



Vision

To be the provider of choice
for advancing railway safety
and technology

Transportation Technology Center, Inc., a subsidiary of the Association of American Railroads



TTCI Overview

Ron Lang



History

- 1971 – 1982: HSGTC (GOV)
- 1982 – 1998: AAR (ORG)
- 1998 – Present: TTCI (COM)



TTC and TTCl: Two Different Things

TTC: The Facility



TTCl: The Company

A Small Business Enterprise

- ◆ Wholly owned subsidiary of the Association of American Railroads
- ◆ Headquartered at TTC
- ◆ Operated by an on-site management team
- ◆ Guided by an independent Board of Directors

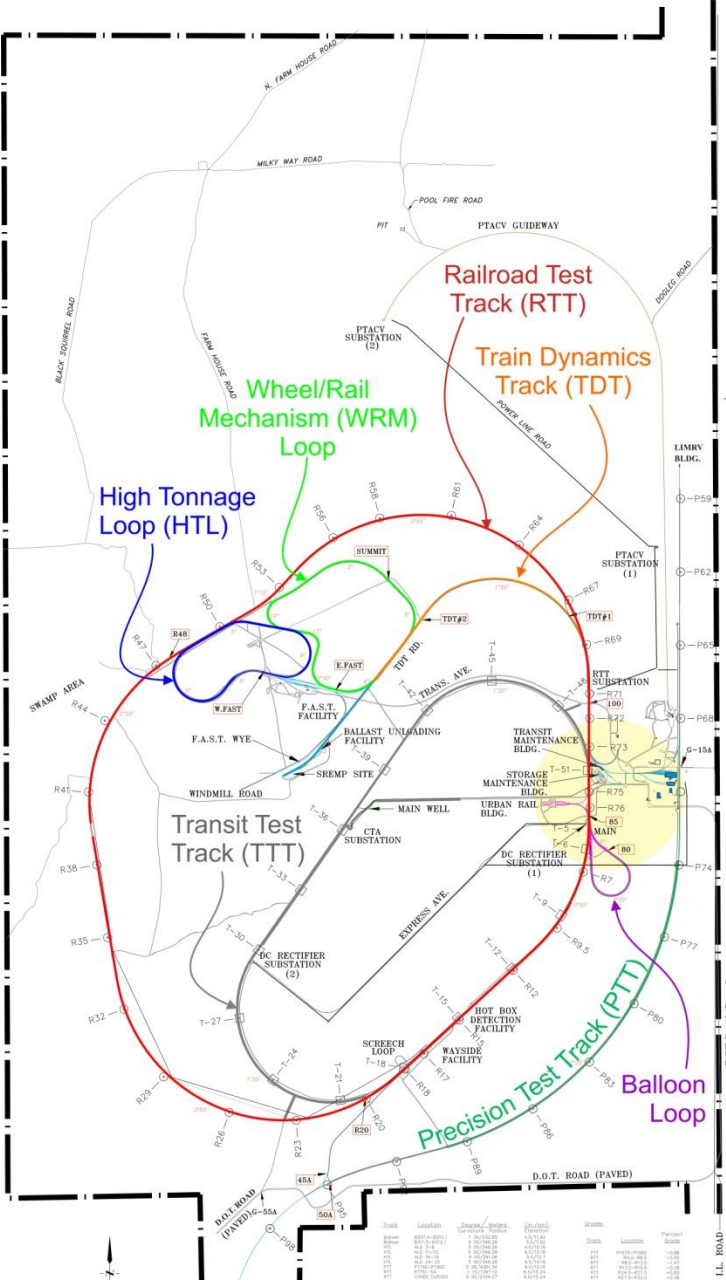


U.S. Department of Transportation
Federal Railroad Administration





The Facility



Engineered Tracks for Testing



High Tonnage Loop (HTL)

- 2.7-mile loop, three 5° curves, one 6° curve
- Main use – HAL studies
- Test bed for various premium track components
- 25 MGT/month in controlled environment

Wheel/Rail Mechanism Track (WRM)

- 7.5°, 10°, and 12° curving performance tests
- Dynamic curving tests
- Lubrication studies

Transit Test Track (TTT)

