



Kari Gonzales
President & CEO of MxV Rail





Moving Our Industry Forward

Kari Gonzales

President & CEO, MxV Rail



M x V R A I L

The world's leading talent for rail research, consulting, training, and testing.

Moving our industry toward maximum safety, reliability, efficiency, and resiliency.

MOMENTUM

INSIGHT

TEAMWORK

RIGOR

PURPOSE

Industry owned, independently operated

CPKC

CN



**Rj Corman
Railroad Company**



BNSF
RAILWAY

CSX

Our Journey

1934

Association
of American
Railroads
(AAR)
founded



M x V R A I L

MOMENTUM

Our Journey

1982

**AAR assumes
Care, Custody
& Control of
FRA's TTC
in Pueblo**



M x V R A I L

M O M E N T U M

Our Journey

1998

**TTCI
incorporates
as a
subsidiary
of the AAR**

MOMENTUM

Our Journey

2021

**TTCI rebrands
as MxV Rail
and begin
moving
operations to
PuebloPlex**

Our Journey

2022

**MxV Rail's
new multi-
campus
research
facility is
online and
operational**

MOMENTUM

MxV Rail Laboratories,
Pueblo Industrial Park (11 mi.)

Unlocking Momentum.



TESTING

**One vision.
Four tracks.
Specialized labs.
Unlimited potential.**

 **Full-scale On-track & Laboratory Testing**

Specialized Laboratory Testing

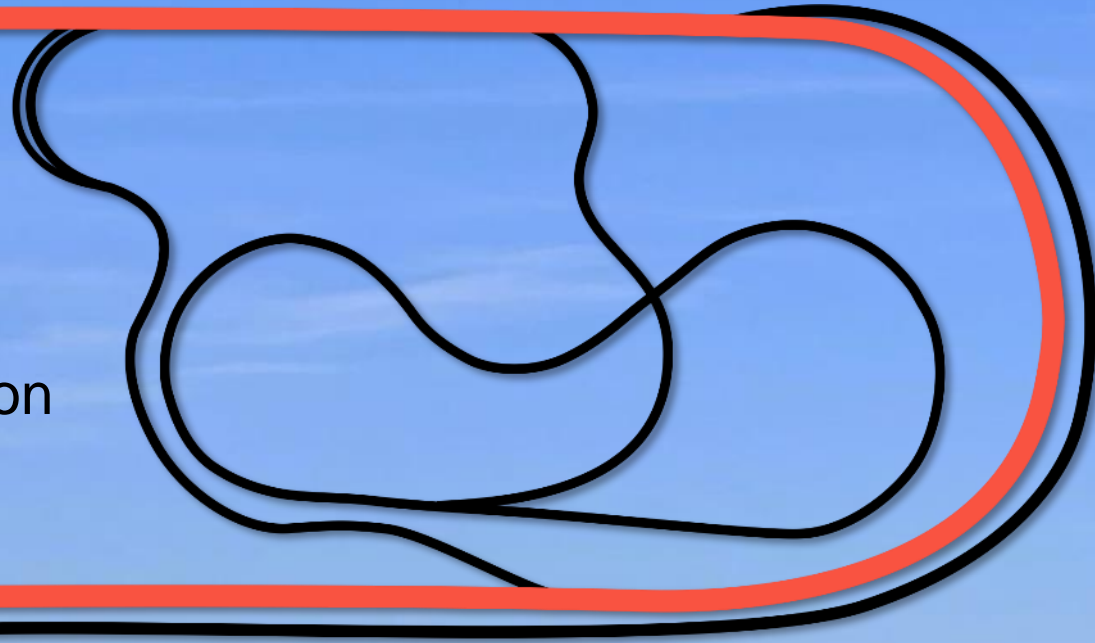
- AAR Standards testing
- AREMA tie testing
- Accelerated fatigue testing
- Metallurgical analysis
- Non-destructive testing



 Enhanced Laboratory Environment

High Speed Loop (HSL)

