



LBFoster[®]
Total Track
Monitoring

A large freight train car is shown on a gravel track. The car is dark-colored with yellow reflective markers. A person wearing a high-visibility vest is visible through the window of the car. The track is made of gravel and concrete ties. The scene is brightly lit, suggesting a sunny day.

WILD

Wheel Impact
Load Detector

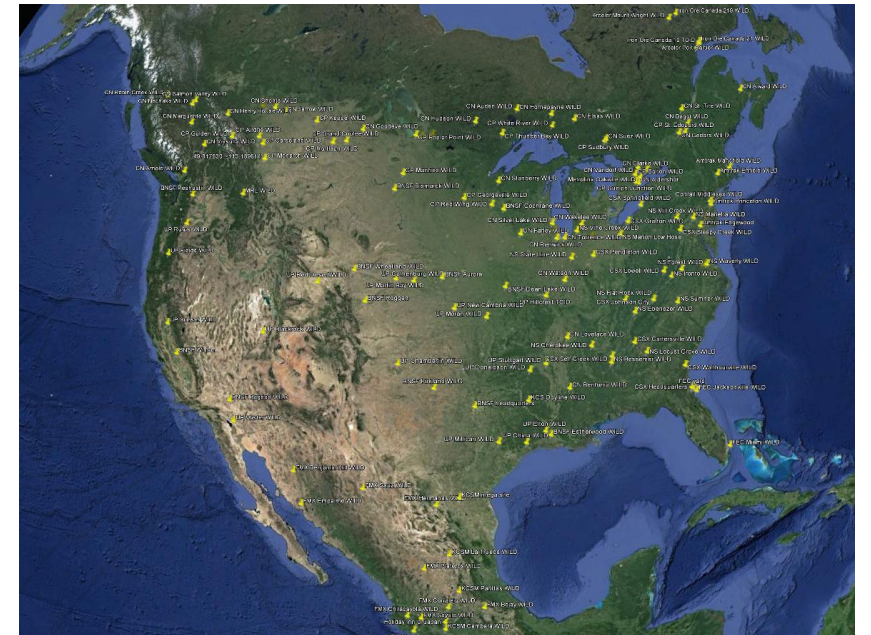
— by **LB Foster**

Wheel Impact Load Detector

