

Redeveloping Brownfields

with Federal
Transportation Funds



**REDEVELOPING BROWNFIELDS
WITH FEDERAL TRANSPORTATION FUNDS**

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November 15, 2000

TABLE OF CONTENTS

1	Introduction.....	1
2	The Brownfields and Transportation Connection.....	2
2.1	Brownfields and the Transportation Industry.....	2
2.2	Achieving Brownfield Redevelopment.....	3
2.3	Achieving Transportation Goals.....	3
2.4	Achieving Environmental Goals	4
3	The Transportation Equity Act for the 21st Century: Programs That Can Support Brownfield Reuse.....	5
4	The Transportation Planning Process	6
4.1	From Proposal to Funding.....	7
4.2	Federal Transportation Grants and Loans	8
4.3	Checklist: Applying for Federal Transportation Funds	11
5	Conclusions and Key Points.....	12
6	Case Studies: Brownfields-Transportation Projects	13
	Case Study 1: Construction of New Road in Portland, Oregon, Remediates Brownfields and Increases Land Values.....	14
	Case Study 2: New Bridge in Lawrence, Massachusetts, Leads to Economic Development, New Park, and Brownfield Clean-up.....	16
	Case Study 3: William L. Gaiter Parkway Construction Leverages \$100 Million Brownfield Investment in Buffalo, New York.....	17
	Case Study 4: Salt Lake City Builds Intermodal Terminal on a Brownfield as Part of Gateway District Redevelopment	20
7	Appendices.....	22
7.1	Other Sources of Funding for Brownfield Projects	22
7.2	Liability: An Important Consideration when Redeveloping Brownfields	24
7.3	Sources of Additional Information	25
8	Endnotes	26

PREFACE

Cities and metropolitan areas face new transportation demands every day. Despite expanding road and transit capacity, and implementing innovative system management, traffic congestion continues to be a challenge, with all its repercussions.

We have an opportunity to bring land use into the transportation equation. In addition to new highway and transit facilities, good land use policies can help regions continue to grow without worsening traffic or reducing the quality of life that draws residents and businesses in the first place.

Reusing brownfields is particularly smart land use because of brownfields' central location and connection to existing transportation systems. Their reuse has two benefits:

Value. Redevelopment cleans up and reuses underused and potentially dangerous land right where it's most valuable—central to the most people, to the most businesses, and to existing, paid-off infrastructure. In sum, redevelopment turns a liability into an asset.

Growth with less traffic. Redevelopment that's central to people and businesses reduces the traffic from new jobs and housing in two ways: first, more of these trips can be by foot and by transit, placing less demand on roads. Second, for trips on roads, central location means that the trips are on average shorter, reducing demand for road space. And often these trips are on roads that have been underused since the decline of the industry that used to occupy the brownfield. Putting trips on those roads can be far less costly.

These benefits are familiar to many AMPO members and others working on regional policy, and AMPO members are vigorously pursuing brownfield redevelopment. AMPO, the US Environmental Protection Agency, and the Smart Growth Network see two additional opportunities:

- The opportunity to explicitly recognize the close relationship between transportation and brownfields redevelopment; and,
- The opportunity to use transportation funds as part of a redevelopment funding plan.

AMPO is pleased to collaborate with EPA and the Smart Growth Network in bringing you this guide to “Redeveloping Brownfields with Federal Transportation Funds.” We hope that you find it useful.

Sincerely,

G. Alexander Taft
Executive Director
Association of Metropolitan Planning Organizations (AMPO)

1 INTRODUCTION

States and metropolitan areas across the country face a seemingly insolvable planning challenge. VMT per capita is rising annually, and congestion in cities and surrounding suburbs is worsening. However, road capacity added to relieve congestion is rapidly consumed. These trends have created a broad search for transportation solutions, including a renewed effort to better coordinate land use and transportation. Brownfields redevelopment strategies in particular are attracting substantial attention.

Thousands of former industrial and commercial sites in the United States lie idle and contaminated in metropolitan areas, despite their valuable central locations. Revitalizing these “brownfields” can reduce trip lengths, make more efficient use of existing infrastructure, support transit systems, and make walking and biking viable mode choices. In addition, brownfields redevelopment can stimulate local economies, strengthen communities, protect the environment, and improve the local tax base, creating broad support and partnership opportunities.

Transportation can play a critical role in brownfield redevelopment. First, existing and former transportation facilities—such as railroad yards—are frequently brownfield sites themselves. Second, transportation is critical to the redevelopment process because good accessibility is a virtual prerequisite for developers seeking opportunities for new projects or businesses looking for a new location. Finally, many transportation goals—improved access, reduced trip times and lengths, efficient use of the transportation system, maintenance of existing infrastructure, and even air emissions reductions—can be accomplished through brownfield redevelopment.

U.S. Department of Transportation (DOT) policy strongly supports restoration and redevelopment of brownfield sites. In April 1998, DOT Secretary Rodney E. Slater announced, “Through leadership and financial assistance programs, the Department of Transportation encourages state and local transportation agencies to address community brownfields redevelopment in transportation planning and other project development processes.” Under this new policy, transportation agencies may spend federal transportation funds on the assessment and clean up of contaminated sites, provided that the activity is part of an “eligible transportation project” and makes “transportation sense.”¹

Federal transportation funds can be used for brownfields revitalization:

- *To pay for remediation of environmental contamination that lies in the path of a transportation project or on the site of a former transportation project.* For example, transportation funds may be used to assess and clean up a brownfield site where a road, walkway, bikeway, or transit facility will be built by a transportation agency.
- *To stimulate the reuse of brownfields and enhance those properties for private or public users by improving access to the sites.* For example, state departments of transportation may use federal highway dollars to fund ramps, roads, bikeways, and walkways that connect a brownfield to an existing road. In addition, transit agencies may enhance their services near residential and employment centers located on former brownfields by building bus or rail stops, and erecting signs and streetlights.

“Returning brownfields to productive use creates a foundation for new economic opportunities and revitalized communities. I want transportation to play an active role—where it makes sense...—in working with communities to address brownfields. Transportation is a key to brownfields redevelopment. Why? It gives access so people and goods can easily move in and out. This means fixing up existing infrastructure such as highways, waterways, and public transportation. And it means new transportation-related land use such as intermodal transportation terminals and bus barns.”

— U.S. Secretary of Transportation Rodney E. Slater, April 22, 1998

Simply, DOT’s policy supports state, local and transit agency decisions to locate transportation projects on brownfield sites and to configure transportation systems such that sites slated for redevelopment are well served by transportation facilities. DOT recognizes that brownfield redevelopment, aided by transportation programs, can bring new jobs, services, and amenities to a neighborhood, reduce vehicle miles of travel, reduce time spent in congestion, and increase the viability of transit, walking and biking.

This brownfields policy is reinforced in the Transportation Equity Act for the 21st Century (TEA-21). TEA-21 recognizes the link between transportation and brownfields, and provides the flexibility needed to make transportation investments work to support brownfields redevelopment. This guide explains how to access the funds made possible through that flexibility, and suggests ways that federal transportation funding can be used to restore brownfields to productive use.

The guide is intended to assist brownfield developers, transportation planners, economic development professionals, policy analysts, and others interested in achieving better transportation, environmental, and community outcomes.

2 THE BROWNFIELDS AND TRANSPORTATION CONNECTION

Brownfields and transportation are connected in ways that create opportunities to accomplish transportation, economic, community, and environmental goals. As a result, brownfield projects often attract support from a variety of constituencies and present opportunities for public and private partnerships.

