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Rails to trails

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Rails with trails: case studies from across America

Summaries of 21 rail-with-trail case studies including design, safety, liability and other legal issues, along with problems and solutions.

From *Rails-with-Trails: Lessons Learned* - by the Federal Highway Administration

Overview of Findings

In general, when a trail developer owns the right-of-way, RWT projects tend to proceed more quickly. All RWT projects should involve the railroads, law enforcement officials, and other stakeholders from the outset. These stakeholders know best their operation and maintenance issues and potential trouble spots.

With proper involvement, railroad companies can, in many cases, benefit from RWTs by requiring design features that help reduce existing problems. These features include good separation (distance, grade, vegetation, or fencing), well-defined and designed crossings, ongoing maintenance, and user education.

Where these features are not present, RWTs can cause undue burden on the railroads in the form of increased trespassing, operation and maintenance costs, and safety risks.

Researchers observed few trespassers on tracks next to existing trails. Those few observed were crossing or walking on tracks where fencing was not present to separate the trail from the tracks. In corridors where trails are planned but no formal facility exists yet, researchers observed more frequent trespassing.

The most serious conditions were along the planned Coastal Rail-Trail in California near Del Mar and Encinitas, where 155 trespassers were observed over the course of two hours. On four trails partially built during the course of this study (Blackstone River Bikeway, Burke-Gilman Extension, Cottonbelt Trail, and Kennebec River Trail), before and after comparison found either no change or a significant drop in trespassing once the trail was built.

Among all the trails observed, most trespassers were crossing the track to access the ocean, a river, or lake for surfing, fishing, or other recreational activity. The remainder were walking alongside the tracks. Few were actually on the track. Approximately 44 percent of the trespassers were following a path that would not be accommodated by the RWT, while about 32 percent followed a path that likely will become the trail.

Researchers noted the majority of trespassers were less than 20 years old and male. More than three quarters were pedestrians, with the remainder split between runners, bicyclists, and other.

CASE STUDY SUMMARIES

Atchinson, Topeka, and Santa Fe (ATSF) Trail • City of Irvine, Orange County, California

STATUS:: Existing, opened 1984

DESCRIPTION: The ATSF Irvine Trail is a 3 m (10 ft) wide shared use path located on Southern California Edison's 61 m (200 ft) wide easement of the Orange County Transportation Authority's (OCTA) railway corridor. The trail parallels the railway for approximately 5 km (3.2 mi.) The Southern California Regional Rail (SCRRA) operates 31 Metrolink trains in OCTA's rail right-of-way. In addition, 22 Amtrak trains and eight freight trains travel through the corridor. The passenger

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trains travel at speeds up to 145 km/h (90 mi/h.) Freight trains travel about 89 km/h (55 mi/h.)

DESIGN: The easement is generally landscaped with trees and shrubs. A 1.5 m (5 ft) high chain link fence separates the Edison easement (and the trail) from the railway tracks. The trail meanders through the easement and is typically 15 m (50 ft) to 30 m (100 ft) from the track centerline. Primarily single-family and multi-family developments border the trail. No trail signage identifies the trail entrances. Other than a park with little parking, there are no staging areas.

PROBLEMS: Officials report minor problems associated with the trail, mainly with graffiti and vandals cutting the fence, presumably to trespass across or on the tracks. Because of the width of utility easement, people rarely walk along the tracks. Thus officials report no trespassing problems. Some portions of the trail are lit for night use.

OTHER: Planners designed the trail in the 1970s. The older neighborhoods can only access the trail from major roadways. Newer neighborhoods, at the northern portion of the project, have built connections and several small parks along the rail corridor. Southern California Edison renews the lease agreement every five years.

Blackstone River Bikeway • Albion, Rhode Island

STATUS: Construction underway Winter 2001-2. Open in part as of April, 2002.

DESCRIPTION: The Blackstone River Bikeway is a 9.7 km (6 mi) planned shared use path along tracks owned by the Providence and Worcester Railroad (PWRR.) It travels through rural Albion and runs adjacent to the Blackstone River, recently designated as a National Historic Corridor. Up to four diesel freight trains operate on the tracks on a daily basis at speeds up to 64 km/h (40 mi/h), while an additional 10 to 20 excursion trains use the tracks occasionally throughout the year. Projected use of the trail is more than 1,000 users per day.

