Rails-with-Trails
Best Practices and Lessons Learned

Shari Schaftlein  Federal Highway Administration
Mike Long  Federal Railroad Administration
Frank Frey  Federal Railroad Administration
Michail Grizkewitsch  Federal Railroad Administration

Christopher Douwes  Federal Highway Administration
Kelly Pack  Rails-to-Trails Conservancy
Jared Fijalkowski  USDOT Volpe National Transportation Systems Center

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Housekeeping

- Submit your questions
- Webinar archive: www.pedbikeinfo.org/webinars
- Live transcript: https://link.ai.media/session?plink=HSRC
- Certificates and professional development hours
- Follow-up email later today
- Review previous episodes and sign up for upcoming sessions
Rails-with-Trails:
Best Practices and Lessons Learned

Developing, Designing, and Maintaining Rails-with-Trails
Shari Schaftlein
Federal Highway Administration

Mike Long, Frank Frey, & Michail Grizkewitsch
Federal Railroad Administration

Jared Fijalkowski, U.S. DOT Volpe Center

Kelly Pack, Rails-to-Trails Conservancy
• Introduction
• Policies and Perspectives
• Development Process
• Liability and Risk Management
• Design
• Construction, Operations, and Maintenance
• Q&A
Background on Rails with Trails

- 2002 DOT Rails-with-Trails Report
- 2014 DOT Working Group
- Evaluate impact of 2002 Report
- Update on effective practices
- Policies and perspectives
- Focus on Rails-with-Trails
Why are we here?

• Update to the 2002 report
• Based on 15 years of experience
• No documented cases of Rails with Trails adding to railroad trespassing casualties
• Benefits to Railroads and the public
National Highway-Rail Grade Crossing and Trespassing Trends

The U.S. Railroad System

- **775 Railroads**
- **145,000 Route miles of track**
- **241,763 At-grade railroad crossings**

Crossings in the U.S.

- **Active 55%**
- **Passive 45%**

- (with gates, bells, and/or flashing lights)
- (with signs and markings, but not active warning devices)

Federal Railroad Administration

Always Expect a Train

A train traveling 55 mph takes 1 mile or more to stop.

5-Year Trespassing Trends

- **Fatalities**
  - 741 (2016)
  - 668 (2020)
  - **10% decrease**

5-Year Crossing Trends

- **Fatalities**
  - 227 (2016)
  - 191 (2020)
  - **3% decrease**

Top 5 for Trespassing Fatalities (2016-2020, suicide fatalities included)

- **CA** 968
- **FL** 318
- **TX** 294
- **IL** 258
- **NY** 215

Drivers 16% of all incidents (2016-2020) are due to railroad crossings and trespassing.

Bottom Line 96% of railroad fatalities over past 10 years

Highway-Rail Grade Crossing Safety and Trespasser Outreach

March 2021
Trespassing Statistics 2016 - 2020

<table>
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<tr>
<th>Incidents</th>
<th>5,122</th>
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<tbody>
<tr>
<td>Injuries</td>
<td>2,563</td>
</tr>
<tr>
<td>Fatalities</td>
<td>2,559</td>
</tr>
</tbody>
</table>

Graphs showing:
- Physical act before collision
- Trespassing by day of the week
- Trespassers by age
Not every generation gets to literally build anew and shape its own future, but the generations living today in America have that chance. This is a season for thinking big about infrastructure.
Rails-with-Trails:

A shared-use path or trail open and developed for public use that is located on or directly adjacent to an active railroad or rail transit corridor.
How many? Where are they?