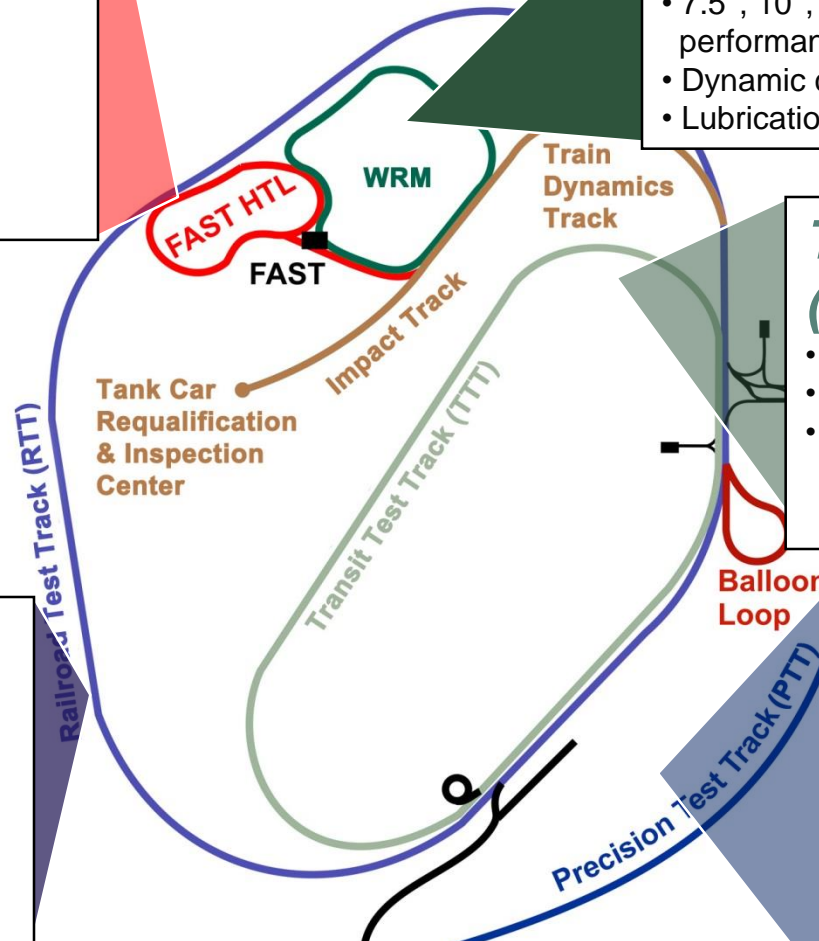
- 9.1-mile loop
- 80 mph max speed
- DC electrified third rail
 - Up to 1150 volts
 - Up to 12,000 amps

Precision Test Track (PTT)

- Multi-use track for railcar testing
- Pitch and bounce
 - Twist and roll
 - Yaw and sway
 - Car impact
 - Miscellaneous studies

Railroad Test Track (RTT)

- 13.5-mile loop
- 1°-15' curve and four 50' curves
- Maximum speed 165 mph
- 12.5-, 25-, and 50-kV overhead catenary



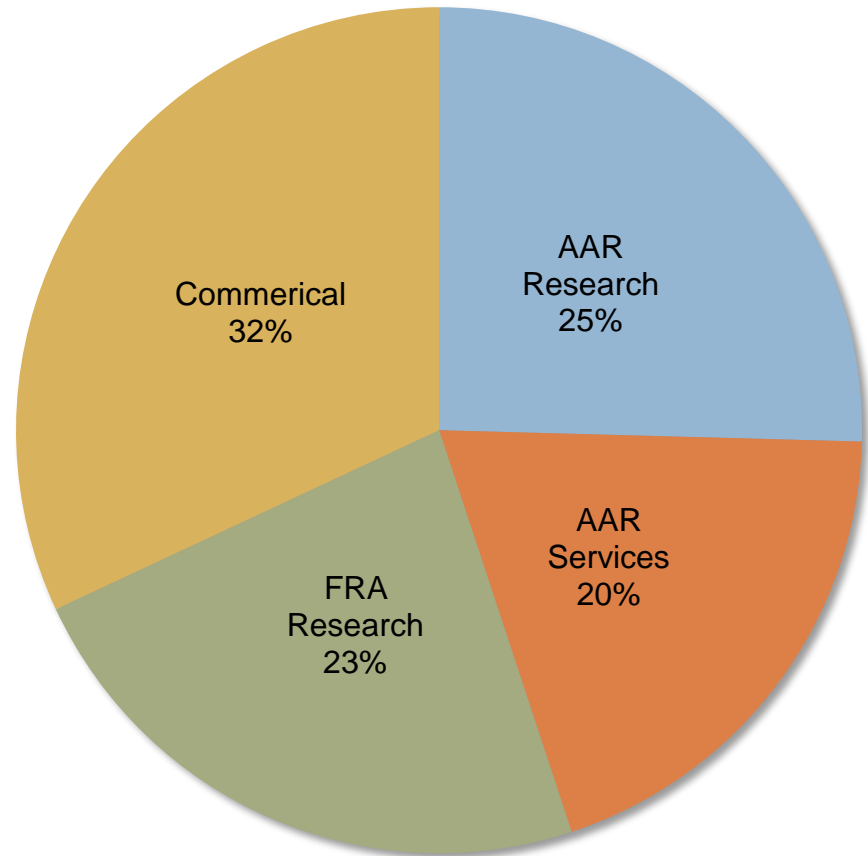
Full-Scale Laboratory Testing



◆ Basic Products and Services

- Research
- Consulting
- Testing
- System Engineering
- Inspections
- Training
- Technical Support