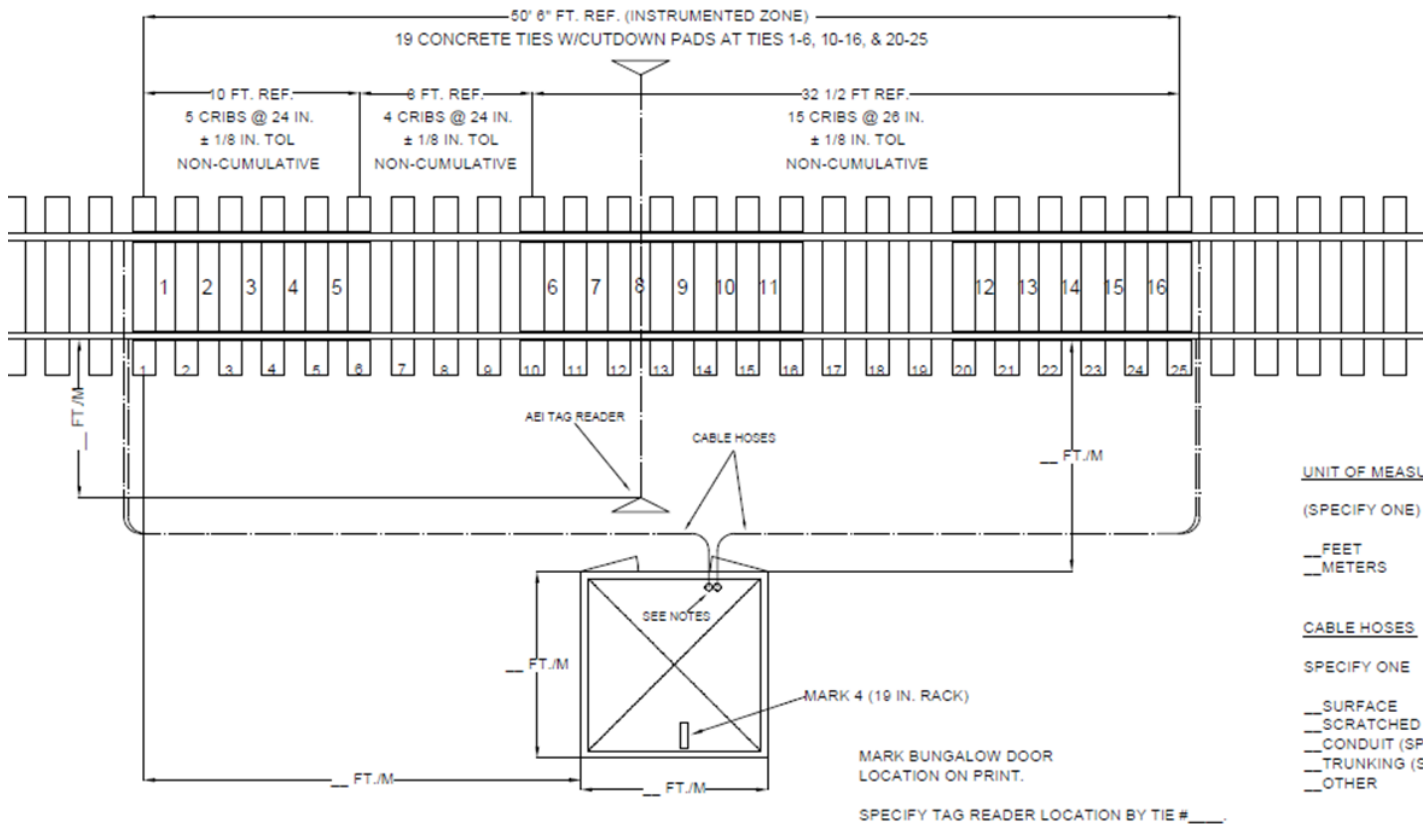


History

- Created by Salient in 1984
- Served as the basis of the AAR Rule 41
- 250 installation to date



Typical 32 Channel Layout



Specifications

- Operating Range: 30-180 mph
- Resolution: 10 lbs
- Measurement Zone: 50'6"
- Power: 12/24 VDC @ ~4 amps
- Bungalow Operating Temperature: 32-131° F

Capabilities

- Nominal loads/peak impacts
- Dynamic load
- Ratio (peak/nominal)
- Axle load
- Train Speed
- Train Length
- Site Tonnage