DESIGN: The trail will be located 5.5 to 18 m (18 to 60 ft) from the track centerline, averaging 7.6 m (25 ft) setback over the length of the trail. The Rhode Island Department of Transportation (RIDOT) will install and maintain a 2.4 m (8 ft) high chain link fence with black vinyl slats to separate the track and trail.

PROBLEMS: The rail line has experienced extensive trespassing, from dirt bike and allterrain vehicle users, to walkers and illegal dumping along the tracks.

OTHER: The RIDOT and PWRR negotiated for several years to approve the trail, which represents one important link in a more than 72 km (45 mi) proposed project (of which 45 km (28 mi) are in Massachusetts and 27 km (17 mi) are in Rhode Island) to connect Providence, RI and Worcester, MA. The PWRR saw the project as a way to improve operations and business opportunities in the State, hoping their cooperation would help with DOT support for other PWRR projects.

Burke-Gilman Trail Extension • Seattle, Washington

STATUS: 1.2 km (.75 mi) in place

DESCRIPTION: The existing and planned trail is an approximate 6.4 km (4 mi) extension of the 21 km (13 mi) long Burke-Gilman Trail. The right-of-way is owned and managed by the City of Seattle, which purchased it from the BNSF Railway. The RWT portion is planned in four sections: the 1.2 km (.75 mi) built portion, a 0.8 km (.5 mi) section planned for construction in Summer 2002, a 2.1 km (1.3 mi) section planned for construction in Summer 2003, and a not-yet-designed section between 11th and Chittendon Locks. The Ballard Terminal Railroad (BTR) runs a freight service on the tracks with approximately two to three round trips per week at speeds no more than 16 km/h (10 mi/h). The company is considering the addition of passenger services.

DESIGN: The tracks are almost entirely bounded by small industry, ship-related, and retail businesses. The trail, with an initial projected usage of 1000 to 2000 people per day, will be open 24 hours a day. Averaging 3 to 3.6 m (10 to 12 ft), the trail will set back 3 to 7.6 m (10 to 25 ft) from the track centerline, depending on the site situation. Physical separation will vary, depending on the conditions, from a 0.9 m to 1.1 m (3 ft to 3.5 ft) high fence to motor vehicle parking to nothing. Location of the future Blackstone River Bikeway along the PWRR tracks. Albion, RI

PROBLEMS: According to both the City and the BTR, the railroad's historic trespassing and dumping problems decreased significantly after the existing section of the RWT was built. In areas without the trail, a railroad employee precedes the infrequent trains on foot to ward off motorists, pedestrians, and others, whereas the channelization of trail users in the RWT section abrogates this need.

OTHER: The public planning process for this proposed trail has been lengthy, adversarial, and has involved over a dozen parties. Many challenges remain, including safety, sight distance, and

access for industrial property owners in the area. Burlington Waterfront Bikeway Burlington, Vermont

STATUS: Existing, opened 1985

DESCRIPTION: The entire Burlington Waterfront Bikeway recreational corridor is 12 km (7.5 mi) long. The RWT section is 3.2 km (2 mi) long. The Vermont Agency of Transportation (VTrans) owns the corridor. The City of Burlington developed and manages the trail. The Vermont Railway Company (VTRR), under an easement to VTrans, uses the tracks as a switching yard with numerous trains operating continuously throughout the day at speeds no greater than 16 km/h (10 mi/h). Hundreds of thousands of users cycle and walk annually on the RWT. DESIGN: The contract agreement required fencing for most of the RWT length.

PROBLEMS: Before the trail and fence were installed, people from abutting residential properties frequently crossed the tracks to get to where they wanted to go. The addition of the trail had the effect of "channelizing" pedestrian crossings down to a few known areas, reducing the problems dramatically. Vandals occasionally cut the fences along the corridor. The City is in charge of fence and trail maintenance. Burlington Waterfront Bikeway located along the Vermont Railway Company tracks.

