



**Pedestrian and Bicycle  
Information Center**

# **Rails-with-Trails**

## **Best Practices and Lessons Learned**

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**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

**August 19, 2021**

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# Today's Panel



**Shari Schaftlein**  
Federal Highway  
Administration



**Mike Long**  
Federal Railroad  
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**Frank Frey**  
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**Michail Grizkewitsch**  
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**Christopher Douwes**  
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**Kelly Pack**  
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# RAIL

MOVING AMERICA FORWARD



## Rails-with-Trails:

### Best Practices and Lessons Learned

# Developing, Designing, and Maintaining Rails-with-Trails



# Pedestrian and Bicycle Information Center August 19, 2021

**Shari Schaftlein**

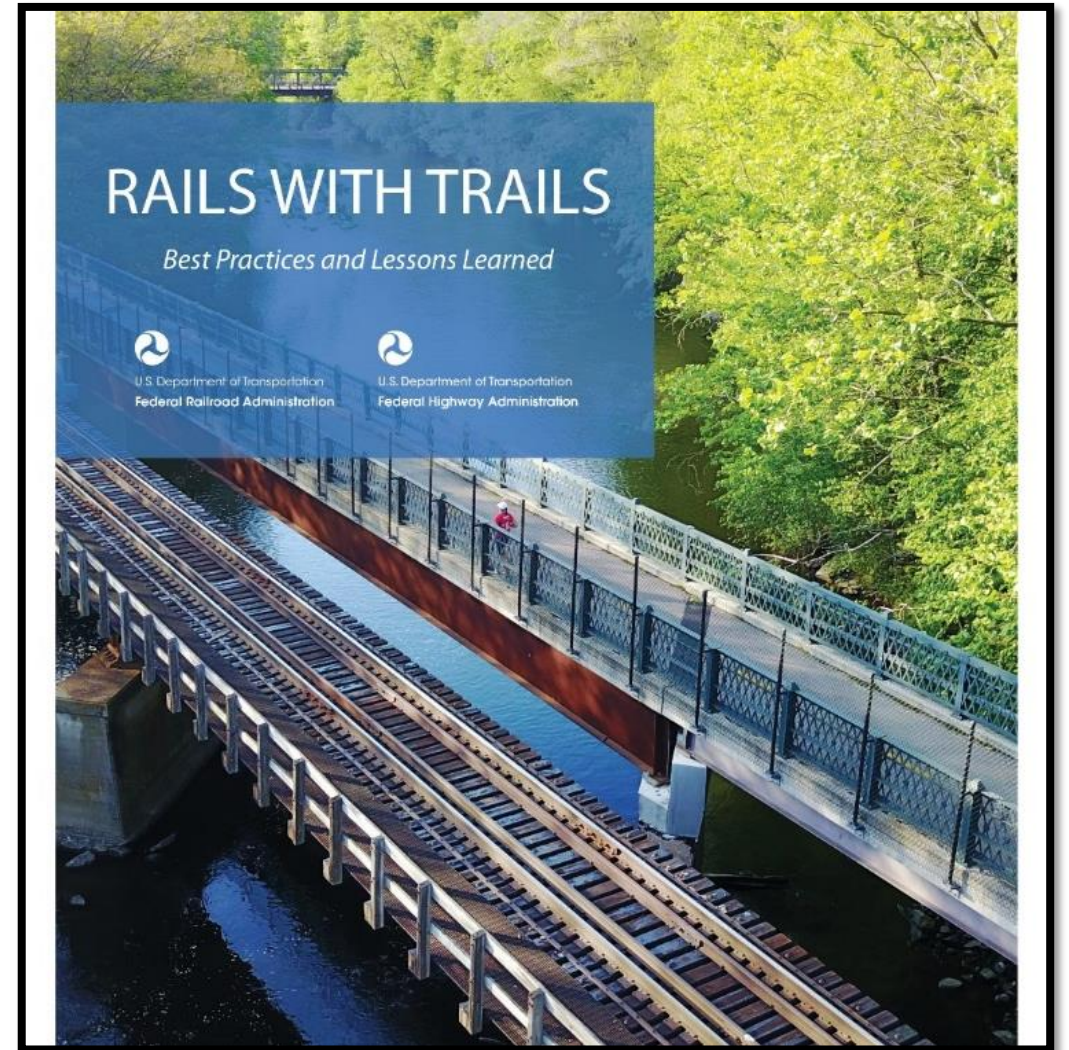
**Federal Highway Administration**

**Mike Long, Frank Frey, & Michail  
Grizkewitsch**

**Federal Railroad Administration**

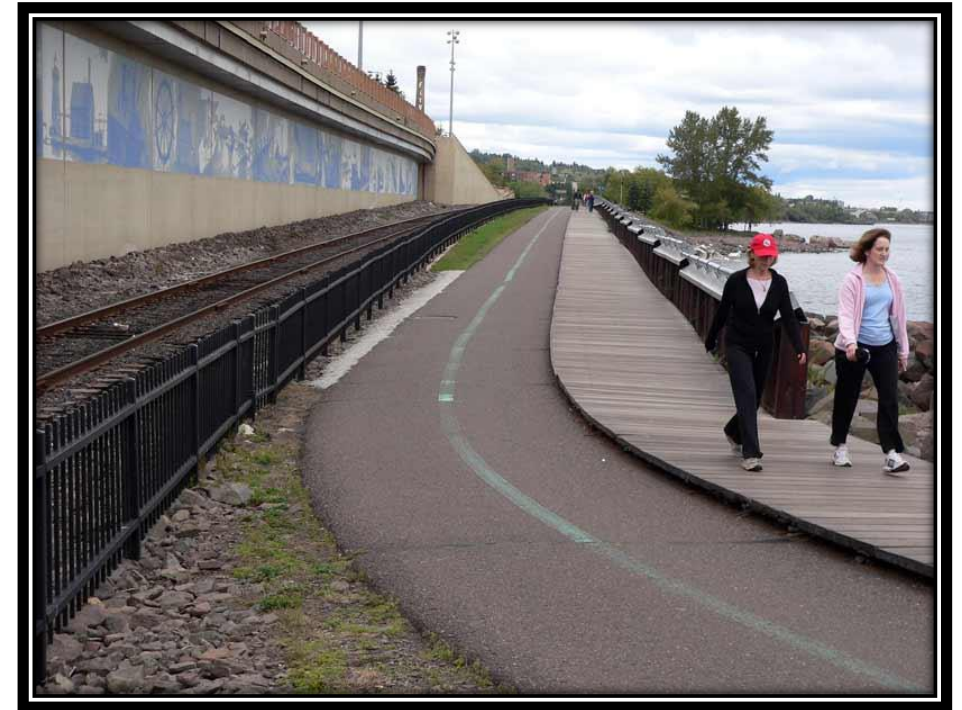
**Jared Fijalkowski, U.S. DOT Volpe Center**

**Kelly Pack, Rails-to-Trails Conservancy**



# Agenda

- Introduction
- Policies and Perspectives
- Development Process
- Liability and Risk Management
- Design
- Construction, Operations, and Maintenance
- Q&A



Downtown Lakewalk, Duluth, MN  
Source: American Trails

# 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



California Railroad Museum, Sacramento, CA Source: California Parks



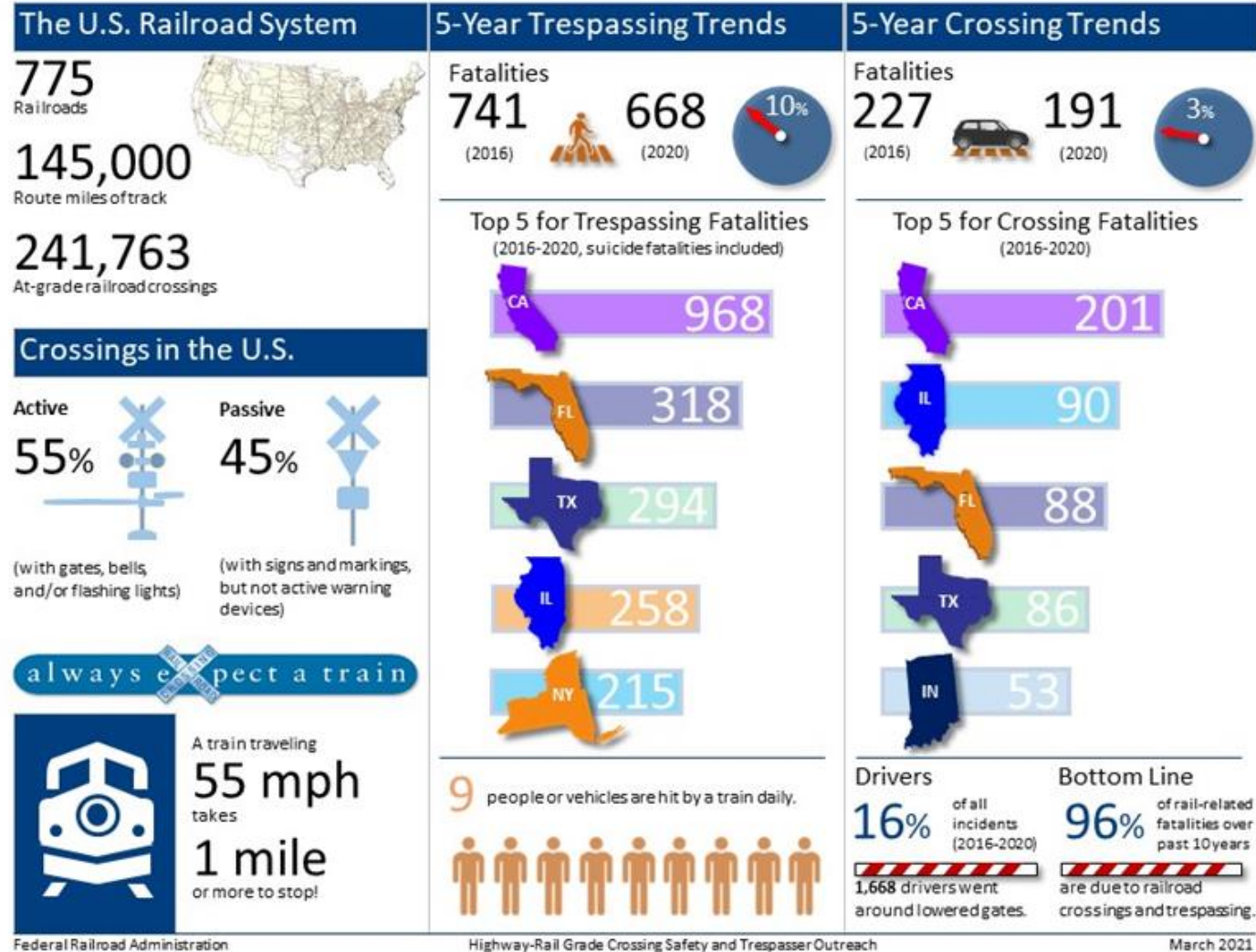
# Why are we here?