343 rails-with-trails in 47 States comprising 917 miles
Benefits and Challenges

**Benefits:**
- Active Transportation
- Health and Wellness
- Access
- Economic Development
- Environmental Protection

**Challenges:**
- Property acquisition
- Concerns about safety and liability
- Concerns about trespassing
• Half of Class I railroads have written policies against locating trails within railroad ROW
• Few Class II and III railroads do.
• Concerns:
  • Trespassing
  • Work Hazards
  • Quiet Zones
  • Liability
  • Impacts to Future Rail Operations

Minneapolis Southwest Corridor, Minneapolis, MN
Source: Southwest Journal
Policies and Perspectives: Public Transportation Agencies

- Few public transit agencies have written rail-with-trail policies, but more are developing them.
- Some see rails-with-trails as opportunities for increasing ridership.
- Concerns:
  - Grade Crossings
  - Fencing
  - Signage

Neponset River Greenway, Boston, MA
Source: Bay Colony Rail Trail
Policies and Perspectives: State DOTs

• 15 State DOTs have policies, design guidelines, or other information about rails-with-trails.

• Some State DOTs actively promote rails-with-trails; others recommend avoiding them.

• Guidelines provide minimum design standards, but most are meant to be flexible and adaptable.

Sierra Bike Trail, Palmdale/Lancaster, CA
Source: TrailLink User vikemaze
Policies and Perspectives: Trail Managers

• Rails-with-trails fill gaps in off-road nonmotorized trail networks.
• Successful rail-with-trail developers work closely with stakeholders to address concerns.

Great River Trail, Rock Island, IL
Source: American Trails
Development Process

- Locate rails-with-trails outside of the railroad right-of-way, if possible.
- Engage railroads early and often.
- Determine feasibility.
- Conduct environmental analysis before land acquisition and design.
- Involve stakeholders early in the process.

Downtown Lakewalk, Duluth, MN
Source: American Trails
Liability and Risk Management

• Conduct initial legal research early in the process.
• Gather information about trespassing in the corridor.
• Follow design recommendations (e.g., MUTCD).
• Consider using indemnification agreements and/or insurance to address liability.
Regulatory and Railroad Requirements

Adhere to all relevant Federal, State, and local regulatory requirements, as well as the requirements of the adjacent railroad.
Design: Setback

- Rail-with-trail setback from railroads ranges from 7 to 200 feet, with an average setback of 32 feet.
- Locate rails-with-trails as far as possible from railroad tracks. Consider:
  - Train speed, frequency, and type
  - Rail maintenance and operations
  - Track curvature
  - Environmental and physical constraints
  - Separation type
  - Trespassing and vandalism

Winona Interurban Trail, Winona, IN
Source: Rails-to-Trails Conservancy
Design: Separation

• Approximately 87% of rails-with-trails have separation between the trail and the railroad tracks.
• Fencing, ditches, berms, and/or vegetation.
• When fencing is needed, consider when selecting fence type and height:
  • Setback distance
  • Location of grade crossings
  • Type, speed, and frequency of trains

Whittier Greenway Trail, Whittier, CA
Source: City of Whittier
Design: Crossings

• Approximately 54% of rails-with-trails have trail/track crossings.
• Propose new at-grade crossings only where there are no other reasonable alternatives.
• Use existing road-track crossings where possible.
• Include safety measures such as crossbucks, flashing lights, bells, crossing arms, and signage.
• Bridges/trestles and tunnels are expensive and railroads often do not allow them.

Source: American Trails
• Trail is closely parallel to the railroad line.
• Highway vehicle may cross the tracks, and then stop for a pedestrian crossing
• Resulting in a vehicle on rail tracks
Bollards are more likely to result in bicyclist injury than they are to stop unauthorized vehicles.
Rail-with-trail highway-railway crossings need special care.

No protection for trail users or pedestrians
Design: Bridges and Tunnels

• Railroad bridges and tunnels can be significant barriers to rail-with-trail design.
• Railroads are generally opposed to sharing existing rail bridges and tunnels with trails.
• Potential solutions for rails-with-trails on corridors with bridges and tunnels include:
  • Abutments or cantilevers on existing bridges
  • New bridge or tunnel

White River Greenway, Noblesville, IN
Source: Rails-to-Trails Conservancy
Design: Accommodating Future Tracks and Sidings

- Rails-with-trails should be designed and located so as not to preclude potential future rail expansion, if anticipated.
- Where corridor width, topography, and other factors allow, rails-with-trails should be located on the opposite side of the proposed track or siding expansion.

