

CONNECTIONS

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Considering Contamination in a Rail-Trail Conversion

Development of Transportation Enhancement (TE) projects always entails a basic level of environmental review. In some cases, the environmental review and remediation process can be complicated by the presence of toxic substances. The rehabilitation of a historic building could require removal of lead paint or asbestos; creation of a new park on a former industrial site could necessitate removal of contaminated soils; and construction of a trail on an abandoned rail corridor could involve cleanup of toxic metals, chemicals, and other contaminants.

The Rails-to-Trails Conservancy recently released a report entitled *Understanding Environmental Contaminants—Lessons Learned and Guidance to Keep your Rail-Trail Project on Track*, to educate planners and trail managers about the environmental cleanup process. Though the report focuses on rail-trails, it offers information and tips that are applicable to other types of TE projects. The following is a modified excerpt of the report, which can be found in its entirety at www.trailsandgreenways.org/resources/highlights/taserve/epareport.pdf.

Communities wishing to convert rail corridors into multi-use paths sometimes find themselves in the difficult position of dealing with known, potential, or perceived contamination along a railbed. Future trail users may ask about potential exposure to toxic substances. Trail opponents may raise concerns about contamination as a means to impede or thwart trail development or property acquisition. Elected officials may fear contaminant clean-up could escalate project costs and raise liability issues. Abutters may worry about dust kicked up during construction. These concerns can be managed by trail developers who know about the risks associated with contamination and the most effective remediation strategies. A survey conducted for this report, consisting of a Lexis search on media over the past 20 years and contact with trail managers, showed that, overall, potential contamination along a corridor has not hindered the creation of rail-trails.

Investigating the property

The first step in confronting a potentially contaminated corridor occurs prior to purchasing the corridor. The buyer should conduct an inventory of possible hazards on the corridor, a process known as “due diligence.” Due diligence is important in planning for the health and safety of future trail users as well as protection against possible litigation.

If there is a possibility that a trail corridor is contaminated, an environmental expert should be enlisted to conduct a thorough environmental assessment. Ideally, this assessment should occur prior to purchasing the corridor and may be combined in part with the due diligence process. In some cases, the full assessment cannot occur prior to purchase of the property because the current proprietors may restrict access.

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AN ENVIRONMENTAL ASSESSMENT CAN COST ANYWHERE FROM A FEW THOUSAND TO MORE THAN \$20,000 IF EXTENSIVE SOIL AND WATER SAMPLES ARE TAKEN. THE ASSESSMENT AND ITS RESULTS CAN QUICKLY BECOME A CRITICAL ISSUE IN NEGOTIATIONS TO ACQUIRE THE PROPERTY.

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The environmental assessment occurs in three phases, each with a more intense level of investigation. The first two investigatory phases may not be necessary if the property has already been identified as a contaminated site, or “brownfield.” Before beginning the environmental assessment process, contact the state environmental protection agency to check whether the property is a brownfield.

A Phase I assessment combines research into the property’s history with a visual inspection of the corridor. Court-house records, title abstracts, historic aerial photographs, and newspaper accounts may indicate whether contamination is present. Interviews with local government representatives, adjacent landowners, and state and federal officials may also uncover historical events about which the current railroad knows nothing. Phase I assessments are not regulated by the federal government, but may be by the state.

If the Phase I assessment identifies problem areas, a Phase II assessment may be required. A Phase II assessment involves more thorough testing of water, air and soil samples, as well as a more thorough investigation of the site. If contamination is found, a Phase III assessment will review clean-up alternatives, clean-up costs and recommend a remediation plan. Possible sources of contaminants might include:

- Railroad ties (wood-treating chemicals including creosote)
- Spilled or leaked liquids (oil, gasoline, diesel fuel, cleaning solvents, and detergents)
- Herbicides
- Fossil fuel combustion products (PAHs)
- Roofing shingles (asbestos)
- Air Compressors (used in braking and for starting engines)
- Transformers and Capacitors (used in train controls and electric generation)
- Metals (arsenic from pesticides, wood preservatives, fossil fuel combustion; mercury from combustion or leaking gauges)

