From: [redacted]
To: [redacted]

Subject: Sec. 106 Consulting Parties Meeting #4 for the Proposed Bridge Replacement at Mile 1315.0 on the Missouri River near Bismarck/Mandan, North Dakota (ND SHPO Reference 16-0636)

Greetings,

In compliance with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. 306108), as amended (NHPA), the United States Coast Guard (USCG) invites you to participate in continuing consultation on the above-referenced project. The USCG has designated BNSF's consultant, CH2M/Jacobs, to contact parties on their behalf for the purposes of Section 106. In that role, we are contacting you regarding the proposed undertaking and upcoming Consulting Parties meeting.

As an identified Consulting Party, the USCG invites you to attend a face-to-face Section 106 consulting parties meeting on scheduled for Wednesday, July 11th, from 6:00 – 8:00 pm Central Time in Lecture Rooms A & B at the North Dakota Heritage Center, 612 East Boulevard Avenue in Bismarck. If you plan to attend the meeting and would like to submit proposed agenda items, please accept this invitation and respond by contacting:

Mr. Ben Roberts, Cultural Resources Planner, CH2M/Jacobs, via telephone: (912) 677-2702, or email: Ben.Roberts@ch2m.com <mailto:Ben Roberts@ch2m.com>

Your timely response will greatly assist us in planning for the meeting. If you cannot attend in person but would like to attend via teleconference, please indicate that in your response and we will make arrangements to accommodate your request. If you wish to participate in the Section 106 consultation process but cannot attend the July 11th meeting, please let us know and we will ensure that you receive all materials from the meeting and notices of future meetings. If you do not wish to participate, no response is required and we will no longer send you information on this consultation.

We look forward to your response and to consulting with you on this undertaking. Should you have any questions, please contact Mr. Ben Roberts, CH2M/Jacobs at or Mr. Rob McCaskey, USCG, via email at Rob.E.McCaskey@uscg mil <mailto:Rob.E.McCaskey@uscg.mil> , or by phone at (314) 269-2381.

Thank you,

Ben Roberts

--

Benjamin A. Roberts, MHP | Jacobs | Cultural Resources Planner | Aerospace, Technology, Environmental, & Nuclear | +[redacted] | +[redacted] |

[redacted] | www.jacobs.com <http://www.jacobs.com/>

Proposed Bridge Replacement at Mile 1315.0 on the Missouri River near Bismarck/Mandan, North Dakota (ND SHPO Reference 16-0636)

Fourth Section 106 Consulting Parties Meeting Agenda

Wednesday, July 11, 2018 at 6:00 pm CST

866-203-7023; PIN 5093-167-060 (meeting will be recorded via conference line)

1. Roll-Call/Introductions
    a. Safety Moment
2. FEMA requirement of no additional structure impact
    a. Multi-Bridge Modeling Results for Other Alternatives
    b. FORB asks: Ask BNSF to show, at the 5th meeting, the appropriate scour abatement with riprap and necessary channel modifications to ensure no impact to the flood plain.
3. Other Alternatives
    a. Update on Alternatives
    b. Consideration of ByPass Alternative
    c. FORB asks: Start the discussion of a design in which the existing bridge is preserved and the new rail bridge is built.
4. Discussion of other bridges converted to pedestrian use – FORB asks: How have other historic bridges adjacent to "in use" rail lines worked out public access and other issues? Visuals requested.
    a. Louisville Big Four Bridge (pedestrian only) https://louisvillewaterfront.com/explore-the-park/features/big-4-bridge/
    b. Walkway over the Hudson (pedestrian only) https://hikethehudsonvalley.com/hikes/walkway-over-the-hudson/
    c. Walnut Street Pedestrian Bridge, Chattanooga (pedestrian only) https://www.chattanoogafun.com/listing/walnut-street-pedestrian-bridge/2485/
    d. Big River Bridge, Memphis/West Memphis – UPRR bridge built for autos and trains; auto lanes converted to pedestrian path. http://www.bigrivercrossing.com/about/
    e. Steel Bridge, Portland, OR – double deck bridge (upper is autos and light rail; lower is train) lower deck pedestrian walkway added in 2001 adjacent to rail line. http://historicbridges.org/bridges/browser/?bridgebrowser=oregon/steelbridge/
    f. Appalachian Trail/CSX - Potomac River Bridge – Harper's Ferry, WV. Rail with adjacent walkway. https://bridgehunter.com/wv/jefferson/old-csx-railroad/
    g. Cherry Avenue Swing Bridge, Cook County, IL. Small bridge that allows both pedestrian and train use. https://bridgehunter.com/il/cook/cherry-avenue/
    h. Schuylkill River Bridge, Schuylkill and Berks counties, PA. Small rail bridge with adjacent pedestrian bridge for Appalachian trail. https://bridgehunter.com/pa/schuylkill/bh69097/
    i. New River bridge, Thurmond, WV. Rail bridge with adjacent auto bridge that accommodates pedestrians. Abandoned town and very limited rail traffic. https://bridgehunter.com/wv/fayette/10A126/
    j. Other Bridges - Historic Bridge Foundation

5. Input from municipalities

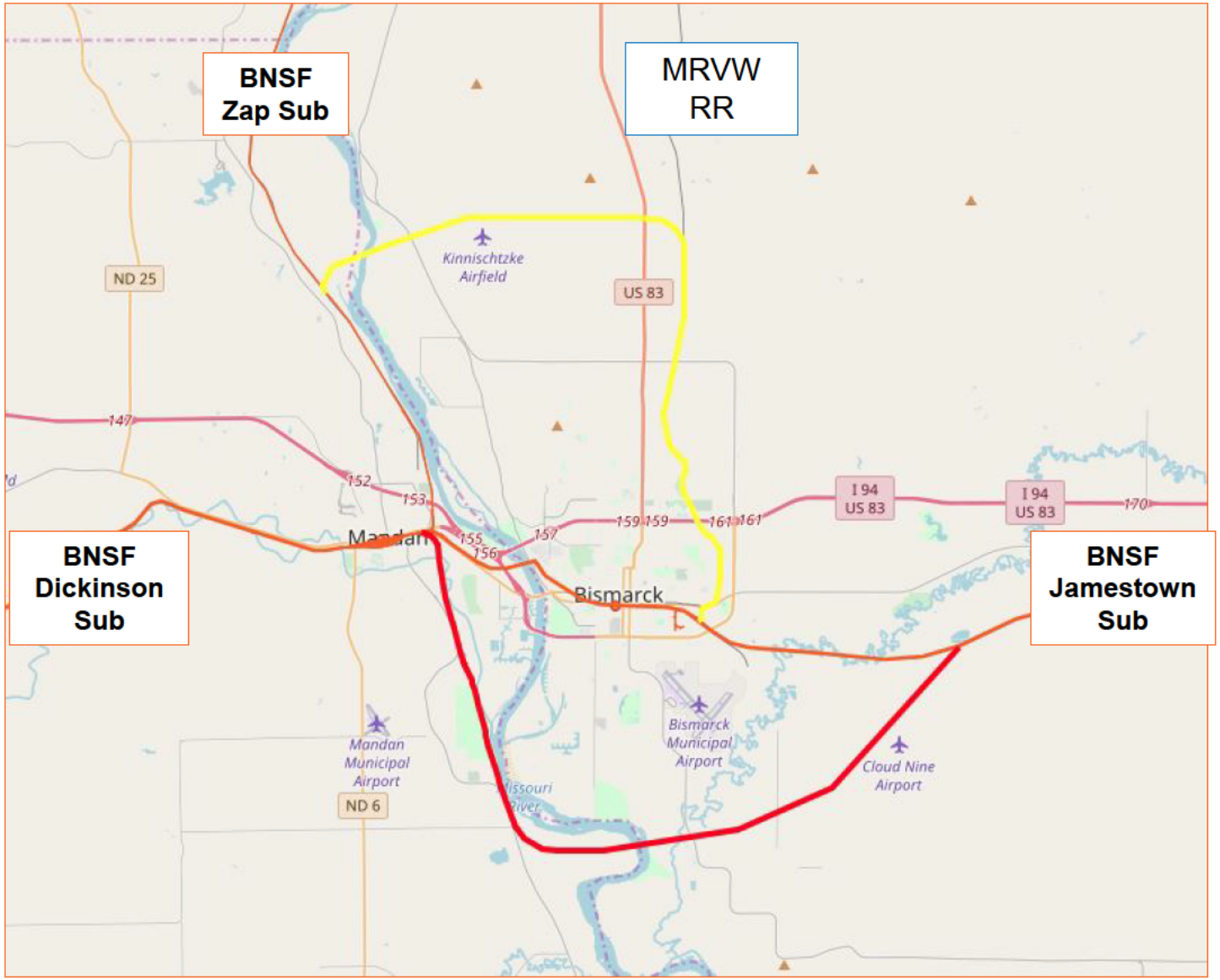
6. FORB asks: When will the EA be available for comment? Since there is a historic property involved, when will the Environmental Impact Study (EIS) process start?

Procedural Item: Formation of the agenda for each meeting. In the past we have discussed that a draft agenda should be circulated one week prior to the meeting (changes can always be made). How will USCG accomplish this?

Next Scheduled Meetings:

- August 1
- August 22
- September 12
- October 3
- October 24
- November 14
- December 5

Concept BNSF Bismarck Bypass



- North Route
  - Approx. 9 miles new track
    - Assume $6M/track mile
  - Approx. 16 miles track upgrades
    - Assume $2M/track mile
  - **$86M +** costs of Missouri crossing, Property Acquisition, other bridges, or lease/purchase of MRVW RR

- South Route
  - Approx. 18 miles new track
    - Assume $6M/track mile
  - West bank follows former Northern Pacific embankment
  - **$108M +** costs of Missouri crossing, Property Acquisition, and other bridges

NOTE: The routes identified and associated information are CONCEPTUAL in nature, and have not been engineered.

Other Bridges Converted to Pedestrian Use

Big Four Bridge, Louisville. photo credit: Thermographer, Aug 29, 2017, PhantomPilots.com

Other Bridges Converted to Pedestrian Use

- The Big Four® Bridge links Louisville Waterfront Park to Jeffersonville, Indiana over the Ohio River. Built as a railroad bridge in 1895, decommissioned in the 1960s, when the ramps to the bridge on both sides of the river were removed. Opened to the public in February 2013. Pedestrian only.
- Developed, operated, and maintained by the Waterfront Development Corporation (WDC) as part of Riverfront Park. WDC was created by an interlocal agreement between Jefferson County, City of Louisville, and Commonwealth of Kentucky to oversee redevelopment of Louisville's waterfront. WDC relies heavily on private and public donations to fund construction. Government funding supports day-to-day operations and park maintenance, and lease and event income helps defray some expenses. https://louisvillewaterfront.com/about-wdc/what-we-do/project-history/

Other Bridges Converted to Pedestrian Use

Walkway Over the Hudson © 2018 New York State Office of Parks, Recreation and Historic Preservation

Other Bridges Converted to Pedestrian Use

- Walkway Over the Hudson (1888), Poughkeepsie, NY. Pedestrian only. Opened 2009. Bridge deck is 212 feet above the river's surface and is 6,768 feet (1.28 miles) long. Rail abandoned after a fire on the bridge in 1974. Developed by a non-profit organization, Walkway Over the Hudson, in a public-private partnership involving the State of New York, the federal government, neighboring municipalities, private corporations, and other not for profit groups. Now Walkway Over the Hudson State Historic Park. https://parks.ny.gov/parks/178/

Other Bridges Converted to Pedestrian Use

Walnut Street Pedestrian Bridge – photo credit: Zack Johnston, Wikipedia, December 2, 2005

Other Bridges Converted to Pedestrian Use

- **Walnut Street Pedestrian Bridge (1891), Chattanooga, TN. Pedestrian only.** Highway automobile bridge. 2,376 feet long. Closed to motor vehicles in 1978; opened as ped bridge in 1993. Walnut Street Bridge fund was started by Chattanooga Venture, a community group, funded in part through USDOT demonstration grant to city. City Council paid for repaving in 2010. https://en.wikipedia.org/wiki/Walnut_Street_Bridge_(Chattanooga)

Other Bridges Converted to Pedestrian Use

Big River Bridge - Photo credit: *Copyright 2016, Big River Strategic Initiative, LLC*

Other Bridges Converted to Pedestrian Use

- Big River Bridge, Memphis/West Memphis (1916) – UPRR bridge built for wagons/autos and trains; auto lanes closed 1949, then converted to pedestrian path that opened October 22, 2016.
- These roadways are owned by the cities of Memphis, Tennessee and Crittenden County, Arkansas
- Approx 4,900 feet long
- Centerpiece of the Main Street to Main Street project, a 10-mile multi-modal corridor between Memphis, TN and West Memphis, AR, partially funded by TIGER grant
- Memphis was awarded a $14.9 million federal grant to build the walkway. The overall project was expected to cost $30 million, of which about $11 million was used for the Harahan Bridge portion
- Funded through public/private partnership, including City of Memphis, Tennessee; City of West Memphis, Arkansas; Crittenden County, Arkansas; Downtown Memphis Commission; Shelby County, Tennessee; St. Frances Levee Board; Tennessee Department of Transportation; USDOT.

http://www.bigrivercrossing.com/about/; https://en.wikipedia.org/wiki/Harahan_Bridge

Other Bridges Converted to Pedestrian Use

Steel Bridge - Photo credit: By Cacophony - Own work, CC BY 3.0, https://commons.wikimedia.org/w/index.php?curid=3576136

Other Bridges Converted to Pedestrian Use

- Steel Bridge, Portland, OR (1912) – double deck bridge (upper is autos and light rail; lower is train) lower deck pedestrian walkway added in 2001 adjacent to rail line.
- Pedestrian Esplanade Crossing - 220-foot long and 8-foot wide cantilevered walkway installed on southern side of lower deck as part of Eastbank Esplanade. Built by City of Portland, maintained by Portland Bureau of Transportation.
- Owned by UPRR, upper deck leased to Oregon Department of Transportation and subleased to TriMet; City of Portland is responsible for the approaches http://historicbridges.org/bridges/browser/?bridgebrowser=oregon/steelbridge/; https://en.wikipedia.org/wiki/Steel_Bridge

Other Bridges Converted to Pedestrian Use

Appalachian Trail/CSX - Potomac River Bridge - Photo credit: Zachary S, May 2012, on Bridgehunter.com - BH Photo #253552

Other Bridges Converted to Pedestrian Use

- Appalachian Trail/CSX - Potomac River Bridge (1894) – Harper's Ferry, WV. Rail with adjacent walkway added to carry Appalachian Trail. Part of a National Historic Park administered by NPS. https://bridgehunter.com/wv/jefferson/old-csx-railroad/

America's Rails-with-Trails

A Resource for Planners, Agencies and Advocates on Trails Along Active Railroad Corridors

rails-to-trails conservancy

About Rails-to-Trails Conservancy

Rails-to-Trails Conservancy (RTC) has helped develop more than 21,000 miles of rail-trail throughout the country and provide technical assistance for thousands of miles of potential rail-trails waiting to be built. Serving as the national voice for more than 100,000 members and supporters, RTC has supported the tremendous growth and development of rail-trails since opening our doors on February 1, 1986, and remains dedicated to the creation of a nationwide network of trails and connecting corridors. RTC is committed to enhancing the health of America's environment, transportation, economy, neighborhoods and people—ensuring a better future made possible by trails and the connections they inspire.

Orange Heritage Trail, N.Y. (Boyd Loving)

Acknowledgements

September 2013

Report produced by Rails-to-Trails Conservancy

LEAD AUTHORS:

Kelly Pack, Director of Trail Development

Pat Tomes, Program Manager, Northeast Regional Office

CONTRIBUTORS:

Barry Bergman

Patrick Donaldson

Andrea Ferster, Esq.

Eli Griffen

Tracy Hadden-Loh, PhD

Carl Knoch

Yee Ting Lee

Eric Oberg

Tom Sexton

Cover photo: D & L Trail, Pa. (Peter Treiber)

The team wishes to recognize and thank RTC staff who contributed to the accuracy and utility of this report: Barbara Richey, graphic designer, Jake Lynch, editor, and Tim Rosner, GIS specialist.

The team is also grateful for the support of other RTC staff and interns who assisted with research and report production:

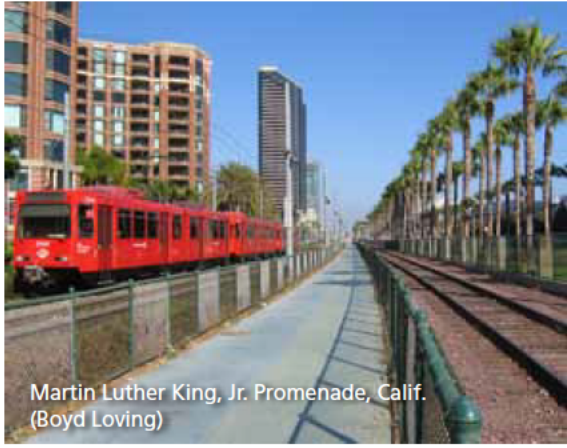
Priscilla Bocskor, Jim Brown, Jesse Cohn, Erin Finucane, Eileen Miller, Sophia Kuo Tiong, Juliana Villabona, and Mike Vos

RTC extends its gratitude to the trail managers and experts who shared their knowledge to strengthen this report. A complete list of interview and survey participants is included in the Appendix, which is available online at www.railstotrails.org/railwithtrail.

RTC and trail planners and advocates across the country are very appreciative of the support of Pennsylvania Department of Conservation and Natural Resources and share its vision to increase and improve trail development in Pennsylvania and across the United States.

While this report provides information about legal and design issues relating to rails-with-trails and describes how the trails surveyed in this report addressed these issues, this report is not intended to provide specific legal or design advice or guidance. Each trail project should be viewed in its unique context, as the legal and design issues vary depending on the jurisdiction and the unique facts of each situation.

Lance Armstrong Bikeway, Texas (Rails-to-Trails Conservancy)



Martin Luther King, Jr. Promenade, Calif. (Boyd Loving)

Cardinal Greenway, Ind. (RTC)

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rails-to-trails conservancy

DCNR

This report was made possible by the generous support of the Pennsylvania Department of Conservation and Natural Resources' (DCNR) Environmental Stewardship Fund, administered by the Bureau of Recreation and Conservation, and a donation by the George Robert Smith Trust.

Visit the report online and share your rail-with-trail experience at www.railstotrails.org/railwithtrail

Schuylkill River Trail, Pa. (Lane Fike, Director of Capital Projects for SRDC)

EXECUTIVE SUMMARY

Rails-with-trails, which are trails located adjacent to active rail lines, are valuable assets in providing safe transportation networks for pedestrians and bicyclists. This report examines the characteristics of 88 existing rails-with-trails in 33 states, based on a survey of trail managers and the results of RTC's ongoing study. It provides a collection of data, examples and practical tools to assist trail planners and advocates in increasing awareness of the rail-with-trail concept, and advancing local and state policies and practices that support rail-with-trail development.

Rails-to-Trails Conservancy (RTC) produced this report to provide updated information on national rail-with-trail trends. A continuation of RTC's efforts to equip trail managers and advocates with resources to promote and develop rails-with-trails, this report enhances our rail-with-trail studies published in 1993, 1996 and 2000, and complements a report produced by the United States Department of Transportation (USDOT) in 2002, *Rails-with-Trails: Lessons Learned*.

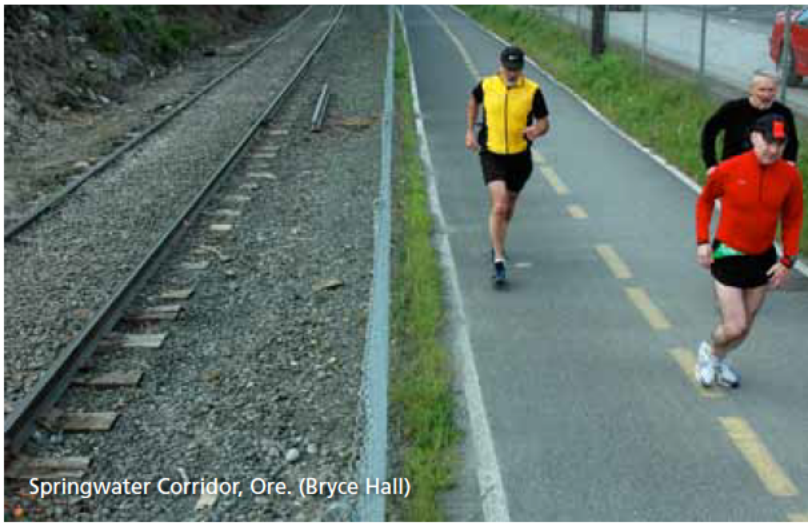
Our key findings are that rails-with-trails are safe, common and increasing in number.

Growth

RTC has identified 161 rails-with-trails in 41 states, a significant increase from our 2000 report, *Rails-with-Trails: Design, Management and Operating Characteristics of 61 Trails Along Active Rail Lines*, which identified 61 rails-with-trails in 20 states. California has the most rails-with-trails (33), of which 22 are included in this study. Another 60 rail-with-trail projects across the country are currently in various stages of development.

Safety

Significantly, our research found only one record of a fatality involving a rail-with-trail user and a train, and just two reports of injury, in the 20-year period of our study of the subject. Given the frequency of injuries and fatalities on railroads outside the context of rail-with-trail, this suggests that providing a well-designed pathway dedicated for cyclists and pedestrians provides a safe travel alternative and reduces the incentive to trespass or use the tracks as a shortcut. Such pathways often include some form of barrier between the trail and the active railway, and carefully-planned intersections if the trail crosses the tracks.


Springwater Corridor, Ore. (Bryce Hall)

The findings of this report demonstrate the excellent safety record of rails-with-trails. The report also provides guidance for future development through the examples of a diverse range of communities which have constructed, and are managing, rails-with-trails. Eleven case studies from rails-with-trails around the country are included in the report.

Dual Benefits

Constructing a trail along an active railroad multiplies the value a community derives from the rail corridor and provides citizens with transportation options. There is a growing trend of rail-with-trail development alongside local and regional transit corridors, such as the popular M-Path in Miami, Fla., the extensive BeltLine system being developed in Atlanta, Ga., and the new West Rail Line and trail in Denver, Colo. Fifteen percent of the active rails-with-trails identified in this study are located adjacent to mass transit corridors.

Range of Designs

Rail-with-trail designs vary widely, depending on factors such as their proximity to trains, the frequency and speed of rail service, and the presence of at-grade crossings. A majority of rails-with-trails in this report have segments of trail that are within 30 feet of active railroad tracks. More than 80 percent of respondents to our survey reported that their trail included a barrier (fence, vegetation or grade separation, for example) between the trail and tracks. These characteristics are similar to the rails-with-trails analyzed in RTC's 2000 report.

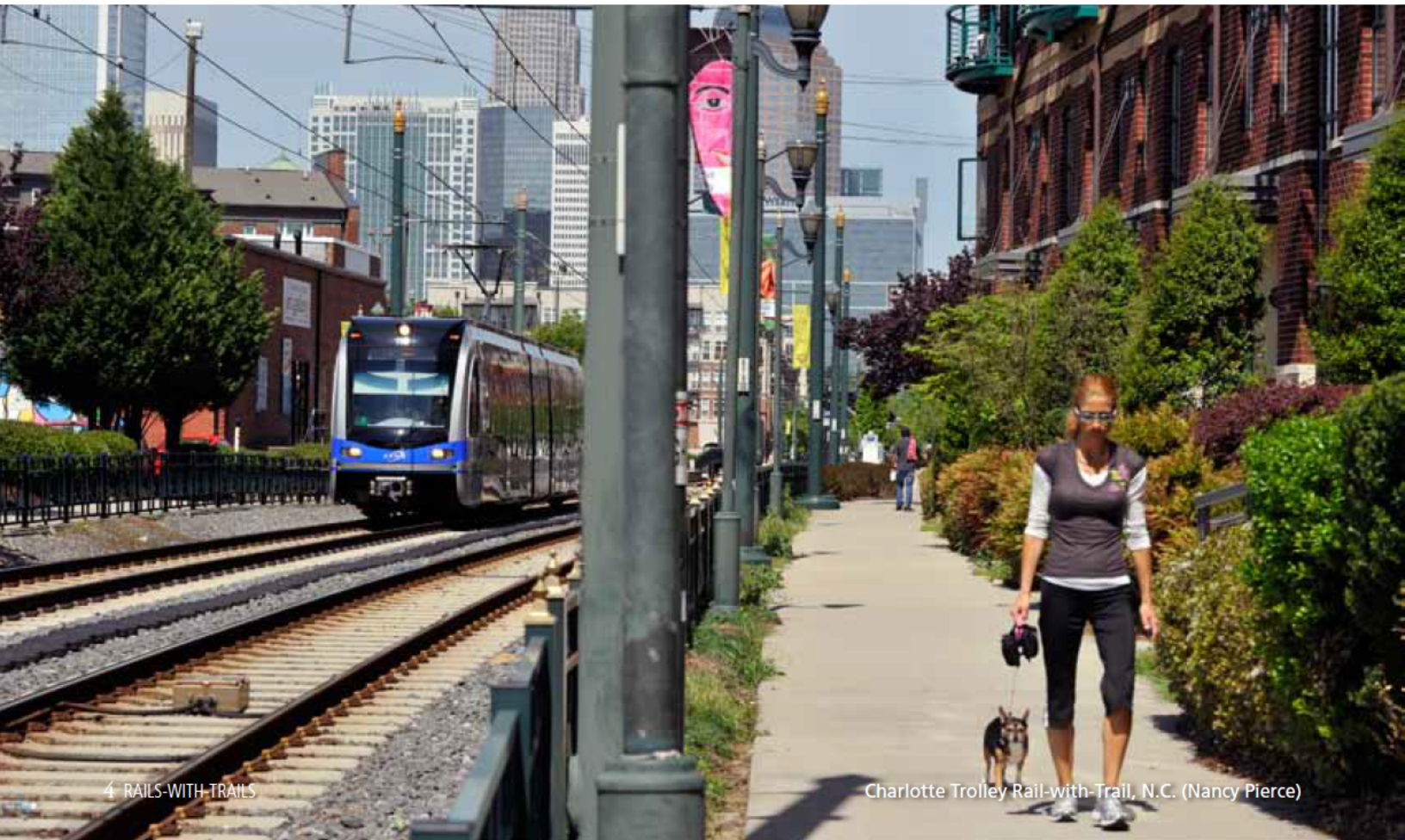
Railroads

Of the rails-with-trails surveyed, 28 percent are located adjacent to rail corridors owned by Class I railroads (see p.17 for railroad classifications). Class I railroads continue to express formal opposition to the concept of trail development within or adjacent to their corridors. However, numerous smaller private railroad companies and public rail authorities have reached agreements with trail managers on rail-with-trail development that have satisfactorily addressed any concerns about risk and liability. The majority (51 percent) of rail-with-trail project managers interviewed for this study indicated that the railroads were not opposed to trail development, and 44 percent of trail managers described the current attitude of the railroad as positive (i.e., cooperative, supportive or favorable).

Liability/Risk Management

The vast majority of the rails-with-trails included in this report are insured by an existing local umbrella policy, similar to most rail-trails and greenways. A substantial proportion of the trail managers surveyed responded that no indemnification was required by the railroad or was included in the easement or license agreement. Slightly fewer trail managers reported that indemnification was required. Recent amendments to the Recreational Use Statutes (RUS) (which provide exemption from liability for private landowners allowing public recreational use of their land) of Virginia and Maine are notable state legislative efforts to encourage rail-with-trail development. Significantly, in the only known case of a trail user struck and killed by a train while on a rail-with-trail, the court found neither the trail manager nor the railroad liable due to the protections provided by the state's RUS. Responses to this study indicated that there were no successful claims made against the railroad or trail manager due to train- and trail-related incidents.

Rails-with-trails continue to demonstrate a strong safety record. Their increasing adoption has resulted in more opportunities to provide safe and intentional alternatives to trespassing on tracks. Rails-with-trails have become a common part of the American trails landscape, representing nearly 10 percent of rail-trails, and the number is growing rapidly across the country. Americans increasingly demand that trails connect to form systems and that they be given balanced transportation options that include safe and healthy places to walk and ride. Taking full advantage of corridors to facilitate both rail and active transportation, as rails-with-trails do, is a smart and efficient step in that direction.



Charlotte Trolley Rail-with-Trail, N.C. (Nancy Pierce)

Santa Fe Rail Trail, N.M. (Scott J. Bolanger)

When RTC began its work in 1986, there were fewer than 200 known rail-trails in the United States. Since then, development of trails within former railroad corridors has increased across the country. Today, more than 1,800 rail-trails exist, spread across all 50 states and totaling more than 21,000 miles. As more communities experience the economic, health, environmental and historic benefits that trails offer, the demand for rail-trails and other types of shared use paths continues to rise. While demand for trails is increasing, finding uninterrupted and available corridors for trail development can be difficult. Placing trails alongside active railroad corridors is becoming a resourceful and more common method of securing land for safe, accessible and effective trail development.

