



Contract #6913G620C100017	
Attachment J.1 (DEC 2010)	
FINAL PROJECT SUMMARY REPORT	
Topic No:	19-FR6
Project Title:	Automated, Drone-Based Grade Crossing Inspection Phase II
Phase II: X Phase II B:	
Firm Name	MTRI, Inc.
Address	3600 Green Court, Suite 100
City, State, Zip:	Ann Arbor, MI 48105

To the best of my knowledge and belief the data provided below is accurate, complete, and current as of the date of the signature below.

Principal Investigator		Corporate/Business Official/Project Director	
Name	Colin Brooks	Name	Gregory R Leonard
Title	Principal Investigator	Title	President and CEO
Signature & Date		Signature & Date	
	3/31/2022		3/31/2022
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Period of Performance: 09/28/2020 to 03/28/2022

Summary of Completed Project:

Through two SBIR phases, the MTRI Inc. team has developed Crossing-i, a market-ready solution for automating rapid, safe, objective, and repeatable assessment of highway-rail grade crossings using advanced, drone-enabled 3D sensing. The Railroad Grade Crossing Viewshed Tool and Automated Profile Assessment Tool have been advanced from prototypes to ready-to-deploy software tools. A Crossing-i web portal was developed to enable customers to view Crossing-i results and select crossings for assessment. Machine learning methods for automating sign identification have been demonstrated. A new North American-made drone enabled deployment of a single system with a high-resolution camera for rapidly and safely collecting needed imagery. The MTRI Inc. team completed demonstrations for 34 crossings in collaboration with state transportation agencies and railways in Michigan, Minnesota, Wisconsin, Indiana, and Illinois in Phase II. A business plan has been completed including outreach to potential customers and business partners for nationwide deployment of Crossing-i. The Crossing-i team is currently applying for additional funding to expand its capabilities to cover the entire inventory process, from standard inspections to virtualizing crossing diagnostics.