- 5.8 miles
- Class 6 track
- 110 mph tangent
- 65-69 mph curves
- 6-inch superelevation
- 2° 41 feet to 3°

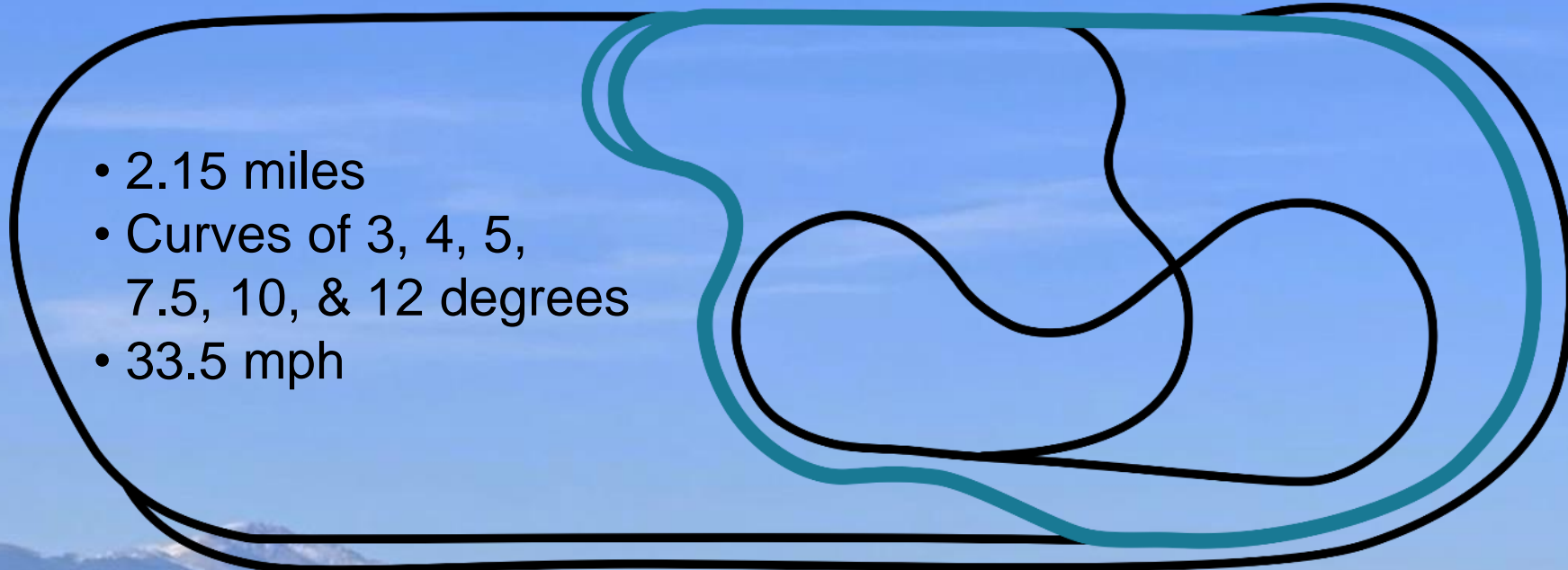


Suspension Resonance Track (SRT)

- Siding to HSL
- 3.4 miles
- 75 mph through perturbed test zones
- Pitch & bounce
- Twist & roll
- Yaw & sway



Curving Performance Track (CPT)