Rails-with-trails are shared use paths that are located within or immediately adjacent to active railroad rights-of-way. The legal right-of-way for one width of railroad track can be as narrow as the track itself or as wide as a football field, and may not be readily apparent based on visual observation alone. Although rail-with-trail development has increased in the past 20 years, communities considering these facilities as part of their bicycle and pedestrian systems are still faced with many of the same challenges that trail managers have contended with for a long time. Trail builders and advocates need to be equipped with risk management tools and compelling examples of successful rails-with-trails to help assuage concerns about safety and liability often expressed by the railroad. In response to this continued need, and in recognition of the growing popularity of rails-with-trails, this report provides a range of resources to help inform and support rail-with-trail development efforts in a variety of contexts.

Background and Methodology

This report analyzes 88 rails-with-trails and improves upon the findings presented in RTC's 2000 report by requiring that all trails included in the study be within or directly adjacent to railroad corridors that currently host *active service*. Some of the trails examined in earlier studies were within or alongside railroad corridors that did not have active rail service, but were considered "active" because they were not officially abandoned through the Surface Transportation Board.[1]

Safety and liability issues around potential interactions between trains and trail users is often the primary concern of railroads and communities considering rail-with-trail development. To address these concerns and demonstrate the safety record of rails-with-trails, this report presents findings from an extensive survey of 88 rail-with-trail managers, a review of related literature, an analysis of Federal Railroad Administration (FRA) data on fatalities that have occurred on railroad corridors, and case studies. The USDOT publication, *Rails-with-Trails: Lessons Learned*, remains the most comprehensive and authoritative resource for rail-with-trail development. Findings from this report serve as a complement to *Lessons Learned* and RTC's previous rail-with-trail studies by providing updated information and new resources for trail managers and advocates interested in rail-with-trail development and confronted by its unique challenges.

In 2012, RTC contacted more than 100 trail managers to request their participation in this study. Some trail managers completed an online survey and others provided response via telephone interviews conducted by RTC staff between February and April, 2013. Survey and interview findings included responses from 76 trail managers in addition to 12 trail managers who participated in a 2009 study produced by RTC's Western Region Office, *California Rails-with-Trails: A Survey of Trails Along Active Rail Lines.*[2] Survey questions were developed using a combination of questions from RTC's 2000 study, the 2009 California rail-with-trail study, and from RTC staff. Several open ended questions allowed participants to provide more detail about their relationship with the railroad, challenges they faced, and successful strategies for acquisition, design and construction. Report findings were reflective of the experience of trail developers and advocates; the authors and interviewers had little direct contact with the railroad industry. These findings are summarized in Section IV, and detailed survey responses are available online.

There exists no comprehensive database of incidents or fatalities on rails-with-trails. In researching fatality data for this report, RTC completed thorough searches of news and legal reports using Lexis and Westlaw research systems, mined existing FRA data, conducted interviews with trail managers across the country, and drew upon information compiled by more than 20 years of extensive involvement with trail projects and trail managers in every state.

Using this Report

Designed to assist trail planners, advocates and managers, this report intends to present the experience of rail-with-trail managers and provide applicable tools to help answer questions such as:

- Are rails-with-trails safe?
- Will a rail-with-trail work in our community?
- How do we design our rail-with-trail to make it safe and accessible?
- How can we work cooperatively with the railroad company?
- How do we address liability issues?
- What can we learn from the experience of other rails-with-trails?

This report can also be used to make the case for rail-with-trail development to elected officials, representatives of state and local transportation and planning departments, railroad companies, consultants, and anyone interested in the rail-with-trail concept.

Additional online resources are available at www.railstotrails.org/railwithtrail. RTC will continue to monitor online resources and correspond with trail managers to provide updated rails-with-trails data and information, including accident and fatality data. Contact railtrails@railstotrails.org to share your rail-with-trail experience.

Growth of Rails-with-Trails

The growth and popularity of rails-with-trails is similar to the growth of traditional rail-trails. There are currently more than 1,800 rail-trails in the U.S., totalling more than 21,000 miles. RTC's trails database indicates there are as many as 161 rails-with-trails in 41 states, representing approximately 9 percent of the total number of rail-trails in the country.[3] RTC reports of 1996 and 2000 analyzed 37 and 61 rails-with-trails, respectively. This report examines the characteristics of 88 rails-with-trails that are along active railroad corridors hosting regular rail service. For a complete list of trails included in this report and a list of other known rails-with-trails in the U.S., see Appendices.

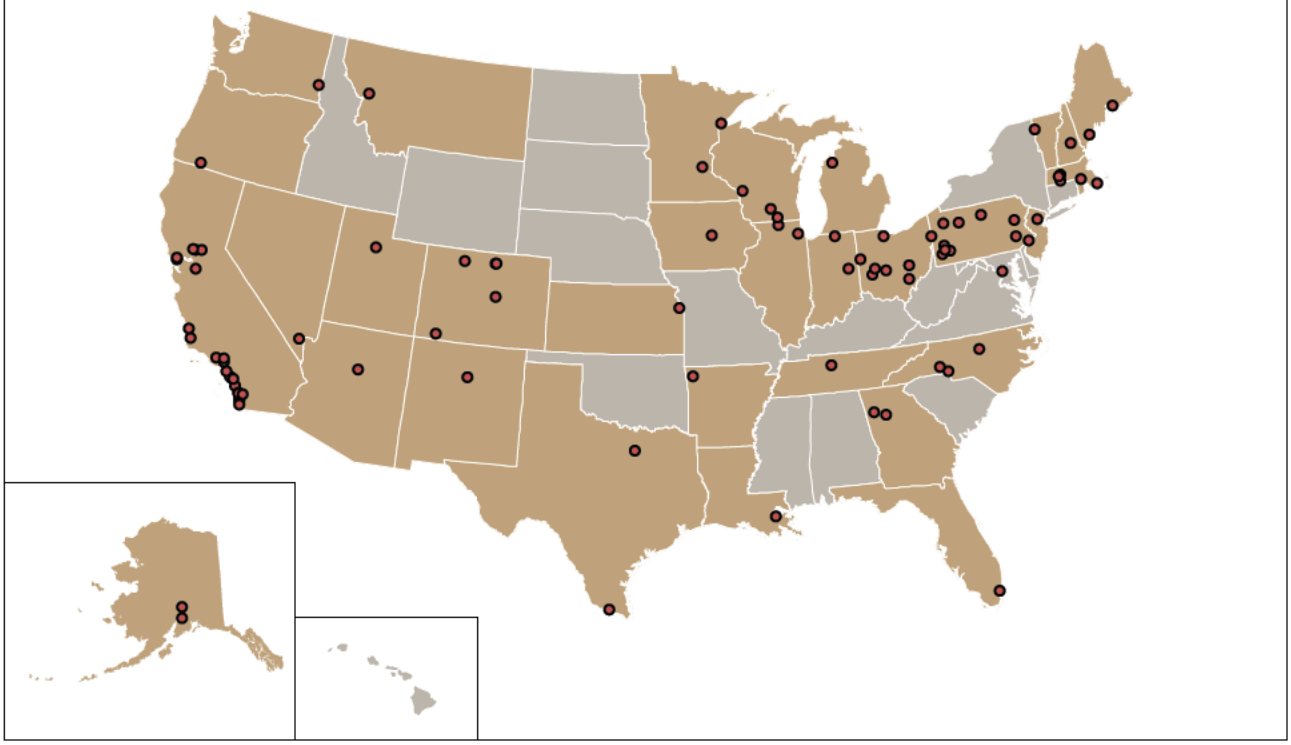
At least 60 more rails-with-trails are known to currently be in various stages of development. Select rail-with-trail projects are highlighted in Case Studies, Section V.

The total mileage of rails-with-trails has also increased over the past decade. The total mileage of trails located completely or partially along active railroad corridors is 1,397 miles, up from 523 miles in 2000. Not all rails-with-trails run along or within active rail lines for their entire length. Of the 820 total miles of trail inventoried in this study, 321 miles (39 percent) are adjacent to active railroad corridors. A majority (63 percent) of the 88 trails examined have more than half of their length along active railroads, with the range of "rail-with-trail length" varying between 0.07–22 miles.

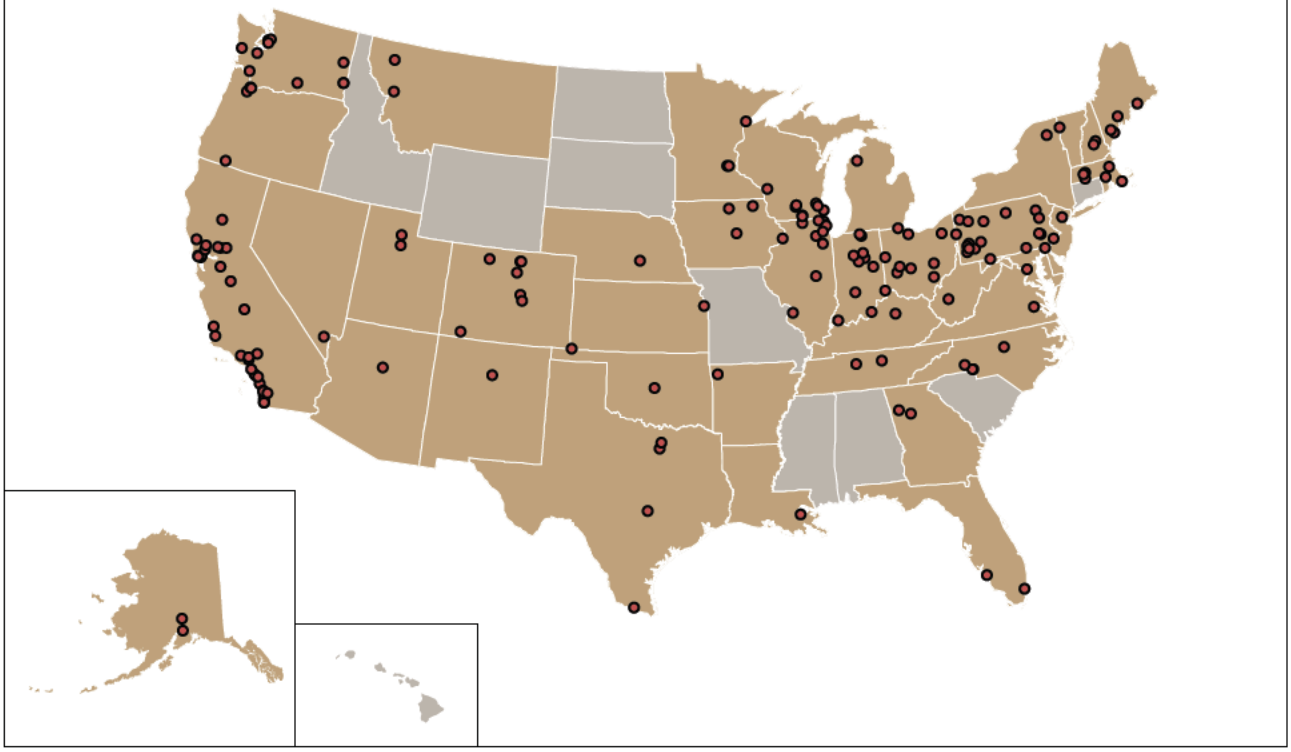
Rails-with-Trails in the United States

Date	Total Trail Length (in miles)	Percent parallel to active rail line (miles)	# of states with rails-with-trails
1996	299	51%	N/A
2000	523	46%	20
2013 (88 trails)	820	39%	33
2013 total	1,397	39%	41

Rail-with-Trail Locations Represented in the Report



Rail-with-Trail Locations Country-wide



For a complete list of trails included in this report and a list of other known rails-with-trails in the U.S., see Appendix.

America's Rails-with-Trails

San Clemente Beach Trail, Calif. (Rails-to-Trails Conservancy)

Rail-with-Trail Studies

The most comprehensive resource on rail-with-trail development is *Rails-with-Trails: Lessons Learned*, prepared by Alta Planning and Design for the USDOT in 2002; it remains the most definitive resource on rails-with-trails with regard to the trail development process, design and operation. Drawing from research of 21 rails-with-trails (16 existing and 5 planned, at the time of publication) and including findings from RTC's *Rails-with-Trails: Design, Management and Operating Characteristics of 61 Trails Along Active Rail Lines* (2000), *Rails-with-Trails: Lessons Learned* highlights design best practices and provides information pertaining to the process of rail-with-trail development and operational aspects (e.g., acquisition, stakeholder involvement, maintenance, railroad safety education and outreach, etc.).

Currently there are no national standards or guidelines prescribed to the design and development of rails-with-trails. Trail planners must reference a combination of standards for shared use paths, pedestrian facilities, railroad facilities and roadway crossings of railroad rights-of-way. *Rails-with-Trails: Lessons Learned* continues to be referenced in state and local trail guidelines and in individual trail master plans, and should be consulted with other national standards on bicycle/pedestrian facilities and railroad crossings and design elements to achieve safe, accessible rail-with-trail development. Many rail-with-trail projects necessitate that trail planners work cooperatively with the adjacent railroad to ensure the trail also reflects standards set by the railroad and its regulatory bodies. The challenge of rail-with-trail design is to meet the operational needs of the railroad while enhancing the experience of trail users.

Since the publication of *Rails-with-Trails: Lessons Learned*, state and local transportation departments have included reference of rails-with-trails in their design guidance documents. Several documents from California provide useful examples of how public agencies can create or incorporate rail-with-trail guidance for policy and procedure manuals. California's North Coast Railroad Authority (NCRA) created and adopted a Policy and Procedures Manual in 2009 to "provide uniform and consistent standards on NCRA's rights-of-way for the design, construction, safety, operations and maintenance of Rails-with-Trails Projects." This direction requires compliance with current standards set by the California Department of Transportation (Caltrans), railroad operators, USDOT's *Manual on Uniform Traffic Control Devices* (MUTCD), and other applicable agencies and authorities.[4] The NCRA manual also suggests consulting *Rails-with-Trails: Lessons Learned* and the *Guide for the Development of Bicycle Facilities*, prepared by the American Association of State Highway and Transportation Officials (AASHTO). Similarly, the Southern California Regional Rail Authority (SCRRA) adopted rail-with-trail design guidelines in 2010.[5] At the state level, Caltrans includes a section on rails-with-trails in their 2005 guidance document, *Pedestrian and Bicycle Facilities in California: A Technical Reference and Technology Transfer Synthesis for Caltrans Planners and Engineers*,[6] and rail-with-trail design is addressed in *Trail Planning for California Communities*,[7] a reference for trail planners in state, regional and local agencies.

A recent study by the Illinois Center for Transportation, *Pedestrian/Bicyclist Warning Devices and Signs at Highway-Rail and Pathway-Rail Grade Crossings* (2013),[8] adds to the growing body of knowledge related to rail-with-trail guidance and best

The American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities* (4th edition, 2012) provides guidance for "Railroad Grade Crossings" in section 4.12.1, addressing crossing angle, surfaces, bikeway width and flange opening.

The 2009 edition of the *Manual on Uniform Traffic Control Devices* (MUTCD) includes guidance for shared use pathways that cross railroad corridors at grade. See Chapter 8D. Pathway Grade Crossings.

practices. The study investigates best practices for "providing effective warnings to non-motorized users of highway-rail and pathways-rail grade crossings." Through discussion with experts, conducting surveys with non-motorized users, and direct observation of non-motorized user behavior, the study presents several recommendations that should be considered by trail planners designing rail-with-trail facilities with at-grade crossings. These include more "active" signage at pedestrian-rail crossings, and increased education and enforcement campaigns to demonstrate when and where it is legal to cross railroad corridors.

Feasibility Studies

Rail-with-trail feasibility studies and master plans provide a glimpse into the trail development process, often presenting a useful framework and successful strategies specific to the challenges of rail-with-trail planning. These studies may demonstrate how trail planners and advocates can engage the railroad company and other stakeholders, utilize design guidance, and use different methods to gain support and secure funding. Brief summaries of three feasibility studies are provided below, and additional examples are included in the online resource section of our website: www.railstotrails.org/railwithtrail.

Capital Metro Rail-with-Trail Feasibility Study[9]
Austin, Texas, 2007

Conducted by the Capital Metropolitan Transportation Authority, this study developed a long-range plan offering guidelines for trail design improvements, determining bike and pedestrian trail alignments, and evaluating existing and future implementation of roadway crossings, trailheads, amenities, safety and security options. It also specifically addressed trail setbacks and separation from active rail. Capital Metro assessed 11 potential trail segment projects and determined prioritization for development based on technical feasibility, cost and funding opportunities. The study also focused on gathering input from Capital Metro staff and a broad group of stakeholders, including trail users and various state and local government representatives.

Chelatchie Prairie Rail-with-Trail Corridor Study[10]
Clark County, Wash., 2008

The Chelatchie Prairie Railroad is located in Clark County, Wash., and is 33 miles in length. The trail corridor study was conducted by Alta Planning and Design with an expectation of defining overall goals, guidelines and approaches towards developing a regional, multi-modal rail and trail system along the corridor. The study evaluated existing conditions, technical analysis of trail standards and design options, and emphasized the public engagement of adjacent landowners, agency stakeholders and interested citizens during five open houses. The design guidelines included specific recommendations for trail and rail setbacks, separation and crossings. This study is unique because of its inclusion of a separate equestrian trail facility within the right-of-way. Construction on the first one-mile section began in May 2011 and was completed in December 2011.

Merrymeeting Trail Feasibility Study[11]
Midcoast Council of Governments, Maine, 2011

The development of a multi-use regional trail system in southern Maine was a joint effort of the cities of Gardiner, Richmond, Bowdoinham and Topsham, to support recreational activities, promote healthy living, encourage tourism and improve quality of life. The Merrymeeting Trail Feasibility Study, contracted by the Midcoast Council of Governments and conducted by Vanasse, Hangen, Brustlin, Inc. (VHB), evaluated the development of a 25-mile rail-with-trail system along a Maine Department of Transportation-owned rail corridor. This trail was determined to become a "Maine Trail of Significance" due to its length, connection of population centers and service to multiple communities. Of specific interest is the study's Assessment of Probable Costs and evaluation of alternative routes for the trail system that would bypass the most expensive and challenging aspects of trail development. Various alternatives were determined, and if implemented would result in a cost reduction of $22 million.

Railroad Policies

Although rails-with-trails have increased across the country and continue to operate safely and cooperatively with a wide range of railroad companies and agencies, some trail managers report that railroads have become more apprehensive about trail development within their rights-of-way. Some trail managers reported that Class I railroads, in particular, have become more difficult to negotiate with over the past decade, despite the precedent of safe rails-with-trails within almost all Class I railroad systems.[12] Since *Rails-with-Trails: Lessons Learned* was published, railroad companies including CSX,[13] BNSF and Union Pacific[14] have released public policy or guidance documents that explicitly discourage rail-with-trail development in their corridors. However, some trail managers indicated that these railroad companies have agreed to corridor access for trail development under specific circumstances.

There are recent examples of public rail authorities or transportation agencies that openly support rail-with-trail development as a matter of policy. These authorities have created design guidance that addresses rail-with-trail elements like setbacks and fencing, or have implemented agency-wide recommendations to improve safety at pedestrian-rail crossings. As of 2013, the Massachusetts Department of Transportation (MassDOT)[15] has adopted a policy to "permit the construction of shared-use paths along active or planned railroad rights-of-way provided appropriate fencing separates the two uses." Previously MassDOT considered rail-with-trail development within their rights-of-way on a case-by-case basis; this new policy demonstrates the agency's commitment to developing multi-modal transportation facilities. In Pennsylvania, the Susquehanna Economic Development Association-Council of Governments (SEDA-COG) Joint Rail Authority adopted a policy in 2001 to address rail-with-trail standards for setback and fencing. Although SEDA-COG is generally opposed to rail-with-trail development, they will consider projects on a case-by-case basis if design standards can be met (i.e., setback and fencing requirements, no new at grade crossings permitted). In 2012, the New Jersey Department of Transportation (NJDOT) and New Jersey Transit Corporation (NJ TRANSIT) adopted a "Short Term Action Plan" that addressed pedestrian safety along railroad corridors in recognition of the consistent number of pedestrian fatalities occurring along NJ TRANSIT corridors and crossings. Notable recommended actions included creation of a pilot program to enhance engineering safety treatments at grade crossings, expanding resources for existing rail safety diagnostics, and additional consideration of Safe Routes to School (SRTS) grant applications near rail crossings and rail lines. These types of state and regional policies and actions provide models for other public agencies that are considering ways to encourage safe and accessible rail-with-trail development.

Schuylkill River Trail, Pa. (Boyd Loving)

Railroad Fatality Data

According to data collected by the FRA Office of Safety Analysis,[16] there have been between 667 and 1,516 fatalities on railroad corridors each year since 1975, including 704 in 2012. These numbers include people who cross tracks by foot or in vehicles, some of whom are intoxicated or suicidal, as well as those who use tracks to walk to a destination.

However, out of the tens of thousands of fatalities that have occurred on railroad corridors since we began our study in 1992, as of September 2013, we have learned of only one involving a trail user on a rail-with-trail. This data suggests that well-designed rail-with-trail facilities can reduce fatalities by providing safer ways to traverse the corridor, and to cross tracks where necessary.

This above-mentioned fatality involving a rail-with-trail facility occurred on the South Bay Trail in Bellingham, Wash. In this instance, the cyclist did not slow or attempt to stop at a 90-degree track crossing, which included a railroad warning sign, a 'cross-buck' symbolic sign, and a stop sign.[22] While a lawsuit was filed against the railroad and the trail manager, neither was found to be liable, and the court specifically noted that the trail crossing had in fact improved safety for pedestrians and cyclists.

Although management of the South Bay Trail did not take part in RTC's trail manager survey for this report, due to the singular relevance of this fatality RTC staff researched legal and media reports of the incident to present a clear understanding of what occurred.

More information about the liability findings of that case is included in the Liability section on the following page.

That our research found only one fatality on a rail-with-trail over a 20-year period testifies to the safety benefit of well-designed bike and pedestrian pathways to guide the movement of people alongside and across rail corridors.

Gross figures on the number of railroad fatalities are best understood in the context of the baseline level of risk—the amount of train movement. The table opposite presents rail deaths (both trespasser and non-trespasser) per 100 million miles of train travel for the last 15 years.

Rail deaths per 100 million miles of train travel declined approximately 20 percent in the last 15 years, and have fallen significantly from the peak of 1,516 in 1976. The trend may suggest that interventions like rail-with-trail accommodations and improved crossing infrastructure are having a positive safety impact.

Rails-with-trails have an exemplary safety record, with only one trail user fatality recorded since 1992.

The contribution of rails-with-trails in making rail corridors safer places for people to travel along or across has particular relevance to the need to provide more equitable transportation options. Many transportation investments have historically created barriers to some neighborhoods being able to access employment centers, services and other destinations. Rail-with-trail presents a unique solution to the challenge of keeping people safe while also making optimal use of railroad corridors to accommodate the mobility needs of all residents. Squeezing maximal utility out of limited space is especially pressing in congested urban areas.

Year	Rail Deaths per 100 Million Miles of Train Travel
1998	142.04
1999	122.82
2000	125.19
2001	132.39
2002	125.30
2003	112.60
2004	111.54
2005	106.21
2006	107.92
2007	103.83
2008	96.76
2009	100.76
2010	100.74
2011	92.91
2012	113.35

Legal Issues: Liability

While trails located alongside active rail lines have not proven to be any less safe or to result in greater injuries to trail users than other off-road bike facilities, the perception nonetheless exists that rails-with-trails projects could increase the legal liability of the trail manager, the railroad, or both. In the context of rail-with-trail, "liability" refers to the responsibility of a trail manager or railroad to compensate or otherwise make whole a person who is harmed through some fault of the trail manager or railroad.

Building a trail along an active railroad does not, in itself, expose the trail manager to liability. Adherence to generally accepted design standards and/or best practices in designing the trail will generally protect the trail manager from a finding of negligent design. Instead, trail manager and railroad liability is governed by general legal principles defining the legal responsibilities of owners and occupiers of land ("land managers") to persons who enter their property. In other words, rails-with trails are no more likely to expose landowners to legal liability than stand-alone trails.

Under general concepts of liability, a landowner's liability depends on whether the injured party has the status of a customer or client ("invitee"), an invited guest ("licensee") or trespasser. Each of these classes of persons entering the property is owed a different duty of care. Trespassers are owed the lowest duty of care and pose the lowest level of liability risk. The trail manager can only be held liable to a trespasser for actions that are either intended to cause harm to trespassers or are taken with reckless disregard for the consequences.

A few states have passed laws requiring railroad companies to fence their rights-of-way in various contexts. Some of these statutes impose liability on the railroad for any injury to cattle and livestock injured by the failure to fence, unless the fences would have interfered with railroad operations.

The most important legal protections available to trails, including rails-with-trails, are the Recreational Use Statutes (RUS) enacted in some form by all 50 states. These statutes typically limit the liability of landowners and managers who invite the public onto their land for recreational uses and do not charge a fee. Where a RUS is applicable, the trail manager will not be held liable for any injuries sustained by trail users unless the trail manager intentionally harmed the trail user or was grossly negligent.

Maine amended its RUS specifically to include "railroad property, railroad rights-of-way and utility corridors to which public access is permitted" in the definition of "premises" that are subject to RUS protections.[18] Virginia amended its RUS in 2010 to also define "premises" as including railroad property and to extend protection to nonprofit and tax exempt charitable organizations.[19]

It is important to check the specific language of a state's RUS to determine its applicability. In virtually all states, the statute is inapplicable if a fee is charged for access to the land. Under most state RUS, lessees and occupants, in addition to landowners, are entitled to the limited liability benefits of the statute. For example, Alaska's and Pennsylvania's RUS apply only to "unimproved" and "undeveloped" lands, respectively.[20] This has raised issues of what improvements to a trail would prevent it from being considered "undeveloped land."[21] However, Pennsylvania has also enacted a specific limitation on liability for "an owner or lessee who provides the public with land for use as a trail under this act or who owns land adjoining any trail developed under this act."

In some states, the RUS only applies to private landowners; governmental landowners are excluded. In these states, governmental land owners are liable only to the extent that state law limits their sovereign immunity from suit. Visit RTC's website for a complete list of state RUS: www.railstotrails.org/railwithtrail.

While the application of a RUS varies depending on the wording of the statute and the facts of the case, one court recently held that both the trail manager and the railroad were immune from liability under the RUS where a cyclist was struck and killed by a train while within a designated trail crossing of the railroad tracks. The court specifically noted that the trail crossing had been created for the purpose of improving safety for pedestrians and bicyclists who had previously been crossing the tracks in an unsafe manner "at random locations."[22]

In addition to RUS, some states have enacted general statutes immunizing railroads from liability from injury to trespassers. For example, as noted above, Pennsylvania has enacted a statute providing that "[a] railroad carrier owes no duty of care to keep its railroad property safe for entry or use by any trespasser who enters upon any railroad property or railroad right-of-way or to give any warning to such trespasser entering or going on that railroad property of a dangerous condition, use or activity thereon."[23] The FRA has developed model legislation that penalizes persons who trespass on railroad property in order to engage in recreational activities such as bicycling and walking.[24]

Springwater Corridor, Ore. (Bryce Hall)

Notwithstanding these strong legal defenses to liability, some rail companies remain concerned about the time and expense that may be involved in defending against even a non-meritorious personal injury lawsuit. To address these concerns, California has enacted a statute allowing an owner who permits the public to use property pursuant to an agreement with a public or nonprofit agency for purposes of recreational trail use, and who ultimately prevails in a civil action brought by or on behalf of a person injured or harmed on the property, to apply for reimbursement for reasonable attorney's fees from the California Victim Compensation and Government Claims Board.[25]

In addition, there are a variety of voluntary arrangements by which railroads and other landowners can shift liability to other parties. Insurance is the most common form, in which an insurance carrier is "subrogated" to the obligations and defenses of the responsible party and defends against claims and also pays out any amounts ultimately owed to the claimant.

Trail managers can also contractually assume legal responsibility through an indemnification agreement. In an indemnification agreement, a trail manager or other third party agrees to hold the railroad harmless (i.e. compensate or make the railroad whole) for any loss or damage that may be incurred in connection with the trail use, including the railroad's reasonable attorney's fees and costs. The trail manager may also be required to assume responsibility for the railroad's defense in any legal action in which the railroad is named as a responsible party.

Public agencies may be more limited in their ability to enter into indemnification agreements than private trail managers. For example, a governmental entity may be barred by its state constitution from imprudently assuming the liability of another entity.[26] Other states have, by statute, specifically granted agencies indemnification authority.[27] The extent to which government agencies possess the authority to enter into reasonable indemnification agreements depends on the law in that state.