While the techniques for identifying environmental contamination have become increasingly sophisticated, the cost and responsibility for clean-up and restoration are less clear. Federal law targets past and present owners, operators, transporters and generators of hazardous substances. Assigning responsibility and collecting money for clean-up is complicated by the history of contamination and the likelihood

BASIC PROCESS STEPS

- Conduct due diligence, inventory potential hazards along the corridor;
- Analyze potential adverse health effects caused by hazardous substances;
- Determine what, if any, additional mitigation steps need to be taken;
- Examine risks and benefits associated with various remedial alternatives;
- Design and locate the trail to avoid dangers;
- Follow state and federal laws regarding construction in a contaminated area and removal of contaminated materials;
- Implement a plan to manage health risks;
- Regularly inspect the trail for potential hazards and maintenance problems, and;
- Post signage and fencing to protect trail users when needed.

that the original contaminators may no longer be traceable, or if they still exist, do not have the financial capacity to pay for clean-up. Although the railroad has certain responsibilities as the property owner, do not be surprised if the railroad’s representative wants to include clean-up costs as a negotiating point.

Overall, an environmental assessment can cost anywhere from a few thousand dollars to more than \$20,000 if extensive soil and water samples are taken over a broad area. The assessment and its results can quickly become a critical issue in negotiations to acquire the property. Before taking title to the property, make sure the purchase contract clearly states who will pay for any environmental problems that have been discovered. Seek warranties and representations from the railroad indicating there is no known contamination, or if that is not the case, disclosing the actual situation and plans for remediation.

Once it is determined that remediation is needed, the environmental consultant should prepare an estimate of

the approximate costs of alternatives to address the identified contaminants. This estimate may be used in negotiations to reduce acquisition costs.

Federal and State Regulations

Throughout the process of environmental assessment and contamination clean-up, developers should be aware of federal and state regulations that apply to these processes. Normally, federal involvement in cleanup is limited. EPA policies and

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A runner enjoys the Manhan Rail-Trail, in East Hampton, Mass. The city is working to remediate asbestos contamination along a section of the rail corridor. Photo: Stuart Beckley.

Doyle Street Greenway • EMERYVILLE, CALIFORNIA

Emeryllville, California, is transforming itself from an old industrial landscape into a livable community with vibrant high-tech and commercial industries. The Doyle Street Greenway is a key part of the citywide renewal process. This half-mile rail-trail follows a spur of the Santa Fe Railroad line that once serviced Emeryville and the city of Berkeley.

The community began testing the rail corridor before they purchased the property from the Union Pacific rail company. Soil and groundwater tests revealed high levels of arsenic, lead, and petroleum hydrocarbons.

To clean up the area, workers removed approximately 2.5 feet of contaminated soil from across the length of the 2,220-foot corridor, and disposed of it off-site. They replaced the contaminated soil with a layer of clean fill, and covered the corridor with hard surfacing and greenery. This method offered the most thorough level of protection to the public and minimized long-term maintenance and liability issues.

Staff from the city of Emeryville found it useful to engage the various regulatory agencies early in the process to avoid surprises during negotiations or after property was purchased. Project staff also found it helpful to have financial flexibility, allowing them to work through problems that developed during the course of the project. For example, it is difficult to completely characterize contaminants in the soil with initial testing. Financial flexibility permits project managers to react to new information as it becomes available.

A major challenge to the city of Emeryville came in developing an accurate cost estimate for the project. The city had to negotiate with several entities to determine which of them would contribute financially to the project and how much they would contribute. For example, private developers were willing to contribute to the greenway depending on whether it was designed to abut their property. The city also had to negotiate with the railroad company to determine responsibility for clean-up.

The project cost approximately \$1 million and was funded by EPA's Brownfields Assessment Demonstration Pilot Program; the city of Emeryville; California State Park and Bicycle Bond Funds; the Union Pacific Railroad; and Pulte Homes, which paid for improvements adjacent to their developments.

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www.epa.gov/region09/waste/brown/index.html

Right: The rail corridor in downtown Emeryville before trail development and at the greenway groundbreaking (below).