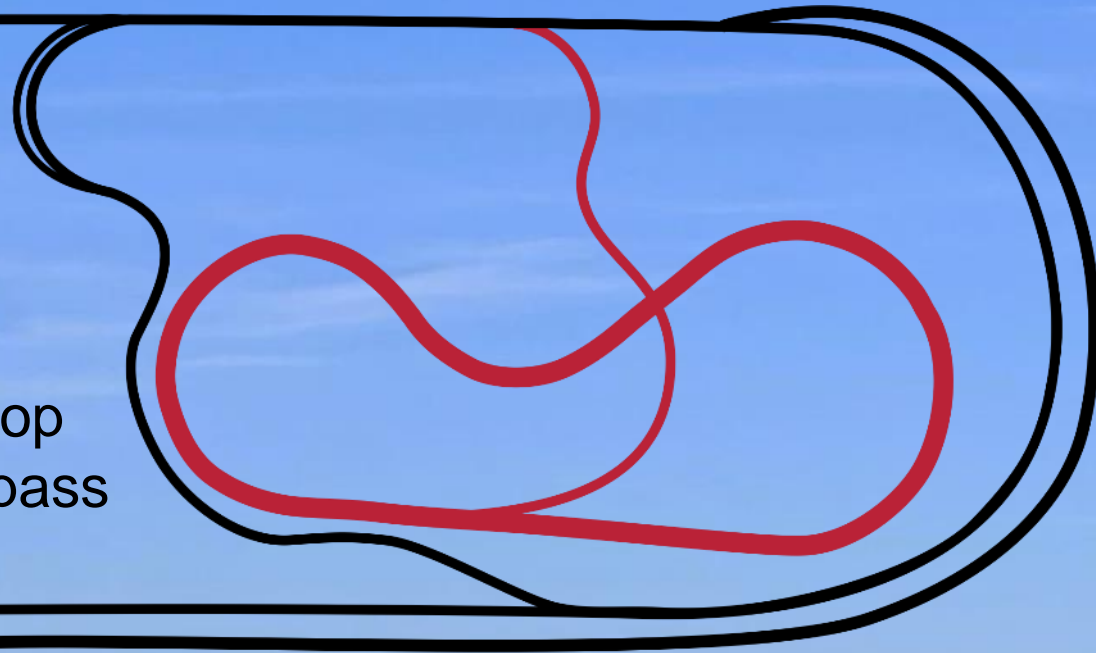


- 2.15 miles
- Curves of 3, 4, 5, 7.5, 10, & 12 degrees
- 33.5 mph



Facility for Accelerated Service Testing (FAST)

- 3.3 miles
(2.8 mile main loop)
- Self-contained
- Two loops:
 - Mainline outer loop
 - Mainline with bypass



 The Premier Industry Test Bed

CONSULTING

- Vehicle/track interaction and train dynamics
- Instrumented wheelsets
- Positive Train Control
- Track and infrastructure



 Your Challenges. Our Experts.

TRAINING

 LEARNING[™]
MxV INSTITUTE



Technical training and hazardous material response courses available to grow knowledge base of rail professionals.



Expanding learning opportunities.

STANDARDS

Maintaining industry standards for freight cars and locomotives.



ASSOCIATION OF AMERICAN RAILROADS



MID | BOE | DPLS | Publications

Moving the Best Ideas Forward



Commercial Testing - Parallel Systems

RESEARCH

Advance safety

Enhance reliability, efficiency, & resiliency

Support science-based solutions

**Encourage collaboration,
build exemplary multi-disciplinary teams**



Advancing innovation by supporting vendors through the development cycle and encouraging the safe and reliable deployment of new technology.