Finally, risk management strategies can help minimize the possibility of injury to trail users and thereby reduce the trail manager's exposure to being sued in the first place. Risk management techniques include:

- Designing the trail for safety;
- Using prominent signage to warn users of potentially dangerous areas;
- Regularly inspecting the trail and correcting any unsafe conditions. (Keep records of inspections and remedial changes);
- Prominently posting hours of operation and other rules and regulations, along with emergency contact information; and
- Developing procedures for handling medical emergencies.

Legal Issues: Acquisition of Rails-with-Trails

Rails-with-trails, like all rail-trail acquisitions, involve some unique legal issues due to the regulated status of freight railroad lines. Principles of "federal preemption" may bar governmental entities from using their condemnation powers to acquire, over the railroad's objections, a portion of an active rail line that is regulated by the Surface Transportation Board if trail use could interfere with rail operations. Most rail-with-trail projects are governed by voluntary agreements between the rail operator and the trail manager.

A number of states have enacted legislation authorizing the creation of state-owned railroad corporations or authorizing state agencies to acquire railroad corridors for public transportation use. Several of these statutes have enacted specific policies permitting or directing that corporations or agencies authorize use of portions of a rail corridor for trail use if the use does not restrict or interfere with rail uses. For example, Alaska law requires the state railroad corporation to "authorize a walkway or a trail if the board first finds in writing that the proposed walkway or trail will not create a safety hazard and will not unreasonably interfere with continued or expanded operations in the utility corridor," provided that specified conditions (including indemnification and defense of the railroad) are met.[28]

Lance Armstrong Bikeway, Texas (Rails-to-Trails Conservancy)

IV. RAIL-WITH-TRAIL SURVEY FINDINGS

This summary of findings focuses on some of the most prevalent themes related to rail-with-trail acquisition, development and management:

- Location and Land Ownership of Rails-with-Trails
- Railroad Operations and Attitude Toward Trail Development
- Safe Design: Setback, Separation and Crossings
- Liability and Insurance
- Management and Maintenance

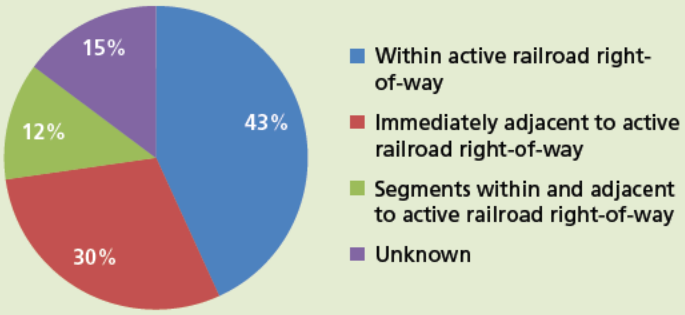
Results were analyzed from responses provided by trail managers or advocates involved in the trail's development. Most interviewees and survey respondents answered more than 60 questions; due to the large quantity of data, individual responses, trail facts and contact information are available in an online Appendix at www.railstotrails.org/railwithtrail.

Location and Land Ownership of Rails-with-Trails

Location

The distinguishing characteristic of rails-with-trails is their location within or directly adjacent to an active railroad corridor. More than half of the trails examined for this report have some portion of trail located within the railroad right-of-way. Some trail managers indicated that the railroad was unwilling to provide access to their right-of-way, forcing trail development immediately adjacent to – but completely outside of — the railroad corridor. While many of these rails-with-trails are located within or alongside publicly owned corridors (37 percent), a significant portion of trails located within the railroad right-of-way exist in corridors owned by Class I, II and III railroads.

Location of trail corridor relative to active railroad right-of-way



Railroad Classification

Railroads are classified by the Surface Transportation Board based on their annual operating revenues.

Class I railroads have an annual operating revenue that exceeds $433 million, based on 2011 dollars. Seven Class I railroads account for most of the freight rail traffic in the U.S.:

1. BNSF Railway Company
2. Kansas City Southern Railway Company
3. Union Pacific Railroad
4. Soo Line Railroad Company (Canadian Pacific's U.S. operations)
5. CSX Transportation Inc.
6. Norfolk Southern Combined Railroad Subsidiaries
7. Grand Trunk Corporation (Canadian National's U.S. operations)

Class II railroads have an annual operating revenue that exceeds $34.7 million, based on 2011 dollars. Class II rail carriers typically haul freight and are sometimes referred to as "regional railroads."

Class III railroads have an annual operating revenue of less than $34.7 million, based on 2011 dollars. Class III railroads are generally referred to as "short line railroads."

More information: www.aar.org/StatisticsAndPublications/Documents/AAR.org/StatisticsAndPublications/Documents/AAR-Stats-2013-01-10.pdf

88 Rails-with-Trails Included in Study*

Chase Trail	AK
Tony Knowles Coastal Trail	AK
Frisco Trail	AR
Route 66 Trail	AZ
Oceanside Coastal Rail Trail	CA
Folsom Parkway Rail Trail	CA
Solana Beach Coastal Rail Trail	CA
Martin Luther King, Jr. Promenade	CA
Santa Clara River Trail	CA
Carlsbad Coastal Rail Trail	CA
Rose Canyon Bike Path	CA
Fillmore Trail	CA
Mission City Bike Trail	CA
Richmond Greenway	CA
Alton Ave to Orange Street Bike Trail (Alton Bike Trail)	CA
Escondido-San Marcos Inland Rail Trail	CA
Manteca Tidewater Bikeway	CA
Old US 40 Bike Path (Old Highway 40 Bike Path)	CA
Sacramento River Parkway Trail	CA
San Clemente Beach Trail	CA
San Francisco Bay Trail (Pinole, Hercules)	CA
San Luis Obispo Railroad Safety Trail	CA
Santa Maria Valley Railroad Trail	CA
Walnut Trail (Atchison, Topeka and Santa Fe Trail)	CA
Watts Towers Crescent Greenway	CA
Westminster Hoover Street Trail (Hoover Bike Path)	CA
Animas River Trail	CO
Power Trail	CO
Mason Trail	CO
New Santa Fe Regional Trail	CO
Yampa River Core Trail	CO
Metropolitan Branch Trail	DC
M-Path	FL
Silver Comet Trail	GA
Stone Mountain Trail	GA
Linn Creek Recreational Trail	IA
Illinois Prairie Path	IL
Rock River Recreation Path	IL
Cardinal Greenway (Muncie Section)	IN
Maple Heart Trail	IN
Gary L. Haller Trail	KS
Mississippi River Trail—New Orleans Levee Top Trail, East Bank	LA
Springfield Connecticut Riverwalk and Bikeway	MA
Manhan Rail Trail	MA
Shining Sea Bikeway	MA
Norwottuck Rail-Trail (Mass Central Section)	MA
Eastern Promenade Trail	ME
Ellsworth Trail	ME
TART Trail	MI
Duluth Lakewalk	MN
Cedar Lake Trail	MN
Bitterroot Branch Trail	MT
Marcia H. Cloninger Rail Trail	NC
Libba Cotten Bikeway	NC
Charlotte Trolley Trail	NC
WOW Trail	NH
Traction Line Recreation trail	NJ
Santa Fe Rail Trail	NM
Union Pacific Railroad Trail	NV
North Coast Inland Trail—Sandusky/Ottawa County (Clyde to Elmore)	OH
Camp Chase Trail—Ohio to Erie Trail	OH
Fairborn Wright Brothers Huffman Prairie Bikeway	OH
Simon Kenton Trail—Urbana-Bellfountain Connector	OH
Celina Coldwater Bike Path	OH
Zane's Landing Trail	OH

Hockhocking Adena Bikeway	OH
Central Ashland Bike Path	OR
Stavich Bike Trail	PA
Clarion-Little Toby Rail Trail	PA
Lehigh Gorge Rail-Trail	PA
Five Star Trail	PA
Arboretum Trail	PA
Schuylkill River Trail—Valley Forge to Philadelphia	PA
Schuylkill River Trail—Thun Trail	PA
McClintock Trail	PA
Pine Creek Rail Trail—Jersey Shore Connector	PA
Three Rivers Heritage Trail—Southside segments (Baldwin, Southside & Station Square combined)	PA
Montour Trail— Westland Branch	PA
Blackstone River Bikeway	RI
Richland Creek Greenway	TN
Cotton Belt Trail	TX
Bicentennial Hike and Bike Trail	TX
Porter Rockwell Trail	UT
Island Line Rail Trail (formerly the Burlington Bike Path)	VT
Pullman River Walk	WA
La Crosse River Trail	WI
Peace Trail	WI
Southwest Path (Greenbush Link)	WI

*A number of other trail managers participated in the survey, but their responses were not included in the analysis unless active rail service existed along the trail before April 2013. For example, the Heritage Rail-Trail County Park in York, Pa., is considered a rail-with-trail but did not have active service on the railroad corridor until after our research deadline.

Basic Characteristics of 88 Rails-with-Trails Surveyed

- Average width:10 feet
- Average length: 9.3 miles
- Trail surface (some trails have more than one surface type):
  - Asphalt: 84%
  - Crushed stone: 20%
  - Concrete: 19%
  - Dirt: 5%
  - Other: 1%
- Permitted trail use: All trails are open to pedestrians, 95% of trails allow bicycling, and many trail managers indicated that most other forms of non-motorized uses were allowed (skating, skiing, etc.). Equestrian use is permitted on 13% of the trails included in this study and three trails allowed some form of motorized use (ATV, snowmobile or both).

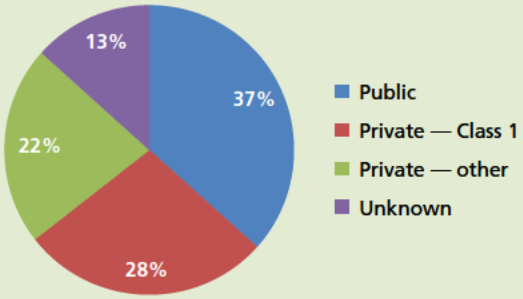
Watts Tower Crescent Greenway, Calif. (Rails-to-Trails Conservancy)

Traction Line Recreational Trail, N.J. (Boyd Loving)

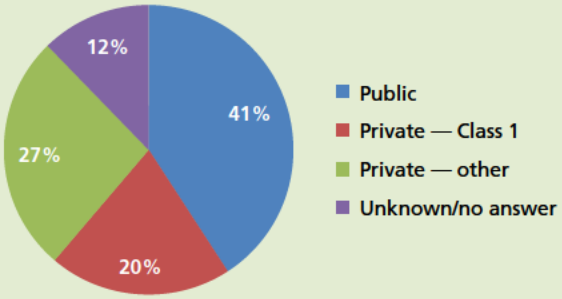
Corridor Ownership

A majority of the rails-with-trails examined exist within or alongside privately owned rail corridors, with 28 percent owned by Class I railroads. Of the 49 trails that are completely or partially within the railroad corridor, 47 percent are within privately owned corridors, including Class I railroads. The larger, Class I railroad companies are becoming increasingly resistant to rail-with-trail development (see Railroad Policies in Section II), although there is clearly a precedent set by so many existing rails-with-trails in many of the Class I companies' rights-of-way. However, this study's survey findings indicated that short line railroads and transit agencies often recognize the benefits of rails-with-trails, sometimes becoming a supportive stakeholder in the trail development process.

Railroad corridor ownership



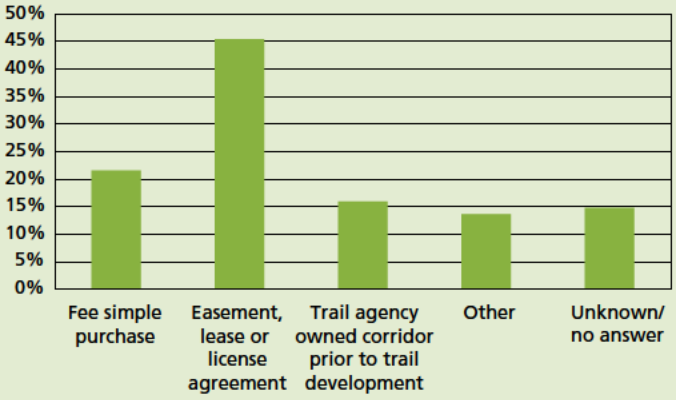
Corridor ownership of rails-with-trails within the railroad right-of-way



Acquisition

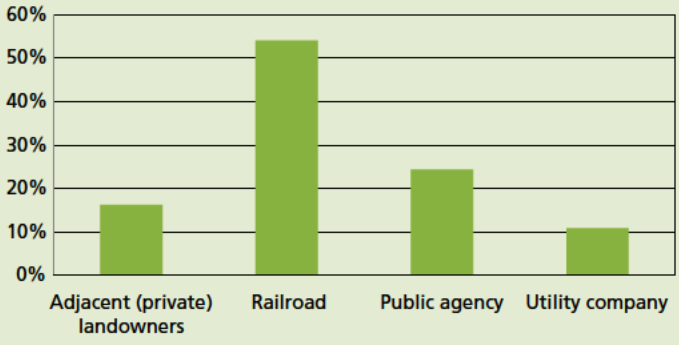
As is the case with traditional rail-trail projects, there are several methods used to acquire property for rail-with-trail development. Rails-with-trails that are located within the railroad right-of-way often obtain an easement or license agreement from the railroad. Survey findings indicate that 45 percent of the rails-with-trails used easement or license agreements to acquire all or a portion of the trail corridor, and half of those trails negotiated with the railroad for acquisition. Other trails purchased the trail corridor in fee or had fee ownership of the property prior to trail development. The only known examples of a trail-managing agency providing easements to the railroad are in Pennsylvania. The Montour Trail Council provided a 30-year lease to a natural gas company to establish new service on the Westland Branch segment of the Montour Trail (see Case Study in Section V). A 10-mile rail-with-trail segment of the Heritage Rail-Trail County Park was leased to an excursion railroad, Steam Into History, and began operating in 2013.

Trail corridor acquisition method



Some trails were acquired using a combination of methods; result total exceeds 100%

Provider of easement, lease or license agreement for trail corridor



Represents response from 37 trails; some trail managers hold agreements with multiple types of landowners

Example easements and license agreements from 13 rails-with-trails were provided by trail managers for use in this report. These examples serve only as a reference; legal counsel should be obtained to develop such agreements for rail-with-trail acquisition. Full copies of agreements are available for download at: www.railstotrails.org/railwithtrail.

Trail name	State	Municipality	Railroad	Year	Type
Frisco Trail	AR	City of Fayetteville	Arkansas and Missouri Railroad Company	2008	License and Agreement; Certificate of Liability Insurance
Route 66 Trail	AZ	City of Flagstaff	Atchison, Topeka and Santa Fe Railway Company (and successors – BNSF)	1996	Easement
Linear Park	CA	City of San Diego	Atchison, Topeka and Santa Fe Railway Company (a Delaware Corporation) and successors (BNSF)	1989	Lease Agreement and Terms of Use
Martin Luther King Jr. Promenade	CA	City of San Diego	San Diego and Eastern Arizona Railroad Company	2009	Joint License for encroachments
San Luis Obispo Railroad Safety Trail	CA	City of San Loius Obispo	Union Pacific	2008	Lease Agreement and Terms of Use
Yampa River Core Trail	CO	City of Steamboat Springs	Denver and Rio Grande Western Railroad Company	1991	License Agreement
Rock River Recreation Path	IL	City of Rockford (Rockford Parks District)	Union Pacific	2012	Lease Agreement and Premise of Use
Gary L. Haller National Recreational Trail	KS	Johnson County Parks and Recreation District	Atchison, Topeka and Santa Fe Railway Company (and successors – BNSF)	1996	License Agreement (for tunnel crossings)
Duluth Lakewalk	MN	City of Duluth	St. Louis and Lake Counties Regional Railroad Authority	2008	License Agreement
Santa Fe Rail-Trail	NM	Santa Fe County	Santa Fe Southern Railway, Inc.	1997	Easement
Camp Chase Rail-Trail	OH	Columbus and Franklin County Metropolitan Park District	Camp Chase Railroad Company	2009	Easement
Heritage Rail-Trail County Park	PA	York County	Steam Into History (nonprofit tourist train)	2010	Lease and Operating Agreement (county is leasing to railroad)
Porter Rockwell Trail	UT	City of Draper	Utah Transit Authority	2003, 2008	License Agreement

Duluth Lakewalk, Minn., in construction (Matt Decur)

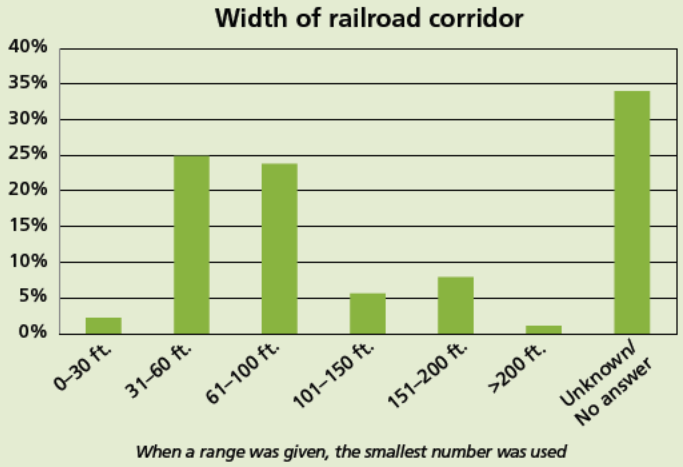
Duluth Lakewalk, Minn. (Matt Decur)

Railroad Operations and Attitude Toward Trail Development

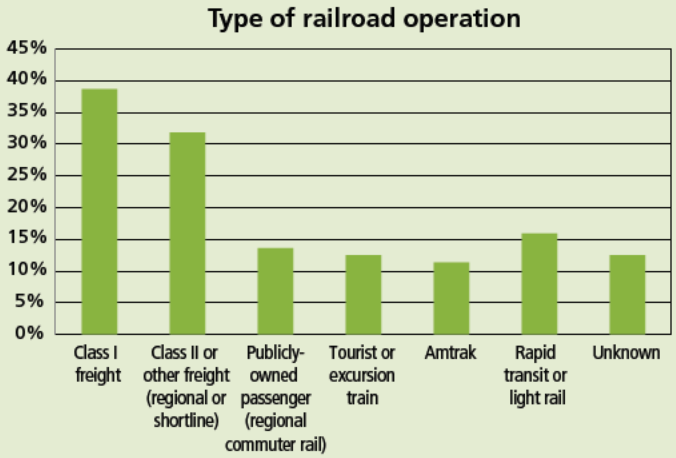
Consistent with trends identified in RTC's *Rails-with-Trails* report in 2000, rails-with-trails continue to be developed along a wide variety of active railroad corridors, demonstrating their ability to coexist with many different types of railroads and under a diverse range of conditions.

Characteristics of Operating Railroads

- **Corridor width**—Nearly half (43) of the railroad corridor rights-of-way studied in this report were between 31 and 100 feet wide.
- **Railroad type**—Rails-with-trails are developed within and alongside many different types of operating rail service (freight, transit, tourist, etc.), with the most common being freight. Several trails are located beside railroad tracks that serve multiple types of railroads. For example, the Metropolitan Branch Trail in Washington, D.C. is alongside a CSX corridor that Amtrak and a regional commuter railroad operate on, while another segment of the trail is located within a few feet of Metro, D.C.'s rapid transit system.

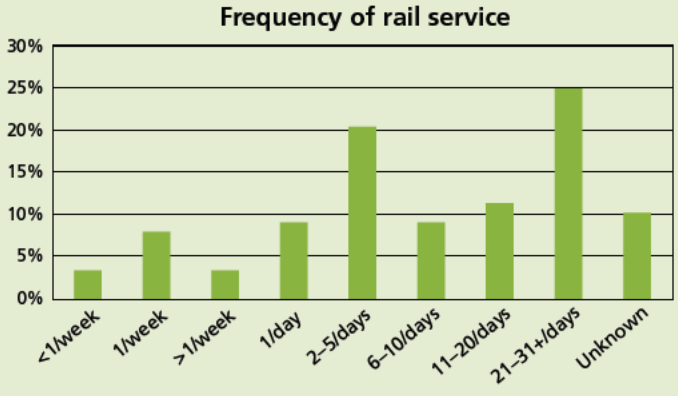


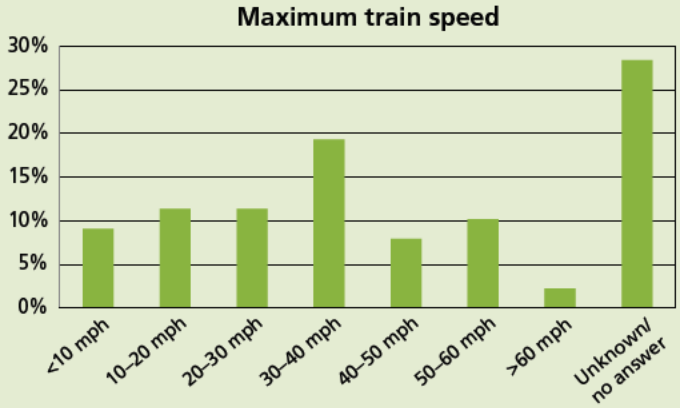
When a range was given, the smallest number was used



Some trail managers reported multiple types of rail service

- **Train frequency**—Most trails are located beside rail corridors that receive service on a daily basis, and a quarter of trails reported that rail service runs more than 20 times a day. Several trails that share corridors with urban transit systems experience high rail traffic. A segment of the Watts Towers Crescent Greenway is beside the LA Metro, operated by the Los Angeles County Metropolitan Transportation Authority, which runs six trains per hour.
- **Train speed**—Maximum train speed varies widely, with trail managers reporting speeds of less than 10 mph and more than 60 mph. A majority of trails reporting train speed indicated speeds between 30 and 60 mph. This is consistent with findings from our 2000 study which reported an average maximum train speed of 32 mph and a range of train speeds between 5 and 150 mph.



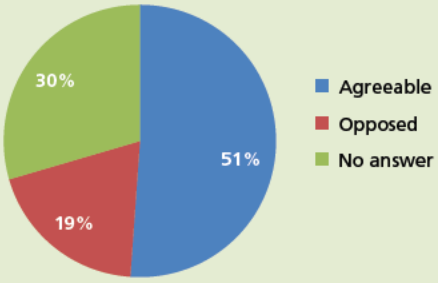


Attitude of Railroad Companies Toward Rail-with-Trail Development

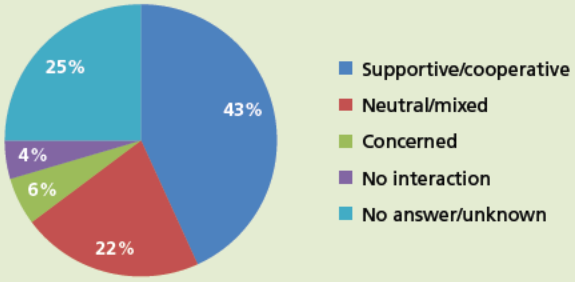
More than half of trail managers reported that the railroad had an "agreeable" attitude toward rail-with-trail development prior to trail construction. However, many trail managers described challenges in negotiating with railroads, based on the railroad's apprehension and concerns about safety and liability. Several managing agencies had to meet setback, fencing and trail maintenance requirements set by the railroad. Specific examples and some negotiation strategies included:

- Frisco Trail, Ark.: Over two years of negotiation the city eased the railroad's concerns by demonstrating safety benefits (diverting pedestrians off tracks and onto trail) and agreeing to construct a fence between the tracks and trail.
- Mason Trail, Colo.: Worked with BNSF safety design requirements and provided a 6' high fence and grade-separated crossings to prevent trespassing across tracks.
- Gary L. Haller Trail, Kan.: Railroad had a neutral attitude toward trail development but required fencing, indemnification and a $10 million insurance policy held by the trail manager.
- McClintock Trail, Pa.: The trail manager worked closely with the short line operator, Western N.Y. & Pennsylvania Railroad, and the railroad continues to be supportive of the trail by attending planning meetings and events.
- Pine Creek Connector Trail, Pa.: The Regional Rail Authority created a rail-with-trail policy that includes design standards but does not encourage trails within their right-of-way unless all other alignment options have been examined and determined infeasible or undesirable.
- Cotton Belt Trail, Texas: Railroad had concerns about pedestrians crossing the corridor and instituted a "no new crossing" policy. Only one crossing was granted during trail development. Trail design was reviewed, modified and accepted by railroad. Municipalities had to agree to maintain entire corridor.

Railroad's attitude to trail prior to devlopment



Current attitude of railroad



When asked about the current attitude of the railroad, 43 percent of trail managers indicated the railroad is either supportive or cooperative, and 22 percent reported that the railroad has neutral or mixed feelings about the trail. Only 6 percent indicated that the railroad remains concerned about the trail, although a quarter of trail managers did not respond to this question. Individual comments are available in the Detailed Survey Responses section on our website: www.railstotrails.org/railwithtrail.

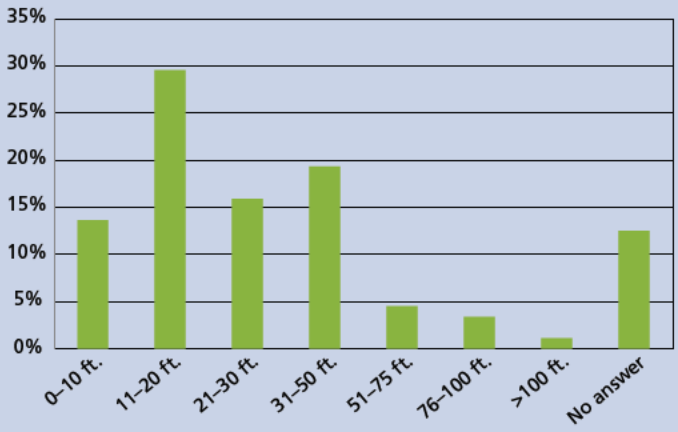
Safe Design: Setback, Separation and Crossings

When the rail-with-trail concept is presented to railroads or local decision makers for their consideration, safety is always at the forefront of the conversation. Fortunately, there are many design strategies that can be implemented to create a safe environment for trail users and rail operators. Some of the most common design elements that contribute to safety include setback, separation and crossings.

Setback—The lateral distance between the centerline of the nearest track (track located closest to the rail-with-trail) and the nearest edge of the trail or the separation feature (fence, wall, etc.).

Whether the trail is within the railroad right-of-way or immediately adjacent, the actual distance between the railroad tracks and the trail may determine how design features address trail user safety. Several trail managers reported setback requirements enforced by the railroad, usually ranging from a 25 to 30-foot minimum. Nearly 60 percent of trails were 30 feet or less from the railroad tracks and more than a quarter of trails reported a minimum distance of between 11 and 20 feet. Some trails are extremely close to the tracks; the Frisco Trail in Fayetteville, Ark. comes as close as two feet from the tracks.

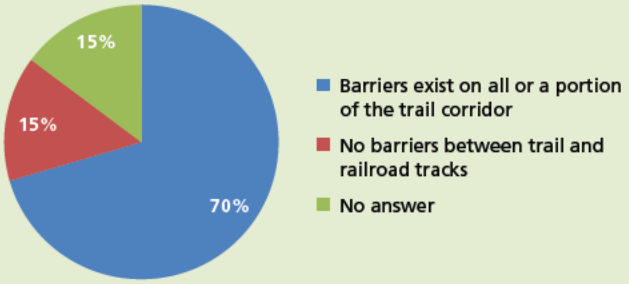
Distance between trail and railroad tracks



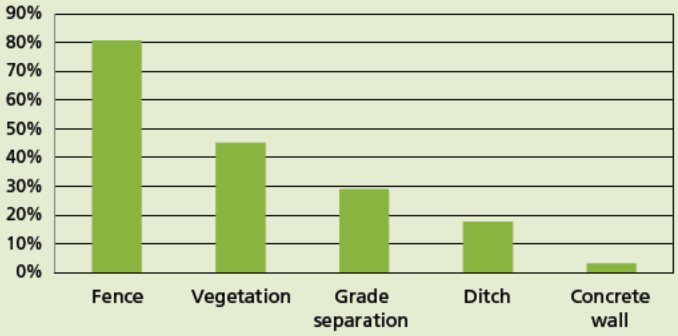
Separation

Separation refers to constructed or natural barriers between the trail and railroad. Survey results indicated that a vast majority (70 percent) of rails-with-trails have installed some type of barrier or were designed to be grade-separated for all, or a portion of, the trail's length. The most common barrier used is fencing, with a variety of fencing types and heights reported (e.g., chain link, wire fence with wood post). In some instances, railroads required that their fencing standards were met.

Existence of barriers between trail and rail



Barrier type

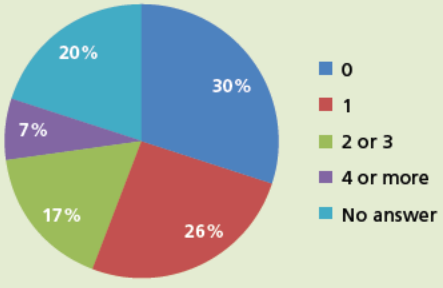


Represents results from 62 trails that reported existing barriers; some trails have more than one type of barrier.

