

## ***Update from EHMC***

***Monitoring the Fleet***

***Kim Bowling, Chair EHMC***



# Goals of EHMC

- To develop standards and specifications to support other technical committees relative to equipment health monitoring. Standards development will include wayside systems, onboard systems, and electronic data exchange.

***WILD***

***OGD***

***CEPM***

***THD***

***MV***

***HBD***

***AEI***

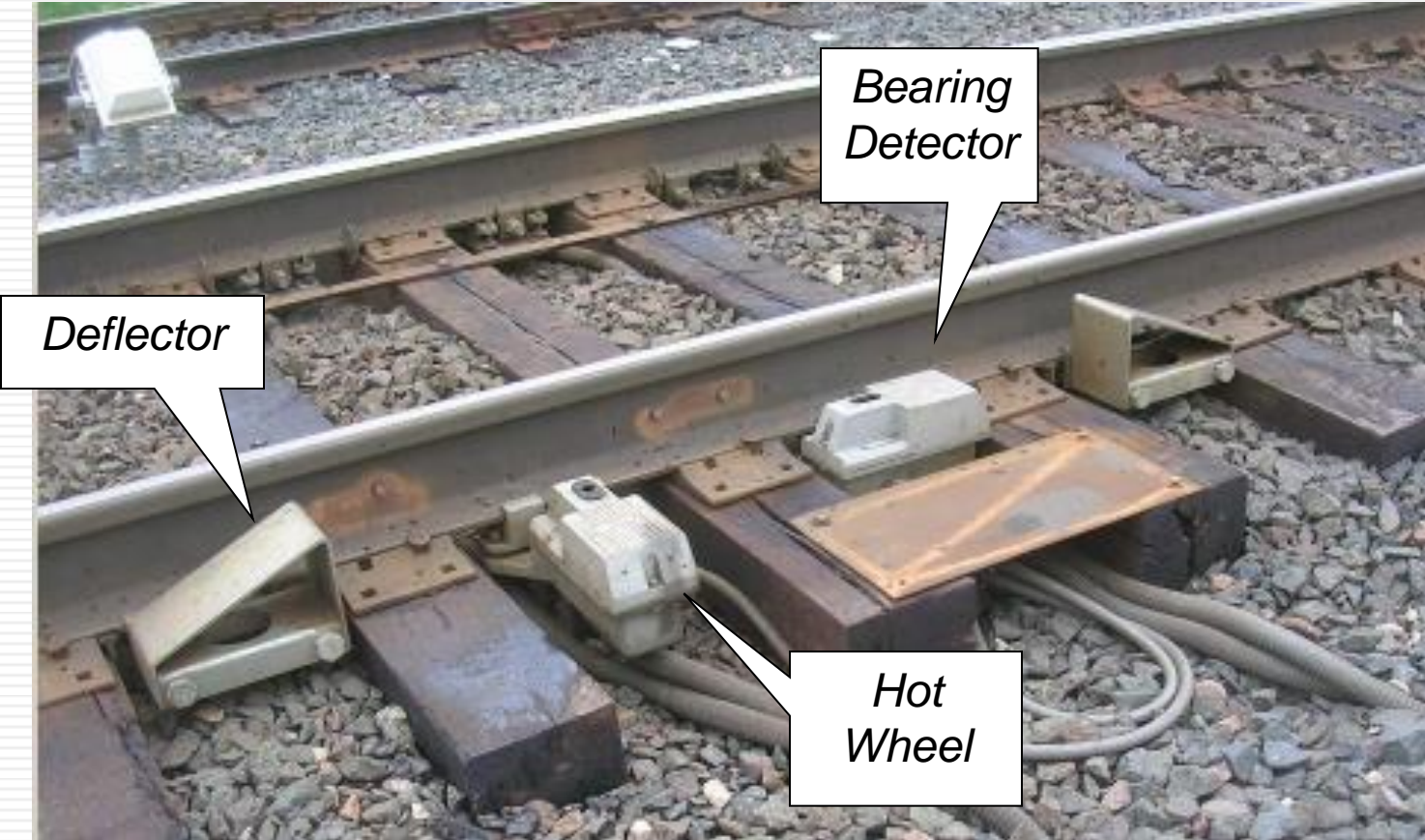
***WTD***

***WPD***

***Rules***



# Combined Wheel & Bearing Temperature



# Bearing Temperature Trending – Sharing HBD data

[CSX] Wayside GUI Application Historical Alerts Report

Analysis ▾
Site Health ▾
WILD Data ▾
HBD Data ▾
Admin ▾

Search By Hours
Search By Train
Search By Equipment

48 hours prior to:
 Now
 Date
02/18/2015
09 : 18
Search

**Historical Alerts Results**

Total Records: 39    Current Pending Actions: 11

Train ID	Display Name	Eqmt ID	Site Tmst
Q161 16	Talk	DTTX 724105	02/16 18:23
Q161 16	Talk	DTTX 724105	02/16 18:23
T141 14	B V CRIT REPEAT	PEFX 6089	02/17 21:29
01002367 17	Talk	MDDS 25	02/17 18:14
Q372 13	B Very Critical	NCIX 6189	02/17 13:38