Laboratory testing & simulations

Controlled on-track testing

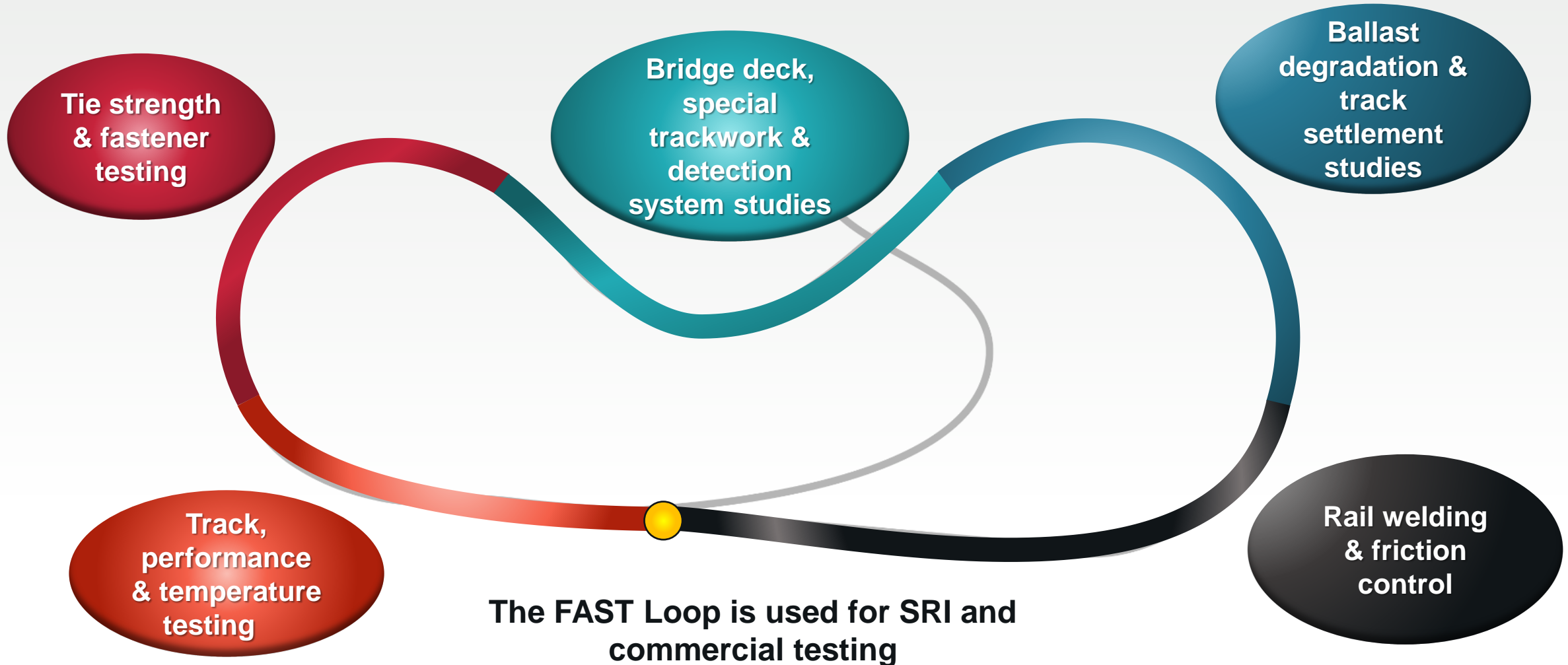
Monitored field testing



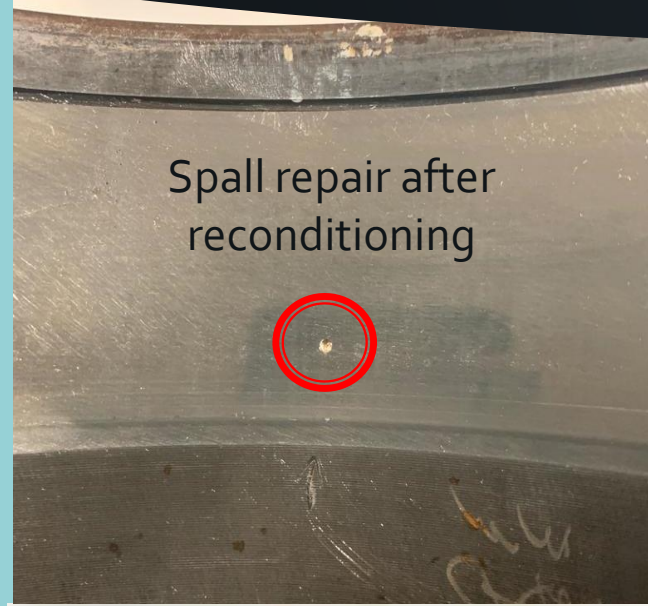
Industry designed, approved, and funded.