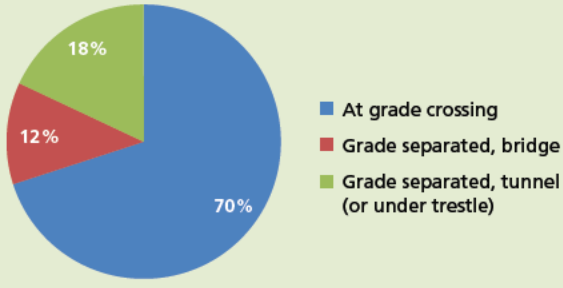
Crossings

Designing safe rail crossings is critical to creating a safe and accessible rail-with-trail. Fifty-four trails (61 percent) reported at least one crossing; the average number of crossings was 1.6 and 70 percent of those crossings are at grade. The Camp Chase Trail in Ohio reported seven crossings, the most of any trail. Several trail managers indicated that no new crossings would be considered by the railroad, and nearly a third of trails studied do not have a single crossing.

Number of times trail crosses railroad tracks



Trail/Rail crossing type



Liability and Insurance

Exposure to risk and liability is one of the primary concerns when developing a rail-with-trail. Refer to the Legal Issues segment in Section III for more information on liability and risk reduction. USDOT's *Rails-with-Trails: Lessons Learned* provides comprehensive information about these topics and should be consulted to learn more about measures that trail managers can take to reduce exposure to liability, and existing state statues that may alleviate the liability concerns of the railroad. Since *Rails-with-Trails: Lessons Learned* was published, some Class I railroads have released public policy or operating standards that discourage or prohibit the development of trails within their corridors, and some railroads have specific standards that must be met during design and construction (see Section II). Survey findings indicate that trail managers and railroads remain very concerned about safety and liability, although no new accidents or fatalities involving trail user and train conflict were reported in the responses provided.

Claims Against Trail Managers and Railroads

Seven of the 88 rails-with-trails reported claims against the trail manager.[29] Most claims did not involve the railroad, but some claims involved trail conditions affected by proximity to railroad infrastructure:

- The Yampa River Core Trail in Colorado cited claims made due to injuries sustained by trail users going down grades at railroad underpasses.
- On the Gary L. Haller Trail in Kansas, a trail user was injured when he ran into the railroad's fence at one of the tunnel crossings. Even though the railroad was negligent (the fence was left open by the railroad), the city paid the settlement claim because the railroad was indemnified.

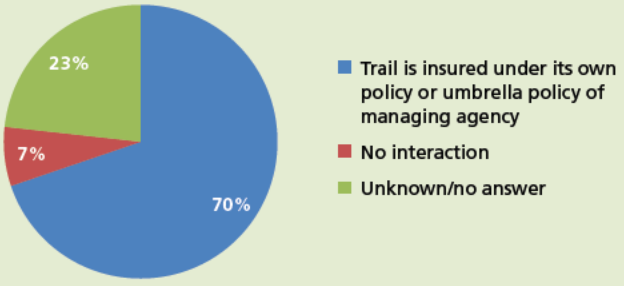
None of the 88 trail managers were aware of liability claims filed against railroads as a result of the presence of a rail-with-trail.

Insurance Policies

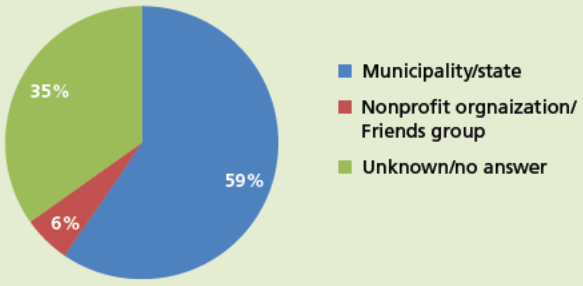
A majority of trail managers reported that their trail's insurance requirement was covered by an existing municipal or state insurance policy. Examples of nonprofit organizations that carry insurance policies for the trails they manage include:

- Clarion-Little Toby Rail Trail, Pa., insured by the Tricounty Rails to Trails Association;
- Montour Trail (Westland Branch),Pa., insured by the Montour Trail Council;
- Five Star Trail, Pa., insured by the Regional Trail Corporation;
- Three Rivers Heritage Trail, Pa., insured by the City of Pittsburgh and Friends of the Riverfront; and
- Cardinal Greenway, Ind., insured by Cardinal Greenways.

Insurance coverage

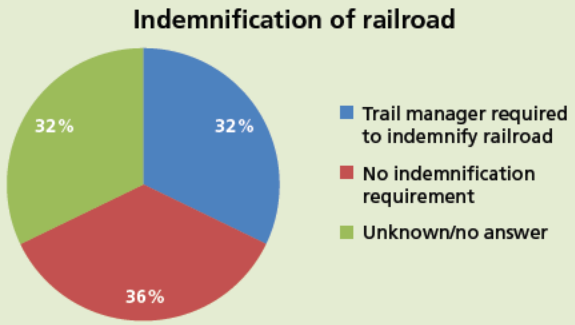


Insurance policy holder



Indemnification

Many trail managers negotiating with railroad companies to develop rails-with-trails are required to indemnify the railroad or owner of the corridor, releasing them from liability. Approximately one-third (32 percent) of trail managers reported that their agency was required to indemnify the corridor owner. This is up from 26 percent of rails-with-trails that were required to indemnify in RTC's 2000 report. Another third reported that indemnification was not required, and 31 trail managers did not answer or were unsure of indemnification requirements. In addition to indemnification, some trail managers stated that the railroad required their agencies to carry supplemental insurance policies (e.g., comprehensive general liability insurance specifically for the trail). Example legal agreements included in the online Appendix include indemnification language and other liability protection requirements.



Management and Maintenance

Proper management and maintenance is an important factor in creating a safe environment for trail users. A vast majority (77 percent) of trail managers surveyed reported that routine trail maintenance is covered by a municipal agency or department (e.g., Parks and Recreation, Public Works, etc.), and nine reported that trails are maintained by volunteers or friends groups. Most trail managers reported that the railroad did not contribute to trail maintenance. Trail maintenance staff for the Cotton Belt Trail in Texas are required to complete an annual safety certification administered by the railroad. Personal safety is a frequent concern of trail users, whether or not the trail is located along an active railroad corridor. Many of the trails included in this study (61 percent) are regularly patrolled, either by law enforcement or volunteers.

Trail Development Challenges and Suggested Strategies

RTC asked trail managers several open-ended questions to gather feedback about rail-with-trail development challenges and successful strategies for acquisition, design, construction and maintenance. Some of the most common issues related to rail-with-trail development that were reported include:

- Working with the railroad and/or addressing its safety and liability concerns;
- Acquisition (obtaining easements);
- Working with multiple agencies to review plans and get permits;
- Funding; and
- Dealing with adjacent landowner opposition or lack of public support.

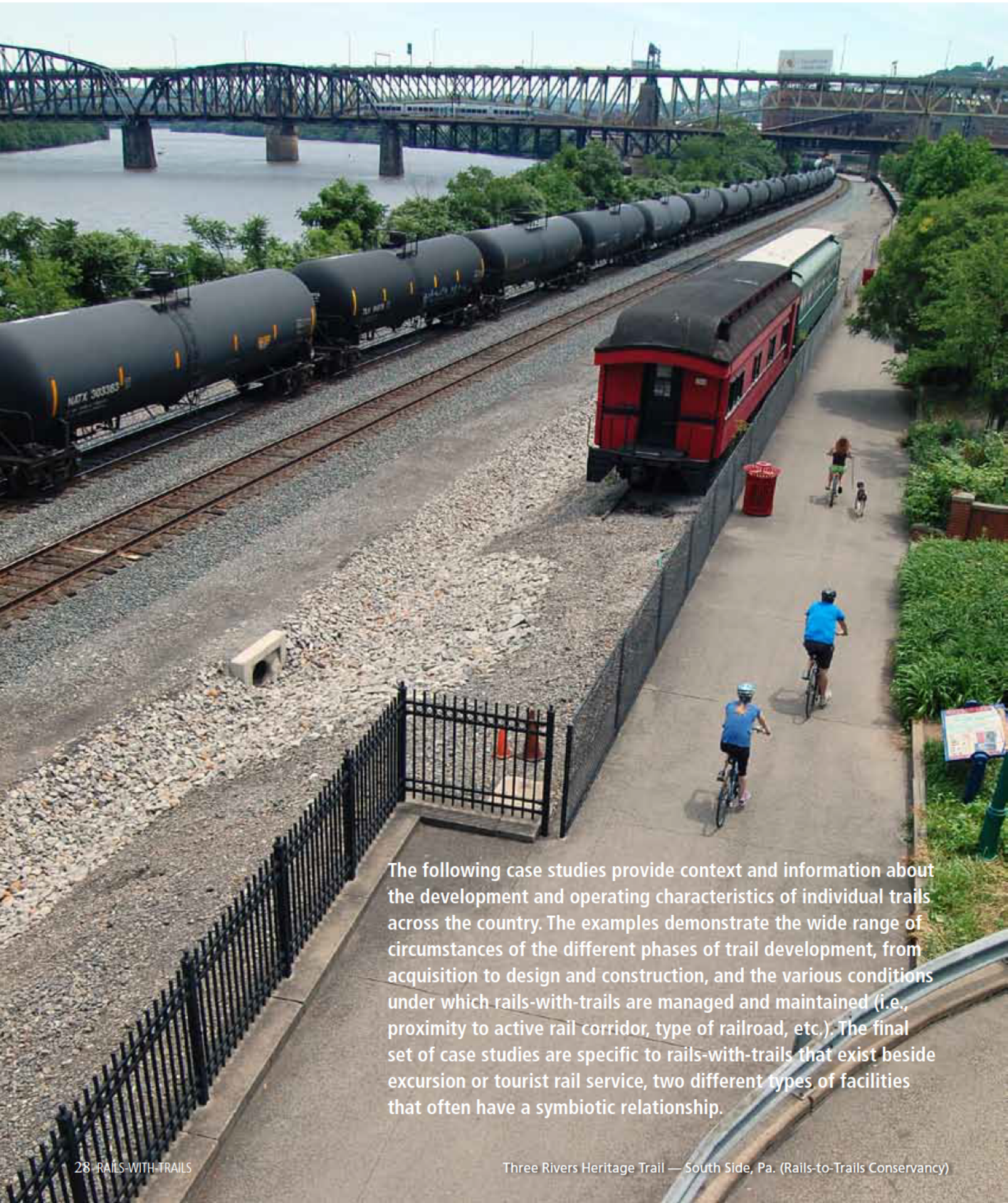
Some trail managers also reported challenges in the design and construction process due to environmental regulations (wetlands), constrained space, and crossings.

Respondents reported that successful rail-with-trail development included proactive strategies such as:

- Involving stakeholders early on, creating an inclusive and open process, and clarifying and documenting roles and responsibilities from the beginning;
- Becoming knowledgeable about required permits;
- Providing grade-separated crossings where feasible;
- Understanding and addressing the railroad's concerns;
- Obtaining legal counsel; and
- Having patience.

Some trail managers suggested partnering with council of governments (COG) organizations, which can act as a coordinating body for all state and local agencies involved. Several respondents mentioned that railroads may be more amenable to providing access to the corridor for trail development if the state or local municipality can respond with incentives such as at-grade crossing improvements, land swaps or zoning changes.

For detailed survey responses and more specific information about trails included in this study, visit RTC's website: www.railstotrails.org/railwithtrail.



The following case studies provide context and information about the development and operating characteristics of individual trails across the country. The examples demonstrate the wide range of circumstances of the different phases of trail development, from acquisition to design and construction, and the various conditions under which rails-with-trails are managed and maintained (i.e., proximity to active rail corridor, type of railroad, etc.). The final set of case studies are specific to rails-with-trails that exist beside excursion or tourist rail service, two different types of facilities that often have a symbiotic relationship.

Three Rivers Heritage Trail — South Side, Pa. (Rails-to-Trails Conservancy)

D & L Trail — Lehigh Gorge State Park Trail

Carbon and Luzerne counties, Pennsylvania

Status: Open. Land purchased in 1972, trail opened in 1980.

Description: The 25.7-mile Lehigh Gorge Trail was built on the abandoned corridor of the Lehigh Valley Railroad. Nearly seven miles of the trail are located adjacent to an active railroad corridor carrying both freight and excursion rail service.

Historically, the narrow river gorge was a primary supply route through eastern Pennsylvania, transporting timber and coal to Philadelphia. In the 19th century the Lehigh Coal and Navigation Company constructed 20 dams and more than 20 locks along the 26 miles of river in order to navigate the steep 800-foot-high slopes of the Pocono Mountains.

After 1860, railroads replaced the canals and by the end of the century the area was known for its resort accommodations.

Eventually, sections of three active rail-lines ran at the base of the gorge. The rights-of-way were developed and maintained by separate owners, and the single right-of-way which would become the D & L Trail was purchased in 1972, along with the acreage to develop a nearly 5,000-acre state park.

Design: The trail is surfaced with crushed limestone and welcomes trail and mountain bike enthusiasts who use the Lehigh Gorge Trail to access the many mountain bike trails in the park. Reading and Northern Railroad operates Class II freight and a seasonal tourist excursion train on the line. A second parallel line is operated by Norfolk Southern, carrying Class I freight. The Class I line runs adjacent to the trail for less than half a mile.

Where it runs parallel to active tracks, the trail is either grade-separated or has a dense barrier of native vegetation between the active rail and trail.

The majority of the trail was constructed all at once, completing the 24 miles between White Haven and the southern trailhead at Glen Onoko. But for many years there was no direct access from the tourist town of Jim Thorpe to the state park without traversing a very steep and narrow motorized road. After several years of negotiations with the railroad, a bicycle and pedestrian side path was built along the railroad bridge, providing trail users direct access to the town of Jim Thorpe. The trail and railroads are maintained, and function, completely independently of each other.

Comments: The town of Jim Thorpe is a busy tourist destination and hub for users of the Lehigh Gorge Trail and the Lehigh River. Commercial outfitters run both rafting and bicycle trips through the gorge. A common activity marketed to visitors is to rent a bike, shuttle to the northern end of the trail and then ride the 26 downhill miles to town. In 2012, a trail user survey indicated that trail users brought an additional $6 million in revenue to the community. The Reading and Northern Railroad excursion trains are equally popular and now offer private charter excursions into the gorge as well as regularly scheduled weekend and holiday trips.

D & L Trail, Pa. (Peter Treiber)


(John M. Breitigan)

Montour Rail-Trail — Westland Branch

Washington County, Pennsylvania

Status: Designed 2011–2012, constructed 2012–2013, official opening planned 2013.

Description: The Westland Branch rail-trail joins the main line of the 55-mile Montour Trail which circles the western and southern regions of Pittsburgh, Pa. The new four-mile section of active rail-with-trail traverses the three municipalities of Cecil, Mt. Pleasant, and Chartiers Townships in Washington County in southwestern Pennsylvania.

In the 1990s the Montour Trail Council (MTC) purchased the single track right-of-way of the Westland Branch as part of the property of the Montour Railroad, intending to construct the branch trail after the main segment of the Montour Trail was complete. However, the development of the Marcellus Shale gas industry in southwestern Pennsylvania presented MTC with an opportunity to develop the branch trail sooner than originally anticipated. In 2010, after two years of negotiations, MarkWest Liberty Midstream & Resources of Denver, Colo. agreed to a 30-year lease with the Montour Trail Council. MarkWest was to design and build five miles of active railroad track, along with four miles of parallel non-motorized trail.

The new railroad comes off the main east-west line of the Wheeling and Lake Erie (W&LE) Railway in Southview, Pa., parallels the Montour Trail mainline for just under a mile, then swings south for four miles to a large rail yard near Westland, Pa., not far from the MarkWest plant. W&LE Railway operates the trains for MarkWest, moving tanker cars of propane and other natural gas liquids. Since the original corridor owned by the Montour Trail Council was only a single width, MarkWest had to negotiate additional easements and acquisitions to safely accommodate both the rail and trail. MarkWest completed extensive engineering along the six-mile corridor in order to accommodate new rail traffic.

When open, the new Westland Branch Trail segment will come off the Montour Trail mainline at Gilmore Junction, MP 21.6, cross Pennsylvania State Route 50 via a "Cross Alert" signal system,[30] and then cross the tracks once. Paralleling the railroad southbound, the trail climbs a 1.5 percent grade to a deep rock cut and gently descends to a trailhead just off SR 519 in Westland. After the first mile, the surrounding landscape is mostly rural farmland. The nearest mainline Montour Trail parking area is at the Galati Road trailhead, MP 21.2.

Design: The trail has a crushed stone surface, with a four-foot-high chain link fence separating the rail and trail. Rail traffic consists of tanker loads that are pulled along an uphill grade at less than 15 mph.

Comments: The Montour Trail was designed and built in phases over the past 20-plus years. More than 55 of its planned 60 miles are currently developed, including the Airport and Bethel branches. The Montour system connects with the Great Allegheny Passage trail to Washington, D.C. Speaking for the Montour Trail Council in 2010, Ned Williams, then president of the Montour Trail Council, said the 30-year lease agreement with MarkWest will bring major financial and recreational benefits.

"Not only will MarkWest's participation develop this recreational branch trail sooner than we could have done," Williams said, "but the company's lease payments will help us cover the trail's ever-increasing operating and maintenance costs. Even more important to the region, we see the proposed rail development as a good thing for our neighboring communities, since rail transport is so much safer than having many extra tank trucks on our local roads." For more information about the Montour Trail system, visit **www.montourtrail.org**

"Not only will MarkWest's participation develop this recreational branch trail sooner than we could have done," Williams said, "but the company's lease payments will help us cover the trail's ever-increasing operating and maintenance costs."

Pine Creek Rail Trail—Jersey Shore Connector

Jersey Shore, Pennsylvania

Status: Open. The rail-with-trail connector to the Pine Creek Rail Trail opened in September 2012.

Description: Pine Creek Valley and Pine Creek Rail Trail are significant tourist destinations in the state, bringing thousands of visitors and millions of dollars to the region each year. The new 1.4-mile section of trail was designed to connect the popular and scenic 64-mile Pine Creek Rail Trail to the retail center of the Borough of Jersey Shore. The Jersey Shore Connector was also developed to provide private residents of the area with easy access to the main trail without the need to use a car.

The route runs adjacent to the active railroad tracks for 0.4 mile, from the main southern trailhead for the Pine Creek Rail Trail at the edge of the borough, and includes one crossing of the active rail line. The trail then turns south onto Seminary Street (a designated shared-road route) and leads to the Susquehanna River waterfront.

Funding partners for this project included the Borough of Jersey Shore, Pennsylvania Department of Transportation (PennDOT), Lycoming County, Susquehanna Economic Development Association-Council of Governments (SEDA-COG) Joint Rail Authority, and the Lycoming Community Foundation.

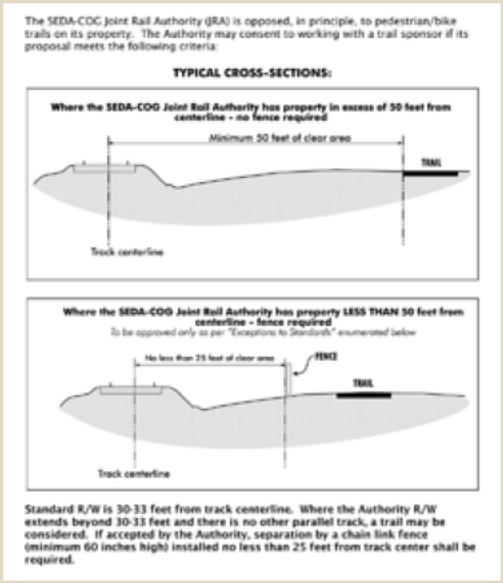
Design: Just under 0.5 mile of trail runs adjacent to the Class II active tracks. The width of the rail corridor averages 60 feet. The trail is 12 feet wide with a 20- to 30-foot setback from the active tracks. The trail is separated from the active tracks by a six-foot-tall black vinyl-clad chain link fence. There is one at-grade crossing delineated by a fence and signed with stop signs. This section carries one train daily, traveling at between 20 and 30 mph.

The Borough of Jersey Shore was able to work directly with SEDA-COG Joint Rail Authority (JRA) on this project because JRA has an existing rail-with-trail policy. The policy specifies design details of what the rail authority is willing to accommodate and its requirements. The Borough of Jersey Shore received a state grant of $418,000 for the design and engineering of the trail connection through Jersey Shore. The approximate cost of the trail corridor acquisition was reported to be approximately $1 million. Total cost for the entire 1.4 mile of trail was approximately $2 million.

(Borough of Jersey Shore)

Comments: JRA owns five short line railroads and approximately 200 miles of track. It serves an eight-county area in north-central Pennsylvania under contract with a private operator, the North Shore Railroad Group. The company hauls raw material for local industries and presently supports 70 customers in the region. The area is an active location for natural gas drilling, and this industry is supported by several Class I and Class II railroads. JRA has been a recipient of TIGER[31] grants as well as PennDOT Bureau of Rail Freight funding to build additional track and siding.

Detail from the SEDA-COG rail-with-trail policy:



The SEDA-COG Joint Rail Authority (JRA) is opposed, in principle, to pedestrian/bike trails on its property. The Authority may consent to working with a trail sponsor if its proposal meets the following criteria:

TYPICAL CROSS-SECTIONS:

Where the SEDA-COG Joint Rail Authority has property in excess of 50 feet from centerline – no fence required

Minimum 50 feet of clear area

TRAIL

Track centerline

Where the SEDA-COG Joint Rail Authority has property LESS THAN 50 feet from centerline – fence required

To be approved only as per "Exceptions to Standards" enumerated below

No less than 25 feet of clear area

FENCE

TRAIL

Track centerline

Standard R/W is 30-33 feet from track centerline. Where the Authority R/W extends beyond 30-33 feet and there is no other parallel track, a trail may be considered. If accepted by the Authority, separation by a chain link fence (minimum 60 inches high) installed no less than 25 feet from track center shall be required.

Clarion-Little Toby Creek Trail

Elk and Jefferson counties, Pennsylvania

Status: Opened in sections between 1997 and 2000.

Description: The 19-mile Clarion-Little Toby Creek Trail is located in a rural area of the state where recreation opportunities are emphasized and promoted. The trail parallels Little Toby Creek as well as the eastern side of the meandering Clarion River, which has been federally designated for preservation as part of the National Wild and Scenic Rivers System. Both the Clarion River and Little Toby Creek are popular trout fishing waters. Running north to south, the trail connects the small towns of Ridgway and Brockway. A majority of the trail's facilities fall within State Game Lands, including the section of trail along active rail line. Nearby public lands include national and state forests. The trail lies at the gateway to a region promoted by the state as the "PA Wilds," and is home to the largest elk herd east of the Mississippi River.

The original rail line that created this corridor was built by the Clearfield to Ridgway Rail Company in 1886 to transport lumber and coal. The Penn Central Corporation ceased using the corridor in the 1960s. Today, an active Class II rail line operated by Buffalo and Pittsburgh Railroad, Inc. parallels the trail for 1.8 miles.

Design: The trail surface is crushed limestone. An approximate width of 12 feet is maintained for the entire 19 miles. While the trail is always located on the eastern side of both waterways, an active rail line crosses the Clarion River at several locations, creating a segment of rail-with-trail.

This section is located in a valley where the Clarion River, the rail line, the trail and State Route 949 all come together at the river's narrowest width. The rail-with-trail section has some intermittent grade separation along the 1.8 miles.

A four-foot-high fence with metal posts and ¼-inch steel cable was installed to maintain a physical barrier between the active rail and the trail.

Comments: $1.7 million of federal and state grants, along with a small amount of private donations and municipal funds, were used to plan and construct the trail. The majority of funds came from the Keystone Recreation, Park, and Conservation Fund program administered by DCNR, and the Federal Transportation Enhancements (now known as Transportation Alternatives) program.

The rail-with-trail section became a major issue involving three state departments, with legal action taken by the railroad in 2004 threatening to close the trail. Though the Tricounty Rails to Trails Association had followed the requirements of the Pennsylvania Game Commission (who owned the right-of-way), PennDOT, DCNR, and the railroad had safety and liability concerns.

A number of organizations, including RTC, were called in to assist in negotiations between Tricounty Rails to Trails Association and the railroad. Following a visit from the secretary of PennDOT, the stakeholders made a commitment to work together. DCNR paid to have a feasibility study[32] completed for the 1.8-mile rail-with-trail section which examined all possibilities, including relocating both the trail and rail line. In the end, after nearly 10 years of negotiating, it was agreed that a fence and appropriate signage presented the best compromise.

(Dale Fox)

Richmond Greenway

Richmond, California

Status: Partially complete. 2.8 miles of the Richmond Greenway (phases I and II) are open. A planned connection to the Ohlone Greenway is expected to be constructed in 2014. A gap remains at the complex crossing of a Union Pacific line at 23rd Street and Carlson Blvd., and there are plans to extend the western end of the greenway to connect with the San Francisco Bay Trail.

Description: The Richmond Greenway runs through Richmond, Calif., a city of just over 100,000 people in the East Bay region. The 2.8-mile long, multi-use trail has 32 acres of adjacent green space, and provides a valuable transportation and recreation facility in an area underserved by open space and where many residents do not have a car.

The greenway runs directly adjacent to an active section of railroad for 1.3 miles of its length. This active railroad section is part of the Bay Area Rapid Transit (BART) system, a heavy-rail commuter line with an electric third rail. It operates between Richmond and other Bay Area destinations. Each weekday, 135 trains operate along the Richmond line in each direction, traveling up to 80 mph. Trains are less frequent on weekends.

Design: The multi-use trail is eight feet wide and its surface transitions from asphalt to crushed stone at various points. Ornamental light poles dot the path in places, and a wire fence separates the trail from the railroad tracks along the 1.3-mile rail-with-trail section. There is one railroad crossing on the trail, a grade-separated bridge crossing covered with fencing to minimize potential interactions between trail users and trains. A refurbished historic railroad tunnel takes the trail underneath Interstate 80. For the rail-with-trail portion, the total width of the corridor is approximately 75 feet, and the average distance between the trail and the tracks is 25 feet. Despite the limited right-of-way, there are efforts to add trees and landscaping to this narrower section to enhance the corridor and to provide a visual buffer between adjacent homes and the trail.

The cost of trail design was approximately $450,000, and construction costs totaled $3.6 million. Prior soil contamination and the mitigation of impacts to wetlands and biological resources contributed to these costs. City of Richmond had full ownership of the trail corridor prior to trail development, and did not have to purchase easements from BART.

(Rails-to-Trails Conservancy)

Comments: BART's fencing standard was key in addressing the safety concerns posed by the speed and frequency of BART trains and the presence of the electric third rail. In addition, access to the trail from the north side, where the rail line is located, is restricted to grade-separated crossings. Along the section of trail that passes over the tracks, BART added razor wire to provide an additional barrier.

While this addressed BART's concerns, it detracted from the aesthetic experience of trail users. Friends of the Richmond Greenway, Urban Tilth, Groundwork Richmond, Pogo Park and other groups have led the effort to create an attractive urban space in this corridor, and have worked with the city to access significant funding to complete various phases of the project.

More information on the Richmond Greenway is available on the City of Richmond's website: **www.ci.richmond.ca.us/index.aspx?nid=1118**

"Our community partners have been a critical ally in helping to secure construction funding, and support the Richmond Greenway's ongoing maintenance activities. With the limited public resources available, this partnership has enabled the Richmond Greenway to develop to where it is today, and to continue to evolve as a community resource," notes Chris Chamberlain, Parks and Landscape Superintendent for the City of Richmond.

(Matt Mihalevich, Trails Coordinator, City of Fayetteville)

Frisco Trail

Fayetteville, Arkansas

Status: 1.3 miles constructed (including 0.4 mile of rail-with-trail) between 2008 and 2010.

Description: Just over a mile long, the Frisco Trail is a relatively short trail, and the rail-with-trail portion is less than half a mile. However, the trail runs remarkably close to the active railroad tracks—just two feet away at some points—as it courses through downtown Fayetteville. The trains on the adjacent tracks are operated by a short line railroad which primarily runs excursion tourist trains on the corridor but also maintains infrequent freight service. The community has rallied around the trail, with one trail-front coffee shop already open and a new apartment building with direct trail access under construction. After initially expressing hesitation, Arkansas & Missouri Railroad is generally satisfied with the trail design and occasionally uses the trail to directly board their trains. One of the most significant benefits of the trail is that where intoxicated revelers once walked on the railroad tracks through Fayetteville's entertainment district, they now use the Frisco Trail.