OTHER: In 1982, the City Attorney for Burlington started to negotiate with the Central Vermont Railway (whose tracks approach from the north) and Vermont Railway (VTRR), and VTrans. All parties reached agreement and built the trail in 1985.

Cedar Lake Trail • Minneapolis, Minnesota

STATUS: Existing, opened 1980s DESCRIPTION: The Cedar Lake Trail runs from downtown Minneapolis to the western city limits on property owned by BNSF Railway. The Minneapolis Park Board operates the 7.6 m (25 ft) wide easement and trail, which has two at-grade crossings. The trail is 5.6 km (3.5 mi) long, with planned connections to other regional trails creating a loop of approximately 80 km (50 mi) of trail. The adjacent tracks carry 10 to 12 trains per day, with an average speed of between 40 and 80 km/h (25 and 50 mi/h).

DESIGN: The minimum setback of the trail from the centerline of the track is 4.6 m (15 ft), with the average setback 7.6 m (25 ft.) In the areas of minimum setback, a 1.8 m (6 ft) chain link fence separates the trail and nearest track. The trail reportedly helped improve railroad maintenance by upgrading the access roads.

PROBLEMS: Security is provided by daily patrols, although the trail reportedly experiences fewer security problems than the surrounding area as a whole. No trail users have filed lawsuits against the railroad. Officials report a decrease in trespassing incidents on the adjacent tracks since the trail was installed.

OTHER: The Parks Board provides maintenance, as well as security, with the Minneapolis Police Department.

Coastal Rail Trail • Cities of Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, San Diego, and San Diego County, California

STATUS: Planned, not built as of June 2002

DESCRIPTION This planned 3.7 m (12 ft) wide shared use path will be located within the San Diego Northern Railway right-of-way and will traverse from Oceanside to San Diego. It will connect commuter rail and transit stations for 53 km (33 mi) of the total 71 km (44 mi) high-speed intercity and commuter rail corridor. The North County Transit District (NCTD) operates 18 "Coasters" per day Monday through Friday and eight "Coasters" per day on Saturday. Amtrak operates 22 "Pacific Surfliners" per day. These trains operate at speeds up to 145 km/h (90 mi/h.) Five freight trains and up to 48 San Diego Trolley trains operate on a weekly basis at 80 km/h (50 mi/h) and between 48 to 64 km/h (30 to 40 mi/h), respectively. Construction of the trail is expected to commence in 2003.

An estimated 28,500 daily and 7,080,000 annual users are projected on the trail. The right-of-way is owned and managed by the NCTD and the Metropolitan Development Board. The responsible agency for management of the trail has not yet been identified.

DESIGN: The trail will be designed to include 0.6 m (2 ft) wide shoulders and will be situated 6.1 m (20 ft) from the centerline of the track. Trail users will be separated from the tracks by grade variations, vegetation, and other barriers.

PROBLEMS: Running parallel to the ocean, the tracks are frequently crossed by trespassers to access the beach.

OTHER: Six cities joined efforts and together prepared a feasibility study, completed in January 1999. The six cities, the two railroad companies, North County Transit District, and Metropolitan Transit District, collaboratively developed the project study report and a Memorandum of Understanding. The Memorandum binds the parties to cooperatively plan a trail within the active railroad right-of-way. This process has included more than three years of monthly meetings.

Columbus Riverwalk (Chattahoochee Trail) • Columbus, Georgia

STATUS: Existing, opened 1990s

DESCRIPTION: The Columbus Riverwalk is approximately 25.7 km (16 mi) of trail adjacent to the Chattahoochee River from the Lake Oliver Walkway to Fort Benning. About 1.6 km (1 mi) of the trail is located on Norfolk Southern property. The tracks are leased by the Railtex/GATX/Georgia Southwestern Railroad Company. The Consolidated Government of Columbus operates the trail. Freight trains are the primary users of the tracks and run infrequently, mostly in the spring when the river is high enough so barges can bring petroleum products up to the docks for further transport by rail. The trains travel at speeds less than 16 km/h (10 mi/h).

