



# MxV Rail Update

## Rail Electrification Council

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[mxvrail.com](https://mxvrail.com)

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MOMENTUM | INSIGHT | TEAMWORK | RIGOR | PURPOSE

**CPKC**

**CN**



**BNSF**  
RAILWAY

**NS**  
NORFOLK SOUTHERN

**CSX**



Always  
moving forward.

TESTING



CONSULTING



TRAINING



STANDARDS



RESEARCH





# Enhanced Laboratory Environment

## STANDARDS TESTING

M-202/M-203 certification

## AREMA TESTING

Chapter 30 Tie Testing

## ASTM TESTING

ASTM D3950/D3953

## PROTOTYPE TESTING

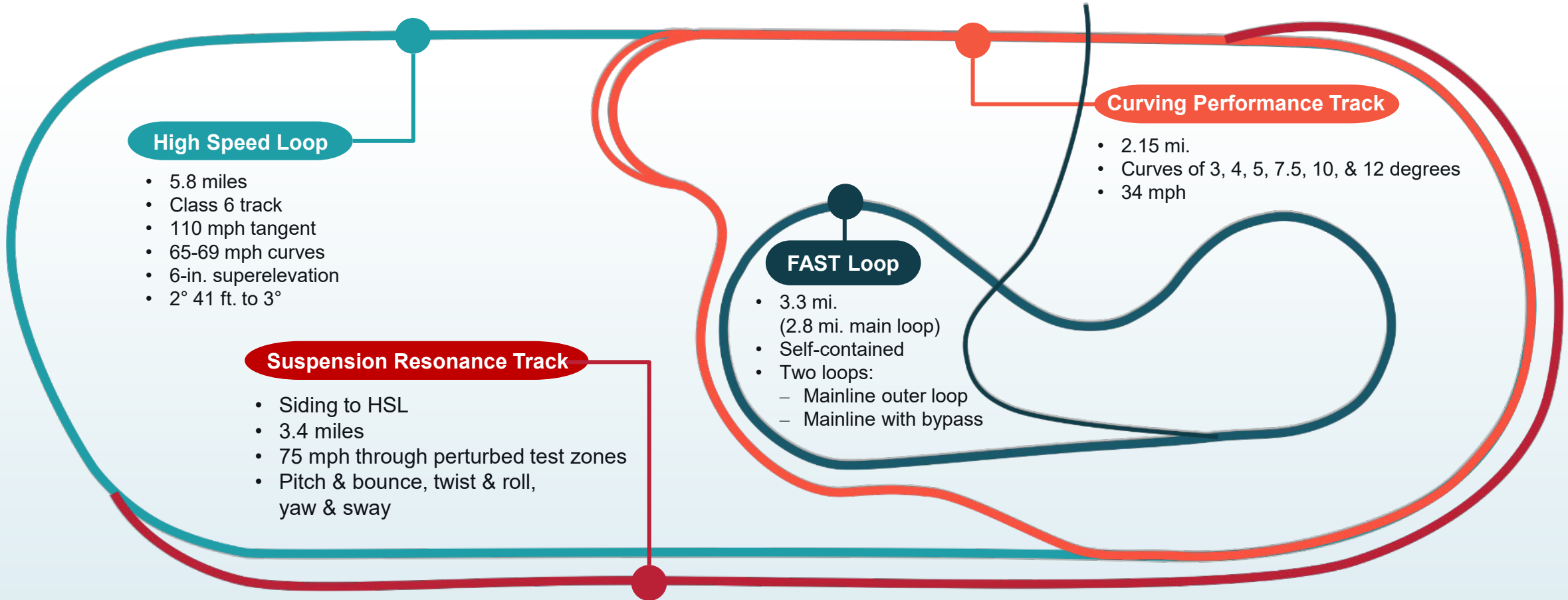
Tools, wheel bearing  
generators, fuel tank  
crush tests





# One vision, a multitude of potential.

## M-976 testing, Curving & hunting testing





# Security & Emergency Response Training



- **More than 76,000 trained since 1985. Enhanced curriculum and a newly re-designed training ground delivers an unmatched student experience**
- **Re-imagined experience includes:**
  - Expanded classroom space, improved student shelters, and enhanced highway, rail, and intermodal lay-down yards
  - Immersive, realistic, full-scale training scenarios featuring 85 of today's rail, highway and intermodal transportation vessels





