WILD Data Systems

MARTS 2005 Annual Technical Conference

Chicago, Il

September 19, 2005

RB Wiley, Principal Investigator
Agenda

- Transportation Technology Center, Inc. (TTCI)
- Wheel Impact Load Detectors (WILD)
- InteRRIS®
- ATSI Leverages InteRRIS® and WILD
TTCl Overview

Transportation Technology Center
Security: Intrusion Response...
**WILD Overview**

- **Wheel Impact Load Detectors (WILD)**
  - Tangent Track
  - Typically 28-36 cribs (data collection points)
  - Strain gauge or accelerometer-based

- **Vertical Force Measurements**
  - Wheel load
  - Out-of-Round Wheels

- **Distribution**
  - 80+ in North America
  - All Class 1 railroads
Wayside Detector Distribution Contributing to InteRRIS®

Detector sites as of 01/23/2005.

Based on USGS DLG. 1:24,500,000, Geographic Projection, DD.
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InteRRIS® Overview

- Integrated Railway Remote Information Service
- Data warehouse and applications for automatically storing and analyzing vehicle performance data
- TTCI began development in 1999
- Automatic notifications are sent to customers about vehicle performance based on their unique parameters, criteria, and limits
Wayside systems feed *InteRRIS®* after identifying the car with AEI systems

*InteRRIS®* identifies a “Stress-State” Condition

*InteRRIS®* communicates with Railinc Systems for processing
The Big Picture

Wayside SITES
- Bearing DEFECTS
- Truck PERFORMANCE
- Wheel Impact LOADS

- Process Raw Data into Peak Files
- Process AEI Car ID Files
- Transmit Peak/AEI Files
- Real-Time Events

InteRRIS®

Data Warehouse SERVER
- Store Site/Train/Vehicle Data
- Maintain Integrity Constraints

Customer SERVICE
- Service Client DB Requests
- Maintain Secured Internet Access

InteRRIS® WEBSERVER
- Receive Detector Data Files
- Perform Criteria Checks
- Notify Customer of Events
- Auto-Load into Data Warehouse

THE NET
- Inbound Action Items
- Event Notification
- Periodic Reports
- On-Line Access for Further Analysis

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Typical Wheel Life

Scatterplot (Spreadsheet in W_WC_050617115155.stw 29v*163487c)

axle_no: 1

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Many systems working together
Leveraging existing systems
Leveraging existing technology