2.1 BROWNFIELDS AND THE TRANSPORTATION INDUSTRY

Historically, transportation facilities have served as the hub of commerce and industry. Petroleum products, chemicals, paints, asbestos, and other potential contaminants move through freight yards, shipyards, and loading docks by the thousands of tons. Industries seeking supply and distribution efficiencies typically locate on, or adjacent to, transportation facilities. Recently, transportation and economic changes have shifted many industrial operations away from waterfronts, rail corridors, and areas of high population. As a result, many former transportation and distribution centers have become brownfield sites with contaminated soil, groundwater, or buildings. Many remain under the ownership of private or public transportation providers, or

other public entities. These entities desire, and in some cases have an obligation, to find viable strategies for site clean up and reuse. The case studies starting on page 14 describe several projects in which transportation sites that became brownfields were successfully redeveloped. A good example is in Salt Lake City, Utah, where \$40 million in federal transportation funds will purchase, clean up, and redevelop a 17-acre former Union Pacific rail yard.

2.2 ACHIEVING BROWNFIELD REDEVELOPMENT

Communities and local governments are particularly interested in brownfield redevelopment. For citizens, a nearby brownfield lowers property values, stifles local investment, and may present an environmental threat. Local governments seek redevelopment to bring in jobs, increase the tax base, and make use of past taxpayer investments in infrastructure. The City of Buffalo, New York, successfully transformed the contaminated former Republic Steel site into a \$16 million, 22-acre hydroponic tomato farm and greenhouse facility that created 175 new jobs. A U.S. Environmental Protection Agency (EPA) study of a potential brownfield redevelopment in San Diego, California, showed that the infill site would require an estimated \$1 million in new public infrastructure, a fraction of the estimated \$5 to \$8 million in new public infrastructure that the same development on a greenfield would require.ⁱⁱ

Strategic investments in transportation infrastructure can help make these financial and employment benefits realities. In many cases a brownfield simply will not be redeveloped unless transportation improvements are included. Transportation access is one of the most important factors for firms considering new site locations. The importance of transportation varies from business to business, but in separate studies of a range of site selection factors, transportation access is rated as the most important selection factor after customer proximity. For manufacturing firms, transportation access is reported to be the most important site selection factor overall, followed by customer proximity, government support, access to labor, and real estate costs.ⁱⁱⁱ

2.3 ACHIEVING TRANSPORTATION GOALS

Federal, state, and local governments work together to achieve efficient transportation systems that protect the environment and grow the economy. The basic local vehicle for planning and implementing transportation goals is the Transportation Improvement Program. Because TIPs are funded in part with federal money, they are developed according to guidance from the federal government about how that money can be spent. That guidance, as expressed in federal transportation legislation, has changed radically in the past decade, and now recognizes a close connection between land use and transportation. Further, under the current law (the Transportation Efficiency Act for the 21st Century, widely known as “TEA-21”) transportation goals and projects need to be closely linked to a community’s economic, environmental, and quality of life goals. The connection to brownfields is clear. For many communities, brownfields are critical projects for community livability, and transportation can be linked to aid the re-use of these sites.

Transportation investments facilitate brownfield redevelopment, which in turn can create transportation benefits. Because it often occurs in regionally central locations, redevelopment can reduce vehicle miles of travel and create transit, walking, and biking opportunities. A recent EPA study compared the number of vehicle miles of travel that would be generated by a brownfield redevelopment near the center of Atlanta, Georgia, to the miles generated by comparable

development on Atlanta's developing fringe. By virtue of shorter car trips and the viability of transit, walking, and biking, the study concluded that the brownfield site would generate up to 177,000 fewer vehicle miles per day.^{iv} A similar EPA study of sites in Montgomery County, Maryland, San Diego, California, and West Palm Beach, Florida, found that the brownfield sites would generate between 48 percent and 61 percent less driving than greenfield sites.^v Although not all brownfields offer these transportation benefits, many represent opportunities to reduce trip times and distances, provide greater transportation choice, and even reduce congestion.

Brownfields tend to be located near low- and moderate-income communities, so their redevelopment tends to make employment and community amenities more accessible to these populations. In the four cases above, EPA found that the jobs created at the former brownfield sites would be accessible to more people, and the residents in housing at the sites would have access to more jobs. Most of this effect is due to brownfields' regionally central locations, but the accessibility benefit is further increased when sites are redeveloped as mixed-use sites. A brownfield redevelopment project planned in Lawrence, Massachusetts, will provide improved access to the community's downtown, a new park, a remediated site, and a modern bridge. This type of improved access is typical of many redevelopments. (See the case study on this redevelopment on page 17.)

2.4 ACHIEVING ENVIRONMENTAL GOALS

Brownfield redevelopment improves the environment by remediating on-site contamination. Redevelopment can also generate other environmental benefits such as protection of air and water quality, and preservation of open space. In the four comparisons of brownfield and greenfield development described above, vehicle trips generated by redevelopment of the brownfield sites would produce far fewer emissions of ozone-producing chemicals than would development of greenfield sites would. Emissions benefits ranged from 27 percent to nearly 50 percent. In the Atlanta case, a special "hotspot" analysis tested for the possibility that increased traffic near the brownfield would produce high concentrations of carbon monoxide in small areas. The analysis found that no hotspots would be created.

In addition to reducing air pollution, brownfield redevelopment can reduce development pressure on farms, forestland, and environmentally sensitive areas at the metropolitan edge. Preserving these resources is becoming increasingly important. Recent U.S. Department of Agriculture (USDA) statistics show that since 1982, developed land in the United States has increased from 75.5 million acres to 105.4 million, or 40 percent.^{vi} During the same period, the U.S. population increased from 232 million to 268 million, or 16 percent. The result: in 1997 each person consumed 0.40 acres of development, up from 0.33 acres in 1982, an astonishing 21 percent per capita increase in 15 years.

Protecting open space reduces conversion of land to impervious surfaces, a key determinant of watershed health. Watersheds can become degraded when just 10 percent of their area is covered with impervious surfaces such as pavement. Impervious surfaces collect pollutants such as motor oil, fuel, construction sediment, and garbage; stormwater washes these pollutants into water bodies. Nationwide, polluted urban runoff is the second most common source of water pollution for lakes and estuaries and the third most common source for rivers. Redeveloping brownfields and shifting development from open space reduces the need for new impervious surfaces.

What Are Brownfields?

Brownfields are abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. They are scattered throughout the nation and are concentrated in areas that have a long history of industrial activity. According to the U.S. General Accounting Office, the United States has between 130,000 and 450,000 contaminated industrial or commercial sites.

Site owners, developers, and lenders often avoid investing in brownfields because they fear that will encounter contamination that can be costly to clean up. Clean-up costs vary by site size, the intensity and type of contamination, and the nature of the remediation required. Unlike more heavily contaminated Superfund sites,^{vii} total expenses to clean up brownfields are frequently under \$500,000, and rarely require millions of dollars.

All levels of government are promoting brownfield redevelopment. Based on a national survey of communities, the U.S. Conference of Mayors reports that “brownfields are a major problem for cities large and small and the lack of funds to clean up these sites was the most frequently identified obstacle in recycling these lands.”^{viii} As a result, local, state, and federal agencies are targeting attention and resources to brownfields. Forty-six states allow volunteers to clean up sites and receive some level of liability relief from state enforcement.^{ix}

Many states have also established programs to assist in financing site testing and clean up. At the federal level, EPA is leading a multifaceted program supporting local efforts to revitalize brownfields. The program includes funding Brownfields Assessment Demonstration Pilots, Brownfields Cleanup Revolving Loan Fund Pilots, and Brownfields Showcase Communities.^x In addition, EPA organized the Brownfields National Partnership, of which the U.S. Department of Transportation (DOT) is an important member. For more information on brownfields, visit <http://www.epa.gov/brownfields>.