FEDERAL AND STATE RESOURCES

FEDERAL SOURCES:

U.S. EPA Superfund site, sections on "Laws, Policies & Guidelines" and "Human Health & Ecological Risk," www.epa.gov/superfund/

U.S. EPA Brownfield sites: www.epa.gov/brownfields/ and www.epa.gov/brownfields/liab.htm

SAMPLE STATE PROGRAMS:

Massachusetts: www.mass.gov/dep/bwsc/files/railtrail.doc

New York: www.dec.state.ny.us/website/der/bfield/

Texas: www.tnrc.state.tx.us/permitting/remed/vcp/brownfields.html

Wisconsin: <http://dnr.wi.gov/org/aw/rr/rbrownfields/>

Washington: www.ecy.wa.gov/programs/tcp/cleanup.html

FUNDING SOURCES:

U. S. EPA Brownfields Assessment Grants, Revolving Loan Fund Grants, and Clean-Up Grants: www.epa.gov/brownfields/pilot.htm

U.S. EPA Healthy Urban Communities Grant Program (New England only) www.epa.gov/region01/eco/uep/grants.html

U.S. DOT: Transportation Enhancements program: www.enhancements.org

U.S. Dept. of Housing and Urban Development Community Development Block Grants www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm

RESOURCES

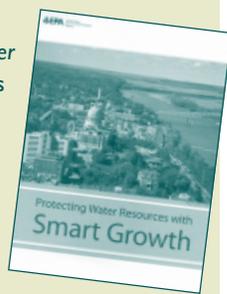
The **Federal Highway Administration (FHWA)** recently posted online the *National Bicycling and Walking Study: Ten-Year Status Report*, which is an update of the five-year status report released in April 1999. These reports are analytical responses to the emphasis on bicycling and walking within the ISTEA and the TEA-21. The updated 2004 report identifies the latest data available on bicycling and walking statistics and conditions, and updates progress since the last report. The new report builds on previous work to assess the Department of Transportation's activities and progress with respect to the *National Bicycling and Walking Study* goals and action plans in the ten years since the Study was released. Find the report online at www.fhwa.dot.gov/environment/bikeped/study/index.htm.

National Association of Realtors and **Smart Growth America** released the *2004 American Community Survey*, which shows that the prospect of lengthening commutes is leading more Americans to seek walkable neighborhoods in close-in suburbs and cities. Belden Russonello & Stewart (BRS) conducted the survey, which looks at Americans' preferences for the type of communities they want to live in and the policies they support for creating those communities. Preferences expressed in the survey suggest a direction for solving the conflicting pressures of the desire to develop and the wish to preserve communities. The survey is at www.smartgrowthamerica.org.

The **Federal Highway Administration** and **Federal Transit Authority** announced their 2004 "Transportation Planning Excellence Awards," at a July 25th ceremony in Park City, Utah. Awards recognized outstanding projects in the following categories: Safety Conscious Planning; Planning Leadership; Public Involvement, Outreach and Education; Transportation and Land Use Integration; Transportation Planning and Environment; Technology Applications; Transportation Planning Integration with Other Planning and Engineering Activities; and Tribal Transportation Planning. Learn about these standout projects at the FHWA Web site: www.fhwa.dot.gov/planning/tpea04/list.htm.

The **Environmental Protection Agency** recently announced a new publication entitled *Protecting Water Resources with Smart Growth*. This publication examines how growth, development, increases in impermeable cover, and increased vehicle traffic have negative impacts on drinking water, open space, and wetlands. The document is a compilation of 75 policies designed to protect water resources and implement smart growth. The majority of these policies (46) are oriented to the watershed, or regional level; the other 29 are targeted for specific development sites. Find out more about this publication and the EPA smart growth series at www.epa.gov/smartgrowth/water_resource.htm.

Urban Institute author Chris Walker examines the value of systematic surveys in his June 2004 brief entitled "Understanding Park Usership." The brief details five approaches to information gathering and describes how four parks put them into practice. The result: more effective management of park assets and greater benefit for the community. This brief is one of a three part series collectively titled *Beyond Recreation: A Broader View of Urban Parks* and is available at www.urban.org/url.cfm?ID=311012.