North Cedar Lake Regional Trail, Minneapolis, MN Source: Simon Blenski, Minneapolis Public Works
Design: Access to Stations

- Rails-with-Trails should promote access to rail and transit stations.
- Rail or transit agency coordination
- Accessibility
- Safety
- Bicycle parking

Lance Armstrong Bikeway, Austin, TX
Source: Rails-to-Trails Conservancy
Design: Drainage

• Consider rail-with-trail impact on the adjacent rail line’s drainage system.
• New drainage system might need to be installed to serve both the railroad and trail.

California Railroad Museum, Sacramento, CA
Source: California Parks
Construction, Operations, and Maintenance

• Coordinate with the railroad(s) prior to and during construction.
• Satisfy the adjacent railroad’s requirements for safety and impacts on operations.
• Plan for the need to pay the railroad to hire “flaggers,” which ensure safety but significantly add to construction costs.

A-Train Rail Trail, Lewisville, KY
Source: Lewisville Leader
Best Practices: Rail-with-Trail Operations and Maintenance

- Coordinate with the railroad(s) on trail and railroad maintenance activities.
- Have a comprehensive operations and management plan.
- Plan activities to address trespassing and vandalism.
- Conduct trail user safety and trespassing education if necessary.
Best Practices: Liability and Risk Management

- Conduct initial legal research early in the process.
- Gather information about trespassing in the corridor.
- Follow design recommendations in this report, AASHTO Guide, and MUTCD.
- Consider using indemnification agreements and/or insurance to address liability.

Metropolitan Branch Trail, DC
Source: Rails-to-Trails Conservancy, Milo Bateman
Rails-to-Trails Conservancy Resources

www.railstotrails.org/railswithtrails

• State laws and statutes relating to rails-with-trails
• List of State Recreational Use Statutes
• Examples of easement, lease, and license agreements
• Collection of sample rail-with-trail acquisition agreements
• Rail-with-Trail Image Library
• List of known rail-with-trails by State (as of January 2021)
Key Takeaways for Trail Managers and Planners

• Community Demand as a Catalyst

• Increasing Trend of Rails-with-Trails Along Passenger/Transit Lines

• Collaborative Approach Is Key

Schuylkill River Trail (PA)
Source: Laura Pedrick/AP Images
Trail User Experience

Increased walking and bicycling connectivity and economic development

Provides vital connections to public transit in an area with increased congestion

Exploring historic and cultural destinations

Creation of safe, controlled crossings for busy active rail lines

Carlsbad Coastal Rail-Trail
Source: RTC

Tennessee Central Heritage Rail Trail (TN)
Source: TrailLink.com/lillyoutside

DCTA A-Train Rail Trail
Source: discoverdenton.com
Testing Improved Transportation System Hazard Warnings

Seeking test sites and ideas

ADAS Sensors for Railroad Applications
Positioning, Distance Measuring, Object Detection, Controlling

Source: Continental AG
For More Information

To view the entire U.S. DOT Rails-with-Trails: Lessons Learned: May 2021
Visit the FHWA Bicycle and Pedestrian and Recreational Trails websites.
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/index.cfm
https://www.fhwa.dot.gov/environment/recreational_trails/
Or
Federal Railroad Administrations website at
Contact Us

Federal Highway Administration
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Christopher Douwes
Shari Schaftlein
Federal Highway Administration

Mike Long, Frank Frey, & Michail Grizkewitsch
Federal Railroad Administration

Jared Fijalkowski, U.S. DOT Volpe Center

Kelly Pack, Rails to Trails Conservancy
Thank You!

» Keep an eye out for follow-up email later today

» Follow up with us:
  » Questions about the report:
    - Christopher Douwes  christopher.douwes@dot.gov
    - Frank Frey  frank.frey@dot.gov
    - Michail Grizkewitsch  michail.grizkewitsch@dot.gov
  » Contact Rails to Trails Conservancy:  railswithtrails@railandtrails.org
  » General Inquiries:  pbic@pedbikeinfo.org

» Archive at www.pedbikeinfo.org/webinars