3 THE TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY: PROGRAMS THAT CAN SUPPORT BROWNFIELD REUSE

The Transportation Equity Act for the 21st Century (TEA-21) authorizes an estimated \$198 billion of federal surface transportation spending between 1998 and 2003.^{xi} Individual states can expect to receive between \$618 million (the District of Columbia’s apportionment) and \$14.4 billion (California’s apportionment) for their full range of transportation projects.

TEA-21 supports brownfield reuse through numerous funding programs. Table 1 describes the programs, their funding levels, and possible applications to brownfield redevelopment. More information on these programs is available at the DOT Internet site, <http://www.dot.gov>. The site’s TEA-21 fact sheets provide general information on program goals, eligibility criteria, and prioritization criteria. The web pages of the Federal Railroad Administration, the Federal Highway Administration, the Federal Transit Administration, and other DOT offices provide additional information on TEA-21 programs.

Table 1: Possible Sources of TEA-21 Funds for Brownfield Redevelopment

Project Type	TEA-21 Section(s) and Funding Estimates^{xii}, 1998-2003	Application to Brownfield Redevelopment
Highways, Roads, and Bridges	<ul style="list-style-type: none"> • National Highway System (\$28.6 billion) • Surface Transportation Program (\$33.3 billion) • Bridges (\$20.4 billion) • Congestion Mitigation and Air Quality Improvement Program (CMAQ) (\$8.1 billion) • Transportation Enhancements (\$3 billion) 	<p>New highway, road, or bridge construction can stimulate redevelopment of nearby brownfields.</p> <p>Environmental contamination can be remediated as part of a highway, road, or bridge project.</p> <p>CMAQ funds are eligible for public/private partnerships and can help provide access to brownfield projects. In Clean Act Act non-attainment and maintenance areas, CMAQ projects must improve air quality.</p>
Transit	<ul style="list-style-type: none"> • Transit Capital Investment Grants and Loans (\$16.8 billion) • Urbanized Area Formula Grant program (\$18 billion) • Non-urbanized Area Formula Grant Program (\$1.2 billion) 	<p>Construction of new transit lines or stations can stimulate redevelopment of nearby brownfields.</p> <p>Environmental contamination can be remediated as part of transit projects.</p>
Rail	<ul style="list-style-type: none"> • Rail Rehabilitation and Improvement Financing Program (RRIF) A maximum of \$1 billion for shortline and regional railroads and \$2.5 billion for Class I railroads can be loaned at one time. 	<p>Improvements to railroads can stimulate redevelopment of nearby brownfields.</p> <p>Environmental contamination can be remediated as part of improvements to existing railroads.</p>
Pedestrian and Bicycle Access	<ul style="list-style-type: none"> • National Highway System (NHS) • Transportation Enhancements (\$3 billion) (Same program as in Highways, above) 	<p>Improving pedestrian and/or bicycle access can stimulate redevelopment of brownfields. TEA-21 allows expanded accommodation for bicycles and pedestrians on NHS projects.</p> <p>Environmental contamination can be remediated as part of pedestrian or bicycle improvements under the Enhancements program.</p>
Recreational Trails	<ul style="list-style-type: none"> • Recreational trails (\$270 million) 	<p>New trail and trail facility construction can stimulate redevelopment of nearby brownfields.</p> <p>Environmental contamination can be remediated if it is part of an overall trail maintenance or trail construction project.</p>
Innovative Sustainability Projects	<ul style="list-style-type: none"> • Transportation and Community and System Preservation Pilot Program (TCSP) (\$120 million) 	<p>TCSP grants can directly support projects that will facilitate brownfield redevelopment.</p>

4 THE TRANSPORTATION PLANNING PROCESS

Generally, to receive TEA-21 funds for a brownfield project, a Metropolitan Planning Organization (MPO) or state must include the transportation project that affects the brownfield in its

transportation Long-Range Transportation Plan and its Transportation Improvement Program (TIP). The Long-Range Transportation Plan forecasts transportation projects for a 20-year period; the TIP catalogues those recommended for implementation during the next three to five years. All projects funded with federal monies must come from an adopted TIP. Two methods are available for ensuring that a transportation project is included in a Long-Range Transportation Plan and a TIP. Almost all projects follow the standard transportation planning process discussed in section 4.1 (below). A small number of projects, however, are awarded a grant or loan directly by the federal government and are then incorporated into the TIP. This process is discussed in section 4.2.

4.1 FROM PROPOSAL TO FUNDING

Almost all funds allocated under TEA-21 are disbursed through the standard planning and TIP process. These funds are very flexible—they can be used for the engineering, construction, rehabilitation, and maintenance of almost any surface transportation project—yet a project may wait several years from the time it is listed on a TIP until the time it receives federal funds.

MPOs, which serve metropolitan areas of 50,000 or more residents, follow transportation planning procedures established by federal guidelines. In areas not covered by MPOs, the state department of transportation is responsible for carrying out long-range transportation planning and developing the State Transportation Improvement Program (STIP)—which is the compilation of MPO TIPs and projects located in non-MPO areas. In general, federal regulations require that the metropolitan and statewide planning process be coordinated with air quality planning, address the seven planning factors detailed in TEA-21,^{xiii} and provide a documented process for public involvement.

Long-Range Transportation plans, developed at both the metropolitan and state levels, create a 20-year vision of transportation projects that demonstrate how investments in these projects will meet the area or state's projected growth. Projects are included in the Long-Range Transportation Plan when a local government, along with a transportation agency such as the state department of transportation or a local transit authority, proposes a project to the MPO. Non-metropolitan areas not served by an MPO submit projects to the state transportation department to be placed on the statewide Long-Range Transportation Plan. To be included in the Long-Range Transportation Plan, a project must meet three primary criteria. First, the project must help advance state or regional transportation objectives. Second, information about financial and other resources necessary to carry out the project must be referenced. Third, the project's impact on emissions must not cause a violation of National Ambient Air Quality Standards.

Using the Long-Range Transportation Plan, MPOs and state and local officials prioritize projects for the TIP and STIP. Projects included on the TIP and STIP must be consistent with the Long-Range Transportation Plan and must demonstrate the availability of full federal, state, and local funds for undertaking the project. In cases where funding sources are proposed, strategies for ensuring their availability are to be identified. As Congress appropriates highway and transit funds, DOT distributes them to states and MPOs to finance development and construction of the projects on the approved STIP and TIP.

Projects that qualify for funding from the Transportation Enhancements and Congestion Mitigation and Air Quality (CMAQ) Program go through a slightly different approval process. Transportation Enhancements include pedestrian paths, bikeways, bike-on-bus racks, bus shelters, landscaping

and scenic beautification, and historic district rehabilitation.^{xiv} CMAQ projects include a range of activities designed to reduce air pollution and can include improvements to transit, bike, and pedestrian facilities. Before actively engaging in the TIP process, applicants should consult their city or county planning department to determine whether the project qualifies as a transportation enhancement or CMAQ project.