Considering Contamination

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brownfield legislation often limit EPA regulatory involvement when a clean-up follows state requirements.

Each state has different requirements for environmental assessment and clean-up. Some states develop their own requirements or follow standards developed by the American Society for Testing and Materials (ASTM). State requirements can best be found by contacting the state's lead environmental agency.

Remediation Alternatives

Once a corridor is acquired, communities must determine the level of clean-up necessary to manage contamination. Some states develop site-specific standards for acceptable levels of contamination based on a methodology known as "risk assessment." This involves extrapolating health risks from contaminant levels using modeling. Risk assessment can be very time consuming, so some states have developed generic clean-up levels based on the current and expected use of the site. These generic levels greatly simplify the clean-up process.

After target clean-up levels have been established, trail developers review alternative methods for mitigating contamination. The following is a list of the most common methods for addressing contamination on a rail corridor:

- **Cut and Fill:** Contaminated soil is removed and replaced by clean soil to fill the corridor.
- **Capping the Surface:** Hard surfaces, such as asphalt and concrete, may be used to cover and isolate contaminated soil along the corridor.
- **Exclusions:** In cases where contamination is, or is perceived to be, higher, a trail developer may choose to exclude a portion of the corridor from purchase and use an alternate route to avoid human contact with the contaminated site.
- **Signage and Fencing:** Signage and fencing are used to keep trail users on the trail and protect them from specific contaminated sites.
- **Phytoremediation:** The process of cleaning contaminated soil and water with plants, phytoremediation is best used for contamination in the top layers of soil, where plants' roots reach.

Management and Maintenance

Managing risks associated with a contaminated corridor does not stop after construction ends. If contaminated soil is removed, then the problem is eliminated. However if the area with elevated contamination was simply capped with a hard surface it will be important for the trail manager to stay on top of maintenance to ensure the trail user is sufficiently protected. Managers should conduct regular maintenance of the trail and associated signage and fencing, and reconstruct the trail surface at the end of its life.

Maquoketa, Iowa

Drivers on Highway 61 in Jackson County, Iowa can now explore the tranquil Hurstville marsh with help from the newly completed Hurstville Interpretive Center. This 9,400 square foot "green" facility opened its doors to the public in August of 2004, thanks to a Transportation Enhancements award made possible through the Iowa Department of Transportation, the Jackson County Conservation Board, and other regional participants. The center includes permanent exhibits, artifacts, historical information, access to outdoor recreation, and information on the building's energy efficiency and innovative use of recycled materials. [Telegraph Herald, 8/21/04]

Kendrick-Juliaetta, Idaho

For five scenic miles, the newly dedicated Ed Corkill Memorial River Trail winds along the Potlatch River in Northern Idaho, connecting the small towns of Juliaetta and Kendrick. A Transportation Enhancements award, sponsored by the Juliaetta-Kendrick Recreation District, contributed over \$336,000 towards completion of the trail. The trail follows the abandoned rail corridor of the Northern Pacific/Burlington Northern Moscow-Arrow rail line which once served as an essential link between Kendrick and Juliaetta. Today, the trail provides bicyclists, pedestrians and other trail users safe transit among parks, schools and business areas. Benches, historic interpretive signage, and landscaping installed along the way enhance the traveling experience. [Idaho Transportation Department, 5/20/04]

Atlanta, Georgia

A five-mile section of the Arabia Mountain Trail, finished this summer, provides a bicycle and pedestrian escape route from Atlanta's burgeoning metropolis. Located in one of the fastest growing counties in the nation, the trail connects busy commercial and residential areas with historic sites and precious parkland, including the 2000-acre Arabia Mountain Park. A Transportation Enhancements award helped DeKalb County and the nonprofit PATH Foundation to complete the first segment of trail. When completed, the Arabia Mountain Trail will stretch twenty miles, connecting schools, parks, and residential and commercial areas in three counties. [Atlanta Journal-Constitution, 6/3/04]