Design: After more than two years of negotiation, the City of Fayetteville signed a 99-year lease with Arkansas & Missouri Railroad. The lease, which did not include any payment to the railroad, stipulated that the City of Fayetteville must build a fence between the tracks and the trail, install a roof over the trail where it passes under the tracks to prevent debris falling from trains onto trail users, and purchase comprehensive insurance. The city also purchased six acres of right-of-way from BNSF Railway for more than $70,000. This additional land had not been transferred to the Arkansas & Missouri Railroad when they originally acquired the corridor. The Frisco Trail is 12 feet wide and the surface transitions from asphalt to concrete. Trail design and construction were paid for entirely by a city bond issued in 2006.

Comments: A short non-rail-with-trail extension of the Frisco Trail is in the planning phase, and will soon take trail users under a busy boulevard. The Frisco Trail, along with all other trails in Fayetteville's comprehensive system, is regularly patrolled by a group of volunteers known as Trail Trekkers. The City of Fayetteville's Trails Coordinator emphasizes that, when negotiating with a railroad company, persistence is key. More information is available on the City of Fayetteville's website: **www.accessfayetteville.org**

Mason Trail

Fort Collins, Colorado

Status: Open. 4.5 miles opened in 2006.

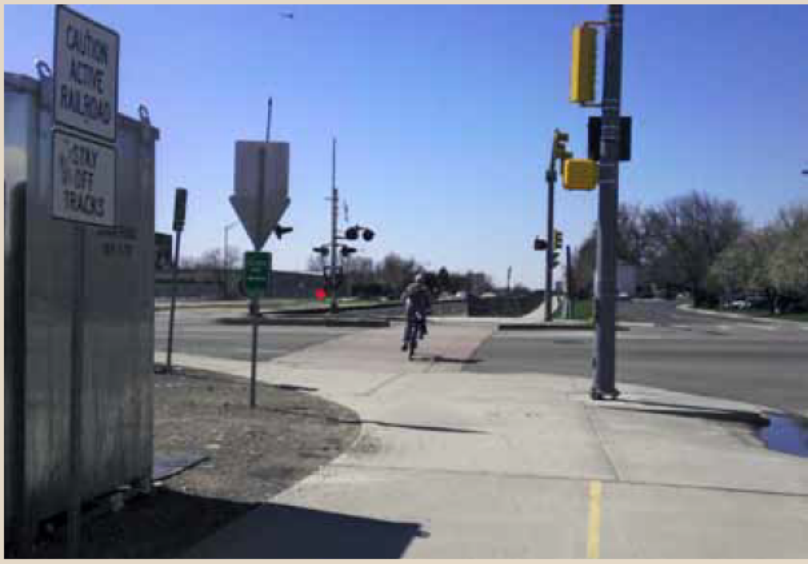
Description: The Mason Trail is one component of a transportation corridor that currently includes an active freight rail line and local roads, and which will eventually also include a dedicated bus rapid transit guideway. The trail is 4.5 miles long and runs on the western side of a BNSF corridor for most of its route, although an at-grade crossing shifts the trail to the eastern side of the corridor at one point. Passing through an urbanized section of Fort Collins, the rail line sees frequent use with approximately 11 to 20 trains per day traveling between 30 and 40 miles mph. The full width of the corridor ranges from 100 to 200 feet.

Design: The City of Fort Collins spent just over $1 million acquiring the land for the Mason Trail. Much of the cost was incurred in purchasing easements from adjacent homeowners' associations. BNSF required the city to adhere to its fence construction standards, so most of the trail is separated from the rail corridor by six-foot-high wooden rail fences with mesh covering. The total design cost for the trail was more than $4 million which included preliminary and final design work and environmental assessments. Trail development costs were covered by a mix of local, state and federal funding sources. The trail is 12-feet wide with a concrete surface. Much of the land for the adjacent bus rapid transit (BRT) guideway, which is currently under construction, was acquired through an easement from BNSF. The Mason Trail and new BRT lane are unique examples of a city negotiating with a Class I railroad for two different transportation uses adjacent to the railroad tracks.

Comments: The City of Fort Collins recognizes the importance of providing safe crossings of the railroad tracks. It has already added several underpasses of the tracks and has plans to construct a new overpass in the vicinity of a new BRT station. The new bridge and tunnels have the dual benefit of creating new connections to popular shopping centers where road crossings do not exist, as well as providing easy access between the trail and the new BRT stations. Amy Lewin, Transportation Planner for the City of Fort Collins, emphasized the importance of this interconnected rail-with-trail and BRT project.

The Mason Trail is just one of two successful rail-with-trail projects in Fort Collins. The Power Trail runs within an overhead electric utility corridor parallel to active Union Pacific tracks about two miles east of the Mason Trail. More information on the Mason Trail and the Power Trail in Fort Collins is available at: **www.fcgov.com/parks/trails.php**

"The Mason Trail has been a significant enhancement for the Fort Collins community and will be an important complement to the new MAX bus rapid transit system, opening in 2014. The trail provides a great way to get to major destinations and activity centers along the corridor, and also provides convenient access to other trails in the city's existing and expanding trail network." —Amy Lewin



(Amy Lewin, Transportation Planner, City of Fort Collins)

(Rails-to-Trails Conservancy)

With the tight parameters of land available for this rail-with-trail development, project manager Steve Brown of Columbus and Franklin County Metro Parks warned that it is "important to do your homework up front on the ground when it comes to prevailing grades, drainage and utilities to avoid expensive redesigns and change orders."

Camp Chase Rail-Trail

Columbus, Ohio

Status: Partially complete. 5.5 miles are open to the public. 6 miles are currently under construction.

Description: When completed, the Camp Chase Rail-Trail will be a major connection in a cross-state trail project stretching from Cleveland through Columbus to Cincinnati. Currently, 5.5 miles of the trail are open and when finished will pass over a major interstate and into Columbus' Hilltop neighborhood, a dense urban residential, retail and industrial area. Trains on the adjacent tracks are operated by a short line freight company that runs approximately one train a day at less than 10 mph. The entire length of the existing trail runs parallel to the active railroad corridor, although a section of the planned trail corridor will divert from the railroad corridor for about one mile.

Design: Columbus and Franklin County Metro Parks, the lead agency in the development of the Camp Chase Rail-Trail, acquired a fee simple purchase of property from the rail operator for $750,000. The agreement stipulates the trail be built at least 20 feet from the edge of the rail. Multiple design elements were used to delineate the trail from the rail line, including fencing, grade separation and some ditching. The trail is 12 feet wide with an asphalt surface and crosses the rail corridor at grade several times. Crossings are signed and marked for trail users. A prefabricated bridge will be installed to create a safe crossing of an eight lane interstate. The budget for development of the trail to date, including the cost of property rights of the entire 11.5 miles, is $6.9 million.

Comments: Completion of the entire trail corridor is expected by the end of 2014. Further expansion opportunities along the corridor are being explored by the City of Columbus, which could turn this stretch of rail-with-trail into almost 15 miles of total trail.

Camp Chase Railroad is operated by a short line rail company, Carload Express Inc., which also operates two short line railroads in Pennsylvania. The take away for all rail-with-trail projects is to have an intimate familiarity with the project area and take into account all variables that may affect the project. For more information, visit Metro Parks website: **www.metroparks.net/CampChaseRailTrailProject.aspx**

Trails and Excursion Railroads

Heritage Rail Trail County Park

York County, Pennsylvania

Status: Opened in August 1999.

Description: The Heritage Rail Trail was developed on an existing double-track corridor with one set of tracks remaining in place. The trail winds for 22.8 miles through largely rural landscapes between York and New Freedom. When the Heritage Rail Trail first opened, it shared the corridor with the Northern Central Railway Liberty Limited dinner train. By late 2001, insufficient ridership caused the Northern Central Railway to cease operations.

But after 12 years of inactivity, rail service was returned to the Heritage Rail Trail County Park in 2013 with the introduction of "Steam into History," a project of a local nonprofit group of rail enthusiasts which raised funds to build a 1860s-era reproduction locomotive. The restored locomotive and two passenger cars began running on 10 miles of the corridor. Today, re-enactors on the train and along the trail add to the excitement of a train ride through history. Steam into History is planning to soon offer bike shuttle service between New Freedom and Hanover Junction.

Design: The County of York purchased the corridor from PennDOT for $1, under the provision that one set of tracks had to remain within the double-track corridor. There is no barrier between the rail corridor and the trail. Separation between the center line of the track and the edge of trail averages five feet. The trail's surface is primarily crushed stone, with a few paved sections where frequent storm damage has occurred. The average width of trail is 10 feet, and the trail crosses the railroad corridor 16 times over its 22.8 miles. All rail crossings are paved, and in each instance the trail crosses the rail line at an approximate right angle. There is railroad crossing signage at each of these crossing points. The excursion train travels at a speed of between 10 and 15 mph, and railroad staff walk ahead at each rail crossing to ensure trail users have stopped to wait for the train to cross the trail.

Comments: A lease and operating agreement was negotiated between the County of York and Steam into History which stipulates that Steam into History insure the county and park which owns and manages the trail. Special mention is called to the fact that an existing underground utility (fiber optic line) lease takes precedence over rail operations and any future rail freight service would take precedent over the tourist train. The tracks are currently maintained solely by the nonprofit organization to run the tourist train at very low speeds.

Steam into History is not responsible for upgrading the tracks for freight service. The reintroduction of train service along the Heritage Rail Trail corridor was welcomed by the County of York and the county's parks department, and the relationship between the train and the trail is proving to be mutually beneficial. The retail businesses in the Borough of New Freedom are seeing increased commercial traffic drawn to the community by the train. More information: **yorkcountypa.gov/parks-recreation/the-parks/heritage-rail-trail-park.html** and Steam into History: **www.steamintohistory.com/about**

(Rails-to-Trails Conservancy)

Allegheny Highlands Trail — Western Maryland Scenic Railroad

Allegany County, Maryland

Status: The 22-mile trail opened in 2006, and runs from Cumberland, Md., to the Mason-Dixon Line at the Pennsylvania border.

(Rails-to-Trails Conservancy)

(Josh Hooper)

Description: The Allegheny Highlands Trail is a segment of the 150-mile Great Allegheny Passage (GAP). It shares the right-of-way with Western Maryland Scenic Railroad (WMSRR) from Cumberland to Frostburg over the southernmost 16 miles of the GAP corridor. The railroad operates both a steam and a diesel locomotive. The restored coaches have large windows and provide scenic views of the mountains of western Maryland. Trains complete the 32-mile round trip excursion on select days between May and December. While the railroad grade from Cumberland to Frostburg averages just 1.5 percent, there are some short sections of 2.7 percent grade over the 1,400-foot elevation change. For that reason, WMSRR offers a bike shuttle service to carry trail users uphill from Cumberland to Frostburg. During 2012, the railroad transported 1,691 bikes, bike carts and trailers to Frostburg. Trail users with bicycles enjoy the leisurely train ride up to Frostburg and then have a downhill ride back to Cumberland. RTC's Greenway Sojourn has utilized the bike shuttle service on two trips along the GAP, adding hundreds of riders to the railroad's annual traffic.

Design: The rail-with-trail segment shared with the WMSRR has an average trail width of 10 feet. The trail maintains a minimum distance of 8.5 feet from the railroad, and shares a bridge and a tunnel. The trail was built in segments with the first, from Frostburg north to the Pennsylvania border, completed in 2004. The second segment, from Frostburg south to Woodcock Hollow Road, opened in late summer 2005. The final segment, connecting to Cumberland, opened in December of 2006. The trail surface is primarily stone dust but there are some paved areas near Cumberland. The only physical barrier separating the railroad and the trail is a chain link fence inside Brush Tunnel. The train travels at an average speed of 15 mph.

Comment: The right-of-way is the old Western Maryland rail line, which operated on two tracks between Cumberland and the Pennsylvania border and is now owned by Allegany County. The WMSRR operates the train and maintains the tracks. The county maintains the trail with assistance from the local Mountain Maryland Trail (MMT) group. The Frostburg to Woodcock Hollow Road segment was the first rail-with-trail segment of the GAP. Discussions over a number of years revolved around how the GAP would be developed along the right-of-way where the WMSRR operated. Supporters of bikes and trains got together and, working with the Maryland Department of Planning, the two groups found creative ways to overcome old obstacles and close the gap between Frostburg and Cumberland. Trail riders pay the full fare to ride the train ($35), plus $5 to haul their bikes. More information: **www.wmsr.com**

The Winnipesaukee, Opechee and Winnisquam (WOW) Trail

Laconia, New Hampshire

Status: The WOW Trail is a work in progress. The first phase of 1.3 miles opened in 2010. When fully built, the asphalt trail will be nine miles in length.

Description: The Winnipesaukee Scenic Railroad runs seasonally between Meredith and Lakeport, N.H., along the shore of Lake Winnipesaukee. The train passes through Weirs Beach, a once-thriving tourist destination with grand hotels for summer visitors from Boston. Weirs Beach is the home of Laconia Motorcycle Week, an annual event held since 1923. At Meredith, the locomotive is uncoupled and moved to the other end of the train for the return trip to Lakeport. Fall foliage tours are particularly popular on the scenic railroad. The rail corridor is owned by the New Hampshire Department of Transportation (NHDOT). The WOW Trail is a developing trail that runs within the railroad corridor. As of 2013, 1.3 miles of trail was open for public use between the Lake Opechee Inn and Spa in Lakeport and Main Street, Laconia. Additional phases will eventually bring the trail to nine miles in length, and connect it with the BRATT Trail in Belmont.

Design: The rail-with-trail segment of the trail is .8 miles in length. The trail is 10 feet wide and asphalt. The railroad corridor is 66 feet wide, and the distance between the edge of the trail and the center of the railroad tracks averages 15 feet. The trail and railroad tracks are separated by a four-foot chain link fence through the current section. The trail organization has been working with NHDOT and the railroad to permit the use of more aesthetically-pleasing fence on future development phases. Segments of the rail and the trail run along the shore of Lake Winnipesauke. The excursion train runs on weekends from Memorial Day through June, then daily through Labor Day, and again on weekends until the end of October. The train runs once a day, and travels at an average speed of between 10 and 15 mph.

Comments: According to Diane Hanley, past president of the nonprofit WOW Trail organization, the railroad is "tolerating the development of phase two of the trail." The railroad participates in the trail design process on an as-needed basis, but otherwise does not aid the WOW Trail group in overcoming trail development challenges. Eventually, the trail could be developed along the railroad right-of-way all the way to Franklin. More information: **www.wowtrail.org**

(Diane Hanley)

West Rail Line Bike Path, Colo. (Rails-to-Trails Conservancy)

VI. CONCLUSION

This report provides a collection of data, examples and practical tools to increase awareness of the rail-with-trail concept, and to supply trail planners and advocates with resources to advance local and state policies that supports rail-with-trail development. Findings from this study, used together with RTC's previous rail-with-trail report, *Rails-with-Trails* (2000), and USDOT's *Rails-with-Trails: Lessons Learned* (2002), should equip trail managers and advocates with a valuable set of resources to encourage rail-with-trail development in communities across the country. Rails-with-trails that are well-designed to enhance trail user safety and accessibility, and address railroad concerns, can provide many mutual benefits to communities and railroads.

Despite continued liability and safety concerns about collocating trails and active railroad corridors, our interview and survey results reveal that rail-with-trail development has increased at a steady rate, and many more projects are being planned. Furthermore, rail-with-trail facilities continue to maintain excellent safety records. In nearly two decades of studying rails-with-trails, there is only one known fatality involving a trail user and a train. Incorporating well-designed rail-with-trail development along active railroad corridors that frequently deal with pedestrian trespassers can provide a separated, safe facility to control pedestrian travel and effectively reduce dangerous or fatal accidents within the corridor.

The reported data also demonstrate that the acquisition, design, and operating characteristics of rails-with-trails continue to be very diverse. Some trails are built within feet of active railroad tracks, and others are separated from the tracks by a greater distance. Some trails exist parallel to railroad corridors with a high frequency of service and train speeds of more than 50 mph, while others experience intermittent rail service at low speeds. Some trails have constructed barriers that physically separate trail users and trains, and other trails operate safely without a separation between trail and rail. This wide variety of design and management characteristics demonstrates that rails-with-trails can be successfully planned and developed under many different environmental and political conditions.

Responses from the 88 trail managers included in this study indicate that more rails-with-trails are being developed in publicly owned corridors, including regional transit and light rail systems. This may be a growing trend as more communities explore ways to develop and improve well-connected and accessible multi-modal transportation systems.

While many of the liability reduction and risk management tools presented in *Rails-with-Trails: Lessons Learned* remain unchanged, amendments to some states' Recreational Use Statutes demonstrate new state legislative efforts to encourage rail-with-trail development. Additionally, policies implemented by state agencies and regional authorities, and the development of specific design guidelines or standards that accommodate trail users while addressing the concerns of the railroad, point to an increased awareness of the value of rails-with-trails.

More communities across the U.S. are seeking ways to encourage active transportation by developing safe and accessible bicycle, pedestrian and trail systems. Rails-with-trails can be vital to creating and completing trail networks.


Eastern Promenade Trail, Maine (Rails-to-Trails Conservancy)


Cedar Lake Trail, Minn. (Simon Blenski)


Trolley Trail, Iowa (Michael Johns)


Springfield River Walk, Mass. (Rails-to-Trails Conservancy)

Frisco Trail, Ark. (Matt Mihalevich)

VII. APPENDICES — LIST OF RAILS-WITH-TRAILS

Trail Name	State	County	Included in This Report	Total Trail Length	Rail-with-Trail Length
Chase Trail	AK	Matanuska-Susitna	✓	14	9
Tony Knowles Coastal Trail	AK	Anchorage	✓	11	1.25
Frisco Trail	AR	Washington	✓	1.3	0.4
Route 66 Trail	AZ	Coconino	✓	4.9	3.56
Alton Ave to Orange Street Bike Trail	CA	Orange	✓	1.8	1.8
Bear Creek Trail (Merced)	CA	Merced		3.6	0.5
Cal Park Hill Tunnel	CA	Marin		1.1	1.1
Carlsbad Coastal Rail Trail	CA	San Diego	✓	0.7	0.7
Chico State Bike Path	CA	Butte		2	1.9
Escondido-San Marcos Inland Rail Trail	CA	San Diego	✓	6.5	6.5
Fillmore Trail	CA	Ventura	✓	1.4	1.4
Folsom Parkway Rail-Trail	CA	Sacramento	✓	5	5
Foss Creek Pathway	CA	Sonoma		0.6	0.6
Goshen Trail	CA	Tulare		5	5
Lincoln Hill Pathway	CA	Marin		1.4	1.2
Linear Park	CA	San Diego		1.1	1.1
Manteca Tidewater Bikeway	CA	San Joaquin	✓	3.4	1
Martin Luther King, Jr. Promenade	CA	San Diego	✓	0.75	0.75
Mission City Bike Trail	CA	Los Angeles	✓	2.9	2.9
Napa Valley Vine Trail (Napa)	CA	Napa		1.8	1.8
Napa Valley Vine Trail (Yountville)	CA	Napa		0.85	0.85
Oceanside Coastal Rail Trail	CA	San Diego	✓	1	1
Old US 40 Bike Path	CA	Yolo	✓	8.4	4.8
Richmond Greenway	CA	Contra Costa	✓	2	1.36
Rose Canyon Bicycle Path	CA	San Diego	✓	1.1	1.1
Sacramento River Parkway Trail	CA	Sacramento	✓	4	2.5
San Clemente Beach Trail	CA	Orange	✓	2.3	2.3
San Francisco Bay Trail (Pinole, Hercules)	CA	Contra Costa	✓	10	2.13
San Luis Obispo Railroad Safety Trail	CA	San Luis Obispo	✓	1.5	1.5
Santa Clara River Trail (Chuck Pontius Commuter Rail Trail)	CA	Los Angeles	✓	7.1	2.5
Santa Maria Valley Railroad Trail	CA	Santa Barbara	✓	1.2	0.23
Sierra Highway Bike Path	CA	Los Angeles		7.1	7.1
Solana Beach Coastal Rail Trail	CA	San Diego	✓	1.7	1.7
Walnut Trail	CA	Orange	✓	3.3	3.3
Watts Towers Crescent Greenway	CA	Los Angeles	✓	0.2	0.2
Westminster Hoover Street Trail	CA	Orange	✓	2	2
Animas River Trail	CO	La Plata	✓	7	2
Mason Trail	CO	Larimer	✓	4.5	4.5
New Santa Fe Regional Trail	CO	El Paso	✓	20	4.6
Power Trail	CO	Larimer	✓	3.89	3.89
UCAR Multi-Use Path	CO	Boulder		0.3	0.07
Yampa River Core Trail	CO	Routt	✓	7	0.82

Trail Name	State	County	Included in This Report	Total Trail Length	Rail-with-Trail Length
Metropolitan Branch Trail	DC, MD	Montgomery, Washington	✓	8	1.61
James F. Hall Trail	DE	New Castle		1.76	1
John Yarbrough Linear Park Trail	FL	Lee		6	6
M-Path	FL	Dade	✓	9.4	9.4
Silver Comet Trail	GA	Cobb, Paulding, Polk	✓	61.5	10
Stone Mountain Trail	GA	De Kalb, Fulton	✓	19	3.5
Linn Creek Recreational Trail	IA	Marshall	✓	10	1
Prairie Farmer Recreational Trail	IA	Howard, Winneshiek		20	0.7
Trolley Trail	IA	Cerro Gordo		6.2	0.33
Chain O' Lakes Bike Path	IL	Lake		3.2	1.6
East Prairie Bicycle Trail	IL	Piatt		1	1
Great River Trail	IL	Carroll, Rock Island, Whiteside		60	28
Green Bay Trail	IL	Cook, Lake		8.9	6.29
Illinois Prairie Path	IL	Cook, Du Page, Kane	✓	57.4	2
MetroBikeLink Trail	IL	St. Clair		6.9	6.2
Robert McClory Bike Path (formerly North Shore Bike Path)	IL	Kenosha, WI, Lake		26.5	11.2
Rock River Recreation Path	IL	Winnebago	✓	10	7
Skokie Valley Trail	IL	Cook, Lake		9.8	9
Virgil Gilman Trail	IL	Kane, Kendall		11.5	1.8
Wauponsee Glacial Trail	IL	Will		22.3	0.6
Cardinal Greenway (Muncie Section)	IN	Delaware, Randolph	✓	27.25	0.6
Dearborn Trails (Aurora, Lawrenceburg, Greendale)	IN	Dearborn		5.4	2.9
Industrial Heritage Trail	IN	Howard		2.6	2.6
Little Turtle Waterway	IN	Cass		1	0.5
MapleHeart Trail	IN	Elkhart	✓	4.8	2
Paradise Spring Riverwalk	IN	Wabash		0.75	0.75
Polly Grimshaw Trail	IN	Monroe		0.65	0.65
Sweetser Switch Trail	IN	Grant		3	2.6
Wabash & Erie Canal Trail (Evansville)	IN	Vanderburgh		1	1
Winona Interurban Trail	IN	Elkhart		3.14	2.6
Gary L. Haller National Recreation Trail (Mill Creek Streamway Park)	KS	Johnson	✓	17	5
Whistle Stop Park	KS	Morton		1.8	0.91
Louisville Riverwalk	KY	Jefferson		8.3	1.88
South Elkhorn Trail	KY	Fayette		0.5	0.5
Mississippi River Trail (New Orleans Levee Top Trail)	LA	Orleans	✓	21	1
Connecticut Riverwalk and Bikeway	MA	Hampden	✓	3.7	2
Manhan Rail-Trail	MA	Hampshire	✓	9	0.8
Norwottuck Rail-Trail (Mass Central Section)	MA	Hampshire	✓	10	1.5
Shining Sea Bikeway	MA	Barnstable	✓	10.7	0.07
Southwest Corridor Park (Pierre Lallement Bike Path)	MA	Suffolk		3.9	1.89
Allegheny Highlands Trail of Maryland—Great Allegheny Passage	MD	Allegany		22	11.5

Trail Name	State	County	Included in This Report	Total Trail Length	Rail-with-Trail Length
Eastern Promenade Trail	ME	Cumberland	✓	2.1	1.8
Ellsworth Rail Trail	ME	Hancock	✓	1.6	1.6
Kennebec River Rail Trail	ME	Cumberland, Kennebec, Sagadahoc		6.5	6
Sebago to the Sea Trail	ME	Cumberland		28	8
Traverse Area Recreation Trail (TART)	MI	Grand Traverse	✓	10.5	10.5
Duluth Lakewalk	MN	St. Louis	✓	7	7
Hiawatha Trail	MN	Hennepin		4.7	4.7
North Cedar Lake Regional Trail/Cedar Lake Trail	MN	Hennepin	✓	7.9	7.9
Bitterroot Branch Trail	MT	Missoula	✓	2.17	2.17
Great Northern Historical Trail	MT	Flathead		22	0.5
Charlotte Trolley Trail (Charlotte Trolley Rail-with-Trail)	NC	Mecklenburg	✓	3.3	3.3
Libba Cotten Bikeway	NC	Orange	✓	0.38	0.38
Marcia H. Cloninger Rail-Trail	NC	Lincoln	✓	1.7	0.15
St. Joe Trail	NE	Hall		2.91	1.2
Winnipesaukee River Trail	NH	Belknap, Merrimack		5.1	2
WOW Trail	NH	Belknap	✓	1.3	1
Traction Line Recreation Trail	NJ	Morris	✓	3.2	3.2
Santa Fe Rail-Trail	NM	Santa Fe	✓	17	17
Union Pacific Railroad Trail	NV	Clark	✓	4.5	4.5
Saranac Lake Recreational Path	NY	Franklin		0.52	0.52
Camp Chase Rail-Trail	OH	Franklin, Madison	✓	5.5	5.5
Celina Coldwater Bikeway	OH	Mercer	✓	4.61	4.61
Hockhocking Adena Bikeway	OH	Athens	✓	20.3	1.5
North Coast Inland Trail—Sandusky/Ottawa County (Bellevue to Elmore)	OH	Ottawa, Sandusky	✓	26	12
Portage Hike and Bike Trail	OH	Portage		9	5.5
Simon Kenton Trail (Urbana-Bellefontaine Connector)	OH	Champaign, Clark	✓	1.25	1.2
University Park Bike-Hike Trail	OH	Lucas		6.3	4.18
Wright Brothers Huffman Prairie Bikeway	OH	Greene, Montgomery	✓	4.58	3.6
Zane's Landing Trail	OH	Muskingum	✓	3	3
Stavich Bicycle Trail	OH	Mahoning	✓	2.9	2.9
Katy Trail (Oklahoma City)	OK	Oklahoma		6.3	1.2
Central Ashland Bikepath	OR	Jackson	✓	1.8	1.8
I-205 Multi-Use Path	OR	Clackamas, Multnomah		18.3	11.3
Logging Road Trail	OR	Clackamas		3.5	1
Springwater Corridor	OR	Clackamas, Multnomah		21.5	3.43
Arboretum Trail	PA	Allegheny	✓	0.8	0.8
Clarion-Little Toby Creek Trail	PA	Clearfield, Elk, Jefferson	✓	19	2
D & L Trail (Lehigh Gorge State Park Trail)	PA	Carbon, Luzerne	✓	25.7	6.8
Five Star Trail	PA	Westmoreland	✓	7.75	6.1
Heritage Rail Trail County Park	PA	York		21.1	10
Hoodlebug Trail	PA	Indiana		10.5	0.5

Trail Name	State	County	Included in This Report	Total Trail Length	Rail-with-Trail Length
Luzerne County Rail-Trail	PA	Lackawanna, Luzerne		1.8	1.8
McClintock Trail	PA	Venango	✓	2	1.5
Montour Trail—Westland Branch	PA	Washington	✓	3	3
Neversink Connector Trail	PA	Berks		1.2	0.3
Pine Creek Rail Trail/Jersey Shore Connector	PA	Lycoming, Tioga	✓	62	0.47
Stavich Bicycle Trail	PA	Lawrence	✓	7	7
Schuylkill River Trail (Thun Trail)	PA	Berks, Montgomery	✓	18.3	3
Schuylkill River Trail (Valley Forge to Philadelphia)	PA	Montgomery, Philadelphia	✓	27	1.4
Three Rivers Heritage Trail (South Side)	PA	Allegheny	✓	6	6
Blackstone River Bikeway	RI	Providence	✓	11.8	5
Richland Creek Greenway	TN	Davidson	✓	5	0.5
Tennessee Central Heritage Rail Trail	TN	Putnam		0.5	0.5
Bicentennial Hike and Bike Trail	TX	Hidalgo	✓	4	2
Cotton Belt Trail	TX	Tarrant	✓	11.2	11.2
Denton Branch Rail-Trail (Trinity Trails System)	TX	Denton		8.6	8.6
Lance Armstrong Bikeway (Crosstown Greenway)	TX	Travis		4.6	0.25
Legacy Parkway Trail	UT	Davis		14	0.6
Porter Rockwell Trail	UT	Salt Lake	✓	10.7	10.7
Virginia Capital Trail	VA	Charles City, James City, Richmond City		15.8	0.5
Island Line Rail Trail	VT	Chittenden, Grand Isle	✓	12.5	1.5
Burke-Gilman Trail	WA	King		17	1.72
Chehalis Western Trail	WA	Thurston		20.5	1.12
Cowlitz River Trail	WA	Cowlitz		2.5	2.5
Duwamish Bikeway	WA	King		2.95	1.75
East Aberdeen Waterfront Walkway	WA	Grays Harbor		1.6	0.5
Elliot Bay Trail (Terminal 91 Bike Path)	WA	King		3.35	0.7
Fish Lake Trail	WA	Spokane		10	5.7
Grand Avenue Greenway	WA	Whitman		1.7	1.7
Lower Yakima Valley Pathway	WA	Yakima		14	6.36
Pullman Riverwalk	WA	Whitman	✓	0.42	0.42
Bugline Trail	WI	Waukesha		12	1.88
Campus Drive Pedestrian Bike Path	WI	Dane		1.5	1.5
La Crosse River State Trail	WI	La Crosse, Monroe	✓	22	22
MRK Trail (Racine County Bikepath system)	WI	Racine		5	5
New Berlin Recreation Trail	WI	Waukesha		7	7
Peace Trail	WI	Rock	✓	7	7
Rock River Parkway Trail	WI	Rock		2.4	0.73
Southwest Commuter Path	WI	Dane	✓	5.6	1.15
TOTALS				**1397**	**555**

VII. APPENDICES — SUMMARY OF ONLINE RESOURCES

The report references several additional resources that, due to their extensive nature, are available on our website at **www.railstotrails.org/railwithtrail.** A summary of these online resources is provided below.