Reviewing a proposed transportation project with a brownfield element requires evaluating additional financial, environmental, social, and legal considerations. The transportation agency reviewing the application must consider clean-up costs and potential future liabilities of the project, in addition to the transportation benefits and air quality impacts. The agency must determine if the parties responsible for the contamination under federal law are accessible and pursue them legally for the clean-up costs where such pursuit could be feasible and productive.

For details about the specifics of long-range planning and the TIP process, contact the local MPO, state DOT, or the following publications:

- *A Guide to Metropolitan Planning under the Intermodal Surface Transportation Efficiency Act (ISTEA): How the Pieces Fit Together*
(<http://www.fta.dot.gov/fta/library/planning/MTPISTEA/424MTP.html>)
- *Public Involvement Techniques for Transportation Decision-making*. Federal Highway Administration (FHWA) and Federal Transit Administration (FTA).
<http://www.fhwa.dot.gov/reports/pittd/cover.htm>.
- *TEA-21 User's Guide: Making the Most of the New Transportation Bill*
(<http://www.tea21.org/guide/guideonline.htm>)
- *TIP Preparation Guidance – Guidelines for Metropolitan Planning Organizations in Developing Transportation Improvement Programs*. Wisconsin TransLink 21
(<http://www.bts.gov/ntl/DOCS/tip.html>)
- *Statewide Planning; Metropolitan Planning; Rule (23 CFR Part 450) – joint FHWA/FTA planning regulations under ISTEA*. (FHWA and FTA are preparing new planning regulations under TEA-21.)

4.2 FEDERAL TRANSPORTATION GRANTS AND LOANS

Another way to obtain federal transportation funding is to apply directly to DOT for grants and loans available under TEA-21. The programs most relevant to brownfield redevelopment are the Transportation and Community and System Preservation Pilot (TCSP) grants and the Rail Rehabilitation and Improvement Financing (RRIF) loans. Although funding for these programs is small compared with funding available throughout the standard planning process, the TCSP and RRIF programs may be appropriate for certain projects.

Transportation and Community and System Preservation Pilot Program

TCSP grants, which totaled \$44.2 million for fiscal years 1999 and 2000, are intended for “new and innovative” transportation projects that could include transportation-related brownfield projects. Grants are awarded through a nationwide competitive application process.

To be eligible for a TCSP grant, a project must meet the goals of the TCSP program. Brownfield projects are likely to meet four TCSP goals in particular:

- Reduce the impacts of transportation on the environment
- Reduce the need for costly future public infrastructure investments
- Ensure efficient access to jobs, services, and centers of trade
- Examine private sector development patterns and investments that support these goals

For example, the New Jersey Institute of Technology and the North Jersey Transportation Planning Authority received a \$700,000 TCSP grant in 1999 to facilitate the redevelopment of abandoned industrial brownfield sites by freight-related businesses that are participating in the area’s dramatic growth in trade handled through port, airport, and rail terminals. The completed project will provide modern transportation access to the brownfield sites, recruit businesses to locate at the sites, and create jobs.

Under the TCSP program, public entities can receive funds from the federal government without a state or regional MPO intermediary. Eligible TCSP applicants include municipal governments, metropolitan planning organizations, state agencies, school boards, air districts, park districts, and public transit agencies. DOT encourages applicants to form partnerships with the appropriate state, regional, or local transit agency, and community groups when planning the project. All applicants are also instructed to coordinate with the appropriate state department of transportation or MPO to ensure that the project is consistent with its planning processes.

Projects that are eligible for funding through the standard TIP process are highly unlikely to receive a TCSP grant. Although TCSP construction projects are not funded through the standard TIP process, they must be retroactively included in the Long-Range Transportation Plan and the TIP before the TCSP funds are dispersed to the grantee. Non-construction activities, such as development of regional plans, project evaluations, and land development code changes, may not need to appear in the TIP but should be supported by the state or MPO. Additional information on the TCSP program can be found at: <http://tcsp-fhwa.volpe.dot.gov/>.

Rail Rehabilitation and Improvement Financing Program

The Rail Rehabilitation and Improvement Financing Program (RRIF) provides loans and loan guarantees for the acquisition, improvement, development, or rehabilitation of intermodal or rail equipment or facilities. According to current authorizing legislation, the program will provide \$3.5 billion of federal money for the freight railroad industry with not less than \$1 billion reserved for small railroads.^{xv} Loans are available to state and local governments, government-sponsored authorities, corporations, railroads, and joint ventures with at least one railroad.

Many railroads provide rail access to industrial and manufacturing sites that may be brownfields. Priority consideration may be given to rail projects that abut brownfields because their clean-up will improve the quality of the immediate environment and their redevelopment can stimulate broader economic development. For more information on the RRIF, visit <http://www.fhwa.dot.gov/tea21/factsheets/r-rrehab.htm>

4.3 CHECKLIST: APPLYING FOR FEDERAL TRANSPORTATION FUNDS

- Identify a project that involves a brownfields-transportation link, which could involve either of the following:
 1. A brownfield revitalization project that would be enhanced by transportation improvements.
 2. A transportation project that will encounter environmental contamination (brownfield) obstacles to its execution.
- If the transportation project will require clean-up of hazardous waste, investigate whether the transportation project is eligible for DOT funds. (See section 3 for discussion of eligibility and case studies for examples.)
- Explore whether the project has multiple benefits to help locate public and/or private partner organizations. Model and quantify the benefits, if possible. (See section 2 for discussion of benefits and case studies for examples.)
- Decide which type of TEA-21 funding is most appropriate.
 1. If, as is generally the case, the TIP process is applicable, work with the relevant local, regional, and state agencies.
 2. If a non-TIP source, such as TCSP or RRIF, is applicable, contact the appropriate federal source (e.g., for TCSP, contact FHWA, and for RRIF, the Federal Railroad Administration).
- Conduct broad-based public education on the reasons why redevelopment makes sense from a variety of perspectives.
- Identify additional funding sources. (See the case studies for examples.)

5 CONCLUSIONS AND KEY POINTS

- ***Transportation funds can be used to clean up environmental contamination on brownfields if the clean-up is a component of an eligible transportation project.*** In Portland, Oregon, transportation funds were used for remediation along the path of North Marine Drive. (See case studies in Chapter 5.)
- ***Transportation projects and funds can be used strategically to stimulate private sector revitalization of brownfields.*** In Buffalo, New York, construction of the William L. Gaiter Parkway helped to stimulate re-investment in former industrial sites. (See case studies in Chapter 5.)
- ***Collaboration with a variety of potential stakeholders and meeting multiple public goals can increase the likelihood of accessing federal transportation funds.*** In Lawrence, Massachusetts, transportation funds supporting the Lawrence Gateway project will enhance access to downtown, stimulate economic development, accomplish clean-up of a contaminated site, support the creation of a new park, improve the image of the city, and help improve the pedestrian environment. (See case studies in Chapter 5.)
- ***Publicly funded transportation projects that leverage private investment and job creation are good candidates for federal transportation dollars.*** Portland argued that the North Marine Drive project will prompt private investment in the city's port area. In the Buffalo case study, the transportation project stimulated private investment in the contaminated site itself. (See case studies in Chapter 5.)
- ***TIP dollars can be used for a wide variety of projects, but obtaining the funds requires a long lead-time.*** Leaders of the Buffalo project received enough money from non-federal sources to avoid the TIP process entirely. Many projects, however, will require some federal funds, which necessitates participating in the TIP process. (See case studies in Chapter 5.)
- ***Some brownfields-transportation projects are eligible for direct grants and loans from the federal government, although funding is limited.*** As mentioned earlier, northern New Jersey received a \$700,000 TCSP grant in 1999 to facilitate the redevelopment of brownfield sites by freight-related businesses at the port, airport, and rail terminals.

