor and FHWA**

The Rutgers team had a conference call with FHWA on 10/4/2017. The minutes of the meeting were sent to FHWA on 10/6/2014.

* 1. **Develop LTBP Program bridge performance strategic research matrix**

The Rutgers team developed the draft work plan for this task and submitted it to FHWA on October 25th. In addition, the Rutgers team reached out to its partners to begin the process of issuing subcontracts under this task. Dr. Zobel reviewed the draft work plan and approved it without any comment.

Project Engineer: 165 hours

Project Support: 13 hours

* 1. **Conduct training for all field personnel on LTBP Protocols**

The Rutgers team developed an outline of the training curriculum and submitted it to FHWA on October 25th. Dr. Zobel reviewed the training curriculum and approved it without any comment.

* 1. **Development of data collection protocols and RABIT-CE operations manual**

The Rutgers team developed the draft work plan for this task and submitted it to FHWA on October 25th. In addition, the Rutgers team reached out to its partners to begin the process of issuing subcontracts under this task. Dr. Zobel reviewed the draft work plan and approved it without any comment.

Staff Engineer: 16.5 hours

Project Support: 2 hours

* 1. **Legacy Data Mining data extraction**

The Rutgers team developed an internal work plan and assembled the team to complete the extraction of the LDM data. Moreover, the team began a review the latest version of the protocols as well as an assessment of the available bridge documentation.

* 1. **Organize, conduct, and participate in LTBP workshops and meetings**

No work was performed for this task.

* 1. **Publications, website, communications, and technical assistance**

The Rutgers team prepared the electronic version of the monthly progress report and submitted it to FHWA. Moreover, the Rutgers team developed a MS Project file showing the project milestone and submitted it to FHWA.

Staff Engineer: 8.25 hours

**B. Work to be accomplished during the next period**

* 1. **Kickoff meetings between the contractor and FHWA**

The Rutgers team will conduct a meeting with FHWA and submit the meeting minutes shortly after the meeting.

* 1. **Develop LTBP Program bridge performance strategic research matrix**

The Rutgers team will begin to execute the approved work plan. This work starts with the development of a framework for the SRMs (Tasks 2.2 in the approved work plan). As the framework is not independent of the landscape of past, current and future research, the Rutgers team will initiate this activity by conducting a high-level literature survey to identify a representative group of studies focused on Untreated Bridge Decks. This representative group of projects will be used to evaluate and refine potential SRM frameworks.

* 1. **Conduct training for all field personnel on LTBP Protocols**

The Rutgers team will start to develop the training modules outlined in the approved curriculum. During the next reporting period, it is anticipated that the Rutgers team will examine past training modules and update them as necessary.

* 1. **Development of data collection protocols and RABIT-CE operations manual**

The Rutgers team will begin to execute the approved work plan. This work starts by issuing subcontracts to Pennoni Associates (for the development of the instrumentation protocols), NJIT (to assist Rutgers in the development of the LDM protocols for Treated Bridge Decks), and Infratek (for the development of the RABIT-CE operations manual). Once the subcontracts are in place, work will begin on Tasks 4.2.1, 4.2.2, and 4.2.3 as detailed in the approved work plan.

* 1. **Legacy Data Mining data extraction**

The Rutgers team will begin the data extraction process from the available bridge plans and documents. As discussed during the kick-off meeting, the data extraction work will begin with multi-girder steel and prestressed concrete bridges.

* 1. **Organize, conduct, and participate in LTBP workshops and meetings**

No work is planned under this task for the next reporting period.

* 1. **Publications, website, communications, and technical assistance**

The Rutgers team will prepare the electronic version of the monthly progress report and will submit it to FHWA. Moreover, the Rutgers team will submit the updated MS Project file to FHWA. No work is planned related to the publications, website, or technical assistance portion of this task.

**C. Problems/Recommended Solutions**

No problems encountered during this period.

**D. How the results of the work performed supports one or more of the FHWA, DOT and LTBP Goals**

The following is a summary of how the work performed on the primary tasks of this task order contribute to meeting the FHWA, DOT, and LTBP program goals.

**Task 2 - Develop LTBP Program bridge performance strategic research matrix**

Fundamentally, the SRMs aim to link the LTBP program to the larger research community. By placing the LTBP efforts in this larger context, the program will be able to identify potential synergies and collaborative opportunities as well as any overlaps that may exist. This will both increase the cost effectiveness of the program as well as the program’s impact on bridge engineering practice through clearly showing how the LTBP program contributes to the overall bridge performance research landscape.

**Task 3 - Conduct training for all field personnel on LTBP Protocols**

At the heart of the LTBP program’s data collection effort is the requirement that data be obtained in a consistent and reliable manner across the breadth of the program. Variations in collection techniques or unreliable practices would pollute the data streams and greatly limit the ability of the program to meets its goal of improving our understanding of long-term bridge performance. Activities under this task aim to ensure that the data collection efforts of the LTBP program are executed by teams with the required expertise to obtain consistent and reliable data.

**Task 4 - Development of data collection protocols and RABIT-CE operations manual**

Similar to the training work being conducted under Task 3, this task is also involved in ensuring consistent and reliable data collection throughout the program. Specifically, this task will develop additional protocols and operations manuals that specify best-practice approaches for data collection.

**Task 5 - Legacy Data Mining data extraction**

In addition to ensuring consistent and reliable data collection efforts, the overarching goal of the program is also dependent upon the completeness of the data collection efforts. This task contributes to this through the collection of available legacy data. This data not only provides a means to ensure field data collection efforts are carried out efficiently (i.e. on bridges best suited to meeting the program’s goals) but also provides context to the data to help explain observed trends and correlations (and thus further our understanding of long-term bridge performance).

**E. Purchases and Rentals**

Nothing was purchased or rented during this period.

**F. Travel Details for Reporting Period**

No travel occurred during this reporting period.

**G. Current and Cumulative Expenditures (cost shown includes benefits and overhead)**

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| --- | --- | --- |
| **Institution** | **Current Expenditures**  **10/1/2017 – 10/31/2017** | **Cumulative Expenditures**  **10/1/2017 – 10/31/2017** |
| Rutgers, the State University of New Jersey | $ 23,423.25 | $ 23,423.25 |