- Individual survey and interview responses — Detailed responses for each of the 88 rails-with-trails included in this study are compiled in a comprehensive table. Use this table to learn more about trail characteristics, corridor conditions and the railroad owner/operators.
- Recreational Use Statutes (RUS) — An updated RUS list for all 50 states and the District of Columbia. Includes link to each state's RUS.
- Legal Agreements — More than a dozen examples of legal agreements between trail managing agencies and railroad companies.
- Rail-with-Trail Feasibility Studies — Several sample feasibility studies and rail-with-trail planning documents provide examples of design techniques, trail route alignments, and suggestions for funding trail development.
- Image Library — A growing photo catalog provides images of rails-with-trails from across the country.
- Rail-with-Trail List — List of known rails-with-trails included in RTC's database, with links to trail descriptions on our trail-finder website, **www.traillink.com.**

Southwest Commuter Path, Wis. (Rails-to-Trails Conservancy)

Hockhocking Adena Trail, Ohio (Rails-to-Trails Conservancy)

ENDNOTES

1. For more information on the railroad abandonment process, visit RTC's Trail Building Toolbox: www.railstotrails.org/ourWork/trailBuilding/toolbox/index.html

2. http://community.railstotrails.org/media/p/4751.aspx

3. RTC has developed and manages the most comprehensive database of information about rail-trails in existence. The database houses thousands of records relating to railroad corridors, open trails, and trails in development, with data on rail-trails dating back to 1969 and information on railbanked corridors from 1986 forward. Trail-related information is gathered by online monitoring of trail progress in the news and other internet sources and through our large network of trail managers, advocates and users. Maintaining communication with hundreds of local and state trail professionals and enthusiasts has allowed RTC to collect, continuously update and validate rail-trail information.

4. *NCRA Policy and Procedures Manual: Trail Projects on the NWP Line Rights-of-Way: Design, Construction, Safety, Operations, and Maintenance Guidelines*. (2009) www.mendocinocog.org/pdf/Rail-Trail/NCRA%20Trail_Guidelines_8-5-09.pdf

5. www.metrolinktrains.com/pdfs/EngineeringConstruction/Rail_with_Trail_Design_Guidelines.pdf

6. www.dot.ca.gov/hq/traffops/survey/pedestrian/TR_MAY0405.pdf

7. Bondurant, J. and Thompson, L. (2009). Trail Planning for California Communities. Salano Press Books. Point Arena, Calif.

8. http://ict.illinois.edu/publications/report%20files/FHWA-ICT-13-013.pdf

9. http://community.railstotrails.org/media/p/35414.aspx

10. http://community.railstotrails.org/media/p/35412.aspx

11. http://community.railstotrails.org/media/p/35413.aspx

12. Railroad classification system is defined in Section IV.

13. See page 20 of *CSX's Public Project Information* (2005), www.csx.com/share/wwwcsx_mura/assets/File/Community/CSXPublicPolicyManual_3.24.11.pdf

14. Section 7.2 of *BNSF Railway and Union Pacific Railroad: Guidelines for Railroad Grade Separation Projects* (2007), www.uprr.com/aboutup/operations/specs/attachments/grade_separation.pdf

15. MassDOT rail-with-trail policy: http://community.railstotrails.org/media/p/35411.aspx

16. http://safetydata.fra.dot.gov/OfficeofSafety/publicsite/on_the_fly_download.aspx

17. http://oli.org

18. 14 Maine Revised Statutes Annotated § 159-A. See Liability Reduction Tools Box.

19. Code of Virginia, § 29.1-509

20. Alaska Statutes, § 09.65.200(a); 68 P.S. §§ 477-1 to 477-8.

21. Stone v. York Haven Power Co., 749 A.2d 452, 456 (Pa. 2000)

22. Estate of Haykin v. City of Bellingham, No. 67713-6-I (Wash App. Div. 1, Oct. 15, 2012) (unpublished opinion).

23. 42 Pa.C.S.A § 8339.1(a)

24. www.fra.dot.gov/eLib/Details/L03623

25. CA Civil Code § 846.1

26. See, e.g., Chicago & N.W. Transp. Co. V. Hurst Excavating, Inc., 498 F. Supp. 1, 4 (N.D. Iowa 1980) (relying on Section 1 of Article VII of the Iowa Constitution)

27. For example, Oregon law provides authority for the parks department to indemnify "an owner of private land adjacent to an Oregon recreation trail… for damage clearly caused to the land of the owner, and property therein, by users of such trail and which such landowner has not been able to recover from the user causing such damage…" Oregon Rev. Stat. § 390.980.

28. Alaska Statutes, § 42.40.420.

29. Detailed survey responses available at www.railstotrails.org/railwithtrail.

30. www.crossalert.com

31. The Transportation Investment Generating Economic Recovery (TIGER Discretionary Grant program) is a federal funding program administered by USDOT.

32. "*Clarion/Little Toby Rail-with-Trail Feasibility Study,* Elk County, Pennsylvania," by Alta Planning & Design, includes a full technical analysis of the rail-with-trail segment.

National Headquarters
2121 Ward Court, NW, 5th Floor
Washington, DC 20037
tel 202.331.9696

Northeast Regional Office
2133 Market Street, Suite 222
Camp Hill, PA 17011
tel 717.238.1717

railtrail@railstotrails.org

www.railstotrails.org
www.TrailLink.com

7/11/18

U.S. Coast Guard BNSF Railway Consulting Party Meeting

NAME	organization	email
KRISTOPHER SWANSON	BNSF	
Amy McBeth	BNSF	
Joey Roberson-Kitzman	Bis-Man MPO	
Walter L Bailey	Bismarck Histor	
Emily Sakariassen	Preservation ND	
Susan Dingle	Preservation N	
Nick Bradbury	FORB	
Amy Cathrine Sakariassen	National T	
ERIK SAKARIASSEN	Fort Lincoln Fou	
Susan Quinnell	ND SHPO	
Bob Shannon	FORB	no
AARON L BARTH	Fort Lincoln Foundation	
Jim Neubauer	City of Mandan	
Spirit Lake		
Valerie Barbie	Bismarck Tour C	
L Wefald	FORB	

[redacted]

CH2M Hill Companies, Ltd.

Moderator: Lori Price
July 11, 2018
6:50 p.m. EST

OPERATOR: This is Conference #386356192

Lori Price: This is Lori Price. Is anyone else on the call?

Rob McCaskey: Hi, Lori, it's Rob McCaskey. We got several people here. And we're going to start probably about 9 to 10 minutes.

Lori Price: Excellent. Just so you know, we are recording it through the conference line. I don't know how much we'll pick up but I thought we'd give it a try.

Rob McCaskey: Thank you.

Rob McCaskey: OK. We're going to have five minutes now, we're supposed to start. Is everybody ready? Everybody get signed in, please. All right. And am I still online with the telephone? Anybody hear me on that side?

Female: Yes, I can hear you.

Lori Price: This is Lori.

Rob McCaskey: OK. So we're going to go ahead and do introductions.

Rob McCaskey: OK. We'll start with people present in the room and then we'll go to the phones. So introduce yourself and who you represent, please. Start down there, sir.

Jim Neubauer: Jim Neubauer with the City of Mandan.

Rob McCaskey: Please speak up because they're handling the notes on the phone, please.

Joey Roberson-Kitzman: Joey Roberson-Kitzman, Bismarck Mandan MPO.

Bob Shannon: Bob Shannon with Friends of the Rail Bridge.

Walt Bailey: Walt Bailey, Bismarck Historical Society.

Erik Sakariassen: Erik Sakariassen, Fort Abraham Lincoln Foundation.

Amy Guthrie Sakariassen: Amy Guthrie Sakariassen, National Trust for Historic Preservation.

Susan Quinnell: Susan Quinnell with SHPO.

Nick Bradbury: Nick Bradbury, Friends of the Rail Bridge.

Emily Sakariassen: Emily Sakariassen, Preservation North Dakota.

Susan Dingle: Susan Dingle, Preservation North Dakota.

Rob McCaskey: Rob McCaskey, I'm with the Coast Guard. And we'll have a sign-in sheet, so if someone on the other end is having a hard time, we'll have that.

Kris Swanson: Kris Swanson, BNSF Railway.

Amy McBeth: Amy McBeth, BNSF Railway.

Aaron Barth: Aaron Barth, Fort Abraham Lincoln Foundation.

Erich Longie: Erich Longie, Spirit Lake Sioux Nation.

Rob McCaskey: So that's everyone here. If we could have everyone that's on the telephone introduce themselves, I'd appreciate it.

Kitty Henderson: This is Kitty Henderson, Historic Bridge Foundation.

Lori Price: Hi, this is Lori Price for Jacobs Engineering.

Adam Nies: Adam Nies, Houston Engineering.

Hans Erickson: Hans Erickson, TKDA.

Rob McCaskey: Is there anyone else on the phone that has not identified themselves?

Betsy Merritt: This is Betsy Merritt, I'm with the National Trust for Historic Preservation. I'm deputy general counsel, calling in from our D.C. Headquarters. And I sent an e-mail to several of you asking – telling that the Advisory Council had encouraged staff to call in this evening.

Rob McCaskey: Yes, thanks, Betsy. I got a call from Chris Wilson today letting me know that you were going to be here. I appreciate you calling in. Welcome.

Betsy Merritt: Thank you.

Rob McCaskey: Anybody else that hasn't checked in yet? We got that all covered? OK. Again, my name is Rob McCaskey. I'll be leading the meeting today. We got several things in the agenda to go over.

Before we get started, I want to remind everybody to make sure to check your e-mail regularly. You can expect that we're going to have meetings of some nature every three weeks.

So you're going to expect to start, one week out from this one, starting to see e-mails with documents and agendas and things like that. So start looking at your e-mail for that. We had some people that missed some e-mails that were sent out. I want to make sure that that contact is made.

Lori Price: Hey, Rob, this is Lori. I'm going through my rolls. I didn't hear Chris Wilson. Is he in the room or on the line?

Rob McCaskey: Negative. Chris Wilson had something come up, so he will not be here today.

Lori Price: Oh, OK. OK. Thanks.

Rob McCaskey: Anyone else have questions before we move on to the next item on the agenda? All right. Hearing none, the next item on the agenda is a FEMA

requirement of no additional structural impact, specifically multi-bridge and modeling results for alternatives.

And then, FORB has asked that at the next meeting, meeting number five, we discuss the appropriate scour mitigation with riprap and necessary channel modification to ensure no impacts to the floodplain.

So we'll be gathering that information, and hopefully have that presented by BNSF at the next meeting. But, A, again was multi-bridge modeling results for other alternatives. Is that something you guys have prepared to talk about?

Kris Swanson: Yes. So, I'll let Hans talk and then if people can't understand him, I'll reiterate. Hans, you are on the call, correct?

Hans Erickson: Yes, I'm here. Can you hear me OK?

Rob McCaskey: Just make sure you speak clearly and loudly, Hans.

Hans Erickson: Very good. I'll shout sufficiently so I won't lose my voice halfway through this. But at any rate, yes, we did take a look at some additional modeling for the other alternatives considered in the EA.

So specifically, we looked at Alternate two, new bridge 80 feet north of existing bridge remaining in place. The hydraulic model results for that configuration identify a river stage increase for the 100-year base flood of 0.02 feet.

The limits of that stage raise extend to a point approximately eight miles upstream of the existing bridge and impact approximately 500 structures currently in the floodplain.

We also looked at a variant of Alternate three. So our bridge positioned 30 feet upstream of the existing, and ran the model with both the existing and proposed bridges in place concurrently.

With that configuration, our model identifies the river stage increase of 0.03 feet. And that extends approximately 10 miles upstream of the existing bridge, and impacts about 550 structures currently in the floodplain.

And, again, just to reiterate, the other Alternates considered in the EA, one was do nothing, obviously no change there. And then, our bridge for Alternate three with the in-place bridge removed, again, produced a river stage increase of 0.00 feet.

Rob McCaskey: Could you provide us, say, a presentation summary of all the estimates that we can look at after this meeting, please?

Hans Erickson: Certainly, yes. We can put a table in the meeting minutes that identified those.

Rob McCaskey: Thank you.

Nick Bradbury: Hans?

Hans Erickson: Yes.

Nick Bradbury: This is Nick Bradbury from Friends of the Rail Bridge. Have any of your models taken into account channel modification measures that could be made in order to have Alternative 2 or your variant of Alternative 3, where either of those alternatives wouldn't raise the flood level?

Hans Erickson: So we haven't pursued channel modification as a mitigation measure due to the soil types within the Missouri River channel and floodplain are primarily sandy.

So, we're expecting localized excavations around the bridge would not provide a permanent solution as the channel would just reconfigure itself after a large flood event.

Nick Bradbury: Have you explored what other engineering methods there might be for channel modification apart from what you just described?

Hans Erickson: Other engineered solutions for channel modification. I guess – I'm not picturing anything other than just reconfiguring a cross section.

Nick Bradbury: Have you researched it?

Kris Swanson: So, we haven't done anything engineered, we haven't planned or analyzed or anything like that. But as far as …

Hans Erickson: Correct.

Kris Swanson: … information in the notes that whenever you're looking at impact, you look at the variables and the equipment FEMA provides, which has to do with roughness and other variables.

Those have been exhausted and there's nothing that we can do as far as from a coefficient standpoint. So your only other options are physical options, construction, either be a …

Hans Erickson: Correct.

Kris Swanson: Due to its soil conditions, it's going to move, so you might have some periodic dredging in order to keep that down, mitigated for prolonged period of time or in perpetuity essentially, otherwise build a levee system.

Nick Bradbury How extensive would you expect the levee system to be? Without looking further, knowing that the impacts go eight and 10 miles respectively to Alternate 2 and Alternate 3 with the bridge remaining, I would assume that you have to build levee (inaudible), which in itself could potentially trigger a pour away from (inaudible).

Joey Roberson-Kitzman: Do we know if …

Rob McCaskey: Can I get everybody as they speak, to state your name please so that those who are taking notes know who you are?

Joey Roberson-Kitzman: Joey Roberson-Kitzman. Do we know if the (inaudible)?

Lori Price: I'm sorry, can I ask who's speaking?

Rob McCaskey: Question was, do we know what the current flood status would impact the results of (study)?

Kris Swanson: So I guess – this is Kris Swanson. I'm going to ask a clarifying question. What do you mean by the current flood status?

Joey Roberson-Kitzman: The amount we're going through right now, (inaudible) substantial amount of (inaudible) and stuff like that.

Kris Swanson: That's a really good point. So, Kris Swanson again for those on the call. So, last call, we talked about the point of reference as far as the base flood elevation impact and that's what we're talking about, right? 0.02 feet is really like fractions of inches or a couple inches …

Nick Bradbury: Quarter inch.

Kris Swanson: … quarter inch. So, thank you for the mental math expert. So, as far as the flood conditions now, based on what we looked up on public information. Currently, right now, the river is flowing at 60,000 cubic feet per second on the gauge that we referenced.

And so that more corresponds to the 10-year event or we're talking about a flood elevation increase to the 100-year event, right, or the 1 percent chance, where this is more like a 10 percent chance. And so the 100-year event is closer to 94,000 cubic feet per second.

So, what we have today is roughly two thirds of what the 100-year event is, or the 100-year event is an additional 50 percent of the current flood elevation.

Nick Bradbury: So, this is Nick Bradbury again. In considering this …

Female: So does that answer your question?

Nick Bradbury: Somewhat, yes.

Female: Because on the last meeting, the consultants for FEMA talked about that. You want to reiterate that a little bit too or not? Do you remember how – the question was, that the USACE adding the releases to the river, how did that impact when we see those with that conversation. But, (inaudible) already.

Kris Swanson: No. I mean, it just goes back to what was discussed about last time was the point of reference. Yes. And so the point of reference as far as the increase that the proposed project or inclusion we have, in addition to the 100-year event. So that's where you might have broader baseline. Does that make sense?

Nick Bradbury: Yes. Only – I would think that might be (inaudible) of how the river (was) built depending on how much (inaudible) pushing through and (resulting) any change (with the business). Almost quite a (inaudible) going forward.

Kris Swanson: Now, what our data is based off of is, what the current local administrators have for their point, which FEMA has.

So your local administrators, I believe, are the counties, correct me if I'm wrong, and that Morton County and Burleigh County are the local administrators. And so they are the ones that request the data of the map that FEMA uses for the floodplain.

Female: All right, I didn't mean to interrupt you, I just wanted to make sure we (inaudible).

Nick Bradbury: This is Nick Bradbury again. A 0.02 point increase of the water levels actually is less than one quarter of an inch, it is 0.24 inches. So I – part of what I'm talking about, trying to get my mind around this is – FEMA is not here tonight.

I guess another question I would have for them is, is their assertion of no structural impact really relevant to this project?

On June 1st, 2011, the Corps of Engineers would let 152,000 cubic feet per second from the dam. So, the 100-year floodplain is really relevant to this project, and I would really press the Corps on that because I wonder about this less than quarter inch rise be a 100-year floodplain.

How many cubic feet per second that corresponds to that would impact of one of these alternatives in the river? So we're talking about the potential to the

Corps. I think I would suspect – I don't know how to do the math, how the math arrived at 0.02 foot, less than a quarter inch to 100-year floodplain.

But I would expect the comparison to be something like the Corps is capable of pushing 10,000 to 100,000 times more of a problem than this less than a quarter inch increase to the river level.

And so, I would post that question to FEMA and see in the context of that how their recommendation makes any sense.

Rob McCaskey: If you get an answer because I think that's a good question. I don't know what FEMA is going to say about that, let's see. Did you catch that on the phone?

Lori Price: We're recording it. I'm having a hard time hearing.

Rob McCaskey: OK, that's no problem. I know exactly what he said, I know exactly what the questions are. We'll talk about it afterwards, but I appreciate that concern.

Kris Swanson: We had the same question when we applied, right?

Rob McCaskey: Less than a quarter inch.

Kris Swanson: Anything that's already in the floodplain, it's already getting flooded, what's the difference. And, from my latest understanding is that, the 100-year flood event was a 1 percent chance, and that was just where your floodplain is.

And that trickles down to insurance rates, figure that answer, right? So, if you think about this thing, because there's development going on everywhere all the time. And you have to set the bar somewhere. So it's going to have the 1 percent elevation change.

Less than a quarter of an inch, so insignificant. I mean, that's a ripple of a wave. And as an applicant, why do we have to go through this? It's a six-month permitting process to get buy off, not to mention the amount of dollars BNSF has put into research and analysis, right? So, we would like it to be gone, too. But yes, that's the rule of the law. So we applied.

But if you think about it from this standpoint, there's development everywhere and everyone has to apply to this, and it ends up becoming a death by a thousand cuts, right?

If you're responsible for people on whether they're building in a floodplain or not, you're going to want to know whoever is touching it and making a rise on it.

And so, those may be insignificant, this is mainly to keep track of that because if they wouldn't, if you have X amount of projects that have an inch or less than a quarter of an inch over a period of time, next thing you know, your floodplain could be off by a dramatic amount, and people would think that they don't need flood insurance. Next time you have 100-year flood event, they're getting flooded.

So it seems insignificant, both from your perspective and an applicant's, but on the grand scheme of things when you relate it to flood insurance and the floodplain, it makes a lot of sense.

Female: Quarter inch.

Male: Less than a quarter.

Female: Less than a quarter inch. How much geography (inaudible)?

Nick Bradbury: Now, here's a question that I'd like to ask. Because I understand preliminary plans for potentially building your project across the river always call for somewhat extensive dredging of the river bottom in order to be able to move equipment across the river as (inaudible).

How much – what kind of – I'd like kind of high rise building could be worth exploring since dressing is a potential, I wonder how much sand or whatever is at the bottom of the river would need to be moved in order to compensate for that less than quarter inch rise of 100-year floodplain.

Are we just talking about several cubic yards of sand or are we talking about millions of cubic yards of sand that would be because our accounted for the

dredging and monitoring, and possibly periodic dredging in order to maintain that floodplain with that structure.

Female: We came to that.

Nick Bradbury: We don't know how much in cost.

Female: And you're suggesting that ongoing dredging of the river (inaudible).

Nick Bradbury: I am suggesting that you take serious measures to preserve the historic asset that is the bridge. And that we explore all possible options and that it's necessary that we do due diligence and find out what the cost would be.

So I think we're about to explore another possible alternative, which would have a price tag that I suspect is higher than what's the ongoing dredging cost, in our next agenda item. So, I'm suggesting that we at least explore it and know what we're talking about before we summarily dismiss that it's a possibility.

Kris Swanson: We also have to understand too, that the historical relevance would be only affecting for Section 106. Whereas, the whole point of NEPA process is to minimize total effects, right?

And so, at some point, that has to be weighed as well. And by not requiring CLOMR or any effect to the floodplain and flood way for that matter, that's one less impact.

Nick Bradbury: Here's another question regarding scour effects and whatnot, is current models for the bridge – for the alternatives where both bridges would remain standing at the case of offset in the riverbed, which has been presented as one way to do this was having the least impact on the floodplain.

But that's also been presented as, because scour would be an issue as far as having two piers in line with each other supposedly, the scour effects on the two would be unpredictable or something.

But in subsequent views, we discussed that there are common methods such as installation of riprap to address the scour issue where have the two piers

can actually. And my question is, with the less effect of floodplain, either the alternatives considers – it includes piers that are in line with each other in the river.

Is there a way to have the piers in line with the river, would that have less impact with floodplain and could be (inaudible) the scour effect, that that could be the safe route in a model such as that.

Kris Swanson: Right, so let me rephrase this. So for Alternative 2 the super structure and sub-structure we've selected in order for the piers to align.

As far as we've identified as our preferred alternative and what we submit to applications forum, for apparent reason, a 30-foot offset, it is physically impossible in that the foundation will occupy the same space that we're (seeing), where in order to line them up, we'll have one sitting on top of the other.

And it's – the original – the existing structure's foundations are currently where our foundations have to be would line them up. So that's why their offset is with (inaudible) to occupy the (inaudible). Did that make sense? So if we were to align it, would shouldn't allow that, the Alternative 2 maybe predominant.

Male: And that's the minimum distance of (ECP)?

Kris Swanson: That is my understanding, yes.

Hans Erickson: Yes.

Male: There's no way that the new piers with the 30-foot offset could be constructed in a way that incorporates the existing piers to not undermine them but may possibly reinforce them?

Kris Swanson: So, to your point made at the second meeting, of an idea about a bridge that completely spans the river or a curved bridge… I personally believe anything is possible from an engineering standpoint. You can design almost anything.

The thing is, to what extent are you going to have resources and how much risk are you willing to take on?

So, from that, I would say, sure, it's possible. You can figure something out. The thing is, how much money are you going to pay with all the risk being able to – for a professional engineer to sign his name saying this bridge would not fall down due to my design, I don't think you're going to find anyone to sign that.

Is it possible? Probably. The amount of money we're willing to spend? Probably not. The amount of risk various entities are willing to take on? Probably not.

Rob McCaskey: What are some examples of what you were talking about?

Kris Swanson: For one instance with concrete cold joints on granite and your new concrete. Now, you're adding load to a foundation, designed for its original purpose but now it's going to take on additional load from a new bridge and trying to analyze that for factors of safety. Those are the two that come to mind. Yes, sir.

Bob Shannon: It appears that …

Rob McCaskey: Could you state your name for the people on the call?

Bob Shannon: This is Bob Shannon with Friends of the Rail Bridge. It appears that we may be (preserving) arriving of altitude solution for old improvement where to that as a package deal.

We lost several ones but we will set aren't bad and try to pull those meetings for the 106 process and looking at what we have a significant impact to that. Then we're up against the (inaudible) others that one against the other sort of that.

And it seems (you got it), I guess, the only way to evaluate that with the product significant impact to (inaudible) …

Rob McCaskey: All right. Let me stop there. We'll just jump down to the last item [on the agenda]. And we're not talking about EIS here. This is about 106 process.

Bob Shannon: Yes.

Rob McCaskey: So the EA is not going to be on the agenda again. And when the EA comes forward, you'll have the opportunity to discuss that. That's not part of the 106 process.

Bob Shannon: OK. How do we balance the 106 process, would that (inaudible).

Rob McCaskey: I'm not sure I'm understanding the question.

Bob Shannon: We're trying to address the 106 process but we're being constrained by all of these other constraints. And that will then, it will – we're constrained by the FEMA flood analysis.

But that which parallel at this point. It showed that we can't leave it. So we're going to have a little search impact (inaudible). And how we proceed with the 106 process with an open mind or any discussion about these other constraints.

Rob McCaskey: Well, we have not made a decision on the EA or the EIS and that's just the way things are done. It may seem like we're not covering all of our bases at during this process but we will in the future.

We certainly have a lot of different statements – talking about the draft environmental document that isn't ready for public comment, so that's something that's not going to set us any direction because it's not appropriate. If Chris from ACHP was here he would tell you the same thing, he told me the same thing. It isn't appropriate to discuss a draft environmental document in the section 106 process. So we just can't cover that during this process. Ma'am, did you have something you want to say. This is Valerie.

Valerie Barbie: Yes, Valerie Barbie - why would you have resolved the adverse effect that you don't know what those are? We're not going to analyze at this point so. And it sounds like …

Lori Price: Valerie, can you please speak up so we can hear you on the phone.

Valerie Barbie: I'm saying like, how do we resolve the adverse effects and fully discuss the adverse effects when we haven't fully explored that through a deeper process.

Rob McCaskey: Well, that's the way the process is set up. So we're discussing the historic property aspects not the environmental aspects of the project.

Valerie Barbie: But the FEMA process is what brings about this whole conversation and then discuss all of the alternatives that are presented …

Rob McCaskey: We do.

Valerie Barbie: … in an public meeeting.

Rob McCaskey: We do. And we'll discuss some of that concept.

Valerie Barbie: But without discussing the EIS, we can't really make a decision about things going forward, this is something that is needed to make the decision.

Rob McCaskey: So, I understand that we have a discussion today about an EIS an EA… And we haven't made a decision and we won't until we finish the environmental document review process.

So today we've discussed whether how we think FEMA made their determination of no impact. I can change that. And now, we're discussing the whole section 106 process and the need to incorporate the Environmental document into it. I cant change that either. I have no control over that. I can't bring that into this.

I told people three or four times this about the section 106 process. We will not include the EA, we'll not include the environmental process and environmental document. It's not appropriate. That's not what we're going to do. So we can debate all day long about whether or not that's appropriate. It's not my call. OK?

When the time comes, when we cover that document, we will certainly do that. You'll have every opportunity - that's where we want to hear and make

the assessment and discussion, we push it whatever direction we think is the right result. That will happen at that time.

Valerie Barbie: So we'll still have to discuss all of the studies that are being done for the environmental process.

Rob McCaskey: When that time comes, we will certainly do that. OK. So is there any other discussion we're covering, updates on alternatives? Are there any other questions? OK, no, we run multi bridge modeling results for other alternatives. Other comments or questions about that? Please.

Male: So, you're talking about 2B?

Rob McCaskey: I think we were at 2A. We've pointed out that 2B we will cover at next meeting.

Kris Swanson: Yes. So I was – they have made a request from the last meeting. And so that was in our court. Now, I feel that we've discussed everything that we're prepared to discuss about that. And as far as 2B, just as verification. What is that deliverable that's being asked for?