DESIGN: The 3.0 to 3.7 km (10 to 12 ft) concrete walkway is 3 to 9.1 m (10 to 30 ft) from the tracks, with nominal vertical separation and no fencing. The trail is lit at night, although there is not much use after 11:00 p.m. Future trail alignment of the Coastal Rail Trail extension adjacent to the Coastline tracks.

PROBLEMS: Officials report no trespassing and/or vandalism incidents along the rail corridor.
OTHER This is a multi-phase project: phases one and two are development of the riverwalk, while phase three is the planned acquisition and development of a trail and trolley from the riverwalk to Columbus State University and the Peach Tree mall with future plans to extend the trail 56 km (35 mi) to Warm Springs.

Cottonbelt Trail Grapevine, Texas

STATUS: 4 km (2.5 mi) opened 2000

DESCRIPTION: The 16 km (10 mi) long Cottonbelt Trail is a multi-phase, multi-jurisdictional trail that comprises a piece of the Dallas-Fort Worth bicycle trail system called "Veloweb." A 4 km (2.5 mi) section of the 16 km (10 mi) path has been completed. The track, owned by the Dallas Area Rapid Transit (DART), is leased to a short line company, the Fort Worth and Western Railroad, which uses the track for tourist excursions and weekend dinner trips. Freight activity involves two trains per day. Train speeds do not exceed 48 km/h (30 mi/h). Each city involved in the project will own and manage the trail within their respective jurisdiction.

DESIGN: The track is adjacent to residential areas and several large open fields. The trail maintains 7.6 m (25 ft) setback from track centerline to the edge of the trail.

PROBLEMS: According to the railroad, trespassing is not a problem.

OTHER: Initially, project planners overlooked the fact that some of the trail fell in the railroad right-of-way. Subsequent policy changes by DART allowed for trail use within their right-of-way. The City of Grapevine has a five-year lease, with option for renewal, from DART. Also, because Explorer Pipeline Company has a pipeline under the trail, a special design enables a section of the trail to be lifted during pipeline repairs.

A DART official noted benefits in terms of reduced costs of right-of-way maintenance, now undertaken by the City, but expressed concern about potential liability costs, even with the City assuming liability. A law enforcement official noted the trail's popularity and anticipated no increase in costs.

Five Star Trail • Youngwood to East Huntingdon, Pennsylvania

STATUS: Planned, not built as of June 2002

DESCRIPTION: This trail project is a 9.7 km (6 mi) extension to the existing 8 km (5 mi) Five Star Trail, currently the third most popular recreational facility in Westmoreland County. The Regional Trail Corporation manages the existing trail through a lease agreement with the Westmoreland County Industrial Development Corporation, which owns and operates the railroad. The track currently has two trains per day on weekdays, with up to four additional trains on weekend days. Maximum train speeds are 40 km/h (25 mi/h). Freight trains are the predominate users of the track followed by weekend excursion trains.

DESIGN: The trail extension will be 3 m (10 ft) wide with a crushed limestone surface. The minimum setback will be 3.7 m (12 ft) from the center of the track, with additional setback

distance provided whenever possible.

PROBLEMS: Trespassing is a concern in the corridor where the trail extension is proposed. Currently, people on motorcycles and all-terrain vehicles use the area.

OTHER: Establishing a good working relationship and open communication between the trail managers and railroad company led to the success of the existing section of the Five Star Trail. It has also provided a framework toward a successful, multi-jurisdictional planning process for the trail extension.

Kennebec River Rail-Trail • Augusta, Hallowell, Farmingdale, and Gardiner, Maine

STATUS : 2 km (1.2 mi) opened October 2001

DESCRIPTION: The Maine Department of Transportation (MDOT) opened the first 2 km (1.2 mi) of the 10.5 km (6.5 mi) of the Kennebec River Rail Trail (KRRT) in the Fall of 2001. The driving force behind trail development and construction is a consortium of KRRT Board of Supervisors members appointed by the four towns, as well as a nonprofit group called the Friends of the KRRT. The Board of Supervisors is responsible for overseeing the construction and management of the trail, while the Friends group is involved with trail fundraising, promotion, and maintenance. Volunteer project support has been tremendous and well organized. MDOT is committed to seeing the project succeed and has been aiding in the development, approval and construction phases. In 1990, the State of Maine purchased the rail line from the Maine Coast Railroad, which no longer operates in the corridor. A short line operator, Safe Handling Rail, Inc. is contracted to operate trains at 40 to 48 km/h (25 to 30 mi/h). However, no trains have operated since January 2001 due to construction and management issues. Service is expected to resume in the Fall of 2002.