Q373 15	Imp Level 2	CSXT 915048	02/17 12:38

**Analyze Alert: Q372 13**

Field	Value
Rec Date	02/17 13:38
Trn Sec	
Trn Symb	Q372
Trn Date	02/13/15
Trn Dir	E
Trn It	NCIX

Clipboard
Dtl Rpt
WILD Hist

**Bearing/Truck History: HBD- Q372 13 R376 NCIX 6189 1**

Direction → → →
Bearing train view ▾
K values ▾

# of 21	#15 of 21	#16 of 21	#17 of 21	#18 of 21	#19 of 21	#20 of 21	#21 of 21
CHVIL2	PALMYRA2	LYONS2	MEMPHIS 2	SYRACUSE2	KIRKVILLE2	ONEIDA 2	WHITESBOR2
1 QC 387	7544-2 QC 345	7997-2 null	7850-2 QC 302	7848-2 null	7531-2 QC 279	7646-2 QC 282	7844-2 QC 242
7:08:38	02/17 10:02	02/17 10:19	02/17 11:10	02/17 11:51	02/17 12:22	02/17 12:50	02/17 13:38
7.0°	57.0°	47.0°	40.0°	79.0°	88.0°	90.0°	147.0°
7 MPH	E 28 MPH	E 29 MPH	E 28 MPH	E 16 MPH	E 28 MPH	E 38 MPH	E 42 MPH
Axles	376 Axles	376 Axles	376 Axles	376 Axles	376 Axles	376 Axles	376 Axles

**Bearing/Wheel Temperature: Q372 13-R WHITESBOR2-**

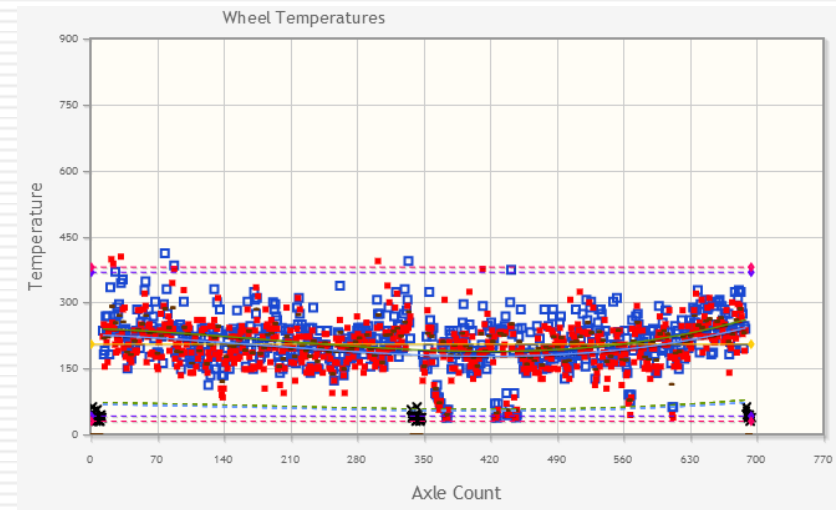
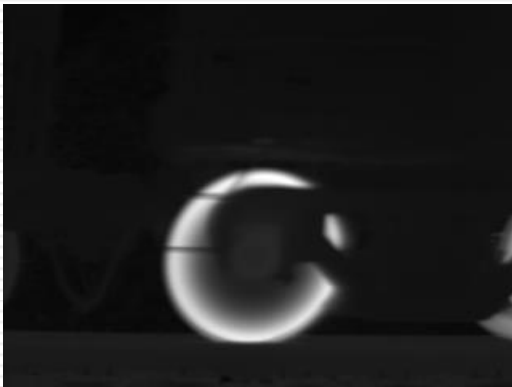
RQ1=20.0 RQ3=41.0 REqmtK=8.1 RBearing= 147.0°  
 LQ1=26.0 LQ3=46.0 LeqmtK=-1.0 LBearing= 40.0°

# Railinc: Using Wheel Temps to Determine Brake Health

On a **braking** train...