**Springfield, Illinois**

The city of Springfield, Illinois, in collaboration with the Looking for Lincoln Heritage Coalition, recently celebrated the addition of new exhibits to the "Looking for Lincoln" Heritage Tourism Program. The program links communities in central Illinois that celebrate Abraham Lincoln's heritage. Transportation Enhancements funds contributed to 33 street-side interpretive exhibits, pedestrian and streetscape enhancements, and added lighting in Springfield. [State Journal Register, 9/29/04]

U.S. Route 30, Pennsylvania

The Lincoln Highway 200-Mile Roadside Museum is no ordinary museum. With final touches completed in August of 2004, this extensive Pennsylvania project commemorates the grand history of the Lincoln Highway, considered the first road across the United States. Over \$300,000 in Transportation Enhancements funds provided for exhibits on the route such as interpretive signage; engaging murals depicting the highway's heyday; and colorful vintage gas pumps painted by local artists. Also visible along the way are fine examples of programmatic architecture, including the Coffee Pot, the Ship Hotel, and the Shoe House, which serve as fun and whimsical beacons to travelers along this historic route. [Fulton County News, 9/29/04]



SAVE THE DATE!
CONFERENCE CALENDAR

JANUARY

4th ANNUAL NEW PARTNERS
FOR SMART GROWTH
January 27 – 29, 2005 • Miami Beach, Florida
www.newpartners.org

FEBRUARY

2nd ANNUAL ACTIVE LIVING RESEARCH CONFERENCE
February 25 – 26, 2005 • San Diego, California
www.activelivingresearch.org

MARCH

LEAGUE OF AMERICAN BYCYCLISTS NATIONAL BIKE
SUMMIT
March 16 – 18, 2005 • Washington, DC
www.bikeleague.org
AMERICAN PLANNING ASSOCIATION 2005 NATIONAL
PLANNING CONFERENCE
March 19 – 23, 2005 • San Francisco, California
www.planning.org

COMING THIS SUMMER

TRAILLINK 2005
July 27 – 30, 2005 • Minneapolis/St. Paul, Minnesota
www.railtrails.org

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ON THE HILL

AS CONGRESS WAS UNABLE TO AGREE on a six-year transportation bill by September 30, 2004, the House of Representatives passed STEA04, Part V (H.R. 5183) by a vote of 409-8. This 5th extension of TEA-21 officially expires on May 30th, 2005. The obligation limitation during the extension period will be provided in accordance with a continuing resolution until the passage of the FY05 DOT Appropriations Act. Based on congressional action to date, the obligation limitation is expected to be \$34.6 to \$34.9 billion for the full year.

Passage of this 5th extension enables legislators to defer action on the bill until January. This temporary action will result in reintroduction of the bill in the 109th Congress, with new transportation leadership in place.

Changes in House and Senates committees, due to retirement and term-limits, will modify the makeup of the current transportation leadership. Most notably, the

Transportation and Infrastructure Committee loses to retirement William O. Lipinski (D-IL), ranking Democrat on the Highways, Transit and Pipelines Subcommittee. Other changes include the retirement of Bob Graham (D-FL), from the Senate Environment and Public Works Committee; the removal of Senate Commerce, Science and Transportation Committee Chairman John McCain (R-AZ); Senate Appropriations Chairman Ted Stevens (R-AK); and Rep. C. W. Bill Young (R-FL), Chairman of the House Appropriations Committee.

For a timeline and the latest information on the reauthorization process, visit the TEA-21 reauthorization Web site: www.fhwa.dot.gov/reauthorization. Other reauthorization resources include the Surface Transportation Policy Project's Web site: www.tea3.org, and the Environmental Protection Agency's Web site: www.epa.gov/owow/tea.

Connections is a quarterly publication of the National Transportation Enhancements Clearinghouse sponsored by the Federal Highway Administration. Submission of articles as well as letters and other comments are welcome.

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Unless otherwise stated, the contents of this newsletter reflect the views of the authors who are responsible for the opinions, findings and conclusions presented herein. The contents do not necessarily reflect the views or policies of FHWA and USDOT.