- 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



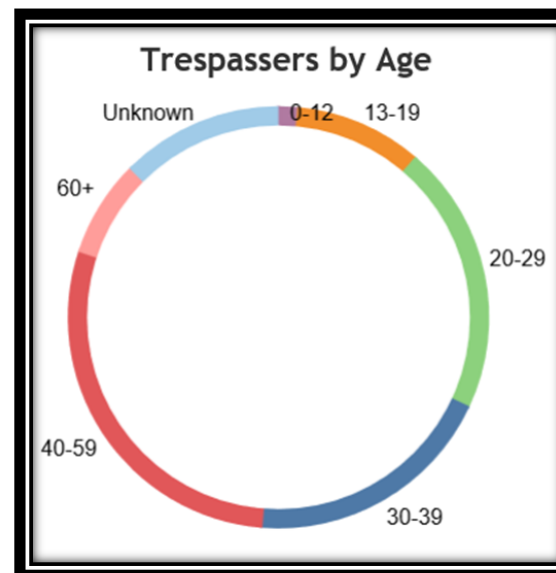
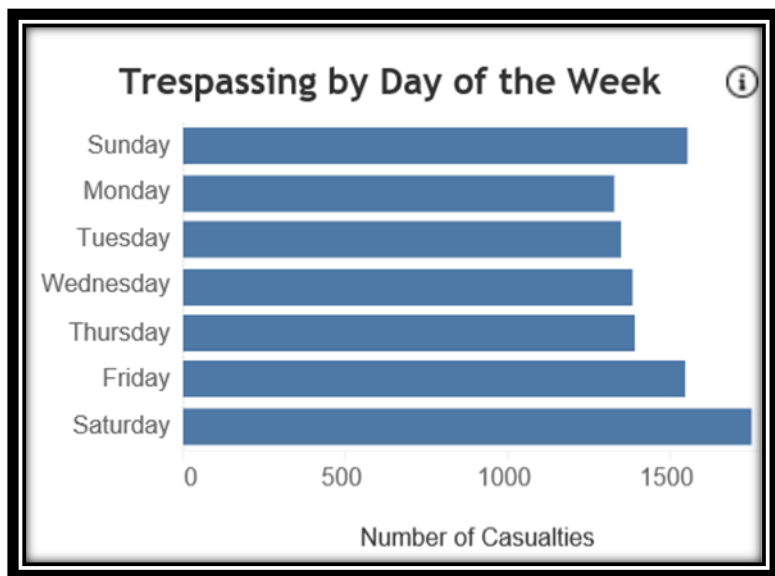
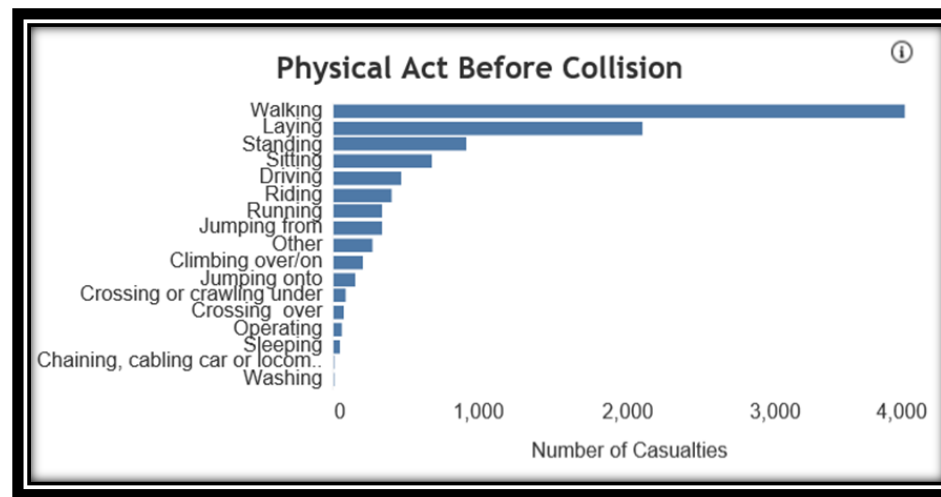