**Hot wheels** means Effective Brakes!  
**Cold wheels** are ineffective.

Ineffective is a wheel that is 30% or less than the expected temperature.



BHI: Brake Health Indicator (Truck)  
→ BHI: Brake Health Indicator (Car)  
→ Brake Effectiveness (Train)

All supporting the (future) Class 1A Waiver.



# Appendix F Move & Rewrite – for New Technologies



*Load cell based WILD from  
Schenck Process*



*Wheel Condition Monitor from  
Track IQ*

*What are the requirements for Calibration? For Validation?*

# Example: SRI Research



*Using WILD Dynamic kips with WPD's Thin Rim to target potential broken wheels.*

# Example: Published TD's

## TECHNOLOGY DIGEST

TD-15-017

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T I M E L Y   T E C H N O L O G Y   T R A N S F E R

The work described in this document was performed by Transportation Technology Center, Inc.,  
a wholly owned subsidiary of the Association of American Railroads.

# Truck Bogie Optical Geometry Inspection System Hunting Alert Criteria

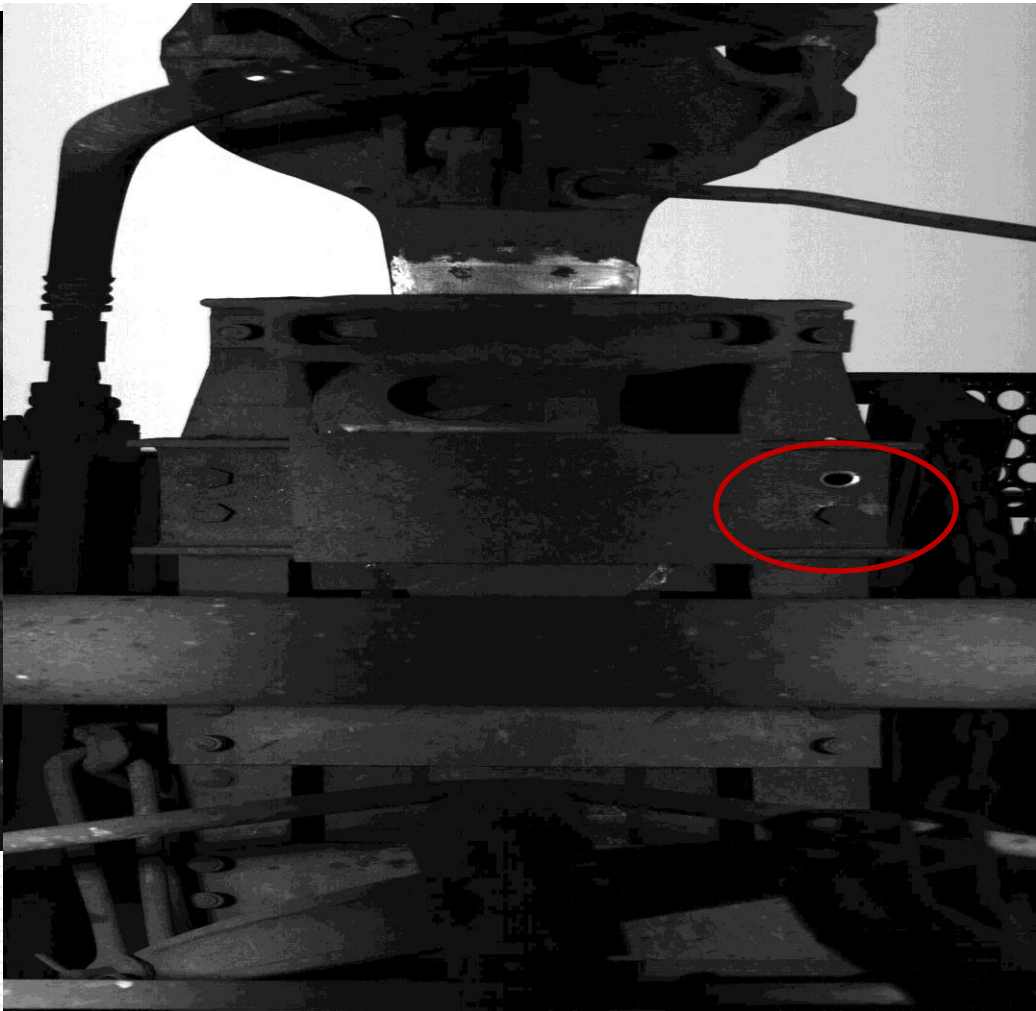
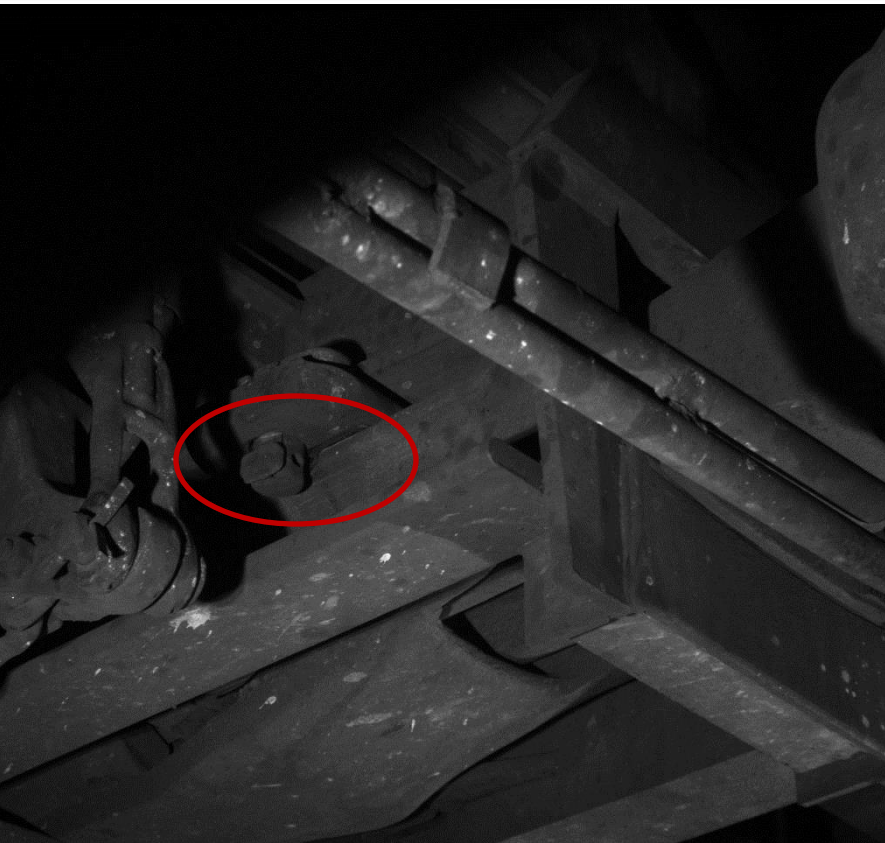