6 CASE STUDIES: BROWNFIELDS-TRANSPORTATION PROJECTS

This section reviews four projects that coupled transportation improvements with brownfield clean-up and redevelopment. In Portland, Oregon, the transportation improvement was built through a brownfield, preserving a wetland and stimulating economic activity. In Lawrence, Massachusetts, construction of a new bridge will result in the clean-up and redevelopment of a conspicuous brownfield, making way for a pedestrian walkway and park. In Salt Lake City, Utah, the city is creating a multi-modal transportation center in a former downtown industrial center. And in Buffalo, New York, the city is building a parkway to a former General Motors plant, where American Axle is investing \$100 million in new facilities.

For additional examples of brownfields-transportation projects, see the Sacramento and Emeryville “Success Stories” on EPA’s Brownfields Internet site. “Sacramento’s Old Railways Steam Towards a New, Promising Future,” and “Attracting Big Business Leads to Positive Results for Emeryville,” both at <http://www.epa.gov/swerosps/bf/success.htm>.

CASE STUDY 1: CONSTRUCTION OF NEW ROAD IN PORTLAND, OREGON, REMEDIATES BROWNFIELDS AND INCREASES LAND VALUES

Key Points

- Construction of North Marine Drive simultaneously improved access to the city's deepwater port and cleaned up industrial brownfields in the 2,800-acre Rivergate Industrial District.
- Construction of the highway increased land values in the industrial area, stimulated other clean-up and redevelopment projects, and spurred expansion of manufacturing and shipping operations.
- Portland used innovative techniques, including encapsulating contaminated soils at a former pesticide-formulating plant with new road surface.

Project Description

For many years, tractor-trailers could only reach Portland's deepwater port, an international trade hub located five miles from downtown, on a winding, difficult-to-navigate, and aging two-lane highway. The road passed through the 2,800-acre Rivergate Industrial District, which was dotted with brownfields.

In 1995, Portland linked Interstate 5 to the port through the brownfield area by building a four-lane arterial, North Marine Drive. The brownfields route improved access to a large number of industrial properties. The project increased industrial land values, preserved a wetland, stimulated further brownfield clean-up and redevelopment, and improved the intermodal link between the I-5, the port, and the rail lines.

The route for North Marine Drive was chosen instead of one that would have traversed a nearby wetland, the state's largest heron rookery. The public supported recycling the industrial property instead of building over the wetlands. A 1990 environmental impact study indicated that building North Marine Drive on this route required environmental clean-up of 9 of 17 parcels (3 of which had significant contamination) for which Portland had acquired easements. The presence of organic pesticides—such as DDT, Dieldrin, and Aldrin—and metal contamination from a former pesticide-formulating plant made remediation problematic.

After detailed analysis, the state's Department of Environmental Quality determined that the best alternative was to encapsulate the contamination with the new road surface. This option was environmentally safe since contamination would not migrate from the site. Removing the pollution would have been prohibitively expensive and might only have produced an equivalent disposal problem elsewhere. The city designed the road so that construction would not worsen the contamination problem and dug wells to monitor the contamination.

Financing

The City of Portland constructed North Marine Drive using funds provided by the Federal Highway Administration (FHWA), the Oregon Department of Transportation (ODOT), and the

City of Portland. The project is one of Oregon's and FHWA's first transportation projects to stimulate economic activity by building roads over brownfields.

All levels of government funded the North Marine Drive project. Of the total \$25 million project cost, the federal aid highway program (FHWA) provided \$14.6 million, the Oregon Department of Transportation \$5.4 million, the Port of Portland \$2.6 million, and the City of Portland an additional \$2.6 million. Approximately \$300,000 was spent on clean-up, including site characterization, risk assessment, and disposal costs. The Portland Office of Transportation, on behalf of the Oregon Department of Transportation, secured this money by including the project in the regional Transportation Improvement Program (TIP) written every year by Metro, the Portland area's MPO.

Some elected officials and business leaders who sit on Metro's TIP committee had supported improved access to the port since the 1960s. The long history of support and the presence on the Metro committee of interested stakeholders, including nearly every agency in federal, state, and local government, all property owners affected by the project, neighboring communities, environmental activists, and industrial developers, meant that including North Marine Drive in the TIP was relatively straightforward. For this reason, ODOT included Metro's TIP in its State Transportation Improvement Plan (STIP), and FHWA approved construction of North Marine Drive.

The public was involved in every stage of the process, from the original planning through the Environmental Impact Statement (EIS) process, and even during construction. As noted above, the public's unwillingness to build over the wetland was incorporated into transportation planning documents submitted to the state. Ultimately, the project was approved for federal funding by ODOT and the regional MPO.

Site Contamination, Clean-up Costs, and Liability Issues

Transportation officials funded the project only after the city provided assurances that there would be no additional liability or time delays associated with building a highway over a brownfield. City officials notified construction companies, bond underwriters, and FHWA officials that the city would assume all risks associated with project construction. They also explained to lenders that construction specifications guaranteed that road construction companies would not be held liable for environmental damages.

Contact

Dan Heister, Portland Brownfields Coordinator, City of Portland, Initiative Assessment Pilot Showcase Community, 503-823-7069

Doug MacCourt, Former Environmental Manager, City of Portland 503-823-7052

CASE STUDY 2: NEW BRIDGE IN LAWRENCE, MASSACHUSETTS, LEADS TO ECONOMIC DEVELOPMENT, NEW PARK, AND BROWNFIELD CLEAN-UP

Key Points

- Transportation funds will allow the City of Lawrence, Massachusetts, to meet the multiple goals of improving transportation access and infrastructure, supporting economic development, improving the pedestrian environment, and remediating environmental contamination.
- Transportation funds for a new vehicle bridge will help to clean up a downtown brownfield and lead to the creation of a new park and pedestrian bridge.

Project Description

The Oxford Paper Plant in Lawrence, Massachusetts, ceased operations in 1974. In the 1980s, the plant's owners filed for bankruptcy when they were unable to sell more than a few of the contaminated buildings and a portion of the three-acre site. The city confiscated the tax-delinquent property and made its clean up a priority, because of the nature of the contamination, the size of the parcel, and its central location.

Meanwhile, local transportation planners were preparing to replace the Canal Street Bridge, one of Lawrence's key points of entry. The bridge sits 100 feet to the south of the brownfield site. In the initial phase, Lawrence officials simply wanted to improve the city's transportation infrastructure and encourage downtown economic revitalization.

Later, however, they decided to build a new bridge from the Oxford Paper site in order meet two additional goals: preserving the existing Canal Street Bridge as a pedestrian walkway and cleaning up contaminated property. Plans for this project, the Lawrence Gateway Project, call for demolition of buildings on the Oxford site, conversion of the land into a park, and roads for access to the new bridge. The city expects to demolish the buildings before the end of 1999 and to complete the new bridge by 2002.

Financing

Combining local transportation planning with park development and the Oxford Paper Plant's demolition and clean up made it possible for the Lawrence Gateway project to receive funds from numerous sources. According to Bob Luongo, director of economic development for the City of Lawrence, "Transportation funds were the key to unlocking the potential of Lawrence's downtown."

Massachusetts Highway Department Funding

The Massachusetts Highway Department provided \$4.5 million for demolition and remediation at the Oxford Paper site and road and bridge construction. The Merrimack Valley Planning Commission, the local MPO, accepted the Lawrence Gateway Project into the TIP because it meets a transportation need and is strongly supported by local elected officials, the FHWA division office, and the Massachusetts Highway Department. This support stems from the broad

recognition, particularly within the MPO, that Lawrence needed to improve the entrance to the old part of the city to improve its image, stimulate economic growth, and raise citizens' quality of life.