Detection

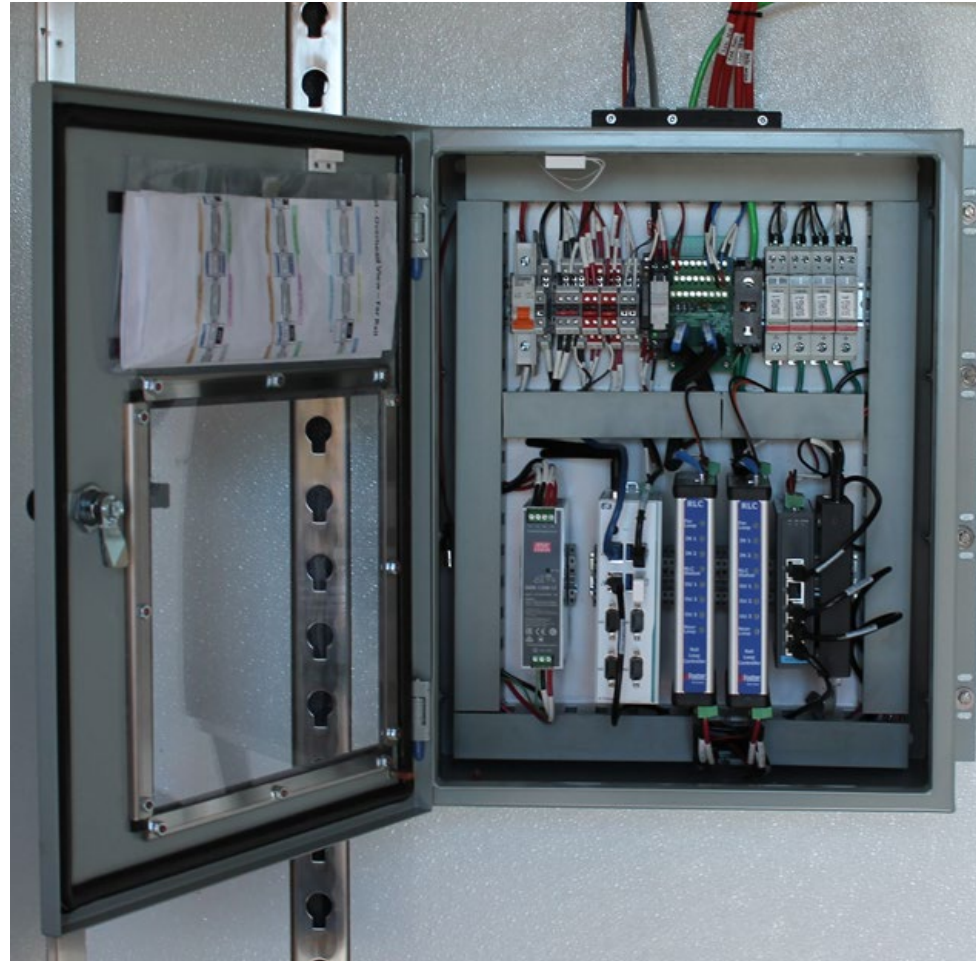
- Wheel Defects
- Load Imbalance
- Car Overload
- Hunting Forces

Customer Quote

“The talker circuit at the WILD stopped the train, and quite likely prevented a derailment.”



WILD Mk-III



WILD Mk-IV

WILD Mk-IV is a platform for the future.

WILD Mk-IV

- FEPs on rail
 - More accurate data
- Fiber optic data transfer
- Modern electronics
- Redundant quick disconnect hoses
- Site Health Monitoring