# National Highway-Rail Grade Crossing and Trespassing Trends



# Trespassing Statistics 2016 - 2020

<b>Incidents</b>	<b>5,122</b>
<b>Injuries</b>	<b>2,563</b>
<b>Fatalities</b>	<b>2,559</b>



# Why are we doing this? Safety Focus



↻ TransportationGov Retweeted



**Secretary Pete Buttigieg** ✓

@SecretaryPete



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.

4:09 PM · Mar 22, 2021 · Twitter Web App





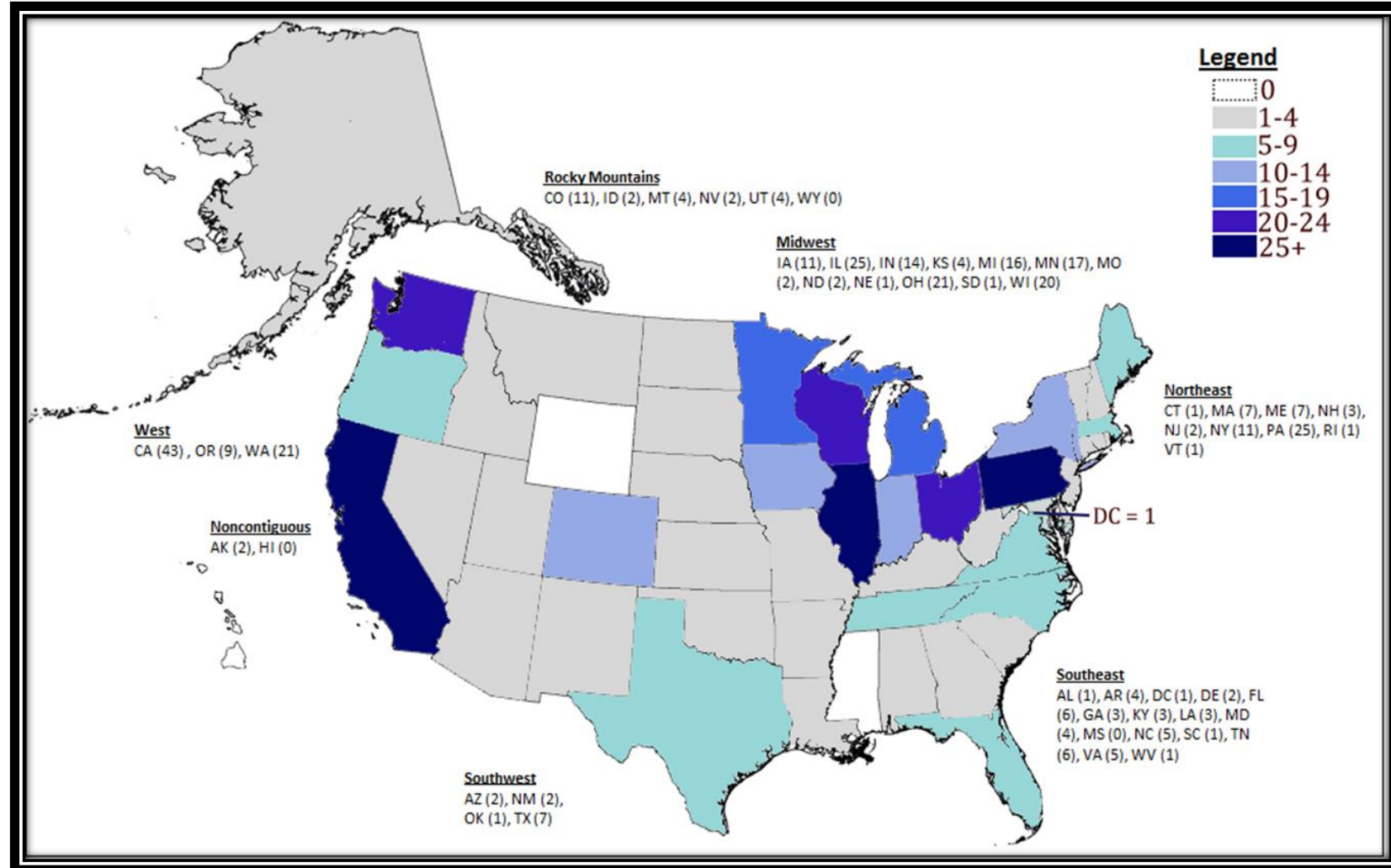
# Rails-with-Trails:

