

FRA's ATIP – Automated Track Inspection Program (December 2025)

Research to reality

FRA pioneered automated track inspection technology now used by every Class I railroad

ATIP fleet in operation

- 3 Staffed rail-bound geometry platforms
- 2 Autonomous geometry box cars
- 1 Autonomous geometry car in passenger service
- 1 Hi-rail geometry vehicle
- 1 Hi-rail ultrasonic rail test vehicle

FRA has three contractors for ATIP

- Tetra Tech operates one autonomous box car
- ENSCO operates the other vehicles in operation
- Strongbridge manages the data storage and portal

ATIP Operations	2023	2024	2025 (YTD 11/30)
Miles Surveyed	181,017	207,005	222,461
Geo. Exceptions	8,606	9,340	8,863
Safety Critical Exc.	1,595	2,471	1,752

Data collected by ATIP vehicles support:

- Track safety trend analyses
- State of good repair assessments
- Provide data to railroads for targeted repairs and improved maintenance
- GIS mapping
- Risk analyses
- Manual inspection resource allocation
- Foot-by-foot analyses
- Asset inventory
- Research by various departments, agencies, universities
- Machine learning
- Research and development