DESIGN: The trail will be 3 m (10 ft) in width with 0.3 m (1 ft) shoulders. The surface treatment will be either bituminous pavement or stone dust. Projected use is 750 trail users per day. Along much of the corridor, the trail will be set back 4.1 m (13.5 ft) from track centerline. In a 300 m (1000 ft) constrained area, the trail will be narrowed to 1.8 m (6 ft) in width and maintain a separation of 3.8 m (12.4 ft) setback, with a 2.4 m (8 ft) chain fence.

PROBLEMS: Trespassing during the winter by snowmobiles riding on the tracks has been a problem in the past.

OTHER: Opponents insist that the proposed trail cannot be safely located within the rail right-of-way given the perceived narrow setback distances. They dispute most of the State's assertions about process, design, and liability. They also are concerned that the trail's proximity is incompatible with passenger rail, which they are promoting for future operation in the corridor. More information about the trail is online at www.KRRT.org.

La Crosse River State Trail • La Crosse, Wisconsin

STATUS: Existing, opened 1987

DESCRIPTION: The La Crosse River State Trail serves as a 34 km (21 mi) connector between the Elroy&endash;Sparta and Great River Trails. The State of Wisconsin owns the railroad right-of-way. Freight and Amtrak trains run about 16 times daily, at speeds of up to 129 km/h (80 mi/h).

The trail is lightly used relative to other area trails, despite the fact that it traverses diverse, exceptionally beautiful terrain. The trail passes through several small towns with local bars and restaurants that welcome trail users.

DESIGN: For most of its length, marshland, grass-filled ditches, and prairie separate the trail from the track centerline by approximately 30 m (100 ft) or more.

PROBLEMS: Authorities report no current trail-related trespassing activities. In the past, trail users trespassed on the tracks when moving between the Great River and the La Crosse River trails. The State solved this by adding an overpass with signing that directs users between trails.

Vandalism and illegal motorized vehicles are problems on the trail. A special agreement in the contract allows the State to install fencing for adjacent landowners outside of the right-of-way for those who request it. Landowners, however, must sign an agreement to maintain the fence for 20 years.

OTHER: The State surfaced and signed the trail twelve years after it purchased the right-of-way in 1978.

Lehigh River Gorge Trail • Jim Thorpe, Pennsylvania

STATUS: Existing, opened 1972

DESCRIPTION: The entire length of the trail is 40 km (25 mi) long, with the southern 9.7 km (6 mi) being a RWT facility. The Reading and Northern Railroad Company (RNRC) operates between two and six freight trains per day on the tracks at speeds between 40 to 64 km/h (25 to 40 mi/h).

DESIGN: The trail has a crushed-stone surface and generally is 3 m (10 ft) wide with a few areas that are wider. About 3.7 to 5.5 m (12 to 18 ft) separates the track centerline from the trail in most areas, although setback is as little as 2.3 m (7.5 ft) in places. For about half the length of the trail, 1.5 to 2.4 m (5 to 8 ft) of vertical grade separation lays between the tracks and the adjacent trail. No fencing is used.

PROBLEMS: The area used for the trail previously served as an access road to the railroad and facilitated illegal dumping. Since the trail was established, the illegal dumping has ceased. Officials report no trespasser-train incidents. However, railroad officials unofficially note "close call" incidents and express concerns about continued trespassing problems.

OTHER: Bike rental companies in the area give users a safety speech that includes warnings about the track.

Mission City Trail • City of San Fernando, California

STATUS: Existing, opened 1990s

DESCRIPTION: This 1.6 km (1 mi) shared use path traverses through the City of San Fernando, in the northern portion of Los Angeles County. The Southern California Regional Rail Authority (SCCRA) runs 26 Metrolink passenger trains traveling at 127 km/h (79 mi/h.) Five freight trains also travel in the corridor at 80 km/h (50 mi/h.) The number of trains is expected to increase.