Nick Bradbury: At this point, it would be a model with – well, we have really researched all of the options, I don't think, for channel modification for floodplain, to get the floodplain rise, but the one we haven't tried yet so far is dredging with periodic monitoring and possibly repeat dredging if needed to ensure no rise in the floodplain.

In order to allow both bridges in water at the same time with – the FEMA (so far possibly unreasonable) requirement.

I'd like to know how many cubic meters per second - that's a quarter inch, right? What that claim represents. But still meet the requirements of what would that dredging entail - how much I guess, what kind of modification would it require with the dredging?

I'd like to hear additional research done to other potential options for channel modification, if they really don't exist - more than just a 10 mile levee for

dredging, that may be the case. But I'm – it's not my area of expertise and it sounds like, we're just taking it off the table rather than actually researching it.

So I'd be interested to hear research – a research that taken on what could be done to have both bridges, to have one of our own – we have alternatives that work without altering the floodplain.

Rob McCaskey: You guys understand what they want?

Kris Swanson: Yes. I – what – I guess my only concern now, I'm just trying to be candid, is I don't want to have to go to spend $100,000, and a couple months to come up with a design. As an engineer's perspective as plan analysis or do we want to put some math behind it because in my opinion the design is not reasonable because we know it's going to be an effect.

And as far as everything else, that's all we have to explain for the alternatives analysis. In my opinion is that if they – we thought this effect we stayed away from it, so you want to avoid it as we have the minimum amount of effect.

And I feel like that's the only appropriate amount of information that we'll have to present. So I just want to make sure I get the definition of design correct because if you're asking for a whole design - cross section, plan view, profile view.

I mean that's the time, that's money that frankly we're already spending almost 10 grand, each meeting just to get people up here. So it's just like how much …

Rob McCaskey: Do you think you can get us good information without that math?

Kris Swanson: We can get something. But far as the equation, it comes down to an area of a cross section of the river, right? Yes. If you could stop all coefficient, the only thing – if you're going to add objects, in order to offset those objects that you're inserting into the flow of the river, you're either going to have to either make the channel bigger or put something up top to make it accommodate and prevent that rise from going outward where elevation allows it to.

And so that's my - within the range of civil engineering - that's my understanding of math equation and solution.

Nick Bradbury: In my mind, I have a question about how – if you have piers that have a funnel area going against the current that's coming down the river. They're causing X amount of obstruction.

If you add additional piers exactly in line with those, but don't cross sectional area within – against the flow that's coming down the river. If you're not adding cross sectional area that's walking afloat those piers are in line without causing additional turbulence.

How does that raise the floodplain 10 miles up stream because we are – we don't have a – we don't have an obstruction. We don't have new cross sectional area of obstructing both river if those piers are in line and if we don't have scour protection– if we appropriately implement riprap.

So that's something that doesn't move, jive very well with me if those piers are in line and they aren't increasing the cross sectional over this flow as water is coming down the river, how we have an affect 10 miles up stream if we aren't adding to the – does that make sense – we're not adding a lot that's coming down the stream.

Kris Swanson: No. I'm following you. And to your point, if they're connected you minimize that target and right now there's not a meaningful solution that allows them to be in terms of footprint.

Male: Not necessary connected whether or not you like it, instrument to all boarder or interface. What about a connection that simply showing or a river channel low director instrument.

Hans Erickson: So this is Hans on the line. I would agree that aligning the piers shouldn't have an effect on the hydraulic performance. What's causing the rise is recognition that our spans are half as long as the existing.

So we're introducing – although the piers that align with the existing bridge's piers don't have a significant effect. Those new piers that are placed

essentially at mid span of the existing bridge are new obstructions to the river flow.

And you'll see that in the modeling results between Alternates 2 and 3, right, where Alternate three produces a greater stage increase, larger upstream impact. And that's an artifact of the piers that would be aligned and Alternate 2 are now offset and contributing further to blocking the river. Does that make sense?

Rob McCaskey: It does. So could there be a model where the new bridge's spans are the same length as spans of the existing bridge in order to get rid of any additional obstruction in the water so that we wouldn't affect the floodplain.

Kris Swanson: So there is. And that's essentially a 400-foot span, right? We're proposing a 200-foot span and the existing is 400-foot. So the answer is yes. The thing is you go against some items we have lined in our purpose and need of our alternatives analysis, and it also increases cost on the scale of $10 million. I just want to verify it.

Rob McCaskey: So to have that longer span that's 400-foot instead of 200, your estimate is $10 million.

Kris Swanson: Yes.

Rob McCaskey: OK.

Kris Swanson: Yes. In order to do essentially a similar through truss structure would be approximately $10 million according to our conceptual engineering estimate.

Female: OK. What is the new that has been modified with the original job that went out? Because I think we want to have a purpose …

Female: … the other way around.

Female: What document are you talking about?

Female: Riprap.

Female: I don't think …

Rob McCaskey: Correct, yes. EA is not ready, we're not talking about it because it's not finalized.

Valerie Barbie: Right. How do we understand what our – we're saying that it doesn't fit the purpose needed to build two piers versus three. So how do we come out at as a group modification? How do we resolve this mitigation? We can't have ideas that are fruitful. We don't understand what you're proposing.

Female: So when we made – if you remember that first meeting when we looked at what our alternatives are and what – how will you run in our preferred all of this the number of in depth we look at as well.

Lori Price: Could you repeat the question that's been asked by the audience member, please?

Valerie Barbie: All right. OK. This is Valerie. And I was saying like how do we understand, how to propose any fruitful mitigation ideas when we don't understand the purpose and the need of the project, because working – what about two piers as an option for referrals alternative few or even alternative three.

And then they're saying that doesn't fit our purpose in here. But we don't really have a good concept of what all of that is.

Amy McBeth: So this is Amy McBeth BNSF. When you talk about the purpose and need, I think a couple of meetings ago and certainly at the December meeting, we had a file and I'm happy to provide it to everybody in the room where we talked about the purpose and need in terms of going through the alternatives that we looked at.

And provide dependable safe railway crossing. Provides potential for future expansion, avoid impacts to the river performance and the environment. The cost of all of those is part of that.

So when he was talking about the purpose and need that's what he's referring to. We covered that before. But I'm certainly happy to provide that specific file again. This is a refresher in terms of the purpose and need that we looked at from that perspective.

Kris Swanson: And it's also covered in that December meeting. This is Kris Swanson by the way. And at the December meeting as well as our first consultation meeting at the Dakota Inn.

So, we're able to talk about the redundancy that our superstructure would allow us redundant members. And that if a member is cracked or failed we'll have a catastrophic failure, whereas – with the through truss structure each member is potentially critical – each member of that structure is carrying weight.

And as soon as one would fail or is threatened to fail, the structure is potentially rendered useless. It may not collapse. But they're not usable. And so by introducing shorter spans to that alternative, we're actually introducing a safety improvement.

And Hans will talk about how the inspections for our employees will be more efficient, stable – about being already 60 feet above the water.

You know, it's actually say, right there, they get hold of the crane or there's actually walk ways between the two members. So, from a safety perspective with alternative analysis, those are purpose and need.

Valerie Barbie: Have you explored, this is Valerie, using LIDAR or UAV's for inspections?

Amy McBeth: We currently use those, but in addition you need a physical inspection.

But when you look at the design of the new bridge without a doubt that the new design would be safer for our employees because of the need to be up in the air, they'd be underneath the structure with design of that structure. But that's another factor of this – to consider in terms of the design.

Kris Swanson: Yes. Our current internal policy, because I don't think - I have to verify but I don't think drones are approved by FRA at this point. They're kind of more of a new technology we're looking into. But anything that we do, we have to go verify it with human eyes.

So you do not completely eliminate risky situations.

Nick Bradbury: This is Nick Bradbury again. If the bridge were built with at a 400 foot span, would that be in anyway less safe or more difficult to inspect. So it would actually be easier to inspect than with piers.

Kris Swanson: Not necessarily. I mean it provides …But whether you're talking sub-structure alone. I guess, sure, it makes sense, lets do that. That's easier to do. But if you're talking about the structure holistically, not necessarily.

Male: OK.

Male: I have a comment to make which is that – I don't know if we're discussing alternatives here. We have now uncovered an alternative that seems completely feasible, where instead of a requirement for a 200 foot span ,we see that if we had included an alternative in our plan that included a 400 foot span, it would have no impact on floodplain.

The historic bridge would be allowed to stand and a lot of the other things that we've been discussing would have been taken care of. It's been considered as an alternative, for instance, the positioning of riprap.

And I'm very uncomfortable with the assertion that this is some huge amount of cost that wouldn't be acceptable in the planning of this bridge. We don't know how much this whole project cost is.

So the bid at $10 million is a lot of money. I don't know if that's 1 percent of the whole project cost or if it's more than that, or we're talking about 3 percent of the whole project.

Kris Swanson: Roughly approximately 25 percent.

Male: OK. So potentially, 25 percent of the project cost.

Kris Swanson: Yes.

Male: So, $40 million would be an estimate of the whole project.

(Inaudible)

Kris Swanson: Yes.

Male: But they could stand, right?

Male: OK. So we have estimates but still from the 106 project, we've been presented with alternatives that were already determined unbuildable before they were ever presented to us.

And it equals alternatives being taken off the plate from the get-go because of 25 percent, potentially 25 percent, I would say, 25 percent in increasing cost for that alternative.

Susan Quinnell: But – this is Susan. Might not be a 25 percent …

Male: I agree.

(Inaudible)

Male: That's why it's refutable.

(Inaudible)

Susan Quinnell: Would be cost since not here and not the different of the six months …

(Inaudible)

Male: There's also the cost potentially of the other mitigation efforts that would have to be undertaken or that would – if we want to take it if the strong bridge were destroyed.

Female: Right.

Male: So, and as we've been presenting these alternatives, we have seen the price tags of each one to say, oh, this won't cost, this more, and this like that. That has to be in consideration in the 106 process.

And for the 106 process, what we're looking for, is there a feasible alternative at which the historic bridge can stand and everybody can be satisfied and the community won't lose one of North Dakota's greatest treasures.

And I take on bridge that the assertion that $10 million is too much or that we would even – that we would introduce that number when we don't actually know how much this project would cost and then do it – and that we're – we're kind of strong by that at this point when all that we'll be considering are alternatives that is continue to assert are unfeasible, but would present to us as potential alternatives whereas the alternative that would work would never be presented to the public for public comment would never be presented to the Coast Guard. It's really problematic to me that a few alternatives had already been written off the board on those grounds.

Kris Swanson: So you're half right. We have identified something else. Correct. But how we previously addressed it, absolutely, which has been the alternative analysis which has been shared with the SHPO, correct? Not to the consulting parties but that's how the process works.

So Susan saying where we address the type of substructures, that we did for the permitting process. We cannot send to the Coast Guard or Corps of Engineers or whoever, multiple designs and say, here, permit all three.

We have to choose one. And the alternative analysis is what identified how you came to that solution. So though you haven't seen it, I apologize for that process but it goes to SHPO.

And so, from there, we have outlined that alternative analysis. So we want to go down the rabbit hole of let's look at this bridge with 400 foot span. Let's do it. We can talk about everything that's going to be associated with that. Because we have, OK, $10 million for a super structure cost and in order for them to be aligned, we're talking an eighty-foot alignment.

Now, you're bringing in the impact to the east bank and the water reservoir of the city of Bismarck. The hill is at risk, which we've already talked about is going to involve a massive excavation on that hill, so lower the slope and lower the risk of slope failure.

We have discussions with the city of Bismarck. We've gotten data on where the utilities are located. We know work at a minimum could impact one of those if not more depending on how the slopes get further.

And then as you all know, if you've read the past cultural resources report or even there are some other historical documents about this bridge, and I can't remember if that was something from Aaron Barth or someone that did decades ago. But it's talked about in there until essentially the 1950s or 1960s. There was a slope stability issue on that hill.

And so it has since stabilized. But now once you start touching that with caterpillar scrapers, excavators, you name it, there may very well be existing slip-planes in there that we disturbed which could threaten the entire stability of that slope and the waterfront as well.

Male: So that will affect the slope, part of it.

Male: Any alternatives will affect the slope.

Kris Swanson: Not the one we've identified. We do not touch that slope in our alternative.

Male: Is that large embankment?

Male: Yes, so right here. We …

Male: So the slope stabilization problem is closer to the river than the embankment.

Kris Swanson: That's not true. If you look at that document and I wish I knew the title of it, but it's not one that we've produced. It was one that was produced I assume two years ago and …

Male: Other slope stabilization problems with the ones appear to the bridge was shifting.

Female: Yes.

Male: It's not.

Kris Swanson: It does talk about that. But it also talks about how there was a tunnel in this hill here and multiple vertical inlets here to reduce all the hydrostatic pressure. And since that hold, it stabilized. And the city of Bismarck knows that because in our discussions, they raised questions about that.

Male: We're talking two different slopes though. Here, you're talking about the slope of embankment. The slope that was an issue with this bridge previously was closer to the river appears to be shifting.

Kris Swanson: No, there's …

Female
Ms. Wefald?: (Inaudible) was getting is, that might be something that we can explore to the next meeting. I know that that material is available at (UPS), we have surveys.

There's been some work on that and as an expert on this bridge and all the problems that have had happened in the past (inaudible) on it would be very good idea for persons of all of us being in the know on what that position is, it would be good to have that material.

Kris Swanson: Right. And without beating a dead horse or not intending to, but without going to details of what the expense or what the costs are or anything that – when you're proposing a project and you have to go through NEPA, you have to propose alternatives that minimize impact.

Obviously, that is an impact of knowing about it. We just don't know this extent but we know it's a large effort, a lot of risk, a lot of resources that need to be allocated to that, thus equating to a high dollar.

So, naturally, you're going to say, let's find a different alternative that avoids the impact, thus we got to our alternative that we applied for in our permit. So that's where I'm getting at. And once you start introducing that, great.

It feels like our letter stated that at the second meeting, if we're going to talk about other things that are beyond our …, let's talk about them and if we want to go there and operate.

But who's going to cover the delta, right? And so $10 million for the additional super structure plus the cost of that, plus are we even going to get authority to impact the conservation easement.

I've talked to them, all I've gotten is an e-mail that describes very broadly that these restrictions are only supposed to be for natural and for parks and recreations, et cetera, et cetera. They're all outlined in the quitclaim deed, OK. But they're not even open to have any conversations yet.

Valerie Barbie: This is Valerie. Have you called Federal Highways and had that conversation with them? Because that is their project that did that. And now it needs their guidance, that's a parks and recs, not necessarily part of Department of Transportation, it's Federal Highway.

Kris Swanson: So as part of the Department of Transportation, you should know that it is owned by the DOT and they transferred ownership and management of that lot including development to parks and recs. So they are the proper individuals to be called.

Valerie Barbie: They are the ones that are in control of it but they don't own it.

Kris Swanson: The DOT does.

Valerie Barbie: And Federal Highway – but you need to talk to DOT and you need to talk to Federal Highway because they're the ones that have control over that agreement and that agreement between both agencies. And that's not up to the Parks and Rec to decide.

Kris Swanson: They’re the current manager of the properties.

Valerie Barbie: The management is under the purview of the DOT.

Male: OK.

Valerie Barbie: The consultation with DOT and Federal Highways. It is only managed by Kirk Mendez under that.

Kris Swanson: OK. Again it's still another impact that we have avoided with our …

Valerie Barbie: That you need to evaluate and then you can't do whatever they want because it doesn't matter necessarily that this is the least minimal effect. It matters what is decided by the agency.

Male: OK.

Valerie Barbie: And you need to consider all of your options and alternatives and raise them.

Kris Swanson: And I'm saying, let's look at that and recognize that between our alternatives, the one that has the least amount of impact.

Valerie Barbie: I said in the last few minutes …

Kris Swanson: Someone is going to have the …

Valerie Barbie: … that information.

Rob McCaskey: Hold on just a minute guys.

Valerie Barbie: And you did not to follow through.

Rob McCaskey: Can you stop talking for a minute – I'd like you to stop interrupting him. And I'd like you to stop interrupting her. Be courteous to each other, we would all appreciate it. Thanks for that.

Valerie Barbie: I've asked for that information and …

Male: I understand. And whenever you ask for piece of information it's not thing you have the opportunity that at least …

(Inaudible)

Male: Please finish what you're …

(Inaudible)

Female: We're on the telephone. We're having a difficult time hearing currently, if you guys could speak up a bit. Thank you.

(Shirly Van): This is (Shirly Van). And I'm wondering whether you guys for the 400 foot span with the bridge that you're proposing which is 30-feet away from the existing bridge because we've seen in many of the pictures provided, we came to the fact that pedestrian and rail bridges, rail track can be very close together and very safe.

And so I'm just wondering whether you can forward that option and (inaudible) preferred alternative which is the one in search with the plan.

Kris Swanson: I believe I have to double check our alternative analysis. But I believe that was eliminated due to the conflict of the foundation that we discussed then. Because with the larger super structure, we have a larger foundation from what we already have. And so if they can't be aligned, introducing larger ones is not going to eliminate that cost.

Male: They have to be 80 feet away. So they have 400 foot span because it has to be a minimum 80 feet away from each other or else the new piers will potentially encroach on the minimal distance needed for structural stability. So they have to be that one of the …

(Inaudible)

Female: OK.

Male: And so this alternative were both …

(Inaudible)

Male: … other consideration to discuss it. I really don't know.

Amy McBeth: Thank you. This is Amy. I just wanted to respond to Valerie to let her know that we did indeed follow up. And this is the response we got.

The Missouri River Natural Area is owned by the North Dakota Department of Transportation who transferred management of the area and development covenants to the NDPRD. The land was purchased with federal funds during construction of Interstate-94.

There are numerous covenant conditions, restrictions, and reservations in a quit claim deed, management agreement and statement of management to ensure the property is used for public parks purposes only, to prevent impairment of the natural aesthetics of the property and maintain the natural beauty of the property.

Developments on the property are restricted to projects and activities that promote passive recreation and environmental education, maintaining the area's scenic and natural qualities.

Uses must not threaten the continuation of the scenic value of the area and must not violate the permitted usage as identified in the quit claim deed and management agreements. Jessie Hansen has spoken to several BNSF employees on this subject. He will continue to be the point of contact.

That was from Kathy Duttenhefer, coordinator biologist ND Parks and Recreation Natural Resource Division.

So I understand what you're saying, I just want to make sure that everybody understands that we have all of that based on the last meeting and that you brought it up a couple of times and that we did pursue that and that was the response that we got.

Valerie Barbie: This is Valerie. I'm not satisfied that the director of this Department is the right person and you need to talk to Federal Highways.

Female: I agree.

Amy McBeth: We'll certainly follow up with them again but we wanted to let you know that was the request that we got from the inquiry since the last meeting.

Susan Quinnell: Susan from SHPO, just from what you just read, I don't necessarily see there's a conflict with the recreation …

Amy McBeth: I don't believe there's – we're talking building our bridge in that area so that isn't recreation; it's transportation of our railroad bridge, railroad …

Female: … from one agency to another into an agreement between them. And at least part of the land was purchased from the railroad.

Rob McCaskey: Susan, did you finish your thoughts? Someone interrupted you.

Susan Quinnell: I need to review.

Female: I'm just saying that …

Male: Yes.

Female: … that I don't do that (inaudible) alternative measures.

Male: I'll make a comment in the value of that then on that side of the river. I would say they're destroying the historic bridge and building a new industrially inspired bridge at this, which is secretive just read at the minimum possible how would be a significant impact of the scenic value of that land.

Amy McBeth: Just leave it there. I'm not making any judgment. I'm just relaying the information that we got when we looked into that following the inquiry from the last meeting.

And we'll certainly follow up further on that. But again, in the spirit of why we're talking about it, in terms back to Kris's point, when we're looking at all the alternatives and looking into that, that was a consideration that we look at.

Susan Quinnell: This is Susan, SHPO. Just one last on this right of way deal that you must have kind of buffer, a right of way to do where we're making any day soon, so that there are some linear fees that way.

Kris Swanson: And we say we're going to exceed that.

Female: Right. What was it in linear feet?

Kris Swanson: I have to look it up.

Female: So just let me visiting histography. So let me get this straight. So as of this moment, we'll already having an (even) on that, total control sort of that – for that …

Kris Swanson: So there's no reason. We own our right of way.

Amy McBeth: OK. So that – where the bridge is and there's our right of way beyond that bridge and then this area that we're referencing is beyond that.

Female: And what can we speculate that additional right of way distance would be?

(Inaudible)

Kris Swanson: I have to …

Female: Ballpark, yes.

Kris Swanson: We have to look it up and provide those.

Female: Yes. By this time, I was trying to get an idea of how many yards material. Because that will help us understand what portion of that site might possibly be briefly affected by construction, but also be possibly in the essence by different piers or whatever there which I would argue might not be.

I mean, it's pretty massive once they begin digging. I kind of like to get an idea of what that – and there's no would be undertaken.

Susan Quinnell: This is Susan. So I'd like to follow up on Amy's question just to make sure I understand it. Well, keep asking the pier should endorse of your – there will bridge now. You have a maintenance affair reaction of somebody saying north of the bridge.

And then the class to build your new bridge is going to be 30-feet north of where the existing bridge is. So you're again going to have automation order, maybe some additional feet for maintenance on the north side of the new bridge beyond the first .

Her question is that, how many feet difference is that they need to – we could be importing the new bridge and your plan of going on to that existing bridge further in the construction site.

Male: I understand the report, that we should the group.

Female: Thank you.

Nick Bradbury: So this is Nick Bradbury. In the environmental assessment. There is I guess a slip stream impact, potential impact to basically the land adjacent to rail road – to the sort of rail bed, and it can very well kind of parallel kind of just two and alternative three where alternative two was impacting approximately 59 acres, 58.56 acres on vegetative land, and alternative three when it impacts 51.659 acres in vegetative land.

So that's about 7 acres more, about 14 percent different in amount of vegetative land affected between the two alternatives, if that helps you guys see the difference, we're talking about those …

Female: And where did you provide that interest?

Nick Bradbury: Well, it's written in the not yet finalized environmental assessment.

Rob McCaskey: Where did you get that environmental assessment?

Nick Bradbury: That I got it from – I can find out where it came from but it exists. And I'm just saying we're trying to work with information that does exist. We're just pretending that we're blind to it, but I …

Rob McCaskey: For good reason.

Nick Bradbury: For good reason.

Male: And what do you think about that information would that someone understanding that that as not troubling for a reason.

Nick Bradbury: I know that's not finalized. You can finish …

Nick Bradbury: But it is useful in this situation to answer the question pretty sophistically that's a 14 percent difference between the two alternatives, how much that vegetative land would be affected.

(Inaudible)

Nick Bradbury: I agree. I agree. Would you get to inventory instead of through back channels?

Female: That's not the point.

Nick Bradbury: And we know that there are legitimate people who – legitimate sources that have that information who are bringing the sort of living because it's to their advantage and that – I also take umbredge with that.

Male: All right, they're coming over there.

Erik Sakariassen: Erik Sakariassen, Fort Abraham Lincoln Foundation. I'd like to make a few comments, to try to get us back on track with what the purpose of the 106 process is. We keep going off in different directions because we're trying to just understand alternatives or come up with newer alternatives or do some design work by committee in the room.

The point of the 106 process is to determine adverse effects and whether they can be avoided, minimized or mitigated. Then what's the choice should be. If I'm correct about that, that's our job in this consulting process. And we're consulting, we're not negotiating.

I'm a passionate historic preservationist. I'm living in a historic home. It's on the national register historically. My daughter has a masters degree in historic preservation where she grew up with a nerd like me for a father.

I work for a similar nerd now in my retirement profession. And I'm really enjoying that part. But it's a well-known fact of historic preservation that the best use of a historic structure is that historic use. A historic use of this historic – historically significant national register eligible bridge is to run trains across the river. That's the historic use.

It's very well documented in historic preservation circles that the best use of a historic property is that historic use. Now, if it's historic use can no longer be – can no longer function and it has to be somehow changed.

The best thing to do then is to minimize the impact and the adverse effect to that historic property and find a new use that respects the historic character of that property and figures other ways to reuse it.

So we have Victorian homes in old neighborhoods downtown - they're serving a law offices. But it's hard to take a law office and turn it back into a family home. And it's hard to take a historic bridge and turn it back into a rail road bridge once it's been turned into a pedestrian bridge.

Now, the people in this room who are historic preservationists and they're many of us, have made a major concession to Burlington Northern Santa Fe in saying, maybe there is a good idea here, build a new bridge. And we understand what they're doing. We're making a major concession here to say that we would like to have this repurposed as a pedestrian bridge.

Now, all of a sudden, we're starting from that position and say, now, that's not even good enough. And I think maybe some of us should go back to avoidances, and alternative one is the best alternative here. Is that where the discussion should be right now, because it seems like we've already gotten past them.

And I want to remind people that this is a historic preservation law. It's 106 and the whole idea here is to determine what the adverse effects on the historic character of this historic property are and figure out what the best way to avoid, minimize or mitigate that adverse effect is.

Male: Well said.

Rob McCaskey: Any comments from anybody else in the room with respect to that?

Kris Swanson: I thought we're still talking about avoidance. Are you saying that we should just maintain the bridge as it is?

Nick Bradbury: That's avoidance. If we turn it in to a pedestrian bridge and build another bridge 80 feet to the north of the bridge, that's minimization because that is going to affect, it's going to have an adverse effect on the historical significance of that bridge. Everybody would tell you. If you look at the bridge from the north, there's another bridge in front of it.

Male: Right.

Nick Bradbury: There are a whole lot of reasons why converting or repurposing that bridge is not avoiding.

Kris Swanson: Right. Right. And so I go back to our first meeting when I believe you brought up a point. And then I responded in fact that we have every incentive for this bridge to stay up, just from a monetary standpoint.

Financially, it makes sense to not feed another 40 to 50 million or 40 to 44 million or whatever is going to be bridge cost. That's a huge investment. Despite how deep you think BNSF pockets are, that is a massive investment.

Now, with that said, you have to recognize that we don't just go replace bridges because we think, yes, we don't like that anymore. Let's replace it. No. There's a reason. And that reason is outlined in our purpose and need statement and our alternatives.

So, with us being incentivized beyond all the reasons to keep that bridge up. And I'm saying that we need to find a new crossing across the river which is outlined in our statement.

So, one way to avoid is to repurpose it. So I – in my own perspective we're not avoiding.

We're still trying to figure out alternatives for this bridge to stay up. And my whole point is, OK, we can do that alternative. We can do 80 foot up, but realize there are other impacts associated, there are costs associated. And who's going to cover that? Because we identified an alternative that has the minimum overall impacts. And by changing that it's going to introduce new impacts.

And that, in my opinion is an unnecessary burden on the applicant and the owner.

So, I mean you want to talk about concessions, I'm already talking about the cost of each meeting is approximately $10,000. And they're not showing signs of slowing. So, I mean what – when does the impact on the applicant and the owner start becoming part the conversation?

Mark Zimmerman: Mark Zimmerman - I would not to being sarcasm. And say, well, what's the impact on the people of Bismarck and Mandan? It should be that's the question, two minutes on, meaning that I – part of me says, we want a new bridge but since worth it to be have to do with.

Is it worth it to the people of Bismarck and Mandan to have this bridge gone? I know BNSF funds are not limitless, funds are big. Part of me says this new bridge is going to last a long time, what's it worth to BNSF to have the bridge.

Kris Swanson: About $44 million - the cost of the new bridge.

Female: Does it.

Mark Zimmerman: I'm not done.

Female: I'm sorry.

Mark Zimmerman: That's what she wants. But is that worth only $44 million to the people of Bismarck and Mandan and the State of North Dakota and all of the preservation rules under 106 that say by concession is $44 million? I mean I don't just see where I'm coming from to say that's – maybe that's the easy way out for BNSF.

Male: So when you say when you have to answer for all the other impacts, environmentally, species-wise …

Male: Yes.

Kris Swanson: … private property, public property, City of Bismarck's water resource. I mean, I could say it's really easy for you all to say because I mean candidly speaking, I'm not trying to be insulting but it's like I get it.

This is a local icon, right? There's going to be a natural bias to preserving it. But what I'm trying to educate you all on is that we've looked at the overall impacts, everything, not just historical, and the alternative that we've identified is minimizing those.

It's unfortunate that the 106 aspect is the impact that we're hung up on. I wish it was a piping plover or some other species, right, because you can mitigate that by creating habitat, right? That's easy. That's the easy way out, right?

It just so happens that with the hand that we were dealt and with the alternatives that we are able to identify that minimize the impacts to all impacts considered happen to be that there's an adverse impact in the 106 aspect.

It's not a let's go destroy a historical icon across the country, there's no money-making opportunity in that because we are a business for profit, right? So that makes no sense to have that as a motivation.

Joey Roberson-Kitzman: Yes. This is Joey Roberson-Kitzman from Bismarck. As I understand, one of the reasons why this bridge is looking be efficient (inaudible) is because the flow of the availability to build the train is not ability to (inaudible) a substantial amount of (quality) change, a substantial change in that and a substantial change to how much good you can get from point A to point B within that route.