# Unlocking Momentum



# Industry Research



**Safety**

**Reliability**

**Efficiency**

**Build Exemplary Teams & Facilities**

**Empower Science-Based Solutions**

**Program Design & Approval Process**

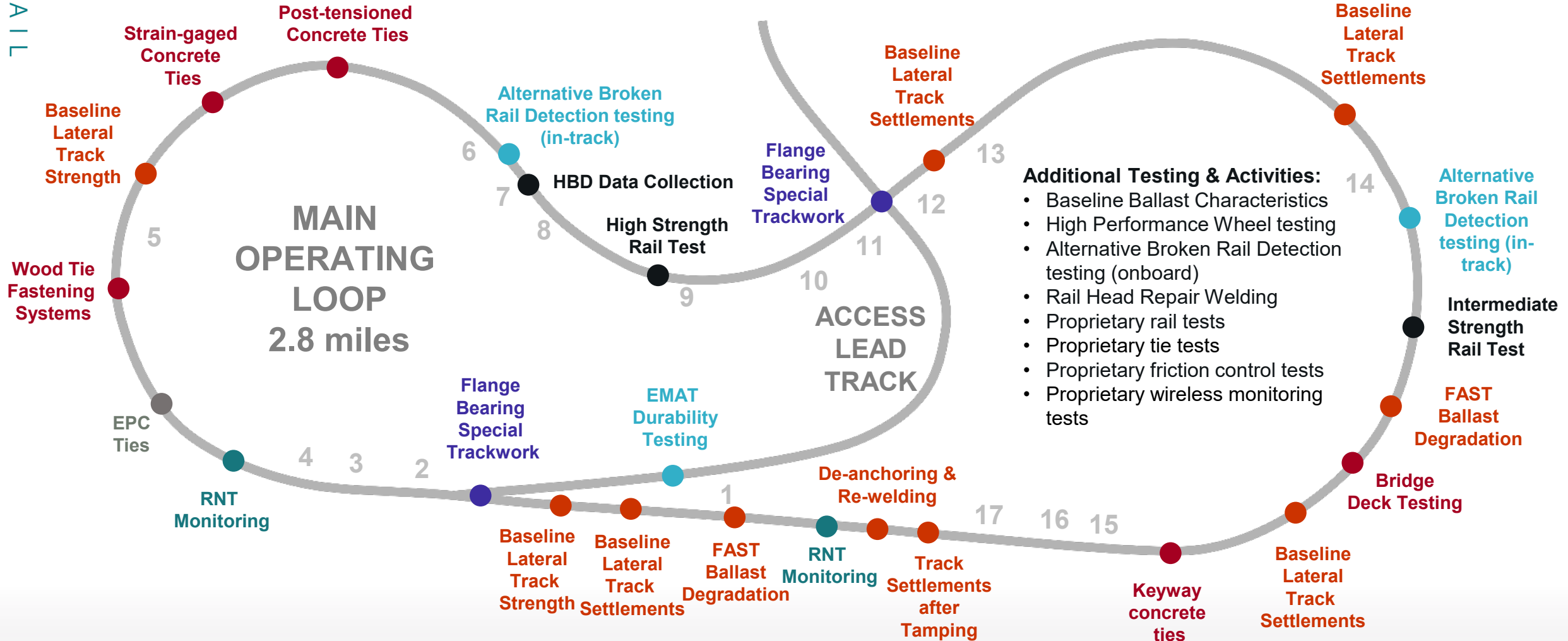




# FAST Loop

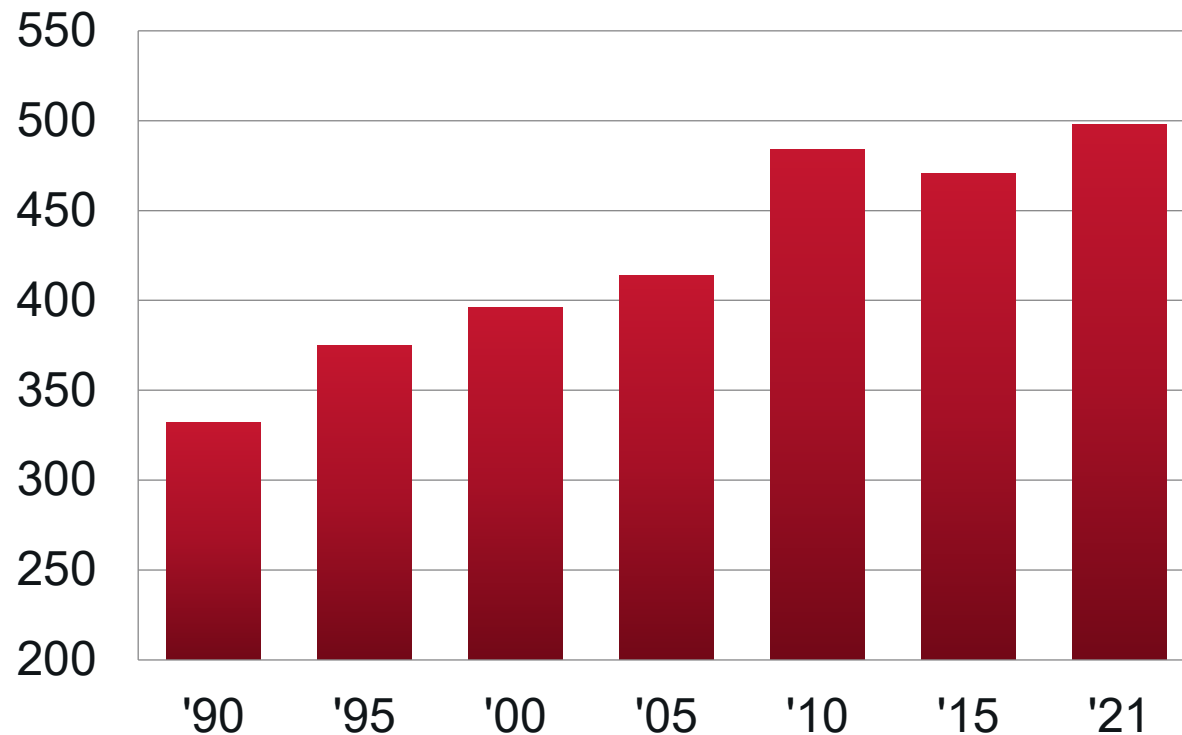
Facility for Accelerated Service Testing