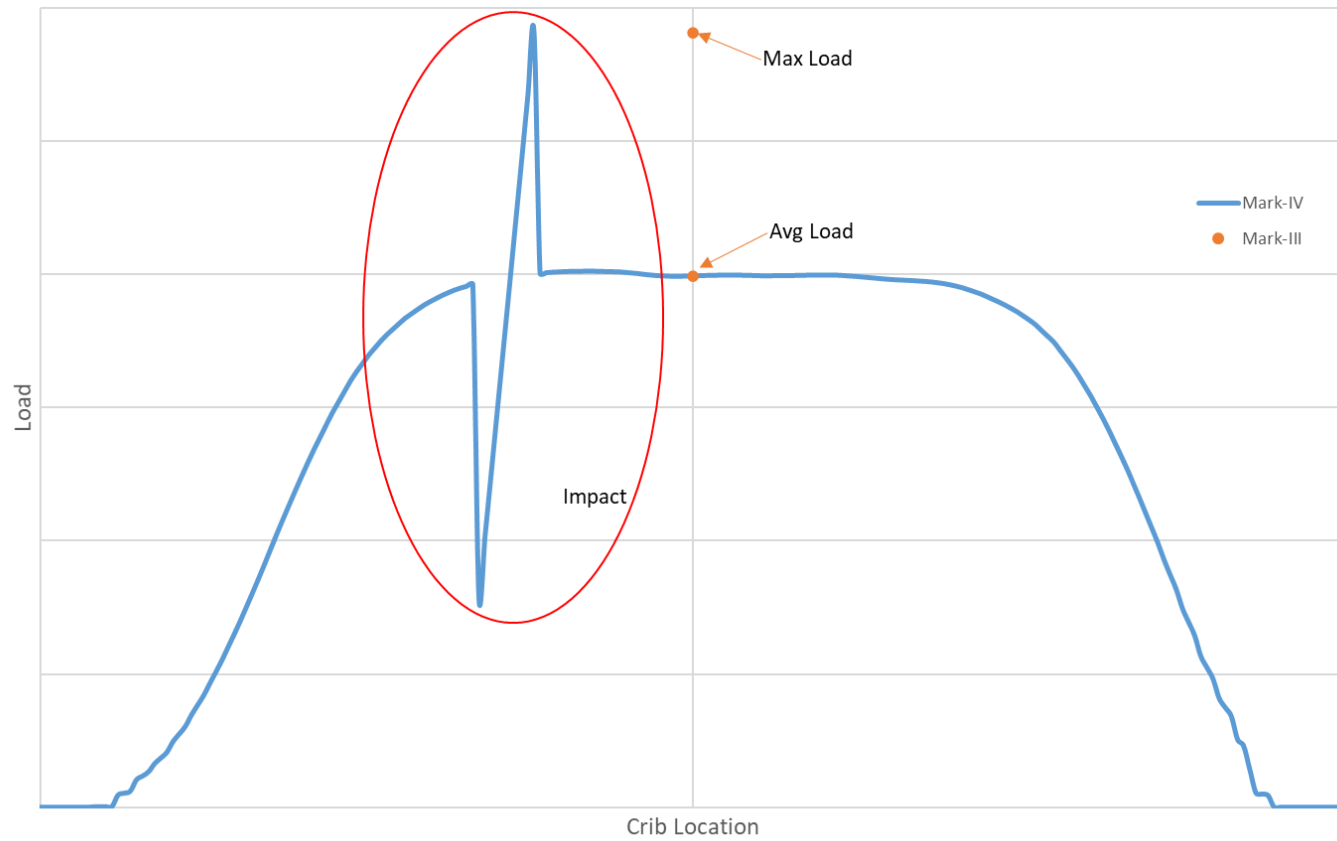


WILD Mk-III



WILD Mk-IV

WILD Mk-III vs Mk-IV Data



The WILD Mk-IV greatly increases the amount of accurate data collected by the detector.

Future Functionality

- Wheel load curves
 - Build custom analytics
- Truck moment
- Normalize impacts based on speed, weight and temperature for predictive maintenance