DESIGN: The trail is a concrete pathway, 2.4 m (8 ft) wide with 0.9 m (3 ft) shoulders, that meanders within a 6 m (20 ft) section of the right-of-way along the eastern edge of the railway. It connects to a Metrolink station within the City of Los Angeles. The trail is setback at least 7.6 m (25 ft) from the track centerline and separated by a 1.8 m (6 ft) high fence (part chain link, part wrought iron.) It is enhanced with shrubs, trees, and signs. The City designed and installed self-closing stop gates at several at-grade crossings to slow bicyclists prior to crossing major roadways. The trail is lit and allows night use.

PROBLEMS: Problems with vandalism and trespassing have reportedly decreased since the trail was developed.

Northeast Corridor Trail • Newark, Delaware

STATUS: Planned, not built as of June 2002

DESCRIPTION: The Northeast Corridor is a planned 2.7 km (1.7 mi) asphalt shared use path adjacent to Amtrak's Northeast Corridor main line. The trail setting includes a mixture of parkland, urban, and industrial land uses along the trail. The City of Newark owns some of the land and will lease property for the remainder. Up to 100 passenger and freight trains operate per day, some at speeds over 161 km/h (100 mi/h.) Amtrak's high speed Acela trains are expected to travel at speeds upwards of 193 km/h (120 mi/h.) The Amtrak track is closest to the planned trail, and is shared with commuter trains operated by the Southeastern Pennsylvania Transportation Authority (SEPTA),

DESIGN: As required by the contract, the City will install and maintain a chain link fence along the entire trail corridor. The minimum planned setback is 9.1 m (30 ft) between the track centerline and edge of the trail.

PROBLEMS: The speed of the trains in relatively close proximity to the trail is a concern. An additional concern is the potential for trespasser casualties via fence breaks. Maintenance of fencing is a major challenge along the Northeast Corridor.

OTHER: This proposed RWT has gone through an extensive public process to build support for the trail. An advisory committee provided input regarding trail development.

Norwottuck Rail Trail, Connecticut River Greenway State Park • Hampshire County, Massachusetts

STATUS: Existing, opened 1994

DESCRIPTION: The Norwottuck Rail Trail travels 16 km (10 mi) in the communities of Northampton, Hadley, Amherst, and Belchertown. In 1984, the Commonwealth of Massachusetts,

through the Department of Environmental Management (DEM), purchased the corridor for the purpose of building a rail-trail. The towns of Amherst and Belchertown own 1.9 km (1.2 mi) at the eastern end. The first segment of trail from Northampton to Amherst opened in 1993, and the eastern extension to Belchertown opened in 1997. More than 300,000 people use the trail annually.

The eastern section of the Norwottuck Rail Trail is adjacent to a separate right-of-way owned and operated by the New England Railroad (NECR), formerly the Central Vermont Railway. Amtrak Vermonter also operates two trains a day. The right-of-way of the active railroad is 20 m (66 ft) wide.

DESIGN: Two at-grade road crossings intersect the trail. One crossing is equipped with active warning devices, lights, and bells. The other (a semi-private grade crossing used primarily as an access road by the Town of Amherst's Water Department) has only passive warning devices. The latter does have whistle markers alerting the NECR and Amtrak engineers to sound the horn. No sign alerts trail users to the possibility of a train, although no attractive destinations encourage crossing.

The 3 m (10 ft) wide paved trail is situated 9.8 m (32 ft) from the centerline of the nearby tracks. There is no fencing between the trail and railroad where the rights-of-way are parallel.

PROBLEMS: Officers report that the adjacent rail line has no reported incidents of trespassing.

Platte River Multi-Use Trail • Denver County, Colorado

STATUS: Existing, opened 1980

DESCRIPTION: The Platte River Multi-Use Trail, built around 1980, extends from downtown Denver along the Platte River. The trail abuts the Denver Regional Transit District's track, with an active trolley operation, for approximately 1.6 km (1 mi.) The trail is owned and managed by the Denver Department of Parks and Recreation. Average train speed on the line is 16 km/h (10 mi/h).