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





# Policies and Perspectives: Railroads

- 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.

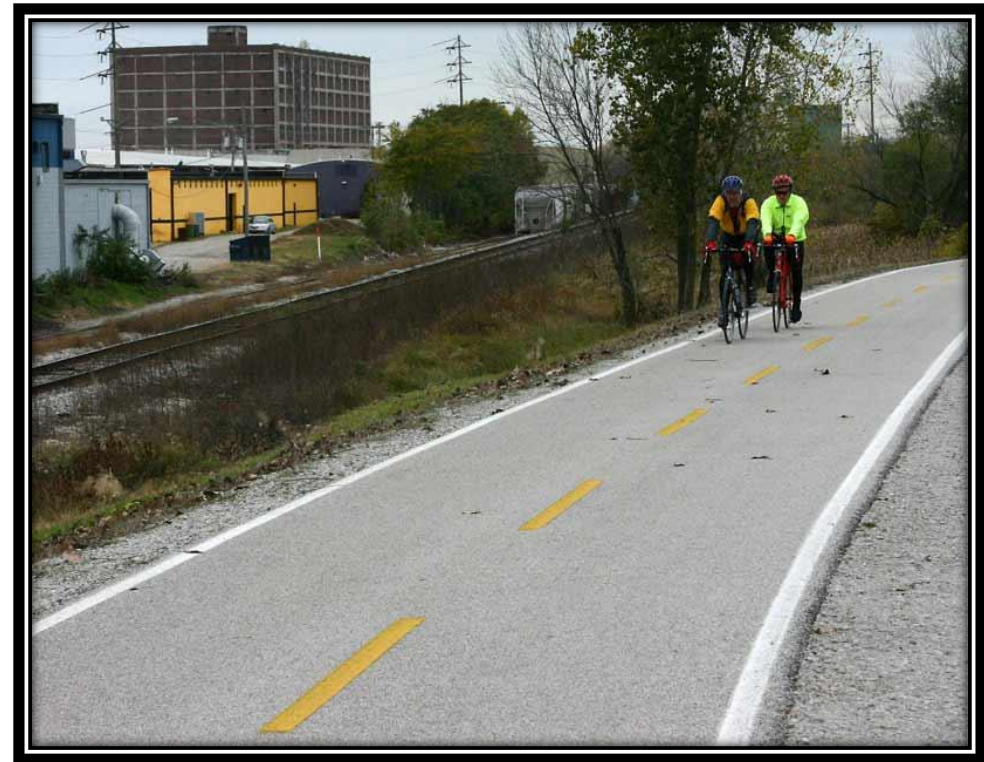


Sierra Bike Trail, Palmdale/Lancaster, CA  
Source: TrailLink User vikemaze



# 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.

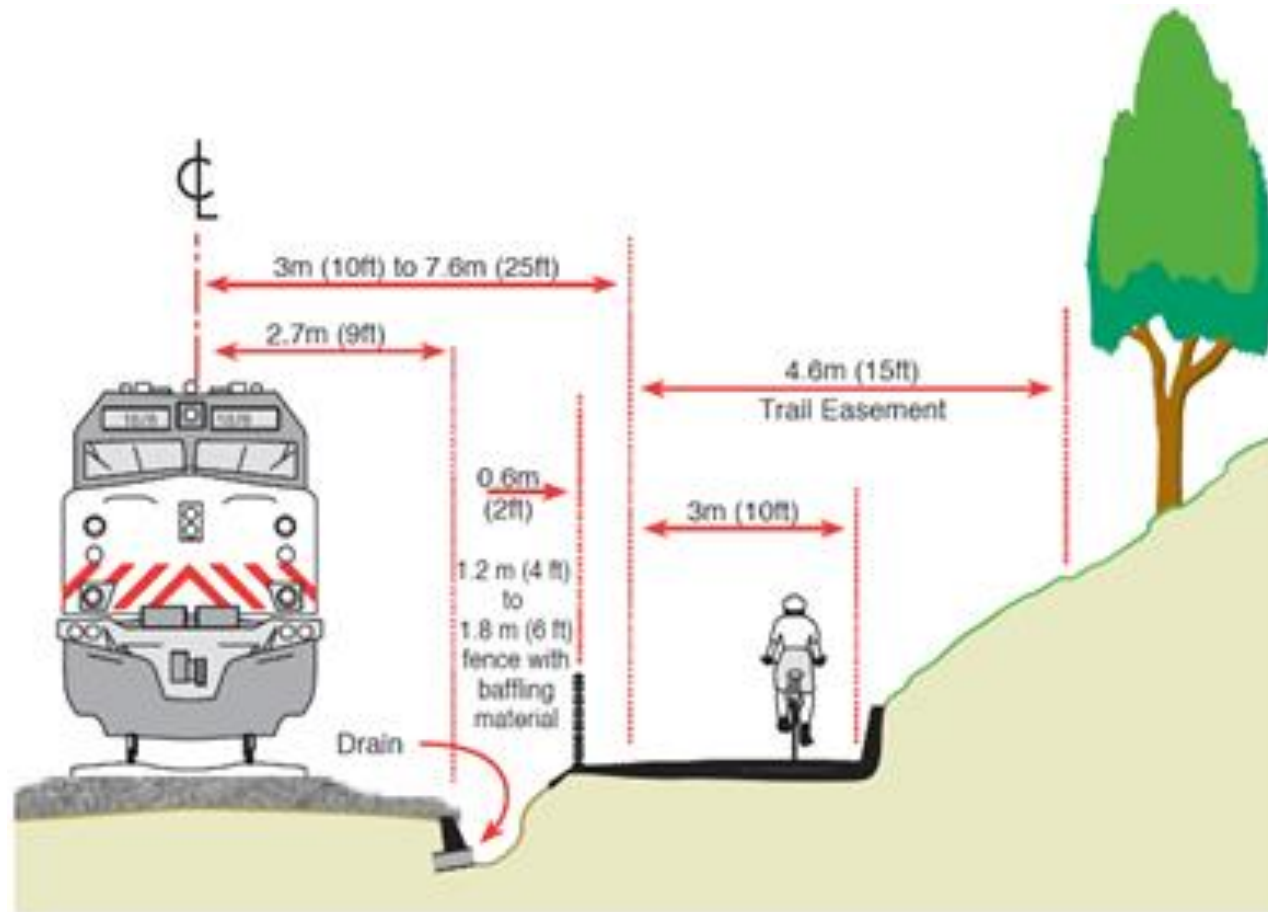


Frisco Trail, Fayetteville, AR  
Source: Rails-to-Trails Conservancy



# 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



Whittier Greenway Trail, Whittier, CA

Source: City of Whittier

- 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



# 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.



Martin Luther King Promenade, San Diego, CA  
Source: American Trails

# Multiple Tracks Highway-Rail Grade Crossings

- 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



Santa Fe, New Mexico

# Dangerous bollard design



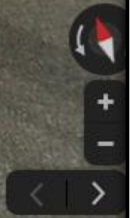
Bollards are more likely to result in bicyclist injury than they are to stop unauthorized vehicles



