



Automated Wheel Impact Load Detector

PROJECT FACTS

Project Scope

The Alaska Railroad (ARRC) plans to install a wheel impact load detector (WILD) near ARRC milepost 121.3, on Fort Richardson, northeast of the Anchorage Rail Yard. The device will provide real-time wheel inspection of passenger train equipment rolling into and out of the yard. This facilitates early detection of defects, scheduled wheel replacement and immediate rail repair.

The WILD measures the weight, or impact, of the wheel on the rail. When a wheel is not round or is damaged with flat spots, the impact on the rail increases, causing damage to rail cars and the rail infrastructure, especially concrete ties. When defects are discovered, the detection device sounds an alarm, spurring quick maintenance to avoid further damage and mitigating derailment risk.

Project Benefits

- Passenger operations safety is the primary benefit. Early detection prevents smaller problems from becoming larger ones, capable of causing a derailment or other serious rail car or track infrastructure failure.
- Early detection and repair will also save time and money by avoiding the costs and delays associated with more extensive maintenance.

Status

- Environmental analysis and documentation required by the National Environmental Policy Act (NEPA) was completed in spring 2009.
- Detection device procurement took place in 2009 with installation scheduled for 2010.

Project Cost and Funding

- Budget is estimated to be \$1.0 million.
- This project is 100% funded by the American Recovery and Reinvestment Act of 2009 through a grant administered by the Federal Transit Administration.

Wheel Impact Load Detector system funded by:



System gauges and cables are installed under a protective rail covering that attaches to cable conduit.



The WILD strain gauge and cables are installed along the rail, with cable conduit leading to track-side junction boxes and system electronics.