Revenue





FRA: Safety Testing Train to Train Impact

Conventional Equipment

1/31/02



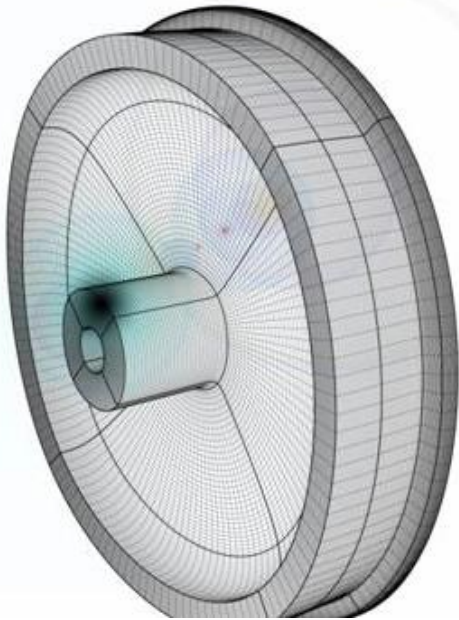
Crash Energy Management Equipment

3/23/06





AAR: Strategic Research Program



◆ Railroad Funded Effort

- Safety
- Reliability
- Efficiency



Commercial: On-Track Testing





Training - Security and Emergency Response Training Center (SERTC)

- ◆ In operation at TTC since 1985
- ◆ Hazmat response for Surface Transportation
 - Focus on Rail and Highway
- ◆ 53,000+ students trained
 - Railroad
 - Chemical and petroleum
 - Local, State and Tribal First Responders
- ◆ “Graduate level” program
- ◆ Minimum 50% hands-on training





Crude By Rail Emergency Response

◆ 24 Hour Course

- First Responder
- 40% Classroom
- History
- Properties
- Tank Cars
- Tactics
- 60% Practical Evolutions
- Full Scale Derailment



◆ 4 Hour Course

- Embedded
- Remote Delivery
- History
- Properties
- Tank Cars
- Tactics



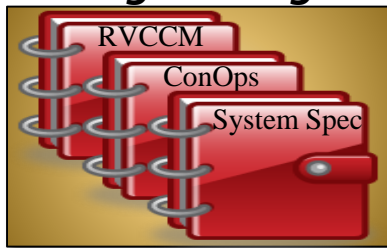


Communications and Train Control (C&TC)

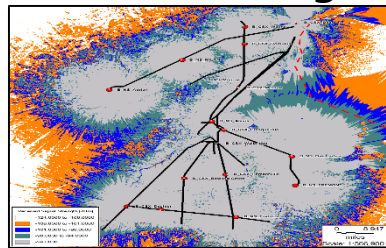
Research



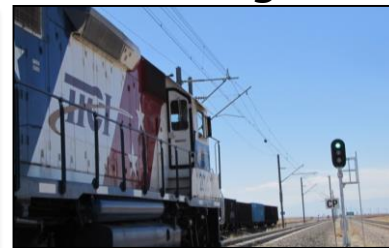
Systems Engineering



Simulation and Modeling



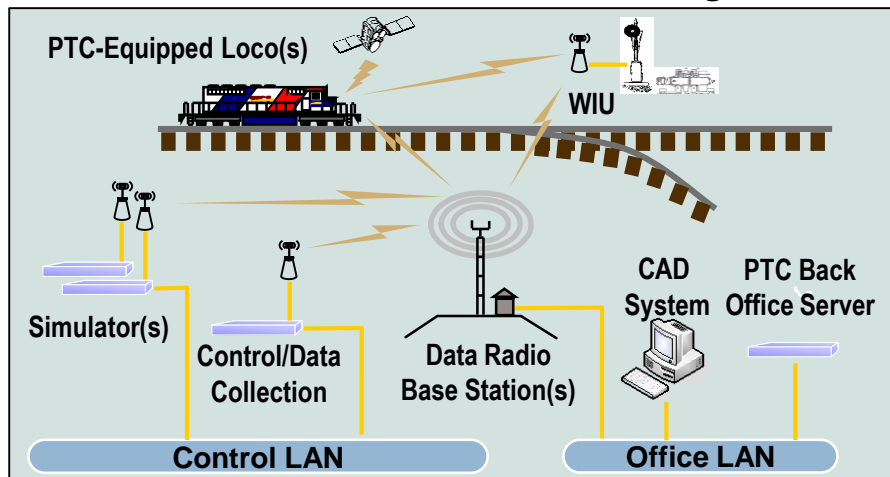
Testing



TTCI C&TC staff has experience with nearly every PTC system developed to date

TTCI's PTC Test Bed

Complete ITC (I-ETMS) and ACSES systems
More efficient, effective & safer PTC testing



C&TC Projects and Capabilities

- ◆ Solving critical PTC issues
- ◆ PTC performance analysis and testing
- ◆ Interoperability testing
- ◆ RF communications design/analysis
- ◆ Requirements specification
- ◆ Development/testing of new technologies
- ◆ Capacity analysis
- ◆ RF Coordination
- ◆ Fiber Optic Sensing Test Bed
- ◆ Broken Rail Detection Test Bed

TTCI doesn't supply PTC systems ...

We help improve PTC System Safety, Performance, Efficiency and Cost Effectiveness





www.aar.com

<https://jobs-aar.icims.com/jobs>

Current Posting with focus on fatigue =
Principle Investigator I