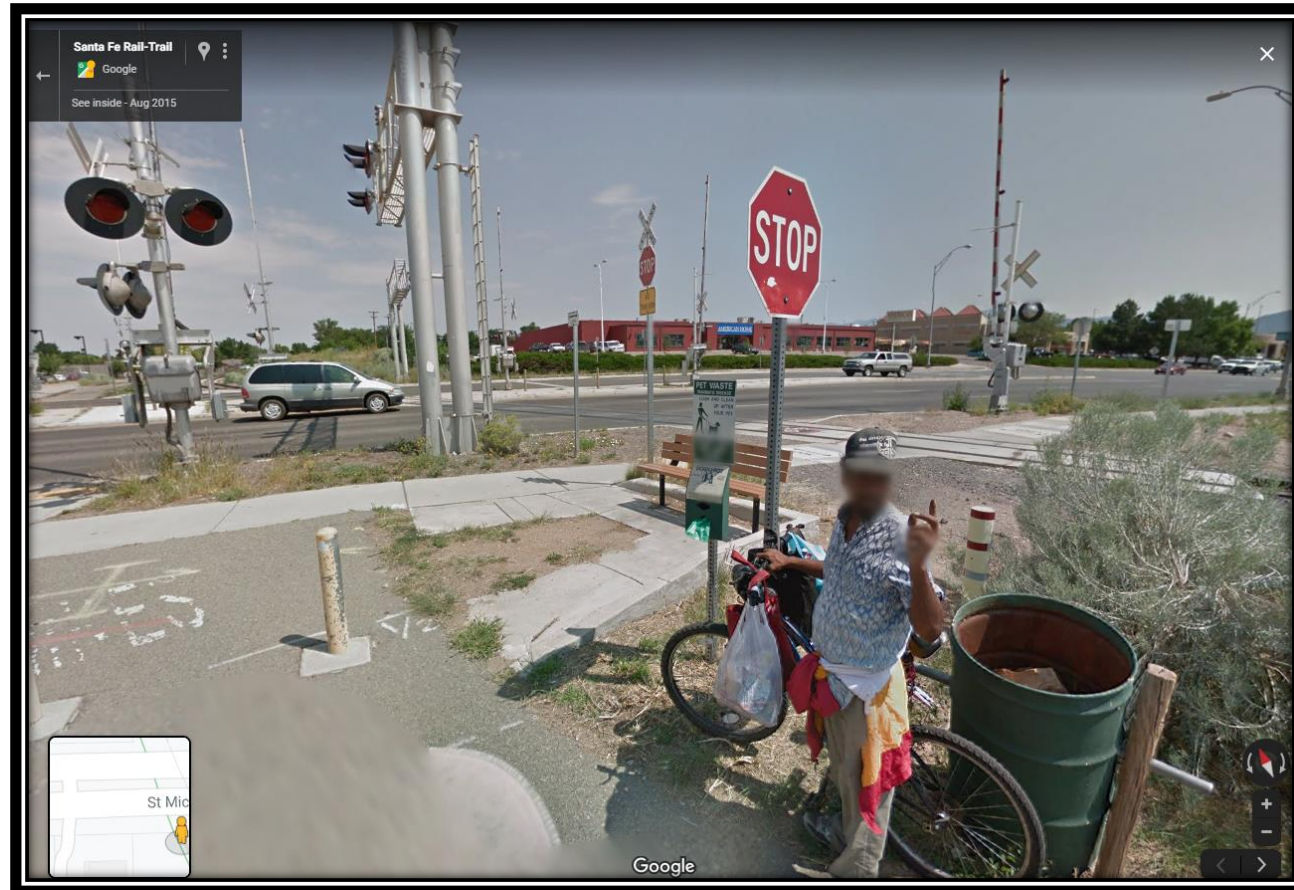
2080 NM-466  
Santa Fe, New Mexico  
Google  
Street View - Oct 2018



Google



# 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

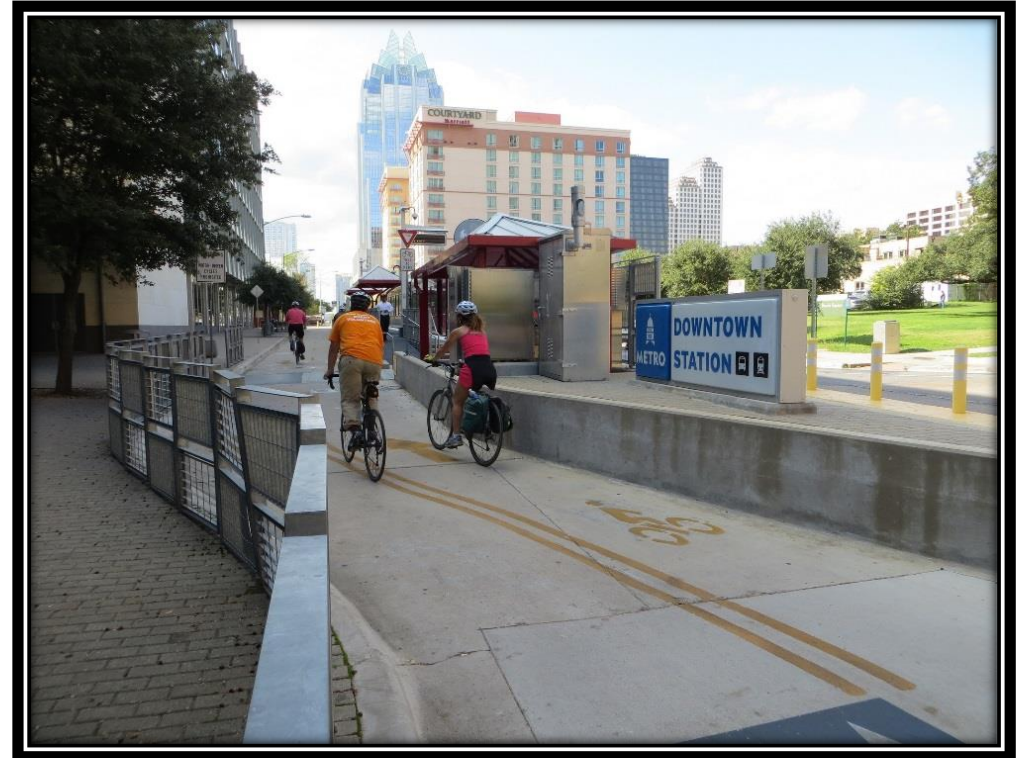
- Rails-with-trails should be designed and located so as not to preclude potential future rail expansion, if anticipated.
- Where corridor width, topography, and other factors allow, rails-with-trails should be located on the opposite side of the proposed track or siding expansion.



