Before the
FEDERAL RAILROAD ADMINISTRATION
Washington, D.C. 20590

In the Matter of	)	
	)	Docket No. FRA-2025-0059
Petition for Waiver of Compliance:	)	
Association of American Railroads	)	90 Fed. Reg. 19,782
49 C.F.R. Part 213	)	
	)	

COMMENTS OF REASON FOUNDATION

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Introduction

On behalf of Reason Foundation, I respectfully submit these comments in response to the Federal Railroad Administration's ("FRA") notice of petition for waiver of compliance ("waiver petition") on certain regulations concerning track inspections from the Association of American Railroads ("AAR").[1]

By way of background, I am a senior transportation policy analyst at Reason Foundation and focus on federal transportation policy. Reason Foundation is a national 501(c)(3) public policy research and education organization with expertise across a range of policy areas, including transportation.[2] I have testified before Congress on automated track inspection ("ATI"),[3] and have previously submitted comments to the U.S. Department of Transportation encouraging increased regulatory flexibility on track inspection standards to facilitate expanded use of ATI.[4]

Our comment letter develops the following points:

1. Expanding the use of ATI in track inspections will increase early defect detection and reduce defects over time;

2. ATI can complement and better prioritize manual visual inspections; and

3. Expanding the use of ATI will enhance the safety of the inspector workforce.

1. Expanding the Use of ATI in Track Inspections Will Increase Early Defect Detection and Reduce Defects Over Time

In recent years, various railroads have tested a form of ATI, track geometry measurement systems ("TGMS"). These pilots proved very successful in validating the performance of ATI technology in track defect detection and reduction. MxV Rail, the research and testing subsidiary of the AAR, analyzed ATI pilot program data from six Class I

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1. Petition for Waiver of Compliance, *Notice*, Federal Railroad Administration, Docket No. FRA-2025-0059, 90 Fed. Reg. 19,782 (May 9, 2025).
2. *See* About Reason Foundation, https://reason.org/about-reason-foundation/ (last visited July 1, 2025).
3. Testimony of Marc Scribner before the Subcommittee on Railroads, Pipelines, and Hazardous Materials, U.S. House of Representatives (May 11, 2023), *available at* https://reason.org/wp-content/uploads/scribner-testimony-house-rail-supply-chain-challenges.pdf.
4. Comments of Reason Foundation in the matter of Ensuring Lawful Regulation; Reducing Regulation and Controlling Regulatory Costs, *Request for Information*, Office of the Secretary of Transportation, Docket No. OST-2025-0026, 90 Fed. Reg. 14,593 (Apr. 3, 2025), *available at* https://reason.org/wp-content/uploads/comments-us-department-transportation-deregulatory-priorities.pdf.

railroads.[5] These pilots were operated under FRA waivers to allow manual visual inspections to be reduced during ATI testing.

On the pilot corridors, defects per 100 miles of inspected track declined from 3.08 before the use of ATI to 0.24 during the ATI pilots, or 92.2%.[6] Reportable track-caused main track derailments per year during that same period declined from 11 to three, or 72.7%.[7] None of those three derailments was attributable to ATI-targeted defects, with two occurring while manual visual inspections were still taking place twice weekly and one while pilot testing was inactive.[8]

These results are in line with successful ATI performance expectations, with a shift in maintenance practices from being guided by a "find and fix" approach to a "predict and prevent" approach.[9] Better and earlier detection of geometry defects allows track maintenance to be performed in a more preventative manner. Further, the higher quality data collected by ATI over time allows for improvements to maintenance forecasting and strategy. As such, as ATI use is expanded and repeated over time, defect detection rates—and defect-related hazards—should decline.

2. ATI Can Complement and Better Prioritize Manual Visual Inspections

The ATI pilot data analyzed by MxV Rail found that visual inspectors identified far more non-geometry defects than track geometry defects. Prior to ATI testing on the pilot corridors, visual inspectors identified 10,645 non-geometry defects and 422 geometry defects.[10] In 2021, during the ATI pilots, visual inspectors identified 14,831 non-geometry defects (a 39.3% increase) and 238 geometry defects (a 43.6% decrease).[11] Of the non-geometry defects identified by visual inspectors, 60-80% were in turnouts and special trackwork that ATI cannot inspect.[12]

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5. Yin Yao, "Track Inspection Technology," *28th Annual Association of American Railroads Research Review*, Association of American Railroads and MxV Rail (June 26-28, 2023) at 191–208, *available at* https://www.mxvrail.com/wp-content/uploads/2023/10/28th-Annual-AAR-Research-Review-2023-All-Slides.pdf.
6. *Id.* at 196.
7. *Id.* at 198.
8. *Id.*
9. Megan France-Peterson et al., "Human-Automation Teaming in Track Inspection," Volpe National Transportation Systems Center (Aug. 6, 2021) at 12, *available at* https://rosap.ntl.bts.gov/view/dot/66915.
10. Yin Yao, *supra* note 5, at 197.
11. *Id.*
12. *Id.*

These data show how integrating ATI into track inspection practices can complement visual inspections. Track geometry defects are better detected by ATI than manual visual inspection but turnouts, turnout components (e.g., frogs), and other special trackwork cannot be inspected by ATI. Reducing required visual inspections over track that can instead be better inspected by ATI allows for the reallocation of visual inspectors so they can be more focused on the non-geometry defects that they are best positioned to identify.

3. Expanding the Use of ATI Will Enhance the Safety of the Inspector Workforce

An important benefit of ATI is reducing visual inspectors' exposure to on-track hazards. Substituting ATI for routine geometry defect inspection coupled with a corresponding reduction in visual inspections will remove inspectors from harm's way. The ATI pilot data analyzed by MxV Rail found that inspector track occupancy duration declined by approximately one-quarter after visual inspections were reduced to once per week as part of the ATI pilots.[13]

Conclusion

Thank you for the opportunity to provide comments. As technology advances, so should human-centered operations. Track inspectors in the future are likely to be more focused on verifying the results of ATI, which will also help guide their inspection activities.[14] But realizing the full benefits of ATI will require regulatory modernization.

Given the above evidence on the value of ATI in enhancing rail safety and efficiency, we urge FRA to grant the AAR's TGMS waiver petition to allow for the realization of ATI benefits by rail carriers, rail workers, shippers, and the public.

Respectfully submitted,

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13. *Id.* at 200.

14. Megan France et al., "Reducing Hazards Associated with Visual and Automation-Aided Track Inspections," Volpe National Transportation Systems Center (May 2021) at 103, *available at* https://rosap.ntl.bts.gov/view/dot/55878.