WDMS

LBFoster
Salient Systems

Logged in as salient

Home Log Out Help About

Browse Recent Trains

Date: 02/22/21
Site: All
Direction: All
Search result limit: 1000

Train Date and Time (EST)
02/22/21 00:00 Prev 24 hours from Now

Site: All

Direction: All

Search Chart

Train Date Time	WILD Status	Location	Trk	Dir	Lead Loco	Speed MPH	Total Locos	Total Cars	Total Axles	Total KIPS	Max Peak KIPS	Max Dyn KIPS	Max Ratio	Max Lateral Nom KIPS	Max Lateral PK KIPS	Max Hunt Idx	WABL Qualified	Train Alarm
2021-02-22 12:00 EST	MAR4-1	mar4_marion	1	W	NS-9392	51	1	2	16	484	80.5	41.0	2.0	2.9	6.3	0.03	Qualified	
2021-02-22 11:32 EST	MAR4-1	mar4_marion	1	E	NS-9685	47	3	84	354	12,517	91.3	54.5	2.5	3.2	5.4	0.06	Qualified	
2021-02-22 07:59 EST	MAR4-1	mar4_marion	1	E	BNSF-4266	46	2	42	340	6,751	86.4	52.6	3.6	4.5	6.2	0.07	Qualified	
2021-02-22 07:39 EST	MAR4-1	mar4_marion	1	E	NS-4176	50	3	54	438	9,399	108.8	74.5	4.9	6.5	8.0	0.06	Qualified	
2021-02-22 05:00 EST	MAR4-1	mar4_marion	1	W	BNSF-6800	38	2	31	256	3,672	94.4	60.8	3.6	3.4	6.1	0.07	Qualified	
2021-02-22 04:42 EST	MAR4-1	mar4_marion	1	W	NS-4336	35	1	94	382	8,864	108.7	75.0	4.3	3.9	6.2	0.08	Qualified	
2021-02-22 02:56 EST	MAR4-1	mar4_marion	1	W	NS-9473	34	2	103	440	6,494	89.6	57.8	5.1	3.4	5.6	0.06	Qualified	
2021-02-22 02:30 EST	MAR4-1	mar4_marion	1	W	NS-4089	30	2	104	428	14,522	103.6	69.6	3.0	7.7	11.3	0.06	Qualified	
2021-02-22 02:12 EST	MAR4-1	mar4_marion	1	E	NS-4118	34	2	214	868	24,184	105.7	69.0	4.9	4.7	7.1	0.13	Qualified	
2021-02-21 23:47 EST	MAR4-1	mar4_marion	1	W	NS-9343	47	2	75	312	3,926	61.2	25.3	3.2	3.1	4.6	0.05	Qualified	
2021-02-21 22:44 EST	MAR4-1	mar4_marion	1	W	NS-1805	38	3	191	784	16,274	108.6	75.5	5.1	7.9	16.2	0.15	Qualified	
2021-02-21 22:12 EST	MAR4-1	mar4_marion	1	E	NS-1096	40	2	80	332	8,181	103.5	69.3	3.6	4.0	5.2	0.08	Qualified	
2021-02-21 21:12 EST	MAR4-1	mar4_marion	1	W	NS-1024	23	2	209	848	15,448	141.2	104.5	3.9	3.4	5.4	0.12	Qualified	!
2021-02-21 20:20 EST	MAR4-1	mar4_marion	1	E	NS-4106	47	3	106	456	9,094	97.6	64.5	4.7	4.3	6.1	0.07	Qualified	