Tony Sultana and Ivan Aragona (Consultant)

### Summary

As part of the Association of American Railroads' (AAR) Strategic Research Initiatives Program, as directed by the Equipment Health Monitoring Committee, the Transportation Technology Center, Inc. (TTCI) has estimated an alert limit for TBOGI-HD™\* peak hunting comparable to AAR truck hunting detector (THD) limits.



# New Technology & Data Type: Machine Vision



### Search

CSXT261221

[Return to Application](#)

### Equipment Location

Loc: BIRMINGHAM, AL  
Last Move: 04/05/2015 15:18 (Empty)

### Umler Registry

#### General

Status Code  
A - ACTIVE  
Built Date  
11/01/2010  
End of Service Date  
11/01/2060  
Equipment Type Code  
C114  
Equipment Builder  
TRIN  
**Capacity**  
Gross Rail Load/Weight  
286000 lb  
Load Limit  
222800 lb  
Cubic Feet Capacity  
5201 cuft

#### Specifications

Truck Count  
2  
Axle Count  
4  
Outside Length  
55 ft, 8 in  
Compartment Count  
3

[Launch Umler](#)

### Repair and Inspection Reporting - CSXT0000261221

Equipment ID	Repair Date	SPLC	Performer	Reporter
CSXT0000261221	04-10-2015			CSXT

