



WheelMAP™

Wheel Profile Detector (WPD) System

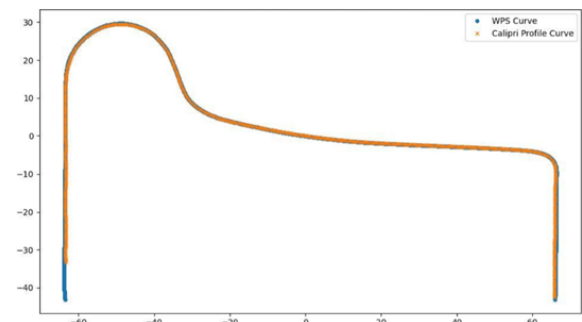
Keeping Railroads Safe with Laser Precision:
Detect. Alert. Prevent.

The INFRAVIS WheelMAP Wheel Profile Detector (WPD) reliably provides railroad stakeholders with accurate, in-motion wheel measurements that support the business demands common to both freight and passenger operations.

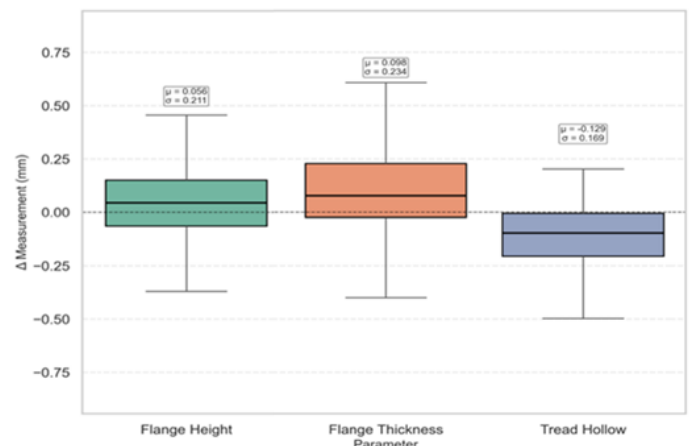
Engineered for harsh rail environments and rapid deployment, it installs quickly between existing ties (sleepers) with minimal site preparation. Its precise data enables the identification of out-of-tolerance dimensions and abnormal wear conditions that can compromise safety, accelerate asset deterioration and contribute to poor overall performance.

With clear insights into wheel health, railroads and fleet managers can apply condition-based asset management strategies that have been proven to improve fleet availability and reliability while optimizing maintenance intervals that help to lower the total cost of asset ownership.

Profile Overlay (WPD versus Handheld)
Typical, X/Y Coordinate Comparison



Statistical Accuracy (WPD versus Handheld)
Boxplot of Measurement Delta's (mm)





Measured Parameters:

The INFRAVIS WheelMAP WPD reliably provides accurate wheel profile measurements including:

- Flange Height
- Flange Thickness
- Rim Thickness
- Tread Hollow
- Back-to-Back
- Flange Slope
- Wheel Chamfer
- Flange Rollover (False Flange)
- Tread Rollover

Optional:

- Wheel Diameter
- Equivalent Conicity

The **INFRAVIS WheelMAP WPD** is a precise wheel measurement solution with the following advanced, unique features:

System Highlights:

- **Robust, railroad-grade design** engineered for harsh operating environments;
 - Ambient temperatures range -40°F to 140°F
 - Keep-clean air purge system
 - Built-in redundant systems featuring off the shelf components whenever possible
- **Rapid installation** on existing ties (sleepers) with minimal civil work
- **Installed by operator** with minimal training or special tooling
- **High-precision wheel profile measurements** at speeds up to 87 mph for trains up to 1,200 axles
- **Low power consumption** (<2KW peak)
- **Flexible communications** and data formats for seamless system integration
- **Integrated diagnostics** for system health monitoring and reduced maintenance
- **Easily removed** for track maintenance

System Benefits:

- Delivers **reliable performance** across freight and passenger operations to improve fleet availability
- **Supports condition-based health monitoring** with accurate, in-motion wheel measurements
- **Enables proactive maintenance** planning and optimized scheduling
- **Reduces wheel-related service interruptions and safety exposures**
- **Lowers the total cost of ownership** for assets by identifying wear issues early and addressing root causes

Data Management & Diagnostics:

Integrate all INFRAVIS products with the comprehensive DataMAP application to leverage its robust data analytics, rules engine capabilities and intuitive system health monitoring.

INFRAVIS

Experience that drives safer, smarter rail operations.

At INFRAVIS we're building on decades of engineering innovation in rail equipment monitoring to provide the latest in wayside detection systems.