Enhancements Program Funding

Five hundred thousand dollars from ISTEA's Enhancement Program funded a corridor study and bicycle and pedestrian paths along the Merrimack River. Enhancements funding – which is available in TEA-21, just as in ISTEA – is often used to develop bicycle and pedestrian paths along highways and roads, and cannot be used for demolition or highway construction. The Massachusetts Highway Department selects projects for Enhancements funding in the state.

Other Funding Sources

The city received the \$3.5 million necessary to complete the project from a combination of EPA's Brownfields Pilot Site program, local banks, a neighboring business, U.S. Department of Housing and Urban Development's (HUD) Community Development Block Grant funds, and the Massachusetts Land Bank Grant Fund.

Site Contamination, Clean-up Costs, and Liability Issues

In 1986, the Oxford Paper site was designated as marginally contaminated by the Massachusetts Department of Environmental Protection and later as a Tier 1B site. This classification is a default designation for properties that fail to complete a Phase I Assessment within one year of the discovery of contamination. The site will have to be cleansed of polychlorinated biphenyls (PCBs)^{xvi} and other hazardous materials before it can be reused.

Because contaminants within the buildings have not been thoroughly inventoried, it is not known what the cost of clean up will be. One staff member of a city agency estimated that the available funds will be divided equally between clean up and construction. City officials believe that there are no limitations on the portion of federal aid highway program funds that can be spent on clean up, in spite of the number of other constraints that typically are attached to these funds.

Contacts

Kevin Geaney, former Director of Economic Development, City of Lawrence	617-596-0472
Robert Luongo, current Director of Economic Development, City of Lawrence	978-794-5891
Tony Komornick, Chief Planner, Merrimack Valley Planning Commission	978-374-0519

CASE STUDY 3: WILLIAM L. GAITER PARKWAY CONSTRUCTION LEVERAGES \$100 MILLION BROWNFIELD INVESTMENT IN BUFFALO, NEW YORK

Key Points

- The William L. Gaiter Parkway improved the transportation links between historically industrial areas of Buffalo and the regional road network, making it possible to redevelop those under-used areas, which contained some brownfields.

- Construction of the William L. Gaiter Parkway fulfilled American Axle's needs for improved access and the city's goal of re-engineering obsolete infrastructure and creating access to additional parcels along old rail lines.
- Private investment leveraged significant state and federal support to stimulate revitalization in the area.

Project Description

In 1994, American Axle and Manufacturing purchased a former General Motors plant and pledged to invest \$100 million in the site if the City of Buffalo, New York, improved truck access. Construction of the William L. Gaiter Parkway accomplished multiple objectives. It fulfilled American Axle's needs for improved access, furthered the city's goal of converting obsolete infrastructure (an old Conrail rail line) for modern economic needs, and connected other properties with the city's transportation infrastructure.

Two former General Motors plants were located at either end of a string of abandoned and underused industrial properties along a railroad in northeast Buffalo. The sites were originally developed because of their proximity to the railroad. City officials realized that this brownfield would not be cleaned up or redeveloped until it was accessible to trucks.

The William L. Gaiter Parkway project converted 26 acres of abandoned Conrail rail bed into a highway with access ramps designed for truck traffic. The first stage of the construction connected the parkway to the American Axle plant. Later stages will extend the parkway to another large, unused plant and construct interchanges on the expressway.

Construction of the first stage of the William L. Gaiter Parkway is finished, and a 15-acre business park at the north end of the corridor opened in June 1999. A number of sites in the business park have been sold. An interchange that will connect the parkway to the Kensington Expressway (Rt. 33) in the next five to ten years. According to Dave Stebbins of the Buffalo Economic Renaissance Corporation (BERC), a local economic development agency, there has been "new investment in small businesses along the parkway." It is further indication that the new transportation investment is contributing to the revitalization of northeast Buffalo.

Financing

BERC arranged for the project financing on behalf of the City of Buffalo. The most significant source of funds was a \$3.5 million grant from the Industrial Access Program (IAP),^{xvii} a New York Department of Transportation program established in 1985 to support economic development projects with transportation access problems. The IAP supports projects that create or retain jobs and that leverage additional funding.

BERC's application won the grant by demonstrating that the project would create approximately 2,000 jobs and would leverage the promised \$100 million investment from American Axle. Following this award, Buffalo was able to obtain additional public investments, including \$1 million in general obligation bonds, \$1 million in federal Enterprise Community funds, and \$1 million from HUD as part of the Section 108 loan program.

Because state and local elected officials strongly supported the project, the state legislature passed a bill to allow the IAP to exceed its standard grant cap of \$600,000 for this project.

Since BEREC had ample state funds and little time to begin construction, it did not request federal funds for the William L. Parkway project. In order to access federal funds, BEREC would have needed to go through the TIP process, which would have taken more time than BEREC was willing to wait.

Site Contamination, Clean-up Costs, and Liability Issues

William L. Gaiter Parkway was built on rail beds, where some illegal dumping activity had occurred. However, after extensive environmental assessment, only minor contamination problems were found. American Axle cleaned up the portion of the rail beds crossing its property by participating in the Voluntary Cleanup Program (VCP) administered by New York's State Department of Environment Conservation (SDEC). The SDEC only required that clean-up meet the standard established for industrial use, the site's "specific use," according to VCP regulations.

Although participation in New York's VCP does not entirely release American Axle from liability for on-site clean-up, EPA has written a "comfort letter" indicating that American Axle's participation in the VCP is satisfactory and that EPA does not intend to be further involved in the project.

Contact

Dave Stebbins, Vice President for Economic Development, Buffalo Economic Renaissance Corporation, 716-842-6923

CASE STUDY 4: SALT LAKE CITY BUILDS INTERMODAL TERMINAL ON A BROWNFIELD AS PART OF GATEWAY DISTRICT REDEVELOPMENT

Key Points

- Congress earmarked \$40 million for Salt Lake City to build an intermodal transit terminal on a downtown brownfield.
- The redesign of nearby Interstate 15 and other factors created a rare opportunity to reconfigure a former railyard for redevelopment as an intermodal hub.
- The city is participating in the Utah Voluntary Cleanup Program to protect itself from liability for environmental contamination, a concern of the Federal Transit Administration.

Project Description

Salt Lake City, Utah, will use \$40 million in federal transportation funds to purchase, clean up, and redevelop a 17-acre former Union Pacific railyard for use as an intermodal transportation terminal serving Amtrak trains, Greyhound buses, Utah Transit Authority buses, light rail, and regional commuter rail.

The intermodal terminal is part of the city's effort to revitalize the 650-acre downtown Gateway District, an area with numerous abandoned industrial sites. The plan to redevelop the district includes relocating and consolidating existing rail lines, building a light rail system, redesigning Interstate 15, and creating a vibrant, mixed-use, mixed-income community.

The Gateway project, especially the redesign of I-15, encouraged the city to redevelop the Union Pacific site. Brian Hatch, senior advisor to Salt Lake City Mayor Deedee Corradini, notes that if the city does not proceed with construction immediately, it will not have another opportunity to build an intermodal hub until 2060 when the new I-15 is expected to need replacement.