FAST: A Pillar of the SRI Program

The industry's infrastructure and mechanical test bed



Research Highlight



Spall repair after reconditioning

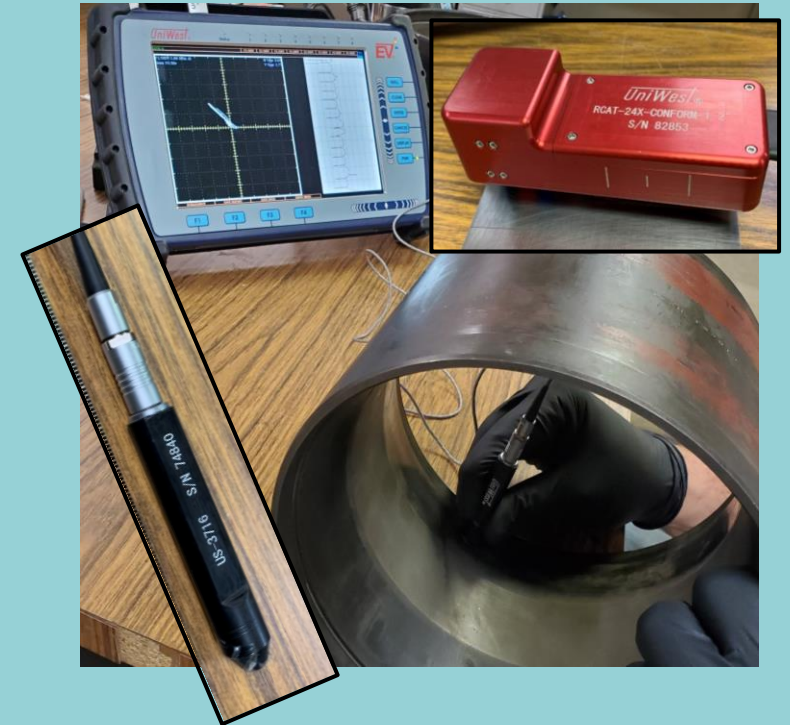


Damage at nearly 40k miles of testing

Bearing Rig Testing



Advanced NDE & Destructive Characterization



Research Highlight

1 Rail Temperatures from Train Operations

2 Rail Neutral Temperature (RNT) Measurement Technologies

3 AAR/TAMU Track Buckling Model

4 Track Buckle Test

RNT and Rail Running

Vehicle Forces

Rail Type/Wear

Track geometry/
hanging ties

Fastener and anchoring
type/condition

Tie-Ballast
Resistance



Knowledge Interchange



Technology Digest e-LIBRARY

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Technology Digests

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Date: mm/dd/yyyy mm/dd/yyyy

Technology Digests

MxV Rail's Technology Digest e-Library spans over 30 years of research and testing for the Association of American Railroads (AAR). This work was made possible by the support of the AAR and its member railroads, as well as additional partners including the Federal Railroad Administration, suppliers and vendors, and allied universities.

Search for any of these words Enter search term

1,064 Technology Digests Sorted by Date

- TD23-013 | Fatigue Testing of Rails with Detected Defects Under Simulated Heavy Axle Loads** [↗](#)
July 25, 2023
By Ananyo Banerjee, Gavin Whetstone, David H. Allen
- TD23-012 | Vehicle-Induced Longitudinal Rail Forces in High-Grade Environments** [↗](#)
July 25, 2023
By Stephen Wilk, Dustin Clasby, Yin Gao
- TD23-011 | Assessment of Wheel Profiles and Switch Point Derailments** [↗](#)
July 25, 2023
By Ulrich Spangenberg, Matt Wenger, Arun Wickramasuriya

Opportunities to Learn More:



ASSOCIATION OF AMERICAN RAILROADS 

29TH ANNUAL
Association of American Railroads
RESEARCH REVIEW

APRIL 23-25, 2024 | Pueblo, CO
MxV Rail Research Campus | Pueblo Convention Center



Damage Prevention & Freight Claim Conference
June 3-6, 2024
at the historic Renaissance Minneapolis Hotel, The Depot



UNIVERSITY DAYS
August 13-14, 2024





Unlocking Momentum



sertc.org



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