

4th Quarterly Report

PUBLIC REPORT

Date of Report: September 30, 2025

Contract Number: 693JK32410003POTA

Prepared for: US DOT/PHMSA

Project Title: Evaluation of GeoLocation & Pipe Damage Assessment Applications

Prepared by: NYSEARCH/NGA

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For quarterly period ending: September 30, 2025

1. Items Completed During this Quarterly Report:

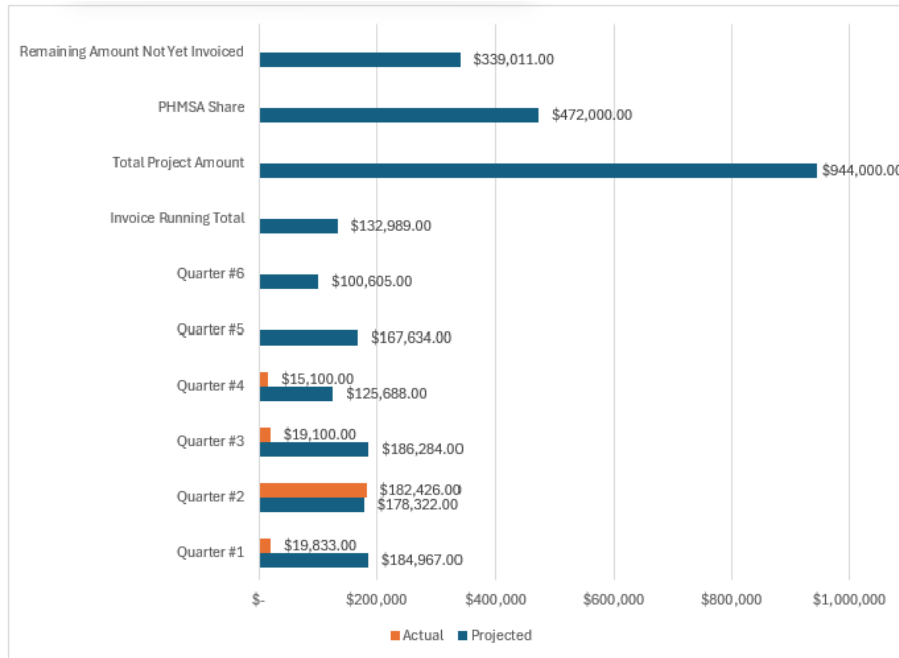
<i>Item #</i>	<i>Task #</i>	<i>Activity/Deliverable</i>	<i>Title</i>	<i>Federal Cost</i>	<i>Cost Share</i>
12	4	NYSEARCH Project	Technical management of project	\$8,550	\$0
13	6	4 th Quarterly Status Report	Submit 4th quarterly report	\$6,550	\$0

2. Items Not-Completed During this Quarterly Period:

<i>Item #</i>	<i>Task #</i>	<i>Activity/Deliverable</i>	<i>Title</i>	<i>Federal Cost</i>	<i>Cost Share</i>
4	2	Advance the prototype into a field worthy system	Advance the system developed in the pervious Phase to work in the field and validate on the test bench before field testing.	\$68,224	\$92,806
7	3	Standoff distance testing	Conduct a measurement campaign to determine the detection of corrosion vs depth of cover.	\$86,784	\$80,400
10	4	Autonomous System	Advance the system with battery packs to support a full day of operations in the field.	\$31,864	\$36,572
11	4	Advance Electronics	Reduce the noise level, if any, seen during Task 2 and Task 3 to enhance the measurement precision.	\$16,680	\$25,472

3. Project Financial Tracking During this Quarterly Period:

Quarterly Payable Milestone/Invoices – Agreement #693JK32410003POTA



4. Project Technical Status:

This project is focused on developing a field-deployable system for non-invasive pipeline inspection. Over the past quarter, the design advanced from early concepts into a modular system better suited for field use. Key components such as the rail and suspended sensor “shuttle” are being refined to improve stability, reduce vibration, and allow precise measurements just above the pipeline surface. The system is envisioned to work in tandem with drone surveys, where aerial inspection identifies potential anomalies and the rail-based system is then deployed to investigate those areas more closely without excavation.

Testing this quarter continued to validate performance under different operating conditions. Results showed that the system delivers highly consistent and repeatable measurements, giving confidence that signals observed in the field reflect actual pipeline behavior. Work is also underway to expand testing with pipes containing different sizes of corrosion features. This will provide valuable insight into the system’s ability to detect, size, and classify metal loss under real-world conditions.

Progress was also made in modernizing the power and electronics, which form the backbone of the prototype. The project transitioned from a stationary power supply to a lithium-ion battery design, improving mobility and reducing noise. Updates to the electronics simplified

the overall architecture, reduced potential points of failure, and provided cleaner signals for corrosion detection. Future efforts will continue endurance testing of the battery system and integration of the updated electronics with the prototype, keeping the project on track toward a fully field-ready solution.

Project Schedule:

While the project has made steady technical progress, several challenges encountered during development have necessitated a schedule extension. To ensure thorough testing and successful completion of all planned activities, the timeline will be extended by four months. The project, originally scheduled for an 18-month duration, is now expected to be completed in 22 months. Importantly, this adjustment does not affect the budget, and the project remains on track financially.