A partnership of federal, state, local agencies, organizations, and private firms is undertaking the project. This partnership includes EPA, which selected the site as a Regional Brownfields Assessment Pilot in 1997 and as a Brownfield Showcase Community in 1998.

By July 1999, the city had purchased the site, consolidated rail tracks, and built permanent rail platforms and a temporary ticketing facility that provides complete Amtrak service. By 2002, when Salt Lake City hosts the Olympic Winter Games, the permanent terminal will serve also serve Greyhound and Utah Transit Authority buses. Interim commuter-rail service will operate through the intermodal hub for a two-week period during the Olympics. After the games, the city will acquire additional property and construct the light rail transit connection to the North/South light rail transit line, five blocks from the intermodal terminal.

Financing

As of September 1990, Congress had appropriated only \$2 million of the \$40 million earmarked in TEA-21 for the Gateway project.^{xviii} The city has already spent \$10.5 million of its “rainy day” fund with the expectation that the federal government will reimburse the money.

Site Contamination, Clean-up Costs, and Liability Issues

Environmental site assessments determined that the soil is mildly to moderately contaminated by polynuclear aromatic hydrocarbons, lead, arsenic, oil, and grease. Benzene also contaminates a small area of groundwater. Before FTA would fund the project, the agency stipulated that the Utah Department of Environmental Quality must certify that the contamination does not pose a substantial threat to human or environmental health.

In response, the city took a number of actions, starting by entering the site into Utah’s Voluntary Cleanup Program in 1999. The city next began considering whether to purchase environmental insurance to protect it from liability and unforeseen clean-up costs. The city also scraped up grease-contaminated soil and secured it in a fenced area. Ultimately, this soil will be sent to a nonhazardous waste landfill or used as “fill” in areas that will be paved over. In the fall of 1999, the city installed permanent monitoring wells and collected samples to verify that the level of metal in the groundwater is insignificant and to identify the source of the benzene contamination. As part of the 1999 purchase agreement, the city and the Union Pacific agreed to share clean-up costs, which are expected to range between \$500,000 and \$1 million.

Contacts

Brian Hatch, Senior Advisor to the Mayor, Salt Lake City, Utah, 801-535-7704

Stephanie Wallace, EPA Brownfields Showcase Community Coordinator (on two-year assignment to the Redevelopment Agency of Salt Lake City), 801-535-7250

Jeff Harris, Project Manager, Utah Transit Authority, 801-262-5626 x2337

7 APPENDICES

7.1 OTHER SOURCES OF FUNDING FOR BROWNFIELD PROJECTS

TEA-21 is by no means the only source of funding for brownfield revitalization. In recent years, many federal and state agencies have increased funding and programs to bring brownfield sites back into productive use.

Federal Resources

EPA's Brownfields Initiative, launched in 1993, has developed numerous programs and resources to support local brownfield efforts.

- **Brownfields Assessment Demonstration Pilot** grants of up to \$200,000 help localities assess the nature and extent of contamination and plan for redevelopment, taking into account environmental obstacles.
- **Brownfields Cleanup Revolving Loan Fund (BCRLF) Demonstration Pilot** grants of up to \$500,000 enable eligible states, cities, towns, counties, and tribes to capitalize revolving loan funds that will be used to clean up brownfields safely.
- **Brownfields Job Training and Development Demonstration Pilot** grants facilitate clean-up of brownfield sites contaminated with hazardous substances by funding employment training in the environmental field.
- **The Brownfields Showcase Community** program provides grants and personnel to assist selected communities in serving as national models for collaboration with federal agencies in revitalizing brownfields.
- EPA has provided **grants to state environmental agencies** so that the agencies can provide site assessment services or grants for local governments.

For further information, see EPA's Brownfields web site at <http://www.epa.gov/brownfields/>

EPA also coordinates the Brownfields National Partnership, which links more than 20 federal departments and agencies in supporting the Brownfields Initiative. As a result of this partnership, important additional sources of financing have emerged. A number of these financing sources are described below.

U.S. Department of Housing and Community Development (HUD) offers two programs:

- **The Brownfields Economic Development Initiative** totaled \$25 million in 1998 for clean up and redevelopment of brownfields.
- **Both the Community Development Block Grant / Section 108 program and Economic Development Initiative** can be used for brownfields clean-up and redevelopment as of 1998.

For more information, see HUD's Brownfields web page at <http://www.hud.gov/bfields.html>.

The *U.S. Department of the Treasury* has an important tax incentive.

- **The Brownfields Tax Incentive** allows environmental clean-up costs for properties in targeted areas to be fully deductible in the year in which they are incurred, rather than having to be capitalized.

Information can be found at www.irs.ustreas.gov/forms_pubs/pubs/p954toc.htm. For more information, see also EPA's Brownfields web site at <http://www.epa.gov/brownfields/>.

Other federal agency partners with funds or programs that can assist in brownfield revitalization, depending on circumstances, include:

- General Services Administration
- U.S. Department of Agriculture
- U.S. Department of Commerce, Economic Development Administration
- U.S. Department of Defense
- U.S. Department of Education
- U.S. Department of Energy
- U.S. Department of Health and Human Services
- U.S. Department of Interior
- U.S. Department of Labor
- U.S. Department of Veterans Affairs
- U.S. Small Business Administration

State Resources

Many states have programs to support brownfield clean up and redevelopment, and make resources available for that purpose. Some state environmental agencies have funds dedicated to supporting site assessment or clean-up of brownfields. Some state economic development agencies have dedicated funds for clean-up and/or redevelopment activities. In addition, many state resources such as transportation and economic development funds not dedicated explicitly to revitalization of brownfields can be used for that purpose. EPA's Brownfields web site maintains a list of relevant state contacts, which can be accessed at <http://www.epa.gov/swerosps/bf/contacts.htm>

7.2 LIABILITY: AN IMPORTANT CONSIDERATION WHEN REDEVELOPING BROWNFIELDS

Brownfield sites often go undeveloped because entrepreneurs fear being held liable for contamination caused by previous owners. A number of public and market-oriented tools for overcoming liability problems are now available. They are briefly described below.

State Voluntary Clean-up Programs

Most states provide some assurance that developers who voluntarily agree to decontaminate a brownfield will not be subsequently prosecuted under state environmental regulations. In some states, this assurance is just part of the usual regulatory process. But more than 45 states have created a program, often called a Voluntary Clean-up Program or a Land Recycling Program, that establishes a predictable process for releasing potential developers from future liability to the state. EPA supported the development of these programs through grants and a Memorandum of Agreement with 11 states. In the agreement, EPA declares its presumptive lack of regulatory interest in brownfields for which the state has overseen remediation.

For more information on liability issues and overcoming them, contact the EPA brownfield office in your region or your state's Voluntary Clean-up Program. (See the Appendix for contact information.) Also see the EPA Brownfields Initiative web site at <http://www.epa.gov/brownfields/>.

Private Insurance

Environmental insurance policies limit the financial risk of liability for environmental contamination. The largest insurers are AIG, Kemper Environmental, and Zurich American, although other companies are entering the rapidly evolving market. Costs of insurance are falling, and coverage options are expanding. Two types of environmental insurance can support brownfield revitalization:

- *Clean-up Cost Cap Coverage* can indemnify the insured for clean-up costs that exceed the estimate generated by a qualified environmental contractor.
- *Pollution Legal Liability* usually covers third-party off-site bodily injury and property damage. On-site coverage is becoming more common.