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.



Schuylkill River Trail, PA  
Source: Circuit Trail Coalition

# 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](http://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)



WOW Trail (NH)  
Source: Diane Hanl

# 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



Carlsbad Coastal Rail-Trail  
Source: RTC

Increased walking and bicycling connectivity and economic development

Exploring historic and cultural destinations

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

Creation of safe, controlled crossings for busy active rail lines



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

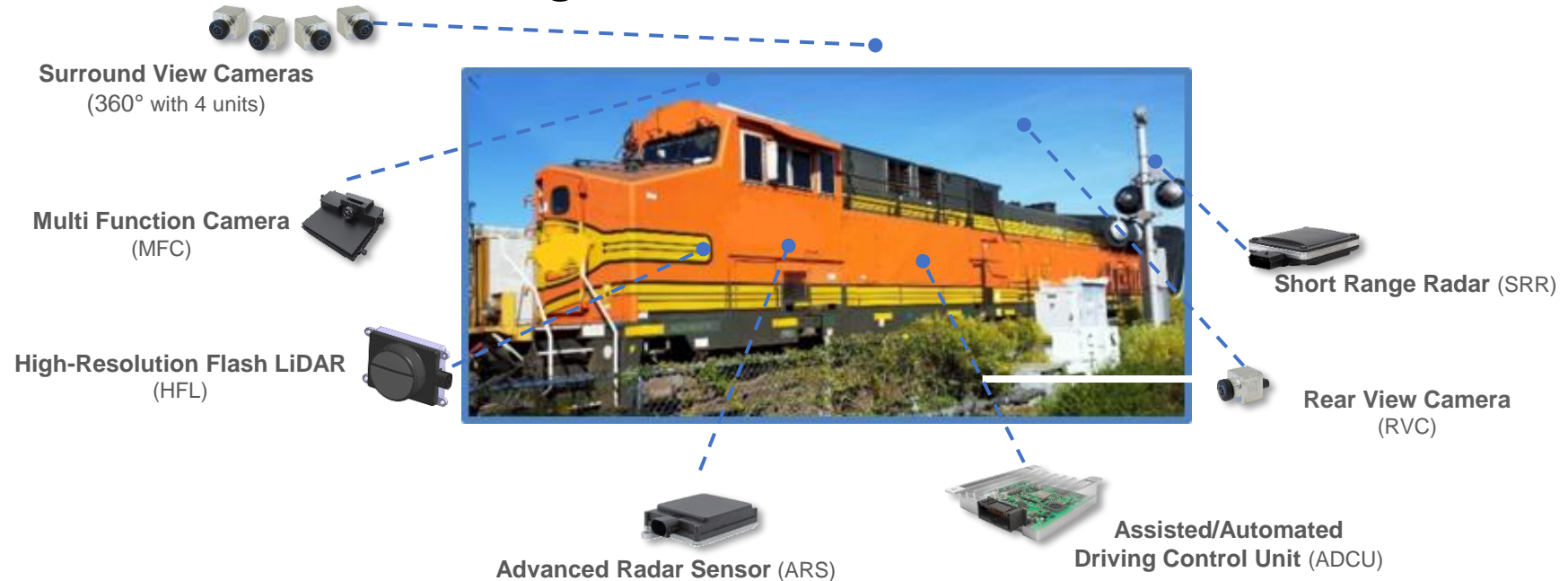


DCTA A-Train Rail Trail  
Source: [discoverdenton.com](http://discoverdenton.com)



## 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/bicycle_pedestrian/index.cfm)

[https://www.fhwa.dot.gov/environment/recreational\\_trails/](https://www.fhwa.dot.gov/environment/recreational_trails/)

Or

Federal Railroad Administrations website at

Railroads.dot.gov or <https://railroads.dot.gov/elibrary/rails-trails-best-practices-and-lessons-learned-0>



# Contact Us

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# 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](mailto:christopher.douwes@dot.gov)**

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