It is not really the root cause of the switch, not the $40 million but the usual assessment of being able to move those goods. So let's not play that game of

$44 million or $45 million is the cost of what BNSF wants to do because (inaudible) we can be two with them making a new bridge, right? And that's a lot cheaper than $44 million.

Male: Right.

Joey Roberson-Kitzman: Next we're looking at something that can be two sides, kind of ham-handed on your behalf and I just want to make it so it's – I've been on both sides of (inaudible).

Joey Roberson-Kitzman: And my job is to say, let's free way. It's going to be like that. I hate it because of that. Everybody has that. A lot of people in this room have been on the side of this is kind of an impact avoidance.

What? We understand that. But the ham-handed thing seems to be that if Valerie or Amy or any of these people is going out to NEPA or of anything, you get defensive.

Female: Yes.

Joey Roberson-Kitzman: But in the same (inaudible). I mean if that's not something that's (inaudible)?

Rob McCaskey: I'm not going to talk about NEPA anymore. Nobody should bring it up, not part of this process. I don't know how many times I have to say that.

Amy Guthrie Sakariassen: This is Amy Sakariassen and I'm going to kind of flip over back to the concept of what we would lose and what it means to this community if if were to lose the bridge.

And I still look at the pictures and I know very well that one of the things that is a very common thing happens in every country is that when you don't see it anymore, you don't remember why it was. And I look at that bridge and I see the whole – the last chain, the last link in westward expansion.

And probably the submission of the findings this bridge is, this bridge is beyond measure. One of the most significant things in the country as far as

what it represents to the whole which do not have just this bridges. But of the development, it is known that there's a rail road slot.

As we've said before nobody is opposed to BNSF continuing to do their business. But it is – if there is a way that that bridge can be still visible in its location and we don't have the danger of revisionist history that comes with demolition of our natural treasures like this.

I don't know. I just think that I don't usually agree with Erik all the time. But in this case, I think that he is right to remind us because you have not taken the idea of remaining bridge in service off the tables completely that we've been in the contact of this 106 process.

So, it appears because we have this (really) cost about than it have. And it's like from that back off to its starting point. It means consider that as a big concession because it is – it had about half of the national sort of (structural) treasure. Yes.

Rob McCaskey: Yes. So just a reminder, we have a half an hour left in this room. We have quite a few more items on the agenda. It's important to cover everything, but I just want to remind everyone that we do want to be aware of time.

Susan Quinell: Susan from SHPO – I believe it was Erik with previous meetings. I think one of these meetings kind of mentioned that who came – who've been hearing to make sure that that bridge got built. It was after we (look at). It's not just …

(Inaudible)

Female: What happened to this four management? We lose our last link to them.

Lori Price: I'm sorry, can you speak up a little bit please. We can't hear you.

Susan Quinell: Susan from SHPO - that Erik Sakariassen here had mentioned in previous meetings that who was here when this bridge was going up and that was General Custer. So that this history is just the old methods (definitely), but what happened before that? That's a very specific and real aspect that we will lose if this bridge goes down. Thank you very much.

Male: Yes.

Erik Sakriassen: This is Erik Sakriassen. I'd like to remind Susan that the bridge was built when Custer was dead.

Susan Quinell: Oh I'm sorry.

Male: I just want to like you to – I – well – but it brings you the important point about the historic significance of this bridge. It's not just historic as in engineering or construction for what had to be done to build this. Whether it was the last link of the second transcontinental railroad we have in the country.

But it also is very (presentative). It took 10 years from the time the railroad got to this mark and that we have the worst depression in our country's history as a result of this bridge and the result of this railroad.

And we ended up prolonging the Sioux wars that started in Minnesota because of the desire to build this railroad across lands that belonged primarily to the Sioux erupted called the Cheyenne as their hunting grounds through the formulary treaty.

The bridge is an important symbol to more than one culture here. And that war succeeded and Custer's one who succeeded in preventing this railroad for 10 years from reaching those men where the other half of it was going. There are so many stories wrapped up in this bridge. And there's so much that it symbolizes.

Not all of it is pretty but I think to lose it and to take it down takes a really important symbol of our history not just one that's in our phonebooks or is – on the wall in a restaurant, someplace, or that people are using for their graduation photograph.

This is a symbol that's really deep and means so much to this country. And I don't think we should lose sight of that because that's what the significant part – significance of this.

I think if there's any way to avoid taking this bridge down even if it means putting up another bridge next door or finding some way to repurpose, I think we should exhaust all options to do that before we consider the alternative for you to tear this thing down. I really think we have to really roll up our sleeves and come up with a way to do that.

So in the 106 process, I'm going to keep fighting. We're saving that bridge and remind people of its significance. And our goal here is to do the best we can to avoid, minimize or mitigate adverse effect.

Rob McCaskey: Yes, sir.

Walt Bailey: Walt Bailey, Bismarck Historical. Conversation here included – the thing that is has included a number of different things including some need for considerations that are not properly and part of these discussions and Erik want is to try to steer this back on the right track here.

Along that line, I want to recall in the December meeting, there was not one single opposition expressed to the building of this new bridge. The only thing that anybody was interested in talking about in relation to a new bridge was let's be sure to keep the old one.

I'm not so sure if that meeting were being held today, that would be the same attitude that you would hear about this project. That bridge is important to the people of Bismarck. It's important to the history of the area.

And the gentleman from the Advisory Council I think mentioned in a meeting ago so much of the emphasis, the justification for tearing the bridge down is engineering. It has nothing to do with the history or the points or the reasons for having this 106 discussion.

So when do we get back to weighing the weight of the historical significance in relationship to the other cause that the other problems that are being discussed? I think that needs to be considered.

Ms. Wefald: Well, that's why on the agenda, and I don't know if it's down yet, the same tree, was start a discussion, have a design in which the existing bridge is preserved and then we will …

Rob McCaskey: We are not. We're not there yet, but, we're going to get there eventually.

Ms. Wefald: But that's where we really want to be is to see how that actually worked out. And then to get to this part of all these other bridges that have been converted so we can all understand that it's possible.

Rob McCaskey: Yes, ma'am. Yes, we're still stuck up at 2A and I don't even think we're on 2A.

Male: I move that we go to 2A and discuss the concept …

Male: So that's actually pull up his …

Male: Is that not 2A?

Male: No. We're already on 2A. So we've ready done 2B and 3B.

Male: Yes. Is that three?

Male: 3B?

(Inaudible)

Male: Yes. So we're getting through.

Male: OK, 3B.

Male: OK. So we have to update all our term there. So we pretty much cover that.

Male: Yes, yes.

Female: With regards to most parts.

Rob McCaskey: Yes, I think we covered that. So let's – and let's go on to 3B then, and consideration of bypass alternative.

Kris Swanson: OK. So I believe SHPO brought this up at the first meeting where we said that it was impossible and we never really looked at it.

And so, due to requests from ACHP, whenever they first arrived and since then we decided to put a concept together of potential routes that would bypass Bismarck.

Male: OK.

Rob Mccaskey I would like to clarify that the Coast Guard also requested this alternative routing study.

Male: Coast Guard, yes, yes.

Male: We wanted to see those.

Kris Swanson: So before I go through each one, the main criteria considered was being able to, on the West Bank, tie back into the east side of the Mandan Yard. That's a crew change location. I believe it's the fueling location. It's where a large …

Amy McBeth: Major infrastructure for us.

Kris Swanson: Right. So in order to tie that back in, going north, we have our existing Zap line, so with the north option and actually we follow that. There's no tree cutting down, there no land purchase, et cetera.

We still have to be crossing the Missouri, so you still have a similar type scale endeavor we're undertaking to accomplish and then essentially from the BNSF line that's to what I believe is the Missouri River Valley and Western railroad line just east to the U.S. 83 that's approximately 9 miles distance where we have to build virgin rail line. We have to purchase property, build embankment, et cetera.

And then from there we thought just so we don't have to build more bridge and railroad and purchase property, we would possibly get a lease with the Missouri River Valley and Western and head south where they tie into our lines.

And then a conceptual cost of $6 million is kind of BNSF standard for track mile, right? That covers track. That covers civil work, that covers signals.

We have projects where that cost is doubled. We have projects where it is five and less. So that has to be the mean or the average cost that we do whenever we have a proposed project. So you would multiply that out on the nine miles of virgin rail line and I think it would be $6 million.

And then the Zap Sub and MRVW would consist of 16 miles of track upgrades, MRVW is jointed rail, we want to upgrade that to continuously welded rail. I believe that section is down to 25 miles per hour, we would want to make proper track upgrade to bring that speed up to the appropriate average class of track speed.

So that cost alone could come out to be approximately $6 million, that's not including the cost of property, crossing the Missouri River which if we make an assumption that could be equivalent to this bridge cost, you could take on approximately $40 million.

It does not include property acquisition, other bridges or streams that we may cross – or the lease or purchase of the MRVW.

The southern route, how we came up with that was one of the main obstacles there, we want to avoid the Bismarck Airport as well as the housing around it. So coming from the main point of Mandan yards, there is a former Northern Pacific embankment that follows the river down the Northern Pacific today.

BNSF abandoned that a long time ago, so we would have to possibly purchase that back and improve the embankment.

There are some existing new through truss bridges that span some existing streams that feed into the Missouri that will have to be addressed as well. But essentially, these were considered all brand new railroads and that's the $6 million per track mile.

Again, $108 million was what we came up with and then of course the cost of the Missouri River crossing, the property acquisition and the other bridges that

were mentioned. So these are an avoidance opportunity in reference to the main bridge that we're talking about.

Male: May I ask a question?

Kris Swanson: Yes.

Male: Do – would those alternatives embarked to the south? Does that mean when you're running the rail, you get our bus and to speed it without a rule or countries and specific for that, whatever that is versus (inaudible).

Kris Swanson: No, so that would go into impact or stuff like that. So this is conceptual, so we really can't tell. But ideally we want to run up what we can, right? Make sure the trail allows more, et cetera. The thing is, you are having quite an additional distance.

Male: OK.

Male: Yes.

Male: Thank you.

Male: Question on the alternative, the North route. I don't know how many years ago and what's when we have holds building a new bridge across the river north.

And I remember the efforts of residents north to block that effort and now I'm wondering if that's related information. One time it seems the preferred alternative for BNSF to avoid coming through downtown Bismarck.

I remember this day to day but a huge PR put out and take the railroad marked and there were several preferences to go north down across the river. The sort of context on that is it's the custom and now this is too expensive dollars, one time it seemed well within the means.

That process because I know residents that successfully what, could not build a bridge but I remember specifically we want to go on to the north, we want to

put a little bridge north of Bismarck then. Avoid the downtown. Any comments on that?

Kris Swanson: Are you aware of that?

Amy McBeth: I'm not – and certainly the cost of track has increased.

I can't speak to why that would have changed or not but again if you look at our Mandan terminal, I mean that's our biggest infrastructure that we have in the state, so.

Male: Sure.

(Inaudible)

Male: And I asked those – some of the insurance as we can go back in that. The search that – the final, the CMS and why, but one time that seemed so …

Female: We could, but I don't understand. But that's necessarily, I mean …

(Inaudible)

Amy McBeth: I mean we – so we have – I mean, I definitely looked at our capital plan, our expenditures and how we do things when we have ideas, 10 years out, five years out and you know, what we have planned for a six-year.

Why that would have changed and why it was different - it could be a number of reasons – I mean, we can certainly ask if you want us to, but I think when you look at the cost…

Male: Actually, that's 106 and it's avoidance. Is that too much to ask?

Male: Yes, if we have a good cost, but the middle of the background is why that was a proposed problem?

Male: One time. Give it real timeline. Could you give it a five or 10-year – I don't don't know.

Female: It was long ago.

Male: Wasn't that long ago?

(Inaudible)

Female: You work it on the 10-year.

Male: Not more than 10. Yes, we can ask for that.

(Inaudible)

Male: But Northern Bridge correlates our problem, all the members are – I can't speak by them. I don't recall any bridge by task in the last 20 years of service and I think (inaudible) that was old to find you another bridge on the northside and then that was not but were received by the residents. And I don't recall if you're saying for the cheap, come check it.

Female: I understand you, right, but that, but I have barely put them together.

Male: OK.

Female: But we can certainly ask there above, turn around, but not for any of that.

Male: So you will conduct predates by …

Female: More advance. It reminds you.

(Inaudible)

Male: I would have to add speculations of work that would probably a different location as well and that whatever this was essentially brought up, we are looking to avoid our final breath and working on it.

Male: Or the regions that to (inaudible) to that test. So I would imagine that this has extended dramatically that especially if we're talking more than decades.

Male: And I don't agree.

Male: Kind of a long pocket on this pressure. What would be the costing of that?

Male: I mean that's going to be – and only shaking, making impacts will on SS. I know it but then I'm not going through 90,000 people.

Female: What would be the cost impact? It's not point there?

Male: Yes.

Female: So I think this shows there would be a huge impact to not win her.

Male: Right. Right. Across. I mean that's one of the claims that I need down the line.

Female: I don't think is there …

Male: You know, when people talking does not sending millions of money that accounts through …

Amy McBeth: No. That will not be a savings for us. We have our existing tracks there, so it would be a significant expense to reroute around the city.

So we're talking about the speed that we travel through here is about 30 to 35 miles an hour maximum, which is what we travel through the city of Fargo for example. So it would be significant to us to reroute out of the city of Bismarck

Male: Otherwise we've develop the Bismarck bypass as presented. But well fairly against. I would mention I guess is that just I think (SIS), so studied make use for making it.

But I'm not so sure that there are of a lot of people in Bismarck who would be neither (inaudible) here such a bypass dinner to our guest this railroad (left) downtown Bismarck.

Female: Well, pass that to them …

(Inaudible)

Female: Maybe, yes. Probably think.

Male: And maybe somebody will (inaudible) but yes (inaudible).

Female: Yes we do.

Male: That we have six meanings that tend too, right?

Female: Right.

Male: We're building an story.

Male: Well, there's been awful a lot of developer …

Male: Right.

Male: The bill would have to be accounted.

Male: Absolutely.

Amy McBeth: But we often get those questions - why wouldn't you route out of the city of Chicago, out of the city of Seattle, out of the city of Minneapolis. I mean if you look at major cities across the country our railroads went through almost every single one of them, right, because the cities developed because of the railroad.

So we do get asked that fairly often and a lot of times that's been looked at. I mean again the city of Mandan I would hope they would never ask us to leave because we've got 300 employees who show up to work there every day. So we've been asked that, but we don't have any plans to reroute around Bismarck.

Male: But we engaged to that question because they would surprise that it was there? Because, I mean, if you – there's something did catch up it was along with (inaudible) companies line began stating of an accident would be much, much

less that what they have maybe estimated have happened with the last, it's a long it happened …

Amy McBeth: So, an accident in the city of Mandan, you're talking about the diesel leak?

Male: Yes.

Amy McBeth: OK. I just want to make sure I was hearing your question.

Male: Yes we know that it was quite a bit updating that that doesn't happen in (belly to belly) and then up to (inaudible).

Amy McBeth: So, this is a little bit off topic but I want to express this. I feel like I need to respond to that from the safety perspective. So I mean, I'm just, again, going back to the reason that we're doing the bridge project from a safety perspective.

It's approaching the end of its useful life span for us to be able to safely move all the commodities that North Dakota producers produce. And that North Dakota expects that we move for them.

So that's the reason for our construction project to start with. You know, if we want to talk a bit later about the other things that we're doing from a safety perspective, I'm happy to talk a lot about that and to look at the actual statistics to that.

We certainly want to prevent that from happening in the city of Mandan, the city of Minneapolis and the city of Bismarck and the city of Seattle and the City of – you know. So, I just want to make sure you understand that. But I'm happy to follow up with more information later if you want.

Rob McCaskey: I want to make sure to take time here for everybody and that everybody has full comments. That's why we're moving so slowly.

I apologize for that, we're not going to get through everything on the agenda. I don't think we're going to get through all of that, but it’s important here for everybody to cover all their issues. So, I just wanted to say that.

So we're still talking about the bypass alternatives, other comments, questions? Who else wants to say something? We have roughly 10 minutes left in this location. Well, obviously we have to revisit the rest of the agenda later on.

If there's no other comments or questions, then 3c is for us to start the discussion of a design in which the existing bridge is preserved and the new rail bridge built.

Ms. Wefald: I don't know if have tried to start that discussion in our minutes because I think that we have time to cover it completely. We should put that on the next meeting agenda.

Male: Does everybody agree?

Female: Let's start with that.

Rob McCaskey: I think I'm fine with that. No objections? Is there anything else – I don't think it's reasonable to expect to get through all of those examples of co-located bridges also. Anyone disagree? Does anyone want to start that now?

I put that on the agenda opportunity for municipal leaders to say a few words if they are so inclined. They are not required to but I wanted to make sure that they're being hear from if that is their wish.

Male: From the City of Mandan's perspective part observance with building a bridge we quite have set here to have on downstream and upstream and a part of plans north. We have simple agreement in the (site) of that.

So, for example here on (inaudible) but that would've been (inaudible) – it's always been (presentative). I just want to make sure we hold and (press) with every part of that. I'll make sure that we would change.

It can change the better as we want it this as (inaudible). And they're being downstream there having an upstream part of water. And we've been careful, so. Thank you.

Lori Price: I'm sorry we couldn't hear that at all. Can you just tell me who is speaking and summarize their point from me please?

Male: So, from the City of Mandan, we're discussing the impact to their water intakes and other infrastructure on the river. And that – while, they could be positively impacted, they didn't want to be negatively impacted. So that summarizes it.

Lori Price: Thank you.

Rob McCaskey: OK. Then, with seven minutes left, we talked about – there was a procedural item discussed. The draft agenda should be circulated when we first I think made it at this time. But there is no one that didn't get something on the agenda that they wanted.

In the future, feel free anytime to contact me directly, everybody has an e-mail, you can contact me through that for additions to the agenda or whatever you need.

If you wanted something on the agenda let me know and we can make that happen. We can get the agenda out sooner and make sure everyone has it well before hand.

That being said, make sure everybody looks at your email and expect things to start coming two weeks before the next meeting.

Male: Can you make sure to add my e-mail to your e-mail list because I have not received several of the group emails.

Ms. Wefald: And I will comment on that. The agenda that I received is not the final agenda because it stated that the meeting started at 7:00, and then we didn't receive a letter with the change in that until today. The day of that meeting saying it was at 6:00.

Male: Yes. You're right.

Ms. Wefald: I have looked at the 7:00 one, put that on my calendar, got the agenda. And we looked into this the time was changed and that's why this is just hour of the meeting. And I have every intention of being here 20 minutes early.

Lori Price: Can I ask who's speaking?

Ms. Wefald: Very disappointing.

Rob McCaskey: I apologize.

Male: And I would second that thought there …

Lori Price: Can I ask who's speaking so we can make sure that we have your right e-mail address?

Male: But I am not – I'm also frustrated and disappointed that Ben Roberts sent out in advance. So, I'm speaking of last (inaudible) 7:00 to 9:00, I put it on my schedule and do my work date.

And then there comes an e-mail this morning at 9:30, now its 6:00 p.m. I would hope I would express strongly that we'd be more aware on that.

I just think – I don't – you know, it seems like we're – before the agendas well, everywhere on the 11th, I didn't know if it was a call in one for sure or if this was an in person meeting. I just – I can't express enough that the Coast Guard doesn't take care of this and manage this.

Let's be a little – all of us are volunteers here. I walked in the room then I was like, "holy cow," I worked my but off to get here before 7:00, and then I found out it was at 6:00 p.m. Why did it change? I'd like to see an explanation.

Rob McCaskey: No excuses. I don't know why that happened. I thought it was at 6:00 the whole time. That's an error on both mine and Ben's part, no excuses. We screwed up. It won't happen again.

Male: Thank you.

Male: Yes.

Lori Price: Hey, Erik, can you hear me?

Erik Sakariassen: Yes. Who's speaking?

Lori Price: Hey Erik, I think the reason we don't have your e-mail address is because we don't – we had Aaron listed as the Fort Abraham Lincoln contact. So just so I'm clear, you want to be added as the contact as well, correct, for Abraham Lincoln?

Erik Sakariassen: Yes, that'd be great. Thanks.

Lori Price: OK, just want to make sure.

Susan Dingle: This is Susan. Can we talk about our next scheduled meeting and is that in person and – can we talk about that as well?

Rob McCaskey: Sure, let's do that. What's the thought of the group? We just had one in person. The comments that I got after the last phone meeting were positive. I'm inclined to do the next with the phone meeting on or about the first.

Kris Swanson: I would have to say on phone meetings, we are able to record it through the phone system or intercom system. We are able to submit that to a transcriptionist.

You plug it in and you just have to make minor edits versus, oh yes why don't have, say, this person talks about this. And that's why the minutes were – you probably weren't surprised at all about what was down there, that there's a whole bunch of verbatim because that's what it does.

Because then, we're able to turn that around in a week. With the in person meeting, it's a lot harder because you got people calling in and you might not capture. And so minutes are going to be a challenge after this meeting.

I think we'll get the substance of the point but we may not get a verbatim translation of everything if we weren't able to capture everything. I just want to make sure we want to be aware of that.

Ms. Wefald: I understand that. What I'm concerned about with this next meeting we're going to have a lot of visuals and how are we going to handle those over the telephone? When we're talking about specific pictures and visuals of bridges and we're going to be talking and there's a lot of them.

Amy McBeth: There's a link on each one of those on the agenda and then we have a PowerPoint that we're going to show that we can send out ahead of time with the agenda. You all can look at that ahead of time, ahead of the call and reference during the call which I think would be helpful.

Ms. Wefald: Some calls that I have been on conference calls we're able to interact over the computers. We're seeing the visual and we're talking to each other at the same time with national meetings. And so what – again, there's something like that. We set up so that we can all be looking at the same slide at the same time and that's a group call-in?

Rob McCaskey: I don't have the capacity in my office, but I can certainly look into it and see if I could find some place for us.

Kris Swanson: Lori does Jacobs have that capability? I feel like we have in the past.

Lori Price: Yes. Yes, we can do that. The issue we had in the past is then that the USACE and the Coast Guard cannot access that from their federal systems.

Rob McCaskey: Well, we'll make that work somehow.

Lori Price: OK.

Male:

Lori Price: Yes, we can use a Skype or Zoom system - we have options.

Male: I guess I would just, again, ask if we could have a definite date when – and we'll get that information in advance. If we're saying the meeting is August

1st and we have eight days to say the information will go out by that time or we're not going to meet.

I mean I think it's already fair enough that we had an opportunity to look at the material. We search it and we follow-up just seems that's the best side in my opinion that comes just literally a day before.

Rob McCaskey: So, what do we do? Are we happy with two weeks before the meeting? Do we want one week? What do we want? Somebody just said something.

Female: Ten days.

Rob McCaskey: Ten days? So anyone object to the ten days? You should receive the documents required to conduct the meeting, OK. If you do not, please call or contact me. I think there was a problem with e-mail. If you don't hear something about this meeting two weeks from now, call me, e-mail me directly and I'll take care of that.

Male: Let's make it nine days out. So, again, we're not looking at a Sunday.

(Inaudible)

Male: So I'd be putting out something on that Sunday.

Female: You're so thoughtful.

Rob McCaskey: OK. Is there anything else we should cover before we walk out the room tonight? We're a little over our time.

Male: We'll look at August 1st.

Male: Yes, all right. And we'll give you – I think that time as we give the link and everything to you guys.

Male: Put the agenda on the July 21st.

Male: OK.

Male: July 21st.

Rob McCaskey: Any other comments before we go? Thank you everyone, until next time.

Operator: The leader has disconnected. The conference will be terminated in five minutes.

END

NDSU | NORTH DAKOTA STATE UNIVERSITY

December 28th, 2017

Aaron Barth
Fort Abraham Lincoln Foundation
401 West Main Street
Mandan, ND 58554

RE: Preserving the Historic Missouri River High Bridge
Dear Mr. Barth,

We are writing to express our considerable interest and support for collaborating with the Fort Abraham Lincoln Foundation to examine the potential re-use of the historic BNSF Missouri River High Bridge (00380196.6A) across the Missouri River from Bismarck, ND to Mandan, ND. The Landscape Architecture Program at North Dakota State University (NDSU) would like to partner with your foundation to research adaptive re-uses of the bridge and adjacent landings on both the east and west side of the structure. We would be pleased to dedicate time for professors and graduate research assistants to partake in this significant project.

The NDSU Land Grant Mission states, "with energy and momentum, North Dakota State University addresses the needs and aspirations of people in a changing world by building on our land-grant foundation." The 35-year-old landscape architecture program has a long-standing tradition of partnering with other state agencies and nonprofits to pursue the University's mission. Furthermore, the profession of landscape architecture has contributed greatly to improving the public realm by repurposing bridge structures; examples include the Promenade Plantee in Paris, the High Line in New York City, Freeway Park in Seattle, and the Stone Arch Bridge in Minneapolis. The merits of this monumental bridge are in fact, as significant as the projects mentioned above.

Momentum is growing to relink the city and the Mighty Missouri River, and this project should be a catalyst addressing the needs and aspirations of the capital city.

With kind regards,

Matthew J. Kirkwood
PROGRAM DIRECTOR
ASSOCIATE PROFESSOR
Department of Architecture and Landscape Architecture

Klai Hall
[redacted]
p: [redacted]
e: [redacted]

Mandan Historical Society
3102 37th St NW
PO Box 98
Mandan ND 58554

May 14, 2018 **HAND DELIVERED**

Mr. Rob McCaskey
Eighth Coast Guard District
1222 Spruce Street
Suite 2.102D
St Louis, MO 63103-2832

Sec. 106 Consulting Parties Proposed BNSF Bridge Replacement on Missouri River (ND SHPO Reference 16-0636)

At your invitation, and as authorized by the Board of Directors of the Mandan Historical Society, our organization offers the following observations and recommendations.

While it will be beyond disappointing to remove the existing Northern Pacific "High Bridge" due both to its place in the community and its historical significance, the Mandan Historical Society directors have concluded if a new bridge is built, it is unlikely the existing bridge will be retained. The City of Mandan is concerned over river flow/ice jams/flooding impacts a second set of bridge piers will bring. The US Army Corps of Engineers is concerned over compounding the river bottom scour threat with two bridges in near proximity to each other.

We will likely leave the final alternative debate to other parties. But if the bridge is removed, we are concerned that its significance to the City of Mandan's history will not be adequately documented and retained for future generations. Per my earlier email, the Class III archeological study was completely devoid of any reference to the significance of the bridge's impacts to Mandan's history and must be addressed if the existing bridge is removed or relocated.

In general, we are supportive of any permanent display regarding the bridge – including possibly portions of the current bridge and interpretive panels as an outdoor display - at the ND State Railroad Museum in Mandan.

We also recommend professionally produced short documentary videos of 10-15 minutes each in length be made on (1) the current bridge, (2) the new bridge design and construction, and (3) on how the selection of the final bridge crossing point halted the land speculation on the west river bank as to the final location of the City of Mandan. Specific topics should include the debate on who gets credit for naming the

city (a RR official or a local land speculator), the pioneer postmasters playing games with the city's name as well as other information associated with the earliest days of the city. There are two wonderful well researched, professionally-authored articles including one by the State Historical Society of ND, which compiled more than enough information for a short video. We can provide electronic copies of both articles to you or BNSF (although BNSF likely already has copies). The Mandan Historical Society can offer its services to compile/write the scripts based on its records and familiarity with the city's early history. And we would like pre-production script/text review and input for historical accuracy for any displays or videos.

Assuming the existing bridge is removed, the Mandan Historical Society respectfully requests a monetary donation in order to purchase and install a large screen TV and computer to run the video in our museum area as well as a small monetary donation to our Foundation to cover continuing costs for the display.

At the January 2018 consultation meeting in Bismarck, members of the Bismarck Historical Society identified another gross omission from the prepared history of the bridge. Fort Frazier artillery emplacement/army encampment during WWI (named for one of the most colorful political characters in our state's history) involved another noteworthy and colorful political character in our state's history i.e. William Langer being arrested for sneaking across the bridge in the dead of night while serving as the State's Attorney General. The State Historical Society of ND has at least one photo of Fort Frazier. Records should exist of its establishment to protect the bridge from sabotage / attack etc. during WWI. We defer to the Bismarck Historical Society as to an appropriate historical perspective on this particular subject.

And we would certainly support a fourth video produced on the history of Bismarck leading up to the final project approval and site selection as well as impacts to the city once the bridge began operation.

Finally, the records for the old bridge must be transferred to a state historical society. While we would prefer the records be gifted to the State Historical Society of ND in Bismarck, our members have compiled a lot of information on the bridge already including research of the records maintained by the Minnesota Historical Society. We know how extensive their collection is. Housing the records with them would be our second choice.

Thank you for your consideration.

Sincerely,

Kathye Spilman, Secretary
Mandan Historical Society