DESIGN The 2.4 to 3 m (8 to 10 ft) wide concrete path is set back at least 7.6 m (25 ft) from the centerline of the nearest track. No fencing separates the trail and tracks. Two at-grade crossings are indicated with passive warning signs and striping.

Platte River Trail

PROBLEMS: The presence of homeless people is a notable problem in the corridor, although not directly related to the trail. No trail-related lawsuits have been filed against the City or railroad. Officials report decreased trespassing on the tracks since the trail installation. **OTHER:** Railroad construction and maintenance has required periodic closure of the trail. The Denver Parks and Recreation Department provides maintenance and snow removal. Denver Urban Drainage and Flood Control provides landscape maintenance. The Denver Police Department provides security through spot checks and on an emergency response basis.

Railroad Trail • Gaylord, Michigan

STATUS: Existing, opened 1990s

DESCRIPTION: The Railroad Trail is the first and only RWT in Michigan. It is a 35 km (22 mi) snowmobile trail and is part of a 90 km (56 mi) corridor. The Lake State Railroad operates up to five freight trains per week at speeds of 40 to 64 km/h (25 to 40 mi/h.) It officially is a snowmobile trail but nonmotorized uses are permitted. Up to 6,000 people use the trail on winter weekends.

DESIGN: The trail is unpaved and looks little like a trail in summer months. Signage reminds trail users to stay off railroad tracks. Separation varies from less than 0.9 m to 10 m (3 to 30 ft.)

PROBLEMS: Officials report that the trail has relieved trespassing problems for the railroad by up to 90 percent. In particular, they have seen reduced snowmobile use on the tracks and a cleaner right-of-way due to snowmobile club maintenance activity. According to the sheriff, snowmobiles regularly cross the tracks to access a frozen lake.

OTHER: The legislature passed a special act to allow this RWT. The legislation applies only to this trail and sets the terms of trail operation from December 1st through March 31st. It took almost six years of negotiation with the railroad company and the legislature to establish the trail, first on a trial basis, then permanently. However, the Lake State Railroad was not involved in the decision to go from trial to permanent **STATUS:**. Lake State Railroad officials express support for the RWT as well as concern about potential liability in the case of a serious incident. The

snowmobile club carries a \$2 million insurance policy.

Snowmobile users pay a mandatory registration fee and a trail fee of \$10. The Michigan Department of Natural Resources gives the managing organization, Alpine Snowmobile Trails, Incorporated, an annual maintenance grant of \$250 per mile per year. The grant helps supplement volunteer labor used to maintain the trail and area near the tracks.

Schuylkill River Trail • Norristown, Pennsylvania

STATUS: Existing, opened 1993

DESCRIPTION This approximately 6.4 km (4 mi) long RWT facility, located primarily in Norristown, PA, is part of the 35 km (22 mi) Schuylkill River Trail connecting Philadelphia with Valley Forge. Approximately 3.2 km (2 mi) are located on Norfolk Southern Railroad Company property. The other two miles are adjacent to an active SEPTA right-of-way. About 20 freight and commuter rail trains operate on the track at speeds between 32 km/h to 64 km/h (20 to 40 mi/h.) Montgomery County owns and operates the trail easement.

DESIGN: The asphalt trail is 3 to 3.6 m (10 to 12 ft) wide. The setback between the trail and track centerline varies through the corridor, with the closest point being about 3 m (10 ft.) A wrought iron fence also separates the tracks and the trail adjacent to the Norristown Transit Center. A split rail fence is in place in the area where the trail is within 3 m (10 ft) of the tracks.

PROBLEMS Officials observe some trespassing in the area adjacent to the trail, although the activity does not appear to be related to the trail. In fact, the presence of other trail users appears to deter incidences of trespassing and vandalism.

OTHER: The process for approving the trail was long and difficult. The trail promoters involved the railroad in both the trail feasibility study and design phase. An easement agreement with the railroad stipulated that the railroad had final approval of the trail design, specifically with fencing and distance from centerline.