Other policies cover specific actions or liabilities:

- Clean-ups undertaken voluntarily (e.g., through a state voluntary clean-up program).
- Defense against claims resulting from pre-existing, unknown, or future pollution as covered by the policy (“duty to defend”).
- Costs of clean up due to a government “reopener” after a case has been closed (for example in voluntary clean-up programs).
- Collateral value loss, business interruption, or delays (due to environmental contamination).

7.3 SOURCES OF ADDITIONAL INFORMATION

Selected List of Transportation References

A Guide to Metropolitan Transportation Planning under ISTEA: How the Pieces Fit Together. Federal Highway Administration, 1995, 42 pages. Available free from FHWA at 202-366-2065 or at <http://www.fta.dot.gov/fta/library/planning/MTPISTEAA/424MTP.html>.

A Guide to the Congestion Mitigation and Air Quality Improvement Program. FHWA, 1994. Available free from FHWA at 202-366-2065 or electronically at <http://www.bts.gov/NTL/data/energy-env/air/00489.html>.

A Summary — Intermodal Surface Transportation Efficiency Act of 1991. DOT, 1992, 41 pages. Available free from FHWA at 202-366-2065.

Building on the Past Traveling into the Future — A Preservationist's Guide to the ISTEA Transportation Enhancements Program. National Trust for Historic Preservation and FHWA, 1995, 79 pages. Available free from FHWA at 202-366-2065 or the Transportation Enhancement Clearinghouse at 202-463-0641 or 888-388-6832.

Community Empowerment Program: Nurturing Public Involvement in the Transportation Planning Process. Surface Transportation Policy Project for the Federal Transit Administration, 1997. Report Number FTA-DC-26-6026-97-1. Available from FTA or electronically at <http://www.fta.dot.gov/library/planning/cep/index.html>.

Financing Federal-Aid Highways. FHWA, 1992, 31 pages. (Publication No. FHWA-PL-92-016) Available free from FHWA at 202-366-2065.

Interest Based Convening: Toward Participatory Decision-Making in Transportation Investment. Surface Transportation Policy Project. Available on the Internet at <http://www.transact.org/papers/decision.htm>

Public Involvement Techniques for Transportation Decision-Making, 1996. Available free from FHWA at 202-366-2065 (Publication No. FHWA-PD-96-031 HEP-30/9-96/(4M)QE), or electronically at <http://www.fhwa.dot.gov/reports/pittd/cover.htm>.

TEA-21 — A Summary. FHWA, 1998. Available free from FHWA at 202-366-9899 or 800-240-5674. Other TEA-21 summary information can be found on the Internet at <http://www.fhwa.dot.gov/tea21/suminfo.htm>.

Brownfields/Liability Contacts

State Voluntary Cleanup Program Contacts — An up-to-date list of state contacts is maintained by EPA on-line at <http://www.epa.gov/swerosps/bf/stcntct.htm>.

EPA Regional Brownfield Contacts are listed at <http://www.epa.gov/swerosps/bf/regcntct.htm>.

The EPA Internet site includes a section devoted to liability issues, at <http://www.epa.gov/swerosps/bf/liab.htm>.

A network of non-profit organizations that work on brownfields can be visited at <http://www.brownfieldsnet.org>.

Selected State Brownfield Program Web Sites

Colorado: http://governor.state.co.us/gov_dir/cdphe_dir/hm/rp_gen.html

Great Lakes (IL, IN, MI, MN, NY, OH, Ontario, PA, Quebec, WI):
<http://www.glc.org/projects/robin/robinhome.html>

Massachusetts: <http://www.magnet.state.ma.us/dep/bwsc/brownfld.htm>

New Jersey: <http://www.state.nj.us/dep/srp/>

Ohio: <http://www.epa.ohio.gov/derr/volunt.html>

Pennsylvania: <http://www.dep.state.pa.us/dep/deputate/airwaste/wm/landrecy/default.htm>

Texas: <http://www.tnrcc.texas.gov/waste/pcd/vcp/index.html>

8 ENDNOTES

ⁱ U.S. Department of Transportation Policy on Brownfields Redevelopment, and “Questions and Answers on DOT’s Brownfields Policy,” both April 22, 1998.

ⁱⁱ Allen, Eliot, Geoffrey Anderson, and William Schroeer, “The Transportation and Environmental Impacts of Infill versus Greenfield Development: A Comparative Case Study Analysis,” U.S. EPA, Office of Policy, Urban and Economic Development Division, October 1, 1999. EPA publication number 231-R-99-005.

ⁱⁱⁱ Coffee, Hoyt, “Location Factors: Business as Usual, More or Less,” *Site Selection*, February 1994, pp. 34-38; see also Pennington, Audrey, “Intermodal Business Parks Offer Transportation Pluses,” *Site Selection*, December 1994, p. 104.

^{iv} Hagler Bailly Services, “Transportation and Environmental Analysis of the Atlantic Steel Development Proposal,” prepared for the U.S. EPA Office of Policy, Urban and Economic Development Division, November 1, 1999.

^v Allen, Anderson, and Schroeer, 1999, above.

^{vi} *1997 Natural Resources Inventory*, U.S. Department of Agriculture, December 1999.

^{vii} Superfund sites are contaminated properties mandated for cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). To determine if a site is being cleaned up under

Superfund, see the EPA Superfund web site (<http://www.epa.gov/superfund/>) or call the RCRA, CERCLA & EPCRA Hotline, at (800) 424-9346.

^{viii} U.S. Conference of Mayors, “Recycling America’s Land: A National Report on Brownfields Redevelopment, Volume II,” April 1999.

^{ix} These programs are known by such names as “Voluntary Cleanup Program,” “Land Recycling Program,” and “Industrial Sites Program,” depending on the state.

^x As of June 1999, EPA has funded more than 300 Brownfields Assessment Demonstration Pilot grants of up to \$200,000 per Pilot, the majority of which have gone to local governments. EPA has also funded more than 65 Brownfields Cleanup Revolving Loan Fund Pilots, at up to \$500,000 per community.

^{xi} US Department of Transportation estimate.

^{xii} Funding estimates represent the national aggregate of funds by program for the six-year life of TEA-21. Each state receives only a fraction of the total funding available. In addition, most programs fund no more than 80 percent of a project; the remainder must come from local and state governments.

^{xiii} TEA-21 requires that statewide and metropolitan planning processes consider projects and strategies that will: (1) Support the economic vitality of the United States, the states, and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency; (2) Increase the safety and security of the transportation system for motorized and non-motorized users; (3) Increase accessibility and mobility options available to people and freight; (4) Protect and enhance the environment, promote energy conservation, and improve quality of life; (5) Enhance the integration and connectivity of the transportation system, across and between modes throughout the states, for people and freight; (6) Promote efficient system management and operation; and (7) Emphasize the preservation of the existing transportation system.

^{xiv} For a list of completed and ongoing transportation enhancement projects, see <http://www.bts.gov/trans-enh/index.html>.

^{xv} Class I railroads are those that have annual revenues above \$259.4 million. Currently, eight freight railroads in the United States are categorized as Class I. These railroads operate more than 126,000 miles of track. In addition, more than 550 smaller freight railroads operate more than 49,000 miles of track.

^{xvi} PCBs are a group of carcinogenic and manufactured organic chemicals that build up in the environment. They have been widely used as coolants and lubricants in transformers, capacitors, and other electrical equipment. Other ways that they were used included hydraulic fluid; dye carriers in carbonless copy paper; plasticizers in paints, adhesives, and caulking compounds; and filters in investment casting wax. Their manufacture was banned in the United States in 1977.

^{xvii} Three other states have similar programs in place: Virginia, Iowa, and New Jersey.