



SETTING THE RECORD STRAIGHT ON AUTOMATED TRACK INSPECTION

The Class I railroads are misleading the public and regulators about ATI. They do not need waivers to use ATI equipment. Instead, they are seeking waivers to reduce the frequency of required human visual inspections. This is a safety issue because ATI fails to detect 74% of track defects, which only trained human inspectors can identify. Reducing human inspections will increase track defects, derailments, and reduce safety across the national rail system.

The Brotherhood of Maintenance of Way Employees Division (BMWED) supports the use of ATI — but only to supplement, not replace, human inspections. BMWED urges the FRA to require railroads to increase ATI frequency to detect more track geometry defects, while still maintaining current levels of visual inspections to catch other types of defects.

ATI: NOT New Technology

Railroads claim FRA has blocked their use of ATI. That's false. FRA regulations do not prohibit ATI use. The real issue is that railroads want to reduce the required frequency of visual inspections, replacing them with ATI.

ATI has existed since the 1970s, traditionally known as Track Geometry Measurement Systems (TGMS). Railroads have long used this technology to supplement, not replace, human inspections. However, no current technology can identify all the defects required by FRA's Track Safety Standards (TSS) under 49 CFR 213 — only qualified human inspectors can.

What Human Inspectors Examine (49 CFR 213.233):

- Roadbed (drainage, vegetation)
- Track Geometry (gauge, alignment, curves, elevation)
- Track Surface (deviations, roughness)
- Track Structure (ballast, ties, rails, joints, fasteners, switches)
- Crossings (automotive and railroad)
- Right-of-way issues (trespassers, vandalism)

Human inspectors assess all of these during routine inspections and can also identify combinations of minor issues that together require corrective action.

What ATI is good at:

Detecting track geometry defects, such as gauge deviations — a major cause of derailments. These are measured more consistently and precisely by ATI than by manual methods.

What ATI is **NOT** good at:

Detecting 74% of track defects identified under §213 — including issues with ballast, rail wear, joint gaps, tie plate conditions, and switch components. ATI does not detect trespassers, vandalism, vegetation hazards, or other real-time safety concerns.

Human inspectors can immediately act and ensure the track is safe by:

- Placing “slow orders”
- Calling in maintenance crews
- Making on-the-spot repairs

ATI systems send data to a central location, where it is later reviewed. A human inspector must still verify the defect on-site — potentially delaying repair for up to 72 hours. This delay introduces avoidable safety risks.

Proof Railroads Want to Cut Human Inspections:

In 2019 and 2020, Class I railroads received temporary FRA waivers allowing them to reduce visual inspections while running ATI. Those programs have since expired. Now, railroads are petitioning for wide spread permanent changes.

Example Petitions:

- BNSF (2020): Requested relief from 49 CFR 213.233 to replace visual inspections with ATI.
- Norfolk Southern (2021): Asked to reduce manual inspections where ATI was used frequently.

These petitions confirm that railroads are trying to eliminate human inspections, not simply add ATI.

Data on Derailments and Defects:

FRA data (2014–2024) shows:

- 43% of track-related derailments could have been detected by ATI leaving 57% that can only be caught by human inspection
- Cutting human inspections does increase these preventable derailments.

FRA's 2024 Proposed Rule on ATI:

In October 2024, FRA issued a Notice of Proposed Rulemaking (NPRM) requiring all Class I and II railroads and passenger systems to use ATI (TGMS) at specific frequencies. Critically, the rule maintains current human inspection requirements.

FRA's key points:

- TGMS is already widely used, and this rule would codify current practice (TGMS is the railroads' term for ATI) Human inspections are still essential for detecting non-geometry defects
- The goal is to improve safety by combining ATI and visual inspections
- New rules would include standards for calibration, training, and timely defect remediation

BMWED strongly endorses the NPRM's balanced approach, which:

- Increases ATI usage
- Maintains human inspections
- Enhances safety without sacrificing workforce roles or safety accountability
- Railroad Industry Opposition

The Association of American Railroads (AAR) and American Shortline and Regional Railroad Association (ASLRRA) oppose the rule. They object to:

- Requiring both ATI and human inspections
- Fixing defects within short timeframes
- The rule's inspection frequency mandates

Their position would allow railroads to run ATI while cutting back on visual inspections, putting public safety at risk.

Conclusion:

BMWED supports ATI when it enhances safety, but not at the cost of eliminating human inspectors. The facts are clear: ATI alone cannot protect the rail network. Only by combining new technology with skilled human inspections can railroads truly ensure track safety.

Table Showing Human Inspector Capabilities vs. Automated Track Inspection Machine

Key: ✓ = Inspected for X = NOT Inspected For

| | FRA Defects | Human Visual | ATI |
|-----------------------|--|--------------|-----|
| Sub Part B | Roadbed | | |
| | 213.33 - Drainage | ✓ | X |
| | 213.37 - Vegetation | ✓ | X |
| Sub Part C | Track Geometry | | |
| | 213.53 - Gauge | ✓ | ✓ |
| | 213.57 - Curves, Elevations, and speed limitations | ✓ | ✓ |
| | 213.55 - Track alignment | ✓ | ✓ |
| | 213.59 - Elevation of curved track; runoff. | ✓ | ✓ |
| | 213.63 - Track surface | ✓ | ✓ |
| | 213.65 Combined track alinement and surface deviations | ✓ | ✓ |
| Sub Part D | Track Structure | | |
| | 213.103 - Ballast; general | ✓ | X |
| | 213.109 - Crossties | ✓ | X |
| | 213.113 - Defective rails | ✓ | X |
| | 213.115 - Rail end mismatch | ✓ | X |
| | 213.121 - Rail joints | ✓ | X |
| | 213.122 - Torch cut rail | ✓ | X |
| | 213.123 - Tie plates | ✓ | X |
| | 213.127 - Rail fastening systems. | ✓ | X |
| | 213.133 - Turnouts and track crossings generally | ✓ | X |
| | 213.135 - Switches | ✓ | X |
| | 213.137 - Frogs | ✓ | X |
| | 213.139 - Spring rail frogs | ✓ | X |
| | 213.141 - Self-guarded frogs | ✓ | X |
| | 213.143 - Frog guard rails and guard faces; gage | ✓ | X |
| Subpart E | Track Appliances and Track-Related Devices | | |
| | 213.205 Derails | ✓ | X |
| Non-Regulatory | | | |
| | Trespassers | ✓ | X |
| | Vandalism/ Terrorist activity | ✓ | X |
| | Track Obstructions | ✓ | X |
| | Right of Way | ✓ | X |

Table data consistent with industry raw data available in the federal register under ATI test raw data.