TRANSPORTATION POOLED FUND PROGRAM
QUARTERLY PROGRESS REPORT

Lead Agency (FHWA or State DOT): ____IOWA 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 # *TPF-5(483)*	**Transportation Pooled Fund Program - Report Period:** Quarter 1 (January 1 – March 31) Quarter 2 (April 1 – June 30) **X** Quarter 3 (July 1 – September 30) Quarter 4 (October 4 – December 31)	
Project Title: Implementation of New Traffic Signal Actuation Concepts using Enhanced Detector		
Project Manager: Chris Poole	**Phone:** 515-239-	**E-mail:** chris.poole@iowadot.us
Project Investigator: Chris Day	**Phone:** 515-294-3015	**E-mail:** cmday@iastate.edu
Lead Agency Project ID:	**Other Project ID (i.e., contract #):** Addendum 791	**Project Start Date:** 02/01/2022
Original Project End Date: 02/28/2026	**Project End Date:**	**Number of Extensions:**

X On schedule ☐ On revised schedule ☐ Ahead of schedule ☐ Behind schedule

Overall Project Statistics:

Total Project Budget	Total Cost to Date for Project	Total Percentage of Work Completed
$595,032	$43,653	%4

Quarterly Project Statistics:

Total Project Expenses This Quarter	Total Amount of Funds Expended This Quarter	Percentage of Work Completed This Quarter
$23,663		%3

Project Description: The objective of this research is to develop field-tested methods of integrating vehicle trajectory data into actuated signal control that can be directly implemented in traffic signal controllers. This research will identify the practical requirements and limitations of establishing trajectory-assisted actuated signal control, including requirements for acquisition, storage, and communication of vehicle trajectory data. The findings will be developed into a resource toolkit that will permit implementation and further development of the methods conceived during the course of the research.

Progress this Quarter (includes meetings, work plan status, contract status, significant progress, etc.):
The team completed a working paper that included a literature review covering issues pertinent to the development of trajectory-based actuation and development of advanced signal control methods more generally. This working paper was distributed to the panel in July. Data from radar and Lidar detections systems were obtained from field studies going on in parallel research efforts in Colorado Springs, and internal discussions were held to begin developing a concept for detector accuracy, which is currently in development, along with a concept of operations for trajectory-based actuation.

Anticipated work next quarter: In the fourth quarter of 2022, the research team will work on and complete three working papers on the following topics: (1) a more detailed technical review of signal control methods; (2) an evaluation of sensor data and development of an accuracy concept that can be applied to vehicle trajectories for signal actuation; and (3) a concept of operations for trajectory-based actuation that will detail the methods intended for field testing in the spring and summer of 2023, and how these relate to data types that can be obtained from current detection systems and those anticipated to be available in the near future.

Significant Results: There are no significant results to report at this stage of the project.