- The industry's infrastructure and mechanical test bed
- Expected to be operational in late summer
- Over 20 experiments planned for 2023



# Fuel Savings with Freight Rail

**Railroad Fuel Efficiency**  
(revenue ton-miles per gallon)

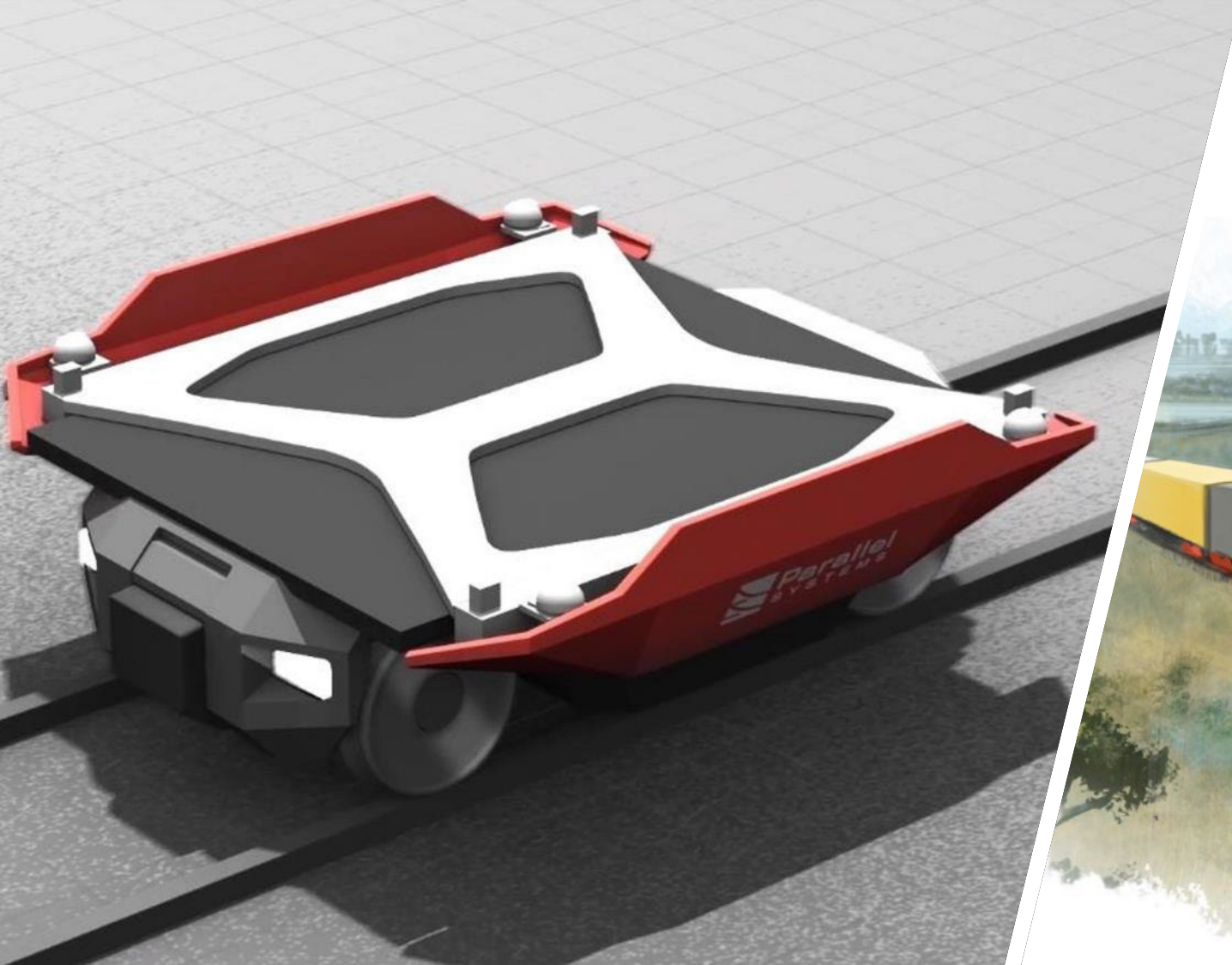


Source: AAR

## And Getting Better...

- Better locomotives
- Lighter, higher capacity freight cars
- Technology
  - Monitoring systems
  - Reduce idling
  - Trip planning software
- Training
- Reduce aerodynamic drag





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**Autonomous Systems**



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**Zero-Emissions Rail Vehicles**





THANK YOU