Select Action

### Umler Inspections

#### Air Brake Test

Inspection Date Done 11/25/2010 [Inspection](#)  
ABT 12-24 Month Due Date 11/25/2011  
ABT 5/8-Year Due Date 11/01/2018

#### ReflectORIZATION Event

Inspection Date Done 11/25/2010 [Inspection](#)

[Launch Umler](#)

### Equipment Health Management System

Alert Type	Location	Alert Level	At Level Since	Action	Action
WILD ALERTS	Wheel 01R	ATSI Window Open	04/04/2015	<a href="#">Inspection</a>	<a href="#">Repair</a>
WILD ALERTS	Wheel 03L	AAR Condemnable	02/19/2015	<a href="#">Inspection</a>	<a href="#">Repair</a>
WILD ALERTS	Wheel 01L	AAR Opportunistic	01/27/2015	<a href="#">Inspection</a>	<a href="#">Repair</a>
WILD ALERTS	Wheel 02R	AAR Opportunistic	10/26/2014	<a href="#">Inspection</a>	<a href="#">Repair</a>
WILD ALERTS	Wheel 04L	AAR Opportunistic	10/26/2014	<a href="#">Inspection</a>	<a href="#">Repair</a>
WILD ALERTS	Wheel 02L	ATSI Window Open	08/23/2014	<a href="#">Inspection</a>	<a href="#">Repair</a>

Data Summary	Location	Status	Maximum Readings
SALIENT WHEEL IMPACT	Wheel 02R	Opportunistic alert	Peak 81.4 Dyn 44.5 Ratio 5.4
SALIENT WHEEL IMPACT	Wheel 02L	Window Open65-79KIP alert	Peak 70.8 Dyn 36.6 Ratio 4.3
SALIENT WHEEL IMPACT	Wheel 01R	Window Open65-79KIP alert	Peak 67.8 Dyn 29.5 Ratio 3.1
SALIENT WHEEL IMPACT	Wheel 03R	No alert	Peak 48.8 Dyn 16.7 Ratio 3.4
SALIENT WHEEL IMPACT	Wheel 01L	Opportunistic alert	Peak 85.5 Dyn 54.2 Ratio 4.4
SALIENT WHEEL IMPACT	Wheel 04L	Opportunistic alert	Peak 86.1 Dyn 49.2 Ratio 4.0
SALIENT WHEEL IMPACT	Wheel 03L	Condemnable alert	Peak 114.3 Dyn 79.2 Ratio 5.3
BrakeHealth_CAR	Base	No alert	

[Launch EHMS](#)

### Early Warning Notices

No early warning notices found for equipment CSXT0000261221

[Launch Early Warning Notices](#)

### Damaged and Defective Car Tracking

No DDCT items found for equipment CSXT0000261221

[Launch DDCT](#)

### Mileage

[www.Railinc.com](http://www.Railinc.com)

CSC@railinc.com

# Where to shop for Industry data: RAILINC.COM

## Popular Links

Asset Health Strategic Initiative

Car Repair Billing Data Exchange

Component Tracking

DDCT

Embargoes

FindUs.Rail

Letters of Authorization

Meetings at Railinc

Railinc Tracks Blog

Railroad Accounting Rules

Railroad Clearinghouse

Umler® System



The screenshot shows the RAILINC website header. On the left is the RAILINC logo. On the right is a search bar with the text "Search" and a red arrow icon. Below the logo is a navigation menu with the following items: ABOUT US / WORKING WITH RAILINC / PRODUCTS & SERVICES / CAREERS / CONTACT US. To the right of this menu is a red button labeled "CUSTOMER LOGIN >". Below the navigation menu is a breadcrumb trail: Railinc // Products & Services // All Products // Industry Products // Asset Health Data Summaries.

### > Industry Products

#### Asset Health Data Summaries

Asset Health Strategic Initiative

Car Accounting Self-Service

Car Hire Accounting Rate

## Asset Health Data Summaries

Railinc's Asset Health Data Summaries give customers a concise view of equipment health data collected by wayside detectors. These summaries enable insights into equipment health and help railroads, car owners and other industry participants make better maintenance planning and repair decisions. Users may view data summaries via the Equipment Health Management System (EHMS) application and the Equipment Health View (EHV) tool or receive the data summaries via Railinc's web services technology and EHMS subscriptions.

# 1-877-RAILINC