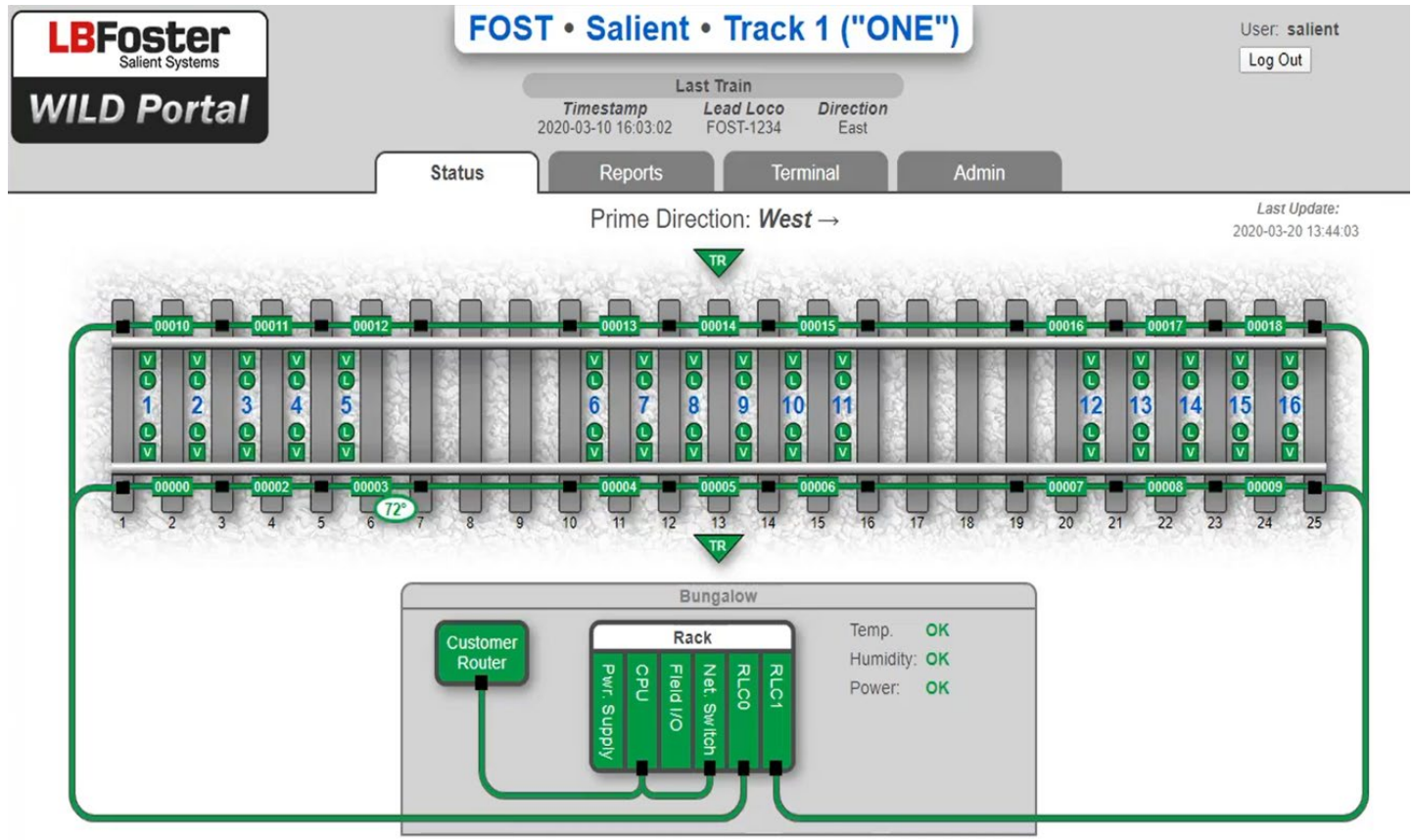
WDMS is a live up-to-date graphical web-based user interface for WILD.

Features

- Site Health Monitoring
 - Recommended corrective actions
- Displays reports
- Alarms
 - Thresholds
- Potential to build custom analytics



Site Health Monitoring



Site health monitor is new addition to WDMS for WILD Mk-IV.

Site Health Monitoring

- Updates live for every train pass
- Circuit by circuit level data
- Ballast/Rail temperature ready
- Site stability

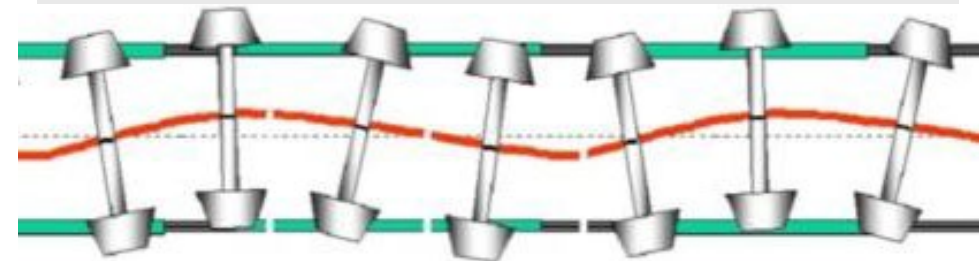


WIM

- Compare weights of wheels/axles/trucks/cars
- Overload and imbalance detection
- Comparable accuracy to a scale

HTD

- Finds skewed trucks or hunting trucks by utilizing the lateral strain gauges
- Characterizes vehicle dynamics against an oscillation index
- Identifies severe lateral hunting forces





LBFoster[®]
THANK YOU