**TRANSPORTATION POOLED FUND PROGRAM QUARTERLY PROGRESS REPORT**

# Colorado Department of Transportation

Lead Agency (FHWA or State 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(380) | | **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:**  Autonomous Maintenance Technology (AMT) | | | |
| **Name of Project Manager(s):**  David Reeves | **Phone Number:**  303-757-9518 | | **E-Mail**  [david.reeves@state.co.us](mailto:david.reeves@state.co.us) |
| **Lead Agency Project ID:**  WBS 22610.06.01 | **Other Project ID (i.e., contract #):** | | **Project Start Date:**  8/14/2018 |
| **Original Project End Date:**  12/31/2024 | **Current Project End Date:**  12/31/2024 | | **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** |
| $239,269 | $41,918.64 | 18 % |

***Quarterly*** Project Statistics:

|  |  |  |
| --- | --- | --- |
| **Total Project Expenses and Percentage This Quarter** | **Total Amount of Funds Expended This Quarter** | **Total Percentage of Time Used to Date** |
| $ | N/A | N/A |

**Project Description**:

The Colorado Department of Transportation (CDOT) has helped to develop a first‐of‐its kind work zone vehicle designed to advance safety for roadway maintenance crews. Customarily positioned behind road construction crews in order to protect workers from the traveling public, the Autonomous Impact Protection Vehicle (AIPV) increases work zone safety by removing the driver from a truck that is designed to be hit. The objective of the Autonomous Maintenance Technology (AMT) Pool Fund is to develop, demonstrate and refine the AIPV in preparation for its wide‐spread deployment nationwide in DOT maintenance operations.

Currently there are three projects related to this pooled fund:

1. 5380-18-01 AMT Coordination (CSU) $71,700 - Dr. Tom Bradley (PI), Ann Batchelor (PM). Colorado State University (CSU). Provides administrative management and support of the pool fund
2. 5380-19-02 Human AMV Interaction (CSU) $74,997 - Dr. Erika Miller (PI), CSU. Evaluating the Human‐Automated Maintenance Vehicle (AMV) for Improved Safety and Facilitating Long Term Trust
3. 5380-19-03 ATMA Dev Guide (MST) $92,572 - Dr. Xianbiao (XB) Hu (PI). Missouri University of Science and Technology (MST)

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

Significant progress in 2020 1st quarter include:

* Continued monthly meetings,
* Quarterly report and project status,
* Continued work on projects 19-02, and 19-03;
* Beginning of next round of research study projects solicited; two have been selected and will proceed through the process.

**Anticipated work next quarter**:

In the 2nd quarter of 2020, the team plans to accomplish the following:

* Continued monthly meetings
* Quarterly report and project status
* Continued work on revising outwardly facing website
* Reorganized working groups setting their goals
* Choosing and awarding new research study projects
* Continued work on all projects
* Plan for updating website

**Significant Results:**

* Members attended the TRB 2020 Annual Meeting. Two ATMA research papers, titled
  + Field Testing and Evaluation of Leader-Follower Autonomous Truck Mounted Attenuator Vehicle System for Work Zone Maintenance
  + Quantification of Traffic Impact by Leader-Follower Autonomous Truck Mounted Attenuator Vehicle System for Work Zone Maintenance”

**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).**

* 1Q 2020 Due to COVID-19, AMTA testing/operation continues slower than planned. Progress on all the projects depend on collecting and analyzing data. This slowdown may significantly affect the progress in future quarters.

**Potential Implementation:**