Seattle Waterfront Trail / Elliott Bay Trail • Seattle, Washington

STATUS: Existing, opened 1989

DESCRIPTION: These two contiguous trails combine for a total length of approximately 9.7 km (6 mi.) They run along the waterfront from the heart of downtown Seattle north to the Interbay area. The City of Seattle owns the right-of-way, which it purchased in the late 1980s. The BNSF Railway operates up to 60 passenger and freight trains daily on the street right-of-way, parallel to the trails. Train speeds vary from 64 km/h (40 mi/h) for passenger and 56 km/h (35 mi/h) for freight trains.

Schuylkill River Trail • Norristown, PA

DESIGN: The trail has three distinct sections. The southern third, downtown, is close to a rail line that carries four slow-moving trolleys per hour. This section is an area dominated by bicycles and pedestrians. Much of the trail traffic consists of tourists and downtown workers getting exercise or simply taking in the views. The middle section is in Myrtle Edwards Park. It is directly on the waterfront, surrounded by landscaping, set back from the tracks by about 30 m (100 ft), and separated by a 3 m (10 ft) high chain link fence and landscaping. The trail surface is old, bumpy, and curvy. The northern section runs through the rail yards. In most parts, chain link fences and tracks closely border the trail on both sides, with almost no landscaping. The path is so narrow at several points that multiple warning signs are needed to help avoid collisions between users. The trail is lighted and has night use.

PROBLEMS: Officials report few significant problems with trespassing or vandalism. However, motorists sometimes drive on the trail and have hit trolley cars.

Springwater Corridor Extension • Portland, Oregon

STATUS: Planned, construction slated for Fall 2002

DESCRIPTION This 4.8 km (3 mi) long project is bounded on the west side by the Willamette River, and on the east by railroad tracks and relatively high-density neighborhoods, a wildlife sanctuary, and a semi-industrial district. Metro, the regional government, owns the land, on which the Oregon

Location of the future Springwater Corridor Trail Extension along the Oregon Pacific Railroad (OPR) runs shortline freight and excursion trains. OPR operates freight trains three times a week in winter and tourist excursion trains five times a day in the summer.

The maximum train speed is 32 km/h (20 mi/h.) The trail is to be managed by the City of Portland Parks Bureau. It will be a commuter and recreational trail with a projected half-million annual users.

DESIGN: The City will install a 1.2 m (4 ft) tall chain link fence and two pedestrian under-crossings. The trail will be 2.6 m (8.5 ft) from the centerline of the track to the fence, plus an additional 0.6 m (2 ft) to the trail.

PROBLEMS: Officials report a long history of trespassing activity in the form of recreational walking, jogging, and bicycling on, along, and crossing the tracks to reach the Willamette River. The fence and pedestrian undercrossings should eliminate these problems. **O T H E R** The trail planning process between the City of Portland and the OPR was contentious and difficult due to a history of OPR track maintenance and construction incidents. Metro's involvement through an open space acquisition program helped: it provided financial incentives to OPR by purchasing part of its easement, hiring OPR for certain construction elements, and including design features to reduce trespassing.

Three Rivers Heritage Trail • Pittsburgh, Pennsylvania

STATUS: Planned, not built as of June 2002 **DESCRIPTION:** The Three Rivers Heritage Trail will be a 4 km (2.5 mi) extension of an existing trail on the north side of the Monongahela River in Pittsburgh. Friends of the Riverfront purchased the property from the CSX Railroad, who retains ownership of the railroad line. CSX operates 20 to 25 trains per day at speeds of up to 40 km/h (25 mi/h.)

DESIGN: As a condition of sale of the property, CSX Railroad is requiring a chain link fence the entire length of the trail. This fence must be built before the trail is constructed. The fence will be located at least 15 to 20 m (50 to 65 ft) from the centerline of the tracks.

PROBLEMS: Trespassing concerns are focused on the area near Becks Run Road where many people cross the tracks to access the river for fishing.

OTHER A lesson learned from this RWT is to identify all potential partners early in the planning process. When the utility companies became more involved in the planning and negotiation for the trail property, the process moved forward at a faster pace. Water and sewer utilities are strong supporters of the trail, according to the trail manager, because the trail will provide better access for their maintenance vehicles.